# City of Simpsonville

## Thoroughfare Plan 2011

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# Chapter 1. Introduction

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Transportation plays a vital role in the growth and development of the City of Simpsonville and the surrounding region. Without an adequate transportation system, people cannot easily reach their intended destination, goods cannot be delivered in a cost effective manner, and investors may look to invest in better served areas.

Typically, the street system in an urban area can occupy as much as 30 percent of the total developed land. Since the system is permanent and expensive to build and maintain, care and foresight are needed in its development.

## What Is Thoroughfare Planning?

The term *thoroughfare* is a technical term used to denote general transportation-oriented public spaces—highways, streets, and roads. Thoroughfare planning is the process public officials use to assure the development of a street system that will accomplish the strategies of the City's comprehensive plan. In this process, officials attempt to plan solutions for the following issues:

- Given a projection of urban growth in an urban area for 2030, which roadways in the area will be underutilized and which will be overly congested if they are not improved?
- If a jurisdiction has limited funds for roadway improvements, which streets should receive priority for increasing their capacity?
- If a jurisdiction finds that it cannot afford to improve its existing traffic arterials (or if it chooses to not modify them), how much urban growth can occur before intolerable traffic congestion will take place?

## Objectives

The primary aim of a thoroughfare plan is to guide the development of the urban street system in a manner consistent with managing traffic demands.

In addition to providing for traffic needs, the thoroughfare plan should embody those details of good urban planning necessary to present a pleasing and efficient urban community. The location of present and future population, commercial, and industrial enterprises affects major street and highway locations. Conversely, the location of major streets and highways within the urban area will influence the urban development pattern.

Other objectives of this thoroughfare plan include:

- To provide for the orderly development of an adequate major street system as land development occurs;
- To reduce travel and transportation costs;
- To reduce the cost of major street improvements to the public through the coordination of the street system with private action;
- To enable private interests to plan their actions, improvements, and development with full knowledge of public intent;
- To minimize disruption and displacement of people and businesses through long-range advance planning for major street improvements;
- To reduce environmental impacts, such as air pollution, resulting from transportation;
- To increase travel safety; and
- To provide opportunities for bicycles and pedestrians to safely share the right-of-way.

## Function of Streets

Streets provide the basic framework for the movement of people and vehicles in urban areas. There are many different types of streets; each has its own characteristics, and each is best suited for use in specific conditions.

There are two major functions of streets. The first is to provide a route for vehicles to move on a trip from an origin to a destination; in other words, streets are facilities for *through* traffic. A second function is to provide access to abutting properties. This access point may be an origin such as a residence, or it may be a destination such as a place of employment.

The underlying concept of this Thoroughfare Plan is that it provides a functional system of streets which permits travel from origins to destinations with directness, ease, and safety. Different streets in the system are designed and called on to perform specific functions, thus minimizing any conflicting functions of the roadway. For example, some streets (such as cul-de-sacs and loop streets) only provide access to adjacent properties; they carry no through traffic whatsoever. At the other end of the scale, freeways provide absolutely no access to adjacent properties but are very good at carrying through traffic. There are other types of streets that compromises between the two extremes just discussed. Different types of streets include:

- ***Freeways.*** These roadways are devoted entirely to the high-speed movement of traffic between major segments of metropolitan areas or between regions of the country. Direct access from the roadway to adjacent properties is prohibited. Freeways are built as divided highways (i.e., directional flows of traffic are on separate roadways). Access to freeways is provided only at grade-separated structures; there are no stop signs or traffic signals on freeways.

- ***Arterial streets.*** These roadways are primarily intended to carry through traffic within sections of urban areas. They also provide connections between communities and major traffic generators, and serve as connectors to freeways. While they may provide access to some major traffic generators, they are *not* intended to provide access to numerous small traffic generators such as roadside commercial strip uses or single-family homes.
- ***Collector streets.*** These roadways are the principal arteries within residential or commercial areas. Their primary function is to provide a convenient link between arterial streets, subcollector streets, and local access streets. Access to many adjacent nonresidential properties is usually permitted. Since collector streets carry substantial through traffic, low-density residential uses such as single-family homes should not have direct access to collector streets.
- ***Subcollector streets.*** These roadways provide a linkage between collector streets and local access streets. They also may provide access to adjacent properties.
- ***Local access streets.*** The primary and perhaps sole function of a local access street is to provide access to adjacent residential properties; it is not intended to carry any through traffic. These streets take the form of cul-de-sacs and loop streets.

## Traffic Flow vs. Capacity

Comparisons of traffic flow with thoroughfare capacity are useful in identifying existing traffic problems as well as to anticipate future traffic issues.

Under very good conditions, a street can carry about 2,000 passenger cars per hour per lane. This is for a rather ideal street under quite ideal conditions (i.e., for a straight, wide, and level multilane street, which has no merging or crossing traffic, and has no stop signs or traffic lights).

However, under normal conditions, when there is traffic on cross streets, and when there are intersections with stop signs or traffic lights, each lane in a typical urban street may be expected to carry much fewer vehicles—as little as 500 vehicles per hour, as a very generalized rule of thumb. The flow of traffic may be reduced from the theoretical 2,000 vehicles per hour depending upon the following factors.

- Width of the travelled traffic lane.
- Number of lanes in the street.
- Presence of opposing traffic in an adjacent lane.
- Lateral clearance adjacent to the travelled lane.
- Width of the shoulder adjacent to the travelled lane.
- Presence of mixed traffic types.
- Types of terrain.
- Weather and visibility.
- Stop signs.
- Traffic signals.
- Left-turning traffic.
- Pedestrian crossings.
- Driver competence.

## Plan Process

The development of this thoroughfare plan adhered closely to the following set of principles:

- ***Existing street system and thoroughfare plans are the starting point.*** This plan attempts to build on the efforts of previous plans including the City's thoroughfare plan from 1993.
- ***Identify current and future needs.*** The most recent traffic counts from SCDOT and Greenville County were obtained as

well as accident data from the Simpsonville Police Department.

- ***Incorporate citizen input.*** Public workshops were held in conjunction with the City's comprehensive planning efforts.
- ***Look at thoroughfares with a multi-modal perspective.*** The perspective of automobiles, trucks, bicycles, pedestrians, and public transportation were considered in the development of this plan.
- ***Be compatible with the environment, community character and vision.*** The local comprehensive plan and land use plans were consulted to ensure that the recommendations are compatible with the local visions.
- ***Provide safe roads.*** Safety is a major goal in this effort.

# Chapter 2. Strategies & Recommendations

- Types of improvements
- Proposed Roadway Cross-Sections
- Construction Design
- Recommended Project List

## Types of Improvements

The strategies of this plan fall into three general categories

### *Spot Improvements*

This strategy involves making small-scale, strategic improvements to existing road segments to correct design deficiencies that currently limit the capacity and/or access to these roads. Spot improvements may include strategies such as applying access management strategies to limit excessive turning movements from roadways, improving or coordinating traffic signal timings, or adding turning or through lanes to alleviate bottlenecks. As these are typically the least costly types of improvements to make, they were recommended with high priority.

### *Upgrade Existing Roads*

This strategy is also designed to increase the capacity of existing roadways, but may necessitate more comprehensive and expensive improvements to existing roads. By upgrading existing roads rather than constructing new roads or widening existing roads, additional network capacity can be provided at a cost that is most likely cheaper than other road construction strategies. As this strategy is similar to spot improvements in that it improves conditions on existing roads rather than constructing new roads, this strategy was also highly recommended.

### *Network Expansion*

Where spot improvements and road upgrades cannot improve the capacity on a roadway adequately to improve the level of service on congested roads, new road construction to expand the network of streets is the next priority. This expanded network is intended to relieve traffic on existing congested roadways by providing alternative travel paths that allow

travelers to make local connections that bypass the congested roadways, ideally resulting in more direct travel with shorter vehicle trip lengths. Expanded road networks are also vital for limiting future congestion in currently undeveloped areas where the networks help to diffuse traffic throughout the network rather than concentrating it onto a limited number of major roads.

***Note:*** The recommendations for road network expansion should be considered conceptual in the sense that they are not proposed alignments but rather are general locations where a road connection would make a vital link in the network and would help to relieve traffic on existing congested roadways.

This thoroughfare plan is intended only to identify the need for the proposed collector connections. Not every proposed connection may be feasible as they do not take into account existing development or features such as railroads, rivers, wetlands, and topography that may present a challenge to their development. The precise alignment and feasibility of the roads will need to be determined through more detailed studies and specific construction proposals. The specific construction proposals should also provide alignment recommendations for the local street network.

## Proposed Roadway Cross-Sections

Each recommended project includes proposed roadway cross-sections. These roadway cross-sections illustrate context-sensitive applications of minimum standards that support the transportation and land use goals of the City's comprehensive plan. Whereas the typical conventional roadway design is appropriate for moving vehicles safely and at high speeds of travel, this design places a heavy burden on a small number of facilities while encouraging development patterns that are inconsistent with the City's vision for future growth and development.

In contrast, the road types proposed here are intended mainly for shorter local and commuter trip-making as opposed to long-distance regional travel, and place more of an emphasis on providing for multiple modes of travel while enhancing existing and future community design. This approach is intended to achieve better balance between the need to move vehicles and the need to create livable communities.

In the cross-sections described herein, the proposed cross-sections are idealized without consideration for right-of-way constraints. Dimensions may need to be modified or elements of the cross-sections may need to be removed based on the characteristics of a roadway corridor and the availability of right-of-way.

