

Memorandum



Date: March 20, 2018

To: Honorable Chairman Esteban L. Bovo, Jr.
and Members, Board of County Commissioners

Agenda Item No. 2(B)3
April 10, 2018

From: Carlos A. Gimenez
Mayor

A handwritten signature in blue ink, appearing to read "Carlos A. Gimenez", written over a light blue circular stamp or watermark.

Subject: Report on Waterborne Transportation – Directive No. 162103

The following report has been prepared in response to Resolution No. R-149-17, adopted on February 7, 2017 by the Board of County Commissioners (Board), which requested:

1. An update to a previous feasibility study on waterborne transportation solutions as part of a comprehensive transportation network through Miami-Dade County (County); and
2. Prepare an implementation plan for the creation of on-demand and fixed-route waterborne transportation.

BACKGROUND

In February 2003, the Miami-Dade Transportation Planning Organization (TPO), produced a comprehensive study titled "Feasibility of Utilizing Miami-Dade Waterways for Urban Commuter Travel." The study concluded that the use of the currently navigable waterways along Biscayne Bay and adjacent canals is feasible for commuter travel, although it recommended that further studies be conducted to evaluate restrictions and constraints associated with potential impacts to manatees' protection regulations, accessibility to land facilities, and American with Disabilities Act (ADA) requirements.

In December 2004, the TPO produced a follow-up report titled "Development of a Service Plan for Waterborne Transportation Service." This report included a general plan for implementing waterborne commuter transportation services, operational characteristics, an analysis of the potential ridership, and estimated costs for the recommended routes. Four routes were highlighted as feasible, all using Biscayne Bay. In addition, the report highlighted the importance of conducting a demonstration project, and partnering with a private transportation provider to operate said project.

In 2006, at the request of the TPO Governing Board, TPO staff initiated a process to evaluate the potential implementation of a waterborne transportation service within Biscayne Bay along two routes:

1. North Route from Aventura to Downtown Miami
2. South Route from Black Point Marina to Downtown Miami

In March 2006, a Request for Information (RFI) was issued by the TPO to identify potential partners interested in participating in the demonstration project, and three firms submitted documentation indicating their interest in participating in the project. A preliminary business plan was also requested and individual meetings were held with the potential participants. Two firms indicated their interest in the demonstration project as operators only, with the responsibility of funding and permitting remaining with the managing entity.

During the RFI process, the TPO met with potential operators to discuss routes, number of stops, headways, number of vessels, cruising speeds, schedules, and fares. The main concerns identified in the sessions were: regulations, bridges, number of stops, and impacts to environment. Each firm submitted proposals based on their review of the studies performed by the TPO, and existing market constraints at the time.

According to the TPO's Waterborne Transportation Services Report dated March 2007, the interested firms submitted the following pricing proposals:

Pricing Proposals Submitted to TPO as part of RFI		
Description	Interested Firms	
	Metro Aqua Cats, Inc. (in Millions)	Water Taxi, Inc. (in Millions)
Vessels	\$ 14.0	\$ 6.0
Land Facilities	\$ 12.5	\$ 1.0
Start-up Costs	\$ 2.1	N/A
Sub-total	\$ 28.6	\$ 7.0
Operating Costs (Base Year)	\$ 15.4	\$ 2.5 (a)
Total Capital & Operating Costs (Base Year)	\$ 44.0	\$ 9.5
<i>(a) Not including fuel expenses</i>		

The TPO concluded that the discrepancies in pricing, number of stops, and number of vessels indicated the need to narrow the scope of the demonstration project to get a more consistent response from the potential vendors.

Additionally, when the TPO approached the Florida Fish Wildlife Conservation Commission (FWC) for input, the FWC required unfeasible levels of supervision for the conditional approval of the waterborne operation, including 24/7 supervision of the canals to ensure the safety of the manatees. This led to the eventual termination of the RFI.

In early 2016, the Department of Transportation and Public Works (DTPW) commenced an analysis of waterborne transportation as a potential and convenient alternative for commuters along routes with prolonged travel times, or along congested corridors. DTPW started the evaluation by employing the TPO studies as a base of reference with the goals of decongesting corridors in proximity to the waterways, and focusing on areas that would increase ridership, reduce travel time, and reduce capital and operating costs. As part of the analysis, DTPW observed significant interest from municipalities in launching commuter and on-demand waterborne programs.

DTPW met with several agencies involved in the permitting and approval process, including the Miami-Dade Department of Regulatory Economic Resources Management (DERM), US Coast Guard, US Army Corps of Engineers, FWC, and the vast majority of municipal governments bordering Biscayne Bay.

Several components of waterborne transportation were analyzed including: Commuter service as an extension of the County's Metrorail, Metromover, and Metrobus services, on-demand service (such as water taxis and water Uber) and recreational uses. Based on this, DTPW focused on: commuter service and on-demand services.

Commuter Service

DTPW approached the analysis by focusing on issues highlighted by previous studies, the TPO's RFI, and coordination with regulatory agencies. In order to reduce capital and operating costs for a demonstration project, DTPW selected existing marine infrastructure in close proximity to multi-modal transportation options, evaluated accessibility to these infrastructures, and selected two express routes that would have the maximum impact on reduction of travel time and the potential for high ridership levels.

DTPW found that the most feasible route to test in terms of ridership, potential for decongestion as well as the ability to reduce travel times, cost, and convenience would be a route connecting Haulover Park with the OMNI Metromover Station (Sea Isle Marina). Details of the analysis can be found in the attached report (Exhibit A).

DTPW's initial evaluation included a second express route from Sea Isle Marina in downtown Miami, to Purdy dock in the City of Miami Beach (City); however, this route was not considered after feedback provided by City officials indicated the potential lack of ridership. Travel time data gathered during field reviews indicated that there would not be sufficient time savings to commuters compared to existing bus service (Miami-Dade Route A). Both the waterborne and the bus service yielded 10-15 minute travel time between time points. Additionally, the City recently completed a one-year pilot waterborne service along this route and concluded that there was little demand for the service. The City plans to finish construction of a new, dedicated dock at Purdy prior to potentially launching a second, subsidized pilot with lower fares.

On-Demand Service

During discussions between DTPW and FWC, they noted that the difficulties previously faced by the TPO were due to the unknown factors of the operation. FWC requested that the proposing agency clearly identify the size, number, route, and type of vessel, as well as the marine facilities to be used as stops, and at this point, FWC would be amenable to reviewing the proposed service.

DTPW met with 14 of those municipalities regarding potential waterborne service. During the meetings, DTPW explained the proposed plan for a demonstration project. The plan was well received by all the municipalities engaged, and several were interested in a future expansion of the demonstration project based on the performance of the initial phase. Discussions also took place regarding expansion of trolley services to the marine infrastructure. Details of these discussions can be found in the attached report (Exhibit B).

DTPW believes that in order to properly address needs noted by the municipalities, address the concerns expressed by FWC, and ensure the safe and efficient operation of a waterborne transit service, the on-demand waterborne component (water taxi) should be regulated by the County to: 1) ensure that consistent standards are met by any company operating in the County's waterways; 2) to properly coordinate with RER for the use and approval of the marine facilities to be used as passenger loading areas; and 3) be able to properly collect data for evaluation on the potential effect that the on-demand waterborne transportation may have on marine life and sea grass protection areas.

CONCLUSION

A consultant would need to be hired to provide a more detailed study of waterborne transportation within Miami-Dade County at an estimated cost of \$285,400, which DTPW does not currently have within its approved budget. Given that the Board's Directive seeks a comprehensive update to the previous study produced by the TPO, the TPO should be the lead agency and fund the updates to this study based on its role in the development of the County's comprehensive transportation vision.

In order to continue moving forward with the strategic deployment of waterborne transportation services, the following is recommended:

1. Update to the overall waterborne transportation plan for Miami-Dade County by the TPO, with focus on the Miami River and canals
2. Secure funding and issue an RFI for the implementation of a demonstration route from Haulover Marina to Sea Isle Marina (as identified in Exhibit A)
3. Enact legislation to regulate the on-demand component of waterborne transportation (water taxi) in the County

Pursuant to Ordinance No. 14-65, this memorandum will be placed on the next available Board meeting agenda.

If additional information is required, please contact Alice N. Bravo, P.E., Director, DTPW, at 786-469-5406.

Attachments

Exhibits:

- A. Waterborne Transportation Commuter Service DTPW – Report/Draft
- B. Waterborne Transportation On-Demand Service DTPW – Report/Draft

- c:
- Abigail Price-Williams, County Attorney
 - Geri Bonzon-Keenan, First Assistant County Attorney
 - Alina T. Hudak, Deputy Mayor, Office of the Mayor
 - Alice N. Bravo P.E., Director, Department of Transportation and Public Works
 - Cathy Jackson, Interim Commission Auditor
 - Christopher Agrippa, Clerk of the Board
 - Eugene Love, Agenda Coordinator

EXHIBIT A

Routes/studies/preliminary costs/DERM/potential grants

WATERBORNE TRANSPORTATION

MIAMI-DADE COUNTY



WATERBORNE TRANSPORTATION

Waterborne transportation has the potential for improving mobility, increasing accessibility and supporting development objectives. As part of a seamless transportation system, water-based modes can extend the coverage and enhance the viability of public transportation in congested and constrained corridors. Successful waterborne transportation fills a need when other transit modes are absent, congested or delayed because of traffic conditions. In this role, waterborne transportation act as an essential tool in unlocking the development potential of underutilized waterfront areas and diminishing congestion. Because waterborne transportation landings are relatively inexpensive to build and boats can be flexibly deployed, the services have been proven to be viable transportation solution in areas surrounded by population density. High population density and a strong network of established transit systems ensure that bus and rail continue to be the preferred means of transportation moving large volumes of people across the county. However, waterborne transportation can act as a cost-effective tool to fill transit gaps across the County's extensive shoreline and supplement such existing transit infrastructure.

Waterborne transportation provides both social and recreational trips and one that enables commuters to reach destinations along coastal waterways. Feasibility may be depended on our willingness to pursue private partners. Public funding will be required to invest in starting up the service and keeping fares to a reasonable level. Its long term operational success may be dependent on our ability to create a strong public-private partnership that ties marketing, promotion, destinations, facilities and equipment into a unified program.

Waterborne transportation has several intrinsic advantages over other modes of transportation. Visitors may be more willing to use the system and view it as an extension of the local tourist activities and initial routes can be implemented relatively quickly.

ADVANTAGES:

Transit Congestion relief: Ferries and water taxis enable load-shedding from highly congested lines that operate at or near capacity and face sometimes insurmountable challenges to increase capacity. When these highly congested lines span or border our waterways, ferries can provide a lower cost solution to help shoulder the load.

Service Route Flexibility: As our development pattern continue to evolve and new communities and job centers emerge, waterborne transportation provides a transit mode that can be implemented quickly, serving routes that are easily modified to meet demand in a constantly evolving county. In many respects, waterborne transportation can serve as development-oriented transit, rather than the more traditional (and significantly more expensive) transit-oriented development.

Quality of Life: Commuters and tourists value the relative serenity that this type of service offers, there is a benefit in enjoying a pleasant commute or a ferry trip to a waterfront event on the weekend. Like a room with a view, waterborne transportation offers more than just a ride often becoming as important to the rider as the destination itself.

PARAMETERS FOR SUCCESS:

Miami-Dade County Department of Transportation and Public Works is interested in deploying Water Transportation as a commuter service. This deployment must be smart and specific. It must allow the service to commence operation in a manner that is concise, flexible, and utilizes existing infrastructure. These elements allow us to evaluate the performance of the routes, services and provides us with the opportunity for modification and, if successful, expansion of the routes with a minimum infrastructure investment. These parameters are not different than those for transitional transportation safety, frequency of service and appropriate hours of operation. Factors for success important to the growth of the service include:

- **Right Routes:** Creating the right routes that attract the greatest number of potential riders at the lowest cost is critical for the waterborne transportation success. Balance of service with the right locations attract riders while avoiding becoming so expensive that travel times become too long.
- **Service Frequency:** Service frequency is critical in order to attract enough ridership to sustain the service. At the same time, the design of the route is equally important as we must connect the points where riders want to go and easily get on other forms of transportation.
- **Connectivity:** Connecting points must be close together as servicing more distance locations increases operating costs because of greater fuel usage and the need to deploy more vessels to maintain service frequency. Allowing the connection to other modes of transportation for transfer purposes is essential.
- **Seasonality:** responding to market needs that vary based on weather and special events is another major consideration when defining routes. While commuters require year-round service regardless of weather and operating conditions, seasonal service and operating frequency can be varied to reduce costs. For example, we need to maintain peak commuting service patterns year round, but

reduce frequency of service on weekends to reduce costs when demand is lower. We can also expand the routes to serve special events. These consideration require a balance approach among providing a reasonable service frequency, minimizing operating costs and maximizing ridership revenue to offset costs.

- **Time Savings:** Travel times is appealing to riders, particularly commuters.

