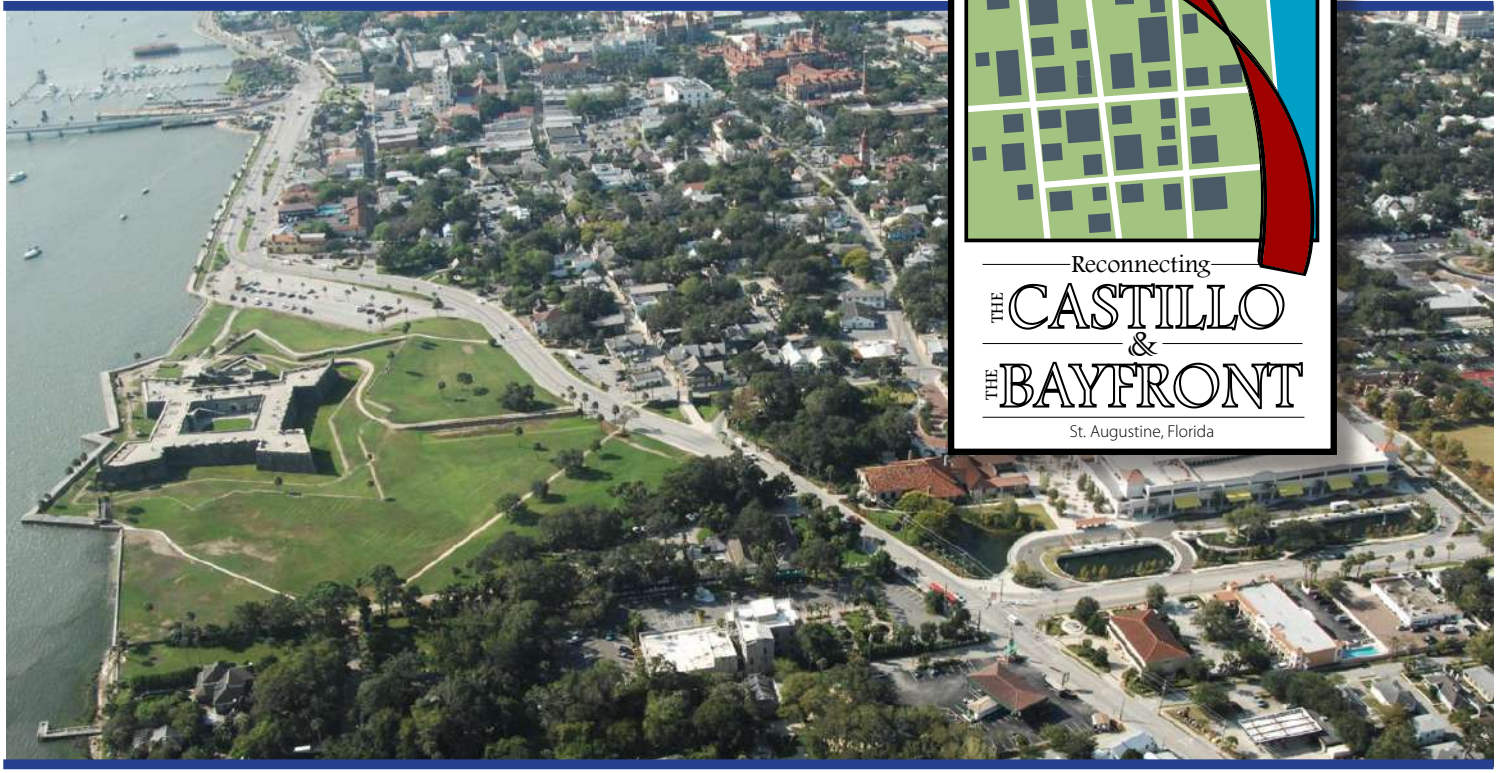
Executive Summary

Data Collection, Research, Assessment & Framework for Planning and Design Phase

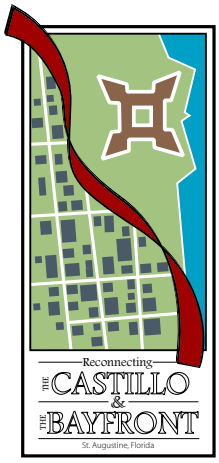
October 4, 2010



Reconnecting
THE CASTILLO & THE BAYFRONT
St. Augustine, Florida

Halback
DESIGN GROUP
Creating Compelling Environments to Live, Work, and Play

City of St. Augustine



The Purpose of this Document

The Halback Design Group Team has completed the first major task in the "Reconnecting the Castillo and the Bayfront" planning study. This included extensive and thorough data collection, research, and assessment in developing the "framework" and basis for the next steps of conceptual designs along the South Castillo Drive and Avenida Menendez corridor. This document is meant to serve as an executive summary to present a concise review and analysis of the data that will impact the remainder of the study.

Table of Contents

The Paul S. Sarbanes "Transit in Parks" Grant Program

The Paul S. Sarbanes "Transit in Parks" grant program is a joint federal funding opportunity from the Department of Transportation and the Department of the Interior. The program is designed to address the issue of vehicular congestion in and around National Parks. Improving visitor mobility, accessibility, and the overall experience is of special importance. The Federal Transit Administration (FTA) manages the grant program. It is especially important to note that projects chosen for planning funding are often selected in future years for capital (i.e. construction) funding.

In early 2009, the City of St. Augustine, with support of the Castillo de San Marcos, applied for a $250,000 planning grant to look at reconnecting the Castillo with the city it was built to protect. Over 15 months later, the City received the official award of the grant, and the Halback Design Group Team was selected following an RFQ process in mid-2010. The design team is approximately one-third of the way into the process.

Out of the 186 projects that have been funded in the past four years, only three (3) have similar elements to St. Augustine's urban character. All three have received capital funding:

- Gulf Islands National Seashore (NPS), Fort Pickens, Pensacola, Florida
  - 2007 - planning study for alternative transportation
  - 2010 - capital funding ($2.8 million) for a ferry dock
- Roosevelt-Vanderbilt National Historic Sites (NPS), Hyde Park, New York
  - 2006 - transportation study to connect the town's four historic sites
  - 2007 - capital funding to purchase buses
- Wasatch Canyons (Forest Service), Salt Lake City, Utah
  - 2008 - transportation planning study for transportation to the canyons
  - 2010 - capital funding ($2 million) for specialty buses

The grant program enables the City to look at the connections between the Castillo de San Marcos, the seawall, the VIC, and the rest of downtown in a holistic manner. The HDG Team is working with the National Park Service (NPS), the Florida Department of Transportation (FDOT), the City of St. Augustine, and appropriate stakeholders.

Goals & Objectives of this Project

The overall goal of the project is to improve the movement of people in and around the South Castillo Drive / Avenida Menendez corridor to reconnect the Castillo, the Bayfront, and downtown.

Goal: Improve Access to the Castillo & the Seawall

1. Improve pedestrian connections from the VIC to the Castillo.
2. Improve pedestrian connections between the seawall / Castillo and downtown.
3. Reduce the impact of the perceived barrier created by A1A, a four-lane roadway.
4. Improve access for alternative transportation to the Castillo (horse carriages, trams, bikes).

Goal: Improve Traffic Efficiency around the Castillo

1. Explore opportunities to reduce impacts from horse carriages and trams.
2. Reduce unnecessary vehicular trips by tourists to the Castillo.
3. Maintain current level of average daily trips (ADT) while improving efficiency.

Goal: Improve Safety along Avenida Menendez and South Castillo Drive

1. Provide traffic calming devices to improve the movement of people.
2. Identify and improve safety along A1A for hurricane evacuations.

Goal: Improve Visitor Experience

1. Incorporate visitor education items (plaques, instructional signage, etc.) along A1A.
2. Improve access to the Castillo for low-income families and improve access for all users.

Extents of the Project

This project looks at three main areas, which are referenced as potential steps for capital funding in the Grant Application for "Transit in Parks." The general project limits are noted on the map to the right.

FY2010*

Orange Street, Cubo Line, NPS parking lot, and associated pedestrian improvements

The HDG Team will be looking at Orange Street and methods to improve connections between the Castillo and the VIC / Historic Downtown Parking Facility. This initial funding, if approved, will also look at executing the approved master plan to reduce the NPS parking lot.