## Construction Design

Due to the intent for this thoroughfare plan to be concise, it is unrealistic for this plan to address every detail related to thoroughfare planning. Therefore, it is advised that when public officials, staff and professionals design and review specific thoroughfare or land development construction plans, the follow aspects should be carefully considered:

- Movement type (the kind of traffic flow the thoroughfare is designed to accommodate and foster)
- Design speed (the highest vehicle speed the thoroughfare is designed to accommodate and foster)
- Pedestrian crossing time (the typical length of time required for a person to walk across the thoroughfare)
- Right-of-way width (the measurement across a thoroughfare of the area the municipality or state controls or owns)

- Curb face to curb face width (the distance across a thoroughfare between the vertical faces of the curbs, typically intended for vehicles, including any on-street parking, intermediary planting strips, and gutters)
- Traffic lanes (the number and width of areas designated for vehicular travel, not including bicycle lanes)
- Bicycle lanes (the number and width of rows designated for bicycle travel, typically demarcated by solid white stripes on the pavement)
- Parking lanes (the number and width of areas designated for on-street parking)
- Curb type (the kind of transition at the edge of the pavement)
- Planter type (the kind and width of landscaping accommodation at the edge of the thoroughfare pavement)
- Landscape type (the kind and spacing of trees or other landscaping to be planted)
- Lighting (the type and spacing of illumination for vehicles and pedestrians)
- Curb radius (dimension used to establish the curve of the curb at a corner)
- Distance between intersections (the dimension between two adjacent thoroughfare crossings, typically measured from centerline to centerline)
- Access management (the spacing between driveways that access the thoroughfare)

## Recommended Project List

The following projects are arranged by category. The first set of projects includes spot improvements at existing intersections. The next set of projects entails upgrades, primarily consisting of road widenings, to existing roadways. The final set of projects includes the construction of new roadways that would expand the existing road network.

While it is possible to partially prioritize these projects based on quantifiable data such as traffic volume and accident rates, some subjective judgments also contributed to the prioritization of these projects. Factors such as anticipated improvements to the flow of traffic, enhanced safety, economic impact, and the ease by which the project could be designed and implemented were considered in this prioritization.

# Intersection at
# Main Street & Curtis Street

Project Description: Add dedicated left-turn lanes on Curtis Street at Main Street

Width of Existing Pavement: 50 feet
Width of Existing Travel Lanes: 30 feet

Proposed Width of Travel Lanes: 36-42 feet

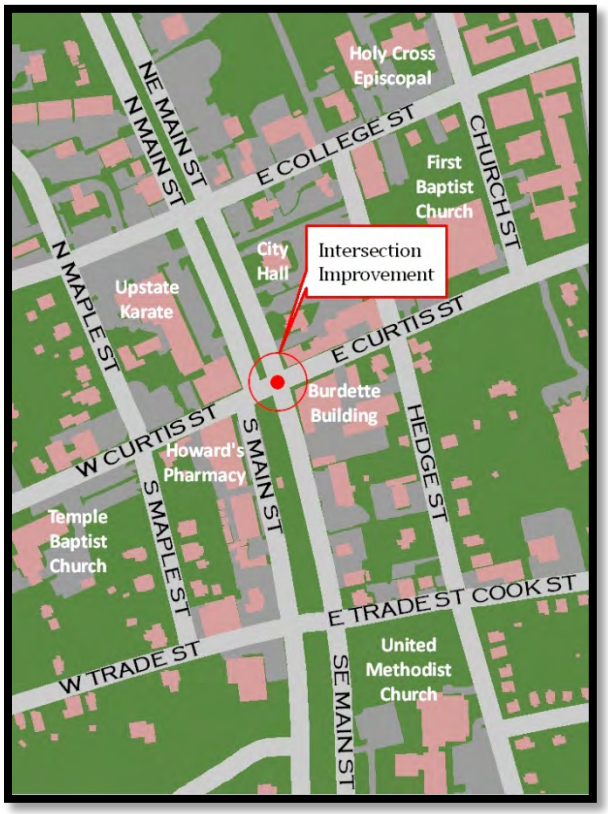
No. of accidents during the past 3 years: 41

PROJECT GOALS:

1. Improve safety at intersection
2. Enhance traffic flow at intersection

How It Grades: "A" ***High Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★★ | ★★★★★ | ★ | ★★★★ |




# Intersection at Main Street & College Street

Project Description: Add dedicated left-turn lanes on College Street at Main Street

Width of Existing Pavement: 30-32 feet
Width of Existing Travel Lanes: 30-32 feet

Proposed Width of Travel Lanes: 34-38 feet

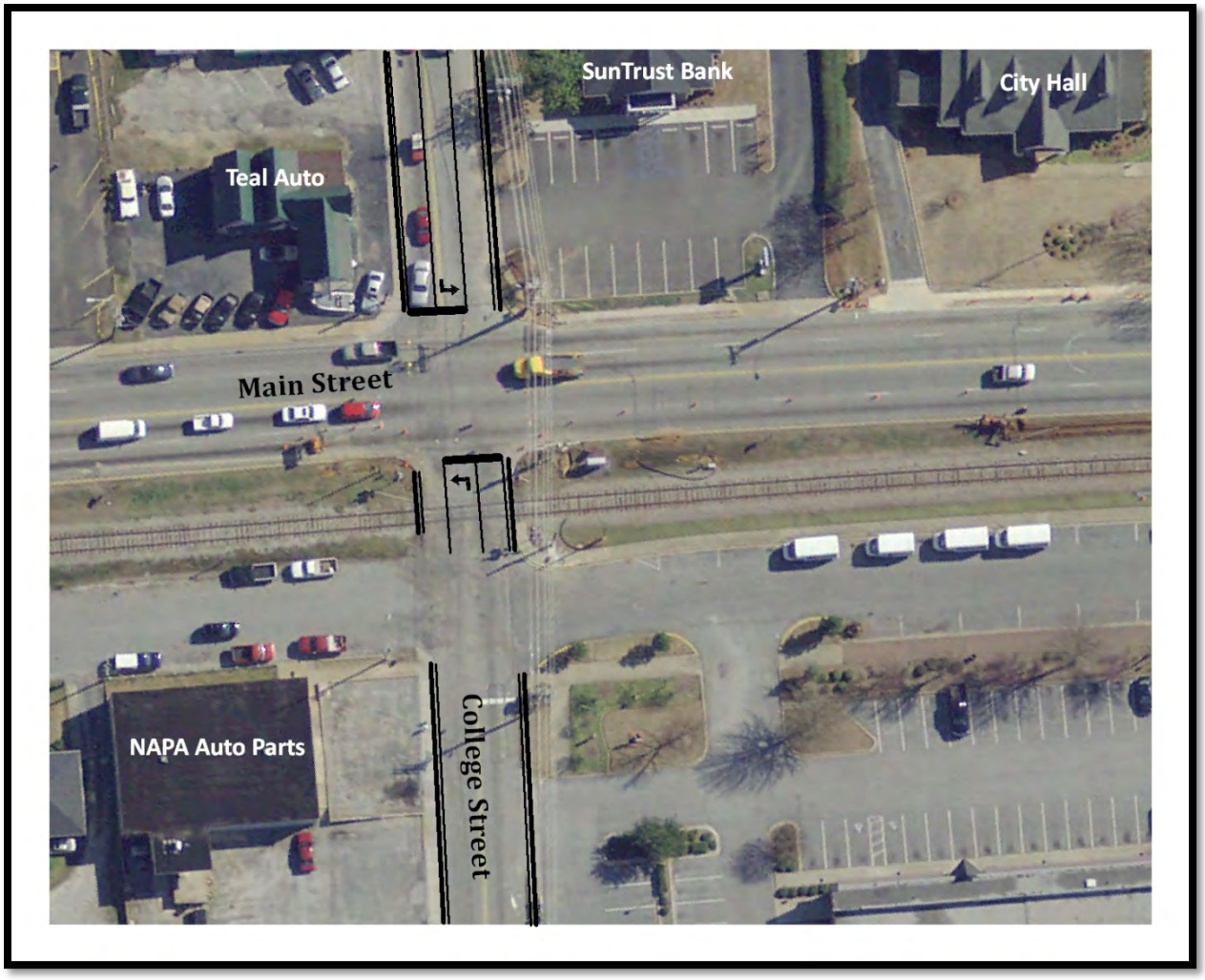
No. of accidents during the past 3 years: 51

PROJECT GOALS:

1. Improve safety at intersection
2. Enhance traffic flow at intersection

How It Grades: "A-" ***High Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★★ | ★★★★★ | ★ | ★★★ |

# Intersection at
# Georgia Road & Neely Ferry Road

Project Description: Add dedicated right-turn lanes at W. Georgia Road and Neely Ferry Road intersection.