OPERATING CONSTRAINS:

In Miami-Dade County, there are several critical components of waterborne transportation that affect deployment of services, routes, feasibility and adaptability. These are:

- Water depth – The Biscayne Bay is one of the shallowest basins in the county – generally in the range of 1'-10'
- Speed Zones
- Vertical clearance – bascule bridges
- Control structure locations
- Manatee and sea grass protected zones
- Existing dock locations
- Fuel costs
- ADA accessibility

Managing Fuel Costs: Diesel fuel costs comprise over half of the operating expenses associated with Waterborne commuter service operations. To address this challenge, fuel costs can be minimized in several ways:

- Operating boats appropriately sized to meet rider demand
- Operating vessels at fuel-efficient speeds
- Maximizing the number of riders served per operating mile
- Using fuel efficient engines
- Supporting and monitoring ongoing research to alternate fuels (compressed natural gas, liquefied natural gas)

TO CONSIDER:

There are many considerations that must take place when deploying a Waterborne Service. Some may be applicable to our conditions and circumstances and others may not; however, it is important to recognize and learn from other municipalities and their problem solving approach.

Phased Growth: Phased growth is recommended in order to maintain sustainable waterborne transportation services. Planning exercises such as County Wide waterborne transportation study enable informed decision-making on the growth of the system as the city's population and travel patterns change.

Waterfront Development: This is a significant justification for the provision of the service, but it also provides opportunity for resources to support waterborne transportation, as one often complements the other. The timing of such developments is important to consider when determining the initiation of a new or expanded service. An opportunity exists within the City of Miami. The city of Miami is one of the most densely populated municipalities (after Sunny Isles Beach) occupying a great deal of the waterfront and servicing as the principal employment generator in South Florida.

Vessel Ownership: A potential strain on piloting a route relies on private operators being able to finance the purchase of the required vessels without long-term contracts.

Vessel Design: The MPO study suggests that the best vessel for this service is a catamaran – monohaul with a maximum vertical height of 12 to 14' the opening of bascule bridges. The vessels need to have a low wake and have efficient engines.

Vessel Landings: A new landing facility costs between \$2 and \$7 million, depending on factors such as water depth, soil and shoreline conditions, and access to utility infrastructure such as power. Passengers must have access to the shoreline through the use of catwalks (hinged gangway that allows for vertical movement with the tides). Other consideration when constructing landings include supporting amenities such as passenger shelters and ticketing infrastructure. NYC's landing sites are publicly owned, managed and operated allowing the City to deploy landings in response to changes in travel patterns and demand. They also allow for multiple operators to use a single landing site. There are times where private ownership of landing sites is necessary. ADA accessibility must be considered and the proper equipment provided.

Private Sponsorship: Private sector participation provides an opportunity for expansion of services through assistance with landing and upland amenities, particularly from waterfront developers seeking to increase property values and accessibility for residents and employees.

Amenities: Amenities are a major factor in attracting ridership. To keep commuters using the system throughout the year, passenger shelters for protection against the elements need to be provided at all landings. These shelters must also provide a view to identify approaching vessels. Upland areas must allow space for queuing without preventing access to the waterfront or adjacent pathways. Proximity to parks and other nearby upland destinations, clear way finding signage, adequate lighting, convenient ticketing solutions, vending, kiosks and Wi-Fi to name a few provide additional conveniences for riders.

Flexibility: It is recommended that landings accommodate for front-and-side loading vessels, and that they also accommodate the vessels for emergency use.

OPERATIONS

Management: design and operation of these services benefit from the expertise of a transportation agency that oversees its operations; however, transportation agencies are not structured to allow for the proven and growing model of private funding contributions toward the services. The transportation agency is unable to accept funds in escrow form a private developer who might want to contribute towards operating or capital costs associated with providing the waterborne transportation service.

Regulations: The environmental approvals and permitting processes associated with the construction of waterborne transportation landings may take a long time and may weaken competitive applications for grant funding. However, a solution to these regulatory challenges would be for the County to apply for a U.S. Army Corps of Engineers nationwide permit to allow for standard ferry landings. The general permit would

last for 10 years, and any specific conditions of proposed new landing could be addressed by supplemental reviews, saving significant time and money. The use of existing marinas and piers is the most effective approach.

COSTS AND RECOVERY

Fares: Setting the fare level for any transit mode is a balancing act between attracting enough riders and earning enough revenue to sustain service. Pricing can have a significant impact on ridership and needs to be carefully designed to provide the greatest value to the largest possible number of potential riders while still optimizing financial viability. Waterborne transportation, like most other transit modes, often require financial support to reduce fares to a level that is attractive to riders.

WHAT HAS BEEN DONE?

Several studies were been performed. The latest study, conducted by Kimley-Horn and Associates, Inc. and prepared for the MPO identified several elements:

- In response to our generally shallow waterways, with environmental sensitive areas where sea grass and manatee protected zones take place, a *low wake was vessel is most appropriate.*
- *The maximum air draft clearance of the vessel should be 12 feet* in order to travel under the Venetian causeway and avoid opening the draw bridges.
- 4 routes were developed – these routes are complimented with circulators and are in close proximity to public transportation.
- *The proposed headway was 20 minutes* during peak times and 30 to 60 minutes during non-peak portions of the day.
- Capital costs were identified and included the cost of vessels, terminal costs and land/right-of-way costs.
- The demonstration project suggested:
 - From Miami Beach Marina in South Beach to Chopin Plaza dock
 - At Chopin Plaza, two to 4 weather shelters
 - Assure that public transportation connects to these points and/or trolleys
 - An additional leg was added connecting Chopin Plaza to Dinner Key marina

Funding sources were identified:

- The Ferry Boat Discretionary Program (FBDP)
- Congestion Mitigation and Air Quality (CMAQ) improvement program funds
- Bus and Bus related capital investments grants available from the federal government with a 20% local match for 3 years
- Urbanized area formula grants are available to urbanized areas for transit-related projects including planning, engineering design, and capital investments
- Job Access and reverse Commute grants are intended to encourage transit service to assist welfare recipients and other low-income individuals with access to jobs, training, and other social services.

- The Clean Fuels Formula Grant Program is design to ac celebrate the deployment of advanced bus technologies and incorporate low emission vehicles into the nation's transit fleets
- Federal grant programs supporting capital projects include Transportation Investment Generating Economic Recovery (TIGER); Federal Transit Administration (FTA 5307); and Moving Ahead for Progress in the 21st century (MAP-21).

MIAMI-DADE COUNTY DEPLOYMENT OF WATERBORNE TRANSPORTATION-COMMUTER SERVICE TEST OF POTENTIAL SERVICE ROUTES

Background:

Miami-Dade County Department of Transportation and Public Works has focused on the development of a Demonstration Project for two express routes. These routes meet the requirements for a successful deployment (list below) and if successful, the service can then be expanded to other locations with high density and congestion problems. The selection of these routes was based on parameters for ultimate success and considered the following elements:

- Points of high ridership adjacent to the water that have the potential for attracting the greatest number of potential riders.
- Location of existing dock infrastructure with convenient and easy access. It is important to note that not all access to the water have adequate parking or adequate accessibility.
- Speed zones through the bay are intended to protect marine life and sea grasses. A study of the existing protected environmental zones and regulated speeds took place. The selected routes were carefully evaluated to provide the least disruption to the environmental zones, provide the shortest time travel from point A to point B and maintain a comfortable speed within the regulated speed zones to reduce travel time.
- Distance to be travelled and its impact on fuel consumption and potential disruption to waterfront property.
- Height and width of bridges. Every effort was made to avoid traversing a route that requires the opening of a bascule bridge.

The evaluation of the routes took into consideration the information provided in the Miami-Dade County Boating Safety and Manatee Protection Zones, Miami Dade County Manatee Protection Areas issued on January 2015 and experience/knowledge of the City of Miami Marine Patrol.

Update: In discussions with the city officials from Miami Beach, it has been determined that the East-West route, as a demonstration project, may not be the most feasible route because of the potential lack of ridership that far south into Miami Beach. Other potential options where discussed but the lack of existing infrastructure makes the demonstration project unfeasible at this time.

These are the 3 routes that were tested:



Test Run No. 1:

Date: April 27, 2016

Time: 10:00 AM to 1:00 PM

Weather Conditions: Clear, Sunny and 80 degrees Fahrenheit

Water: Optional – Clear

Route: Express route - no stops – extension of bus service

Intercostal Waterway Channel

The test run measured headways for one of the two potential North-South pilot routes to be implemented. The route provides connection between the Sea Isle Marina (near Omni Transit Station) and Haulover Marina in the Bal Harbor Area.

Length: 9.1 miles

Characteristics: This is the shortest North-South route. 9.1 miles in one direction

Speeds: Speeds vary based on the time of the year. The Miami-Dade County Manatee Protection Areas document outlines the various channels and required boating speeds:

➤ Slow Speed: Nov. 15 – April 30

➤ Higher speed: 30 mph May 1 – Nov. 14

This route was tested at low speed of 4 mph (3.47 knots). It is important to note that Low Speed varies on the type of Vessel. Low speed is measured by the ability of the vessel's bow (most forward point of the vessel) to stay level with the water surface. Heavier vessels can travel at slightly higher speed without lifting the bow from the water surface.

Time Travelled: Worst case scenario: This run achieved a headway of 50 minutes at 4 mph (3.47 knots) between May 1 and Nov. 14.

Normal Headway: 35 minutes at an average speed of 24 mph (20.85 knots) between Nov. 15 and Apr. 30.



Test Run No. 2:

Date: April 27, 2016
Time: 10:00 AM to 1:00 PM
Weather Conditions: Clear, Sunny and 80 degrees Fahrenheit
Water: Optional – Clear
Route: Express route - no stops – extension of bus service
 Intercostal Waterway Channel

The test run measured headways for one of the two potential North-South pilot routes to be implemented. The route provides connection between the Sea Isle Marina (near Omni Transit Station) and Haulover Marina in the Bal Harbor Area. This routes differs from the previous one in that it can be travelled at a higher speed for most of the route.

Characteristics: This is the longest North-South route. 11 miles in one direction

Speeds: The Miami-Dade County Manatee Protection Areas document outlines the various channels and required boating speeds:

- Meloy Channel (North-South channel) allows for 30 to 35 mph for most of the length of the channel.
- Speed is reduced before sunset harbor to low speed year round before the Venetian Causeway
- Speed is increased (East-West) north of the Venetian Causeway.

This route was tested at an average speed of 24 mph (20.85 knots). It is important to note that Low Speed varies on the type of Vessel. Low speed is measured by the ability of the vessel bow (most forward point of the vessel) to stay level with the water surface. Heavier vessels can travel at slightly higher speed without lifting the bow from the water surface.

Time Travelled: This run achieved a headway of 43 minutes.



Test Run No. 3:

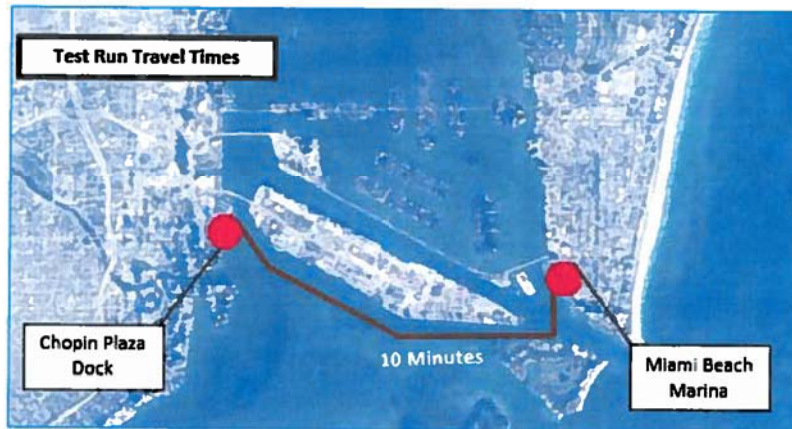
Date: March 17, 2016
Time: 10:00 AM to 1:00 PM
Weather Conditions: Clear, Sunny and 80 degrees Fahrenheit
Water: Optional – Clear
Route: Express route - no stops – extension of bus service
 Intercostal Waterway Channel

The test run measured headways for one of the two potential East-West pilot routes to be implemented. The route provides connection between the Chopin Plaza dock (near Bayfront Metromover Station) and Miami Beach Marina in the South Beach Area. This route can be travelled at a higher speed for most of the route.

Characteristics: This route travels a distance of 3.3 miles on each direction between the Chopin Plaza street-end and Miami Beach Marina (dock is located adjacent to Monty's restaurant)

Speeds: This route was tested at an average speed of 24 mph (20.85 knots).

Time Travelled: This run achieved a headway of 10 minutes.

