An aerial architectural rendering of a university campus. The central focus is a wide, tree-lined road that runs north-south through the middle of the campus. On either side of this road are numerous buildings of varying sizes, interspersed with dense clusters of trees. The campus is surrounded by a vast, flat landscape with scattered trees and some distant structures. The sky is filled with soft, grey clouds, suggesting an overcast day. The overall style is a detailed, shaded architectural drawing.

A New Way to Work

Implementation Analysis

January 2009

Prepared for:

Coastal Conservation League

Consultant Team:

Glatting Jackson Kercher Anglin, Inc.



Table of Contents

Summary	1
1.0 Background	5
2.0 The Environmental Impact Study	6
2.1 EIS and Purpose and Need	7
2.2 Purpose of the I-526 Alternatives Study	8
3.0 Description & Performance of Alternatives	9
3.1 Design Principles	9
3.2 West Ashley/Savannah Highway	10
3.3 Johns Island/Maybank Highway	24
3.4 James Island/Folly Road	28
3.5 Evaluation of EIS Alternatives	38
4.0 Land Use, Market & Fiscal Considerations	41
Appendix	

Summary

“New Way to Work” is a series of targeted, technically-sound transportation and land use recommendations that effectively address SCDOT’s Purpose and Need for the I-526 Extension. These projects also create better, healthier places and will contribute to the City’s economy and tax base. The construction of I-526 as a loop, bypass highway will not be effective for several reasons:

Where Are Problems To Be Solved By I-526?

Savannah Highway

- Traffic volumes will not be reduced as a result of building I-526
- Safety will not be improved as a result of building I-526

Maybank Highway

- Traffic volumes will increase as a result of building I-526
- The number of vehicle crashes will go up as a result of building I-526

James Island

- Bottlenecks crossing James Island Creek will not be improved by building I-526

Where Are New Problems Created By I-526?

Savannah Highway

- Property value will be transferred from Savannah Highway to points west by the building I-526
- Sprawl development and pressure on the growth boundary will occur as a result of building I-526

Maybank Highway

- Strip commercial development will overwhelm the existing character as a result of building I-526

James Island

- Interchange oriented development will be attracted to I-526 at Folly Road Charleston Peninsula
- The Lockwood/Calhoun intersection is insufficient to handle the traffic of a terminating Interstate

The “New Way to Work” alternatives better address comments the public has made during the NEPA Scoping Process.¹ The following pages summarize the program.

¹ See Appendix 9



West Ashley/ Savannah Highway

The alternative design recommended for Savannah Highway conforms to the three principles above and is built largely on an effort to create more street network, safer access and more economic value in the corridor. At present, there is a driveway every 80 feet along Savannah Highway. This frequency is an unacceptable failure of design and should be rectified. Some of the elements of the plan would involve publicly funded projects (the addition of medians to organize turn movements, the consolidation of driveways along the corridor, etc.) and some would include on network created through public and/or private redevelopment.

Most of the changes to the corridor would occur in the areas with a high concentration of commercial properties, but these are also the areas where a large percentage of the congestion and safety issues are present. All of the concepts for connections and redevelopment on private property are, of course, conceptual. Any changes or redevelopment should be refined in consultation with property owners and as a part of a community dialog.

		West Ashley	
		New Way to Work	Loop Highway Options
SCDOT Purpose & Need	Safety	1. Fewer vehicle crashes resulting from access management and creation of functional hierarchy; 2. Safer pedestrian environment resulting from driveway consolidation.	Traffic volumes unlikely to change (no changes over the past decade) and, since no physical changes to corridor are proposed, safety characteristics unlikely to change.
	Mobility	Long distance trips using Savannah Highway are likely to encounter somewhat less congestion, but will still be required to move at a relatively moderate, urban pace.	Very high speed flow from outlying land areas to Downtown may be possible. This is likely to encourage higher levels of development further from the urban core. It will not help the over 50% of Savannah Highway trips that are destined for the corridor.
	Congestion	Access management can be expected to provide substantial benefits to both through movements and access movements in serving the same traffic volume along the corridor.	Traffic volumes are unlikely to change (no changes over the past decade) along this corridor with or without a highway loop. The Bypass provides zero benefit for mobility on Savannah Highway.
	Relocations	This alternative is not likely to require any relocations, but will involve substantial changes to commercial access and will likely involve financial compensation to property owners.	Varies by alternative. EIS to provide detail.
	Wetland Impacts	Likely None.	All of these alternatives cut across many miles and acres of wetlands. It would be difficult to conceive of a project with any greater impacts.
Additional Essential Criteria	Development Footprint (Sprawl)	Land value and feasible densities on the Savannah Highway corridor inside of I-526 would be increased as a result of direct investment.	Land values and development pressures west of I-526 would be raised as a result of a highway to downtown bypassing West Ashley.
	Character and Walkability of Gathering Places	Consolidation of driveways and addition of vegetated medians will improve the attractiveness and walkability of the character areas.	No change in traffic volumes and no physical changes in the corridor will result in no improvement.



Conceptual Nodal Plan for the Area between Betsy Road and Canterbury Road

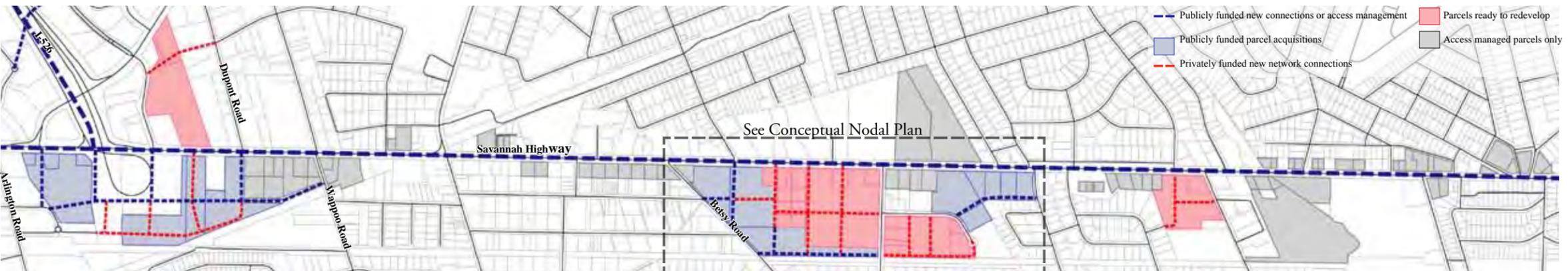
Long Distance Trips	
Trips Totally within the Corridor	5%
Trips that Start or End in the Corridor	51%
Trips through the Corridor	44%

Long Distance Trips
Source: BCDCOG



Savannah Highway Street Typologies

- BV-110
- CS-60-36
- ST-60-34



Savannah Highway Access Management Plan

- - - Publicly funded new connections or access management
- Publicly funded parcel acquisitions
- - - Privately funded new network connections
- Parcels ready to redevelop
- Access managed parcels only

Recommended Approach
Add Center Median to organize turning movements
Consolidate driveways to improve safety
Add secondary streets to relieve Savannah Highway

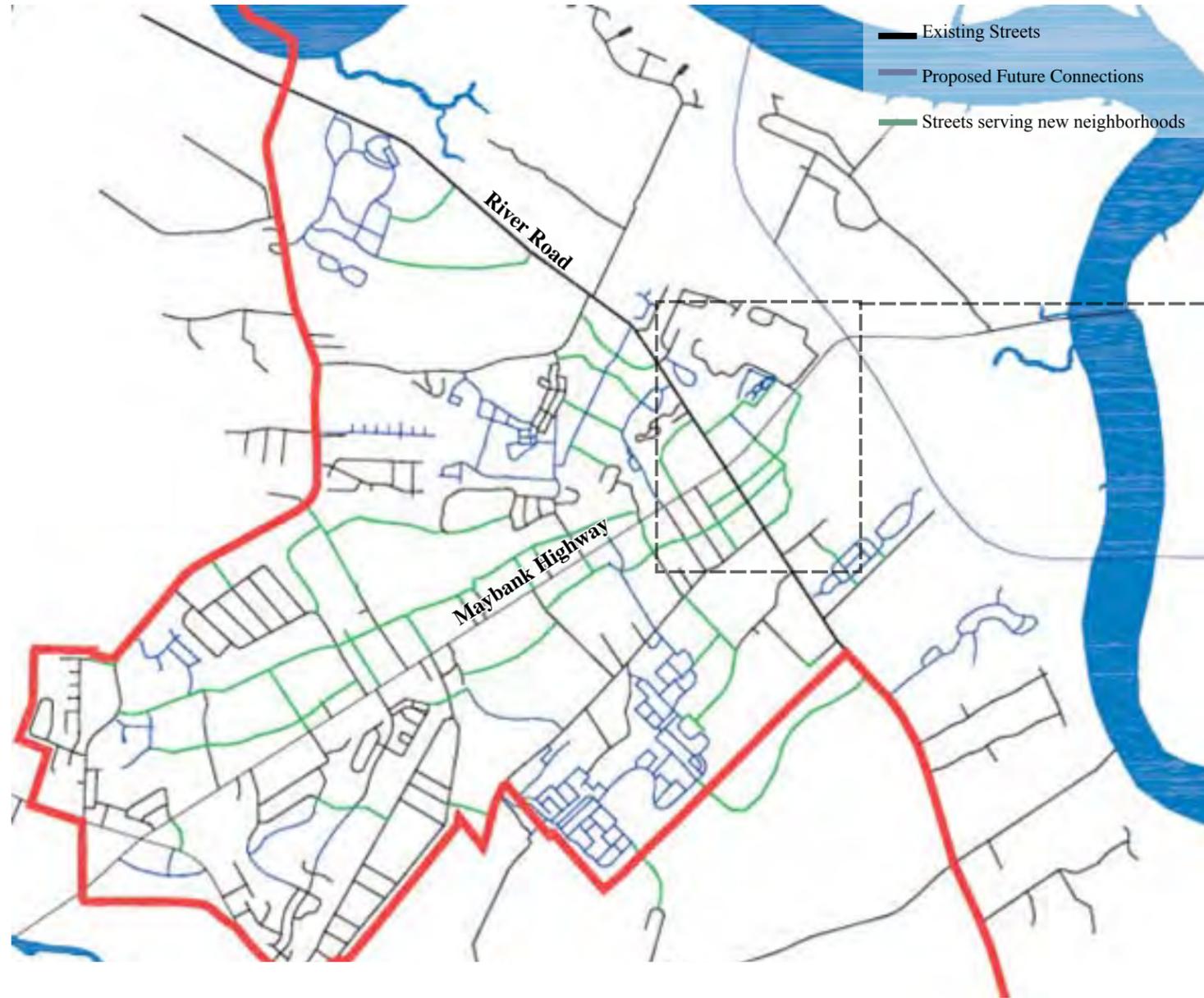


Johns Island/ Maybank Highway

The alternative design recommended for Maybank Highway on Johns Island is based on the dual premises that, 1. Drawing more traffic to an island that is ill-equipped to support even its current load is a bad idea, and 2. More network is needed to support the function and character of Maybank Highway on Johns Island.

The first premise would best be met by not adding a freeway crossing and interchange onto the island. The COG's network scenarios analyses indicate that the section of Maybank Highway west of River Road would carry 19,000 vehicles per day if I-526 is not built, but would increase to nearly 27,000 vehicles per day if I-526 is extended. The section of Maybank Highway east of River Road is projected to carry just over 37,000 vehicles per day if I-526 is not extended. These volumes would increase to nearly 60,000 vehicles per day if I-526 is built. By way of comparison, this is 50% more vehicles than Savannah Highway carries today. Such a massive influx of traffic would have devastating results for the Maybank Highway corridor specifically and for Johns Island in general.

Recommended Approach
Forgo freeway interchange and associated traffic increases
Construct "pitchfork" intersection to relieve bottleneck
Add secondary streets to relieve Maybank Highway
Regulate for walkable development to improve safety



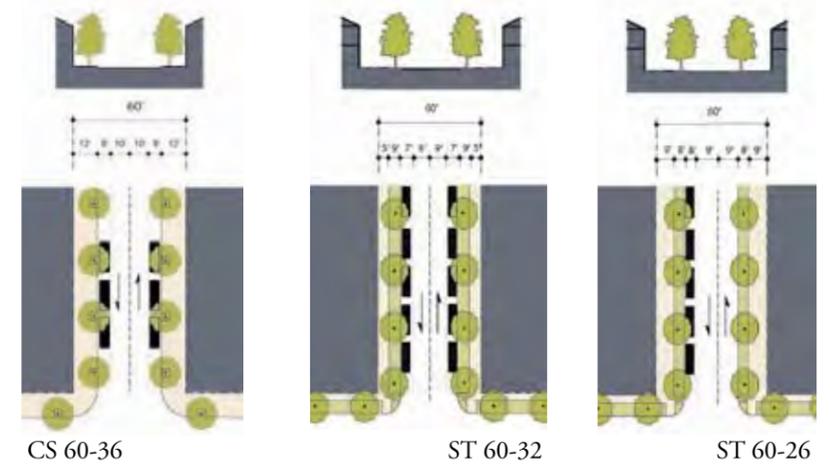
Overall Proposed Network Plan

Source: "Update of the Maybank Highway Widening Study," Hall Planning & Engineering, Inc. 2008



Proposed Thoroughfare Assignment for Phase 1 Streets

See Appendix 7, pages 11, 14-16 for proposed cross-sections

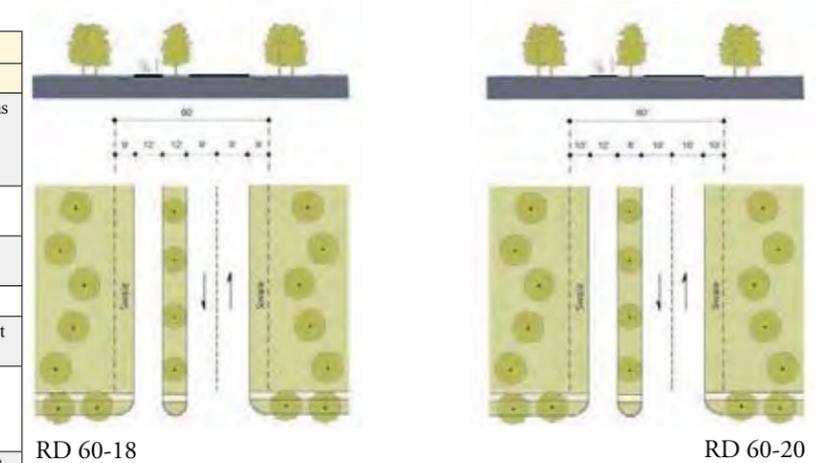


CS 60-36

ST 60-32

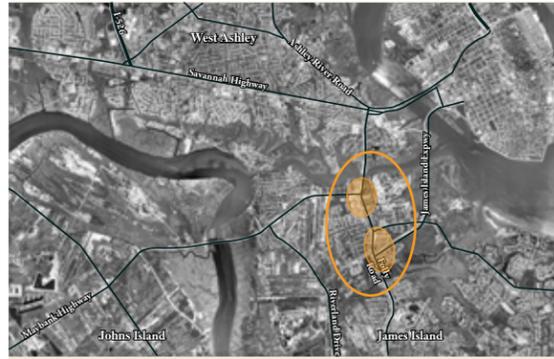
ST 60-26

		Johns Island	
		New Way to Work	Loop Highway Options
SCDOT Purpose & Need	Safety	1. Travel demand model shows lower traffic volumes, resulting in lower numbers of crashes if highway is not built 2. Fewer vehicle crashes resulting from access management and creation of functional hierarchy on Maybank Highway; 3. Safer pedestrian environment resulting from design and cross-section recommendations.	Regional model shows traffic volumes increasing significantly along Maybank Highway as a result of the highway alternatives. These highway volumes will certainly result in a less safe Maybank Highway corridor for drivers and pedestrians.
	Mobility	Long distance trips from Johns Island will continue to encounter congestion at the bridges to and from the Island.	Potential mobility benefits resulting from new bridges may be counteracted by increased volumes on Maybank Highway
	Congestion	Lower volumes expected without the highway alternative coupled with access management benefits along Maybank Highway have already been modeled effectively.	Traffic volumes and congestion will increase with a highway loop.
	Relocations	This alternative will not require any relocations.	Varies by alternatives. EIS to provide detail.
	Wetland Impacts	None.	All of these alternatives cut across many miles and acres of wetlands. It would be difficult to conceive of a project with any greater impacts.
Additional Essential Criteria	Development Footprint (Sprawl)	Studies of Johns Island conducted by EDAW found that a significantly lower level of development on the island would occur without an I-526 Bypass.	I-526 will increase development pressures on Johns Island and the Maybank Highway corridor.
	Character and Walkability of Gathering Places	A network of neighborhood scale streets are consistent with the Island's vision for itself.	Highway-oriented retail and office is likely not compatible with the character Johns Island has articulated.