Width of Existing Pavement: 40 feet

Proposed Width of Travel Lanes: 48-52 feet

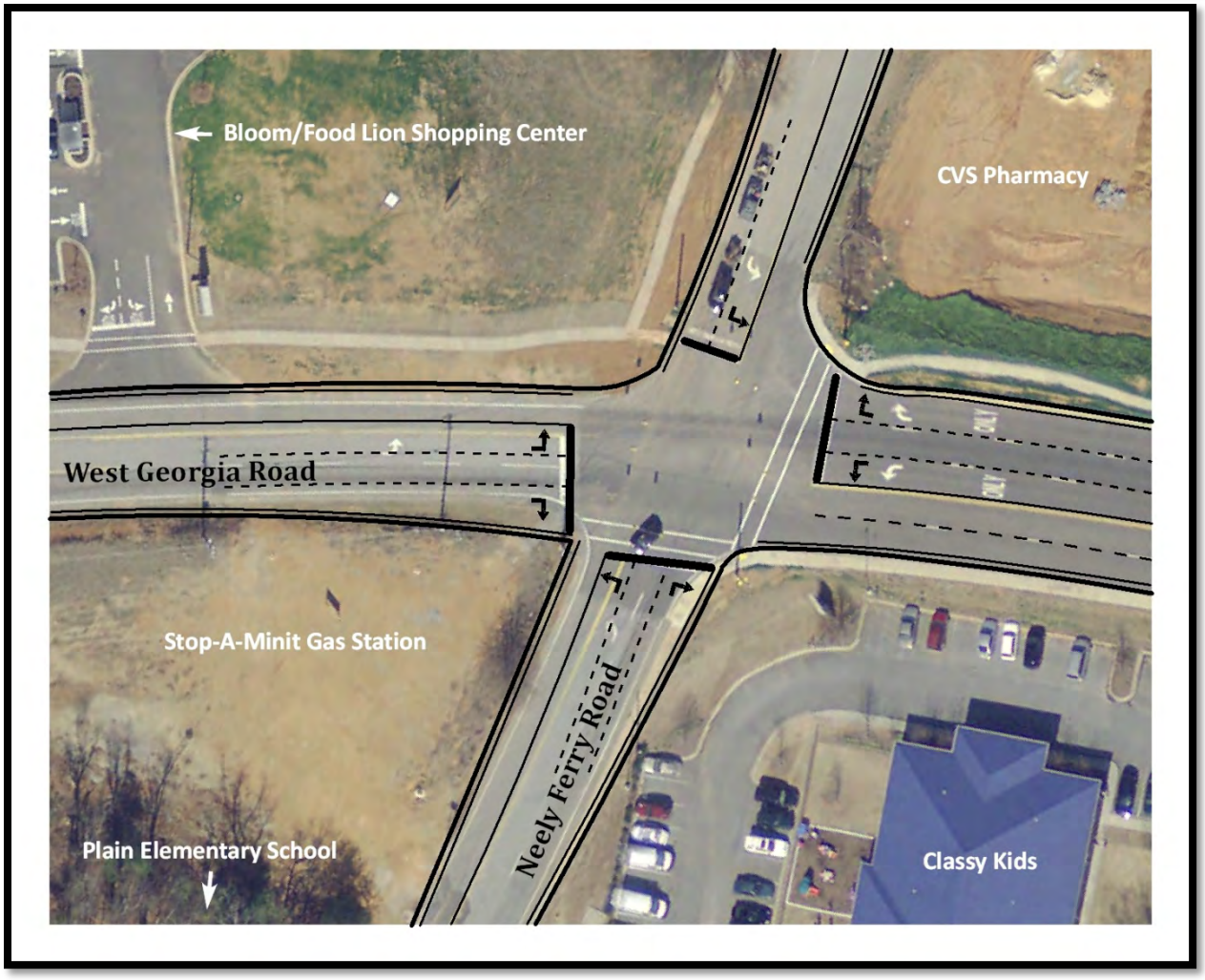
No. of accidents during the past 3 years: 29

PROJECT GOALS:

1. Enhance traffic flow at intersection
2. Improve safety at intersection

How It Grades: "B+" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★★ | ★★★ | ★ | ★★★★ |

# Intersection at Jonesville Road & Stokes Road

Project Description: Realign Jonesville Road to form a T-intersection at Stokes Road; add left-turn lanes

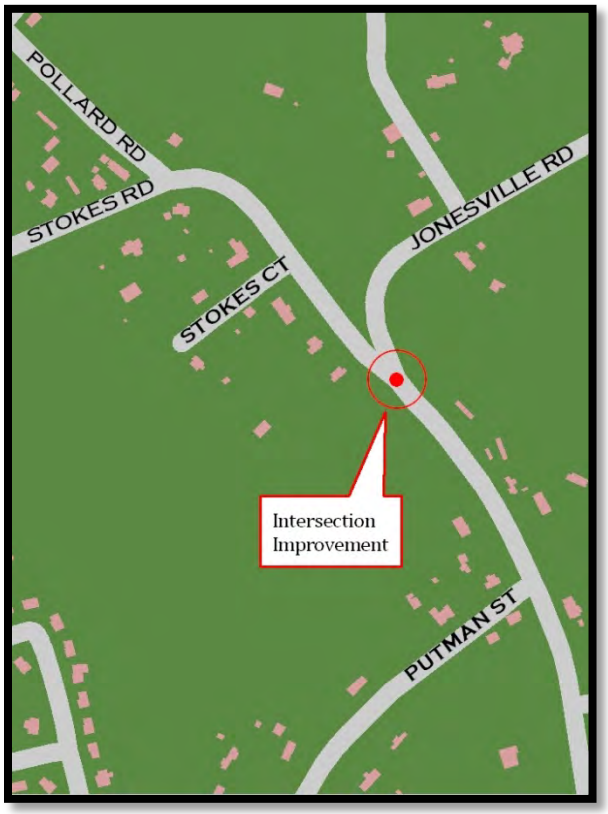
Length of Right-of-Way to Be Acquired: 280 feet

PROJECT GOALS:

1. Improve safety at intersection

How It Grades: "B+" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★ | ★★★★★ | ★ | ★★★★ |




# Intersection at
# N. Maple Street & Georgia Road

Project Description: Add dedicated left-turn lanes at N. Maple Street and W. Georgia Road intersection.

Width of Existing Pavement: 24 feet

Proposed Width of Travel Lanes: 36-42 feet

No. of accidents during the past 3 years: 9

PROJECT GOALS:

1. Enhance traffic flow at intersection
2. Improve safety at intersection

How It Grades: "B" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★ | ★★★★ | ★ | ★★★ |


# Widen W Georgia Road

Start: Neely Ferry Road
End: E Standing Springs Road
Length of Project: 5,169 feet (1.06 miles)

No. of Existing Lanes: 2
No. of Proposed Lanes: 5
Existing Right-of-Way: 66 feet
Proposed Right-of-Way: 90 feet

Cars per Day: 11,400
Cars during Rush Hour: 1,100
Road Capacity per Hour: 1,200

No. of Accidents during past 3 years: 70

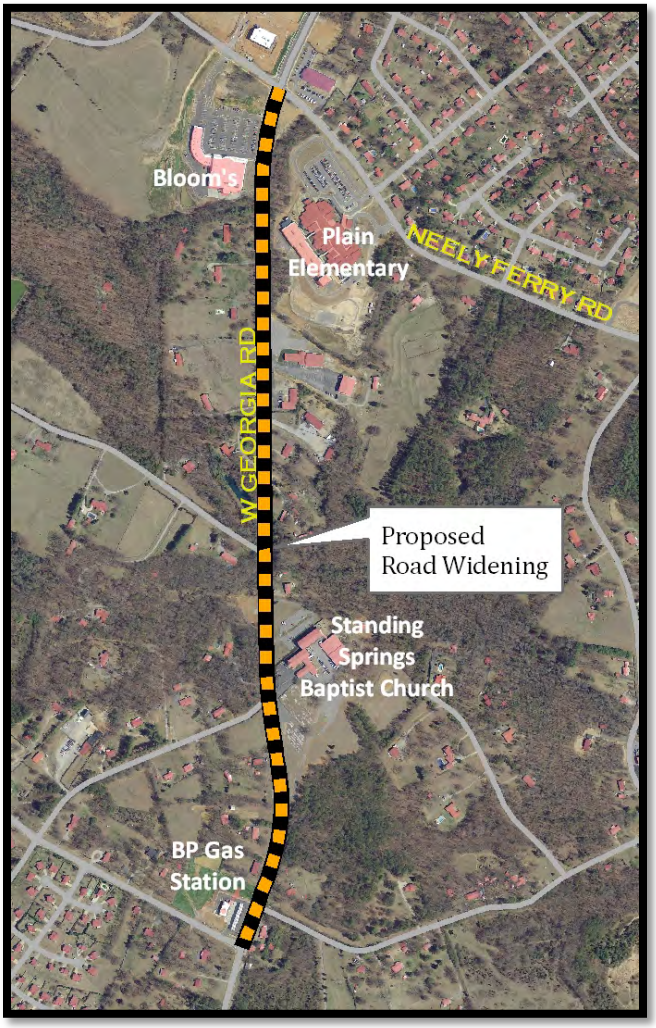
Cost Estimate, ROW Acquisition: $0.2 million
Cost Estimate, Eng. & Constr'n: $4.0-5.9 million