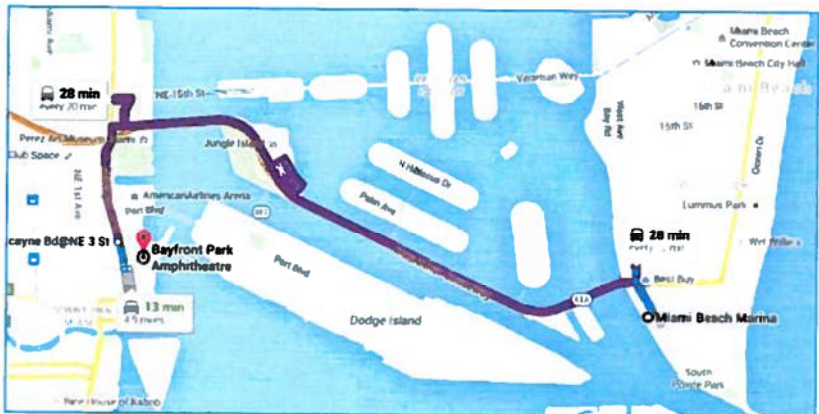


HEADWAY COMPARISON

Currently, Miami-Dade County Bus routes 119 and 120 provide service between Haulover Marina and the Omni Transit Station. The typical travel time between the two locations using any of this routes varies between 50 minutes and 70 minutes (1 hr. 10 min.) depending on the traffic conditions along the route. The figure below shows time estimates using Google Trip Planner.

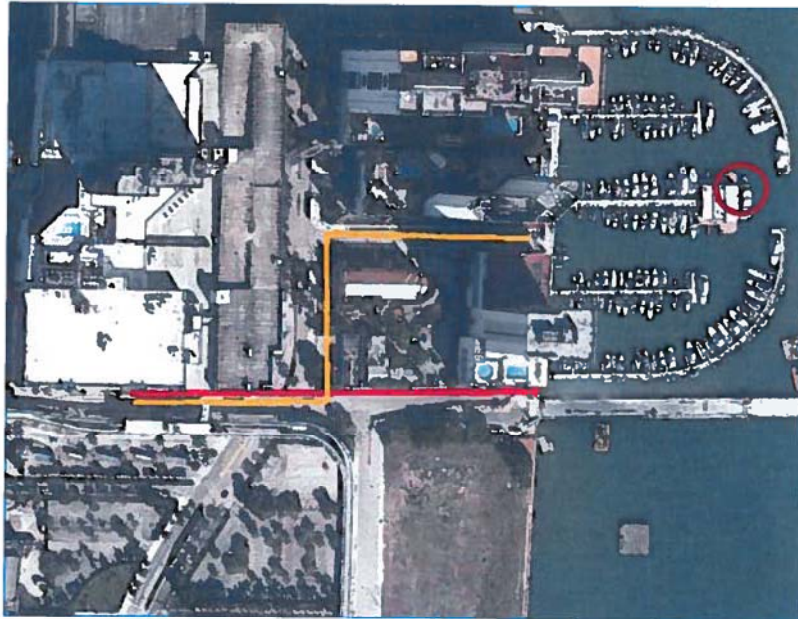


There are three routes providing one-seat ride from Miami Beach Marina to Bayfront Park, Routes 103, 119 and 120. Travel times between these two locations vary between 28 and 35 minutes depending on the traffic conditions along the route. The figure below shows time estimates using Google Trip Planner.



FIELD OBSERVATIONS

**Downtown Miami – Potential Docking Sites:
Sea Isle Marina**



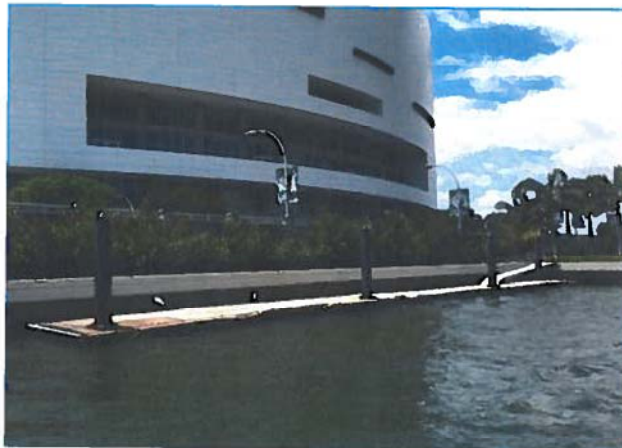
There are approximately 1,150 to 1,200 feet from the Sea Isle Marina entrance to the Omni Transit Station depending on the path taken DTPW met with Sea Isle Marina representatives who identified potential docking sites within the marina. This marina also has fueling capabilities.



FEC Dock:



The FEC dock requires minor upgrades, is ADA accessible and within 1,000 feet of the Park West Metro mover station. DERM has indicated that this location is not viable because of its restrictions to large cargo ships.



Haulover Marina:

At Haulover Marina, the distance between the dock and bus drop-off/pick-up location would be of roughly 180 feet. This marina appears to have sufficient parking to serve as a park + ride, it has fueling facilities

and an ADA compliant public slip. PROS recommended the use of the area shown in the yellow circle which would require a new floating dock and will be near the existing parking lot.



Chopin Plaza Dock:

This location has an existing dock and connectivity to several modes of transportation. The Bay Front Park Metromover station is 793 ft of walking distance from the Dock.



Miami Beach Marina:

Water Taxi service is already available at this location as well as fueling stations. The marina is accessible by the Miami Beach Local bus service and trolleys. The operators of Miami Beach Marina are opposed to commuter service docking at this facility due to the heavy foot traffic and parking space demand.



Sunset Harbor Marina:

Miami Beach is adding an additional docking slip for Waterborne Transportation. The South Beach Local provides access to this location.



SERVICE FREQUENCY:

Miami-Dade County Department of Transportation and Public Works evaluated two test routes. As stated before, they provide the most direct routes North-South and East-West between areas of high congestion located adjacent to the waterways, they create the least disruption to waterfront properties, wild life and sea grasses and complies with the speed zones.

Headways, which dictate the number of vessels required, were selected to work with existing bus routes, minimize layovers and reduce travel times.

North-South Express Route: Worse case scenarios were measured using speeds of 4 and 24 mph. The route will vary between 35 minutes (May 1 thru November 14th) and 50 minutes (Nov 15 thru April 30th). In order to maintain a frequency of 15 to 20 minutes (estimating boarding in an average of 10 minutes) we would require 4 vessels.

East-West Express Route: The east-West route travel time is approximately 10 minutes. In order to maintain a frequency of 15 minutes, 2 vessels will be required.

It is important to note that the test project proposes short headways only during rush traffic hours (7:00 am to 10:00 am and 3:30 pm to 6:30 pm). The service could be modified after rush traffic hours in such manner that and longer headways could be provided allowing for service extension to other destinations.

INTERLINING:

Interlining routes may be appropriate once the test project provides data on ridership interest and actual usage of the system. Interlining of water transit routes in Miami-Dade County would involve the extension of a route into various geographical locations within the City of Miami. The use of Channels is limited because of width, sea walls and drainage infrastructure blocking access to vessels and making the waterway non-navigable. Several channels and rivers have been identified and have a high potential for docking. At this time, these locations can be served by On-Demand Water Transportation rather than Commuter Service Water Transportation.

SERVICE SPANS:

As mentioned before, successful water transit systems are well-integrated with other metropolitan area transit systems, such as bus networks, rail lines and parking facilities. Connections from the water transit system terminals to bus and rail transit are typically provided at numerous stations. As such, the daily service span for the water transit system should ideally approximate the service spans of the other transit services during rush traffic hours. It is expected that the service will be provided from about 7:00 AM to 10 AM and between 4:30 PM to 7:30 PM. A reduced mid-day schedule may be appropriate as commuter trip occurrences are concentrated during the morning and afternoon peak periods. The weekend service may be reduced as the demand is not as high. During these times, including Friday night, the service may be modified to serve popular night time destinations; however, this is not part of the test project.

DERM

DEPARTMENT OF REGULATORY ECONOMIC RESOURCES

As part of the study, the Department of Transportation and Public Works met with the staff of the Department of Regulatory Economic Resources (DERM) in order to start the evaluation of the proposed routes and docking facilities/sites. The goal is to identify potential hurdles that would require modification of our strategy and obtain an insight as to the permitting requirements and site constraints if any.

On June 22, 2016, DERM staff produced a preliminary document. They reviewed the conceptual locations to accommodate vessels for the purpose of providing Waterborne transportation/Taxi services within the Miami-Dade County, Florida. The Memorandum is attached to this document as Attachment A. In summary, the use of existing docking facilities identified as Haulover Park Marina, Miami Beach Marina, Sea Isle Marina, Sunset Harbor Marina and Chopin Plaza Park currently have authorizations that allow transitory slip use and may be used for waterborne transportation provided that there is adequate water depth for the proposed vessels to safely access the facilities. Waterborne transportation can utilize the permitted slips and operate in accordance with each facility's MOP. No further approval from DERM is required. Any work in, over, or upon tidal waters at these locations necessary for mooring of subject vessels will require a DERM Class I permit.

The Museum Park (FEC Slip) was also evaluated. The evaluation took into consideration the installation of a Spud Barge structure, similar to the one described in page 4 of this document which are easy to relocate and adapt to changes in demand. According to the MDCMPP the shoreline along Museum Park including within the "FEC" slip is an area that is recommended for freight terminal and large vessels (<100 ft.) berthing. Its use for waterborne transportation is not within the parameters of the MDCMPP and will require an in depth evaluation of the potential impact to manatees, and any mitigation factors that will reduce or eliminate potential threats to manatees using this area.

The Miami River was evaluated for Water Taxi service. 12 specific sites were evaluated. It was determined that the sites are consistent with the MDCMPP. Each site has its own characteristics and each would require a Class I permit. Several of the sites were identified as having water depth issues (beneath 2nd Av. Bridge North Shore, Metrorail North Shore, Riverwalk Metromover station South Shore and Miami Circle Park).

US CORPS OF ENGINEERS

The department of Transportation and Public Works have been sharing information with the US Corps of engineering regarding the proposed location for the commuter service and requesting assistance in identifying any potential issues that may affect the deployment of the demonstration project. On an email dated June 24, 2016, US Corps of Engineers states that as long as there are no changes to existing structure(s) or additional new structure(s) or dredging there is no reason for them to get involved.

US COAST GUARD

On Friday July 22, 2016, the team met with the US Coast Guard to share the information and to get feedback on requirements and potential issues that we may encounter. The meeting was very positive and informative. We met with Lieutenant Marguerite Mullen and CWO Shad Hudgins. All vessels to be used for commercial purposes transporting passengers must be Coast Guard Certified. Regulations are less strict for smaller passenger vessels (under 49 passengers). They strongly recommended that if purchasing vessels, that they be already coast guard certified. The certification is costly and time consuming. This applies for brand new and already built vessels. They also noted that the certification for vessels travelling south of the Rickenbacker Causeway is different as they travel on the open waters. They will require stability tests which tests the incline of the keel for tipping conditions and seating weight. They recommended that the department use vessels for under 49 passenger capacity, made out of fiberglass (easy to repair and very durable). Also noted that aluminum vessels are very durable but require more maintenance overtime. Vow loading and unloading is the easiest to maneuver into the various docks but not necessary. They caution maneuverability in the Miami River due to the space constraints when cargo ships are present.

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

On July 21, 2016, a conference call took place with members of the Florida Fish and Wildlife Conservation Commission. Information was sent to them several weeks prior to the conference call for their review. They noted that as presented, they commuter routes appear to be viable as long as the speed zones are enforced. They would like to see the types of vessels to be used as this will have an impact on their comments. They explained that in general, the On-Demand Water Transportation (water taxis) raises some concerns. They would like to see the docking locations, evaluate speed zones and proposed vessels. They would prefer:

- A comprehensive plan showing all locations for the commuter service and water taxi stops in order to be able to evaluate, as a whole, the impact on the proposed services on marine life.
- Pre-determined loading and unloading zones for both the commuter and the water taxi services.
- Provide types of vessels and number of vessels to be operating in the waterways. We explained that this is unknown at this time and the municipalities will be responsible for their own RFP; however, as soon as this information is available it will be forwarded to their attention for review and commenting.
- They would prefer to limit the number of water taxi services allowed to operate on the bay.

The Florida Fish and Wildlife Conservation team requested that data be collected and kept for the test project. After a year, they will review the records, any proposed expansion of the service(s) and evaluate manatee data to determine if the manatee population was affected by the service(s).

VESSEL INFORMATION

The MPO document outlined the vessel requirements for passenger-only commuter and tourist waterborne transportation services on Biscayne Bay to serve Miami and surrounding municipalities. Data from other locations around the world was obtained and as a result technical requirements were presented. Our new approach intends to reduce the scope of the test project and create a true extension of the already existing Metrobus commuter service. As a result, a smaller vessel is envisioned.

Hull Form: Low wash catamaran with a ratio of 20:1 length-to-beam ratio – this provides the least disturbance to protected zones throughout the bay. Wake heights of 250 mm (9.8") trough to crest, would be considered an acceptable and low level of wake wash.

Capacity: 42 to 52 passengers (instead of 149 passengers as outlined in the MPO document)

Speed: Capable of reaching 28 mph (24 knots). This is a sound speed for commuter/tourist service.