FY2011*

Seawall and associated pedestrian improvements

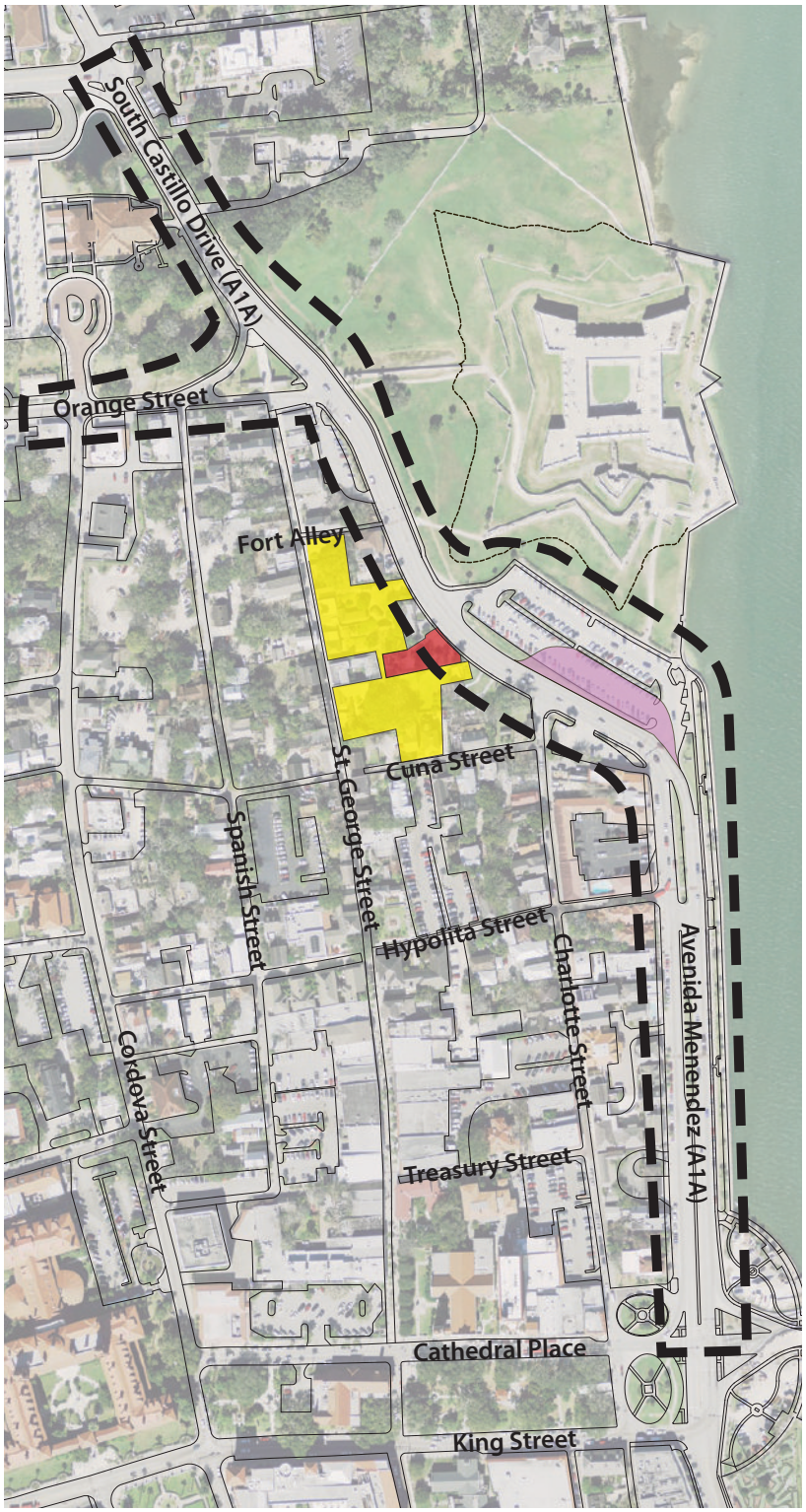
The design team will develop methods to improve the access to the bayfront, the seawall, and the Matanzas River to reconnect the city to the water.

FY2012*

South Castillo Drive and Avenida Menendez (A1A)

The team will be exploring opportunities to improve the movement of people and traffic along this corridor (including horse carriages and trolley trams). The team will also be exploring methods to improve pedestrian connections across the roadway, both to the Castillo and the bayfront.

*Note: These are only suggested years for funding. Following conceptual design and the remainder of the planning project, these will be modified to align with the preferred design.

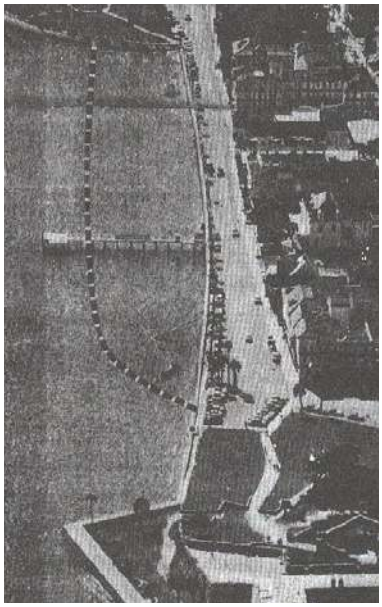


MAP | Extents of the Project

Avenida Menendez & the Bayfront: A Historic Perspective

In 1833 and 1834, West Point engineers designed and constructed a 2 mile wall running from the Castillo de San Marcos to the St. Francis Barracks, including the granite and coquina "battery" around the Castillo itself. The battery and seawall still exist adjacent to the fort and south of the Bridge of Lions.

This largely remained intact until a movement in the 1950s and 1960s to expand the bayfront into a four-lane boulevard, complete with planted medians and a park-like area along a raised promenade. The 1830s wall was removed between the Bridge of Lions and the fort green, and a series of pre-cast panels were installed approximately 80 to 90 feet east of the existing wall. This project was highly contentious, with many individuals and organizations railing against the "rape" of St. Augustine (Francis Bemis, 146 Marine Street, in a letter to TIME Magazine) and the "profanation" of adding parking along the bayfront (Catholic Comment, *Florida Catholic*, November 7, 1958).



In the mid-1960s, the National Park Service installed the existing parking lot and realigned South Castillo Drive into its present alignment. A beautiful masonry hotel (the Hotel Bennett), homes, a park, and even entire roads (Herrara Way) were demolished.

Original 1834 seawall (Left) and new 1960s seawall and roadway (Right).
TOP: Copy of photo from collection of Joseph Dillinger & Yvonne Puckett. Ca. 1840s.
ABOVE LEFT: Photo from *The Miami News*; October 5,1958.
ABOVE RIGHT: Copy of aerial photo provided by Yvonne Puckett.

Fort Marion Circle, showing the previous 2-lane roadway south of the Castillo de San Marcos, including the park and the Hotel Bennett.
LEFT: Southside fort grounds covered with snow. February 3, 1951. Photo & Print by Joseph Dillinger, St. Augustine, Fla.
MIDDLE: Fort Marion Circle. Photo & Print by Joseph Dillinger, St. Augustine, Fla. Ca. 1950s.
RIGHT: Hotel Bennett. Photo & Print by Joseph Dillinger, St. Augustine, Fla. Ca. 1950s.

Special thanks to Yvonne Puckett for sharing the photographs from the collection of her father, Joseph Dillinger.

Data Collection

There is a wealth of knowledge and previous studies that have been completed around the Castillo de San Marcos, Avenida Menendez, and South Castillo Drive. Below is a brief list of the data sources utilized by HDG.

City of St. Augustine
- Geographic Information System (GIS) data (utilities, zoning, & land use)
- City parking inventory

St. Johns County
- GIS data (parcels, topography, etc.)
- 2010 TDC Visitor/Tourism Study (PGAV)

Florida Department of Transportation
- Trip counts

National Park Service
- March 2007 master plan
- Visitor count statistics

Private Firms (Previous Studies)
- Feasibility Study - Underpass, Safety Improvements (ETM)
- A1A Pedestrian Improvement Plans (Landmark Engineering)
- South Seawall Promenade (Taylor Engineering)
- Bridge of Lions (Reynolds, Smith & Hills)

Additional Traffic Data
- Trolley routes & schedules
- Horse carriage routes (existing & proposed)

Florida Power & Light
- Underground power locations

NOTE: This is not an exhaustive list of data sources.

Castillo Visitation

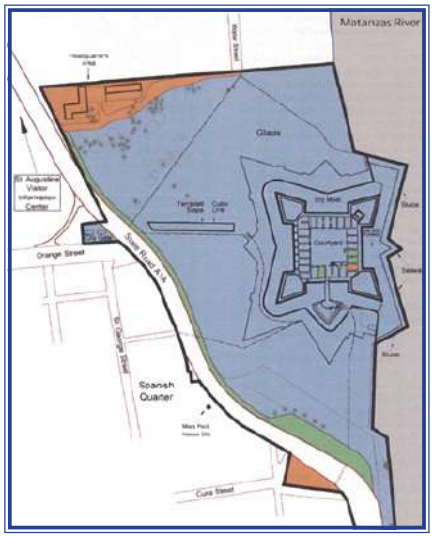
Year	2251+ visitors (days)
2005	37
2006	52
2007	54
2008	50
2009	67

Items to Note
- Over two months (67 days) now have 2251+ visitors to the Castillo.
- In 2009, there were 5 days with over 3,751 visitors.
- In 1965, for the 400th Commemoration, there were **469,000** visitors to the Castillo. In 2009, there were over **667,000** visitors.
- There have been over **37 million visits** to the Castillo since 1916.

PGAV Destination Master Plan for St. Johns County

PGAV, in the recently completed destination master plan, expressed that the "History of St. Augustine" was one of six (6) core "brands" for the County. The plan expressed that St. Augustine and St. Johns County are in a national tourism "arms race" to improve infrastructure for visitors.

