

# FEASIBILITY OF WATERBORNE TRANSPORTATION FINAL REPORT



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## EXECUTIVE SUMMARY

### INTRODUCTION

This feasibility study of waterborne transportation in Pinellas County has focused on the public benefits such a system may provide when integrated as a part of the county's transportation network. As such, it focuses on opportunities for transportation trips rather than recreational, or excursion trips. Transportation trips may be commuter-oriented, or they may be designed to accommodate local residents and tourists by focusing on shopping, dining or similar destinations in and around Pinellas County.

The feasibility of initiating this type of service depends on a number of factors, not the least of which is financial feasibility. This report seeks to answer the question of what type of public investment is needed to launch an effective water-based transportation service, and how that service can complement other transportation modes while providing mobility and economic benefits. Based on the literature review completed in Task 1, waterborne transportation service will be most successful if the criteria listed below are satisfied:

- Accessibility to waterfronts by vessels and passengers;
- Connectivity and proximity to other forms of transportation;
- Adjacent land uses that are attractions/destinations and that can be served by water transportation;
- Presence of congested or constrained automobile transportation facilities that follow potential water-based travel routes;
- Infrastructure for docking vessels and loading/unloading passengers, and
- Stable funding for capital, operations and marketing.

The report examines those factors and identifies various scenarios for joint public/private responsibilities to initiate water-based transportation service. The assessment of financial feasibility is a difficult question to answer without making several assumptions about the type of service, vessel characteristics and the level of public investment. To provide decision-makers



with information about the feasibility of a public investment in water-based transportation, this executive summary presents a recommended approach based on key operating parameters.

## **POTENTIAL SCENARIOS**

Waterborne transportation currently operating in Pinellas County is unstructured, sporadic, and unpredictable, thereby providing minimal service as a transportation mode. With public support, the existing service can grow and provide a successful tourist/economic development service and increase mobility in the County. Because of travel time and flexibility limitations that make waterborne travel less attractive than automobile travel, it is unlikely to serve as a commuter-oriented service in Pinellas County. However, given the County's waterfront commercial and recreational destinations, waterborne transportation is viable for other trip purposes.

As evidenced by the waterborne operations examined in the course of this study, some public investment would be needed to make waterborne transportation feasible in Pinellas County. The more public investment, the more successful the service can become. At a minimum, public funding would be needed for providing passenger amenities (shelters, benches, kiosks, parking, etc.), and creating consistent and highly visible signage along with marketing the service. In addition, non-monetary support such as coordination of service providers, changing ordinances to allow water transportation service, reserving public docks/slips for water transportation uses, and publicly encouraging waterborne transportation would be necessary.

Given the potential risk of a new endeavor and moderate public benefit, the amount of public investment should be less than 50 percent of the total cost of service. It is imperative that the private sector shares at least half the cost of service. This will enable the private sector to respond to market demand and ensure an adequate rate of return, as well as providing a minimum level of public benefit.

A public/private partnership spreads the costs and risks involved in the endeavor between the two parties. However, the private sector should bear higher costs and risks than the public sector. The public sector's role should be to provide seed money to initiate the service without accepting the potential financial burden of owning and maintaining a fleet of vessels. This would also help reduce the risk to the private sector, thereby attracting private investment while



still maintaining the flexibility needed. Furthermore, a public subsidy should be used to offset fares and stimulate ridership over the first three years. This has been done successfully in Ft. Lauderdale where a CMAQ grant was used to reduce fares from \$16 to \$5 per day. Ridership has exceeded projections every month since the discounted fare went into affect. According to its representatives, the Ft. Lauderdale Water Bus had 53,000 riders during the month of March 2003, a time considered to be peak season. For comparison, the Channel Cat water taxi, which operates seasonally (June, July, August) on the Mississippi River in the Quad Cities area, had 32,000 riders last season, or an average of about 10,000 passengers per month.

### **Recommended Approach**

Based on the literature review and discussions with operators, the most feasible approach for Pinellas County focuses on providing point-to-point, destination oriented service established through a competitive Request For Proposals (RFP) process guided by Pinellas County. This report identifies logical markets that would support waterborne transportation in Pinellas County, such as downtown Clearwater, downtown St. Petersburg, John's Pass and other smaller waterfront commercial destinations. In selecting a private provider, Pinellas County should ensure that these markets are served, and that connections can be made with other modes. The level of service, including service frequency, span of service, and cost of service should be subject to the competitive process by choosing the proposal response that offers the best fit of service.

This service would utilize a fleet of eight, small vessels carrying up to 70 passengers each. The vessels use environmentally friendly hybrid engines that don't pollute the water and operate at lower speeds, thereby negating the noise pollution often associated with faster speeds. Also, lower speeds are more conducive to the natural vegetation and aquatic life. By integrating the vessels into existing infrastructure and providing a connection to local bus service and commercial destinations, this service would have a positive community impact.



## INVESTMENT SCENARIOS

Using cost information from comparable types of service, the initial public investment would provide passenger amenities, dock facility enhancements, and marketing, at an estimated cost of \$375,000. Additionally, a subsidy of up to \$1,000,000 (one-half of the estimate) would contribute to the start-up capital costs, and up to another \$400,000 to offset operating costs for the period (one-third of the estimated three-year total). This would help to establish an affordable fare structure for the first three years of service, thus attracting potential users of the service. This amount – about \$1.8 million – could come from various sources at the state, county, local or federal level. The estimated private sector cost over the same period is estimated at \$2 million, although there would likely be additional private costs, such as insurance, that are not considered in this analysis. Public financial support should utilize federal grant funding to the fullest extent possible. The Ferry Boat Discretionary Program, as an example, has provided federal funding through the Transportation Equity Act for the 21<sup>st</sup> Century (TEA 21) for similar operations such as Fort Lauderdale's water taxi service.

This amount would ensure a minimum level of public investment to launch the service. It would also allow the private sector the flexibility needed to establish service characteristics necessary to meet market demand and profitability. With this level of investment, the public sector can define its expectations for service and select the most compatible private sector partner to meet those service objectives. Strategies to ensure long-term financial feasibility should be a condition of the competitive selection and evaluation process. Much like how new public transportation services are funded and evaluated, after three years, the service should be re-evaluated for feasibility based on usage, financial performance, and local community support.





	<b>Three-Year Total Estimated Costs</b>	<b>Public Share for Initial Three Years</b>
<b>Capital</b>	\$2,000,000 (8 vessels @ \$250,000 per vessel)	\$1,000,000
<b>Operating/Maintenance</b>	\$400,000 annually	\$400,000
<b>Passenger Amenities</b>	\$75,000	\$75,000
<b>Dock Facility Enhancements</b>	\$200,000	\$200,000
<b>Marketing</b>	\$100,000 annually	\$150,000
<b>Total Costs</b>	\$3,775,000	\$1,825,000

Waterborne transportation is feasible for Pinellas County given a minimum level of public investment to initiate and support the service. It is expected that the initial investment level occur for a three-year period to evaluate the utility of the service, and that the private sector would assume a greater share of the costs after the initial investment is made.

### **Implementation Steps**

The necessary steps to implement any of these options are presented below.

1. Apply for and obtain grant funding.
2. Obtain support from local jurisdictions where service stops would be required.
3. Develop a Request for Proposal (RFP) to solicit responses from interested private providers. The RFP needs to contain criteria for selection that seeks to maximize the public benefit; however, the RFP should be flexible enough for respondents to select the markets that would provide the most value. The RFP should define desired service levels and markets.
4. Enter into negotiations with top ranked respondent.
5. Develop standards and minimum passenger amenities for each "hub."



6. Based on the selected proposal, provide supportive infrastructure. This would include docking facilities, passenger amenities, intermodal connections, and parking as necessary.
7. Develop consistent signage and marketing strategies.
8. Implement and monitor service under a three-year agreement.



## CHAPTER ONE: INTRODUCTION AND STUDY PURPOSE

### OVERVIEW

Interest in water-based transportation continues to be strong in Florida, reflecting the state's abundant natural resources of bays, rivers, lagoons and the sea, and the significance of such features in many of the state's increasingly congested urban areas. Florida's marinas and ports support much of the state's economy through tourism, recreation and goods movement. Use of water resources for passenger transportation is not a new concept in Florida, with water taxis and ferries in operation throughout the state for many years. Recent requests for public funding of water-based transportation modes have illuminated the need for a strategic, rational assessment of the feasibility of such operations in Pinellas County. Governments have historically funded waterborne transportation operations for many purposes; however, questions relating to the extent of funding and circumstances necessary for success of water-based transportation as an effective part of the passenger transportation system have not been adequately examined.

This document is a culmination of several tasks that have been completed to assess the feasibility of waterborne transportation in Pinellas County. It reflects a thorough literature review and discussions with numerous individuals who are either currently involved in existing water-based passenger transportation service, or who have an interest in bringing waterborne transportation to their community in Pinellas County. The findings and recommendations in this report also reflect an evaluation of conditions in Pinellas County and identification of areas that may lend themselves to a successful application of water-based transportation modes. Appendix A contains the Literature Review completed as part of Task One of the project.

The premise of this feasibility assessment is to examine whether there should be public funding of water-based transportation modes, and if so, what conditions or scenarios need to be considered in making that determination. There are several options to consider, each reflecting a different approach to funding and operating the service. Choosing to make an investment in water-based transportation is ultimately a policy decision based on the perceived public benefit such a service may provide. This document presents information about the conditions that tend to make waterborne transportation successful, and the differences in service and costs across a



range of alternative scenarios. With that understanding, this document provides a general assessment of the feasibility of public financial assistance in water-based transportation in Pinellas County given a conceptual plan for service. Additional analysis will need to be performed to fully understand the costs and implementation actions of a selected scenario

## CHAPTER TWO: FUNCTION AND PURPOSE OF WATERBORNE TRANSPORTATION

Waterborne transportation creates opportunities and benefits for regional transportation, environmental, and economic systems. It has the potential to serve a wide range of purposes, including work commutes and trips for business, shopping, tourism, and recreation.

A regularly operating service can be designed to complement and expand existing transportation networks. By integrating with automobile, transit, bicycle, and pedestrian systems, waterborne transportation can play a part in creating a comprehensive, multi-modal transportation network. A “water bus” helps to provide an alternative to single-occupant vehicles, which is particularly important in areas with significant traffic congestion. In Ft. Lauderdale, Florida, water bus ports are directly linked to transit stops for easy transfers; this practice can be easily replicated in Pinellas County, which has bus routes near most major destinations.

Depending on the type of vessel, waterborne transport can also be more environmentally friendly than automobiles, particularly the gas-electric hybrid water buses that are now available. Waterborne transportation takes advantage of the natural beauty and resources of the region and can provide a convenient alternative to highway travel.

In terms of the regional and local economy, the shift in focus from exclusively land-based transportation systems to the integration of a waterborne mode could help stimulate redevelopment in waterfront communities. The infrastructure needed for vessel docking and passenger services may be funded by redevelopment districts using tax increment financing or other sources.

Through the literature review and discussions with existing operators, several criteria have been identified that should guide consideration for public investment in waterborne transportation. These criteria include:

- Accessibility to waterfronts by vessels and passengers.
- Connectivity to other forms of transportation.
- Land uses that are attractions/destinations that can be served by water transportation.
- Infrastructure for docking vessels and loading/unloading passengers.



- Funding for capital and operations.

## **USES OF WATERBORNE TRANSPORTATION**

Ferry service is used in waterfront communities around the world for a variety of reasons. On the English Channel, ferries transport travelers from England to Continental Europe. In Jacksonville and Seattle, ferries take the place of bridges and highways to get commuters and their cars across bodies of water. And in Fort Lauderdale and San Antonio a river ferry serves hotels, restaurants, and other waterfront attractions. The function and characteristics of the types of waterborne transportation in a community or region depends largely on geographic or natural features, development patterns and the available transportation network.

Unlike those areas, Pinellas' County has good highway access linking various destinations. For example, the Seattle ferry takes 30 minutes to travel between downtown Seattle and Bainbridge Island, a large suburban community. The same trip by automobile can take nearly two hours. A similar situation occurs in Jacksonville, where travelers must drive miles out of their way to access a bridge across the St. Johns River. Instead, the ferry system offers a convenient option. However, in Pinellas County, there are few, if any, situations where water-based transportation would be faster than by automobile.

In Fort Lauderdale, the service operates along the New River, which is generally lined with uses like restaurants, civic buildings, hotels and shopping areas. This mix of destinations in relative close proximity makes the service attractive for patrons. In contrast, with the exception of various commercial nodes or centers like John's Pass, the land uses along Pinellas County's Intracoastal Waterway and Boca Ciega Bay are predominantly residential. Thus, service would need to be oriented toward a fixed set of stops rather than being more demand-responsive in nature.

Table 1 compares waterborne transportation service in four cities in the United States, based on service type, vessel details, and network characteristics.



**Table 1: Comparison of Waterborne Transportation Services**

	Seattle	Jacksonville	Ft. Lauderdale	San Antonio
<b>Primary Uses</b>	Commuter Passengers and Autos	Commuter Passengers and Autos	Recreational and commuter  Passengers only	Recreational  Passengers only
<b>Operations</b>	Publicly owned and operated	Publicly owned, privately operated	Public and private fleet ownership; Some public funding; privately operated	Privately owned and operated
<b>Vessels</b>				
<b>Fleet size</b>	25	2	17	N/A
<b>Passenger Capacity per vessel</b>	200 - 2500	206	27-74	N/A
<b>Approximate cost per vessel</b>	N/A	\$84,000 (used) - \$3.9 million	\$250,000 (gas- electric hybrid)	N/A
<b>Network and Routes</b>				
<b>Number of stops</b>	20	2	20	Shuttle – 8
<b>Number of routes</b>	10 (two are passenger-only)	1	2	1

Use of the service in Pinellas County is projected to be largely social/recreational in nature, rather than focused on serving work-related trips. Due to the long distances between destinations around the peninsula and the presence of a reasonably effective street and highway networks that connects cities throughout the region, waterborne transportation is not likely to attract a significant number of commuter trips. However, for shorter trips waterborne travel can offer an attractive and functional alternative that would complement the use of other modes in Pinellas County, such as walking, bicycling and riding the bus, along with driving an automobile.