RD 60-18

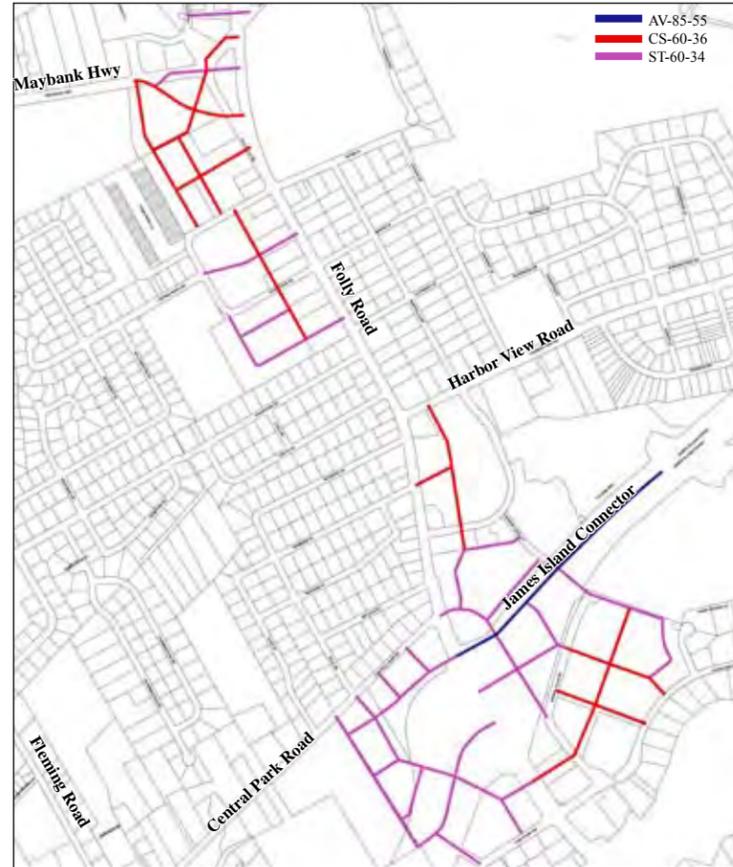
RD 60-20



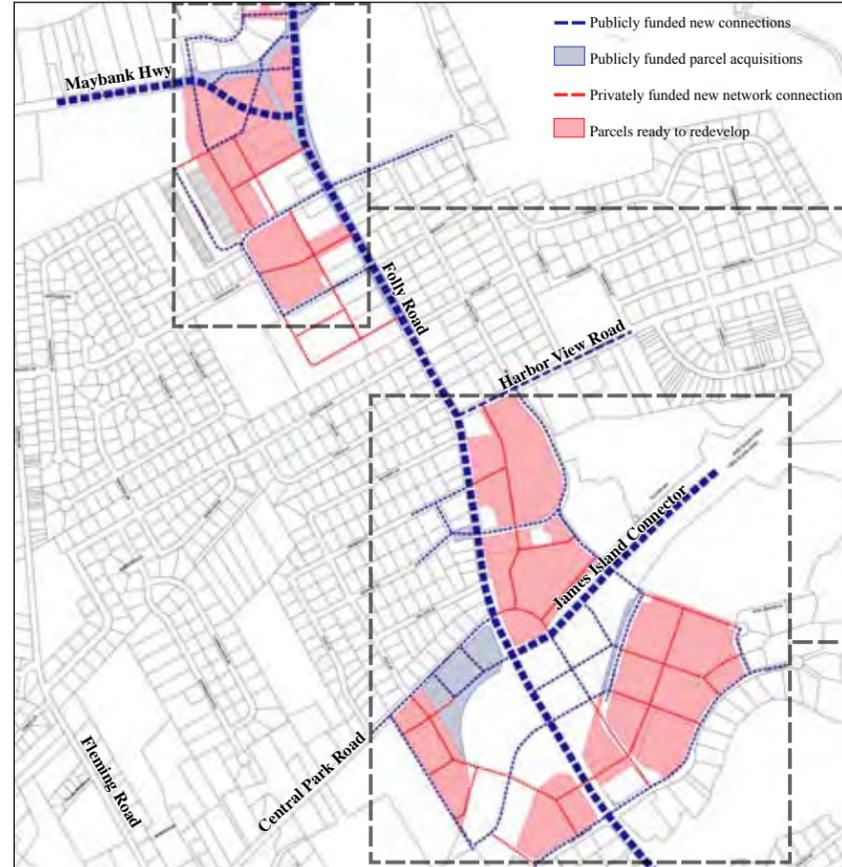
James Island/ Folly Road

The alternatives proposed for James Island also have to do with investing in the affected area rather than bypassing it, engaging the private sector and adding benefits beyond transportation. In particular, two nodes which are focal points of congestion and safety concerns are the intersection of the James Island Connector to Folly Road, and the intersection of Folly Road and Maybank Highway.

The alternative design recommended for the James Island landing area is built largely on an effort to create more street network, safer access and more economic value in the corridor. As was the case along Savannah Highway some of the elements of the plan, such as the reconfiguration of the “dirt mound triangle” at the current terminus of the cross-island connector to reflect something other than a highway interchange or the creation of usable greenspace on leftover land, would be publicly funded. Others, such as network created through private redevelopment of existing commercial sites, would be private.



Street Typologies



Public and Private Projects



ST-60-34

CS-60-36

AV-55

		James Island	
		New Way to Work	Loop Highway Options
SCDOT Purpose & Need	Safety	1. Fewer vehicle crashes resulting from access management and creation of functional hierarchy on Folly Road; 2. Safer pedestrian environment resulting from design and cross section recommendations.	Traffic volumes unlikely to change and, since no physical changes to area are proposed, safety characteristics unlikely to change.
	Mobility	Long distance trips from James Island will continue to encounter congestion at the bridges to and from the Island.	Bypass will not improve bridge capacity constraints and is likely to increase volumes and congestion on James Island expressway onto Charleston peninsula.
	Congestion	Congestion at bridges will still be present, but problem intersections along Folly Road at James Island Connector and at Maybank Highway will be alleviated.	Traffic volumes and congestion at the James Island Connector Interchange will increase with a highway loop.
	Relocations	This alternative will require some relocations.	Varies by alternatives. EIS to provide detail.
	Wetland Impacts	None.	All of these alternatives cut across many miles and acres of wetlands. It would be difficult to conceive of a project with any greater impacts.
Additional Essential Criteria	Development Footprint (Sprawl)	Land currently occupied by ramps and right-of-way for future highway infrastructure can be converted to appropriately-scaled development and greenspace.	More commercial development at the location of the interchange is likely. Development pressures further down-island are unlikely to be affected significantly.
	Character and Walkability of Gathering Places	Greenspace and street network opportunities will soften the current car-dominated landscape and result in walkable gathering places.	Continuation and expansion of auto-oriented commercial intersections likely.



Potential public investments along Folly Road at Maybank Highway



Conceptual Redevelopment Plan



Proposed Network in the Public Right-of-Way

Recommended Approach
Redesign James Island Connector Terminus As a Street (Not a Freeway)
Add new connections to disperse traffic to Folly and Central Park Roads
Add network to relieve Folly Road/James Island Connector



1.0 Background

The idea for a circumferential highway around Charleston has been around for a long time. In 1972, the South Carolina Department of Transportation (SCDOT) developed a Final Environmental Impact Statement (FEIS) for the Charleston Inner Belt Freeway (the future Interstate 526) a proposed 18-mile, multi-lane facility that connected James Island to North Charleston. In 1995, SCDOT developed an update entitled “Draft Supplemental Environmental Impact Statement and Draft Section 4(F) Evaluation.”

While the building of a loop highway was a common, in fact an encouraged, practice in the 1970s, it is not a practice that has aged well. Advocacy of these “bypasses” was predicated on the notion that when a better option was given to long distance travelers, they would no longer overwhelm local communities and streets. The only problem with this theory is that it hasn’t come to pass in reality. Departments of Transportation built these highways to deal with the real issue of regional traffic growth, but in building them behavior changed. What has happened is that as the freeways have filled with cars, the roads that were supposed to be relieved have refilled with cars and development has spread further and further out. One has only to study the growth patterns of places like Atlanta and Houston to understand that far from bypasses, these highways have become dysfunctional arterials for growing areas far from the central cities.

If it is true that our cities have changed since the 1970s, no greater example might exist than Charleston. The Charleston of 1972 or 1982 had a different economy and a different set of values than the Charleston of 2009. It is opportune, then, that this idea of a loop highway, hatched so long ago, should be reconsidered in the context of today’s Charleston where quality of place and quality of life are valued. Where the distance one travels to and from work is not a small consideration. Where gas is not cheap or getting cheaper. Where a 40 year delay in getting a project completed might turn out to be one of the greatest blessings the City has ever been bestowed.

2.0 The Environmental Impact Study



The loop road idea, which has been around for 40 years, was revived in 2006 when the voters of Charleston County allocated a portion of the transportation sales tax as a local match to apply for funding from the South Carolina Transportation Infrastructure Bank (SIB). The SIB application proposed a new roadway between the current I-526 endpoint at US 17 (Savannah Highway) and the James Island Expressway Interchange at Folly Road with one new interchange on Maybank Highway.

Projects of this scale are required to go through the Federal Highway Administration's (FHWA) NEPA process. This environmental evaluation process is intended to allow communities to make transportation decisions that balance engineering and transportation considerations with social, economic, and natural environmental factors. This public process includes numerous opportunities for citizens to provide input into project and environmental decisions. The process also requires that SCDOT analyze and consider all reasonable alternatives to address the transportation needs.

According to SCDOT's website, the I-526 EIS document will consist of:

- A description of the project;
- The purpose and need for the project;
- An analysis of possible alternatives for the project;
- Studies of the existing human and natural environment;
- A summary of potential effects on the environment that each alternative may have; and
- Identification of a Preferred Alternative by SCDOT.

It is important to understand that the NEPA process is an umbrella under which all of the requirements for community analysis may reside. Usually, analysis of factors that are important to individual communities can help frame better decisions. While NEPA is an older process which reflects the body of knowledge at the time of its development, it is flexible enough to trigger consideration of newer issues such as sprawl, public health impacts of sedentary lifestyles and return on investment.

2.1 EIS and Purpose and Need

Any environmental study which is to follow Federal law must state clearly why the project is to be built and what benefits are expected to accrue. This statement is known as a Purpose and Need. SCDOT has written a purpose and need for this project which is as follows:

The purpose of the project to increase the capacity of the regional transportation system, improve safety and enhance mobility in the West Ashley, Johns Island and James Island areas of Charleston in an environmentally sensitive manner.

Another way to present the statement might be the following table:

Goals for West Ashley, Johns Island & James Island
Enhance Mobility
Improve Safety
Improve Regional Capacity & Local Mobility
Environmental Sensitivity

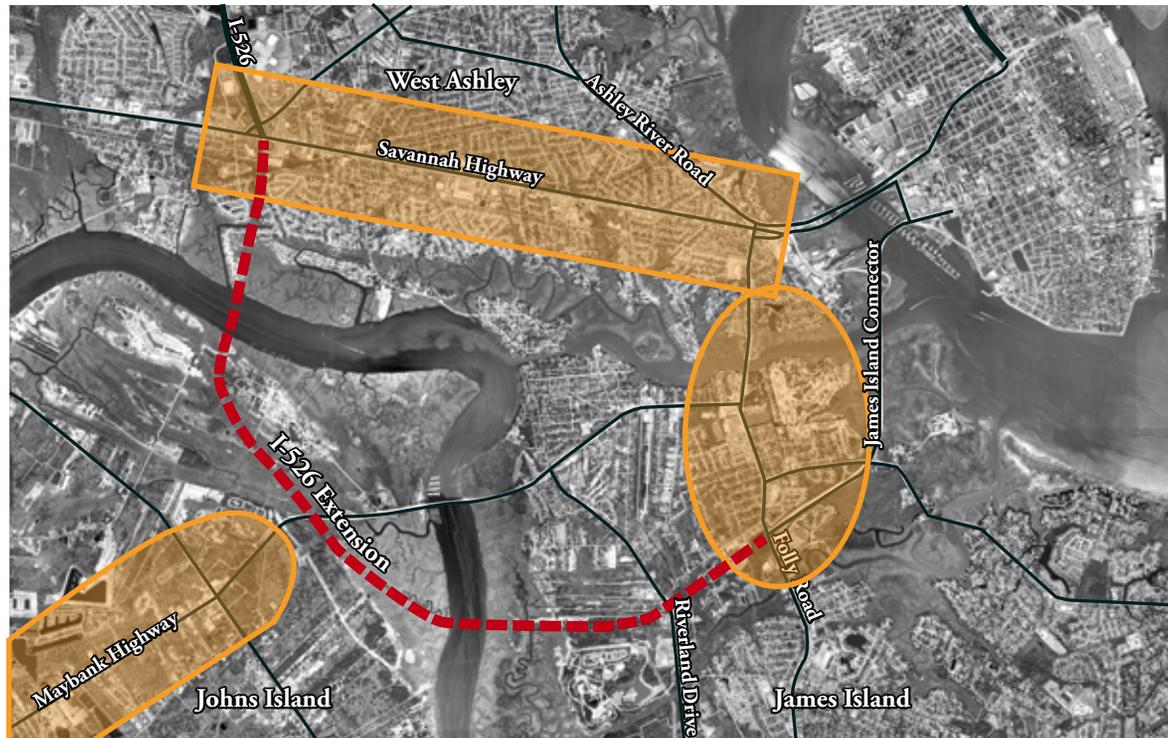


Figure 2.1.1- Study Area

2.2 Purpose of the I-526 Alternatives Study

The remainder of this report is dedicated to proposing alternatives that we believe will most effectively accomplish the goals laid out in this table. This process is built with the goal of creating productive outcomes that:

- Work within SCDOT's and the region's planning framework;
- Provide more targeted, cost effective, multiple-benefit solutions; and
- Create value for the Charleston region through transportation investment.