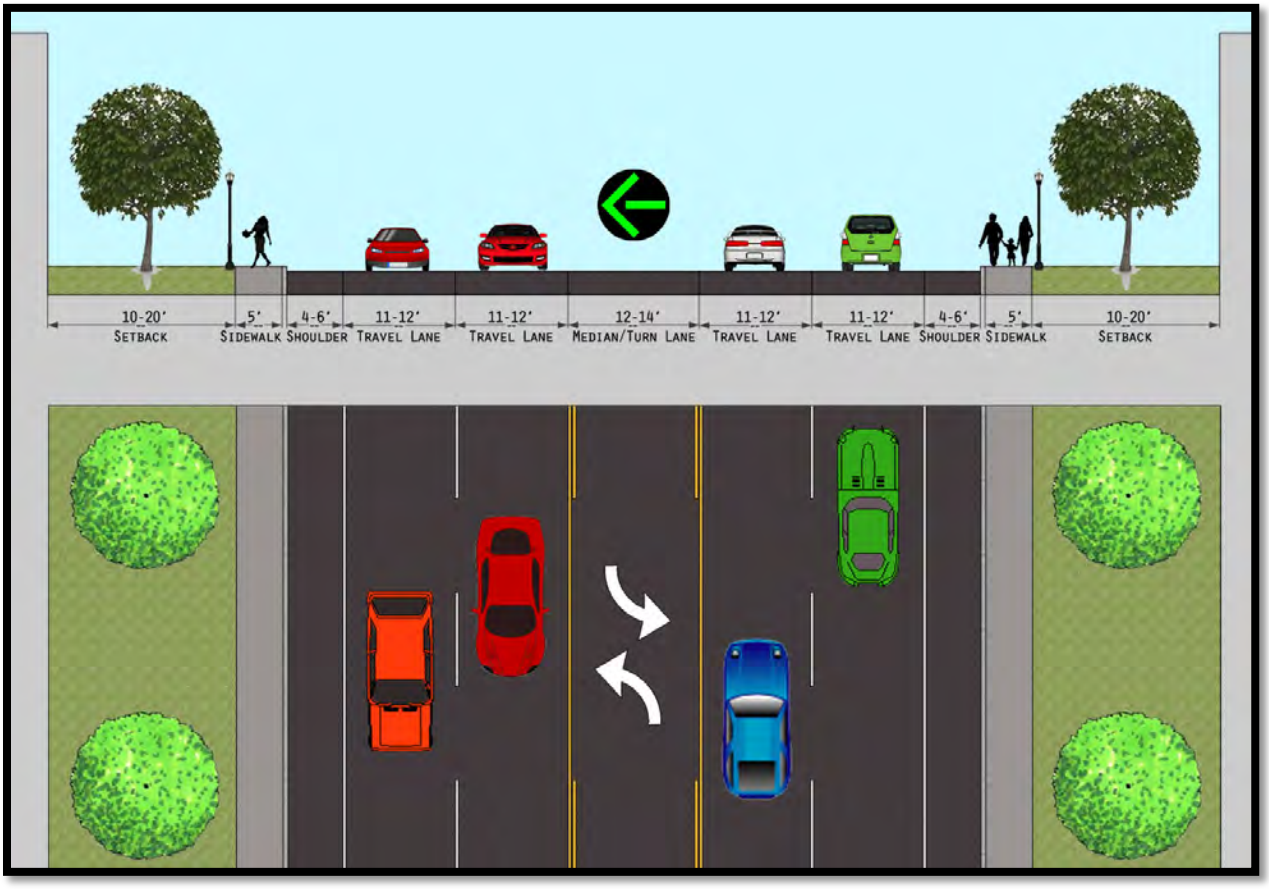
PROJECT GOALS:

1. Improve traffic flow along W Georgia Rd
2. Promote economic development of W Georgia Rd.

How It Grades: "A-" ***High Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★ | ★★ | ★★★★★ | ★★★ |



# Widen Harrison Bridge Road

Start: Fairview Road
End: Neely Ferry Road
Length of Project: 6,753 feet (1.28 miles)

No. of Existing Lanes: 2
No. of Proposed Lanes: 5
Existing Right-of-Way: 50 feet
Proposed Right-of-Way: 90 feet

Cars per Day: 12,000
Cars during Rush Hour: 1,150
Road Capacity per Hour: 1,200

No. of Accidents during past 3 years: 106

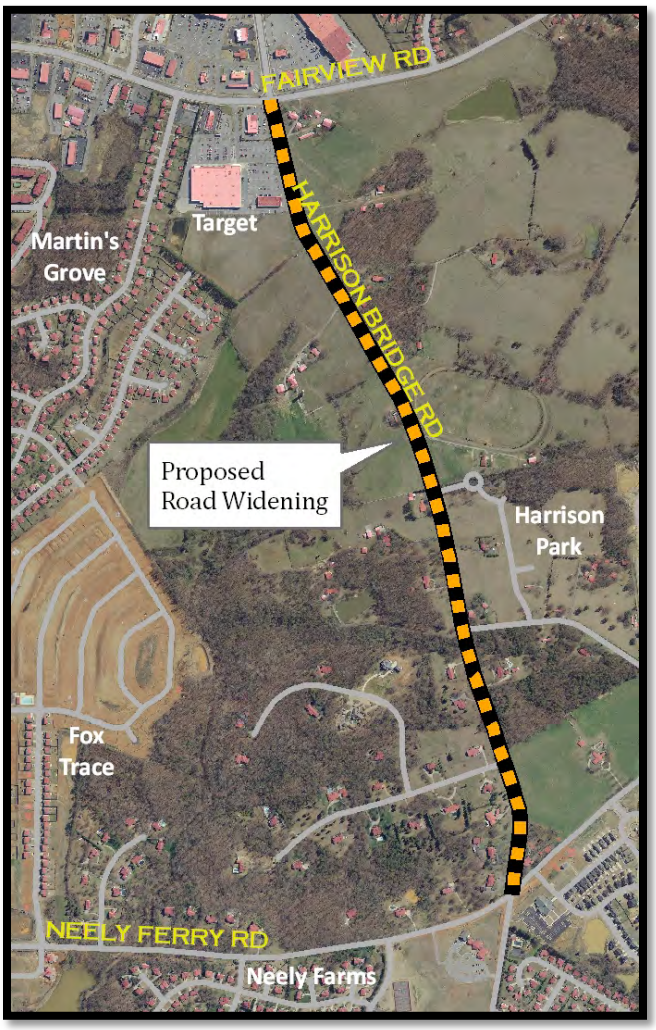
Cost Estimate, ROW Acquisition: $0.3 million
Cost Estimate, Eng. & Constr'n: $4.8-7.1 million

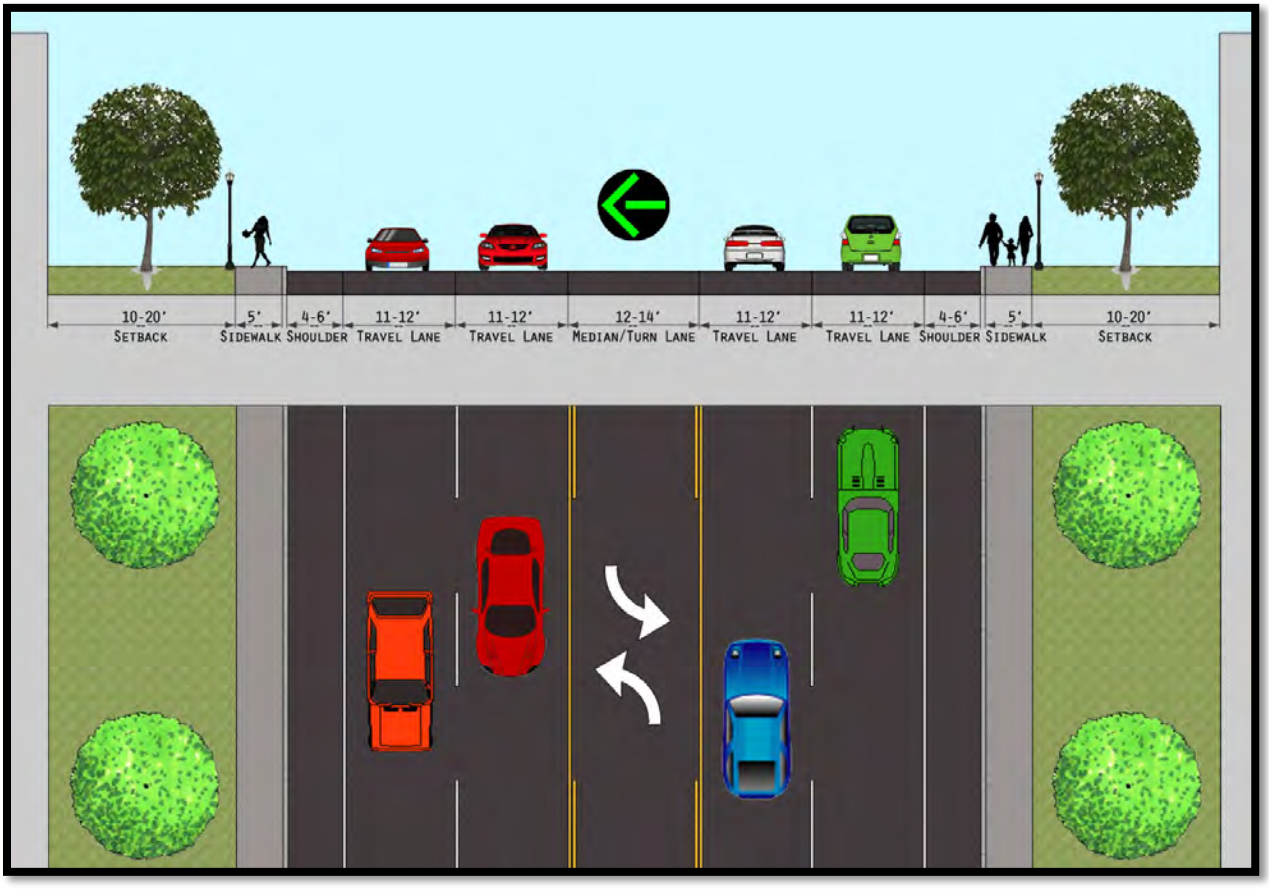
PROJECT GOALS:

1. Improve traffic flow along Harrison Bridge
2. Promote economic development of Harrison Bridge Rd.

How It Grades: "B+" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★ | ★★ | ★★★★ | ★★★ |



# Widen SE Main Street

Start: Fernwood Rd/Richardson St
End: Fairview Road
Length of Project: 3,617 feet (0.69 miles)

No. of Existing Lanes: 4
No. of Proposed Lanes: 5
Existing Right-of-Way: 75 feet
Proposed Right-of-Way: 90 feet

Cars per Day: 15,400
Cars during Rush Hour: 1,500
Road Capacity per Hour: 2,000

No. of Accidents during past 3 years: 269

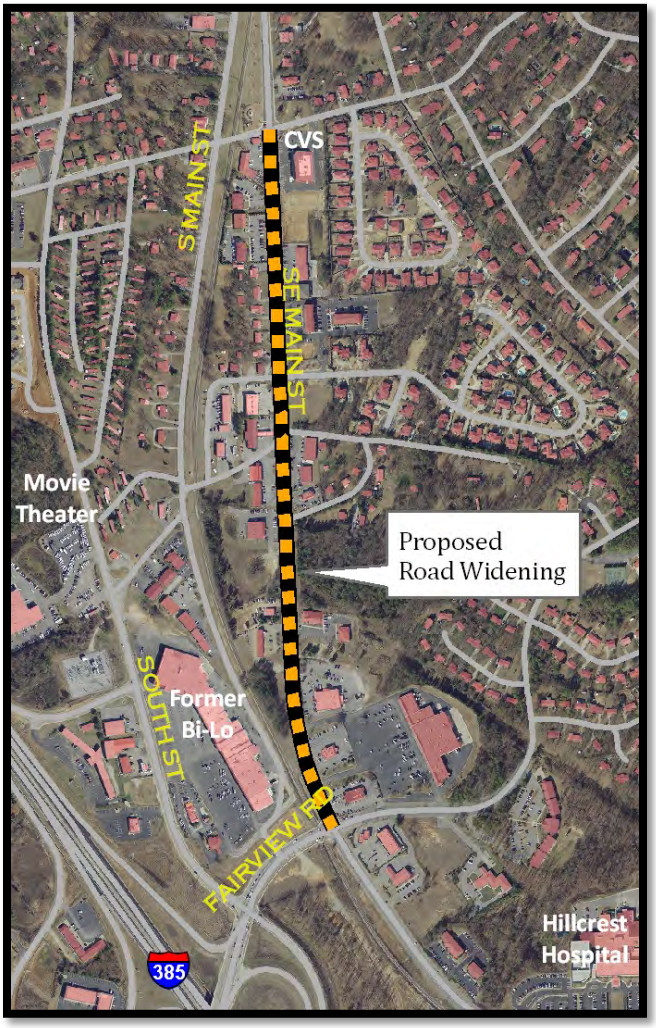
Cost Estimate, ROW Acquisition: $1.5 million
Cost Estimate, Eng. & Constr'n: $2.9-3.2 million

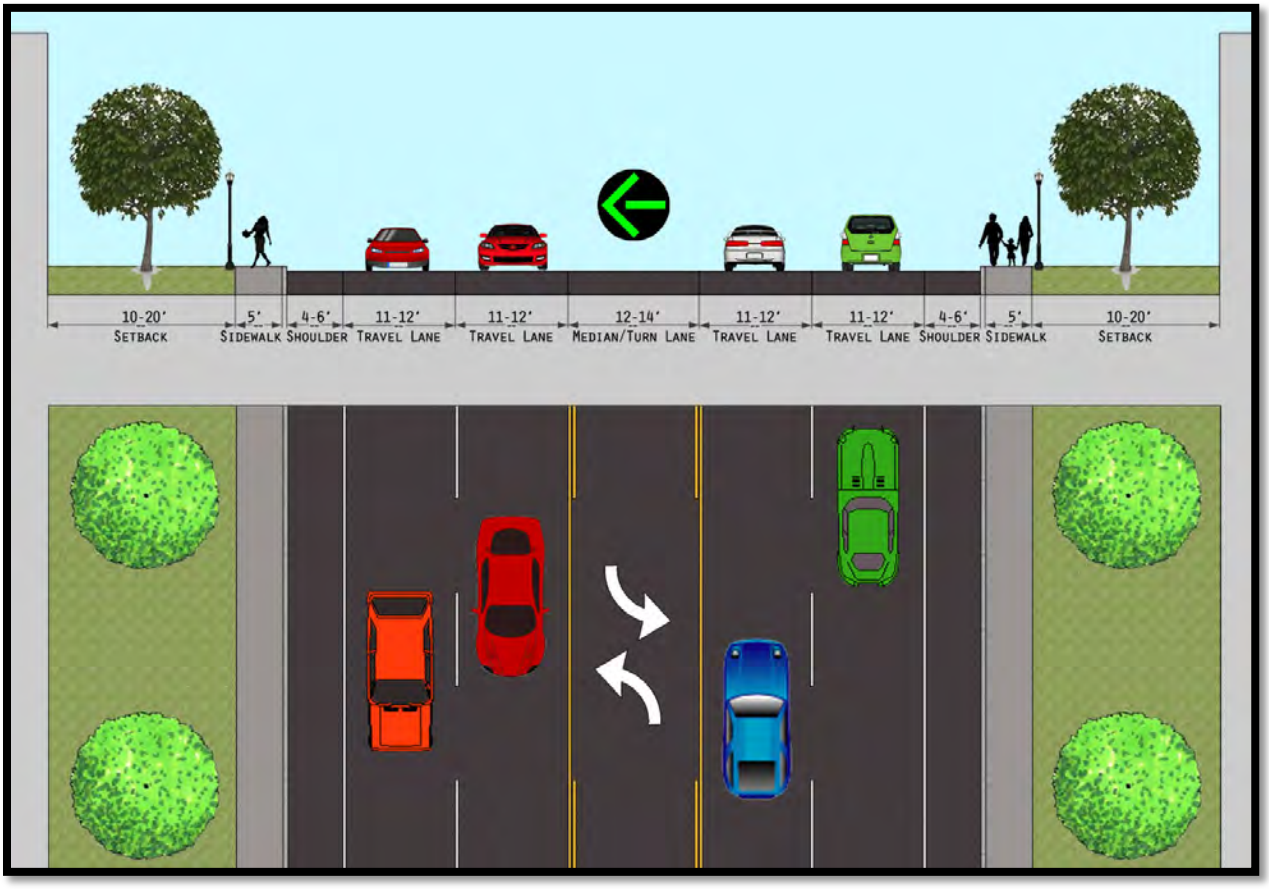
PROJECT GOALS:

1. Enhance safety along SE Main St.
2. Improve traffic flow along SE Main St.

How It Grades: "B-" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★ | ★★★★★ | ★★ | ★★ |



# Widen Georgia Road

Start: Maple Street
End: Industrial Drive/Kemet Way
Length of Project: 3,207 feet (0.61 miles)

No. of Existing Lanes: 2
No. of Proposed Lanes: 3
Existing Right-of-Way: 40 feet
Proposed Right-of-Way: 66 feet

Cars per Day: 6,600
Cars during Rush Hour: 800
Road Capacity per Hour: 1,100

No. of Accidents during past 3 years: 25

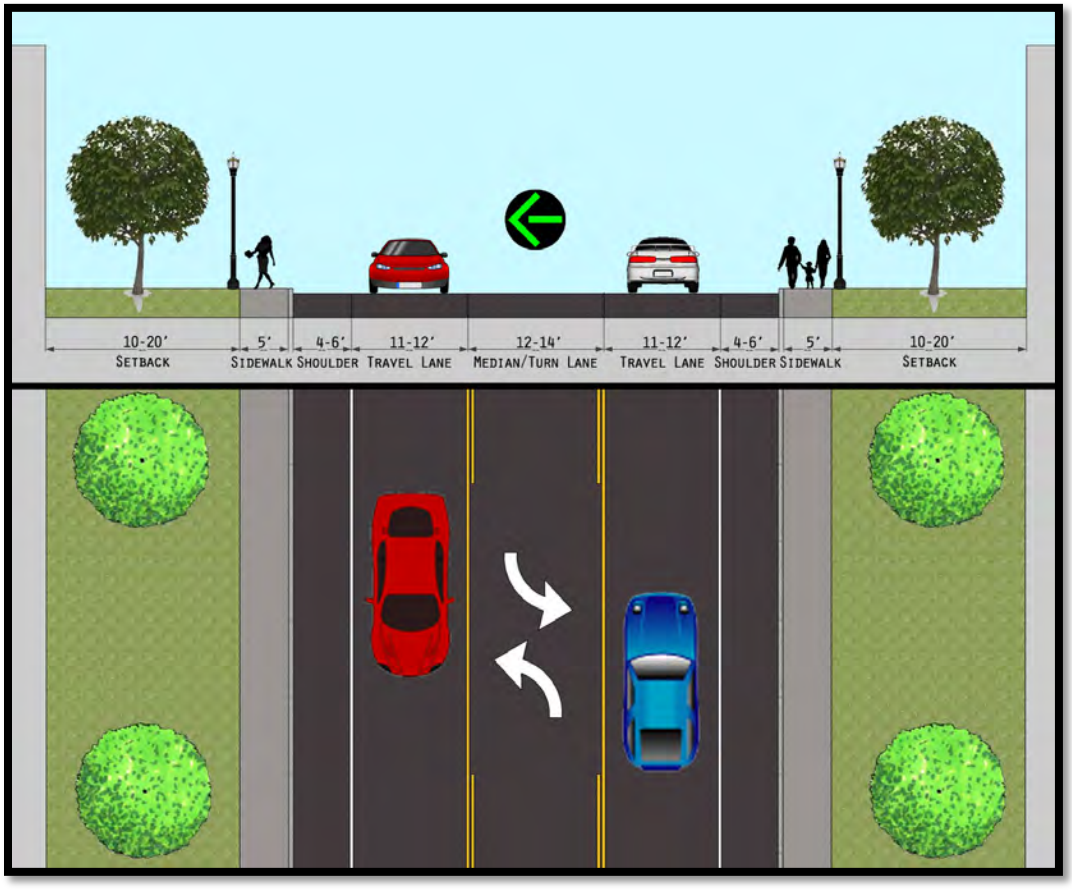
Cost Estimate, ROW Acquisition: $0.7 million
Cost Estimate, Eng. & Constr'n: $2.3-2.5 million