Climate and Weather Considerations: Air conditioned vessels are required and ideally the vessels will have an open deck. Biscayne Bay's subtropical climate is characterized by warm, wet summers. High temperatures in the 90's. Most of the precipitation falls in summer in brief intense afternoon thunderstorms.

Seaworthiness Considerations: the vessels are to be designed for safe and effective operation in waves up to 4 feet high. Above this height, temporary cancellation of the service would be likely. Winds of 10-20 knots are not uncommon on Biscayne Bay, especially in the fall and winter months. A catamaran hull form, with widely spaced demi-hulls should have an adequate height clearance above the water to reduce wave impacts and provide more stability.

Water Depths: Due to the shallow waters at entrances of canals and near shorelines, the vessel is required to have shallow draft properties. Fuel tanks and water tanks should be sized to supply a single day worth of service with a 20% margin. Passenger seats should be a light weight. This will allow the vessel to be lighter and keep the operating draft of the vessel to a minimum.

Air Quality Considerations: To minimize harmful environmental air emissions, diesels employed by the vessels should meet the Environmental Protection Agency (EPA) emissions requirements and be electronically controlled. The fleet should be operated with low-sulfur fuel.

Air Draft: The max. Height of the vessel measured above the water line to its topmost point must be lower than the minimum structure clearance on the proposed service routes. This height has been identified as 12 feet (on the outer sides) and 14' feet (in the middle) for the Venetian Causeway Western Bridge span next to Sea Isle Marina.

Hydrofoil Technology:

Hydrofoil technology vessels were also studied. These vessels consists of a wing-like structure mounted on struts below the hull (placement varies). As the vessel increases speed the hydrofoil structures develop enough lift to raise the vessel's hull out of the water and therefore reducing drag. The reduced drag provides for greater fuel efficiency and higher speeds.

Hydrofoils have been in decline in popularity for many reasons:

- Hydrofoils are sensitive to impacts with floating objects such as floating logs, floating grasses, weeds, and marine animals
- Hydrofoils have sharp edges that reside in the water while in operation. These edges can fatally injure marine animals
- These vessels are significantly more expensive than catamarans (about 3 times more expensive)
- They are technically complex and require high maintenance
- Heavy seas or other conditions involving substantial wave action affect the stability of the vessel



We are currently researching technical information for comparison with the guidelines already established. The Us Coast Guard noted that this type of vessel is built for speed; however, because the lift (blades) are still below the water, the vessels are required to stay within the speed limits for the various channels. A vessel designed for 80 mph will not be allowed to travel at such speeds in the bay where the speed limit is 35 mph.

Jet Propulsion Technology:

This technology has been around for over 50 years and it is rapidly increasing in popularity because of their many advantages:

- Excellent maneuverability:
 - Precise steering,
 - "Zero speed" steering,
 - Sidewalk movement possible with multiple jet installations
 - High efficiency astern thrust with "power –braking" ability s peed
- High efficiency at medium to high speeds
- Low drag and shallow draught:
 - Absence of underwater appendages reduces hull resistance
- Low maintenance:
 - No protruding propulsion gear eliminates impact damage or snags
 - Minimum downtime and simple maintenance routines
 - Fewer moving parts
- Smooth and quiet
- Maximum engine life

Disadvantages:

In Shallow waters the jets will create turbidity and bring up debris that may interfere with the water jets intakes. The intake grill can become clogged with debris: e.g. sea weed. The effects of this can be mitigated by having a reversing gearbox between the engine and the water jet.

Could be less efficient than a propeller system at low speeds

More expensive that the conventional propeller type propulsion system

The US Coast Guard explained that there are many ferry and commuter service that use this type of propulsion successfully. They mentioned that our waterways are some of the shallowest in the nation and warned that water jets may create turbidity and disrupt the bottom. Disturbance to the bottom means sea weed and debris which may clog the jets.

PILOT PROJECT BASE LINE:

Out of the two test routes evaluated. DTPW recommends the implementation of the North-South Route.

Number of Routes	1
Types of Routes	Express
Service between routes	None
Routes:	N-S: Haulover Marina to Sea Isle Marina
Travel times:	N-S: 50 min. (Nov 15 thru April 30 th) 35 minutes (May 1 thru Nov 14 th)
Headways:	20 minutes (7:00 am – 10:00 am and 4:30 pm to 7:30 pm)
Number of Vessels required:	4 + 1 (spare) = 5
Vessel Capacity:	42 to 52 passengers (same as a bus)
Type of Vessel:	Low Wash Catamaran – Air Conditioned

STAFFING REQUIREMENTS:

Vessel Staffing: A captain and a mate member may be required for operating the catamaran vessel with a capacity for a maximum of 52 passengers. Two shifts might be required to complete a typical daily service.

Terminal Staffing: It is likely that ticketing will be automated at most if not all water transit stations. Ticketing duties could also be assigned to a vessel mate or deckhand. Therefore, no ticketing personnel are expected to be utilized at most water transit terminals; however, it is recommended that each docking location have a staff member that assists passengers in an out of vessels, ticketing and information. Other successful waterborne transportation systems have successfully utilized the Mate or Captain of the vessel for ticketing.

PRELIMINARY ESTIMATION OF COSTS FOR WATERBORNE TRANSIT SERVICE

Vessel Costs:

The preliminary assessment of the Pilot Project estimates 4 vessels for the North-South route plus 1 vessel to redundancy and emergency situations (maintenance of vessels, break downs, etc.); therefore, we estimate the need for 5 vessels.

Description	Estimated Cost	Number	Total Cost
35 to 49 passenger Catamaran	\$450,000	5	\$2,250,000
contingency	15%		\$ 337,550
Total Vessel Cost			\$2,587,500

Terminal Costs:

The proposed route network for the demonstration project utilizes existing infrastructure. We recommend the use of temporary shelters for passengers for protection against the sun and rain where possible.

Description	Estimated Cost
Protective railings	\$40,000
Temporary Shelters	\$210,000
Estimated maintenance needs	\$60,000
New floating structure	\$450,000
Surface lot and temporary lighting	N/A
TVM machines (3)	\$195,000
Total terminal Cost	\$955,000

Operating and Maintenance Costs:

A crucial element in assessing the feasibility of the development of the waterborne transit system is the estimation of the costs to operate and maintain the system. The major costs components will include personnel, fuel and vessel repair.

On-Water/dock Operations Personnel:

It is assumed that the vessel crew members will be licensed and non-union. Although federal funding is expected, there is no federal requirement attached to those funds that specify use of unionized crewmembers regarding the system operation. Furthermore, as the operation of the service will most likely be procured through a competitive bidding Request for Proposals (RFP) process, the respondents will most likely propose employment of licenses non-union crewmembers to lower the cost of the proposals.

Position	Hourly Wages	Shifts	Annual Wages	Total wages
Captain	\$ 35	2	\$ 72,800	\$145,600
Mate	\$ 20	2	\$ 41,600	\$ 83,200
				\$ 228,800
Landside:				
Engineer	\$ 30	1	\$ 62,400	\$ 62,400
Mechanics	\$ 25 x 2	1	\$ 52,000	\$ 104,000
general	\$ 20 x 4 (locations)	2	\$ 41,600	\$ 332,800
				\$ 499,200

Crew Wages:	\$ 228,800 x 7 vessels	=	\$ 1,601,600
Landside Wages		=	\$ 499,200
Total Wages:		=	\$ 2,100,800

FINANCIAL ANALYSIS

Passenger Forecast	150,000	150,000	150,000
(Proposed)	(5 vessels)	(5 vessels)	(5 vessels)
Fares	\$ 4.50	\$ 2.65 (express fare)	\$ 2.25 (regular fare)
Annual operations Revenues	\$ 675,000	\$ 397,500	\$ 337,500

Direct Costs

Depreciation – 52 passenger***	\$ 129,375	\$ 129,375	\$ 129,375
Insurance*	\$ 196,650	\$ 196,650	\$ 196,650
Interest and Expense**	\$ 181,125	\$ 181,125	\$ 181,125
Fuel	\$ 502,691	\$ 502,691	\$ 502,691
Parts and supplies	\$ 11,000	\$ 11,000	\$ 11,000
Engine Maintenance	\$ 90,000	\$ 90,000	\$ 90,000
Personnel	\$ 2,100,800	\$ 2,100,800	\$ 2,100,800
Terminal Costs	<u>\$ 955,000</u>	<u>\$ 955,000</u>	<u>\$ 955,000</u>
Direct Costs	\$ 4,166,641	\$ 4,166,641	\$ 4,166,641

Administrative Costs

Salaries	\$ 125,000	\$ 125,000	\$ 125,000
Marketing	\$ 120,000	\$ 100,000	\$ 100,000
Legal/Accounting	\$ 30,000	\$ 25,700	\$ 25,700
Miscellaneous	\$ 169,700	\$ 167,490	\$ 167,490
Total Administrative Costs	\$ 444,700	\$ 418,190	\$ 418,190

Total Expenses	\$ 4,611,341	\$ 4,584,831	\$ 3,740,081
Surplus/Deficit	(\$ 3,936,341)	(\$ 4,187,331)	(\$ 4,247,331)

*Haul and Engine + P&I Insurance 7.6% of vessel cost
** Interest 7%
*** Depreciation 20 yrs

ATTACHMENT A
DERM

Memorandum



Date: June 22, 2016

To: Alice Bravo, Director
Department of Transportation and Public Works

From:  Lee N. Hefty, Assistant Director - Division of Environmental Resources Management
Department of Regulatory and Economic Resources

Subject: DERM Staff Environmental Review of Conceptual Locations to Accommodate Vessels for the Purpose of Providing Waterborne Transportation/Taxi Services within Miami-Dade County, Florida

This memo follows our recent meeting regarding the feasibility of promoting waterborne transportation options and the associated environmental permitting of landings in various locations to support waterborne transportation routes. During the meeting we discussed the establishment of transit oriented routes linking Haulover Park with Sea Isle Marina, and linking Miami Beach with the mainland at Sea Isle Marina and downtown Miami at Chopin Plaza. We also discussed the establishment of several water taxi stops in the Miami River, and the establishment of a water taxi or transit landing at Museum Park, including the use of a barge to serve as a dock/landing. In addition, we discussed the establishment of courtesy slips in the FEG slip at Museum Park for general use.

A DERM Class I permit is generally required for the construction or installation of marine structures to create a slip for the mooring of vessels. In addition, a DERM Marine Facilities Operating (MOP) permit is required for the operation of all commercial boat docking facilities. The evaluation of a request for a Class I permit includes, but is not limited to, avoidance and minimization of adverse environmental impacts to benthic resources, compliance with State and County water quality standards, consistency with the County's minimum water depth requirement of 4 feet N.O.A.A. Mean Low Water datum (in addition to having adequate water depth for any individual vessel), and an evaluation of each site with respect to its historic use and the siting criteria recommendations in the Miami-Dade County Manatee Protection Plan (MDCMPP) among other evaluation factors in the Code. Please note that a completed Class I permit application will require authorization from both the upland property owner and evidence of ownership or a lease, and authorization for use of the submerged lands where the work will occur. In addition, State and Federal review and approval may be required for any change in the use of a marine facility, or for mooring a vessel in a location not currently authorized. A request for mooring of vessels over State-owned submerged lands generally includes a requirement to obtain authorization from the State, and early coordination with State regulatory staff is recommended. On the question of using a barge as a docking/landing structure, please note that the installation of a barge for such purposes would be evaluated the same as the installation of a permanent structure (i.e. using the same evaluation criteria as described above including evaluating resource impacts, water depth, and conformance with recommendations of the MDCMPP). As discussed, while a DERM Class I permit is required to create boat slips, existing facilities may be used consistent with existing authorizations. Therefore facilities that currently have approved transitory slips or water taxi slips may continue to use them without the need for further approval from DERM.

As part of evaluating the proposed sites discussed at the meeting, DERM staff reviewed our records including existing MOPs, reviewed historic uses of the proposed water taxi/transit oriented slip locations, and conducted inspections at some sites in order to provide preliminary feedback regarding the proposed use of the sites. For the purposes of this exercise, we focused on three

main fundamental questions: 1) can the proposed slips be created/used without adverse impacts to benthic resources; 2) is the proposed use consistent with recommendations of the MDCMPP; and 3) does the proposed slip contain adequate water depth for the mooring of the proposed vessels.

The following is a brief summary of our initial findings:

Proposed North/South and East/West Transit Oriented Routes linking Haulover Park and Miami Beach to Downtown:

The five (5) transit oriented sites linking Haulover Park and Miami Beach (Miami Beach Marina, Sunset Harbour Marina) with the mainland downtown at Sea Isle Marina and Chopin Plaza Park, as identified on page 7 of the submittal entitled, "WATERBORNE TRANSPORTATION MIAMI-DADE COUNTY" are proposed at existing facilities that currently have authorizations that allow transitory slip use. Therefore, provided there is adequate water depth for the proposed vessels to safely access the facilities, the facilities may be used for water taxi service provided the water taxis utilize existing permitted slips and operate in accordance with each facility's MOP. No further approval from DERM is required to use these facilities for waterborne transportation. Please note that a Class I permit from DERM would be required for any work in, over, or upon tidal waters at these locations if such work is necessary for mooring of subject vessels.