Regarding St. Augustine in particular, the report commented about a lacking "sense of arrival" to the City. I-95 signage does not lead visitors to the City, there are poorly defined boundaries to the historic district once visitors arrive, and there is a **strong disunity that is noted between the waterfront/bayfront and the downtown**. The PGAV study suggested that a pedestrian friendly waterfront would be an attraction. PGAV also noted that St. Augustine is lacking an immersive experience for visitors.



PGAV's surveys of respondents noted that authenticity was extremely important. Survey respondents also highly scored scenic beauty, museums, and water recreation.

Finally, the PGAV study referenced Maslow's Hierarchy of Needs in their explanation that visitors must first be provided with basic safety, comfort, and understanding before they can truly enjoy their visitor experience. The "Transit in Parks" project gives the perfect opportunity to design for these basic needs.

National Park Service Master Plan

Completed in 2007 by the National Park Service, the current preferred master plan (option "C") seeks to restore the fort glacis (the green) by reducing the visitor parking lot. The remaining parking will be restricted to accessible parking only.

Option C Legend
- Visitor Service Zone
- Park Service Zone
- Historic Resource Zone

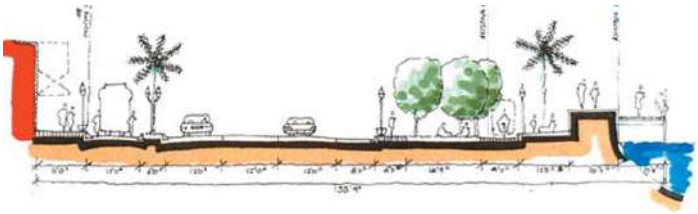
Note that in the survey completed as part of the "Transit in Parks" project, less than 5% of residents utilize this parking lot, and almost 80% seldom/never utilize the parking. More survey results are available on page 22.

The substantial expansion of the glacis, restoration of rooms within the Castillo, and living history additions are designed to improve the visitor experience. The ticket booths are also relocated in the master plan to enhance the historic view to and from the fort.

Previous Studies on Avenida Menendez & South Castillo Drive

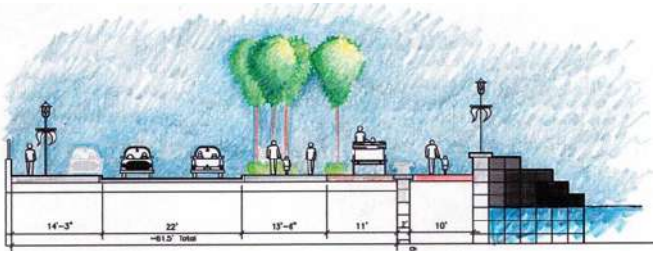
Below are a selection of applicable previous studies. This is not an exhaustive list of studies.

Entrance Corridor Guidelines (2000, HDG)
Focused on King Street, San Marco Avenue, and Anastasia Boulevard, these entrance corridor guidelines were adopted by the City Commission in 2000. The plan suggests expanded pedestrian sidewalks and routes, unifying streetscaping, and guidelines for buildings.



Parking, Circulation & Transit Master Plan (i.e. Transit Greenways, 2000, RS&H and HDG)
This master plan designed a network of "transit greenways" to provide designated lanes for trolley trams, horse carriages, and other alternative-transit modes to provide for more livable communities. Avenida Menendez, Cordova Street, Orange Street, Charlotte Street, and Cathedral Place/King Street were suggested for these downtown greenways.

Bridge of Lions (2001, RS&H and HDG)
The Bridge of Lions project is in the final stages of construction. The landings at both ends contain provisions and amenities for pedestrians, including improved crosswalks and park space.



Seawall Master Plans (2001, Various Firms)
A variety of firms explored opportunities to make a linear park along the seawall, complete with improved walkways and a multi-use pathway for carriages.

Visitor Information Center Master Plan (2003, HDG)
Connections between the VIC and the Castillo were recommended in this master plan, including creating a pedestrian/alternative transportation link using Orange Street and reestablishing the Cubo defensive line.

Pedestrian Feasibility Study (2008, ETM)
This study explored a variety of methods to provide improved pedestrian links to the Castillo. Options included an overhead walk, a tunnel, or improved sidewalks and crossings. The feasibility study ruled out all options except for improved sidewalks.

Pedestrian Improvements (2009-2010, Landmark Engineering)
These improvements are currently under final design, and they include signage to direct pedestrian traffic to Fort Alley, expanded sidewalks and/or new sidewalks on the east side of South Castillo Drive, and improved crosswalks at Fort Alley and Cuna Street.

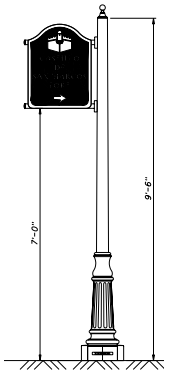


Image provided by the City of St. Augustine, from Landmark Engineering.

Mobility in the Nation's Oldest City

St. Augustine is, first and foremost, a living city with functional needs for residents and visitors alike. The City should strive to be a "sustainable city" by accommodating different types of homes, neighborhoods, employment, recreational activities, transportation, and social interactions in order to enhance its citizens' quality of life. The ability to maintain a sustainable city that contains an urban National Park, which attracts millions of visitors a year, presents the City of St. Augustine with unique challenges not faced by many cities within the United States.

The City's transportation system, as a component of a sustainable city, must serve residents, visitors and employees of downtown businesses by balancing the needs of automobiles, bicycles, pedestrians, charter buses, sightseeing trams and horse drawn carriages. Focusing solely on vehicles, as is the case with the current Avenida Menendez / South Castillo Drive corridor, both limits choices and deepens St. Augustine's dependence on a single mode of transportation. Higher overall transportation system capacity, fewer vehicle trips, less traffic congestion, and even improved air quality can be achieved by making alternative transportation viable options.

It should be noted that most areas of country are trying to emulate the urban form and traffic system found in the downtown core of St. Augustine. The types of natural and historic traffic buffers found in the City are being replicated in newly developed and redeveloped "New Urbanism" communities across the country.

When coupled with a decision to allow major thoroughfares such as King Street and the Bridge of Lions to pass through the downtown core, it puts the City of St. Augustine on the forefront of understanding the interrelationship between transportation, urban design, economic development and historic preservation. However, this delicate balance of the urban core with major roadways does not exist along South Castillo Drive and Avenida Menendez. Rather than extending the walkable urban core to the waterfront, this four-lane roadway severs the city from the bayfront and the Castillo de San Marcos.

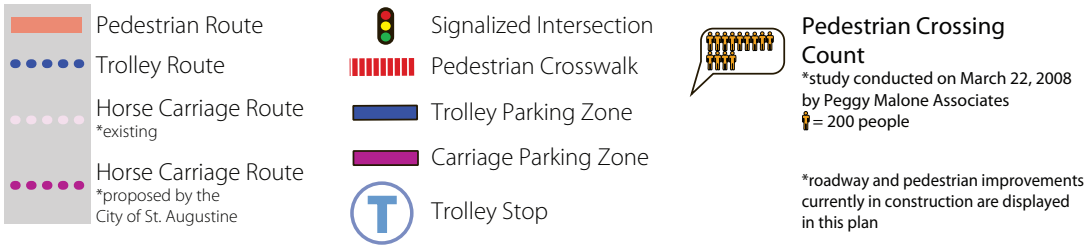
Alternative Mobility

Given that over 4.5 million people visit St. Augustine each year, alternative transportation is a critical component to the quality of the visitor experience and the quality of life for city residents. Improving alternative transportation choices is also a central aim of the "Transit in Parks" grant program. Below is a brief assessment of pedestrian, horse carriage, and tram mobility along this corridor.

Pedestrian Connections

Provisions for pedestrians along South Castillo Drive are extremely limited. Currently, the 5' wide sidewalks are located directly adjacent to the traffic lanes, presenting a weak and potentially dangerous connection between the Visitor Information Center and the Castillo.

The east side is currently in final design to add an 8' sidewalk, in addition to reinforcing the existing pedestrian crosswalks at Fort Alley and Cuna Street. New signage is also proposed to direct pedestrians away from Orange Street and the beaconing view of the Castillo. Instead, signage will attempt to lead visitors south to St. George Street, then to Fort Alley. According to a study conducted in 2008 by Peggy Malone Associates, over 650 people cross around Orange Street each day, before coming to the Fort Alley crosswalk. This equates to nearly 10% of the crossings each day for the fort.



MAP | Alternative Mobility

Along Avenida Menendez, the crosswalks at Hypolita Street and in front of the Hilton Historic Bayfront hotel lead pedestrians to the seawall and the parking along the east side of the road. The parking on both sides limits views of vehicles traveling along this roadway, and there are accounts of vehicles needing to quickly brake after pedestrians begin walking out from behind a parked car.

Horse Carriages
Horse carriages currently load and travel along the east side of Avenida Menendez. These slow moving vehicles were noted as a traffic issue by nearly 90% of residents (58.9% minor, 30.5% major). The City of St. Augustine is currently recommending moving the route to the west side of the road with loading at the Visitor Information Center and the Plaza de la Constitucion. Both the existing and proposed routes will be considered.