PROJECT GOALS:

1. Improve traffic flow along Georgia Rd.
2. Enhance access into downtown
3. Promote economic development

How It Grades: "B-" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★ | ★★★★ | ★★★ | ★ |

# Extend Ladean Court

Start: Ladean Court
End: Harrison Bridge Road
Length of Project: 1,788 feet (0.34 miles)

No. of Existing Lanes: 0
No. of Proposed Lanes: 3
Existing Right-of-Way: None
Proposed Right-of-Way: 66 feet

Anticipated Cars per Day: 3,000-6,000
Anticipated Road Capacity per Hour: 1,600

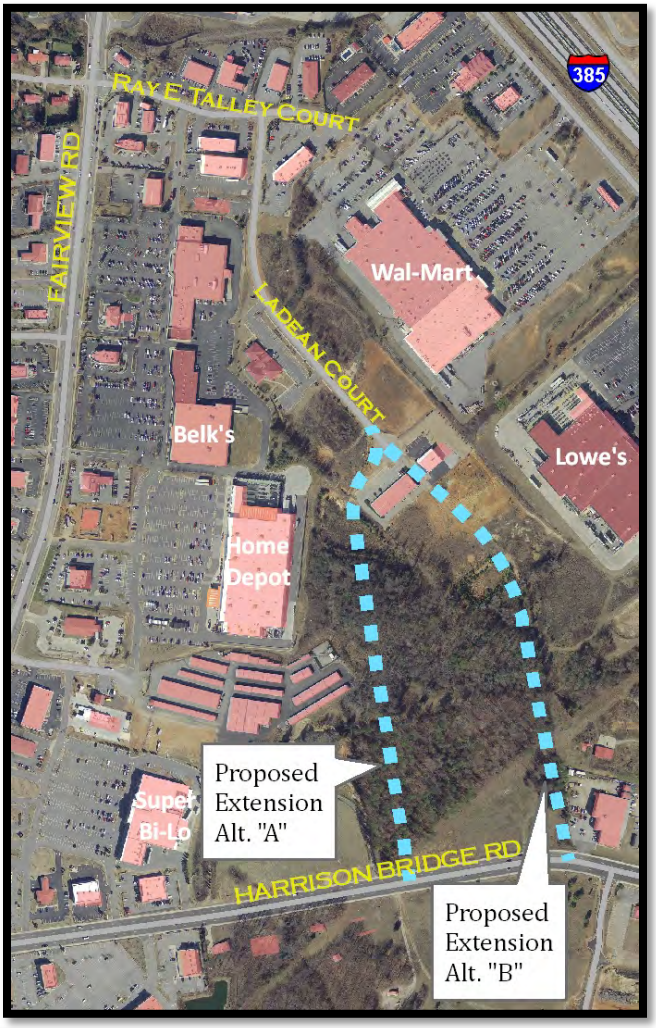
Cost Estimate, ROW Acquisition: $0.2 million
Cost Estimate, Eng. & Constr'n: $1.3-1.8 million

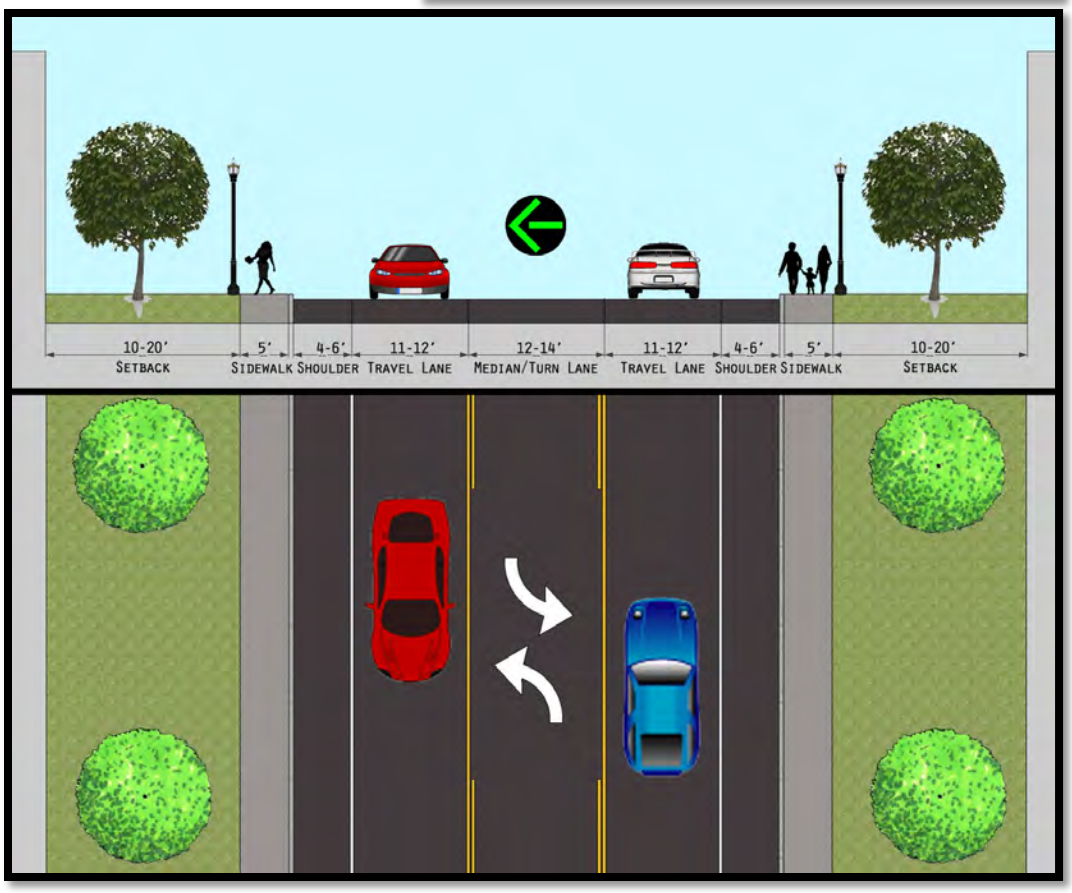
PROJECT GOALS:

1. Alleviate traffic on Fairview Road
2. Promote economic development

How It Grades: "A" ***High Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★ | ★★ | ★★★★★ | ★★★ |



# Extend Highway 14

Start: Maple Street/Old Stage Road
End: Kemet Way/Boyd Avenue
Length of Project: 5,722 feet (1.08 miles)

No. of Existing Lanes: 0
No. of Proposed Lanes: 3
Existing Right-of-Way: None
Proposed Right-of-Way: 66 feet

Anticipated Cars per Day: 4,000-8,000
Anticipated Road Capacity per Hour: 1,600

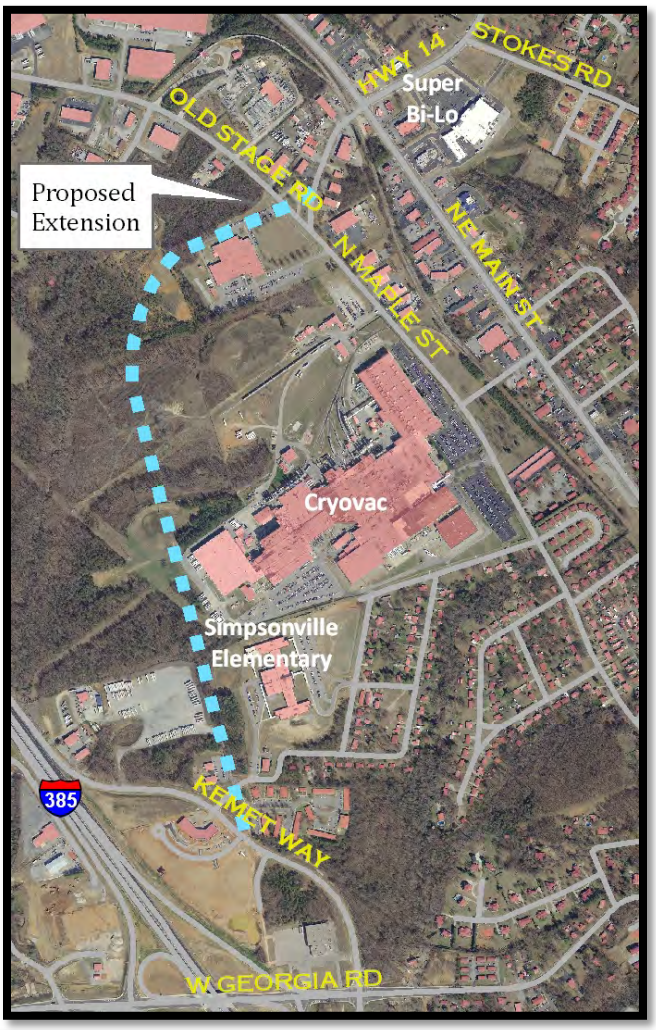
Cost Estimate, ROW Acquisition: $0.5 million
Cost Estimate, Eng. & Constr'n: $4.1-5.2 million