Proposed Water Taxi Sites on the Miami River:

During our meeting, we were provided with a list of seven (7) Miami-Dade County-owned properties on the Miami River as potential sites for private sector waterborne transportation providers to pick-up and drop-off passengers. Following our meeting, DERM received information on additional potential water taxi sites on the Miami River. A total of twelve (12) sites on the Miami River were evaluated and are listed in the spreadsheet (attached). As previously mentioned, DERM staff focused on three main factors during this evaluation. They include conformance with the County approved MDCMPP, potential for resource impacts, and whether the site has adequate water depth. The attachment provides a brief description of our initial findings regarding these three main factors at each site. In general, the use of these sites for water taxi operation is consistent with the MDCMPP as noted in the attached spreadsheet. Furthermore, creating slips in these locations are not expected to result in adverse impacts to benthic resources. Our preliminary assessment indicated that water depth may be a limiting factor in creating slips to access some of these sites. Since many of the sites do not currently have docking facilities or permitted slips, a Class I permit will likely be required in order to implement the proposed uses. Additional information such as the size, type and draft of water taxis proposed to operate at each facility would be needed to fully evaluate individual sites for adequate water depth. A MOP for each facility will also be required prior to operation.

Proposed Courtesy Slips and a Water Taxi Slip in the Vicinity of Museum Park (FEC Slip, Museum Park Eastern Seawall):

During our meeting we discussed the proposed siting of a transit-oriented slip or water taxi slip on the eastern shoreline of Museum Park to provide access to the Museum Park Metromover Station. During this discussion, DTPW staff asked about the feasibility of permitting the installation of a barge to serve as a docking/landing platform at this location. As noted above, the installation of a barge for this purpose would be reviewed the same as with the installation of a fixed structure. In addition, we also discussed the possibility of siting "courtesy" slips in the "FEC" slip area at Museum Park for general public use.

The shoreline along Museum Park including within the "FEC" slip is an area that is recommended for freight terminal and large vessel (>100 ft.) berthing per the MDCMPP. The creation of public general use courtesy slips or water taxi slips at this location is not recommended in the MDCMPP. Any such proposal would require an in depth evaluation of the potential impact to manatees, including a full evaluation of any proposed mitigating factors that serve to reduce or eliminate potential threats to manatees using this area.

Please note that the information provided in this memo and attachment are based on a cursory review of these sites for potential environmental concerns. DERM staff are available to meet to discuss any questions you may have to further assist with planning of waterborne transportation options.

Attachment: Proposed Water Taxi Site Spreadsheet

**c: Lourdes M. Gomez, Deputy Director, Department of Regulatory and Economic Resources
Irene Hegedus, Chief, Transportation Enhancements – DTPW
Julian Guevara, Municipal Manager – DTPW
Pamela Sweeney, Manager, Coastal and Wetlands Resources, RER-DERM**

Proposed Water Taxi Site Spreadsheet


		Is Water Taxi Use Consistent with the MDCMPP?	Potential Water Depth Issues	Potential Benthic Resource Issues	Action needed for Water Taxi Use
	MIAMI RIVER SITES				
R1	WASD Pump Station No.1	Yes, if limited to 1 transitory slip at the property and no other mooring	TBD	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R2	Lummus Park	Yes - 15 historic slips permitted including 1 transitory and 1 law enforcement	3' max draft	Not Likely	Can be Authorized for Water Taxi Use upon MOP Issuance
R3	Jose Marti Park	Yes, if limited to 1 transitory slip at the property and no other mooring	TBD	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R4	Miami Riverside Center	Yes, if limited to 1 transitory slip at the property and no other mooring	No	Not Likely	Can be Authorized for Water Taxi Use upon MOP Issuance
R5	Beneath the 2nd Avenue Bridge, North Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R6	Beneath the 2nd Avenue Bridge, South Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Not Likely	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R7	Metro-Rail North Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R8	Metro-Rail South Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Not Likely	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R9	Riverwalk Metromover Station	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R10	5th Street Metromover Station	Yes, if limited to 1 transitory slip at the property and no other mooring	Not Likely	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP
R11	James L Knight Convention Center	Yes, if limited to 1 transitory slip at the property and no other mooring	TBD	Not Likely	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *MOP application pending response from applicant
R12	Miami Circle Park	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	TBD	*Obtain a Class I permit for mooring hardware/structures - vessel draft limitations and operational conditions may be implemented *Obtain an MOP

Memorandum



Date: April 25, 2017

To: Irene Hegedus, Chief, Transportation Enhancements
Department of Transportation and Public Works

From:  Lisa Spadafina, Chief, Division of Natural Resources
Department of Regulatory and Economic Resources
Division of Environmental Resources Management (DERM)

Subject: DERM Staff Environmental Review of Conceptual Locations to Accommodate Vessels for the Purpose of Providing Waterborne Transportation/Taxi Services within Miami-Dade County, Florida

This memo follows our meeting regarding an update on the feasibility of promoting waterborne transportation options and the associated environmental permitting throughout areas of Miami-Dade County. During the meeting we discussed the establishment of a transit oriented route linking Haulover Park Marina with Sea Isle Marina via Pelican Harbor Marina. We also discussed water taxi stop locations proposed by representatives of the individual municipalities at meetings with County staff. A total of forty-eight (48) sites were evaluated and are listed in the attached spreadsheet (Attachment A).

As part of evaluating the proposed sites discussed at the meeting, DERM staff reviewed our records including existing MOPs, reviewed historic uses of the proposed water taxi/transit oriented slip locations, and conducted inspections at some sites in order to provide preliminary feedback regarding the proposed use of the sites. For the purposes of this exercise, we focused on three main fundamental questions: 1) can the proposed slips be created/used without adverse impacts to benthic resources; 2) is the proposed use consistent with recommendations of the Miami-Dade County Manatee Protection Plan (MDCMPP); and 3) does the proposed slip contain adequate water depth for the mooring of the proposed vessels. The spreadsheet provides a brief description of our initial findings regarding these three main factors at each site.

The following is a brief summary of our initial findings:

Proposed North/South Transit Oriented Routes linking Haulover Park Marina and Pelican Harbor Marina to Downtown:

The three (3) transit oriented sites linking Haulover Park Marina and with mainland downtown Miami at Sea Isle Marina via Pelican Harbor Marina are existing facilities that currently have authorizations that allow transitory slip use. Both Haulover Park Marina and Sea Isle Marina have existing MOPs that authorize mooring of commercial vessels. Pelican Harbor's MOP does not currently authorize mooring of commercial vessels but can be modified to include that use and would be necessary prior to use by water taxis. Aside from the requirement to modify the Pelican Harbor Marina MOP, no further approval from DERM is required to use these facilities for waterborne transportation provided there is adequate water depth for the proposed vessels to safely access the facilities, the water taxis utilize existing permitted slips, and operate in accordance with each facility's MOP.

Staff also evaluated the proposal to moor vessels adjacent to the seawalls at both Haulover Park Marina and Sea Isle Marina. The north side of the pier on the north side of the Haulover Park facility can be used for water taxi mooring; however, the area within 25 feet waterward of the seawall has shallow water depths and cannot be authorized for mooring (Attachment B). DERM could consider a proposal to install a pier, dock, or similar structure to provide access waterward of the shallow areas in that general location. Please note that a Class I permit from DERM would be required for

any work in, on, over, or upon tidal waters if such work is necessary for mooring of vessels. At Sea Isle Marina, the area along the seawall extending 310 feet south from the northernmost pier and 32 feet waterward of the seawall is designated as a conservation area due to shallow water depths and the presence of seagrasses (Attachment C). This location cannot be authorized for the mooring of vessels.

Sites on the Miami River:

A total of twelve (12) sites on the Miami River were evaluated. In general, the use of these sites for water taxi operation is consistent with the MDCMPP as noted in the attached spreadsheet. Furthermore, creating slips in these locations is not expected to result in adverse impacts to benthic resources. Our preliminary assessment indicates that water depth may be a limiting factor in creating slips to access some of these sites. Since many of the sites do not currently have docking facilities or permitted slips, a Class I permit will likely be required in order to implement the proposed uses. Additional information such as the size, type and draft of water taxis proposed to operate at each facility would be needed to fully evaluate individual sites for adequate water depth. A MOP for each facility will also be required prior to operation.

Existing Marine Facilities Authorized for Transitory Use by Commercial Vessels (City Hall/Dinner Key, Chopin Plaza/Intercontinental Hotel, Bayfront Park North, Miami Beach Marina, City of Sunny Isles Beach 163rd Street Facility):

These existing facilities currently have authorizations that allow transitory slip use, and all have existing MOPs that authorize mooring of commercial vessels. Therefore, no further approval from DERM is required to use these facilities for waterborne transportation provided there is adequate water depth for the proposed vessels to safely access the facility, the water taxis utilize existing permitted slips and operate in accordance with the MOPs.

Existing Marine Facilities Authorized for Transitory use by Recreational Vessels (Intracoastal Mall, Keystone Marina, Purdy Boat Ramp Dock, Grandview Palace Marina, Shucker's Restaurant, Matheson Hammock Park Marina):

These facilities are currently authorized for transitory use by recreational vessels; therefore, modifications to the MOPs to allow for mooring of commercial vessels would be necessary prior to use by water taxis. Aside from the requirement to modify the MOPs, no further approval from DERM is required to use these facilities for waterborne transportation provided there is adequate water depth for the proposed vessels to safely access the facility, the water taxis utilize existing permitted slips and operate in accordance with the MOPs.

Proposed Sites (Surfside Park, Bal Harbor City Hall Park, North Bay Village Future Boardwalk):

The use of these sites for water taxi operation may be consistent with the MDCMPP; however, they are located in areas with documented benthic resources and shallow water depths adjacent to the seawalls. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to benthic resources, water quality, and for consistency with the County's minimum water depth requirement of 4 feet N.O.A.A. Mean Low Water datum (in addition to having adequate water depth for any individual vessel).

Sites in Palmetto Bay:

The use of the Cutler Plant site for water taxi operation may be consistent with the MDCMPP; however, it is located in an area with dense mangroves along the shoreline and which also may have shallow water depths and support benthic resources. Any such proposal would require an in depth evaluation of the potential impacts to mangroves, benthic resources, water quality, and for consistency with the County's minimum water depth requirement of 4 feet N.O.A.A. Mean Low Water datum (in addition to having adequate water depth for any individual vessel).

The Deering Bay Marina is located in an area that is recommended for residential docking per the MDCMPP. The creation of water taxi slips at this location is not recommended in the MDCMPP. Any such proposal would require an in depth evaluation of the potential impact to manatees, including a full evaluation of any proposed mitigating factors that serve to reduce or eliminate potential threats to manatees using this area.

Proposed Sites in Golden Beach:

These sites are in an area that is recommended for residential docking per the MDCMPP. The creation of water taxi slips at this location is not recommended in the MDCMPP. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to manatees, including a full evaluation of any proposed mitigating factors that serve to reduce or eliminate potential threats to manatees using this area.

In addition, these sites are located in areas with documented dense benthic resources and shallow water depths adjacent to the seawalls. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to benthic resources, water quality, and for consistency with the County's minimum water depth requirement of 4 feet N.O.A.A. Mean Low Water datum (in addition to having adequate water depth for any individual vessel).

Sites in North Miami/North Miami Beach:

The Florida International University boat ramp, the Marina Palms Facility and the Harbor proposed docking facility are in an area that is recommended for residential docking per the MDCMPP. The creation of water taxi slips at these locations is not recommended in the MDCMPP. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to manatees, including a full evaluation of any proposed mitigating factors that serve to reduce or eliminate potential threats to manatees using this area.

Proposed Sites in the Vicinity of Museum Park (FEC Slip, Museum Park Eastern Seawall):

The shoreline along Museum Park including within the "FEC" slip is an area that is recommended for freight terminal and large vessel (>100 ft.) berthing per the MDCMPP. The creation of water taxi slips at this location is not recommended in the MDCMPP. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to manatees, including a full evaluation of any proposed mitigating factors that serve to reduce or eliminate potential threats to manatees using this area.

Proposed Sites at North Bayshore Park, Venetian Causeway Street End, Margaret Pace Park, Morningside Park, American Legion Park, and Peacock Park:

These sites are in an area that is recommended for residential docking per the MDCMPP. The creation of water taxi slips at this location is not recommended in the MDCMPP. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to manatees, including a full evaluation of any proposed mitigating factors that serve to reduce or eliminate potential threats to manatees using this area.

In addition, these sites are located in areas with documented dense benthic resources and shallow water depths, and navigation in these areas is generally limited to shallow-draft vessels. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to benthic resources, water quality, and for consistency with the County's minimum water depth requirement of 4 feet N.O.A.A. Mean Low Water datum (in addition to having adequate water depth for any individual vessel).