Given that these alternatives were created to benefit the citizens of Charleston, it was important to develop them with the citizens. Therefore, these alternatives were developed during various outreach initiatives in late 2007. On these occasions, the planning team met with the community to identify issues, explore aspirations, and pinpoint approaches that would help West Ashley, Johns Island, James Island, and downtown Charleston meet future goals through infrastructure investments that preserve the character of these areas. The team met with citizens, property owners, business people, elected officials, and agency staff members in a series of discussions and workshop sessions. The effects of the I-526 extension on land uses, future development along the waterfronts, property values, view sheds, ecologically important marshes, carbon emissions, parks, and neighborhoods were explored during these workshops. The participants also discussed community planning alternatives to the highway building.

In early 2008, Glatting Jackson held an open house to gather additional information from the community. Over 200 people participated and helped frame a series of community-oriented alternatives to the highway building alternative. The community-oriented alternatives were more holistic because they included changes to the street network, changes to development patterns, and changes to encourage more sustainable transportation choices over time. The work concluded with a presentation of the alternatives and planning direction established by the community. The presentation also included what other cities did, or are doing, who faced, or who are facing, similar challenges. The community-oriented alternatives were designed to be more holistic, as they included changes to the street network, changes to development patterns, and changes to encourage more sustainable transportation choices over time.

For purposes of NEPA, we are proposing that the publicly-funded aspects of this plan be analyzed and compared with regard to Purpose and Need and the cost of this alternative versus extending the highway. While we expect the private redevelopment would occur as a result of our alternative, they are not a part of it for purposes of technical analysis.



3.0 Description & Performance of Alternatives

This section describes the specific elements of the project alternative that was developed through this process.

3.1 Design Principles

The development of the alternatives was predicated on a few basic principles:

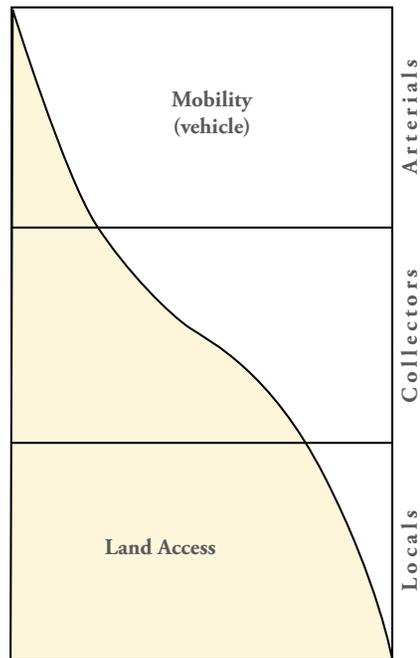
1. **Address the Stated Problem Directly** – If the issue is congestion and safety on Savannah Highway, then fixing congestion and safety at that location will be more effective than “bypassing” the problem.
2. **Engage the Private Sector** – Virtually all of the congestion and safety issues are occurring on corridors with substantial commercial frontage. These properties will eventually redevelop, providing opportunities to reform access and options.
3. **Expand the Lens of Costs and Benefits** – Any project that proposes to spend a half billion dollars of tax revenue should do more than move cars from point A to point B. This investment should make life appreciably better in as many ways as possible.

The following sections describe how these principles were applied in the three primary subareas (Savannah Highway, James Island, Johns Island).

3.2 West Ashley/Savannah Highway

The congestion and safety problems along the Savannah Highway corridor are related issues. Both are a result of a combination of high traffic volumes and a poorly designed street. The high traffic volumes are caused by a combination of trips between developments on either end of the corridor (say, Hollywood to downtown) and trips destined for the homes or shopping along the corridor itself. The Council of Governments is able to estimate how many people are taking these different types of trips. As the table, Long Distance Trips, on this page indicates, less than half of the cars on this road are long distance trips which might want to use a bypass highway, if available.

Throughout the United States, arterial corridors like Savannah Highway with multiple lanes and lots of commercial driveways have been designed and, like Savannah Highway, they don't work. They are almost always congested and unsafe. This is due to the fact that one road is asked to carry every type of trip whether long range (mobility) or short distance (access). These types of corridors have been designed even though the manual of highway design recommends against them. The design manual suggests that a full hierarchy of streets is needed to handle the different types of trips people make. The manual predicts that "conflicts and congestion occurs...when the functional transitions are inadequate." So it stands to reason if you place a low speed driveway (access) directly onto a high speed arterial (mobility) without a transition, crashes and congestion are predictable.



Proportion of Service

Long Distance Trips	
Trips Totally within the Corridor	5%
Trips that Start or End in the Corridor	51%
Trips through the Corridor	44%

Long Distance Trips
Source: BCDCOG

Recommended Approach
Add Center Median to organize turning movements
Consolidate driveways to improve safety
Add secondary network streets to relieve Savannah Highway



In recognition of these facts, departments of transportation throughout the country are undertaking efforts to better manage access along these types of corridors. According to the Transportation Research Board (TRB), “without access management, the function and character of major roadway corridors can deteriorate rapidly. Failure to manage access is associated with the following adverse social, economic, and environmental impacts:

- An increase in vehicular crashes,
- More collisions involving pedestrians and cyclists,
- Accelerated reduction in roadway efficiency,
- Unsightly commercial strip development,
- Degradation of scenic landscapes,
- More cut-through traffic in residential areas due to overburdened arterials,
- Homes and businesses adversely impacted by a continuous cycle of widening roads, and
- Increased commute times, fuel consumption, and vehicular emissions as numerous driveways and traffic signals intensify congestion and delays along major roads.”¹

Again, according to TRB, “comprehensive, system-wide access management programs involve the following key elements:

1. Classifying roadways into a logical hierarchy according to function,
2. Planning, designing, and maintaining roadway systems based on functional classification and road geometry,
3. Defining acceptable levels of access for each class of roadway to preserve its function, including criteria for the spacing of signalized and unsignalized access points,
4. Applying appropriate geometric design criteria and traffic engineering analysis to each allowable access point, and
5. Establishing policies, regulations, and permitting procedures to carry out and support the program.”²

The many streets and connections that are developed through such a system support one another and provide redundancy such that the system is not dependant on any one element. For this reason, a delay or elimination of any one of the small links that make up such a plan does not compromise the plan as a whole. Further characteristics and benefits of this approach are enumerated in the Access Management Primer from the United States Department of Transportation included in the appendix.

¹ <http://www.accessmanagement.info/Importance.html>

² <http://www.accessmanagement.info/Elements.html>



Alternative Design

The alternative design recommended for Savannah Highway conforms to the three principles above and is built largely on an effort to create more street network, safer access and more economic value in the corridor. At present, there is a driveway every 80 feet along Savannah Highway. This frequency is an unacceptable failure of design and should be rectified. Some of the elements of the plan would involve publicly funded projects (the addition of medians to organize turn movements, the consolidation of driveways along the corridor, etc.) and some would include on network created through public and/or private redevelopment.

Most of the changes to the corridor would occur in the areas with a high concentration of commercial properties, but these are also the areas where a large percentage of the congestion and safety issues are present. Figures 3.2.1 and 3.2.2 are diagrams of the proposed new network and access changes for the corridor. The colors indicate whether the project would be anticipated as a public or a privately funded project. All of the concepts for connections and redevelopment on private property are, of course, conceptual. Any changes or redevelopment should be refined in consultation with property owners and as a part of a community dialog.

As the diagram shows, most of the publicly funded projects would be on Savannah Highway itself.

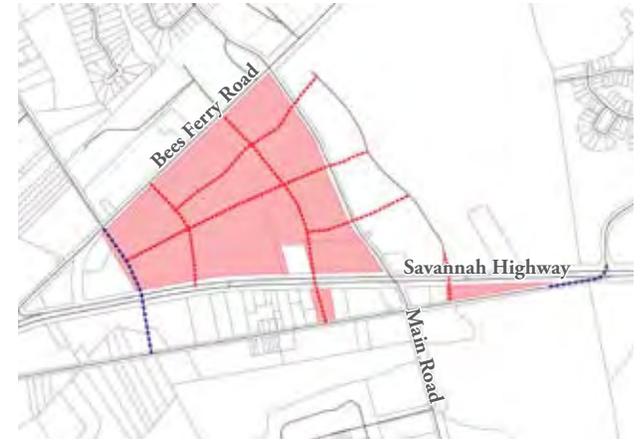


Figure 3.2.1- Savannah Highway and Main Road

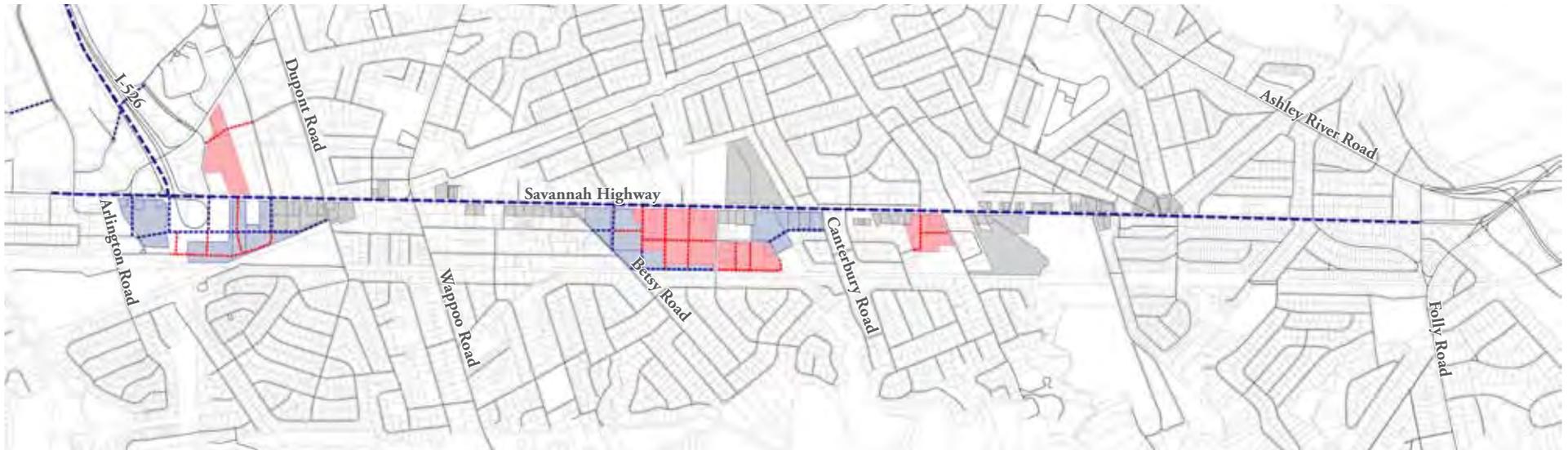
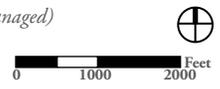


Figure 3.2.2- Savannah Highway Overall Proposed Network

Legend

- - - Publicly funded new connections or access management
- - - Privately funded new network connections
- Access managed parcels only
(see Appendix 1 for all parcels that are access managed)
- Publicly funded parcel acquisitions
(see Appendix 4 for all parcels proposed for acquisitions)
- Parcels ready to redevelop



Figures 3.2.3-3.2.6 shows the placement of medians and the consolidation of driveways that are recommended be a part of the public project.



Figure 3.2.3



Legend

- Parcels with access changes
- Public roadway improvements or new connections
- New Medians
- Cross parcel access
- Existing Signalized Intersections
- Traffic calming

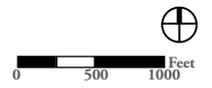
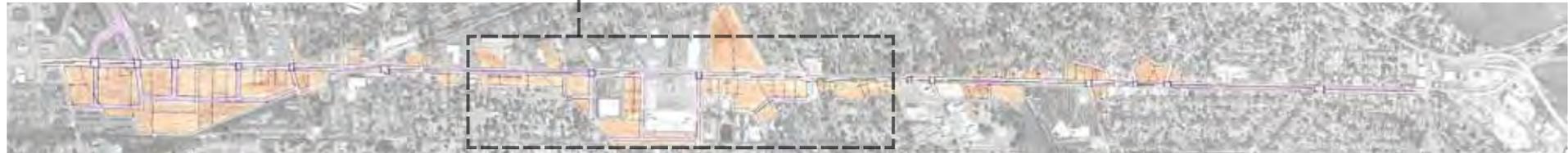




Figure 3.2.4



Legend

Parcels with access changes	Cross parcel access	Existing Signalized Intersections
Public roadway improvements or new connections	New Medians	Traffic calming



Figure 3.2.5



Legend

-  Parcels with access changes
-  Cross parcel access
-  Existing Signalized Intersections
-  Public roadway improvements or new connections
-  New Medians
-  Traffic calming

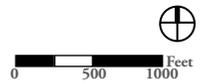
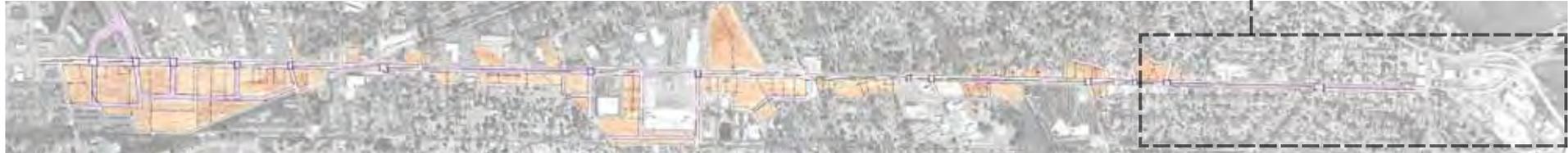




Figure 3.2.6



Legend

Parcels with access changes	Cross parcel access	Existing Signalized Intersections
Public roadway improvements or new connections	New Medians	Traffic calming

0 500 1000 Feet

Figure 3.2.7- Savannah Highway's conceptual nodal plan showing median placement, driveway consolidations and other publicly built streets



Figure 3.2.7- Conceptual Nodal Plan for the Area between Betsy Road and Canterbury Road



Figure 3.2.7- New Street Typologies (see Figures 3.2.11-3.2.13)

- BV-110 (Figure 3.2.11)
- ST-60-34 (Figure 3.2.9)
- CS-60-36 (Figure 3.2.10)