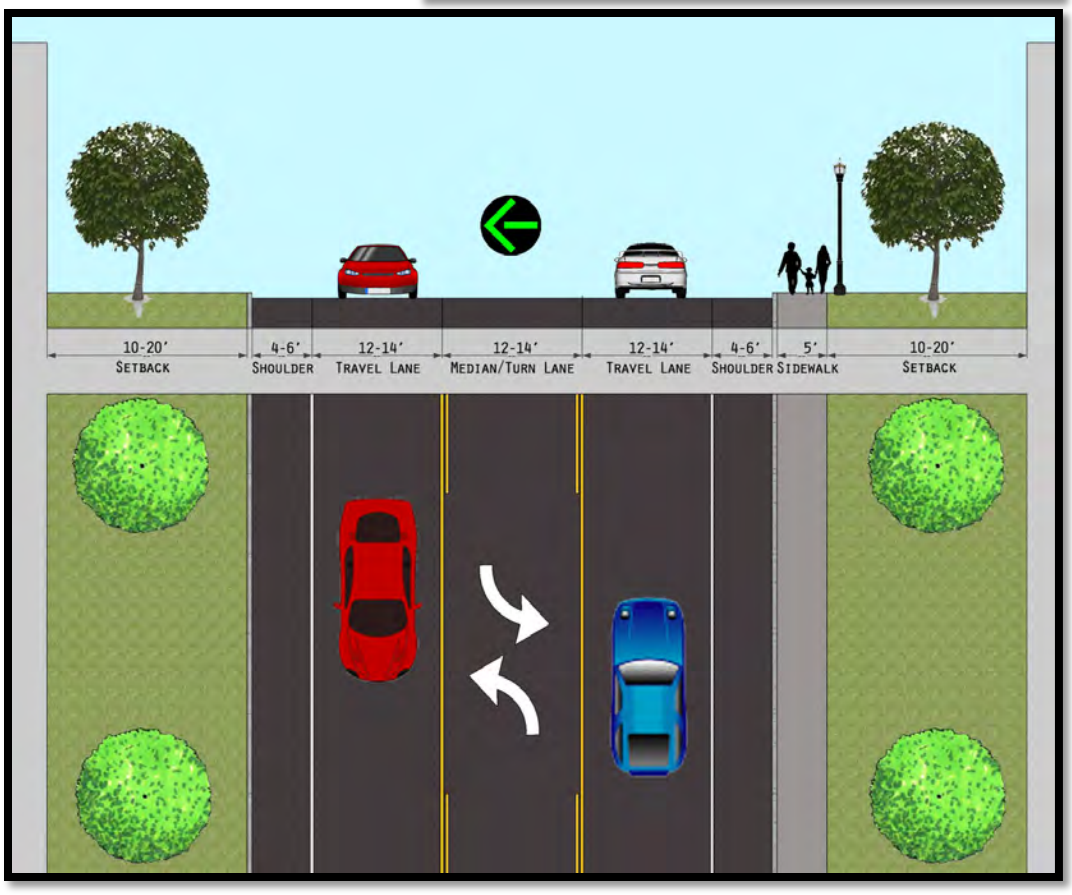
PROJECT GOALS:

1. Alleviate traffic on Main Street
2. Promote industrial development
3. Alleviate traffic on nearby neighborhood roads

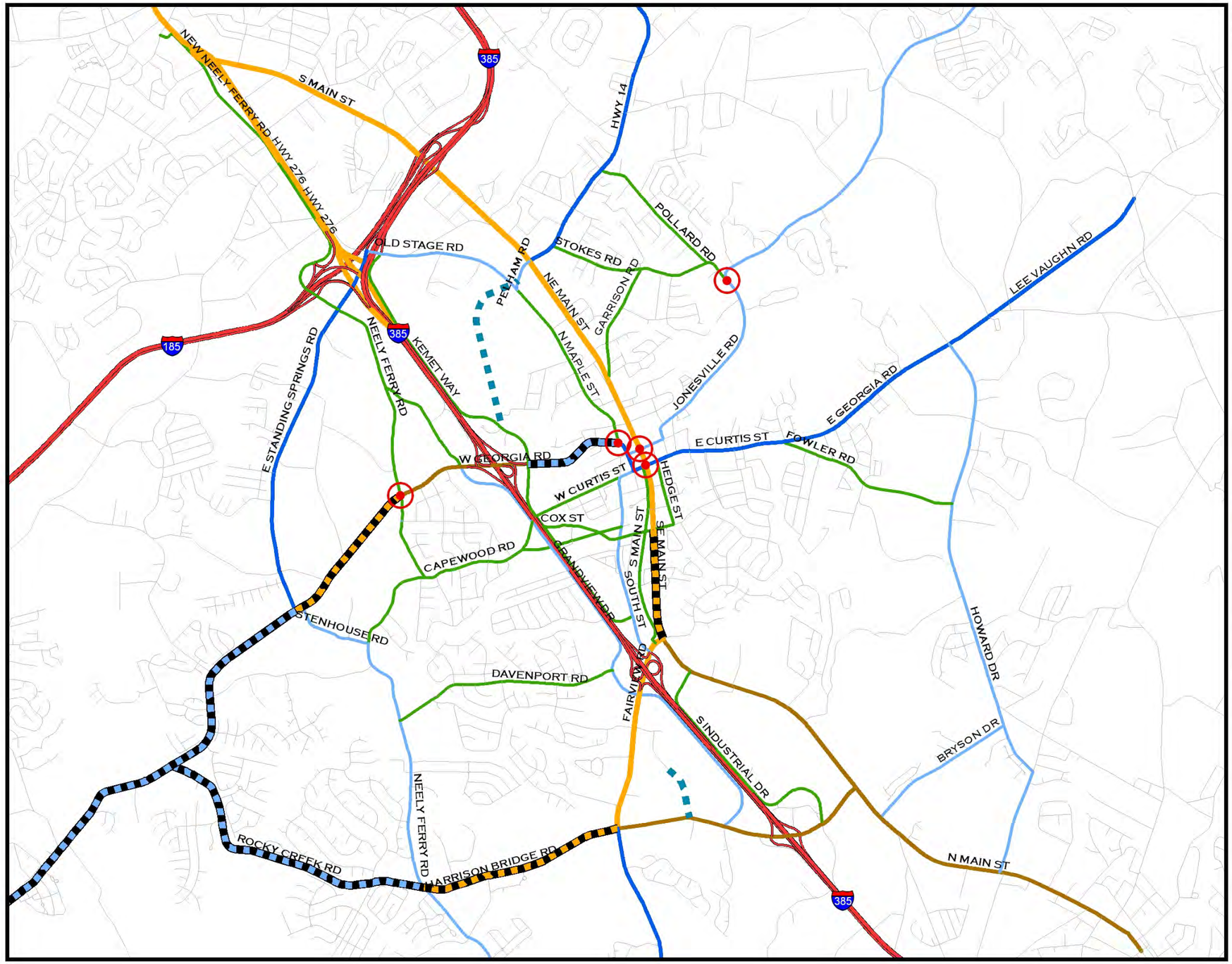
How It Grades: "B-" ***Mid-Priority***

| Traffic Flow | Safety | Econ. Dev. | Ease |
|---|---|---|---|
| ★★★★ | ★★ | ★★★ | ★★ |



# Thoroughfare Plan Map




## Legend

### Existing Roads (Classification)

- Local Road
- Subcollector
- Minor Collector
- Major Collector
- Minor Arterial
- Major Arterial
- Freeway Ramp
- Freeway

### Proposed Road Alternative

- New Road (3 lanes)
- Widen Road (3 lanes)
- Widen Road (5 lanes)
- Intersection Improvement

N

0 0.5 1 Miles

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# Chapter 3. Implementation

- Funding Initiatives & Opportunities
- Recommended Practices
- Intergovernmental Cooperation

Successful implementation of this plan will depend to a great extent on the ability for local, state, and private entities to work together. This plan recognizes the effect various improvements can have on travel safety and mobility, tourism, development patterns, and the visual appeal of the area. Some improvements will be implemented through the development review process, while major infrastructure improvements most likely will require state and federal funding. Funding for these major projects is limited and competition is spirited. Completion of this plan represents an important initial step toward creating a safe, efficient multimodal transportation system.