Social/recreational uses include trips to shopping areas; hotels and restaurants; and beaches, as well as sightseeing. Scheduled or charter service may also be offered to places within the region, including Downtown St. Petersburg, Clearwater, or Tampa, and to destinations outside the region, such as Sarasota and even Key West.

## CONSTRAINTS

Along with the benefits and opportunities provided by a waterborne transportation service, there are also constraints to its establishment and continued operation. These challenges affect the feasibility of the service for widespread application in Pinellas County, although none are insurmountable. Before a decision is reached to participate in initiating and maintaining such service, it is important to understand how the constraints affect the structure and potential operation of waterborne transportation.

One potential challenge is development of the structure and comprehensiveness of the route network. Water-based commuter service is constrained in Pinellas County because of the long distances between destinations in the north and south. The network will consist most likely of tourist or commercial destinations like restaurants, shopping and entertainment venues. Many of these can be found in the southwestern region of the county along the beaches, such as John's Pass, St. Pete Beach, Treasure Island and Pass-a-Grille Beach, and in places like downtown St. Petersburg and downtown Clearwater. With the exception of the downtowns, all these destinations may be accessed through Boca Ciega Bay along the Intracoastal Waterway.

Once established, the structure of the network will determine the time and distance between stops. For commuter service to be successful, it must be at least as convenient as land transportation. For recreational trips, travel time is less important than commuting trips. However, convenience is important. Similar to traditional forms of public transportation like bus and rail service, for waterborne transportation to successfully attract riders it must have stops (docks or marinas) that are conveniently located in close proximity to major destinations. The service will be most successful in areas where boats can dock at restaurants, hotels or marinas with a varied destinations and types of uses nearby. Patrons must be able to walk a very short distance – ideally less than ½ mile – once disembarking to reach their destination(s).





Gaining easy waterborne access to destinations on the Gulf side may prove to be a constraint. Trips between the north and south may be forced to use the Gulf of Mexico, which introduces additional safety issues, requiring a different class of vessel and operating characteristics. Choice of vessel type will also have a bearing on possible routes, because some vessels are better suited than others for operation in the Gulf. Trips on the interior side of the barrier islands in Boca Ciega Bay and Clearwater Harbor are subject to speed and wake restrictions due to manatees, which would ostensibly lengthen waterborne trips and make them less attractive to users.

Access to waterborne facilities by land must also be easy. Potential sites were chosen on the basis of their proximity to Pinellas County's existing automobile, bicycle, pedestrian, and transit systems. Waterborne ports must be designed to allow seamless interchange between modes. Particular attention should be paid to non-automotive modes by emphasizing proximity to compatible land uses, connectivity with transit stops, and presence of walking and cycling facilities.

If hovercraft vessels are used for the waterborne transportation service, consideration must be given to the impact of noise on waterfront communities. While hovercraft vessels provide a variety of benefits in terms of speed, convenience, and limited environmental impact, there also have been complaints in the past from waterfront residential communities about the amount of noise they make.

### **BENEFITS OF INVESTMENT**

To establish a waterborne transportation system in Pinellas County, investment of public dollars may be needed. At present, several businesses provide "water taxi" service, but several factors prevent these services from becoming a reliable part of a comprehensive, multi-modal transportation system in the county. Investment from public or private sources, or some balance of the two, would help to establish the system and provide benefits for all.

If public funding is provided, the public benefits and objectives of the service must be clear. Public benefits of waterborne transportation can be multiple. The service can improve accessibility in congested areas or constrained corridors, such as the beach communities along Gulf Boulevard. Water taxis can help expand the available travel options, particularly during



peak season, thus reducing demand for automobile travel. The service can support the economy by serving as an additional attraction for tourists and visitors. If marketed properly, waterborne transportation can add to the charm and ambiance of the area, thus encouraging repeat visitors and building interest in future visitors. The service can also leverage additional private investment in redevelopment initiatives. Nearly all of Pinellas County's communities are actively pursuing redevelopment projects of various size and scale, including most of the waterfront communities. A central theme of those redevelopment efforts – from Clearwater to St. Pete Beach – is to re-connect the city with the waterfront. The investment made in waterborne transportation can “raise the bar” for upscale mixed-use developments that many communities are attempting to create.

Several factors may justify public financial assistance. First, money is needed up front for capital costs such as boats and infrastructure. While there are many waterfront sites in Pinellas County with sufficient facilities to allow ferry docking, investment will still be required to provide signage, adequate passenger facilities, designated slips, and the like. Pinellas County is eligible to request funding for those needs from the FWHA's Ferry Boat Discretionary Program, which has provided millions of dollars in funding to Florida municipalities to help fund ferry service. Funding may also be available from transit funding if the service is designed as a continuation of the existing transit network. Without such investment, private companies would likely have difficulty raising enough capital to establish a comprehensive service.

Second, continuing assistance may be needed for operating costs, as fare revenues are frequently insufficient to cover all operating and maintenance costs. The St. Johns River ferry in Jacksonville, which is publicly owned, annually requires \$400,000 in operating costs from the city, of which \$3,500 per month is used for maintenance. The Seattle ferry system finances 60 to 65 percent of its costs from fare revenues; the rest is from the Washington State Legislature and other forms of local and federal assistance. Investment by the public sector helps to keep fares at a reasonable level to attract regular riders and to prevent the service from operating at a financial loss to its private sector operators. This has been done successfully in Ft. Lauderdale where a CMAQ grant was used to reduce fares from \$16 to \$5 per day. Ridership has exceeded projections every month since the discounted fare went into affect.

If a public investment is to be made to establish waterborne transportation in Pinellas County, the public benefit of the service must be clear. The ideal system would be designed to



serve all regions of the county with destinations for both shopping/entertainment and business users. When a docking facility is provided by a private marina, it is important to establish a close link to public transportation so it does not appear that the county is endorsing one private provider over another. Finally, the service would need to be structured and marketed as primarily a transportation mode, rather than a recreational mode, oriented to improving accessibility to various venues and destinations in the county. Coordinated efforts with the Pinellas County Convention and Visitors Bureau and other publicly funded partners, such as PSTA, to market the service would help establish the public benefit of an intermodal transportation system serving waterfront communities in Pinellas County.



## **CHAPTER THREE: EVALUATION OF CONDITIONS**

### **INTRODUCTION**

This chapter represents Task 2, an evaluation of existing conditions available for passenger waterborne transportation in Pinellas County. The purpose of this task is to evaluate the applicability of waterborne transportation in Pinellas County in terms of the suitability of different locations, and identify conditions that would contribute toward successful implementation. This chapter documents the evaluation of potential sites for and recommends several sites which most lend themselves to waterborne transportation based on that evaluation. This information will be used to develop recommendations to the county on the feasibility of public funding for waterborne transportation.

### **APPLICABILITY TO PINELLAS COUNTY**

As roads and highways become more congested, the search for viable alternatives to automotive transportation expands to the Gulf of Mexico, Tampa Bay, and the Intercoastal Waterway. Surrounded on three sides by water, Pinellas County is a prime candidate for a regional waterborne transportation system. Many of the county's municipalities have waterfront downtowns and municipal marinas, as well as private marinas, piers, and other boating facilities.

The excellent intermodal transportation infrastructure of Pinellas County also lends itself to a potential waterborne transportation system. A wide-ranging regional transit system serves most cities, and most streets have sidewalks to facilitate pedestrian circulation. Pinellas County also features an established system of off-road recreational trails for bicycles and pedestrians with plans for expansion, providing yet another means of access to the waterfront.

Pinellas County is known for its world-renowned beaches and natural resources. Beyond the beaches, the cities in Pinellas County provide ample attractions to draw both local visitors and tourists to the waterfront. Each downtown has initiated investment and redevelopment, resulting in parks, piers, marinas, cultural centers, historical attractions, restaurants, unique shopping districts, increased commercial space and employment, and more.

One consideration in the establishment of a waterborne transportation system is balancing public and private commitments. At one end of the spectrum is a system based entirely on privately owned boats and a privately-operated system; at the other end is complete involvement and funding by the county. A balance of involvement and coordination between the two is likely to be necessary for an effective system. Some combination of public and private funding will be needed up front for acquisition of boats and providing adequate infrastructure, such as docking, passenger facilities, and signage. Passenger fares are unlikely to fully cover operating costs, so a public subsidy may also be required to maintain the service. These considerations will be addressed in a subsequent document as part of this project.

Furthermore, space at public marinas is limited, and some municipalities are reluctant to dedicate slips to a private service. Endorsement and support of the service by the public sector, along with the collaborative effort of the private sector, may be a key to success.

### **SITE SELECTION PROCESS**

Selection of potential sites for analysis proceeded in two stages. The initial stage involved a comprehensive assessment of the county's likely sites for waterborne transportation, based on local knowledge, major population and employment centers, and shopping and tourism opportunities. This process resulted in 15 sites, presented in Table 2. This list was further narrowed to six locations (indicated with asterisks), following consultation with MPO staff, deemed to have the greatest potential for success. These are shaded in Table 2, and presented in Figure 1.

To select potential candidate sites, the following criteria were used:

- Accessibility to the waterfront via car, bus, bicycle, or on foot;
- Intermodal connections, such as proximity to bus routes and transfer stations, the trails network, public parking, and streets with sidewalks;
- Adjacent land uses, which help define the site as a destination;
- Congested roads providing access to the destination;
- Existing infrastructure for docking and passengers, such as a marina or dock and public parking lots, and
- Potential investment needed by the public and/or private sectors.



This list of potential sites is not intended to be exhaustive, nor is it a recommendation for action by the MPO. Rather, it is intended to provide a guide for the feasibility analysis in terms of available infrastructure and current plans and initiatives, relative to the evaluation criteria presented in Technical Memorandum 1.



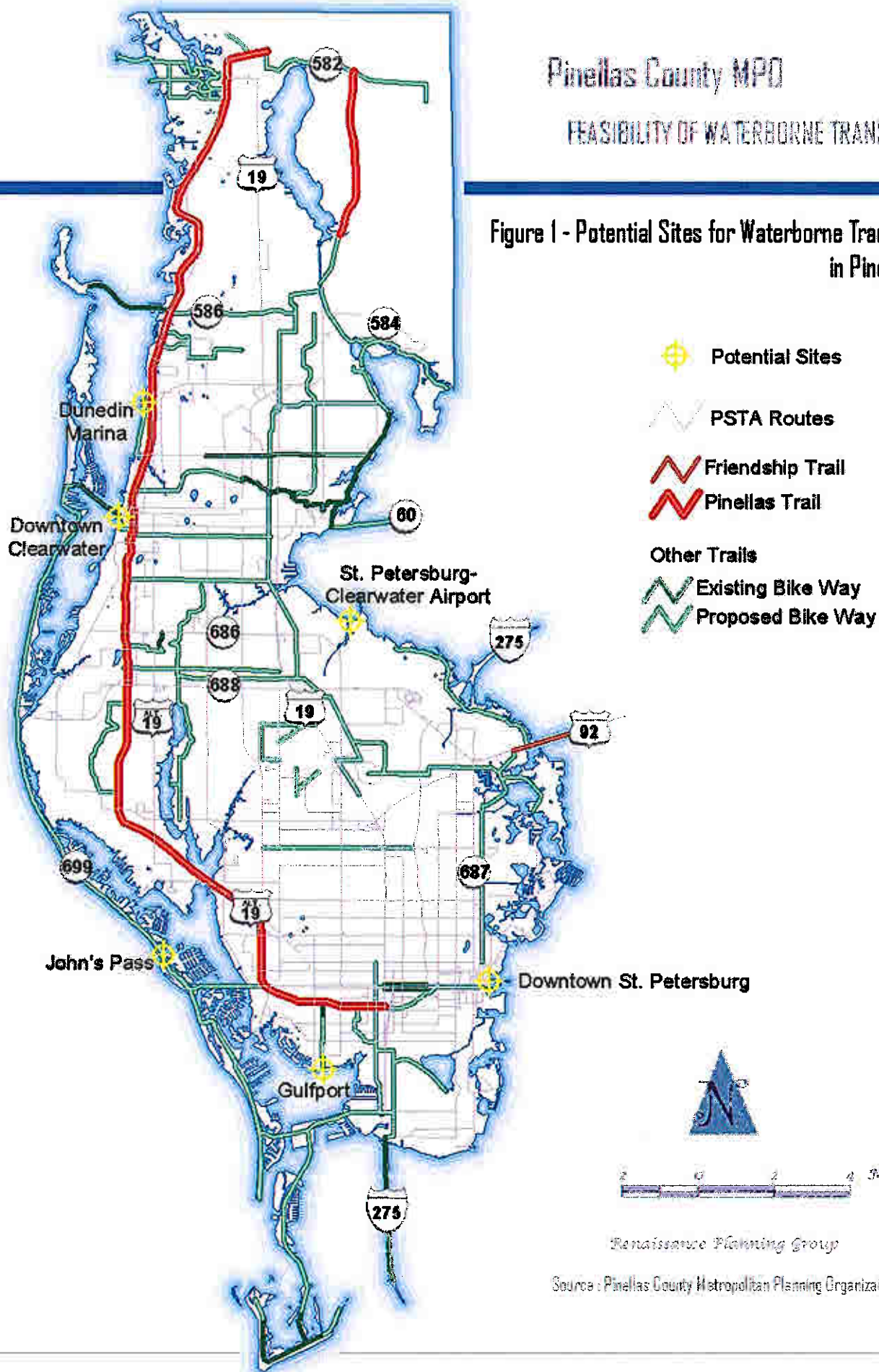
**Table 2: Comparison Matrix of Potential Sites for Waterborne Transportation**