Figure 3.2.8- Potential Phasing

- Phase I
- Phase II
- Phase III
- New street connections

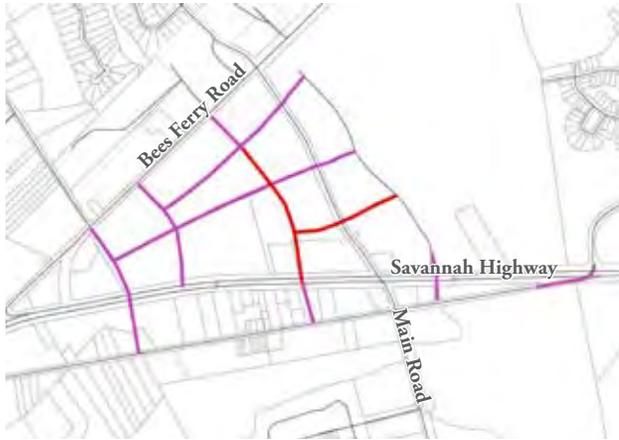


Figure 3.2.9- Savannah Highway and Main Road

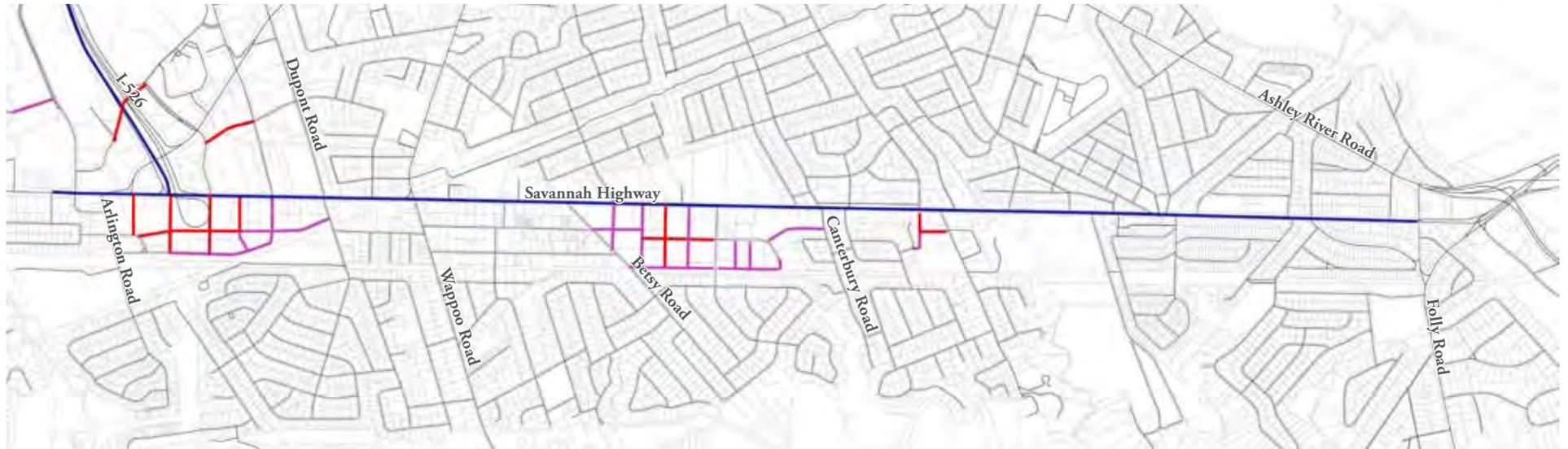
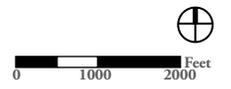


Figure 3.2.10- Savannah Highway Overall Proposed Network

- BV-110 (Figure 3.2.11)
- ST-60-34 (Figure 3.2.9)
- CS-60-36 (Figure 3.2.10)



The following figures show the proposed cross-sections for the streets involved in the Savannah Highway Corridor option of the alternative.³

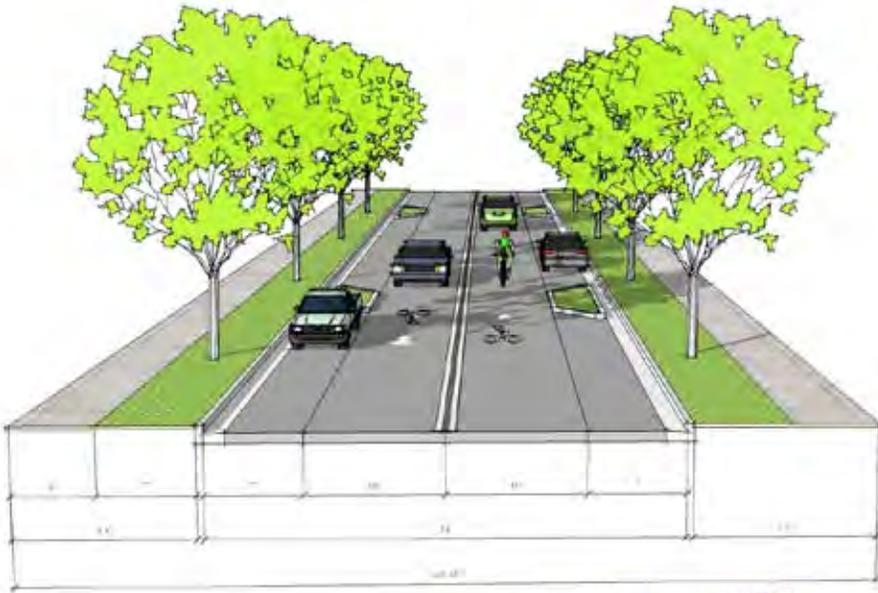


Figure 3.2.11- ST-60-34



Figure 3.2.12- CS-60-36

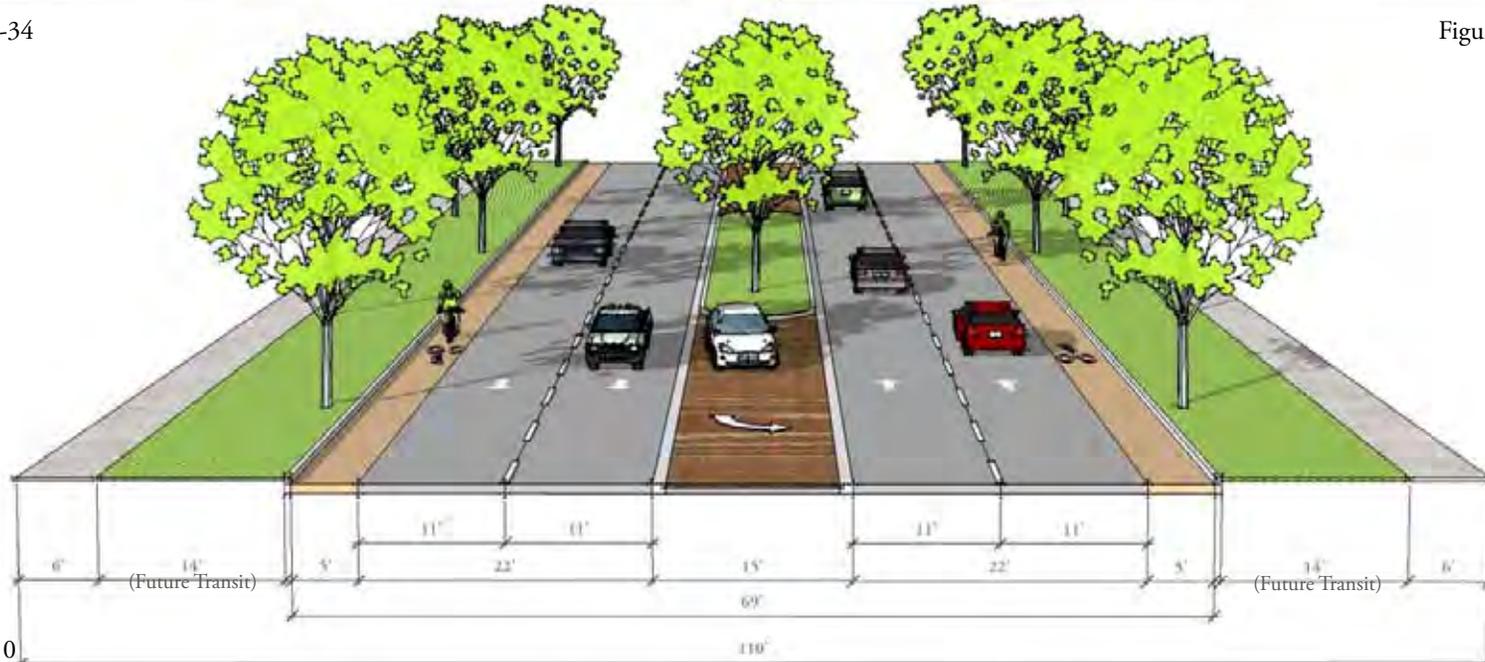


Figure 3.2.13- BV-110

⁴ Where feasible these cross-sections are consistent with the City of Charleston's Thoroughfare Standards. These Standards are in the process of adoption.

SCDOT Purpose & Need

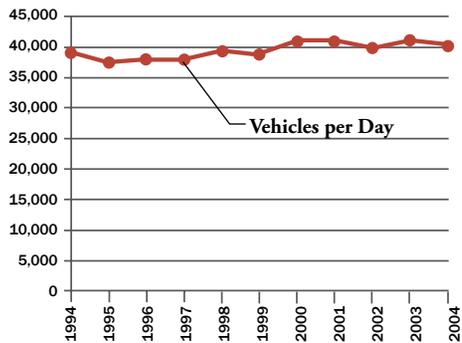
Bypass Highway Options

For those drivers who remain to live and shop on Savannah Highway, the COG has further determined that I-526 won't provide a long-term benefit for those 50+% of drivers who will still be using the corridor. The COG's traffic projections for 2030 suggest that traffic volumes on Savannah Highway will actually be higher than their current levels. Since the bypass highway options doesn't provide any physical improvement to Savannah Highway and doesn't lower traffic volumes, its congestion benefits will be zero. Likewise, since no physical changes to the corridor are proposed and no changes in volume will occur, no safety benefits for drivers or pedestrians will be realized.

New Way To Work Alternative

A better approach than trying to "bypass" the problem would be to address it directly through sound access management practices. As the commercial properties along Savannah Highway redevelop over time (and they will) the opportunity will arise to create the full network that should have been planned all along. In the meantime, driveways along Savannah Highway can be consolidated and landscaped medians added to help organize turning movements creating a safer street for drivers and pedestrians alike. As the TRB studies indicated, there stand to be significant congestion benefits from this approach as well.

One point of concern is that the COG models indicate that without the I-526 extension, traffic volumes on Savannah Highway will grow even more than they will with the bypass in place. In fact, this is impossible. The reason is that Savannah Highway is already full. It simply can't carry any more cars, so it won't have the traffic growth predicted by the model. As evidence, see the diagram below of traffic volumes on the corridor over the past decade plus. Despite continued growth west of the corridor and predictions from the COG of higher travel demands along the corridor, the volumes have remained steadily around 40,000 vehicles per day. This is simply all the corridor can and will carry, so predictions of higher volumes can be discounted.⁴



Actual Traffic Counts on Savannah Highway

⁴ See Appendix 6

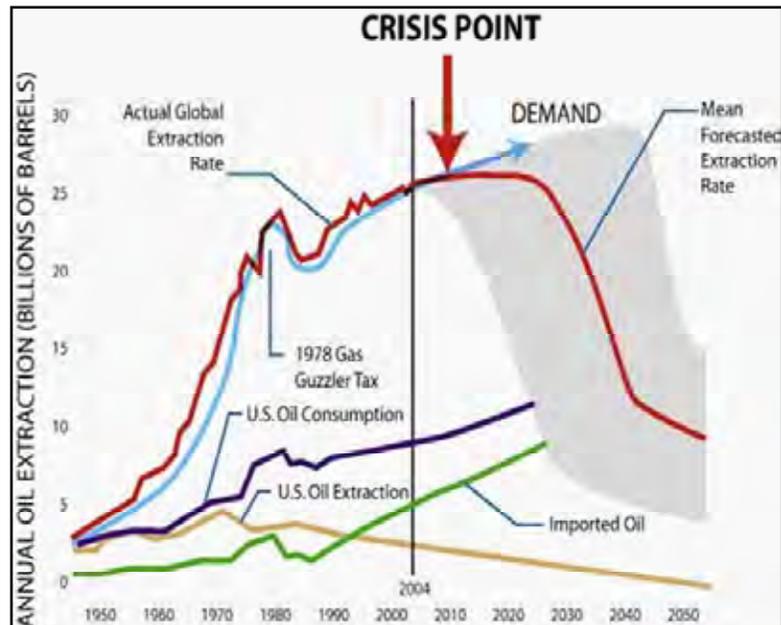


Additional Essential Criteria

In addition to the aforementioned more quantifiable measures of the differences between the alternatives, there are a number of other factors toward which the alternatives are likely to perform differently. Sprawl, or the tendency of development to move further and further from the core of a city is clearly facilitated by the creation of high speed freeways that make long distance travel faster. This symbiotic pattern (fast roads allow sprawl developments which creates congestion necessitating more fast roads, etc.) which has been prevalent for decades has not generally accrued to the benefit of the core city or its residents. It tends to create a cycle of economic decline in the cities (since the commercial tax base bleeds away) which itself makes cities less attractive and more expensive for residents. Charleston has made great strides in preserving its fundamental character and sense of place, but bad economic investments can still damage these efforts.

These sprawl patterns also, obviously, contribute to auto-dependence and fuel consumption. This was not a primary concern for many in the 1980s when oil supply was abundant and our country had partners willing to sell us that oil. But rising demand from China and India have made the prospect of long term cheap fuel a long shot at best. The countries from whom we have been purchasing petroleum have, in some cases, also used those dollars in ways that threaten our national security. It is, therefore, worth considering whether we want our cities to continue propagating these patterns and cycles.

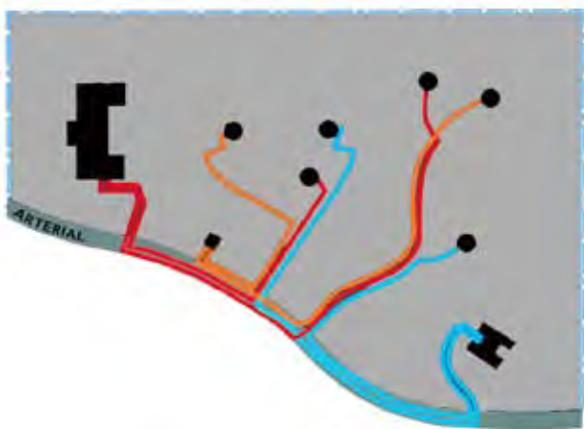
There will also be discernable differences at the locations slated for help in the Purpose and Need statement. The character and walkability of the Savannah Highway corridor will be improved significantly as a result of the New Way To Work alternative. The consolidation of driveways, the addition of a median with vegetation and improvements to sidewalks will all result from investing directly in the corridor. New street cross-sections will create shorter pedestrian crossings and provide safe refuges. Since none of the “bypass” alternatives include investment in the corridor, these benefits would not occur should those alternatives be selected.



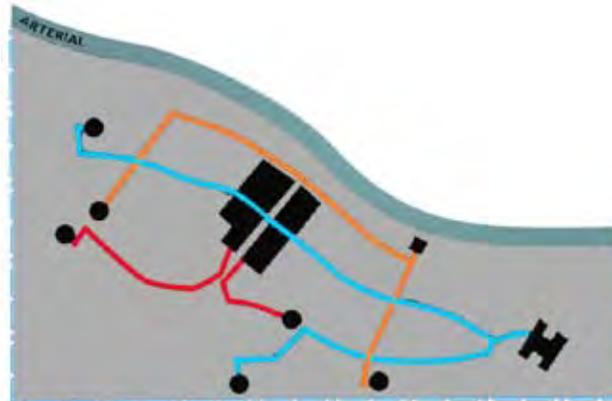
Instability in future oil prices is likely as crises in oil producing countries is matched against rising demand from China and India.

Walkability is important not only for the attractiveness of the corridor, but for the physical health of its residents. A significant body of research has shown that building forms that force automobile dependant patterns and inhibit walkability contribute to obesity. Obesity and related issues such as diabetes along with respiratory diseases worsened by auto emissions place a tremendous cost burden on a community. Some of these social and financial costs should be considered as the spending of public transportation dollars is contemplated.