## Funding Initiatives & Opportunities

The construction of a comprehensive and connected transportation network can occur through incremental adoption of local policies and programs and state programs as well as through the receipt of private contributions. It will be important for the City of Simpsonville to collaborate with the Greenville-Pickens Area Transportation Study (GPATS) and South Carolina Department of Transportation (SCDOT) officials to identify funding resources to implement the recommendations of this plan.

Funding strategies may include the following:

- ***GPATS Metropolitan Planning Organization.*** The City of Simpsonville is a member of the GPATS Metropolitan Planning Organization (MPO). The MPO aids local planning efforts and provides services and guidance in coordinating with SCDOT. As members of the MPO, the City of Simpsonville can request funding from the MPO through two primary resources: Transportation Improvement Program (TIP) and Enhancement Grants. The TIP includes funding for roadway, bridge, maintenance, bicycle, pedestrian, and transit projects. The Enhancement

Grant program ensures the implementation of projects not typically associated with the road-building mindset. While the construction of roads is not the intent of the grant, the construction of bicycle and pedestrian facilities is one of the many enhancements that the grant targets, and these projects could play an important role in enhancing pedestrian safety and connectivity at key locations within the study area.

- ***Transportation bonds.*** Transportation bonds have been instrumental in the strategic implementation of local roadways, transit, and non-motorized travel throughout South Carolina. Nearly every improvement identified in this plan could be financially supported using a transportation bond program. Where the improvement occurs on a state-owned street, approvals and encroachment permits from SCDOT will be required.
- ***Safe Routes to School.*** Safe Routes to School, a national initiative, has encouraged many children to bike and walk to school by promoting bicycle and pedestrian education. Funding for this federal program is provided through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The program provides funding for individual schools to create route plans or develop facilities that create a safer walking and biking environment for their students. South Carolina has a yearly application program for which any school, school district, municipality or other governmental body, or non-profit association may apply.
- ***SCDOT district funds, hazard elimination, and railroad crossing programs.*** District funds provide allocations or discretionary funds for special projects within each SCDOT district. These and other safety-related funds are a subset of the State Transportation Improvement Program (STIP) funding and are intended to inventory and correct the safety concerns of all travel modes. These funds also can be used to acquire right-of-way.
- ***Developer contributions.*** Through diligent planning and early project identification, regulations, policies, and procedures could be developed to protect future transportation corridors and require contributions from developers when property is subdivided and/or developed. To accomplish this goal, it will take a cooperative effort between local City planning staff, SCDOT planning staff, and the development community.

## Recommended Practices

### *Access Management*

As the City's most traveled corridors continue to attract commercial development, protecting their mobility becomes essential for the efficiency of the transportation system and continued economic growth. Access management balances the needs of motorists using a roadway with the needs of adjacent property owners dependent upon access to the roadway. In an environment with limited funds for transportation projects and competing agendas, access management is not just a good policy but crucial to the health of the entire transportation network. Access management requires cooperation between government agencies and private land owners.

Poor access management directly affects the livability and economic vitality of commercial corridors, ultimately discouraging potential customers from entering the area. A corridor with poor access management lengthens commute times, creates unsafe conditions,

lowers fuel efficiency, and increases vehicle emissions.

Improvements that reduce the total number of vehicle conflicts should be a key consideration during the approval of redeveloped sites along corridors identified for access management programs. Site access treatments include the following:

- ***Promote on-site traffic circulation.*** Pushing back the throat of an entrance helps to avoid spillback onto the roadway. This action improves both the safety and efficiency of the roadway.
- ***Reduce the number of driveways.*** Reducing the number of access points decreases the number of conflict points, making the roadway safer and more efficient. For those situations where outparcels are under separate ownership, easements for shared access can be used.
- ***Strategically place/relocate driveways.*** Driveways located close to intersections create and contribute to operational and safety issues. These issues include intersection and driveway blockages, increased points of conflict, frequent and unexpected stops in the through travel lanes, and driver confusion as to where vehicles are turning.
- ***Encourage cross access.*** Cross access is a service drive or secondary roadway that provides vehicular access between two or more continuous properties. Such access prevents the driver from having to enter the public street system to travel between adjacent uses.

### *Right-of-Way Preservation*

To carry out the thoroughfare plan, the City may adopt certain measures to manage corridor development. These include measures to avoid development in the path of a planned transportation improvement. Ordinances for right-of-way preservation generally include, but are not limited to, the following:

- Restrictions on building in the right-of-way of a planned transportation facility without a variance;
- Criteria for right-of-way exactions and a process for determining the amount of right-of-way dedication that is roughly proportionate to the impact of the proposed development;
- An option for clustering developments by reducing setbacks or other site design requirements to avoid encroachment into the right-of-way;
- Allowances for some interim use of transportation right-of-way for uses having low structural impact through an agreement that requires the property owner to relocate or discontinue the use at their expense when the land is ultimately needed for the transportation facility;
- Allowances for on-site density transfer from the preserved right-of-way to the remainder of the parcel; and
- Procedures for notifying the state transportation agency of development proposals that would substantially impair the viability of the future transportation corridor.

### *Complete Streets*

"Complete streets" is a term used nationally to describe the transformation of vehicle-dominated thoroughfares in urban and suburban areas into community-oriented streets that safely and conveniently accommodate all modes of travel, not just motorists.

Complete streets can be viewed in terms of various components that together form a "complete street." These components include the following:

- ***The context of the buildings that frame the roadway.*** Buildings should be located close enough to the street so that they are able to frame the public space enjoyed by pedestrians. Design details incorporated into individual buildings foster a comfortable, engaging environment for pedestrians.
- ***A pedestrian realm designed for pedestrian mobility and safety.*** The presence of a continuous sidewalk along the street supports active transportation and mode choice. Providing separation by way of buffers, street trees, and pedestrian-scale lighting between pedestrians and moving traffic greatly enhances the character of this realm.
- ***A travelway realm designed to provide mobility for automobiles, bicycles, and transit.*** Balance between travel modes within the same transportation corridor fosters an environment for choice for mobility that could lead to reduced congestion on major roadways and a healthier citizenry. Medians are often incorporated to provide dedicated left-turn lanes, landscaping, and pedestrian refuge at crossings.
- ***Careful consideration of how multiple travel modes meet at intersections.*** The design of intersections should shorten pedestrian crossing distance and protect on-street parking near the intersection. Traffic signals and roundabouts are the two most common applications for major intersections along a "complete street."

### *Traffic Calming*

As in many communities across the nation there is a growing concern in Simpsonville about the increase of non-local traffic as well as imprudent drivers in neighborhood areas. Many cities are joining a nationwide trend among local governments by adopting traffic calming programs, which are aimed at controlling cut-through traffic and speeding on neighborhood streets and generally aggressive driving that threatens the safety of other drivers and pedestrians.

Traffic calming measures are instrumental in providing livable neighborhoods where residents feel safe walking, biking, and playing. In addition to reducing speeds in residential neighborhoods, traffic calming measures are also useful in pedestrian-oriented commercial areas.

Traffic calming is accomplished through a combination of measures that control both traffic speeds and volume. Volume controlled measures including street closures, restrictive one-way streets and turn restrictions should only be implemented on local access streets. These measures are effective in reducing traffic on streets; however, such measures do not reduce speed and often result in the diversion of unwanted traffic onto other residential streets.

Speed-controlled measures are important in reducing injury accident rates and in increasing walking and bicycling on streets. These measures include speed humps, speed tables, traffic circles, sharp bends, chicanes, and narrowing at mid-block. Speed-control measures may also be designed in the community through urban design and land use

features such as smaller setbacks, street trees, short streets, sharp curves, center islands, traffic circles, textured pavements, speed humps and flat-topped speed tables. Speed-control measures are typically implemented on local streets but can be installed on collector streets with proper traffic operations considerations, such as emergency vehicle access and conveyance.

The Institute of Transportation Engineers, state transportation departments and other entities have published manuals and other materials documenting numerous traffic calming options and techniques, including some that are subtle and intended to influence drivers' perceptions of their surroundings and thereby their driving behavior. These can include road and intersection narrowing methods, better definition of crosswalks and pedestrian-oriented settings, and manipulation of road surfaces.

Lessons from communities that have experimented with traffic calming initiatives point to the following characteristics of a successful program:

- Ensuring early involvement of and communication between neighborhood residents, City staff, and City Council;
- Establishing specific procedures for defining and studying potential traffic problems;
- Creating a clear process for requesting potential calming measures, securing project approval and funding, and then designing and implementing the measures;
- Outlining an array of preferred calming techniques or combinations of methods based upon industry standards as documented in publications of the Institute of Transportation Engineers and similar professional associations;
- Confirming neighborhood consensus and support before proceeding with implementation;
- Monitoring and evaluating the effectiveness of calming measures on a case-by-case basis, with the ability to reconsider and alter or remove if necessary, any traffic calming device or technique which inadvertently creates and/or shifts a traffic problem from one street or neighborhood to another; and
- Proactively incorporate traffic calming techniques in the design of new communities and developments.

## Intergovernmental Cooperation

The City should work with the MPO and the County to ensure the preservation of roadway corridors as development applications are considered. Historically, many projects throughout the state have been impacted by development that was not responsive to adopted plans. The City should coordinate closely with the MPO and the County by providing review and comment on proposed development applications. Where corridor preservation isn't feasible, reasonable alternatives should be sought.