Site	Redevelopment underway?	Close to employment & shopping?	Intermodal Connectivity
<b>Recommended Sites</b>			
John's Pass Park Street	Yes	Yes	Bus: Beach Trolley, connection to Route 75 Bike/Ped: South Beaches Trail (proposed) Marina: Yes
Downtown St. Petersburg Pier area Port area	Yes	Yes	Bus: Many routes, including PSTA hub, Suncoast Beach Trolley, and Looper Downtown Trolley Bike/Ped: Several trails proposed Marina: Yes
Clearwater Downtown/Coachman Park Palmetto Street Sunset Point Rd.	Yes	Yes	Bus: Many routes, including PSTA hub Bike/Ped: Pinellas Trail nearby, connecting trails proposed Marina: Yes (Palmetto Street)
St. Petersburg/Clearwater Airport Boatyard Village	No	Yes	Bus: Route 79; proposed extension of Route 11 Bike/Ped: None Marina: No
Dunedin Marina on Main Street Marina at 586	Yes	Yes	Bus: Route 66 Bike/Ped: Pinellas Trail nearby, connecting trails proposed Marina: Yes
Downtown Gulfport Gulfport Casino	Yes	Yes	Bus: Route 23 Bike/Ped: Gulfport Trail and 37 <sup>th</sup> Street Trail are nearby Marina: Yes
<b>Other Sites</b>			
St. Pete Beach Dolphin Village Shopping Center Corey Causeway	Yes	Yes	Bus: Beach Trolley, connection to Route 90 Bike/Ped: Gulf Beaches Bike Trail and South Beaches Trail (proposed) Marina: No
Downtown Safety Harbor	Yes	Yes	Bus: Route 82 Bike/Ped: Bayshore Trail Marina: Yes
Clearwater Beach	No	Yes	Bus: Route 80 Bike/Ped: Memorial Causeway Trail Marina: Yes
Honeymoon Island State Park	No	No	Bus: None Bike/Ped: Honeymoon Island Trail Marina: Ferry service to Caladesi Island
Tarpon Springs City Pier	Yes	Yes	Bus: None Bike/Ped: Whitcomb Trail (proposed) Marina: Yes
Tierra Verde (north end)	No	No	Bus: None Bike/Ped: Bayway Trail (proposed) Marina: Yes
Maximo Park	No	No	Bus: Route 11 is nearby Bike/Ped: Skyway Trail Marina: Yes
Indian Rocks Beach	No	Yes	Bus: Routes 66 and 71, plus Beach Trolley connection to Route 59 (Williams Park) Bike/Ped: Gulf Beaches Bike Path (proposed) Marina: Yes
Friendship Trail at Snug Harbor	No	No	Bus: None Bike/Ped: Friendship Trail Marina: No

# Pinellas County MPO

## FEASIBILITY OF WATERBORNE TRANSPORTATION

Figure 1 - Potential Sites for Waterborne Transportation in Pinellas County



Renaissance Planning Group

Source: Pinellas County Metropolitan Planning Organization



The following section presents a discussion of the six sites chosen for field inspection and more detailed evaluation. The discussion focuses on existing strengths and weaknesses of each site relative to waterborne transportation.

### **Site 1: Downtown St. Petersburg**

Downtown St. Petersburg has a wide variety of activities. Open 365 days a year, The Pier is

**Figure 2: St. Petersburg Pier and Municipal Marina**



a major destination, with shops, several restaurants, aquarium, museum, live music events, and community celebrations. Several public parks, Tropicana Field, the Bayfront Center, the Coliseum, and many other attractions are also located downtown. The waterfront also features a full service municipal marina with 610 slips and Port St. Petersburg, which provides docking for major cruise lines.

Accessibility to the waterfront for all modes of transportation is excellent. A trolley service assists visitors from the parking lots to the Pier, and the city operates a downtown “looper” trolley. The area is also served by the Pinellas Suncoast Transit Authority (PSTA), with several bus routes, a major transfer facility in the heart of downtown at Williams Park, and the Suncoast Beach Trolley which provides connectivity to the beaches. Due to the urban nature of downtown, there are no dedicated bicycle/pedestrian trails, but two have been proposed: the Rio Vista Trail and the St. Petersburg extension of the Pinellas Trail. Furthermore, the sidewalk coverage in downtown is extensive, creating a positive pedestrian atmosphere that extends to the end of the Pier. There is also a good current supply of parking.



A privately operated hovercraft service currently exists from the Pier in downtown St. Petersburg. The scheduled service runs five days a week, with four trips a day to the Holiday Inn Sunspree resort at Port Pinellas and Egmont Key, a state park south of Pinellas County. The hovercraft is also available for charter trips. The landing is easily accessible by trolley or from the parking areas; however, it is a long walk from the existing dock to the commercial area and attractions of downtown.

The advantage of downtown St. Petersburg as a site for waterborne transportation is the existing transportation infrastructure, which would minimize the investment required to provide ferry service. Downtown has excellent accessibility on foot and by car or bus, a marina, parking availability, and local attractions. Waterborne transportation could be used by local residents working or doing business downtown, as well as people visiting the Pier, attending arts events at the Coliseum and the Bayfront Center, watching baseball games at Tropicana Field, and using the Port and marina. The expansion of transportation options would be welcomed by the city, according to discussions with Dave Goodwin, Assistant Director of Development Services.

**Strengths:** Location is a center for employment, tourism and shopping; existing infrastructure

**Weaknesses:** Distance from hovercraft landing to attractions

### **Site 2: Downtown Gulfport**

The City of Gulfport has an attractive waterfront downtown featuring shops, galleries, restaurants, a community center, a new municipal dock with five slips, and a public beach. The primary waterfront attraction is the Gulfport Casino on Beach Boulevard, a popular and historic hall offering ballroom, country, and swing dancing and lessons five nights a week. The Casino (named for its function as a public hall, not gaming) is also frequently rented for private functions.

Two PSTA routes serve downtown Gulfport, and the streets are pedestrian-friendly. The Gulfport Trail has been proposed as an extension to the regional bicycle/pedestrian network into downtown. The fabric of downtown streets is more interconnected than in the town as a whole.

The city of Gulfport recently invested in a municipal dock with five boat slips. This limited space calls for care in the establishment of a waterborne transportation port, as the city has expressed concern about dedicating a slip to a private service.

As a site for waterborne transportation, Gulfport provides opportunities, but also constraints. Local development guidelines require new construction to be 12 feet above sea level, making

future construction in the downtown area problematic. However, incremental redevelopment is possible, and the existing attractions and facilities are sufficient to warrant a waterborne transportation port.

**Strengths:** Destination for tourists; active redevelopment plan

**Weaknesses:** Constraints to redevelopment; limited existing infrastructure; not a significant employment center

### **Site 3: John's Pass**

John's Pass, located between Madeira Beach and Treasure Island, has developed into one of the top tourist attractions in Pinellas County. The pass itself provides a sheltered area on the interior of the island for the John's Pass Fishing Village, a waterfront boardwalk with shops, restaurants, and a marina. The pass area also includes hotels, restaurants, marinas, cruises, and charter fishing companies. On the beach side, hotels and marinas line the beach facing the Gulf of Mexico.

The primary road serving John's Pass is Gulf Boulevard (State Road 699), a two-lane road that runs the length of the barrier islands. Several causeways to the north and south of John's Pass link Gulf Boulevard to the mainland. The area is served by PSTA route 71, by the PSTA Suncoast Beach Trolley, and by a local transit service on Treasure Island. The Gulf Beaches bike path has been proposed for this area. An expansion to the village itself has been proposed, with the inclusion of a parking structure. A privately operated hovercraft charter service operates from Hubbard's Marina at John's Pass, providing sightseeing and fishing trips.

**Strengths:** Major tourist destination, existing infrastructure

**Weaknesses:** Not a strong employment center; limited parking supply; limited pedestrian connectivity to surrounding land uses

**Figure 3: John's Pass Fishing Village**



#### **Site 4: Downtown Clearwater**

The waterfront across from Coachman Park in Downtown Clearwater features an existing public dock with three slips, including a ferry landing; downtown amenities, shopping and employment; and the park itself, which features an amphitheater and parking facilities. Furthermore, extensive redevelopment is planned for the Coachman Park area, intending to improve the waterfront.

**Figure 4: Downtown Clearwater**



Downtown Clearwater is easily accessible by several major roads, most notably SR 60, Alt U.S. 19, and the Memorial Causeway. Downtown is served by a number of PSTA routes, and the Park Street Terminal is only a few blocks from the waterfront. The Pinellas Trail is several blocks inland, and the Memorial Trail crosses the causeway nearby. A proposed trail to link these two existing trails would serve the park as well.

**Strengths:** Proximity to employment center; active redevelopment plan

**Weaknesses:** Waterfront has poor connectivity to downtown

### **Site 5: Dunedin**

Two potential sites were visited in Dunedin. One is a private marina on SR 586 just before it becomes Causeway Boulevard to Honeymoon Island. This area is isolated from downtown and has limited space for parking, and therefore is not as accessible or as desirable a location as the Dunedin Marina.

**Figure 5: Dunedin Marina**



The Dunedin Marina is a city-owned, 194-slip facility located at the terminus of Main Street. It is a five-minute walk from downtown, and adjacent to Edgewater Park. U.S. Highway Alt. 19 passes within a block of the marina, as does the Pinellas Trail and the north end of the proposed Edgewater Trail.

The marina runs without public subsidy, relying entirely on slip and ramp fees for its operation and maintenance. This location is enhanced by its proximity to downtown Dunedin, which has been redeveloped into a traditional Main Street with shops, restaurants, and special events. The local Community Redevelopment Agency has invested in pedestrian-friendly streetscaping, and a number of new businesses have opened in recent years, bringing jobs and attracting tourists.

**Strengths:** Near downtown redevelopment district, existing marina

**Weaknesses:** Not a major employment center; limited capacity on Alt. U.S. 19; landing may be too far of a walk to attract commuters



### **Site 6: St. Petersburg/Clearwater Airport**

The St. Petersburg/Clearwater Airport is located on the waterfront on Old Tampa Bay. At present the area immediately adjacent to the airport is relatively undeveloped, and the waterfront is inaccessible by car. The development that is occurring in this area is largely related to the U.S. Coast Guard Air Station located west of the airport.

Intermodal transportation options in the area of the airport are limited. The airport is convenient to several major roads, including 49<sup>th</sup> Street North (CR 611), the Bayside Bridge, Roosevelt Boulevard (SR 686), and Ulmerton Road (SR 688). One PSTA route currently serves the airport, and PSTA is considering extending Route 11 across the Bayside Bridge. The nearest bicycle path is the proposed Gateway Nature Trail, which is over two miles away.

In spite of its limited intermodal connectivity, the airport remains an important and viable option for a waterborne transportation port because of its importance as an employment center.

**Strengths:** Major employment center

**Weaknesses:** Lack of existing infrastructure

### **Summary of Sites**

The selected sites represent a range of waterfront scenarios, from small-town waterfronts to large, thriving downtowns with active marinas. All of these sites hold promise as potential ports for waterborne transportation.

The following tables provide a comparison of the population and employment densities and multimodal opportunities within a half-mile and two-mile radius of each of the sites, drawn from Traffic Analysis Zone (TAZ) data supplied by the MPO.



**Table 3: Site Analysis: Half-Mile Radius**

	Population	Employment	PSTA Transfer Stations	PSTA Routes	Existing Trails	Proposed Trails
<b>Downtown St. Petersburg</b>	2,983	8,106	1	20	0	1
<b>Downtown Gulfport</b>	2,305	251	0	2	0	1
<b>John's Pass</b>	1,588	1,122	0	1	0	2
<b>Downtown Clearwater</b>	2,028	8,237	1	11	2	1
<b>Clearwater Marina</b>	1,915	221	0	2	1	1
<b>Downtown Dunedin</b>	1,688	992	1	3	1	1
<b>St. Petersburg/ Clearwater Airport</b>	702	3,615 <sup>(1)</sup>	0	1	0	0

**(1) Approximate figure based on MPO ZDATA estimate plus information gathered from personal communication with Rich Lesniak, Airport Operations Manager.**

Among the selected sites, the highest concentration of employment is found within a half-mile radius of Downtown St. Petersburg and Clearwater. Downtown Gulfport and the Clearwater Marina have heavier concentrations of residents than jobs, indicating small commercial districts and a limited mix of uses. All the sites are served by at least one PSTA route, and in Downtown St. Petersburg, Clearwater, and Dunedin, a PSTA transfer station is located within a half-mile of the waterfront. With the exception of the Airport, all sites feature an existing or proposed trail within the half-mile buffer.



**Table 4: Site Analysis: Two-Mile Radius**

	<b>Population</b>	<b>Employment</b>	<b>PSTA Transfer Stations</b>	<b>PSTA Routes</b>	<b>Existing Trails</b>	<b>Proposed Trails</b>
<b>Downtown St. Petersburg</b>	38,431	35,231	1	21	1	3
<b>Downtown Gulfport</b>	30,431	8,228	0	7	2	6
<b>John's Pass</b>	11,982	7,291	0	3	0	3
<b>Downtown Clearwater</b>	30,662	30,367	1	13	2	5
<b>Clearwater Marina</b>	34,023	22,647	1	12	2	4
<b>Downtown Dunedin</b>	29,087	10,204	1	3	1	2
<b>St. Petersburg/ Clearwater Airport</b>	13,134	23,216	1	5	0	2

When the focus expands to a two-mile radius, the population and employment figures in Downtown St. Petersburg and Clearwater even out. Downtown Gulfport and Dunedin are still more heavily residential, while the Airport area remains a strong employment center. All of the sites have bus routes and trails within the two-mile buffer, an important consideration in providing accessibility for all modes of transportation. Note that the buffers for Downtown Clearwater, the Clearwater Marina, and Downtown Dunedin overlap one another, resulting in duplication across TAZs.

The map on the following page displays the distribution of population and employment by TAZ in the county as a whole. Half-mile and two-mile buffers around each potential site are indicated with circles.