Trolley Trams
Trolley trams move along both sides of the roadway, and over 87% of residents noted these trams as a traffic issue (65.9% minor, 21.9% major). These trams, according to Ripley's Sightseeing Tours, travel at an average speed of 6-12 miles per hour. Major loading areas within the project extents include the Orange Street loading area, directly north of St. George Street; a proposed tram stop at the Spanish Quarter, on the west side of South Castillo Drive across from the Castillo parking lot; and a trolley drop off in the Castillo de San Marcos parking lot.

Vehicular Mobility

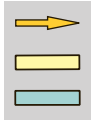
Although this study attempts to increase the use of all transportation modes, the automobile is still assumed to be the primary mode. Past investments in the highway system have created, in general, an overall mobile area. However, **increased mobility does not translate into increased access**. The most effective approach to improving the access and movement of people along this corridor combines a comprehensive set of parking, pedestrian, bicycle, traffic operations, intersection and roadway improvements.

The transportation system must provide access to basic necessities for a broad spectrum of the population, and in this case, assist in the transportation needs of residents, visitors and employees, while "Reconnecting the Castillo and the Bayfront." Diverse, incremental, and innovative strategies will be explored by the HDG Team, which will lead to a more effective approach than relying on a major capacity expansion project typical of many roadway redesigns.

Capacity

The capacity of a roadway depends upon a number of factors, including several roadway and operational characteristics. These roadway characteristics include the number and width of lanes, area type, lateral clearance, intersections per mile, medians, and left turn lanes. The operation characteristics include free flow speed, number of heavy vehicles, the amount of green time per cycle, the type of signal system and driver familiarity.

In conjunction with advent of "New Urbanism" development practices and principles, there has been a move in the transportation profession to measure transportation facility capacity in terms of **person trips** versus **vehicle trips**. Thus, the total amount of "person throughput" of a facility via automobile, bus, bicycle and



Vehicular Route
Reserved Parking
Public Parking

*roadway and pedestrian improvements currently in construction are displayed in this plan

Signalized Intersection
Pedestrian Crosswalk
Vehicular Accidents
*data collected by the St. Augustine Police Dept. from 2004 to mid 2010. The first number refers to minor accidents and the second to major accidents resulting in an injury and/or arrests

20,563 Average Daily Traffic Volume
* 2009 FDOT statistics from 4 monitoring sites
-San Marco Ave. (A1A) 100ft North of Old Mission Rd.
-Avenida Menendez (A1A) 100ft South of Castillo Dr.
-A1A on East end of Bridge of Lions
-King St. 200ft West of Malaga St.

MAP | Vehicular Mobility

pedestrian amenities becomes the true measure of a facility's capacity. This study will focus on increasing "person throughput" with bicycle, pedestrian and transit improvements while maintaining the current vehicular daily throughput of the corridor.

The major roadway facility separating downtown St. Augustine from the Bayfront and the Castillo is South Castillo Drive/Avenida Menendez. This corridor carries approximately 16,300 vehicles per day and is functionally classified as an "arterial facility." Arterials are typically four- to six-lane roads that carry large volumes of traffic.

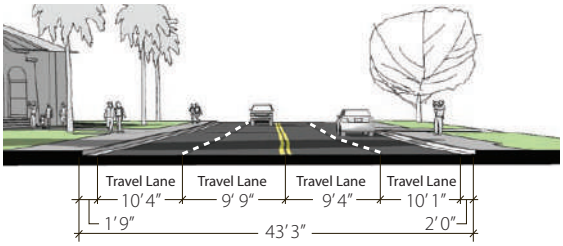
The **four lane** undivided South Castillo Drive and four lane divided Avenida Menendez are fed by a series of **two lane** roads and bridges: San Marco Boulevard from the north, Avenida Menendez from the south, King Street and West Castillo Drive from the west, and the Bridge of Lions from the east. King Street (14,500 Average Daily Trips {ADT}) and the Bridge of Lions (17,000 ADT) handle the same amount of traffic as two lane corridors/cross-sections as does South Castillo Drive/Avenida Menendez (16,300 ADT) as a four lane cross section. The two lane San Marco Boulevard handles just slightly less traffic (13,500 ADT).

As is the case with South Castillo Drive and Avenida Menendez, arterials often create barriers to pedestrian activity. These roadways can be made more pedestrian-friendly by adding elements such as enhanced pedestrian facilities, bicycle lanes, traffic calming devices, and improved landscaping, among others. Improvements to pedestrian access along and across the roadway is crucial, as within a ½ mile section of South Castillo Drive/Avenida Menendez, approximately 6,250 pedestrians cross the facility daily.

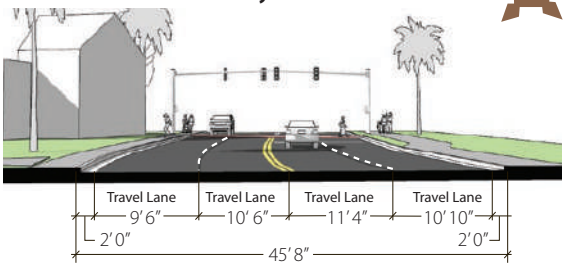
Transit vehicles such as trams and horse carriages reduce the number of cars on the roadway by providing alternative modes to visitors. However, these same modes can obstruct traffic flow, as was noted by nearly 90% of residents. In some cities, transit is accommodated through separate lanes, taking the slower transit vehicle out of the stream of traffic, and facilitating the use of transit by making it convenient to access.

An improvement in capacity can also be achieved by simplifying decision points for drivers. Eliminating excessive curb cuts and driveways, improving signage, and even reducing travel lane width or lane numbers have all been shown to improve capacity and traffic efficiency. Examples include South Orange Avenue in South Orange, New Jersey; University Avenue and 2nd Avenue in Gainesville, Florida; South Broadway in Saratoga Springs, New York; and a variety of walkable streets in downtown Winter Park, Florida; among many others. Simplifying decision points can also improve conflict areas and overall safety, which will be discussed in more detail.

A-A': Section at the Visitor Information Center



B-B': Section at Fort Alley

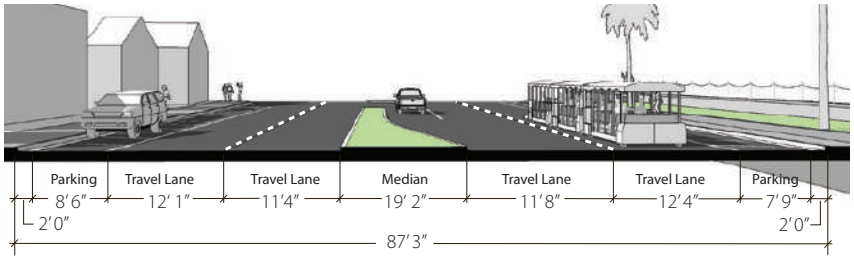


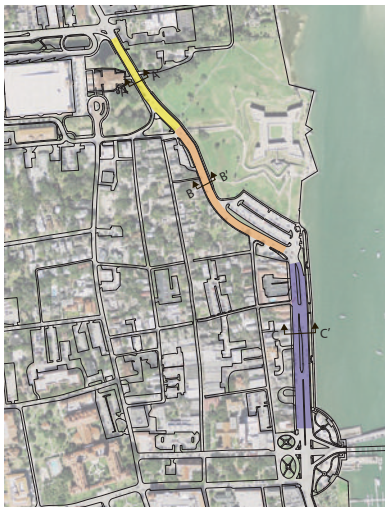
Roadway Cross Sections & Lane Widths

The roadway cross-sections for the study area roadway facilities are as diverse as St. Augustine itself. Between West Castillo Drive and Orange Street, South Castillo Drive is 39'-6" wide, with an **average lane width of 9'-11"**. Between Orange Street and Cuna Street, this facility averages 42'-0" with an **average lane width of 10'-6"**. Both sections have two feet (2') of curb and gutter on both sides.

Moving south from the S-turn at the Castillo de San Marcos, South Castillo Drive becomes Avenida Menendez and the cross-section expands dramatically to 81'-10". Two southbound lanes **averaging 12'-1"** with 8'-6" of parking are separated with a 17'-6" median from the two northbound lanes **averaging 12'-0"** with 7'-9" of parking. This section also has two feet (2') of curb and gutter on both sides. It should be noted that the

C-C': Section across Avenida Menendez





standards for an urban arterial can be 11'-0" lanes, and FDOT even allows 10'-0" lanes in certain cases.

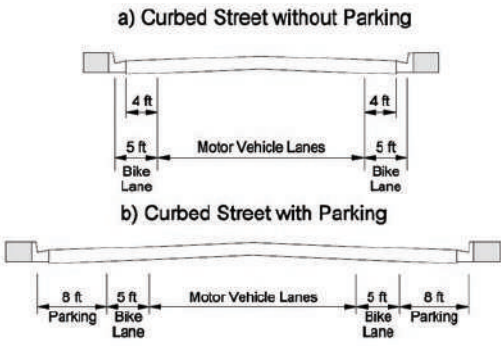
The variance in the travel lane widths coupled with the unusual curvature of the roadway facility leads to several observations. First, the lane width changes within a relatively short distance, making it difficult for vehicles to stay in their respective lanes. Personnel from the Castillo de San Marcos have noted this issue as well during interviews with staff. Second, the curvature of the road, coupled with the change of widths, makes it difficult to maintain travel speeds.