Proposed Sites at Kennedy Park, Brickell Park, and Alice Wainwright Park:

The use of these sites for water taxi operation is consistent with the MDCMPP; however, they are located in areas with documented dense benthic resources and shallow water depths, and navigation in these areas is generally limited to shallow-draft vessels. Any such proposal at any of these sites would require an in depth evaluation of the potential impact to benthic resources, water quality, and for consistency with the County's minimum water depth requirement of 4 feet N.O.A.A. Mean Low Water datum (in addition to having adequate water depth for any individual vessel).

Please note that the information provided in this memo and attachments is based on a cursory review of these sites for potential environmental concerns. DERM staff are available to meet to discuss any questions you may have to further assist with planning of waterborne transportation options.

- Attachment A: Proposed Water Taxi Site Spreadsheet
- Attachment B: Haulover Park Marina - Shallow Water Depth Area
- Attachment C: Sea Isle Marina - Conservation and Mooring Prohibited Area

Attachment A

	Is Water Taxi Use Consistent with the MDCMPP?	Potential Water Depth Issues	Potential Benthic Resource Issues	Action needed for Water-Taxi Use
	<u>Soldan Beach</u>			
GB1	North Island	Yes	Yes	Not Recommended / Requires Additional Evaluation
GB2	Center Island	Yes	Yes	Not Recommended / Requires Additional Evaluation
GB3	South Island	Yes	Yes	Not Recommended / Requires Additional Evaluation
	<u>North Miami Beach</u>			
NMB1	Intracoastal Mall	No*	No**	Modify MOP to authorize commercial vessels - vessel draft limitations and operational conditions may be implemented
NMB2	The Harbor	Yes	Yes	Not Recommended / Requires Additional Evaluation
NMB3	Marina Palms	No*	No**	Not Recommended / Requires Additional Evaluation
	<u>Sunny Isles Beach</u>			
SIB1	163rd E of ICW	Yes if water taxi use limited to existing permitted slip	No**	Modify MOP to authorize commercial vessels
	<u>North Miami</u>			
NM1	FIU	No	No**	Not Recommended / Requires Additional Evaluation
NM2	Keystone Marina	Yes if water taxi use limited to permitted existing slip	No**	Modify MOP to authorize commercial vessels
NM3	North Bayshore Park	No	Yes	Not Recommended / Requires Additional Evaluation
	<u>Surfside</u>			
SS1	Surfside Park	TBD	Yes	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
	<u>Bal Harbour</u>			
BH1	City Hall Park	TBD	Yes	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels

* This guidance is based on staff knowledge of the general area and is contingent upon the vessel operator maintaining adequate clearance between the deepest part of the vessel, and any benthic resources, and the submerged bottom such that there are no impacts, including but not limited to prop dredging, prop scouring, etc.

** This guidance is based on the water taxi utilizing a permitted slip at the permitted marine facility.

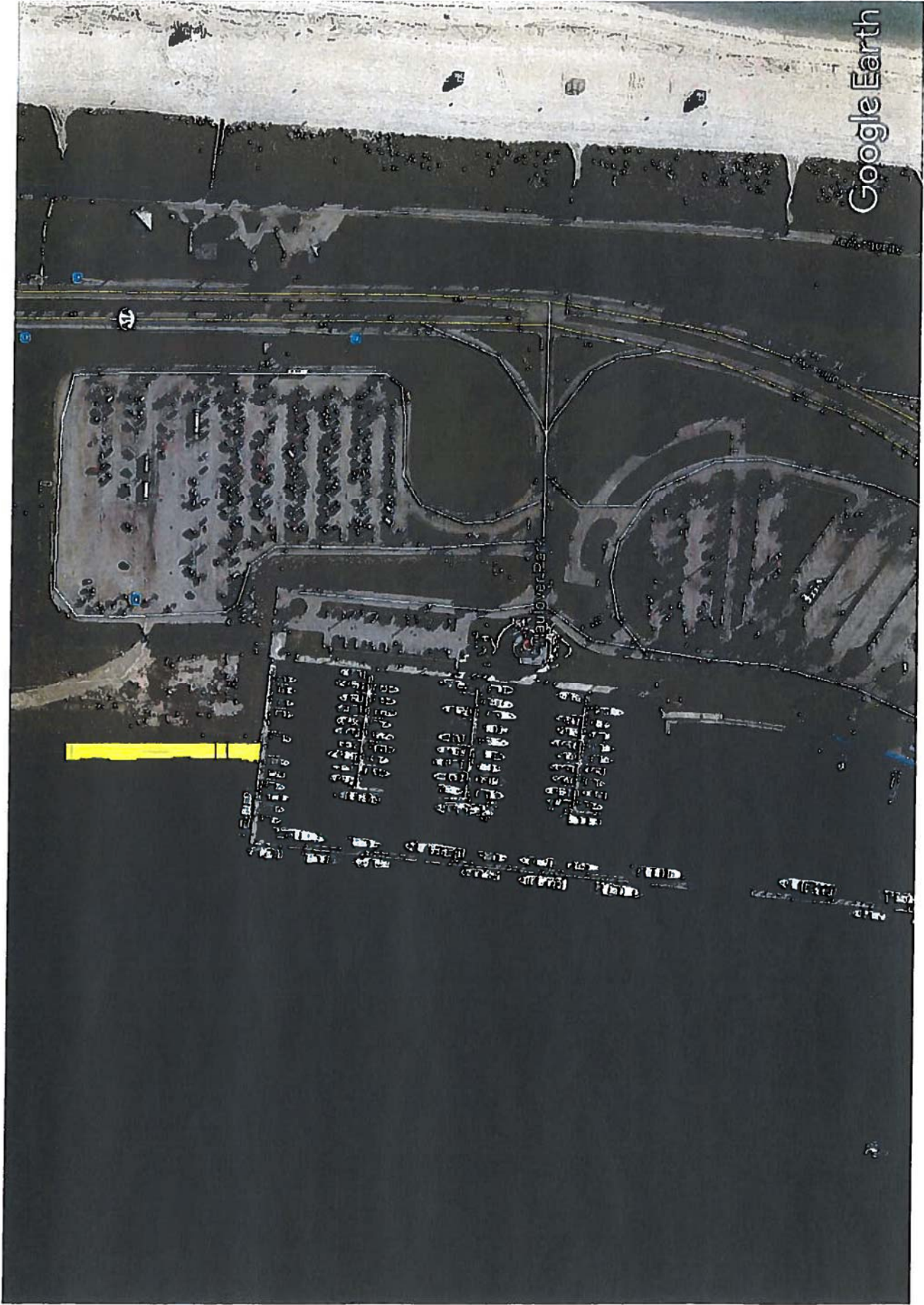
		is Water Taxi Use Consistent with the MDCMPP?	Potential Water Depth Issues	Potential Benthic Resource Issues	Action needed for Water Taxi Use
	North Bay Village				
NBV1	Grandview Palace	Yes if water taxi use limited to permitted existing slip	No*	No**	Modify MOP to authorize commercial vessels
NBV2	Shuckers	Yes if water taxi use limited to permitted existing slip	No*	No**	Modify MOP to authorize commercial vessels
NBV3	Future Boardwalk	TBD	Yes	Yes	Requires Additional Evaluation
	Miami Beach				
MB1	Purdy	Yes if water taxi use limited to permitted existing slip	No*	No**	Obtain an MOP to authorize commercial vessels
MB2	Miami Beach Marina	Yes if water taxi use limited to permitted existing slip	No*	No**	Authorized for Water Taxi Use
MB3	Pelican Harbor	Yes if water taxi use limited to permitted existing slip	No*	No**	Modify MOP to authorize commercial vessels
	Coral Gables				
CG1	Matheson Hammock Park	Yes if water taxi use limited to permitted existing slip	No*	No**	Modify MOP to authorize commercial vessels
	Palmetto Bay				
PB1	Cudler Plant	TBD	Yes	Yes	Requires Additional Evaluation
PB2	Deering Bay	No	No*	No**	Not Recommended / Requires Additional Evaluation

* This guidance is based on staff knowledge of the general area and is contingent upon the vessel operator maintaining adequate clearance between the deepest part of the vessel, and any benthic resources, and the submerged bottom such that there are no impacts, including but not limited to prop dredging, prop scouring, etc.

** This guidance is based on the water taxi utilizing a permitted slip at the permitted marine facility.

		Is Water Tax Use Consistent with the MDC/MFP?	Potential Water Depth Issues	Potential Benthic Resources	Action needed for Water Tax Use
	BISCAYNE BAY SITES				
B1	Peacock Park	No	Yes	Yes	Not Recommended / Requires Additional Evaluation
B2	City Hall (Dinner Key)	Yes if water tax use limited to permitted existing slip	No*	No**	Authorized for Water Tax Use
B3	Kennedy Park	Yes	Yes	Yes	Not Recommended / Requires Additional Evaluation
B4	Alice Wainwright Park	Yes	Yes	Yes	Not Recommended / Requires Additional Evaluation
B5	Brickell Park	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Yes	Requires Additional Evaluation
B6	Chopin Plaza (Intercontinental)	Yes if water tax use limited to permitted existing slip	No*	No**	Authorized for Water Tax Use
B7	Bayfront Park (North)	Yes if water tax use limited to permitted existing slip	No*	No**	Authorized for Water Tax Use
B8	American Airlines Arena (FEC Slip)	No	No*	No**	Not Recommended / Requires Additional Evaluation
B9	Museum Park (Eastern Seawall)	No	TBD	Yes	Not Recommended / Requires Additional Evaluation
B10	Venedian Causeway Street End	No	Yes	Yes	Not Recommended / Requires Additional Evaluation
B11	Sea Isle Marina	Yes if water tax use limited to permitted existing slip	No*	No**	Authorized for Water Tax Use
B12	Margaret Pace Park	No	Yes	Yes	Not Recommended / Requires Additional Evaluation
B13	Morningside Park	No	Yes	Yes	Not Recommended / Requires Additional Evaluation
B14	American Legion Park	No	Yes	Yes	Not Recommended / Requires Additional Evaluation
B15	Purdy Dock	Yes if water tax use limited to permitted existing slip	No*	No**	Obtain an MOP to authorize commercial vessels
B16	Haulover Marina	Yes if water tax use limited to permitted existing slip	No*	No**	Authorized for Water Tax Use
<p>* This guidance is based on staff knowledge of the general area and is contingent upon the vessel operator maintaining adequate clearance between the deepest part of the vessel, and any benthic resources, and the submerged bottom such that there are no impacts, including but not limited to prop dredging, prop scouring, etc.</p> <p>** This guidance is based on the water tax utilizing a permitted slip at the permitted marine facility.</p>					

		is Water Tax Use Consistent with the MDCMPP?	Potential Water Depth Issues	Potential Benthic Resource Issues	Action needed for Water Tax Use
	MIAMI RIVER SITES				
R1	WASD Pump Station No.1	Yes, if limited to 1 transitory slip at the property and no other mooring	TBD	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R2	Lummus Park	Yes - 15 historic slips permitted including 1 transitory and 1 law enforcement	3' max draft	Not Likely	Can be Authorized for Water Tax Use upon MOP Issuance
R3	Jose Marti Park	Yes, if limited to 1 transitory slip at the property and no other mooring	TBD	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R4	Miami Riverside Center	Yes, if limited to 1 transitory slip at the property and no other mooring	No	Not Likely	Can be Authorized for Water Tax Use upon MOP Issuance
R5	Beneath the 2nd Avenue Bridge, North Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
45 R6	Beneath the 2nd Avenue Bridge, South Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Not Likely	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R7	Metro-Rail North Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R8	Metro-Rail South Shore	Yes, if limited to 1 transitory slip at the property and no other mooring	Not Likely	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R9	Riverwalk Metromover Station	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R10	5th Street Metromover Station	Yes, if limited to 1 transitory slip at the property and no other mooring	Not Likely	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R11	James L Knight Convention Center	Yes, if limited to 1 transitory slip at the property and no other mooring	TBD	Not Likely	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels
R12	Miami Circle Park	Yes, if limited to 1 transitory slip at the property and no other mooring	Yes	TBD	Obtain a Class I permit for mooring structures - vessel draft limitations and operational conditions may be implemented - Obtain an MOP for commercial vessels



Attachment B: Haulover Park Marina - Shallow Water Depth Area



Attachment C: Sea Isle Marina - Conservation and Mooring Prohibited Area

ATTACHMENT B
GRANT RESEARCH

Waterway Transportation Grant Programs

Federal Agency	Catalog of Federal Domestic Assistance	Program Name	Program Description
<i>Department of Interior (U.S. Fish and Wildlife Conservation Commission)</i>	15.622	Boating Infrastructure Grant	Funding through competitive and non-competitive grants is provided for tie-up facilities for transient recreational boats 26 feet or longer (non-trailerable). Eligible projects include slips expressly designed for these recreational boats; mooring buoys, day-docks, floating docks, floating breakwaters, safe harbors; fixed piers, breakwaters, retaining walls, bulkheads; channel markers, buoys, directional information and support facilities designated for transient recreational boats such as restrooms, pump-out stations, dockside utilities, water supplies, recycling and trash receptacles; initial one-time only dredging, only to provide transient vehicles with safe channel depths to the transient facility.
<i>Federal Highway Administration</i>	20.205	Highway Planning and Construction (Congestion Mitigation and Air Quality Improvement)	Funds may be used for transportation project or program that is likely to contribute to the attainment or maintenance of a national ambient air quality standard, with a high level of effectiveness in air pollution, and that is included in the metropolitan planning organization's (MPO) current transportation improvement plan (TIP) or the current state transportation program (STIP) in areas without an MPO. May also use Surface Transportation Program funds (STP).
<i>Federal Transit Administration</i>	20.500	Federal Transit Capital Investments	It supports transit capital projects that are locally planned, implemented, and operated. The majority of the projects are fixed-guideway transit projects, meaning they use or occupy a separate right-of-way such as rails, catenaries, or exclusive bus lanes. This includes rapid rail, light rail, streetcar, commuter rail, and bus rapid transit (BRT). However, ferry projects and corridor-based BRT projects that do not use an exclusive bus lane but have other characteristics similar to rail transit service are also eligible.