# Pinellas County MPO

## FEASIBILITY OF WATERBORNE TRANSPORTATION

Figure 6 - Pinellas County Population and Employment Distribution



### Population by TAZ

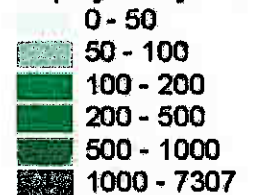


Renaissance Planning Group

Source: Pinellas County Metropolitan Planning Organization



### Employees by TAZ





## CONCLUSIONS

The evaluation process for determining appropriate sites for waterborne transportation is based on existing infrastructure and the investment needed to update it; accessibility to the waterfront by a variety of modes of transportation; and a site's status as a source and as a destination for workers and tourists.

From the initial evaluation of six sites, three are recommended as prototypes for further study: Downtown St. Petersburg, John's Pass, and Downtown Clearwater. The basis for these selections is the range of features and services they represent, as well as their geographic diversity. Other sites, such as Dunedin and Gulfport, are also viable and should be considered; however, the focus here is to identify prototypes that can provide guidance for assessing feasibility.

Downtown St. Petersburg has the potential for success as both an origin and a destination for waterborne transportation. The waterfront has extensive infrastructure already in place, including a municipal marina and hovercraft landing. Downtown provides tens of thousands of jobs, many sports and cultural attractions, and the St. Petersburg Pier with shopping, restaurants, an aquarium, and live entertainment. Downtown is easily accessible by car, bike, and transit, and the street grid features sidewalks to help pedestrians get around safely. Waterborne service could be integrated with existing transportation systems to enhance access to destinations and popular amenities.

As one of the most popular destinations in Pinellas County, John's Pass is a natural choice as a site for developing waterborne transportation. The service would build upon the existing services provided by private operators, and take advantage of the traffic generated by the John's Pass Fishing Village, restaurants, marinas, and hotels in the area. Existing infrastructure is already pedestrian- and boat- friendly, and plans are underway to expand the shopping area and increase parking capacity.

Downtown Clearwater was selected for its existing docking capacity, as well as its proximity to a large residential and commercial base. A waterborne transportation port in Clearwater could provide an excellent alternative form of access for business trips, commuters, and tourists. A waterborne transportation landing could be incorporated into redevelopment



plans for the Coachman Park area, enhancing the downtown's relationship to the waterfront and improving intermodal access.

## REFERENCES

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[http://www.ci.gulfport.fl.us/Community\\_Services/Casino/index.htm](http://www.ci.gulfport.fl.us/Community_Services/Casino/index.htm)

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<http://www.ci.madeira-beach.fl.us/madeira/tour/village.htm>

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### City of St. Petersburg

<http://www.stpete.org/marina.htm>

### Hover-USA

<http://www.hover-usa.com/home.htm>

### Hubbard's Marina

<http://www.hubbardsmarina.com/main.htm>

### St. Pete Pier

<http://www.stpete-pier.com/>

### St. Petersburg-Clearwater Airport

<http://www.fly2pie.com/about/>



## CHAPTER FOUR: SITE ANALYSIS

The following pages provide analysis of the characteristics of each of the prototypical sites selected in the previous chapter: Downtown St. Petersburg, John's Pass, and Downtown Clearwater. A more detailed understanding of the built environment, socioeconomic and transportation conditions, and surrounding land uses will help determine the feasibility of each as a location for waterborne transportation. Figure 1 displays the potential sites for waterborne transportation in Pinellas County.

# Pinellas County MPO

## FEASIBILITY OF WATERBORNE TRANSPORTATION

Figure 7 - Potential Sites for Waterborne Transportation

The green circles in this map represent three sites in Pinellas County chosen as excellent potential locations for waterborne transportation ports.

These sites were selected based on geographic diversity, multimodal accessibility, and proximity to population, employment, shopping, and recreation.

Downtown Clearwater

John's Pass

Downtown St. Petersburg



*Renaissance Planning Group*

Source: Pinellas County Metropolitan Planning Organization



## **DOWNTOWN ST. PETERSBURG**

### **Site Description**

Downtown St. Petersburg offers an enormous variety of attractions to residents and tourists alike. Open 365 days a year, the St. Pete Pier is a popular destination, with shopping, several restaurants, an aquarium, a museum, live music events, and community celebrations. Within a few blocks from the Pier are the municipal marina, government and office buildings, a public beach, several public parks, Tropicana Field, the Bayfront Center, the Coliseum, and much more.

One advantage of Downtown St. Petersburg as a site for waterborne transportation is the existing transportation infrastructure, which would minimize the investment required to provide ferry service. Downtown also has excellent accessibility on foot and by car or bus, a marina, parking availability, and local attractions. Waterborne transportation could be used by local residents working or doing business downtown, as well as people visiting the Pier, attending arts events at the Coliseum and the Bayfront Center, watching baseball games at Tropicana Field, and using the Port and marina. Figure 2 depicts details of the study area.

### **Land Uses and Socioeconomic Conditions**

Near the waterfront, Downtown St. Petersburg features primarily commercial and service land uses, with over 8,000 jobs located within a half-mile radius. In addition, nearly 3,000 people live within a half-mile radius, indicating a mix of land uses. There are also several parks along the waterfront, a baseball stadium, a small airport, and a number of museums and concert halls. Several blocks west of the bay is the center of downtown, which includes a courthouse, library, City Hall, and other municipal buildings. Table 5 lists population and employment within the area.

	<b>Half-mile radius</b>	<b>Two-mile Radius</b>
<b>Population</b>	2,983	38,431
<b>Employment</b>	8,106	35,231

# Pinellas County MPO Waterborne Transportation Feasibility Study

## Downtown St. Petersburg





### **Transportation Conditions**

Accessibility to the waterfront for all modes of transportation is very good. A trolley service assists visitors from the parking lots to the Pier, and the city operates a downtown “looper” trolley. The area is also served by the Pinellas Suncoast Transit Authority (PSTA), with several bus routes, a major transfer facility in the heart of downtown at Williams Park, and the Suncoast Beach Trolley, which provides connectivity to the beaches. Due to the urban nature of downtown, there are no dedicated bicycle/pedestrian trails, but two have been proposed: the Rio Vista Trail and the St. Petersburg extension of the Pinellas Trail. Furthermore, the sidewalk coverage in downtown is extensive, creating a positive pedestrian atmosphere that extends to the end of the Pier. There is also a good supply of parking.

The waterfront features a full service municipal marina with 610 slips and Port St. Petersburg, which provides docking for major cruise lines. A privately operated hovercraft service currently operates from the Pier. The scheduled service runs five days a week, with four trips each day to the Holiday Inn Sunspree resort at Port Pinellas and Egmont Key, a state park south of Pinellas County. The hovercraft is also available for charter trips. The landing is easily accessible by trolley or from the parking areas and a five-minute walk to the commercial area and attractions of downtown.





## **JOHN'S PASS**

### **Site Description**

John's Pass is located in southwest Pinellas County between Madeira Beach to the north and Treasure Island to the south. This area has a strong tourist element, with many hotels and restaurants along the beach. Within the pass itself, John's Pass Fishing Village is a popular tourist destination with stores and restaurants located along a boardwalk overlooking the pass. Over 100 merchants are found within the village, and most are open from 10 a.m. to 9 p.m. daily. Several privately owned marinas also provide sightseeing trips to nearby islands, deep sea fishing charters, and dolphin-watching nature cruises in Boca Ciega Bay. One of these, Hubbard Marina, is integrated with the Fishing Village. Figure 3 depicts details of the study area.

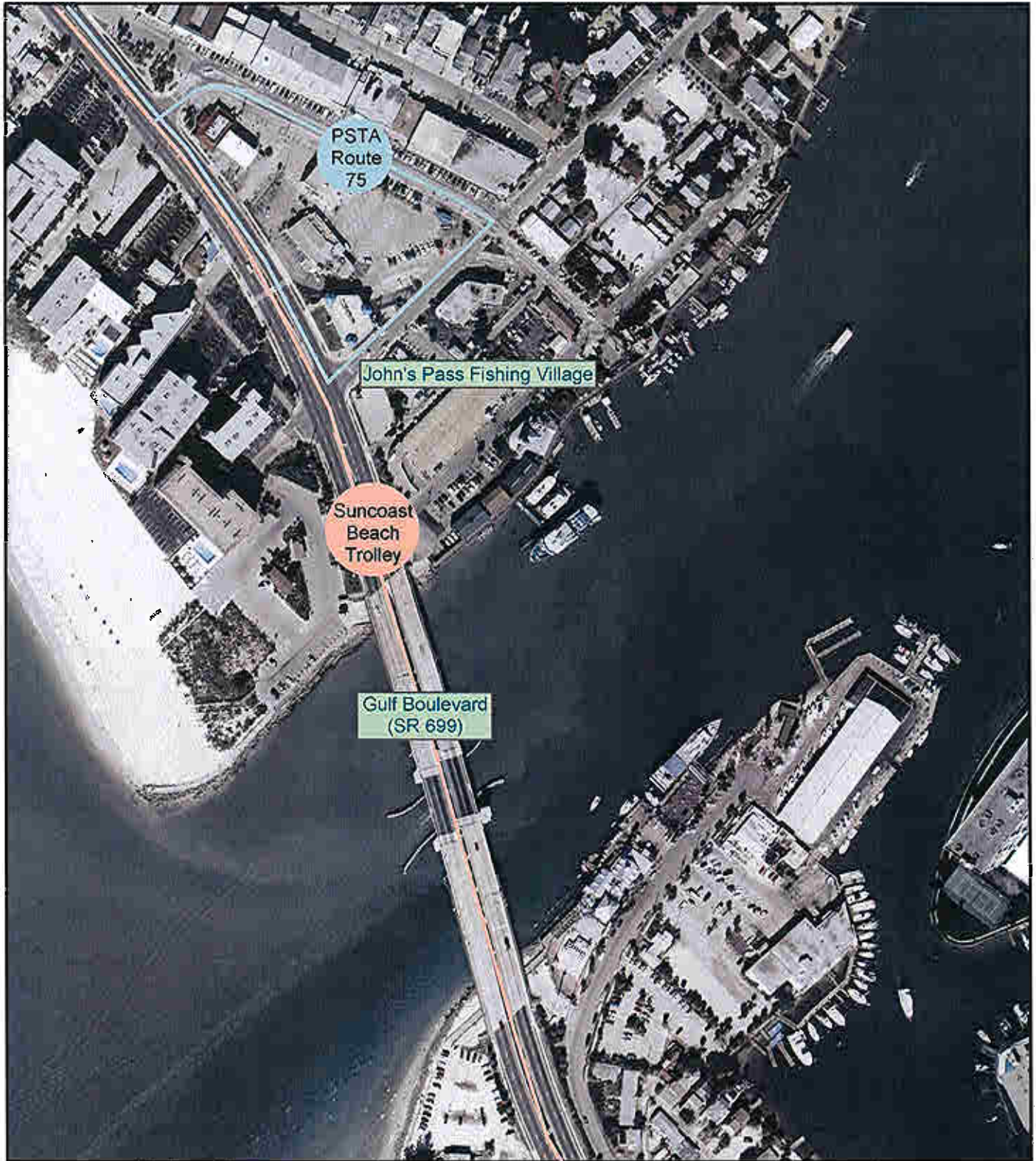
### **Land Uses and Socioeconomic Conditions**

Along the exterior edge of the barrier island, the primary land uses are hotels, restaurants, and shops. The area around John's Pass Fishing Village is mostly commercial and service establishments focused on tourists. East of the pass on the interior side, the dominant land use is residential where waterfront homes look out on Boca Ciega Bay. Table 6 shows the population and employment characteristics of the John's Pass area.

	<b>Half-mile radius</b>	<b>Two-mile Radius</b>
<b>Population</b>	1,588	11,982
<b>Employment</b>	1,122	7,291

### **Transportation Conditions**

Access to John's Pass is by S.R. 699, locally known as Gulf Boulevard. The Treasure Island Causeway (2 miles south) and Tom Stuart Welch Causeway (2.5 miles north) link the three-lane beach road to the mainland. Gulf Boulevard is frequently congested during peak times, as it is the only road that runs the length of the beaches, and all local roads stem from this main arterial.





John's Pass is served by PSTA route 75, which runs along Gulf Boulevard at 60-minute intervals with a stop located near the entrance to the Fishing Village. This route also serves the Madeira Beach Shopping Center, the Tyrone Square Mall, and the Parkside Mall. The PSTA Suncoast Trolley, which runs from Sand Key to Pass-a-Grille, also serves John's Pass at 20- to 30-minute intervals. Two trails are proposed to extend the regional bicycle-pedestrian network to the area. Pedestrian access within the Fishing Village is good, but there is limited connectivity between the shopping area and surrounding commercial and residential areas because the area street network is based on a single road as opposed to a grid.

For waterborne transportation to operate from John's Pass, one or more slips will need to be reserved at a local marina, or a new dedicated dock will need to be built. Passenger amenities are already established, as are intermodal connections.



## **DOWNTOWN CLEARWATER**

### **Site Description**

Downtown Clearwater is a large central commercial district located on Clearwater Harbor in northwest Pinellas County. Clearwater has a total population of 108,787, with nearly a third living within two miles of downtown. Figure 4 shows the details of the study area.

Coachman Park is located on the waterfront, bordered by Pierce Street, Osceola Avenue, and Drew Street. Clearwater's Chamber of Commerce, public library, City Hall, and other municipal buildings are located within several blocks of the park.

### **Land Uses and Socioeconomic Conditions**

The land uses near Coachman Park are primarily service, commercial, and municipal in nature, which is confirmed by the presence of more than 8,000 jobs within a half-mile. However, analysis of TAZ data also found more than 2,000 people living close to downtown, indicating a mix of residential development with commercial. Proposed redevelopment efforts are likely to increase those numbers. Table 7 depicts the population and employment within the area.

	<b>Half-mile radius</b>	<b>Two-mile Radius</b>
<b>Population</b>	2,028	30,662
<b>Employment</b>	8,237	30,367

### **Transportation Conditions**

A dock with a ferry landing stands in Clearwater Harbor off Coachman Park. While regular ferry service is not established here, the dock is occasionally used during special events. The Clearwater Marina is across the Harbor in Clearwater Beach, and another small marina and boat ramp are several blocks north of the park.