Third, within this short distance there are four signals, two for traffic control and two for pedestrian crossing. One of the pedestrian signals is located at Fort Alley, which is in a tangent section between reverse curves. Drivers have the tendency to speed up in this section.

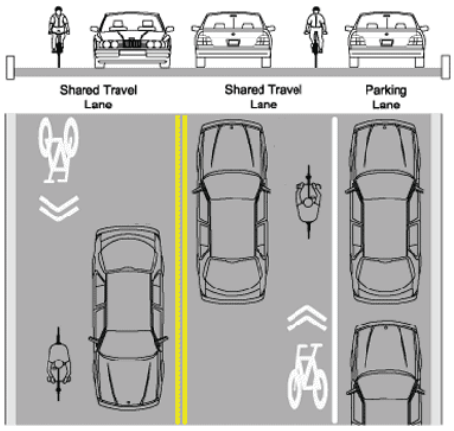
The second pedestrian crossing is at the curve where South Castillo Drive meets Avenida Menendez. Northbound traffic has the entire length of Avenida Menendez from the Bridge of Lions to gain speed, while southbound traffic is beginning to round a substantial curve transitioning from South Castillo Drive to Avenida Menendez. Both create potentially unsafe conditions. This is compounded by the characteristics of both the driver (i.e. tourist unfamiliar with the area and locals), and unique traffic (i.e. tourist related trams and carriages).

Southbound traffic is also frequently impeded by automobiles queuing for the Bridge of Lions. The undersized left-turn lane often backs traffic to this "S"-curve and beyond, especially when the drawbridge is raised.

Alternatives developed as part of the study will investigate minimal street widths, modest turning radii, modest design speeds, curb extensions, traffic calming, sidewalks, and bicycle facilities, where feasible. These potential mobility improvements will ensure that the streets in question are designed for transportation choice. Using current FDOT standards to re-design and enhance existing streets is yet another strategy to provide viable transportation options. In addition, South Castillo Drive and Avenida Menendez have been identified by FDOT for resurfacing, and there may be potential for modifying the cross sections of these facilities.



FDOT standards for bike lanes per "Florida Greenbook"



As an alternative to dedicated bike lanes some areas are using "sharrows to indicate a lane is for use by both cyclists and automobiles. Credit: Seattle DOT

Note that alternative transportation choices, including bike lanes, are now required by FDOT. According to FDOT urban planning manuals:

> *"Pedestrian and bicycle facilities must be given full consideration on all proposed projects including Resurfacing, Restoration and Rehabilitation (RRR), safety, and traffic operation projects. Their inclusion on intersection reconstruction projects is particularly important as these may be excepted out of later roadway projects. Where an existing route for bicyclists is present it shall be maintained... project records must support and document why facilities were not included, if they indeed were not. If right-of-way is constrained, the local government may consider reducing motor vehicle travel lane width to 11'-0" – resulting in a traffic calming effect."*

As noted in the "Roadway Cross Section & Lane Widths" section, traffic often backs up for the Bridge of Lions.
ABOVE: Photograph by Jeremy Marquis, September 24, 2010. Note that this was a fairly quiet day in downtown, as evidenced by the small amount of traffic in the north-bound lanes.

Alternative Cross Sections

Several alternative cross sections may be explored, including:

- Three lane sections with southbound northbound unbalanced lanes (e.g. two southbound, one northbound),
- Transit preferential treatment (High Occupancy Vehicle (HOV) lanes on arterials; dedicated bus lanes; bus signal preference and priority; and traffic management improvements),
- New pedestrian facilities,
- New bike lanes (bicycle lanes are a portion of a roadway that have been designated for the preferential or exclusive use of the bicycle),
- Modified medians, side street and access modification,
- Elimination or addition of on street parking, and
- Improved streetscapes.

Vehicular and Pedestrian Points of Conflict

One of the most critical transportation aspects of the "Reconnecting the Castillo and the Bayfront" plan will be the reduction in the number of potential vehicular and pedestrian points of conflict. Points of conflict can exist between 1) vehicles and pedestrians, 2) vehicles and vehicles, and 3) pedestrians and pedestrians.

There are a multitude of these points of conflict along the portion of South Castillo Drive/Avenida Menendez from the Bridge of Lions to West Castillo Drive. For instance, left turning vehicles entering and exiting the Castillo de San Marcos parking lot's southern entrance create vehicle/vehicle points of conflict with

potentially 16,300 vehicles per day, and all vehicles entering and exiting the lot cause vehicle/pedestrian points of conflict with the 3,000 pedestrian crossing South Castillo Drive at the Cuna Street intersection.

Further north, the existence and configuration of the Orange Street/South Castillo Drive intersection has the same points of conflict issue. At this location, left and right turning vehicles cause problems with through traffic and pedestrians crossing both South Castillo Drive and Orange Street.

All of these points of conflict problems are compounded by the presence of tourist related trolleys and horse drawn carriages. Special facilities for and rerouting of these services will be considered in alternative development.

The entire length of South Castillo Drive/Avenida Menendez has vehicle/pedestrian points of conflict, with 6,250 pedestrians crossing the four-lane facility at designated and undesignated areas directly around the Castillo, causing massive safety concerns. One point of conflict that appears to be **unique to St. Augustine is pedestrian/pedestrian issues**. These occur in several locations, as well as along the entire length of the South Castillo Drive/Avenida Menendez. The sidewalk facilities along this roadway are woefully narrow and substandard, with little or no buffer from the roadway. With the massive volumes of people, pedestrians are dodging pedestrians on the sidewalks, causing spillage onto the roadway creating additional pedestrian/vehicle conflict.

The same conflict holds true at designated crosswalks. There is not enough pedestrian storage area at those locations, causing crowding. When pedestrians are allowed to cross the South Castillo Drive or Avenida Menendez, there is dodging, weaving and delay getting across the roadway. Both situations clause spillage into the roadway, or cause pedestrians to cross unsafely at non designated points.

As part of this study, the reduction of access through closure or modification of existing excessive, duplicative, or unsafe curb cuts, narrowing of overly wide curb cuts and strategic closing streets at several locations will be investigated. These measures will assist in providing additional capacity on the adjacent roadway facility and reduce the number of potential vehicular/pedestrian conflicts. These measures also reduce the amount of pavement for automobiles, which can be used for additional pedestrian, bicycle, and transit facilities.

However, the best way to reduce the points of conflict is to increase the quality of pedestrian route and crossing options in the **immediate vicinity and encourage direct travel for tourist vehicles to the Historic District Parking Facility/Visitor Information Center.** Accentuation of this facility will assist in the provision of safe and convenient movement for all users, particularly pedestrians. Pedestrian circulation is a fundamental element of a "park once" environment, where individuals can comfortably walk between buildings and not consider using the automobile for trips other than for their arrival and departure.

Traffic Calming

Quality of Traffic Flow

There are two ways to evaluate the quality of traffic flow: psychologically and physically. Psychological evaluation relates to the ingrained ideas and expectations of how a street should operate. Physical evaluation relates to how much traffic can be serviced given the geometric features of the street, the presence of traffic control devices and the flow characteristics of the vehicles.

The psychological view of the street varies depending on whether one is driving, a resident or a visitor. For drivers, the sole purpose of any street is for the operation of a vehicle, with little concern for the impacts on noise, air quality, social interaction or livability. However, residents living or tourists waking along the same street take a differing view. The streets are viewed as a potential amenity that should be inviting, pleasant and safe. Given the historic nature of the City and the high concentration of residents and visitors experiencing the area, this corridor should likewise be viewed as an amenity.

Traffic Calming Techniques

The primary goals of traffic calming are to improve environmental conditions for as many residents and visitors as possible by reducing crashes; to reduce traffic volumes, traffic speeds, noise, vibration, and pollution; to encourage the stability of the downtown area; and to improve conditions for cyclists and pedestrians by altering driver behavior to reduce vehicle speed and traffic volume.

Similar to the quality aspects of traffic flow, there are three classes of traffic control devices that assist in traffic calming: physical, passive and psychological.

Physical devices force an action that results in increased safety, better operational conditions, decreased volumes, and/or decreased speeds. In the case of the roadway facilities being analyzed in this study, these might include pedestrian bulb out/chokers, median channelization, and median barriers.

Passive devices are regulatory signs. A driver is not "permitted" to do something, but the driver is not physically stopped from the action. These signs include stop, no left turn, no right turn, do not enter and other signage. Passive devices can have a notable effect on the volume of through traffic, and work best where there is respect for traffic control devices, enforcement and acceptance of the device. This may be **difficult in a high tourist area**.

Finally, psychological devices try to affect the driver's attitude. The goal is to induce the driver to take a desired action. These devices might include painted crosswalks, painted speed strips, speed actuated flashing signs and special signs, as well as on-street parking and marked and designated bike lanes.

These measures, variously termed "Neighborhood Traffic Control", "Traffic Calming" or "Livable Streets", have certain key elements in common: they slow vehicle speeds, provide drivers with "reminders" of other users, and buffer pedestrians from traffic flow.