Federal Agency	Catalog of Federal Domestic Assistance	Program Name	Program Description
<i>Federal Transit Administration</i>	20.507	Passenger Ferry Urbanized Area Formula (Section 5307h)	Funds to support passenger ferry projects and ferry operators throughout the United States and selected territories. The funds will support existing ferry service on many of the nation's waterways, establish new ferry service where it is needed most, and help to repair and modernize ferry boats, terminals and related facilities that thousands of residents in these communities depend on. Funds may not be used for operating expenses, planning or preventive maintenance.
<i>Department of Transportation</i>	20.816	America's Marine Highways	Will assist to expand the use of water transportation using designated Marine Highway projects to create new or expand existing services along designated Marine Highway routes.
<i>Department of Transportation Office of the Secretariate</i>	20.933	National Infrastructure Investments (TIGER)	Funds will be awarded on a competitive basis for surface transportation projects including, but not limited to: 1) highway or bridge projects eligible under title 23 USC; 2) public transportation projects eligible under chapter 53 of title 49 USC; 3) passenger and freight rail transportation projects; and 4) port infrastructure investments, that will have a significant impact on the Nation, a metropolitan area, or a region.
State Agency	Catalog of State Financial Assistance	Program Name	Program Description
<i>Florida Department of Transportation</i>	55.014	Intermodal Development Program	Provides funds to assist with local government or private sector projects that enhance transportation facilities and projects which provide improved access to airports and seaports, interchanges and highways which provide access to airports, seaports and other multimodal facilities. Continued emphasis has been placed on improving road and rail access to Florida's seaports and airports. Major statewide projects receiving intermodal access funding include the South Florida Rail Corridor double tracking project and the Miami Intermodal Center.

State Agency	Catalog of State Financial Assistance	Program Name	Program Description
<i>Department of Interior (U.S. Fish and Wildlife Conservation Commission)</i>	77.006	Florida Boating Improvement Program	It provides pass-thru funding through the State for increased boating access and boating-related activities on coastal and/or inland waters of Florida. Eligible projects include boat ramps; lifts and hoists; marine railways; and other public launching facilities; piers, docks and other mooring facilities; recreational channel marking and other uniform waterway markers; derelict vessel removal, boating education, economic development initiatives to promote boating; and other local boating-related activities that enhance boating access for recreational boaters.
State District	CFDA/CSFA	Program Name	Program Description
<i>Florida Inland Navigation District</i>	N/A	Waterways Assistance Program	It will provide financial assistance to local governments to alleviate problems associated with the Atlantic Intracoastal Waterway and associated waterways within the District. Waterway related projects must be located on natural, navigable channel dredging, channel markers, navigation signs or buoys, boat ramps, docking facilities, fishing and viewing piers, waterfront boardwalks, inlet management, environmental education, law enforcement equipment, boating safety programs, beach re-nourishment, dredge material management, environmental mitigation, and shoreline stabilization.

EXHIBIT B

Meetings with municipalities/potential stops/DERM-Report



Perhaps a Regional approach for an RFP will be the most comprehensive approach for the deployment of these services

Miami-Dade County Waterborne Transportation

On-Demand Services

DRAFT

DTPW – Irene Hegedus



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On-Demand Waterborne Transportation

Miami-Dade County

Department of Transportation & Public Works

There are several components of Waterborne Transportation: Recreational, Commuter and On-Demand services. This effort focuses on the On-Demand service component. Miami-Dade County is interested in assisting municipalities in the launching of this service and as such, has been meeting with the various municipalities that have access to the waterfront and with those municipalities that have expressed interest in the service. This effort is specific to facilitate discussions with Florida Fish and Wild Life and DERM.

Florida Fish and Wild Life expressed some concerns about On-Demand services. The concerns were relative to the number and type of vessels operating in the bay, at any given time, which could potentially have a negative effect on sea grass and marine protected zones. At that time, we suggested meeting with the municipalities and attempt to determine how many existing and potential docking facilities may be used for the service. This information would be provided to Florida Fish and Wild Life and DERM for their review and comment.

To date the following municipalities have been identified:

City of Aventura	Town of Bay Harbor Islands
City of Coral Gables	Town of Golden Beach
City of Miami	Town of Surfside
City of Miami Beach	Village of Bal Harbour
City of North Bay Village	Village of Indian Creek
City of North Miami	Village of Key Biscayne
City of North Miami Beach	Village of Miami Shores
City of Sunny Isles Beach	Village of Palmetto Bay

Most of the municipalities have expressed interest in the On-Demand Service. Although Miami-Dade County is not part of the procurement process for this service, it is interested in assisting the municipalities identify potential docking facilities and engage in conversation for waterborne transportation strategies. The result has been very positive and encouraging.

The meetings and information discussed are as follows:

City of Aventura

Meeting date: December 7, 2016
Time of Meeting: 3:00 pm

Attending:

Eric M. Soroka, City Manager 19200 W. Country Club Dr. Aventura, FL 33180 Tel: (305) 466-8910 Fax: (305) 466-8919 esoroka@cityofaventura.com	Joseph S. Kroll, Director of Public Works 19200 W. Country Club Dr. Aventura, FL 33180 Tel: (305) 466-8970 Fax: (305) 466-8939 jkroll@cityofaventura.com
Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1 st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov	

Discussion:

1. All property along the water's edge is private property.
2. Back in 2006, they looked at potential landing sites and could not identify them. They explained that even if able to negotiate with private developments/developers location for docking facilities, parking would continue to be an issue.
3. The City of Aventura currently has 6 trolley routes and move approximately 20,000 to 25,000 passengers monthly.
4. They are very interested in the commuter service and discussions about creating a trolley route dedicated to the transport of passengers between the City of Aventura and Haulover Marina took place. This route could potentially match the proposed headways for the waterborne commuter service.

City of Coral Gables

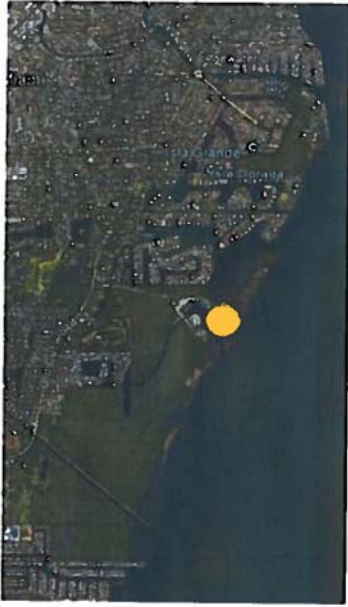
Meeting date: October 24, 2016
Time of Meeting: 9:00 am

Attending:

Ed Santamaria, Director of Public Works 2800 SW 72 Ave Coral Gables, FL 33155 Tel: (305) 460-5000 pwdepartment@coralgables.com	Jessica Keller, Assistant Director Public Works Department Tel: (305) 460-5618 jkeller@coralgables.com
Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1 st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihegedus@miamidade.gov	

Discussions:

1. Coral Gables is in support of Waterborne Transportation and multi-modal options. They want to be partners with MDC.
2. Ed explained that they do not have as big of a new as other municipalities and the only potential marina would be to the South-East of Coral Gables where they have a very low ridership.
3. They would consider Matheson Hammock Park but do not have plans to connect to a circulator.



● Matheson Hammock Park

City of Miami

Meeting date: Several/ last 12/19/2016
 Meeting Time: 11:00 am

Attending:

Alberto Parjus Assistant City Manager 444 SW 2 Av Miami, FL 33130 Tel: () Fax: () aparjus@miamigov.com	Dan Rotenberg Director of Real Estate & Asset Mgmt 444 SW 2 nd Av Miami, FL 33130 Tel: (305) 416-1458 Fax: (305) 400-5061 drotenber@miamigov.com
Andrew B. Schimmel Senior Project Representative 444 SW 2 nd Av Miami, FL 33130 Tel: (305) 416-1457 Fax: (305) 416-5061 aschimmel@miamigov.com	Julian Guevara Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FL 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov
Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1 st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihegedus@miamidade.gov	

Discussions:

1. The City of Miami, via a resolution 15-00655 identified locations within the city of Miami for on-demand waterborne transportation services. There were many sites identified and not all are adequate for the service, either because of water depth issues or simply because proximity to each other. The sites identified by resolution were:
 - a. Miami River:
 - i. North Shore:
 1. WASD pump Station #1
 2. Miami Riverside Center
 3. Beneath the 2nd Avenue Bridge
 4. Metrorail
 5. Riverwalk Metromover station

6. 5th Street Metromover station
7. James L. Knight Convention Center

ii. South Shore:

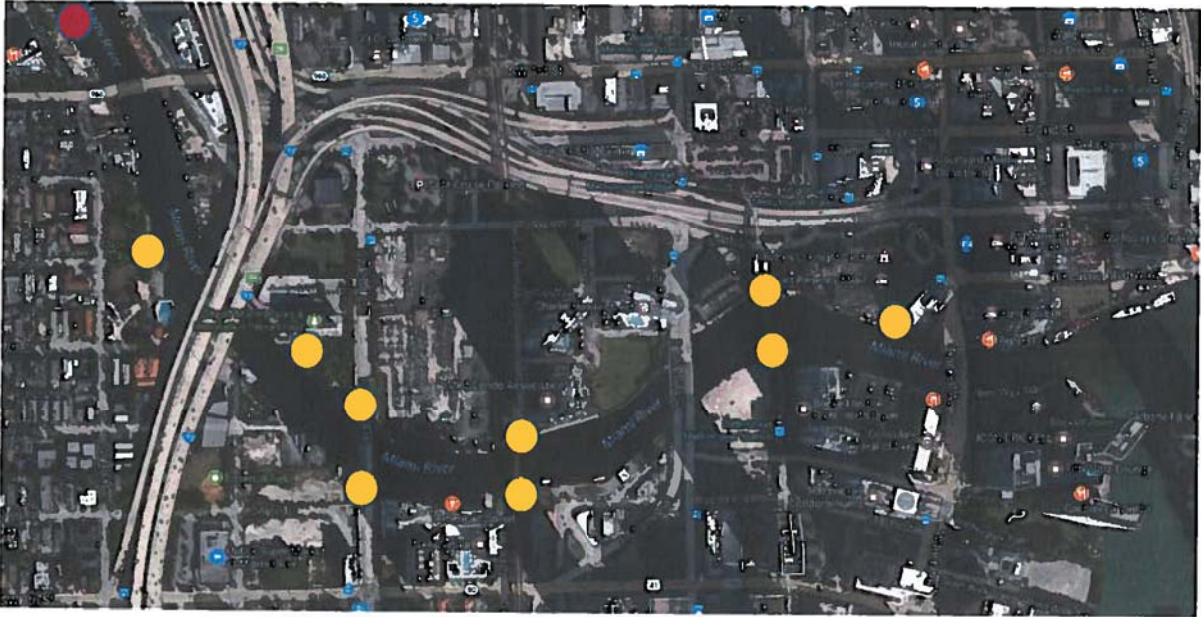
1. Jose Marti Park
2. Beneath the 2nd Avenue bridge
3. Metrorail

b. Other sites:

- i. Peacock Park
- ii. City Hall
- iii. Kennedy Park
- iv. Alice Wainwright Park
- v. Brickell Park
- vi. Bayfront Park
- vii. American Airlines Arena
- viii. Museum Park
- ix. Margaret Pace Park
- x. Morningside Park
- xi. American Legion Park
- xii. Any other sites that may be agreed upon at a later time.