Several major highways pass through downtown Clearwater and near Coachman Park. Cleveland Street (S.R. 60) and Drew Street (S.R. 590) run parallel from east to west. S.R. 60



crosses the harbor as Memorial Causeway, linking the city of Clearwater to Clearwater Beach. Alt. U.S. 19 runs north-south, and passes one block east of Coachman Park.

Intermodal connections in Downtown Clearwater are very good. The Pinellas Trail passes four blocks east of the waterfront and the Memorial Causeway Trail crosses the harbor, providing bicycle and pedestrian access to downtown and the beaches. Currently, these two trails are linked by local streets, but the Pierce Loop/Clearwater Trail has been proposed to directly link the two together. This link will pass just a few blocks south of Coachman Park. A major PSTA transit hub, the Park Street Terminal, is also within blocks of the waterfront. The terminal is served by 13 routes.



**SUMMARY MATRIX**

**Table 8: Summary Matrix of Potential Sites**

	<b>St. Petersburg</b>	<b>John's Pass</b>	<b>Clearwater</b>
<b>Land uses</b>	Downtown commercial district, municipal buildings, museums, baseball stadium, St. Pete Pier, marina and port, public parks	Shops, restaurants, marinas, hotels, beach	Public park, downtown commercial district, municipal dock, government buildings
<b>Existing Infrastructure</b>	Extensive	Extensive	Moderate
<b>Intermodal connectivity</b>	Excellent	Fair	Good
<b>Population</b>			
0.5 mile radius	2,983	1,588	2,028
2 mile radius	38,431	11,982	30,662
<b>Employment</b>			
0.5 mile radius	8,106	1,122	8,237
2 mile radius	35,231	7,291	30,367
<b>Primary service usage</b>	Recreational/Commuter	Recreational	Commuter
Departures per day	12 or more	6 to 8	8 to 10
Service hours	7 a.m. - 2 a.m.	10 a.m. - 12 p.m.	7 a.m. - 12 p.m.

## CHAPTER FIVE: OPTIONS AND RECOMMENDATIONS

### FUNDING SCENARIOS

To have a successful waterborne transportation system, some level of investment is most likely necessary from the public sector. Without any public investment, the existing minimal water transportation service may or may not continue, and is unlikely to become a viable part of the county's multi-modal transportation system. The amount of public investment depends on the business arrangement between the owners and the operators of the service. There are three possible partnerships each having different levels of public investment. Privately owned and operated service requires the least investment from the public sector. Service that is wholly owned and operated by the public requires the most investment from the public sector. Finally, a public/private joint venture in which the service is privately owned and operated but in close partnership with local municipalities requires varied investment.

Providing service from point A to point B will require relatively less overall investment than providing a network of waterborne transportation that serves the county or region and is integrated with the entire land transportation system. For example, providing "water shuttle" service from downtown St. Petersburg to the St. Petersburg/Clearwater Airport will require less investment than providing broad service to multiple destinations around the county. It is envisioned that under any of the scenarios presented the vessels will carry only passengers, i.e. not vehicles, and fall within the small to medium size category. If the system grows into a regional or long distance service, larger sized and possibly vehicle carrying vessels would be required.

Under any of the three scenarios some public investment is needed to create a successful environment for service. At a minimum, this may include simply publicly supporting waterborne transportation services, authorizing ordinance changes, providing signage, granting special use permits, or creating occupational licensing for this type of service. For instance the City of Gulfport recently passed a resolution in support of waterborne transportation initiatives.





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### **Private Scenario**

Under the private owner and operator scenario, service would most likely be tourism- or recreation-based, although the potential exists for some type of business travel similar to the Airport Shuttle. This would lead to more point-to-point service rather than a network of service. It is probable that taxi-like, or on-demand, service would be most successful under this scenario. Public investment would be limited to providing exclusive use of public piers and slips, constructing infrastructure for passenger loading/unloading, supporting redevelopment efforts that encourage waterborne transportation, and perhaps offering start up grants to help fund capital or beginning operating costs that would offset initial ridership. These would provide the incentives for private operators to take the risks associated with developing new routes. Under this scenario, many providers could supply a variety of routes without any one provider bearing all the risk. All providers would have access to reserved slips or piers thereby providing ample opportunity but not restricting destinations. For example, one provider may choose a route between Gulfport and downtown Clearwater while another provider may choose a route between downtown Clearwater and Tarpon Springs. Each provider would have access to the reserved spaces in downtown Clearwater. Scheduling conflicts would be resolved as needed.

### **Public Scenario**

The publicly owned and operated scenario would be viewed as a public service offering alternative transportation choices to commuters and residents similar to the PSTA bus system. This scenario would require extensive public investment and likely ongoing support because typically passenger fares would be lower than true costs in order to promote ridership. Investment would be required to purchase vessels, pay operating and maintenance costs, and provide staff. For this type of system to be successful, there must be large community support. Furthermore, this scenario has the potential to provide the best service from the public's viewpoint because it would concentrate on commuter rather than tourist service. Also having only one provider would ease the coordination of schedules and destinations. One option is to contract the management operations to a private firm for a set price, similar to the St. John's River Ferry in Jacksonville. This has



been successful in other areas and relieves the local government of the day-to-day operations. In this case, the city of Jacksonville contributes \$400,000 each year to the service.

### **Public/Private Scenario**

The public/private joint venture spreads the costs and risks between both parties. In this case, a wide range of potential public investment would be required depending on the desired level of service. For example, a grant to cover the first three years of operating costs may provide the incentive to begin a route that serves downtown St. Petersburg to downtown Tampa or Ybor City. In this case, the operating grant acts as a fare subsidy to attract riders to this new service. The owner would provide the vessel and operate the service in the hope that over the period ridership will increase and he/she will ultimately profit from the service, and the service could evolve into an integral part of the region's transportation system. This could also be a one time capital grant to help a new provider with the many start up costs. In this way, more providers would be willing to operate different levels of service thereby providing a variety of service options. For example, one provider may serve only downtown St. Petersburg with Western Pinellas County. Another provider may be interested in serving as a link between Pinellas and Tampa. By providing individual grants more providers would be assured a chance to compete. This type of system can serve both commuters and recreational travelers.

Additionally, partnerships with other agencies would further the success of waterborne transportation. One example is a partnership with PSTA, whereby bus transfers are accepted on waterborne vessels and vessel tickets are accepted on buses, thus encouraging ridership on both modes.

An example of a public/private partnership currently in operation is in Ft. Lauderdale, Florida. The service began as a private venture by Water Taxi, Inc. to provide transportation along Ft. Lauderdale's waterways. In 2000, Broward County Transit (BCT) received a \$2.1 million grant from the TEA-21 Ferry Boat Discretionary Fund to establish a water bus service. Part of this money was used to buy eight hybrid ferry boats that operate on biodiesel and electric power. The boats are leased to Water Taxi, Inc., which provides daily service to 20 destinations along the Intracoastal



Waterway and the New River. Most of the water bus facilities are directly served by BCT, and monthly passes may be purchased that can be used on both the bus and the ferry. In addition, the service received a \$1.5 million CMAQ grant for operating costs, which allowed fares to be lowered from \$16 to \$5.

### **Funding Sources**

There are several funding sources that could be used to support waterborne transportation. Of course, local funds are the first to come to mind, but the assumption is that such funds are scarce, and would only be used to match state or federal funds.

The Federal Highway Administration (FHWA) provides funding for ferry boats and ferry terminal facilities through the Transportation Equity Act for the 21st Century (TEA21) Ferry Boat Discretionary (FBD) Program. The federal share provides 80 percent of the total project cost. The program is very competitive and legislators have the ability to earmark funds, bypassing the normal application review. Private operators may not apply directly for funding. Instead the application must be forwarded by a local government agency.

MPOs have a certain degree of flexibility in assigning Surface Transportation Program (STP) funds to different modes of transportation. These funds are typically used for road projects, but there is a provision that allows use of STP funds for public transportation projects. As with most state and federal funding, these funds require a local match.

State and federal public transportation funds can be used for waterborne transportation if publicly owned. Alaska uses all their federal public transportation funds for ferryboat operations. This type of funding would be typical if the public scenario were chosen.

The Congestion Mitigation and Air Quality Program funds (CMAQ) are provided to metropolitan areas that demonstrate reduced air quality. These funds are intended to reduce congestion and the overall use of vehicles thereby reducing harmful pollutants. Typically these funds are used to support alternatives to single occupant vehicles such as public transportation, carpooling, and vanpooling. CMAQ funds could be prioritized for waterborne transportation if it can be shown that waterborne service will reduce



congestion and/or increase air quality. CMAQ funds can be used for capital expenditures and/or the first three years of operating costs. These funds may be suitable for the grant assistance as stated in the private and the public/private scenarios.

A statewide intermodal fund program exists to provide funding to projects that are intermodal. These include intermodal and multi-modal transportation terminals, projects that facilitate the movement of people, and dedicated bus lanes. These funds are available for joint projects involving private facilities or operators that demonstrate a public benefit. These funds historically have been highly competitive.

An example of a public/private partnership currently in operation is in Ft. Lauderdale, Florida. The service began as a private venture by Water Taxi, Inc. to provide transportation along Ft. Lauderdale's waterways. In 2000, Broward County Transit (BCT) received a \$2.1 million grant from the TEA-21 Ferry Boat Discretionary Fund to establish a water bus service. Part of this money was used to buy eight hybrid ferry boats that operate on biodiesel and electric power. The boats are leased to Water Taxi, Inc., which provides daily service to 20 destinations along the Intracoastal Waterway and the New River. Most of the water bus facilities are directly served by BCT, and monthly passes may be purchased that can be used on both the bus and the ferry. In addition, the service received a \$1.5 million CMAQ grant for operating costs, which allowed fares to be lowered from \$16 to \$5.

### **INTERMODAL CONNECTIVITY**

By and large the sites discussed in this report have good connectivity between the waterfront and the existing transportation modes. However, several recommendations may be made to improve intermodal connectivity.

In all waterborne transportation facilities, the linkages from the landing to other modes should be clearly indicated using signage. Whenever possible modes should be integrated: for example, each waterborne facility should have sidewalk connections from the landing to the street and nearby attractions; bicycle racks and lockers; parking facilities; and transit stops located within a five minute walk. These design specifications



will help to encourage the use of alternative modes of transportation and will create a convenient facility for users.

One strategy that may be employed to provide access for drivers but still encourage use of transit, cycling, and walking is to move parking away from the immediate areas that separate the docks from the destinations at waterborne facilities. Bicycle and pedestrian connectivity along the waterfront will also be improved with the completion of the proposed extensions to the regional trails network. These trails should directly serve the St. Pete Pier and the waterborne transportation facility.

John's Pass has limited automotive accessibility due to its geographic location, making a waterborne transportation facility all the more attractive for this site. Recommended improvements include expanded transit service, to better connect the John's Pass area with the beaches to the north and south as well as to the county as a whole. In this area as in Downtown St. Petersburg, the trails proposed to pass nearby should be developed to serve John's Pass and create direct linkages for bicycles and pedestrians. Further bicycle- and pedestrian-oriented improvements could be implemented in the form of streetscape improvements to Gulf Boulevard, which is not particularly pedestrian friendly.

Downtown Clearwater is fortunate to have the Park Street Terminal nearby, which serves as a PSTA transfer site for 13 transit routes. However, none of these routes pass directly by Coachman Park. Recommended enhancements for transit connectivity include changing at least one PSTA route to directly serve Coachman Park. This area is also close to the Pinellas Trail, providing excellent connectivity for bicycles and pedestrians. The proposed connection from the Pinellas Trail to the Memorial Causeway Trail will create a needed link; sidewalks and off-street connections from the waterborne transportation facility to these trails will improve conditions for users.

## VESSELS

Because the waterborne transportation service in Pinellas County will not be taking the place of land transportation, but rather complementing it, vessels to carry cars will not be necessary.



Several options are available for passenger vessels. One option for Pinellas County is the hybrid gas-electric ferry boats being used in Ft. Lauderdale. These boats range from 33' to 42' in length and carry 49 to 72 passengers. They run on electric motors, and use batteries and a biodiesel-fueled generator for power. The boats are ADA accessible, and include two wheelchair lash-down stations. They also include an enclosed, air-conditioned passenger area. All motor areas are insulated to dampen noise, and the hulls are designed to create a low wake. Per U.S. Coast Guard certification standards, this boat is safe as a passenger vessel on inland waterways. The approximate cost of a hybrid ferry is \$250,000. In the case of the Ft. Lauderdale river ferry service, these costs were covered by a grant from the FHWA, and are owned by Broward County Transit but leased to the service operator, Water Taxis, Inc.

A second option is a hovercraft. Hovercrafts are preferable to traditional boats for a number of reasons. They operate on a cushion of air above the water, making them safer for manatees, seagrass beds, and shallow or choppy water. A hovercraft floats like a raft when docked, but can also pull up onto a beach, which affords them greater flexibility than standard boats. While hovercraft are louder than typical boat engines, disturbance to waterfront residential areas can be mitigated by operating within channels and away from shore except to dock. Hovercraft operate on biofuel, which is more environmentally beneficial than petroleum-based fuel. The private hovercraft ferry service currently operating in Tampa Bay can carry 12 people at a time, and is now operating after clearing regulatory hurdles.

A third option for Pinellas County is traditional small- to medium- sized passenger ferries. Many private operators currently offer charter service for recreational trips in the Pinellas County area, and provide a preliminary model for how an integrated countywide service could work. While these boats have the traditional problems of environmental impact and accessibility, they do not have some of the regulatory and financial constraints that the alternative vehicles have. Under a privately funded scenario, these vessels would be the best option for the service until it is well-established and new boats may be purchased. Table 9 compares costs for small, medium, and large ferry vessels.



<b>Size</b>	<b>Cost</b>	<b>Engine</b>	<b>Speed</b>	<b>Passengers</b>
<b>Small</b>	\$200,000 – \$400,000	Battery	Low	Up to 70
<b>Medium</b>	\$500,000 – \$1.8 million	Gas/Diesel	Medium	80-130
<b>Large</b>	\$2 - \$4 million	Diesel	High	50-150

**FARES**

Because the service will be used for a variety of purposes in Pinellas County, a range of fare options should be available. For example, users should be able to buy a single trip ticket; or choose from passes that offer travel for one day, a week, a month, or a year. This will serve the needs of a wide range of users: one-time users, tourists who are visiting for a week or more, and locals who use the service regularly. Offering discounts on multi-use passes will encourage and reward frequent users. A similar fare structure is used by the water taxi service in Ft. Lauderdale.