Some techniques include streetscapes that narrow the street and widened the sidewalk; brick-paved "slow points" that slows down traffic and reminds drivers that they are passing through a neighborhood; brick-paved streets that reduce vehicle speeds and improve the pedestrian atmosphere; "bulb-outs" that alert drivers that they are sharing the roadway with pedestrians while shortening the walking distance for pedestrians crossing the street; and bus "pull-outs" which facilitate traffic flow when transit buses need extended dwell time at bus stops for transfers and scheduling.

Overall, traffic management techniques seek to enhance livability while maintaining citywide mobility. All of the above traffic calming techniques will be considered, and, if relevant, included in the development of alternatives.

Secondary Issues: Pedestrian Health Benefits

Planned in 1573, St. Augustine was originally a pedestrian-focused community. It is still considered to be one of the most walkable cities in the nation according to AAA's 2006 report of the "10 Most Walkable Cities". A high walkability score is also attributed to the project area by www.walkscore.com, an online tool for measuring walkability. Downtown St. Augustine has a score of 92/100 and is in the 95th percentile for all locations rated by the website. This score is due to the great pedestrian amenities built around the city core.

However, the walkable network is currently severed by A1A (South Castillo Drive and Avenida Menendez) with the historic downtown on the west side and the Castillo / bayfront on the east. These two areas are (or can be) wonderful walkable locations in their own right and should be a unified part of the pedestrian experience.

While there are many functional benefits to providing better pedestrian connections, there are significant health benefits as well. Research has shown that exercise can reduce the risks associated with obesity, type 2 diabetes, and some cancers. Exercise can also improve muscular strength, mental health, and overall lifespan. Improved health also leads to cost savings in reduced medical costs.

A number of studies have shown that walkability of the built environment has a direct effect upon physical activity and public health. Residents living in walkable locations are more likely to walk in their leisure time and less likely to suffer from obesity and hypertension (Ewing, Schmid, Killingsworth, Ziot, & Raudenbush, 2003).

Secondary Issues: Opportunities for Low-Income Families to Visit

Improving alternative transportation options, especially in terms of pedestrian and bicycle connections, also improve the opportunities for low-income families to visit the Castillo de San Marcos and the Bayfront. The "Transit in Parks" grant program specifically charges recipients to explore these issues, and the National Park Service and the City of St. Augustine have an interest and obligation to do so.

The glacis and fort have always been important gathering spaces for the city. Note that 85% of the residents of St. Augustine visit the fort each year, and over half (52%) utilize the fort green as a recreational area. Adding and/or improving a network of sidewalks and bicycle lanes will be of particular benefit to residents and families in neighborhoods such as Lincolnville and West Augustine. These neighborhoods are predominantly composed of African American households. According to the National Black Latino Summit paper of "Transportation Equality" by Kay Fernandez Smith and Dwayne Marsh, the 2000 Census shows that only 76% of African American households own a vehicle, as compared to 93% of White households.

Providing non-automotive based transportation options, therefore, are especially important to improving access for low-income and/or minority families to visit the Castillo and the Bayfront.

Secondary Issues: Improving Safety Along A1A during Hurricane Events

While 3 of every 4 residents of St. Augustine has a self-reported "clear understanding" of hurricane evacuation routes through the city, it is important to consider and clearly delineate these approved routes, which direct traffic from north-bound A1A at the Bridge of Lions to proceed west along King Street to US-1.

The HDG Team will explore opportunities to better reinforce the protection of the city with improvements to the existing precast concrete and coquina seawalls. Modifications to the walkway north of the Bridge of Lions will recommend slightly raising the walkway to match the 7.7' elevation proposed on the new south seawall that is awaiting FEMA funding.

The design team will pay special attention to the coquina wall portion connecting the Castillo's battery with the 1960s concrete seawall. This seawall is the lowest portion, and it appears to be sinking. It is owned by the National Park Service, which is a partner in the funding for the "Transit in Parks" grant program.

Secondary Issues: Visitor Education & Orientation Signage

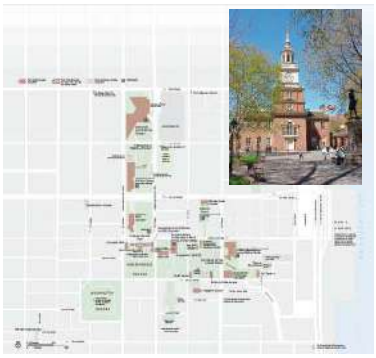
This important corridor has the opportunity to provide visitors and residents with educational and orientation signage. The educational mission of the Castillo de San Marcos and the Colonial Spanish Quarter can be extended along these roadways.

For example, specific views and vantage points can interpret the Fort's battery, the St. Augustine Inlet, Davis Shores, the Bridge of Lions, and former buildings that once existed along the west side of Avenida Menendez / Bay Street. Historic photographs can be placed at similar vantage points as the photograph itself to showcase the development and changes in the Nation's Oldest City.

Case Studies: Urban Parks & Mobility

Transportation strategies employed by other National Parks in urban situations can serve as a basis for developing a local strategy that is builtupon proven techniques. Urban situations require a multi-modal approach to transportation that focuses on the movement of people as a whole.

Independence National Historical Parks, Philadelphia, Pennsylvania





Modes of Transportation

Trolleys: Public & Private

Bus: Public & private

Pedestrian: Fully directed through signage system

Parking: A series of parking garages and lots; Philadelphia Parking Authority

Boston National Historical Parks, Boston, Massachusetts




Modes of Transportation

Trolleys: Private

Bus: Public

Subway: Public

Parking: Extremely limited. The Boston National Historic Park has an agreement with a nearby parking garage for discounted parking.

Charleston, South Carolina





Modes of Transportation

Trolleys: Private *Bus:* Public *Horse Carriages:* Public

Parking: Parking is provided in a series of garages throughout the downtown core.

New Orleans, Louisiana



Modes of Transportation

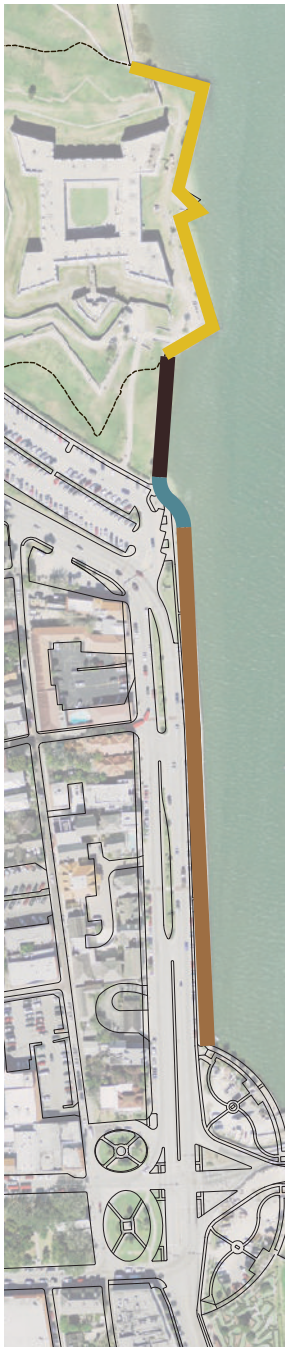
Streetcars: Public

Bus: Public

Horse Carriages: Private

Seawall Condition Analysis

Engineers from Applied Technology & Management (ATM), part of the HDG Team, visited the St. Augustine Bayfront area on September 1, 2010, to visually evaluate the existing condition of the seawall extending from the Castillo de San Marcos to the Bridge of Lions. ATM's evaluation included both a walking top side inspection of the wall and an inspection from the water using a small boat. This condition assessment included a visual inspection of the readily accessible areas of the seawall only and is intended as a cursory assessment. No underwater evaluations or testing were performed as part of this assessment.



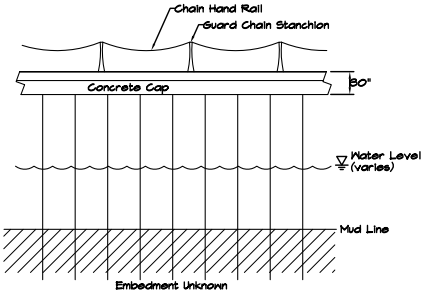
Section 1 - Castillo de San Marcos Battery

This section of seawall fronts the Castillo de San Marcos and consists of approximately 730 linear feet of wall. The wall is constructed of a keyed granite block base beginning below the waterline and extending approximately 4 – 5 feet above the mud line. The granite block transitions to a keyed coquina block wall that extends approximately 4 feet higher. Above the coquina wall is a gently sloping section of coquina base. The seawall appears to have had some maintenance over time, and appears to be in excellent condition. No modifications or improvements to this section of seawall are required.

Section 2 – Coquina Wall

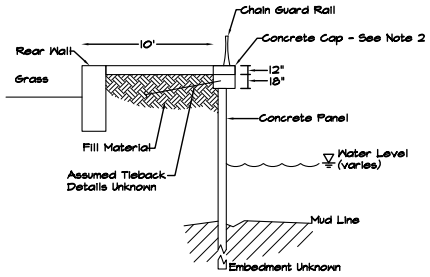
Moving south from the end of the Castillo de San Marcos seawall is an approximately 240 linear foot section of seawall that is constructed of coquina block. This section of seawall is approximately 1.5 feet lower than the adjacent seawall sections. The block is not keyed together and appears to be much older construction than the Castillo battery (section 1). There are two distinct layers of rock, with the lower portion extending from the mud line up vertically 4 feet. This layer has very large voids and evidence or erosion. Above this lower layer is a newer layer of rock. This layer has smaller voids, some of which have been filled with grout and similar maintenance procedures. A layer of granite blocks have been placed atop the coquina, but do not appear to be structurally tied to the remainder of the seawall.