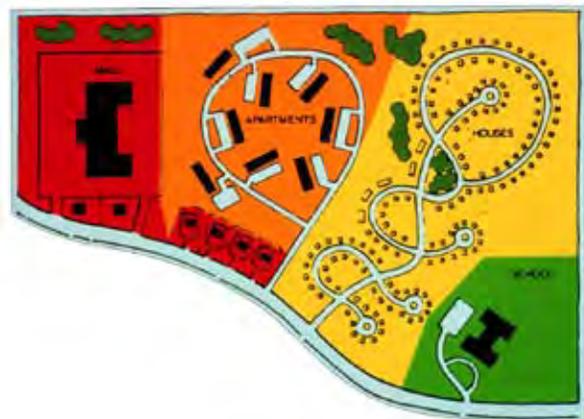
Finally, there will be a significant difference in development potential and land value resulting from the two approaches. The “bypass” alternatives will tend to add value to properties west of I-526. The New Way to Work alternative will tend to add value to properties along the Savannah Highway corridor (inside of I-526). Neither of these outcomes are inherently better than one another. However, everyone involved in decision making should be aware of these predictable outcomes and be intentional about the investment we choose. While this consideration is, to some degree, qualitative, we can get some idea of the impact the New Way to Work investments would have on the Savannah Highway corridor. The issues of value within the corridor is discussed in more detail in Chapter 4.



Conventional Trip Assignment



Traditional Trip Assignment



Conventional Land Use



Traditional Land Use

Conventional versus traditional approach to transportation and land use issues

We believe that an access management approach along Savannah Highway holds more promise than a “bypass” approach for the following reasons.

		West Ashley	
		New Way to Work	Loop Highway Options
SCDOT Purpose & Need	Safety	1. Fewer vehicle crashes resulting from access management and creation of functional hierarchy; 2. Safer pedestrian environment resulting from driveway consolidation.	Traffic volumes unlikely to change (no changes over the past decade) and, since no physical changes to corridor are proposed, safety characteristics unlikely to change.
	Mobility	Long distance trips using Savannah Highway are likely to encounter somewhat less congestion, but will still be required to move at a relatively moderate, urban pace.	Very high speed flow from outlying land areas to Downtown may be possible. This is likely to encourage higher levels of development further from the urban core. It will not help the over 50% of Savannah Highway trips that are destined for the corridor.
	Congestion	Access management can be expected to provide substantial benefits to both through movements and access movements in serving the same traffic volume along the corridor.	Traffic volumes are unlikely to change (no changes over the past decade) along this corridor with or without a highway loop. The Bypass provides zero benefit for mobility on Savannah Highway.
	Relocations	This alternative is not likely to require any relocations, but will involve substantial changes to commercial access and will likely involve financial compensation to property owners.	Varies by alternative. EIS to provide detail.
	Wetland Impacts	Likely None.	All of these alternatives cut across many miles and acres of wetlands. It would be difficult to conceive of a project with any greater impacts.
Additional Essential Criteria	Development Footprint (Sprawl)	Land value and feasible densities on the Savannah Highway corridor inside of I-526 would be increased as a result of direct investment.	Land values and development pressures west of I-526 would be raised as a result of a highway to downtown bypassing West Ashley.
	Character and Walkability of Gathering Places	Consolidation of driveways and addition of vegetated medians will improve the attractiveness and walkability of the character areas.	No change in traffic volumes and no physical changes in the corridor will result in no improvement.

3.3 Johns Island/Maybank Highway (Higher Volumes, Degradation In Safety)

Alternative Design

The alternative design recommended for Maybank Highway on Johns Island is based on the dual premises that, 1. Drawing more traffic to an island that is ill-equipped to support even its current load is a bad idea, and 2. More network is needed to support the function and character of Maybank Highway on Johns Island.

The first premise would best be met by not adding a freeway crossing and interchange onto the island. The COG's network scenarios analyses indicate that the section of Maybank Highway west of River Road would carry 19,000 vehicles per day if I-526 is not built, but would increase to nearly 27,000 vehicles per day if I-526 is extended. The section of Maybank Highway east of River Road is projected to carry just over 37,000 vehicles per day if I-526 is not extended. These volumes would increase to nearly 60,000 vehicles per day if I-526 is built. By way of comparison, this is 50% more vehicles than Savannah Highway carries today. Such a massive influx of traffic would have devastating results for the Maybank Highway corridor specifically and for Johns Island in general.

Recommended Approach
Forgo freeway interchange and associated traffic increases
Construct "pitchfork" intersection to relieve bottleneck
Add secondary streets to relieve Maybank Highway
Regulate for walkable development to improve safety
Add secondary streets to relieve Maybank Highway



The second premise would be best met by the Johns Island's Community Plan developed with community input by Hall Planning and Engineering and adopted by Charleston City County in 2007 as part of its Comprehensive Plan Amendment. This plan considers the addition of street network to just under a 4 mile corridor of Maybank Highway between Main/Bohicket Road and the Stono River Bridge. The plan has evolved from one developed at the Johns Island Community Planning Workshop conducted in 2007 by the City of Charleston. The community plan was developed as an alternative to the proposal in the Maybank Highway Widening Traffic Study conducted by the LPA Group, which proposed a five lane section for Maybank Highway if I-526 were to be constructed. The community plan involves the use of an expanded street network and a hierarchy of functional street types to manage and disperse traffic in the corridor. Notably, a "pitchfork" design of streets around the intersection of River Road and Maybank Highway is intended to disperse traffic in the most heavily congested segment of the corridor. A traffic study conducted by Charleston County, City of Charleston and the SCCCL, has already been undertaken and has proven the effectiveness of this solution. Some of the results of that study are described in the following paragraphs.



Figure 3.3.1- Proposed Thoroughfare Assignment for Phase 1 Streets
See Appendix 7, pages 11, 14-16 for proposed cross-sections

Source: "Update of the Maybank Highway Widening Study," Hall Planning & Engineering, Inc. 2008

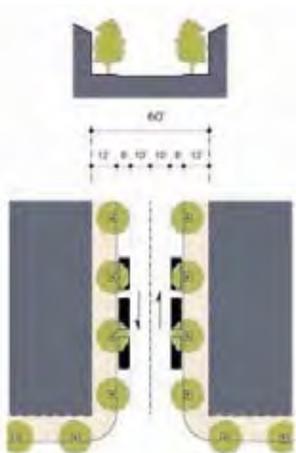


Figure 3.3.2- CS 60-36

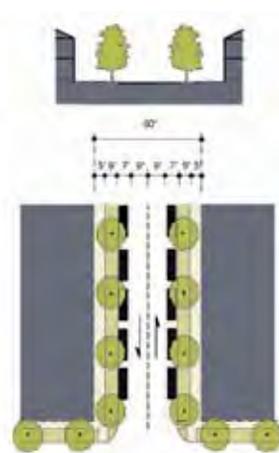


Figure 3.3.3- ST 60-32

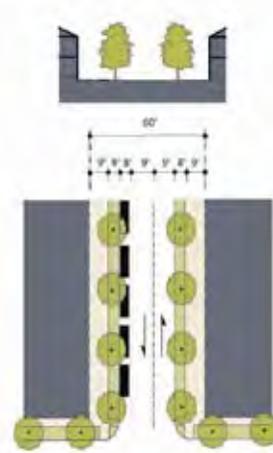


Figure 3.3.4- ST 60-26

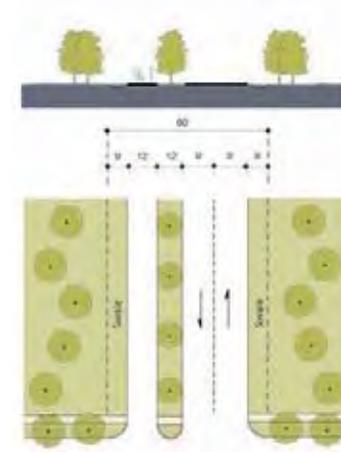


Figure 3.3.4- RD 60-18

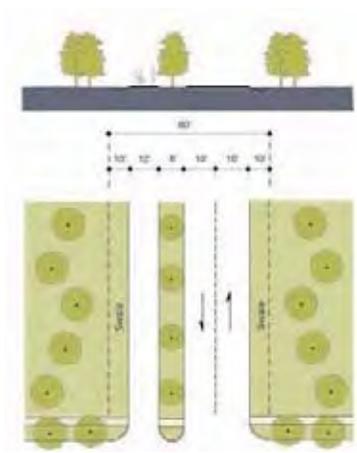


Figure 3.3.4- RD 60-20

⁵ See Appendix 7 for full report

SCDOT Purpose & Need

The issues of congestion and mobility for residents of Johns Island are complicated and based upon a number of factors. One factor is that the island has long been predominantly rural in nature and has never had the sort of planned system of streets and connections that would be required to support major urban development. The second is that, despite the island’s rural character, the barrier islands that are accessed via Johns Island’s roads have continued to be developed, placing higher demands on the transportation system. Finally, the fact that Johns Island is an island and requires bridges for connectivity to the rest of the region will always be a constraint and a source of bottlenecks.

The issues of growth on Johns Island and coping with development of the barrier islands are covered in a great deal of detail in Hall Planning and Engineering’s December 2008 study of Maybank Highway. The study “matched the three-step methodology employed by LPA in its widening study to assist in comparing the alternatives tested. Those steps are as follows:

1. Calculate growth factors by comparing 2003 Annual Average Daily Traffic (AADT) to the projected 2030 AADT, with and without the I-526 extension. Both are provided by the BCDCOG.
2. These growth rates were then applied to peak hour turning movement counts taken in 2006 for the Maybank Highway Widening Traffic Study to establish 2030 peak hour volumes.
3. The resulting traffic volumes were then distributed along the new proposed roadway network.”⁶

		Johns Island	
		New Way to Work	Loop Highway Options
SCDOT Purpose & Need	Safety	1. Travel demand model shows lower traffic volumes, resulting in lower numbers of crashes if highway is not built 2. Fewer vehicle crashes resulting from access management and creation of functional hierarchy on Maybank Highway; 3. Safer pedestrian environment resulting from design and cross-section recommendations.	Regional model shows traffic volumes increasing significantly along Maybank Highway as a result of the highway alternatives. These highway volumes will certainly result in a less safe Maybank Highway corridor for drivers and pedestrians.
	Mobility	Long distance trips from Johns Island will continue to encounter congestion at the bridges to and from the Island.	Potential mobility benefits resulting from new bridges may be counteracted by increased volumes on Maybank Highway
	Congestion	Lower volumes expected without the highway alternative coupled with access management benefits along Maybank Highway have already been modeled effectively.	Traffic volumes and congestion will increase with a highway loop.
	Relocations	This alternative will not require any relocations.	Varies by alternatives. EIS to provide detail.
	Wetland Impacts	None.	All of these alternatives cut across many miles and acres of wetlands. It would be difficult to conceive of a project with any greater impacts.
Additional Essential Criteria	Development Footprint (Sprawl)	Studies of Johns Island conducted by EDAW found that a significantly lower level of development on the island would occur without an I-526 Bypass.	I-526 will increase development pressures on Johns Island and the Maybank Highway corridor.
	Character and Walkability of Gathering Places	A network of neighborhood scale streets are consistent with the Island’s vision for itself.	Highway-oriented retail and office is likely not compatible with the character Johns Island has articulated.

⁶ “Update of the Maybank Highway Widening Traffic Study- Land Use and Transportation: Blending Community Vision and Mobility Choices (Johns Island, SC),” Hall Planning and Engineering, December 2008

The results of these analyses indicated that the network alternative operated at acceptable levels of service with or without the extension of I-526 with one of the “bypass” alternatives. The outcomes of the construction of I-526, according to analyses provided by the COG would simply be to shift the locus of congestion from the Stono River Bridge area further west to the on-island Maybank corridor west of the I-526 interchange. This shifting of congestions is unlikely to be seen as particularly beneficial by most island residents.

The Hall Planning and Engineering Study also devotes considerable space to discussing the design and cross-sections of streets that will contribute to pedestrian comfort and safety. For all of the reasons enumerated for Savannah Highway, the provision of street network, functional hierarchy and safe designs should improve safety for drivers and pedestrians. The addition of an I-526 interchange will serve only to add traffic without addressing design and is, therefore, likely to increase vehicular and pedestrian accidents.

The Hall Planning and Engineering Study from which the detailed analyses for this option are drawn is included in the appendix.

Additional Essential Criteria

As was the case in West Ashley, in addition to the quantifiable measures of the differences between the alternatives, some qualitative performance differences are likely to emerge. Sprawl onto Johns Island; particularly the creation of another Savannah Highway-type corridor is an outcome very few favor. But experience on Savannah Highway, Johnnie Dodds Boulevard or any other such corridor in the United States tell us this is exactly what will result from the addition of an interstate interchange on Maybank Highway.

The character and walkability of the Maybank Highway corridor will be negatively impacted by the traffic increase resulting from an I-526 interchange, whereas spending money to implement the network plan will improve the vitality of the corridor. Finally, while there may arguably be higher economic development value along Maybank Highway with the addition of an interchange, it is worth asking whether that economic development will be in the right place. A study of impacts of the I-526 extension constructed by EDAW for Charleston County indicated that an employment and land use model estimated an additional increase of 20 to 40 percent in the numbers of new residents on Johns Island as a result of the I-526 interchange.⁷ Big box stores and major strip malls have not had public support on Johns Island to this point, but that will clearly be the outcome of construction of the proposed interchange.



⁷ Mark Clark Community Impact Assessment, Charleston County, EDAW/AECOM.

3.4 James Island/Folly Road

Alternative Design

The alternatives proposed for James Island also have to do with investing in the affected area rather than bypassing it, engaging the private sector and adding benefits beyond transportation. In particular, two nodes which are focal points of congestion and safety concerns are the intersection of the James Island Connector to Folly Road, and the intersection of Folly Road and Maybank Highway.