Another “perk” used in Ft. Lauderdale and other cities is monthly passes that may be used both on the regional transit system and on the water bus. Along with integrated bus/ferry facilities, this connectivity provides a strong incentive for intermodal travel.

Depending on vessel size, stowage may be available for bicycles, kayaks, and canoes. In this case, additional fares should be charged. Table 10 displays the fares in Seattle, Washington where ferry service is firmly established and widely used. Certain fares in the Seattle region are also graduated by peak (May to October) and non-peak (October to May) times.

<b>Regular Fare</b>	\$6.10
<b>Senior/Disabled Fare</b>	3.00
<b>Youth Fare</b>	4.60
<b>Frequent User Book</b>	38.25
<b>Monthly Pass</b>	94.20
<b>Bicycle Surcharge</b>	1.00



## **FACILITIES**

As mentioned earlier, one of the most important features of waterborne facilities is their seamless connectivity to other modes of transportation. In addition, facilities must feature comfortable areas for passengers to wait between departures. Amenities such as newsstands and coffee kiosks help make the wait more pleasant.

Under any of the funding scenarios capital will be needed for facilities. In some cases this will involve retrofitting existing slips with signage to distinguish them as part of the system, providing passenger waiting areas, and improving connectivity between the landing and the actual destination. At the other end of the spectrum, it is possible that entirely new facilities will need to be built for the service. During the initial establishment of the service, it is recommended that existing facilities be retrofitted, and new facilities be built once the service is established and profitable.



## CHAPTER NINE: IMPLEMENTATION

Based on the existing conditions in Pinellas County and the examples set by established waterborne transportation services, the following steps are recommended for implementation. The assumption is that the ideal service for Pinellas County is a privately owned and operated network with limited investment of public funds.

***Develop a network of interested private operators.*** A network of providers with geographic diversity will serve as the basis of the service. This will also help determine the size of the fleet and what needs to be invested for new vessels, if needed.

***Develop a marketing campaign.*** By getting the word out and gauging responses, a more accurate assessment can be made about demand for the service. Several municipalities and operators have already expressed interest in the service, so the next step would be marketing to potential users.

***Seek outside funding.*** Public sector investment can be minimized if federal and state-funding assistance is found to mitigate startup and operating costs.

***Develop design standards for facilities that encourage good urban form.*** Compact, pedestrian-friendly redevelopment at waterfront locations will make it easy to access destinations from the ferry.

***Reserve slips exclusively for the service.*** The service must have permanently designated slips at public or private marinas. Distinct signage and passenger amenities will help users identify and remember the service.

### **IMPLEMENTATION STEPS**

The necessary steps to implement any of these options are presented below.

1. Apply for and obtain grant funding.
2. Obtain support from local jurisdictions where service stops would be required.
3. Develop a Request for Proposal (RFP) to solicit responses from interested private providers. The RFP needs to contain criteria for selection that seeks to maximize the public benefit; however, the RFP should be flexible enough for respondents to

select the markets that would provide the most value. The RFP should define desired service levels and markets.

4. Enter into negotiations with top ranked respondent.
5. Develop standards and minimum passenger amenities for each “hub.”
6. Based on the selected proposal, provide supportive infrastructure. This would include docking facilities, passenger amenities, intermodal connections, and parking as necessary.
7. Develop consistent signage and marketing strategies.
8. Implement and monitor service under a three-year agreement.

The following pages provide a glimpse of what the area could like by depicting “before and after” photos and site plans for each of the three proposed locations: Downtown St. Petersburg, Downtown Clearwater, and John’s Pass.