There is a small section in the wall that has steps down to the water. The steps consist of granite blocks placed over the coquina. This portion of the seawall has a slight lean back towards the upland. ATM did not observe areas that are in immediate danger of failing or see signs of settlement behind the wall. However, the seawall does require maintenance. Overall, this section of seawall is in fair condition and may be considered for replacement or structural improvement. To reduce erosion and wave action on the seawall base, placement of coquina rip rap may be considered.



FRONT VIEW

Note:
Exact construction details are not known, and as-built information is not available. This conceptual sketch is based on a site visit and review of historical photographs during construction.



SIDE VIEW

Notes:
1. Exact construction details are not known, and as-built information is not available. This conceptual sketch is based on a site visit and review of historical photographs during construction.

2. The concrete cap appears to have been constructed in two pours. It is not clear if they were done during the same time period. It is also unclear whether the upper cap is structural or aesthetic.

Section 3 – Concrete Transition Wall

South of the coquina seawall the waterfront transitions to a vertical concrete panel seawall. The area of the concrete wall immediately adjacent to the older wall is in fair condition, and appears to have been constructed and improved in various phases. This 55 foot linear foot section has granite block placed on top of the original concrete cap. The cap has some spalling (salt water, but appears to be structurally sound.

Section 4 - Concrete Panel Wall

South of the transition wall the vertical concrete wall becomes very uniform in construction and condition. This 1,000 linear foot section of seawall consists of approximately four feet wide concrete panels that extend from the concrete cap to below the mud line. On top of the original concrete cap, it appears that a second cap was added which raises the wall another 18-inches. Based on the visual inspection, ATM could not if the newer upper cap is structurally tied to the older cap or simply poured on top.

Metal stanchions connected with chain are used as a pedestrian guardrail. This guardrail is in poor condition and should be considered for immediate replacement. There are some voids between the panels which are expected based on the age of the seawall, and it is apparent that some maintenance has been performed on the wall. Some sporadic peeling of concrete on the panels was visible, however the structural integrity of the wall appeared sound.

The top of this portion of the seawall consists of an approximately 10 foot wide poured walkway that sits on top of the original cap and abuts the newer cap. The walkway has cracks and voids, and in some areas the upper veneer is separating from the main walkway.

The exact type of construction of the cap and walkway of the vertical seawall could not be determined based on visual observations. Areas immediately behind the wall are covered by the concrete walkway, so ATM could not evaluate any subsidence or erosion behind the wall. Overall, the vertical seawall is in good condition, and with the exception of the walkway and guardrails appears to be structurally sound.

FDOT Plans for the Seawall

The Florida Department of Transportation (FDOT) has recently appropriated funding for design work along the seawall. The first planning meeting to define the scope was held on September 27, 2010. FDOT has committed to keep the HDG Team and the City of St. Augustine informed as the project moves forward. Construction funding is not available as of yet.

Access to the Water

In its current form, the seawall is an extremely harsh environment that does not invite residents and visitors to enjoy the beautiful views of the inlet, Matanzas River, and the Castillo de San Marcos. South of the Bridge of Lions, the City of St. Augustine has approved plans for a 10' promenade to the east (waterward) of the historic seawall. There may be opportunities to continue a similar promenade along the water north of the Bridge of Lions.

Case Studies: Access to Water

Historical cities were often founded primarily because a location had access to the water. Rivers and coasts can be ***the*** defining feature that gives form and character to the city. St. Augustine has a series of great views along the bayfront across to the inlet, Davis Shores and Anastasia Island. However, there is little reason for visitors to cross A1A for these views and to experience the water. Other historic cities are making a concerted effort to increase access to their waterfronts the primary use shifts from commercial to tourism and recreation.

Charleston, South Carolina
The Battery

Running along Charleston's inner harbor, the battery is a well used path for pedestrians and bicycles

Linear Park: Originally a public garden from 1837

Destinations: Views of Fort Sumter and Charelston Harbor, White Point Gardens, Confederate Memorial

Urban to Water Connections: Connection of "Calhoun Street" from downtown to the waterfront & the Battery

Savannah, Georgia
East River / Baystreet

Along the Savannah River, this historic waterfront acts as a destination and event space for the city.

Linear Park: Emmet park connects downtown and the waterfront, and includes various monuments.

Destinations: River Street is a destination in itself, full of restaurants monuments and statues, and gardens.

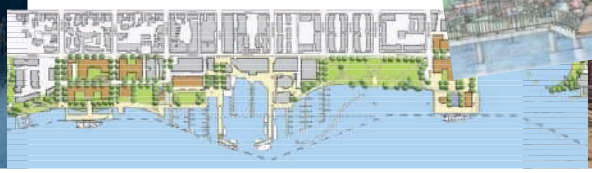
Boats: Boats dock along the waterfront

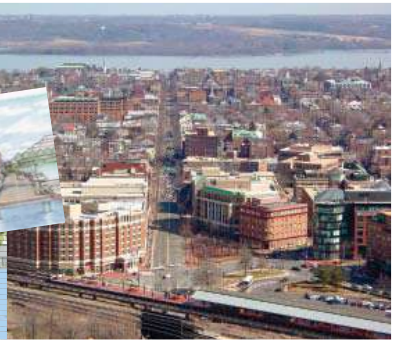
Alexandria, Virginia: King Street & Potomac Intersection

King Street connects the historic "Old Town" portion of Alexandria with the Potomac River, across from Washington, DC. The waterfront itself has numerous destinations.

Boats: Recreational and historic replicas dock along the active waterfront.

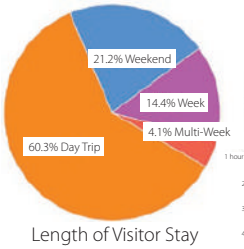
Destinations: Views of Washington, DC, the Potomac River, and boats give the waterfront a purpose and a destination



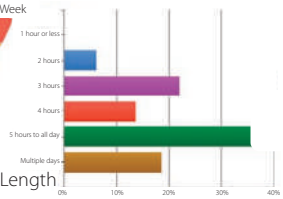


Resident & Visitor Survey Results

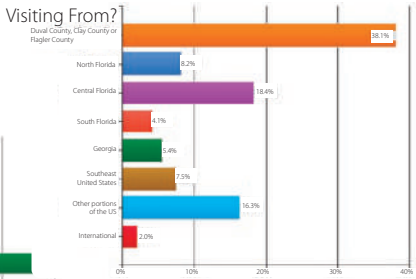
For thirty days, both residents and visitors were surveyed to better understand visitation to downtown, the Castillo de San Marcos, and the bayfront. The survey was conducted exclusively online for residents, and visitor information was collected both online and in person at the Visitor Information Center. A total of 427 surveys were completed; 297 were from residents, and 157 were completed by visitors.



Length of Visitor Stay



Downtown Visit Length



87.7% of residents feel tourism is good or great for the City

Over 87% of residents feel that tourism is good or great for the City. Of the 157 visitors who responded to the survey, a majority of these visitors are from the neighboring counties of Duval, Flagler, and Clay Counties. The length of visitor stay and the time of a downtown visit show that a majority of visitors are on a day trip and spend 4+ hours downtown.

Visiting the Castillo de San Marcos & Downtown

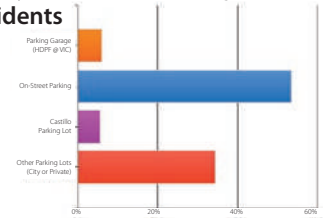
The Castillo de San Marcos is one of the first destinations for over 70% of visitors. Interestingly, over 85% of residents visit the Castillo at least once per year, and over half utilize the fort green for recreation. Nearly 50% of residents come downtown every day, and nearly 75% come two to three times each week. Most residents spend over 3 hours downtown, and a majority go downtown after 5pm.

Over 80% of visitors primarily walk to get around downtown.

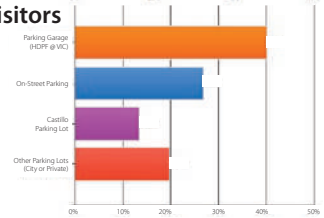
Parking Downtown

Where do you look for a parking space first?