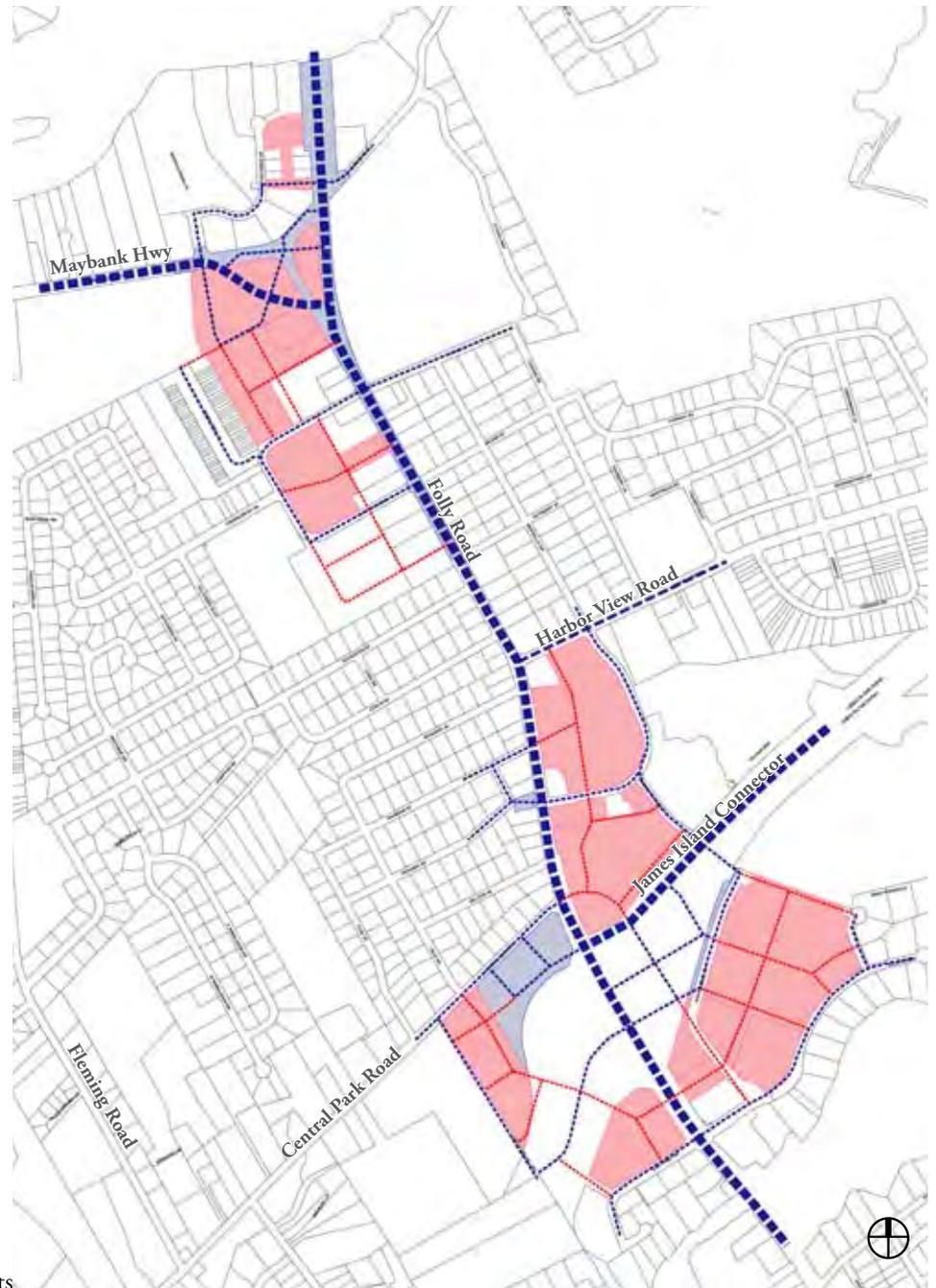
The alternative design recommended for the James Island landing area is built largely on an effort to create more street network, safer access and more economic value in the corridor. As was the case along Savannah Highway some of the elements of the plan, such as the reconfiguration of the “dirt mound triangle” at the current terminus of the James Island Connector to reflect something other than a highway interchange or the creation of usable greenspace on leftover land, would be publicly funded. Others, such as network created through private redevelopment of existing commercial sites, would be private-funded.



Recommended Approach
Redesign James Island Connector Terminus As a Street (Not a Freeway)
Add new connections to disperse traffic to Folly and Central Park Roads
Add network to relieve Folly Road/James Island Connector



As the diagram shows, most of the publicly funded projects would be on property already owned by SCDOT or some other public entity.



Legend

— Publicly funded new connections

— Privately funded new network connections

Publicly funded parcel acquisitions
(see Appendix 4 for all parcels proposed for acquisitions)

Parcels ready to redevelop

Figure 3.4.1- Public Projects

Figure 3.4.2 shows the public investments supplemented by network created through redevelopment of the current Lowes site and other surrounding commercial properties.



Figure 3.4.2- Public and Private Connections

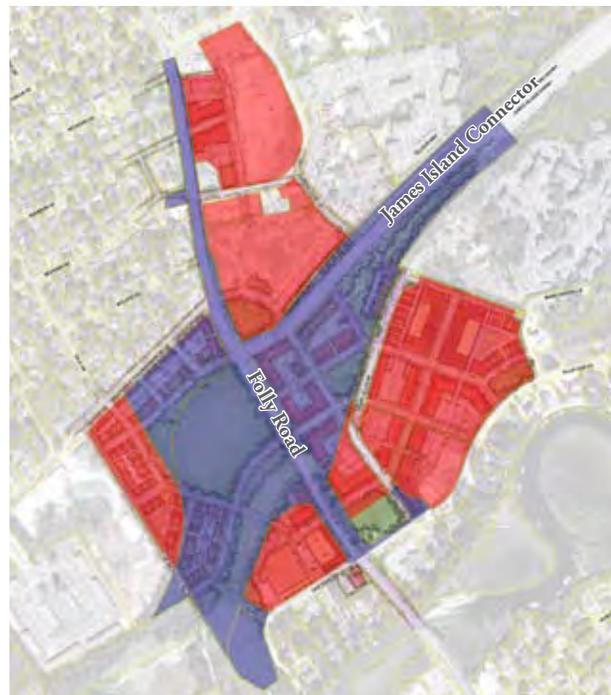


Figure 3.4.4- Parcels in "Play"
red=private investment
blue= public investment



Figure 3.4.3- Public Investments (see appendix 3 for detail)

The alternative design recommended for the Maybank/Folly area also includes some public investments. As the diagram shows, some of the publicly funded projects would require the acquisition of commercial properties. While this would add some cost to the project, the network benefits that could be gained would likely make the benefit/cost assessment of this option very competitive with other projects SCDOT undertakes in urban areas. There is also currently a County road project at this intersection that would have to be modified to accommodate this concept.

Figures 3.4.5 and 3.4.6 shows the public investments supplemented by network created through redevelopment of other surrounding commercial properties.

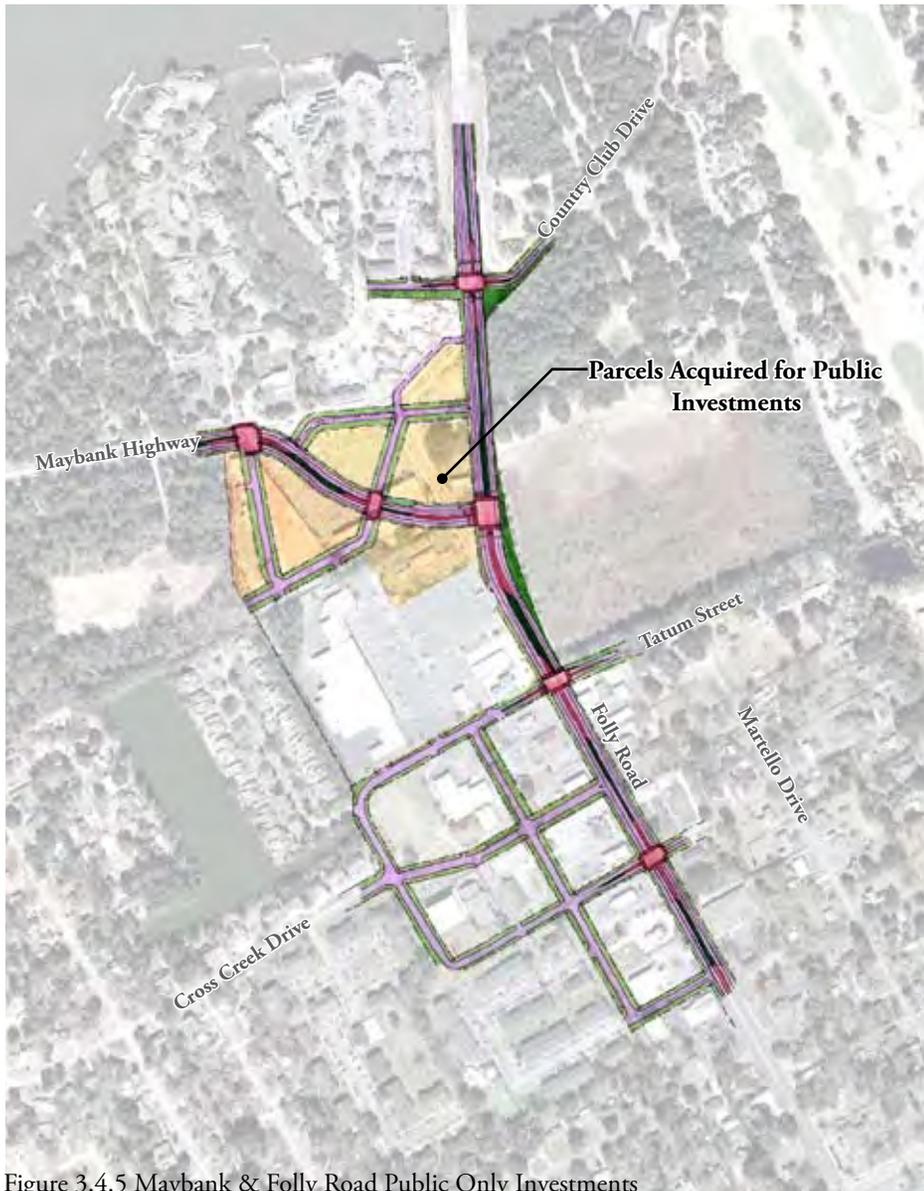


Figure 3.4.5 Maybank & Folly Road Public Only Investments



Figure 3.4.6 Maybank & Folly Road Public and Private Investments

The following figures show the proposed cross-sections for the streets involved in the James Island Nodes.

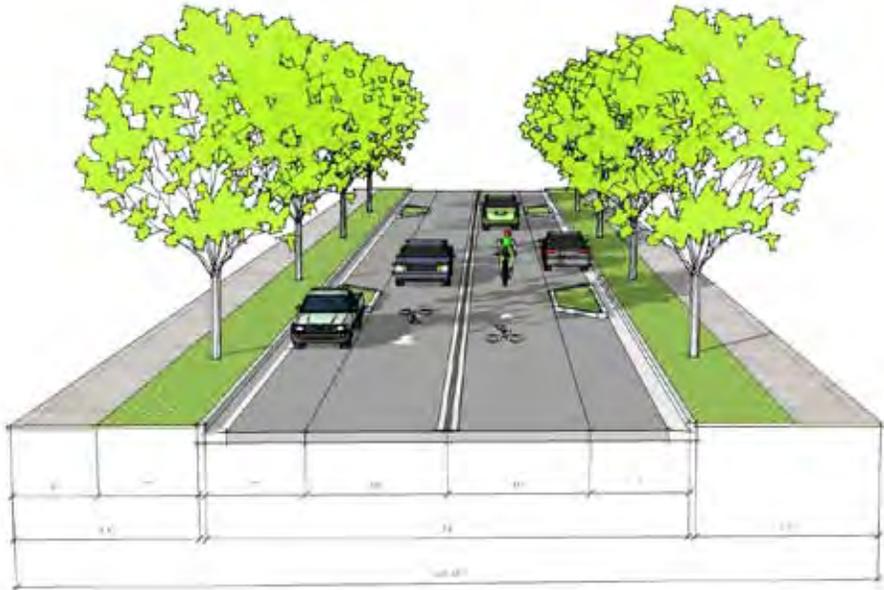


Figure 3.4.7- ST-60-34



Figure 3.4.8- CS-60-36

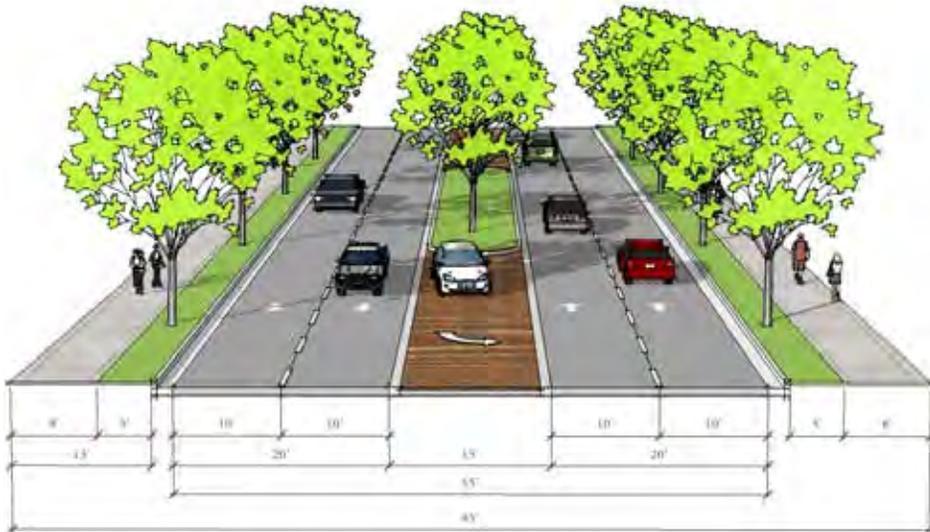
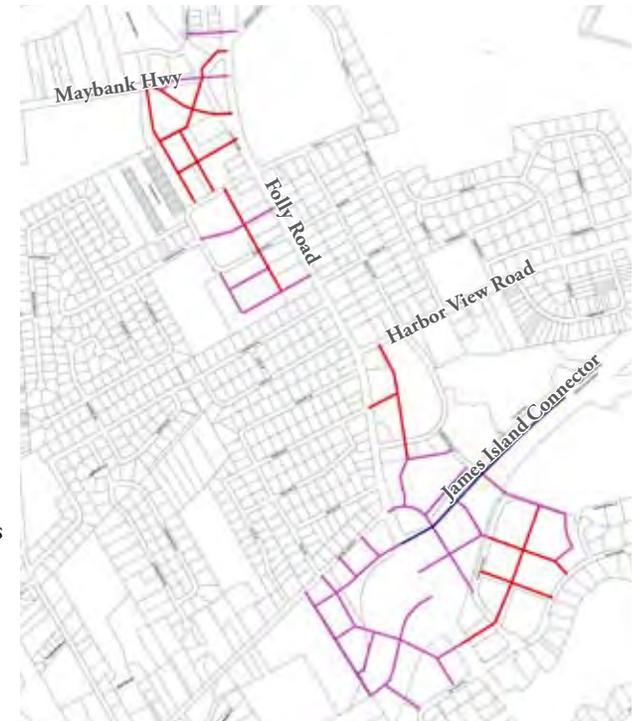


Figure 3.4.9- AV-85-55

Figure 3.4.10- Street Typologies

Legend

- AV-85-55 (Figure 3.2.9)
- CS-60-36 (Figure 3.2.8)
- ST-60-34 (Figure 3.2.7)





Before

Figure 3.4.11- The Future of the James Island Connector at Folly Road

SCDOT Purpose & Need

The issue of congestion on James Island has mostly to do with geography. Much of the development on the island is south of James Island Creek and there are only two bridges to take traffic from this development north to the Folly Road bridge and James Island Connector (the possible future interchange of I-526). Congestion moving across these James Island Creek bridges (particularly on Folly Road) is a source of frustration for many James Island residents. Neither extension of I-526, nor the development of new street network at the two James Island nodes will do anything to alleviate congestion related to crossing of James Island Creek.

Congestion along Maybank Highway is a result of its role as a bridge to Johns Island and points west. COG traffic projections show substantial decreases in traffic along this section of Maybank Highway if a parallel bridge across the Stono River is built with the I-526 loop option. The model shows traffic volumes of around 40,000 vehicles per day crossing the river on Maybank Highway if I-526 is not built, and only about 18,000 per day if I-526 is built. The problem with this projection is that all past experience tells us the relief will only be temporary. For example, when the James Island Connector was built it was supposed to provide traffic relief for Folly Road in West Ashley. This relief was short lived. Once land owners and developers realized that more capacity was available, they developed more and Folly Road filled back up. The same results can be expected along Maybank Highway. Any relief in an attractive, growing region such as Charleston will be short-term at best and will be swamped by development using up available road capacity.