**Downtown St. Petersburg**

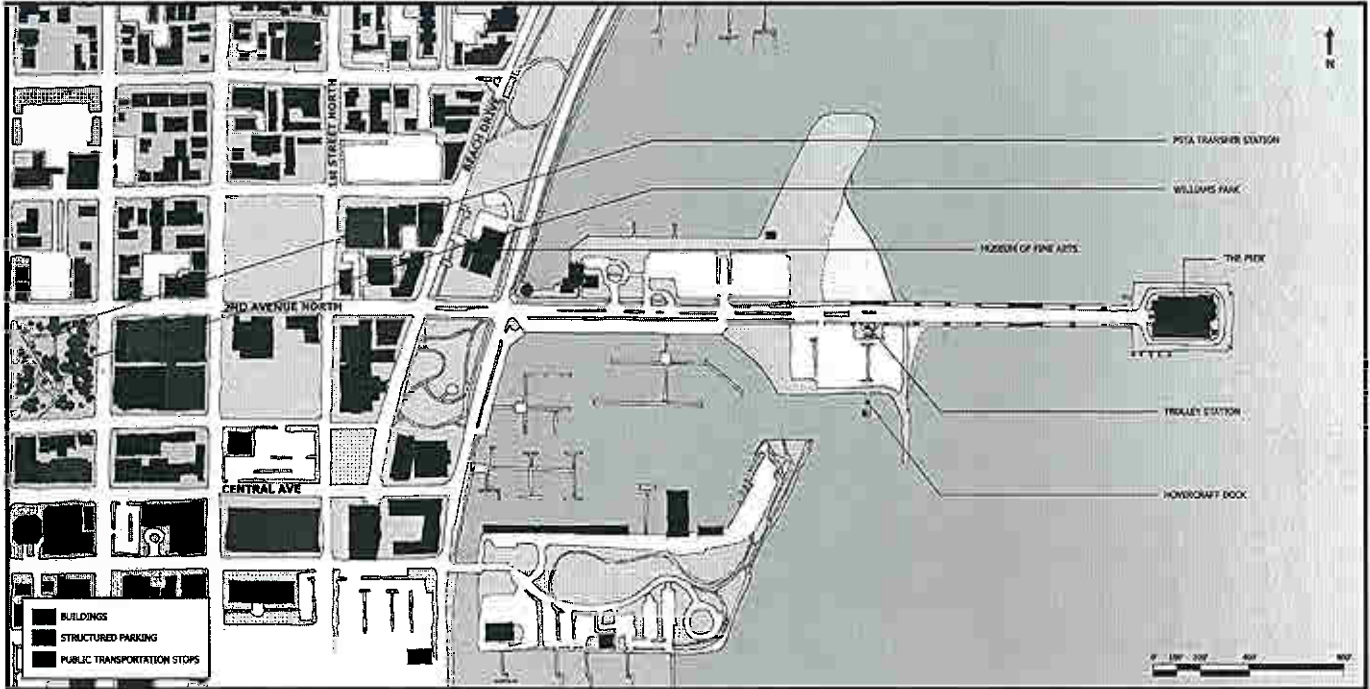


**Before**

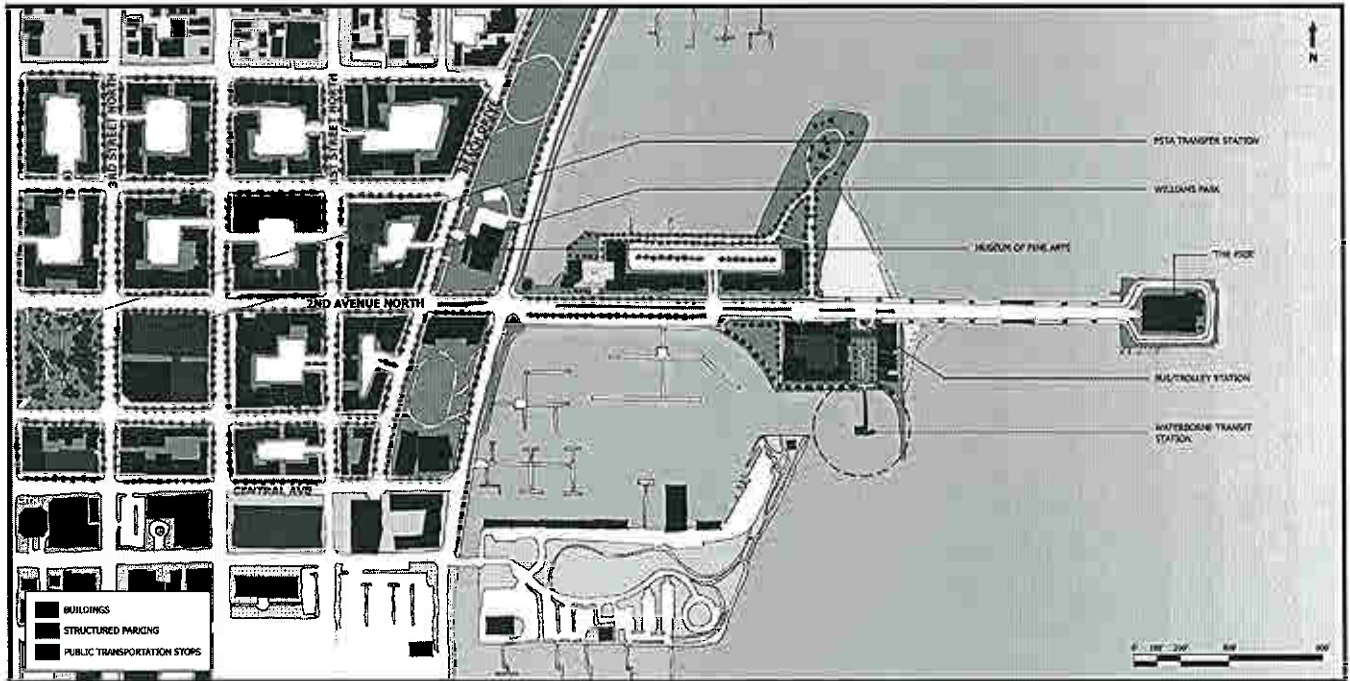


**After**

**ST. PETERSBURG: EXISTING**



**ST. PETERSBURG: PROPOSED**



## Downtown Clearwater

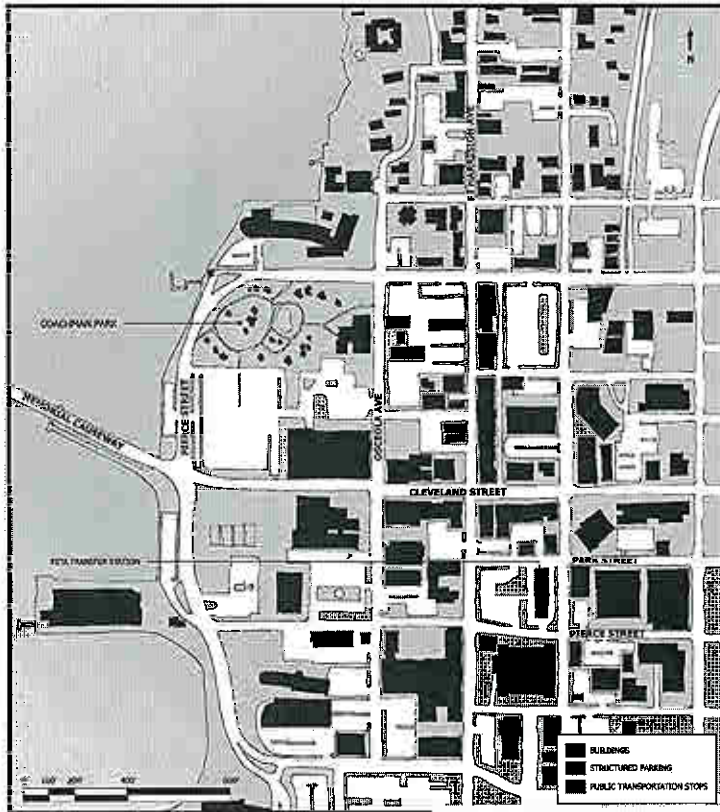


**Before**

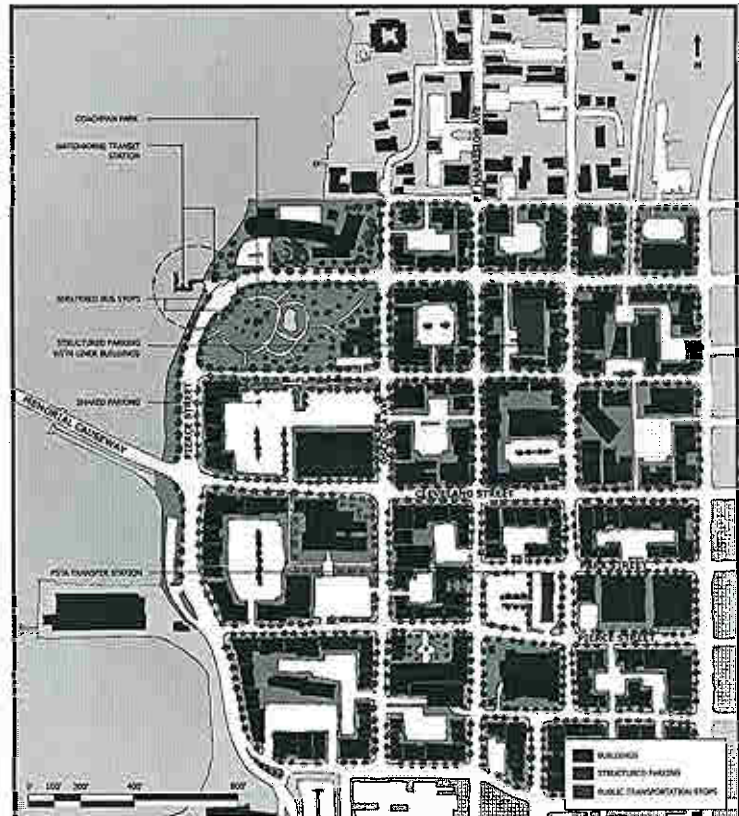


**After**

**DOWNTOWN CLEARWATER: EXISTING**



**DOWNTOWN CLEARWATER: PROPOSED**



## John's Pass



**Before**



**After**



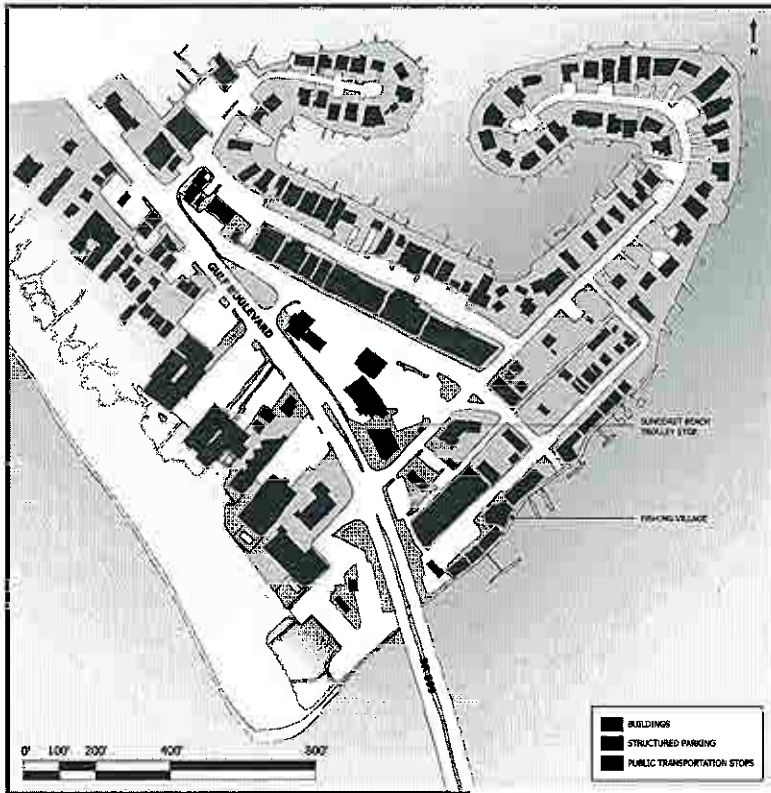
**Before**



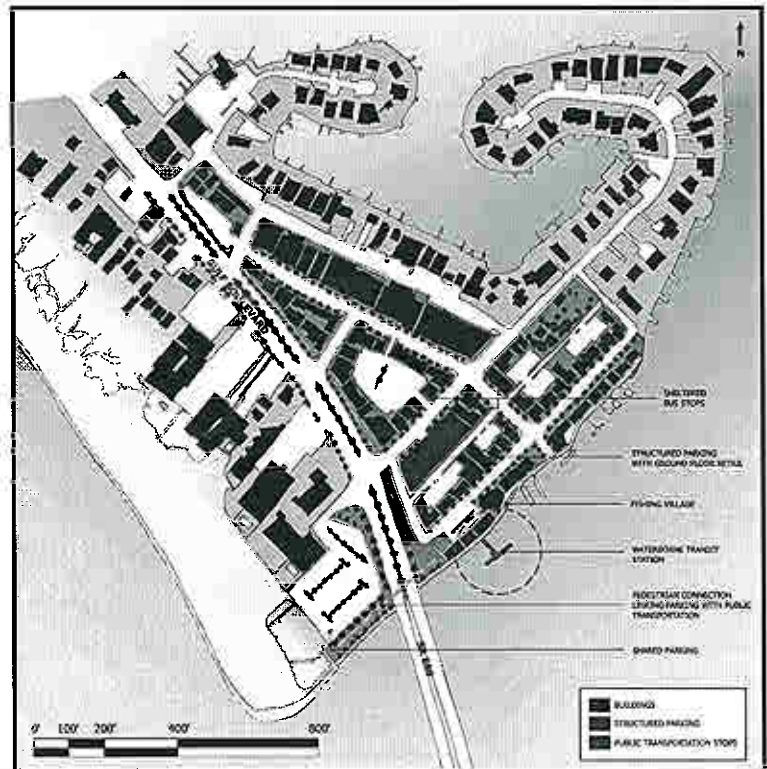
**After**



**JOHN'S PASS: EXISTING**



**JOHN'S PASS: PROPOSED**



## CHAPTER TEN: CONCLUSION

This report presented a culmination of several tasks that had been completed to assess the feasibility of waterborne transportation in Pinellas County. The findings and recommendations in this report reflect an evaluation of conditions in Pinellas County and the identification of areas that may lend themselves to a successful application of water-based transportation modes.

The premise of this feasibility assessment was to examine whether there should be public funding of water-based transportation modes, and if so, what conditions or scenarios need to be considered in making that determination.

Choosing to make an investment in water-based transportation is ultimately a policy decision based on the perceived public benefit such a service may provide. This document presented information about the conditions that tend to make waterborne transportation successful, and the differences in service and costs across a range of alternative scenarios.

This report provided a general assessment of the feasibility of public financial assistance in water-based transportation in Pinellas County given a conceptual plan for service. Additional analysis will need to be performed to fully understand the costs and implementation actions of a selected scenario.

Based on the literature review and discussions with operators, the most feasible approach for Pinellas County focuses on providing point-to-point, destination oriented service established through a competitive Request For Proposals (RFP) process guided by Pinellas County. This report identifies logical markets that would support waterborne transportation in Pinellas County, such as downtown Clearwater, downtown St. Petersburg, John's Pass and other smaller waterfront commercial destinations. In selecting a private provider, Pinellas County should ensure that these markets are served, and that connections can be made with other modes. The level of service, including service frequency, span of service, and cost of service should be subject to the competitive process by choosing the proposal response that offers the best fit of service.



This service would utilize a fleet of eight, small vessels carrying up to 70 passengers each. The vessels use environmentally friendly hybrid engines that don't pollute the water and operate at lower speeds, thereby negating the noise pollution often associated with faster speeds. Also, lower speeds are more conducive to the natural vegetation and aquatic life. By integrating the vessels into existing infrastructure and providing a connection to local bus service and commercial destinations, this service would have a positive community impact.

Using cost information from comparable types of service, the initial public investment would provide passenger amenities, dock facility enhancements, and marketing, at an estimated cost of \$375,000. Additionally, a subsidy of up to \$1,000,000 (one-half of the estimate) would contribute to the start-up capital costs, and up to another \$400,000 to offset operating costs for the period (one-third of the estimated three-year total). This would help to establish an affordable fare structure for the first three years of service, thus attracting potential users of the service. This amount – about \$1.8 million – could come from various sources at the state, county, local or federal level. The estimated private sector cost over the same period is estimated at \$2 million, although there would likely be additional private costs, such as insurance, that are not considered in this analysis. Public financial support should utilize federal grant funding to the fullest extent possible. The Ferry Boat Discretionary Program, as an example, has provided federal funding through the Transportation Equity Act for the 21<sup>st</sup> Century (TEA 21) for similar operations such as Fort Lauderdale's water taxi service.

This amount would ensure a minimum level of public investment to launch the service. It would also allow the private sector the flexibility needed to establish service characteristics necessary to meet market demand and profitability. With this level of investment, the public sector can define its expectations for service and select the most compatible private sector partner to meet those service objectives. Strategies to ensure long-term financial feasibility should be a condition of the competitive selection and evaluation process. Much like how new public transportation services are funded and evaluated, after three years, the service should be re-evaluated for feasibility based on usage, financial performance, and local community support.



	<b>Three-Year Total Estimated Costs</b>	<b>Public Share for Initial Three Years</b>
<b>Capital</b>	\$2,000,000 ( <i>8 vessels @ \$250,000 per vessel</i> )	\$1,000,000
<b>Operating/Maintenance</b>	\$400,000 <i>annually</i>	\$400,000
<b>Passenger Amenities</b>	\$75,000	\$75,000
<b>Dock Facility Enhancements</b>	\$200,000	\$200,000
<b>Marketing</b>	\$100,000 <i>annually</i>	\$150,000
<b>Total Costs</b>	\$3,775,000	\$1,825,000

Waterborne transportation is feasible for Pinellas County given a minimum level of public investment to initiate and support the service. It is expected that the initial investment level occur for a three-year period to evaluate the utility of the service, and that the private sector would assume a greater share of the costs after the initial investment is made.



## APPENDIX A: LITERATURE REVIEW

# PINELLAS COUNTY METROPOLITAN PLANNING ORGANIZATION



## FEASIBILITY OF WATERBORNE TRANSPORTATION

Literature Review

Technical Memorandum No. 1

*Prepared by:*



Renaissance  
Planning  
Group

December 2002

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## INTRODUCTION

This is the first technical memorandum for the Pinellas County Metropolitan Planning Organization (MPO) project to assess the feasibility of waterborne transportation. Water-based transportation is of interest in Pinellas County because of its abundant natural water resources and their proximity to local redevelopment initiatives and many of the county's congested urban areas. This feasibility study will focus on waterborne transportation for passenger travel in the county and how such travel can effectively enhance the county's multimodal transportation system and expand travel choices.

The first task is to conduct a literature review of existing passenger waterborne transportation facilities and services. This entails identifying water-based passenger transportation options, exploring data from water-based passenger facilities currently in operation, and presenting three case studies highlighting the experiences of other areas. An objective of this task is to develop meaningful evaluation measures that can be used in subsequent tasks to help determine the feasibility of waterborne transportation in Pinellas County.

Subsequently, Task 2 will evaluate the existing conditions available for passenger waterborne transportation in Pinellas County. Task 3 will analyze the feasibility of implementing passenger waterborne transportation facilities. Finally, Task 4 will develop recommendations for implementing passenger waterborne transportation in Pinellas County.

Task 1, the literature review, is presented in this technical memorandum. It begins with a general background of water transportation. Following are three "successful" water taxi services, two in Florida, and one in New York. Each case study presents a different perspective of what water transportation offers. The first case study in Jacksonville presents a ferry service that is heavily subsidized with public funds. It is considered a success because of the loyalty of its patrons who depend on it to commute to work. The second case study in Fort Lauderdale is a new, private, waterbus service that has relied on federal grants to get started. Finally the third case study in New York portrays a new water taxi service that is almost entirely privately funded.



## **BACKGROUND**

Passenger waterborne transportation facilities are commonly referred to as ferry boat services and ferry boat terminals. Ferry boats are often called water transit, water buses, or water taxis. In general, ferry boats are vessels that carry passengers and sometimes vehicles over water. Ferry boats are generally steam or diesel powered, but may also be high speed "fast ferries," hovercraft, or hydrofoil vessels. Ferry boats can range from small, lightweight battery operated vessels that carry up to 70 passengers to large electric or gas powered vessels that carry more than 100 passengers at higher speeds. Ferry boats typically operate on short run, frequent service between two points. Table 1 describes common vessels used for ferry service. They generally use the most direct water routes - intercoastal waterways rather than oceans. The service is usually offered as a public service, much like other forms of public transportation. According to the U.S. Department of Transportation National Ferry Database, in the year 2000, there were 19 ferry terminals, 11 routes, and 10 ferry operators in the State of Florida. Eight of the 11 routes provided passenger-only service. Table 2 lists the terminals, routes and operators in Florida.

**Table 1**  
**Common Ferry Vessel Characteristics**

<b>Size</b>	<b>Cost</b>	<b>Engine</b>	<b>Speed</b>	<b>Passengers</b>
Small	Low/Med	Battery	Low	Up to 70
Medium	Med/High	Gas/Diesel	Medium	80-130
Large	High	Diesel	High	50-150

**Table 2**

**Florida Ferry Terminals, Routes, and Operators as of December 2000**

<b>Ferry Terminals</b>	<b>Routes</b>
Bokeelia, Pine Island	Bokeelia, Pine Island to Cayo Costa Island State Park*
<b>Caladesi Island State Park</b>	
Carrabelle	Carrabelle to Dog Island*
Cayo Costa Island State Park	
Deland	Deland to Hontoon Island State Park*
Dog Island	
Drayton Island	
Dry Tortugas, Fort Jefferson	
<b>Dunedin</b>	Dunedin to Caladesi Island State Park*
Fort Gates, Salt Springs Road	
Fort George Island	
Georgetown	Georgetown to Drayton Island
Hontoon Island State Park	
Key West	Key West to Dry Tortugas, Fort Jefferson*
Mayport	Mayport to Fort George Island
Palm Beach, Port of Palm Beach	Palm Beach, Port of Palm Beach to Freeport, Grand Bahamas*
Port O'Call Marina, Naples	Port O'Call Marina, Naples to Key West*
Salty Sams Marina, Fort Myers Beach	Salty Sams Marina, Fort Myers Beach to Key West*
Welaka Landing, Fort Gates Ferry Road	Welaka Landing, Fort Gates Ferry Road to Fort Gates
<b>Operators</b>	
	* Passenger-only service
Caladesi Island Ferry Service	
Dog Island Ferry Service	
Hontoon Island State Park	
Hornblower Marine Services	
Jug Creek Cruise Boat	
Key West Shuttle	
Putnam County, Drayton Island Ferry	
Putnam County, Fort Gates Ferry	
SeaJets	
Yankee Fleet	

SOURCE: U.S. DOT NATIONAL FERRY DATABASE

## **Hovercraft**

Hovercrafts (a.k.a. Air Cushion Vehicles, ACV) and hydrofoils are other vessels used for water transit. The hovercraft is propelled by air propellers (“screws”) and is supported by a cushion of air. When “hovering” the craft is lifted above the surface of the water riding on air. High speeds typically of 80 miles per hour can be achieved over smooth water. In Ottawa, hovercraft commuter service is being proposed to relieve traffic congestion on bridges. A section of the Ottawa River has low water levels, which make it difficult for conventional ferry service. The proposal calls for one 76-passenger hovercraft to run every 20 minutes, year round. The service would be aimed primarily at commuters. The cost estimate to operate the hovercraft is \$1.6 million per year. Public subsidies are being requested until the service becomes established. The proposal is supported by Transport 2000 Canada, a public transit lobby group, which believes a location that complements existing mass transit will ensure success.