Residents



Visitors

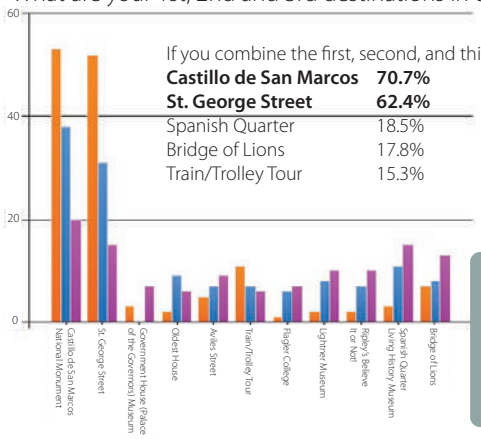


	Visitors	Residents	Do you park at...?
Most of the Time or Always	43.7%	10.0%	VIC / HDPF
Most of the Time or Always	17.6%	40.1%	On-Street
Most of the Time or Always	9.9%	4.6%	Castillo parking lot
		47.7% seldom 31.7% never	

Visiting the Castillo de San Marcos

Visitors

What are your 1st, 2nd and 3rd destinations in downtown?



If you combine the first, second, and third destinations...

Castillo de San Marcos	**70.7%**
St. George Street	**62.4%**
Spanish Quarter	18.5%
Bridge of Lions	17.8%
Train/Trolley Tour	15.3%

40.4% of visitors use the fort glacis (green) for recreation

52.5% of residents use the fort glacis (green) for recreation

85.3% of residents visit the Castillo at least once / year

50.5% of residents visit the Castillo 2+ times each year

Residents

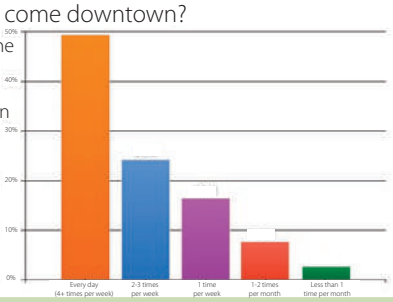
How often do you come downtown?

49.4% of residents come downtown every day

73.5% come downtown at least 2-3 times/week

65.2% spend 3+ hours when downtown

66.7% go downtown after 5pm



Accessibility & Traffic Flow

Residents and visitors both feel that the Castillo de San Marcos is generally "accessible" from downtown. However, there is a major gap in the responses between "accessible" and "safe", which has been an issue that has been noted in the series of designs and studies that have been completed over the past 10 years.

The bayfront is noted as less accessible than the Castillo. The seawall appears to provide a weak connection to and from the fort, and the impact of the four lanes and medians of Avenida Menendez seems evident in making the waterfront seem less connected.

Accessibility & Traffic Flow

Note: Some questions were shortened from their format in the survey.

	Visitors	Residents	
Very or Moderately Accessible	62.5%	78.8%	How accessible is the Castillo de San Marcos (the Fort) from downtown St. Augustine?
Very or Moderately Safe	53.1%	52.5%	Do you feel safe crossing A1A to get to the Castillo de San Marcos (the Fort)?
Very or Moderately Connected	50.0%	62.7%	Do you think that the bayfront and Castillo feel connected to the rest of downtown?
Minor Impact Major Impact	56.1% 2.9%	**65.9%** **21.9%**	What are your impressions of the impact of sightseeing tour trams?
Minor Impact Major Impact	59.6% 5.0%	58.9% **30.5%**	What are your impressions of the impact of horse carriages?

Comment | While visitors and residents feel the fort is accessible, the percentages fall 10-20% regarding safety and connection to downtown.

Potential Improvements

A series of potential improvement possibilities were presented to survey participants. No specific plans or explanations were provided, as the design team wanted to get initial impressions and feedback from respondents.

Both visitors and residents favor improving sidewalks/walkways, crossings, a designated transit lane, and landscaping. Improved connections to the bayfront were also well received. Of course, this question was presented in a vacuum, so the team will be working through the conceptual design process to identify and receive feedback on specific ideas.

Nearly 90% of residents desire improved traffic flow, although 60% were against the initial question regarding the reduction of travel lanes. In the open responses, many participants noted that they would not want to eliminate travel lanes as traffic flow could be reduced. Any design would focus on maintaining the current daily capacity, with a focus on making it more efficient.

Potential Improvements

	Visitors	Residents	Would you be in favor of...?
Highly / Moderately In Favor	73.6%	78.6%	Improved Sidewalks / Walkways
Highly / Moderately In Favor	81.3%	77.6%	Improved Crossings - Castillo to downtown
Highly / Moderately In Favor	66.5%	65.3%	Designated Tram / Carriage Lane
Highly / Moderately In Favor	60.6%	**73.9%**	Improved Landscaping
Highly / Moderately In Favor	75.2%	**87.9%**	Improving Traffic Flow
Highly / Moderately In Favor	26.6%	25.7% 16.0% Neutral 18.9% Somewhat Against 39.5% Highly Against	Reducing the number of travel lanes on A1A
Highly / Moderately In Favor	77.4%	72.7%	Improved Access to/along Bayfront & Seawall
Highly / Moderately In Favor	76.8%	72.0%	Improved Access to the Water (piers, etc.)
Highly / Moderately In Favor	65.7%	57.2%	More Shade along A1A & Bayfront

Comment | In the open responses, many respondants explained their concerns to reducing travel lanes as the expectation is that traffic flow may be reduced.

Continual Opportunities for Public Feedback

Continual opportunities for public feedback are available:

Jeremy Marquis, LEED AP, Project Manager, Halback Design Group, Inc.
Phone: 904.825.6747; Email: jeremy@halback.com

Public Meetings

October 11 - City Commission
November 18 / 19 - Second & Third Public Meetings
January 10 - City Commission
February 24 - Fourth Public Meeting
March 28 - City Commission

Data Collection, Research, Assessment & Framework Conclusions

The task before the City of St. Augustine and the Halback Design Group Team is time critical and important, especially with the start of the 450th Commemoration Celebration less than three years away.

In many ways, there is not a more important north-south corridor in the City that must balance automobiles, charter buses, trolley trams, horse carriages, bicycles, and pedestrians with the historic character of the city. Not only is this roadway a major connection for residents and visitors passing through the City, the corridor largely defines the waterfront experience for millions of visitors to the Nation's Oldest City.

The HDG Team will be asking and exploring answers to a number of questions through the next steps of the project, which includes the conceptual designs and preliminary engineering. These questions all focus on better "moving people." Although there are other goals, objectives, and questions, these six are some of the most critical:

Vehicular Mobility

1) Does it make sense to connect the two-lane Bridge of Lions and the two-lane West Castillo Drive with four lanes of Avenida Menendez and South Castillo Drive, given that the same amount of vehicles travel along these roadways?
2) How can the corridor better handle the traffic backlog caused by south-bound traffic queuing for the Bridge of Lions, especially when the drawbridge is raised?
3) Are there opportunities to simplify decision points and conflict points to lead to better traffic flow / efficiency, clearer orientation for visitors, and a safer environment for all users of this corridor?

Pedestrian

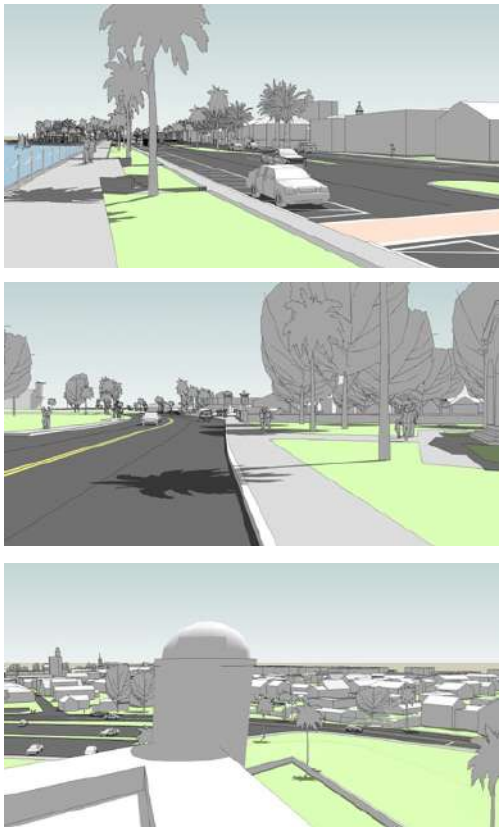
4) How can the pedestrian experience be improved to safely and clearly connect visitors from downtown and the VIC / Historic Downtown Parking Facility to the Castillo de San Marcos and the Bayfront?
5) Are there improvements that can be made to create a destination and purpose for the seawall, as compared to the under-utilized waterfront's current format?

Alternative Mobility

6) How can alternative modes of transportation – bikes, trolley trams, and horse carriages – add to the "person trips" capacity of the roadway while also improving vehicular efficiency?

There are also areas of data collection that have been identified through the process as needing additional information. First, Pedestrian crossing data is needed along Avenida Menendez to supplement the data of crossings around the Castillo. Second, elevation data is needed along the bottom lands east of the seawall, which will aid in guiding designs exploring better access to the water. Finally, input from property owners along Avenida Menendez and South Castillo Drive will be critical to building consensus. Preliminary contact has been made with some property owners at the first public meeting and open house.

Of course, the most critical feedback will be from the citizens of St. Augustine. The three remaining public meeting and the three City Commission meetings will enable the HDG Team to develop a plan that has community buy-in and support. Ultimately, this waterfront belongs to our entire community, and the purpose of "Reconnecting the Castillo and the Bayfront" is important for all who experience and live in this unique city.



Existing conditions as modeled in SketchUp. SketchUp will be utilized in the conceptual design phase as well to show the preferred concept.