If the focus is moved to the two nodes themselves, it is likely that the network-based solution will have significantly greater effectiveness at relieving congestion than will inserting a new, point-located interstate interchange. At the James Island landing node, the addition of a full interchange on Folly Road is likely to induce even higher levels of traffic which will have to be processed by one single interchange. The network solution, conversely, will disperse traffic among numerous intersections, none of which are likely to become overloaded by local or regional trips. At the Folly/Maybank node, the addition of the I-526 interchange can only have a negative effect. Adding new traffic to the area without making physical improvements will be to the detriment of congestion and safety. The network-based solution will likely demonstrate improvements to both.

Perhaps the most likely negative consequence of the bypass alternatives for James Island residents will not be on James Island itself, but on the operations of the James Island Connector which is a primary route for James Island access to downtown. The James Island Connector terminates on the Charleston Peninsula with one lane moving onto Calhoun Street and one lane moving toward Lockwood Drive. This capacity constraint represents a significant bottleneck for which no change is anticipated. This bottleneck already backs up most morning peak hours. The completion of the full I-526 loop will add substantial additional traffic to this bridge and cause greater levels of congestion for James Island residents going to Charleston. This near-certain outcome should be strongly considered in the deliberations regarding the best transportation investment.

		James Island	
		New Way to Work	Loop Highway Options
SCDOT Purpose & Need	Safety	1. Fewer vehicle crashes resulting from access management and creation of functional hierarchy on Folly Road; 2. Safer pedestrian environment resulting from design and cross section recommendations.	Traffic volumes unlikely to change and, since no physical changes to area are proposed, safety characteristics unlikely to change.
	Mobility	Long distance trips from James Island will continue to encounter congestion at the bridges to and from the Island.	Bypass will not improve bridge capacity constraints and is likely to increase volumes and congestion on James Island expressway onto Charleston peninsula.
	Congestion	Congestion at bridges will still be present, but problem intersections along Folly Road at James Island Connector and at Maybank Highway will be alleviated.	Traffic volumes and congestion at the James Island Connector Interchange will increase with a highway loop.
	Relocations	This alternative will require some relocations.	Varies by alternatives. EIS to provide detail.
	Wetland Impacts	None.	All of these alternatives cut across many miles and acres of wetlands. It would be difficult to conceive of a project with any greater impacts.
Additional Essential Criteria	Development Footprint (Sprawl)	Land currently occupied by ramps and right-of-way for future highway infrastructure can be converted to appropriately-scaled development and greenspace.	More commercial development at the location of the interchange is likely. Development pressures further down-island are unlikely to be affected significantly.
	Character and Walkability of Gathering Places	Greenspace and street network opportunities will soften the current car-dominated landscape and result in walkable gathering places.	Continuation and expansion of auto-oriented commercial intersections likely.

Additional Essential Criteria

The same sorts of concerns regarding auto dependence and sprawl that are present around the entire loop are also present on James Island. The issue of community character is particularly relevant at the James Island landing area. The community has the opportunity to make a clear choice between “Anywhere, USA”-type interchange development (picture the Lowes shopping center in all four quadrants of an interchange), or development that serves the community, adds economic value, creates greenspace opportunity and handles traffic effectively. The accompanying figure is a concept of what such a potential future might look like for James Island.



Figure 3.4.12- Long-term vision for James Island

Greenspace Statistics

Existing un-usable greenspace converted to usable greenspace: 11.6 acres
(existing pine trees along Folly Road)

Existing usable greenspace: 1.7 acres
(park at the corner of Folly Road and Ellis Oak Avenue)

Proposed new greenspace: 5.3 acres

Total Greenspace: 18.6 acres



Figure 3.4.13- James Island Greenspace Opportunities

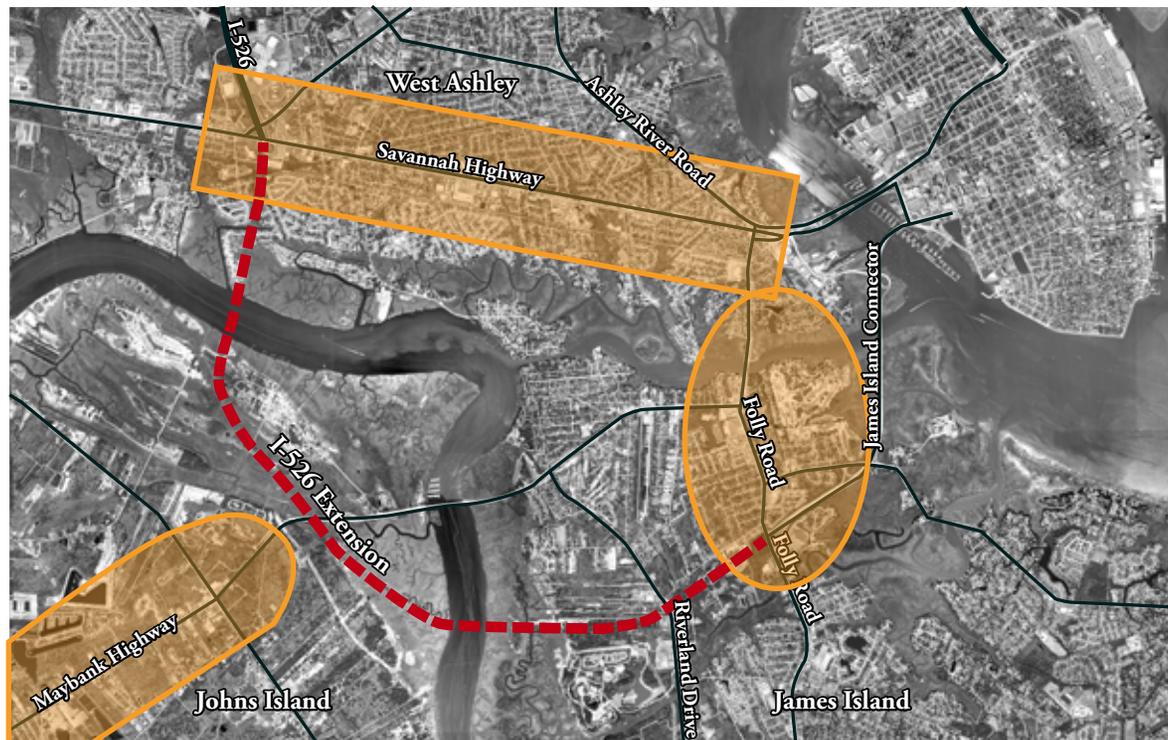
3.5 Evaluation of EIS Alternatives

Of course effective decision-making in the spending of sums as large as the ½ billion dollars under consideration here require the provision of sound analysis and information. The bedrock principle in getting good information is asking the right questions. In recent years, cities and state DOTs have learned the hard way that failure to consider all of the primary and secondary outcomes of transportation decisions has led to unintended consequences that ultimately damage quality of life and require the commitment of even more dollars in the future in an attempt to remedy the damage. The factors worth considering are not just whether the project makes getting from A to B easier, but whether A or B fundamentally changes as a result of the project, or whether getting from A to B quickly is even in everyone's best interest. We recommend that the public agencies charged with stewardship of these public dollars get satisfactory answers in the following areas:

- Likely future traffic volumes, constrained by reality - Numbers from traffic models that compare scenarios involving unrealistic eventualities create false choices. For example, Savannah Highway traffic will not grow to 47,000 vehicles per day because it can't carry that many cars (see chart on page 12). Any set of choices that does not recognize such constraints is not valid.
- Travel time differences between regional points of interest – Rather than simply reporting level of service F versus a worse level of service F, looking at relative travel times can give a sense of perspective. We may find that the construction of I-526 will make driving from Long Savannah to the Battery possible in 25 minutes rather than 30 minutes. This sort of information can help the community decide if that relative difference is worth the investment.
- Effective analysis of safety for all users – Rather than rely on a methodology that says only lower traffic = lower accidents, we should ask for an assessment of the likely impacts of all physical changes on all users. Will driver safety be better enhanced by access management projects (see TRB materials in appendix)? Will pedestrians receive greater benefit from driveway consolidation and introduction of buffer zones?
- Fiscal return on investment – If we are spending ½ billion dollars, how much will we get back in the form of increased tax revenue and who will get it? The presence of freeway-type facilities likely limits land use to single-story, auto-oriented businesses which use most of the available land for parking. Can a higher return be achieved with investments that allow designated gathering places to achieve a different development form?
- Long Term Sustainability – How will the alternatives perform economically if likely increases in fuel costs materialize? Will further sprawl be induced which will have to be alleviated by further transportation investments?
- Hurricane Evacuation – If all of the alternatives still rely on the I-525/I-26 interchange (which is still in the zone threatened by the hurricane) to process vehicles, will evacuation be appreciably faster?

Some of the tools and methods that should be used to gain these insights are:

- **Testing and Modeling Tools-** Small-scale analysis of the relative performance of alternatives in the target areas will require the type of operational modeling used for the Maybank Highway Study. The methodology used for that study is documented in the report. The differences between analyses of peak hour and daily traffic should be considered as a part of the analysis. Most of the congestion and mobility issues cited in the Purpose and Need are confined to the peak hours. Detailed analysis of these peak issues through use of an operations model is required to adequately assess the alternatives.
- **Travel Demand Modeling-** The addition (sub-allocation) of centroids and changes to the loading of these links will be required in order to achieve any level of validity from the regional model. The need for hourly analyses is likely to limit the usefulness of the regional travel demand model. The regional model is currently a 24-hour model which cannot accurately forecast hourly movements. Even if an hour model is developed, its validity will be questionable if it is only based on time profiles rather than new, detailed household trip data. Even if detailed data is developed, the predictive ability of the model with regard to trip time shifts and spreading of peak traffic hours is likely to be questionable. It is imperative that SCDOT find satisfactory methods to resolve these discrepancies.
- **Use of Safety Research-** Given that safety is a primary element of the project Purpose and Need, simple volume-based accident rate projections are insufficient and out of scale with the mobility analyses. SCDOT should make use of more sophisticated studies and data such as those included in the appendix.





Legend
 ■■■ Publicly funded new connections - - - Privately funded new network connections

Figure 3.5.1- Overall Proposed Projects

See Appendix 7 for more detail on Johns Island Network (Update of the Maybank Highway Widening Traffic Study), page 2 and 13

4.0 Land Use, Market & Fiscal Considerations

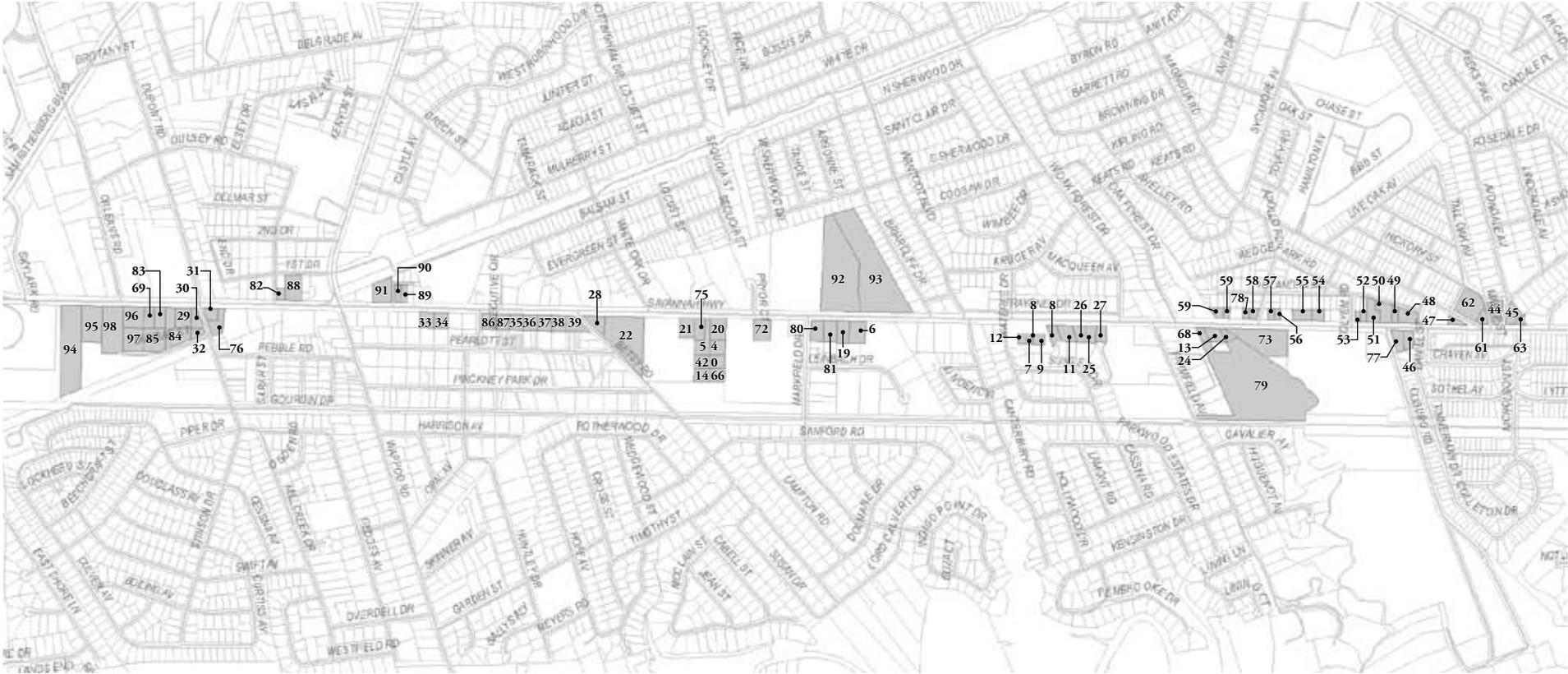


Text to follow



Appendix

Appendix 1: Access Managed Properties



Legend
 Access managed properties



Managed Properties along Savannah Highway

	PID	GPIN	Acres	Street Number	Street Name	Property	General Land Use	Owner	Underutilized
0	3490100078	3304474711.008	0.44776890	0					
1	3490100079	3304474711.009	0.44776890	0					
2	3490100080	3304474711.010	0.44776890	0					
3	3490100081	3304474711.011	0.44776890	0					
4	3490100035	3304474852	0.48568714	1575	SAVANNAH HWY	CHARLESTON EXECUTIVE PARK	COM	1575 SAVANNAH HIGHWAY LLC	
5	3490100039	3304472894	0.71936011	1595	SAVANNAH HWY	CHARLESTON EXECUTIVE PARK	COM	SAVANNAH HIGHWAY LLC 1595	
6	3490100053	3304577783	0.76093948	0					
7	3490700218	3304774308	0.12396276	1255	SAVANNAH HWY		OFC	PARKWOOD PROFESSIONAL	
8	3490700219	3304774334	0.04590625	1243	SAVANNAH HWY		OFC	MORRISON J HAGOOD	
9	3490700220	3304774386	0.22912176	1243	SAVANNAH HWY		OFC	PARKWOOD PROFESSIONAL	Yes
10	3490700221	3304776338	0.38979638	0					
11	3490700222	3304777364	0.54476857	1221	SAVANNAH HWY	ASMT INCL WITH PERSONAL PROPERTY	COM	SOUTHERN BELL TEL AND TEL CO	
12	3490700228	3304773339	0.19741625	1255	SAVANNAH HWY		OFC	BRILLIANT HOWARD L	Yes
13	3490800006	3304971150	0.46983415	0					
14	3490100070	3304472557.002	0.45661807	0					
15	3490100071	3304472557.003	0.45661807	0					
16	3490100072	3304474711.002	0.44776890	0					
17	3490100074	3304474711.004	0.44776890	0					
18	3490100075	3304474711.005	0.44776890	0					
19	3490100017	3304576755	0.58950275	1515	SAVANNAH HWY	WEST ASHLEY AUTO MART - A/K/A 1515 1/2	COM	GEB GROUP	Yes
20	3490100022	3304474989	0.69369060	1545	SAVANNAH HWY	REGIONS BANK	OFC	4 COUSINS LLC	
21	3490100024	3304481085	0.64699852	1611	SAVANNAH HWY		OFC	KALINSKY MARSHALL N	
22	3490100026	3304385099	3.40831137	1625	SAVANNAH HWY	FORD DEALERSHIP	RTL	MIDDLETON ERNEST F III	
23	3490100033	3304474711.001	0.44776890	0					
24	3490800014	3304972067	0.24016097	0	SAVANNAH HWY		UND	HARRIGAN ELIZABETH RAVENEL	Yes
25	3490800017	3304779392	0.38200068	1217	SAVANNAH HWY		COM	NATIONAL BANK OF SOUTH CAROLINA	
26	3490800018	3304779305	0.39228493	1219	SAVANNAH HWY	BOOK EXCHANGE	COM	NATIONAL BANK OF SOUTH CAROLINA	
27	3490800019	3304870380	0.36055118	0					
28	3500600115	3304383255	0.49714449	1627	SAVANNAH HWY	COR BETSY RD	COM	LEINBACH KATHRYN B	Yes