Mark Antos owner of the Fast Cats Ferry Service, located in Fort Myers, operates a 149-passenger boat called the “PurrSeaverance.” A \$4 million catamaran, which reaches speeds up to 40 knots, uses a patent-pending hovercraft-like propulsion system and is strengthened by Kevlar and carbon fiber. For \$69 patrons can travel one-way from Fort Myers to Key West in airline style seating. Drinks and food on this three-hour trip are extra and expected to be a profit center.

Hovercraft USA began operation of a hovercraft in September 2002 from The Pier in downtown St. Petersburg. From the “hoverport” up to 12 passengers can be transported to Egmont Key via a stop at the Holiday Inn SunSpree Resort. The “flight” takes one hour, traveling between 25 and 35 miles per hour. The hoverport has connections to downtown St Petersburg via the free Pier Trolley and the Gulf Beaches via the Beach Trolley. The flight costs \$25/\$35 round trip depending on the season. Hovercraft USA uses hovercrafts that are environmentally friendly. Biodiesel fuel contains no petroleum and is biodegradable and non-toxic.

**Funding**

Ferry service can be funded three ways: owned and operated by a government agency; owned by a government agency but operated by a private company; or privately owned and operated. Most ferry service is funded entirely or in part by state and local funds. Some private ferries exist, but they are rare. The Federal Highway Administration (FHWA) provides funding for ferry boats and ferry terminal facilities through the Transportation Equity Act for the 21<sup>st</sup> Century (TEA21) Ferry Boat Discretionary (FBD) Program. The federal share provides 80 percent of the project cost. The program is very competitive and legislators have the ability to earmark funds, bypassing the normal application review. Table 3 shows the funding allocated by year, including earmarked projects. By far most of the water taxi services in Florida were funded by local and state dollars, as well as significant private investments.

**Table 3**  
**FHWA Ferry Boat Discretionary Program Funding**

<b>Fiscal Year</b>	<b>Number of Applicants</b>	<b>Total Dollars Requested</b>	<b>Projects Funded</b>	<b>Total Dollars Allocated</b>	<b>Florida Projects</b>
2000	80	\$93.6M	18	\$11.4M	N/A
2001	64	\$83.3 M	14	\$7.9M	Broward Co. \$2M St. John's River Ferry \$439,000
2002	94	\$111.8M	17	\$28.4M	St John's River Ferry \$1M City of Palatka \$300,000

*Source: FHWA*

**Waterborne Transportation**

Water taxi, or waterborne transit service, can offer an alternative to traditional modes of transportation. In metropolitan areas with navigable waterways it is often possible to provide water transit to relieve congestion on major roadways. Providing the vessel(s) and amenities is far less costly than building or improving roads.

The Tampa Bay area is surrounded by navigable waterways, which may be a viable alternative to sitting in congested traffic. Major waterfronts are often excellent sites

where multimodal facilities can link to one another providing an efficient transportation system. With an emphasis on redevelopment rather than new construction, Pinellas County may be in a good position to encourage complementary land uses and facilities around such transportation facilities to maximize their utility in serving water-based or other travel options.

Accessibility and interconnectivity seem to be the keys to successful water transit. Parking areas located close to the terminals provide convenience for commuters. Transit oriented developments that provide connections to water transit and other modes of transportation, as well as retail services, are critical to encourage pedestrian activity and linkages with other modes.

For example, in Boston, the Logan Water Shuttle serves airport patrons and is linked directly to a bus route for final destinations within the city. The City Water Taxi also provides service between Logan Dock and major destinations in Boston Harbor. The Channel Cat Water Taxi, which serves the Mississippi River connecting Illinois and Iowa, is a continuous waterbus with service every 30 minutes. It connects to the Quad City riverfront bicycle trails, and bicycles are welcome on board. The Channel Cat also connects to the Channel Cat Circulator, a shuttle bus, which provides access to restaurants and shops.

There are current plans, by the City of Tampa and the Tampa Marriott Waterside Hotel, to create slips and piers for over 40 boats in downtown Tampa. The docks will be designed to link with the newly constructed Ybor Streetcar, offering a car-free ride into Ybor. Recently the City of Gulfport unanimously approved a resolution supporting a federal grant application from Tampa Bay Ferry. The grant is a public/private venture requesting federal discretionary funds for developing more ferry boat routes and purchasing more ferry boats in Pinellas County. The plan is to have a ferry boat on Boca Ciega Bay with a stop in Gulfport. From discussions with various communities and entrepreneurs, there appears to be substantial interest in water-based transportation in Pinellas County.

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The evaluation criteria that should be considered by Pinellas County to ensure a successful water transportation service are listed below:

- Accessibility to waterfronts by vessels and passengers;
- Connectivity and proximity to other forms of transportation;
- Adjacent land uses that are attractions/destinations and that can be served by water transportation;
- Presence of congested or constrained automobile transportation facilities (roads or structures) that follow potential water-based travel routes;
- Infrastructure for docking vessels and loading/unloading passengers, and
- Funding for capital and operations.

## CASE STUDY 1: JACKSONVILLE

St Johns River Ferry Service began in 1948. It connects Fort George and the town of Mayport. The ferry service is operated by Hornblower Marine Services but owned by the City of Jacksonville. There are currently two vessels transporting people and vehicles across the St. Johns River – the Jean Ribault and the Blackbeard. The Jean Ribault was built in 1996 for a cost of \$3.9 million. It uses two diesel engines and can reach a speed of 11 knots. This vessel can carry 206 passengers and 40 vehicles. The Blackbeard was built in 1956 and purchased in 1998 for \$84,000. It also has two diesel engines and can reach a speed of eight knots. The vessel can carry 207 passengers and 42 vehicles. The vessels are environmentally friendly. They are powered by diesel engines that pollute very little. There are no toilet facilities on board.



Photo Credit: www.stjohnsferry.com

The ferry operates 365 days per year. The hours of operation are 6am – 10pm. The entire trip takes less than 10 minutes. Fares range from \$0.50 for pedestrians to \$7.50 for buses. The ferry carries approximately 1,200 vehicles per day, primarily commuters.

The City of Jacksonville subsidizes the operating and capital costs through its annual budget process. Operating costs for the ferry service include employee salaries and



Photo Credit: www.stjohnsferry.com

benefits, fuel and maintenance costs. There are no docking fees. Maintenance costs average \$3,500 per month for each vessel. Vessels are required by the Coast Guard to be dry docked each year. The managing company receives a flat fee in addition to expenses. The City recently signed a five-year contract with the company.

The State of Florida originally owned the ferry service. In 1997 it made its intentions known to shut down the service, which sparked a grass roots movement. The Friends of the St. Johns River Ferry formed to keep the ferry service in operation. The group is mainly dedicated commuters from the north side of the river who rely on the

ferry service. The City of Jacksonville stepped in and agreed to take over the service. Since then, the City has managed to reduce operating costs and improve service.

Although there are no plans to expand the service, the “Friends” approached the City with an idea to apply for federal money to build amenities, including a visitor’s center, near the northern landing. The City was recently awarded two federal grants totaling almost \$1.5 million for terminal improvements and amenities on the north side of the river.

Although it likely will always be subsidized, the ferry service is seen as the “bridge” over the river. It was originally funded because it was much cheaper than building a bridge across the river.

With a loyal commuter base of more than 1,000 riders per day, the ferry service is considered a success by the City of Jacksonville. Often during peak hours there is a backup queue waiting to board. When that happens, the captain is supposed to immediately return to pick up more passengers, rather than “laying over” until the next scheduled run.



## **CASE STUDY 2: FORT LAUDERDALE**

Bob Bekoff, owner of Water Taxi, Inc., started a water taxi business in Fort Lauderdale in 1988. The Water Taxi runs from the center of Fort Lauderdale to the end



Photo Credit: Jon Bell, 2002 [jbelle@presby.edu](mailto:jbelle@presby.edu)

of the New River. It connects to Las Olas Boulevard, downtown, the Riverfront entertainment district, and hotels along the beach. The route from the beach to downtown takes 40 minutes to travel the five miles. Boats leave local restaurants like Shirrtail Charlie's every 30 minutes during the peak evening hours, 6pm-9pm.

The taxi also brings passengers to the Riverfront Mall and shopping center. For \$16 a day tourists wanting to see the area can travel the 168 miles of "wet streets."

In 2000, Bekoff started scheduled service rather than on-demand, typical taxi, service. He increased service 40 percent and decreased fares 70 percent to \$5 for a daily ticket. In 2001, Broward County Transit (BCT) began fixed route water bus service along the intracoastal waterway and the New River. BCT hired Water Taxi, Inc. to operate the service. Ridership increased 110 percent during 2002. Bekoff expects to increase ridership to one million passengers per year.

The goal of the service is to ease traffic congestion in the growing downtown and central beach areas and offer workers an affordable commute alternative. Fort Lauderdale is spread out and arranged in a grid format broken up by 300 miles of canals and rivers, making water transportation a viable option.

Water buses are coordinated to operate with Broward County transit buses. Weekly and monthly bus passes are valid on the water bus. Hours of operation are 6:30am – midnight with a frequency of 15 to 30 minutes, seven days a week.

Bekoff and Broward County were awarded federal grants totaling \$2.1 million to build eight 70-seat, air-conditioned, vegetable oil-diesel-electric water buses and several landings. Two million dollars came from the FHWA Ferry Boat Discretionary Program.

The other \$100,000 was funded through the Congestion Mitigation and Air Quality program. These funds are being used to subsidize operating costs for the first three years. Broward County owns buses but leases them to Bekoff. The hybrid engines operate under electric or diesel power. The fuel is an 80/20 mix of diesel and vegetable oil. The hybrid engines were not funded under the grant. They were paid for privately by Bekoff's company. Not only are they better for the environment, but also they may be eligible for alternative fuels funding.

Infrastructure costs are relatively low – no roads or rails to build. According to Bekoff, public support is a must, at least in the beginning. Capital costs include vessels, landings, and amenities, like parking. Bekoff plans to expand service to include a commuter shuttle service into downtown Fort Lauderdale when proposed condominium towers are developed, thus providing a link between water-based transportation and land use.

### **CASE STUDY 3: NEW YORK**

Waterborne transportation is not new to the New York area. In 2001 there were 13 private ferry routes and six operators. Since 9/11 ferry ridership has doubled, with 22 routes and more than 70,000 passengers per day. The majority of these ferries focus on New York/New Jersey commuters.

In September of 2002, the New York Water Taxi (NYWT) began service in the New York Harbor. It connects the West Side, Lower Manhattan, and Downtown Brooklyn waterfronts, which offer parks, cultural attractions and access to nearby neighborhoods. The Water Taxi is an alternative for people who “work and play” along the waterfront. NYWT hopes to use waterways as a viable alternative transportation mode.

NYWT currently has three vessels in operation: the Curt Berger, the Michael Mann, and the Mickey Murphy. Each vessel was named after New York City waterfront activities. Each vessel accommodates 75 passengers on two



Photo: nywatertaxi.com

decks and has room for bicycles and kayaks. Vessels cruise at 24 knots and come complete with a full-service café and bar. Each vessel is fully ADA compliant. Aisles and doorways were widened and a handicapped restroom is available.

The commuter route serves Fulton Ferry Landing (Downtown Brooklyn), Pier 11 (Wall Street), Battery Park, and North Cove. During the midday, service includes stops at the South Street Seaport, Chelsea Piers, and Circle Line/World Yachts at West 44<sup>th</sup> Street. NYWT is also available for charter service. The vessels are yellow catamarans with black and white checkerboards resembling street taxis. Three more boats are planned for next year when service is due to expand to more landings in early 2003.

The Water Taxi is considered the “green” alternative transportation. Tom Fox, President and CEO, was also president of an environmental consulting firm who advised on waterfront redevelopments. The vessels were designed with a low-wake hull and a low emission electronic diesel engine that meets 2005 pollution standards. It was important to the firm to create an environmentally friendly transportation source.

The Water Taxi increases public transportation options between Manhattan and Brooklyn and serves as a feeder for the Trans Hudson ferries. Hours of operation are 6:30am – 7:00pm Monday through Friday and 11:00am – 8:00pm on weekends. During “rush hour” boats run every 20 minutes and every 40 minutes off peak. During commuter hours 6:30am – 9:00am and 4:30pm – 6:00pm, fares are \$3.00. During off peak hours and weekends, fares are \$4.00 to \$8.00, depending on length of trip. All day passes and fun passes are available. Fun passes allow the water taxi patron to use New York’s Metropolitan Transportation Authority’s (MTA) bus and subways for free. The fun pass costs \$19.

According to a recent article in the San Francisco Bay Crossing, Douglas Durst, Chairman of New York Water Taxi, has reportedly committed an estimated \$7 million into the project to fund capital start up costs. The Water Taxi is privately funded except for \$1 million in public funds that were used to help build the ships. The New York Water Taxi operates on a small scale so it does not need parking facilities or ferry terminals. Patron amenities were added to the landings.

New York Waterway, the nation’s largest private ferry service, is currently the only competitor. It ferries 65,000 people per day mainly from New Jersey into the city, but at much higher fares. The two ferries are thought to complement one another rather than compete for the same patrons. In contrast, New York Waterway is subsidized about \$2.5 million per month.

The New York Harbor is the busiest ferry harbor in the U.S. The Metropolitan Water Alliance (MWA) believes ferry transportation is a viable alternative to congested roads in New York. The MWA is a grass roots network of individuals and organizations dedicated to protecting the harbors, rivers, and waterways of New York and New Jersey.

## **SUMMARY AND CONCLUSIONS**

This paper detailed different types of waterborne transportation and identified the requirements for a “successful” waterborne transportation system. Each case study highlighted three existing and unique ferry service operations.

From the information presented, it is apparent that some form of public support will likely be necessary. It may be in the form of capital and operating assistance to keep passenger fares at a reasonable level for transportation service (versus recreation), or it may be construction of the necessary infrastructure (i.e. docks, piers, parking). It could also be simply new local ordinances supporting this type of activity (e.g. reserving slips for water taxis only) and completing marina-based redevelopment projects. How much and how long public support would be required is impossible to predict at this point. That consideration will be addressed in subsequent tasks of this project.

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