Managed Properties along Savannah Highway

	PID	GPIN	Acres	Street Number	Street Name	Property	General Land Use	Owner	Underutilized
29	3500500054	2394984947	0.68731654	1909	SAVANNAH HWY	EVERGREEN MOTEL	HTL	S & P MOTELS INC (A SOUTH CAROLINA	Yes
30	3500500055	2394985964	0.40709090	1903	SAVANNAH HWY	CITY OF CHAS RECORDS DIV.	COM	ALEXANDER COMPANY	
31	3500500067	2394987927	0.34441158	1933	SAVANNAH HWY	JETT WHEELS	COM	JETT PROPERTIES LLC	Yes
32	3500500171	2394985852	0.24768527	535	STINSON DR		COM	535 STINSON DR LLC	Yes
33	3500600065	3304187557	0.47238371	1723	SAVANNAH HWY		COM	EVANS LOUVADA R	Yes
34	3500600066	3304188582	0.46121791	0					
35	3500600071	3304285398	0.46561417	1663	SAVANNAH HWY	STONO PARK PLAZA	COM	MANOS FAMILY PARTNER-SHIP	Yes
36	3500600072	3304287325	0.46609479	1655	SAVANNAH HWY	STONO PARK PLAZA	COM	ROUSE VIRGINIA HURTES	Yes
37	3500600073	3304288353	0.46674940	1649	SAVANNAH HWY	STONO PARK PLAZA	COM	VARN MICHAEL STEPHENS	Yes
38	3500600074	3304289381	0.46737412	1643	SAVANNAH HWY		COM	CANAL STREET PROPERTIES INC	
39	3500600075	3304381246	0.56530458	1637	SAVANNAH HWY	PEYSER, M D	OFC	PEYSER ROBERT E	Yes
40	3490100100	3304472557.000	0.45661807	0					
41	3490100101	3304474711.000	0.44776890	0					
42	3490100106	3304472771.001	0.44775793	0					
43	3490100108	3304472771.003	0.44775793	0					
44	4181400042	3314168856	0.61203271	802	SAVANNAH HWY	SOUTHCOAST COMMUNITY	OFC	SOUTHCOAST COMMUNITY	
45	4181400056	3314260821	0.49730006	2	AVONDALE AVE		COM	SHAHID ROBERT J	Yes
46	4210100213	3314069784	0.37679583	0					
47	4181300173	3314164843	0.21175468	0					
48	4181300175	3314160916	0.53210223	844	SAVANNAH HWY		COM	SMITH SIMONE ROSE	
49	4181300176	3314068999	0.22130759	850	SAVANNAH HWY	CHARLES TOWNE VET CLINIC	OFC	DJL PARTNERSHIP	
50	4181300177	3314078004	0.59396476	208	SAVANNAH HWY	FIRESTONE	COM	BFS RETAIL AND COMMERCIAL	Yes
51	4181300179	3314076086	0.51913081	214	SAVANNAH HWY	BLANCHE DARBY FLORIST	COM	RUDLOFF JOHN H JR	Yes
52	4181300180	3314075093	0.15153378	864	SAVANNAH HWY		COM	ANDERSON FORSMAN J	Yes
53	4181300181	3314075044	0.15156016	868	SAVANNAH HWY		OFC	RUMPH G KIRKLAND	Yes
54	4181300185	3314071162	0.30794519	916	SAVANNAH HWY	PLUMBING SUPPLY	COM	GLS PROPERTIES LLC	Yes
55	4181300187	3314070124	0.45573089	924	SAVANNAH HWY		COM	185 KING STREET ASSOCIATES	
56	4181300190	3304977189	0.15005010	936	SAVANNAH HWY		COM	MOLUF OLGA S	Yes

Managed Properties along Savannah Highway

	PID	GPIN	Acres	Street Number	Street Name	Property	General Land Use	Owner	Underutilized
57	4181300191	3304977221	0.14982361	938	SAVANNAH HWY		COM	MYERS FRAMES AND ART-WORK LLC	
58	4181300271	3304975253	0.20026401	1002	SAVANNAH HWY	CAROLINA TITLE LOANS	COM	TARRANT PROPERTIES LP	
59	4181300274	3304973218	0.14568402	1020	SAVANNAH HWY	WALLPAPER WALK-IN	COM	BUNCH FAMILY LIMITED	Yes
60	4181300275	3304972320	0.26589778	1024	SAVANNAH HWY	TANNERS COLLECTABLES	COM	BUNCH FAMILY LIMITED	Yes
61	4181300001	3314167812	0.24583769	1	MAGNOLIA RD	GERALD'S TIRES	COM	WATTS I LLC	
62	4181300004	3314166926	1.28254831	11	MAGNOLIA RD		COM	ASHLEY SHOPPES LLC	
63	4181400181	3314260772	0.14837323	0					
64	3490100077	3304474711.007	0.44776890	0					
65	3490100041	3304472557.001	0.45661807	0					
66	3490100042	3304474506	0.45990220	1583	SAVANNAH HWY	CHARLESTON EXECUTIVE PARK	COM	UNIVERSAL DATA SOLUTION INC	
67	3490100073	3304474711.003	0.44776890	0					
68	3490800012	3304970153	0.24978553	1113	SAVANNAH HWY	BATTERIES PLUS	COM	HARRIGAN ELIZABETH RAVENEL	Yes
69	3500500052	2394991034	0.46741697	1925	SAVANNAH HWY	VET CLINIC	OFC	SOUTHARD JAMES H	Yes
70	3490100107	3304472771.002	0.44775793	0					
71	3490100040	3304472771.000	0.44775793	0					
72	3490100057	3304478899	0.75755358	0					
73	3490800005	3304965996	2.45822811	0					
74	3490100076	3304474711.006	0.44776890	0					
75	3490100032	3304483011	0.47105291	1601	SAVANNAH HWY		COM	SHAHID JULIA	Yes
76	3500500068	2394987854	0.56441653	1913	SAVANNAH HWY	CAR QUEST AUTO PARTS	COM	PHILLIPS JENNIE M	Yes
77	4210100214	3314068794	0.48154920	855	SAVANNAH HWY	FIRST FEDERAL OF CHARLESTON	OFC	FIRST FEDERAL SAVINGS AND LOAN	Yes
78	4181300272	3304974284	0.14765079	0					
79	3490800008	3304964549	12.20789034	0					
80	3490100015	3304574801	0.57110018	0					
81	3490100016	3304575727	0.57107878	1517	SAVANNAH HWY	CHARLESTON FIRE STATION #11	COM	CITY COUNCIL OF CHARLESTON	
82	3500500043	3304094014	0.21350239	1830	BLITCHRIDGE RD		COM	WILSON ALAN J	Yes
83	3500500053	2394992022	0.46608466	1921	SAVANNAH HWY	EXPRESSWAY CENTER	COM	EXPRESSWAY CENTER LLC	Yes
84	3500500056	2394983844	1.36102307	1919	SAVANNAH HWY	BIRD PAINTS	COM	EXPRESSWAY CENTER LLC	Yes
85	3500500057	2394981833	1.00603211	1920	DUNBAR ST	EXPRESSWAY CENTER	COM	EXPRESSWAY CENTER LLC	

Managed Properties along Savannah Highway

	PID	GPIN	Acres	Street Number	Street Name	Property	General Land Use	Owner	Underutilized
86	3500600069	3304283423	0.46509549	0					
87	3500600070	3304284451	0.46537274	1669	SAVANNAH HWY	STONO PARK PLAZA	COM	HURTES WILLIAM E	Yes
88	3500500038	3304095058	0.87536281	1820	SAVANNAH HWY		COM	TERRACE SOUTH PROPERTIES	Yes
89	3500200006	3304185883	0.22725689	1736	SAVANNAH HWY		COM	HORRES EUGENE S	Yes
90	3500200007	3304185815	0.23069587	1738	SAVANNAH HWY		COM	CODY ROLAND L JR	Yes
91	3500200012	3304183879	0.85696346	1750	SAVANNAH HWY	FAIR TRADE SHOPPING CENTER	COM	LANE EQUITIES LLC	
92	3490100109	3304587331	6.17088032	1468	SAVANNAH HWY	DODGE	RTL	HENDRICK AUTOMOTIVE GROUP	
93	3490100001	3304680246	6.87791681	1478	SAVANNAH HWY	HONDA	RTL	HENDRICK AUTOMOTIVE GROUP	
94	3500500045	2394883837	3.77648544	1963	SAVANNAH HWY	AMF BOWLING CENTER	COM	ISTAR BOWLING	
95	3500500061	2394895065	1.59676564	0					
96	3500500050	2394899077	0.94026929	1937	SAVANNAH HWY	SEELS MARINE	COM	SEELS OUTBOARD INC	
97	3500500058	2394889846	1.01727569	0					

Appendix 2: Underutilized Properties-Folly Road



Legend

 Underutilized Parcels
(value of buildings and improvements is 40 percent or less of total parcel value)

 Principal Study Area Parcels

 Tax Exempt Properties



Appendix 3: Public Investments at James Island Expressway and Folly Road



Appendix 4: Potential Parcel Acquisitions



Parcels along Savannah Highway



Parcels at Folly Road and James Island Expressway

	PID	GPIN	Acres	Street Number	Street Name	Property	Land Use	Owner
0	310080009	2394699530	0.54552579	2065	SAVANNAH HWY	SHEILA'S INFANT CLOTHING	COM	KINARD J H
1	310080014	2394697534	0.33034265	2061	SAVANNAH HWY	SHOPPER'S PORT	OFC	2049 SAVANNAH HIGHWAY LLC
2	310080020	2394792483	0.36461011	2039	SAVANNAH HWY	SHOPPER'S PORT	COM	2049 SAVANNAH HIGHWAY LLC
3	3490100048	3304671297	1.20046890	44	LEINBACH DR	WEST AWNING AND SAIL	COM	NELSON WOODROW E
4	3490700001	3304672690	0.88846225	1511	SAVANNAH HWY	BAKERMOTOR LAND ROVER	RTL	STROBEL PROPERTIES LLC
5	3490700230	3304677449	1.13578069	1491	SAVANNAH HWY	KRISPY KREME	COM	KRISPY KREME DOUGHNUT
6	3490700231	3304675582	1.05544877	1495	SAVANNAH HWY	AUTOZONE	COM	AUTOZONE INC
7	3490100014	3304471348	5.59585810	1625	SAVANNAH HWY	FORD DEALERSHIP	RTL	MIDDLETON ERNEST F III
8	3490100018	3304670514	3.95508671	1513	SAVANNAH HWY	BAKER MOTORS INFINITI, MERCEDES	RTL	VCKH'S MAGNOLIA LLC
9	3490100025	3304379886	6.16989326	1621	SAVANNAH HWY	ARNOLD'S SENTRY BUICK PONTIAC	RTL	RIGHT PLACE LLC
10	3490100026	3304385099	3.40831137	1625	SAVANNAH HWY	FORD DEALERSHIP	RTL	MIDDLETON ERNEST F III
11	3490700002	3304674525	1.04965127	1501	SAVANNAH HWY	BAKER USED CARS	RTL	TRIPLE J REALTY III LLC
12	3400900001	3313546937	5.24649000	0				
13	310080010	2394790049	7.60859394	2049	SAVANNAH HWY	SHOPPER'S PORT	RTL	2049 SAVANNAH HIGHWAY LLC
14	310080011	2394788653	5.29133224	0				
15	3500500045	2394883837	3.77648544	1963	SAVANNAH HWY	AMF BOWLING CENTER	COM	ISTAR BOWLING
16	3500500046	2394887685	3.62220326	0	SAVANNAH HWY		UND	VARN W C
17	3500500047	2394887968	2.06940442	1943	SAVANNAH HWY	HOLIDAY INN EXPRESS - SAVANNAH HWY	HTL	DUNBAR HOTEL LIMITED PARTNERSHIP

Appendix 5: Long-term Opportunitites Present without I-526 Extension



--- Long-term conceptual street framework

Savannah Highway and I-526





Highway 61 and Savannah Highway

Appendix 6: West Ashley/Savannah Highway New Way to Work Alternative Footnote

Some may argue that the relationship between daily volumes (which are typically related to demand) and hourly capacity (which is typically related to supply) would allow traffic volumes on Savannah Highway to increase above the historically stable range of 40,000 vehicles per day. While this would seem to be true in theory (if the approximately 4000 cars the road can carry per hour materialized for 24 hours there could be 96,000 cars per day) a rise in daily volume has failed to materialize in reality. Over the past 15 years, volumes have remained steady despite much new development not only along the Savannah Highway corridor, but west of the corridor.

Appendix 7: Update of the Maybank Highway Widening Traffic Study, December 8, 2008

Appendix 8: Safe Access is Good for Business

Appendix 9: SCDOT's Frequent Comments From Public Scoping Process

FREQUENT COMMENTS FROM PUBLIC SCOPING PROCESS		
Build it as soon as possible		Include "New Way to Work" alternative in EIS
Consider other Alternatives including regional transportation plan, mass-transit, or light rail		Use 1995 alignment thru James Island County park to avoid residential relocations
Project should include Pedestrian/Bicycle facilities		Project would help hurricane evacuations
Fix local roads to resolve current traffic problems		Rural nature of Johns Island should be preserved
Project would alleviate congestion on local roads		Project would impact wetlands, salt marshes, increase pollution and runoff from cars
Project would bring more development to Johns Island		Project would have negative impacts on James Island County Park
Project would improve safety		Project would not help hurricane evacuations
Project would add congestion to Calhoun St. and Lockwood Dr.		Project would increase noise

*Comments were received during the open comment period at meetings and via mail, email and the hotline.

 Community goals achieved by "New Way"

 Negative outcomes avoided by "New Way" alternative



MARK CLARK
Expressway