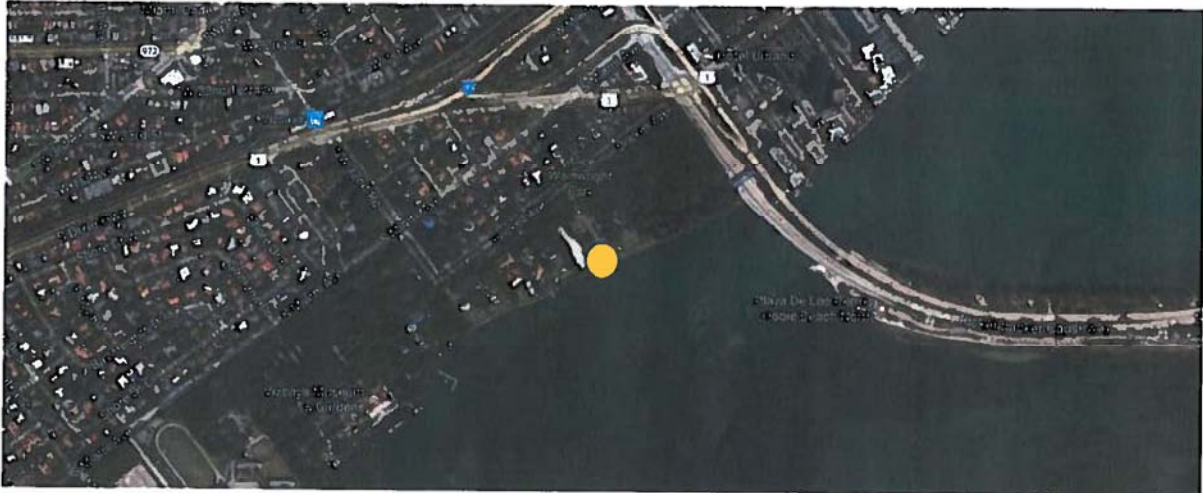
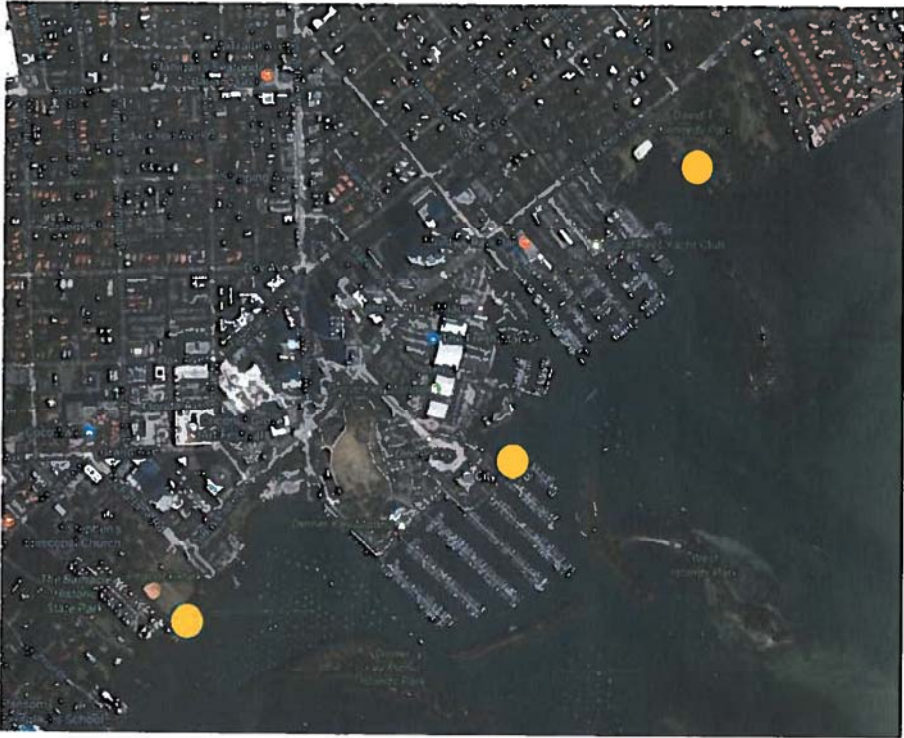
2. Mr. Parjus explained that the City of Miami has been working on language for On-Demand waterborne transportation services ordinance. Ms. Hegedus noted that as previously discussed, the County is working on a regulatory ordinance. Mr. Parjus noted that will need to talk to the Mayor and the City Manager to verify that it is acceptable to coordinate the language or their proposed ordinance with that of the County (in preparation).
3. The City of Miami intends to provide no subsidy to this service.
4. Irene explained that during the meetings with the various municipalities, it was suggested that a regional RFP be issued. Mr. Parjus noted that if there is an intermodal agreement with the participating municipalities, he would have no issue with the regional RFP; and, as stated before, this would be OK as long as there is no subsidy.
5. The City of Miami does not want contractual obligations for this service; however, it is understood that there will need to be some agreement for the use of City owned docking facilities.
6. The City of Miami will prefer and RFI instead of an RFP with a set of standards set by the County.
7. Mr. Parjus noted that the RFP or RFI should limit the size of the vessel that can be used for the service.

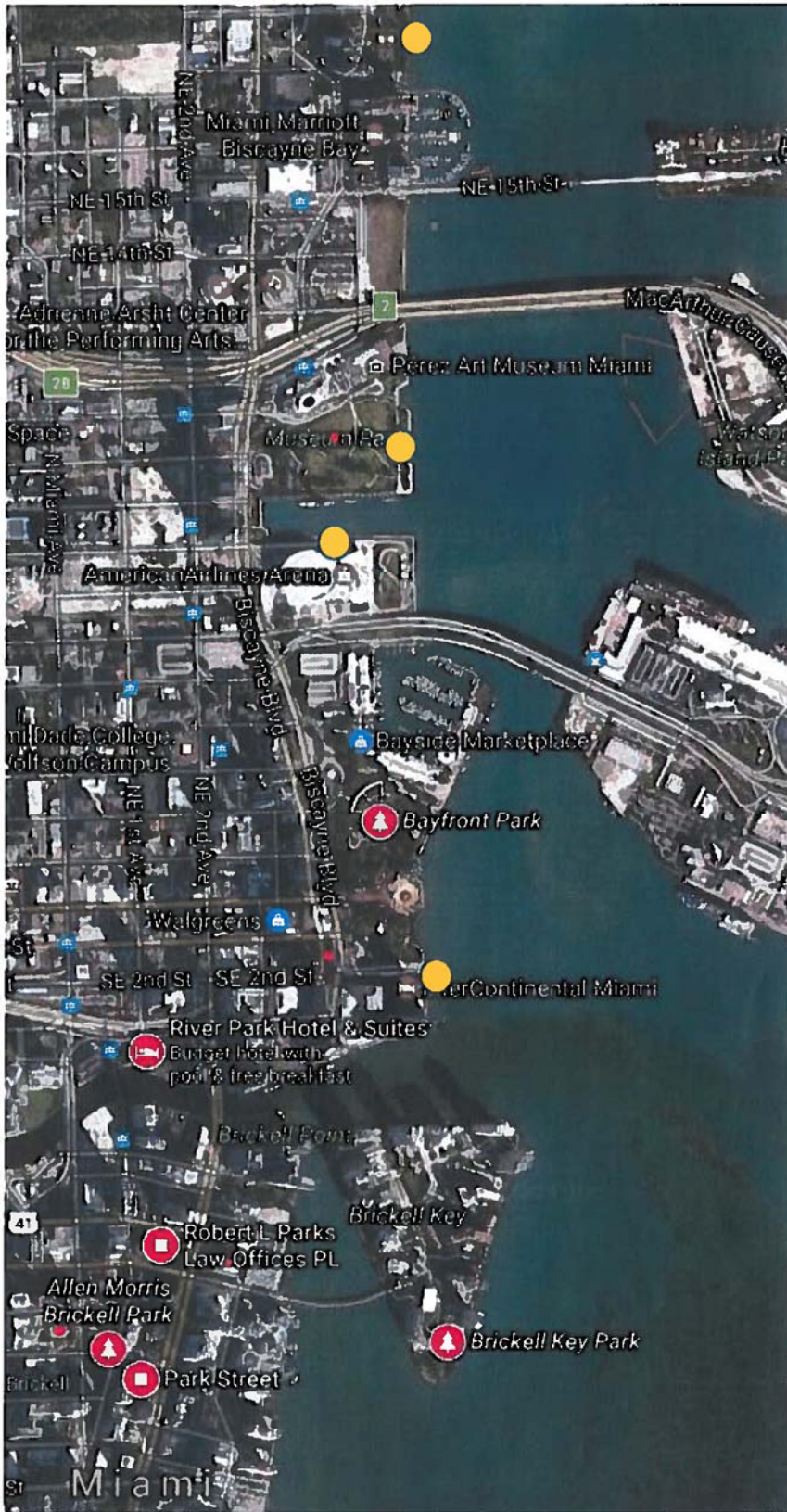
Miami River Sites



- Sites identified
- Sites under construction

Biscayne Bay Sites:







City of Miami Beach

Meeting date: December 20, 2016
 Time of Meeting: 11:00 AM

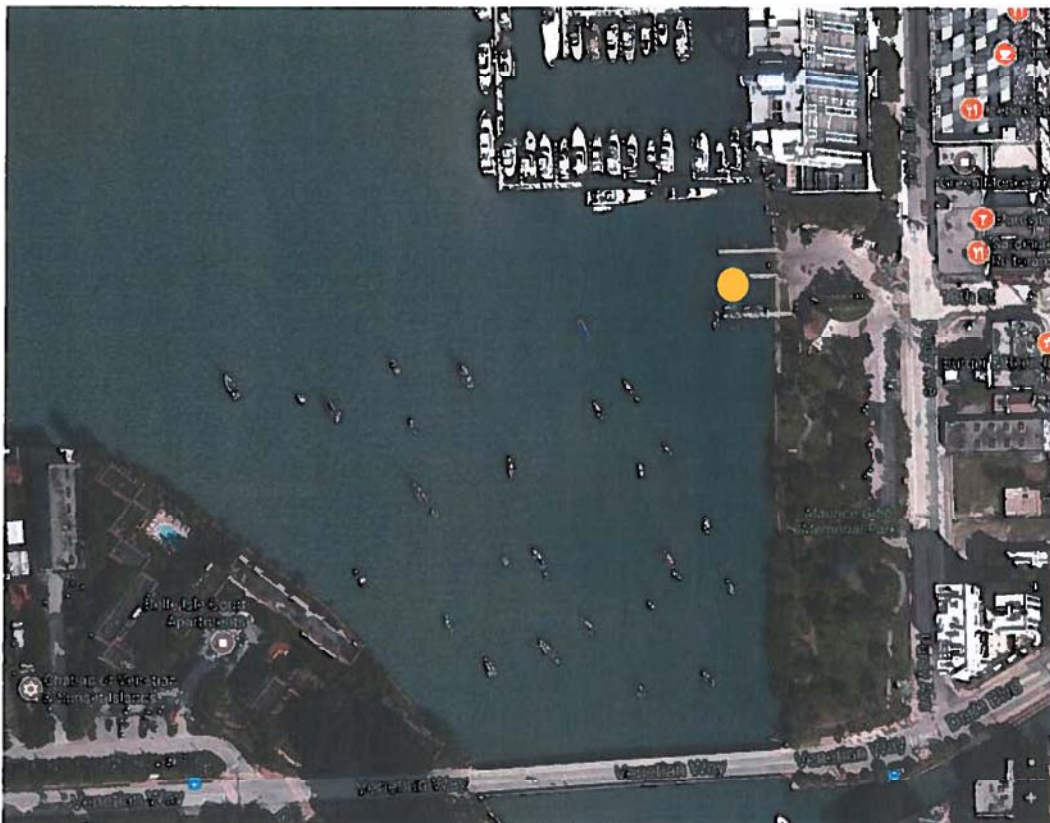
Attending:

<p>Jimmy Morales City manager City of Miami Beach 1700 Convention Center Dr. Miami Beach, FL 33139 Tel: (305) 673-7010 Fax: (305) 673-7782 jimmymorales@miamibeachfl.gov</p>	<p>Jose Gonzalez Director, Transportation City of Miami Beach 1700 Convention Center Dr. Miami Beach, FL 33139 Tel: (305) 673-7000 josegonzalez@miamibeachfl.gov</p>
<p>Milos Majstorovic Transportation Operations Supervisor City of Miami Beach 1700 Convention Center Dr. Miami Beach, FL 33139 Tel: (305) 673-7000x6855 milosmajstorovic@miamibeachfl.gov</p>	<p>Julian Guevara, Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FL 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov</p>
<p>Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov</p>	

Discussions:

1. Irene explained the Commuter and on-demand services and what has been done to date.
2. Mr. Gonzalez noted that they are about to launch their first year pilot project from Purdy to Sea Isle Marina, to Bayfront Park to Miami Beach Marina. The program will run Friday, Saturday and Sunday. The cost will be \$10 for Miami Beach residents and \$20 roundtrip for military and senior citizens. The annual pass will be \$295 even if running all week long.

3. Jose explained that F.I.N.D may have restrictions if they provide funding. These restrictions apply if there are differences in pricing for residents. Miami Dade County will follow up.
4. Mr. Morales noted that they believe that the on-demand service may need subsidy.
5. Mr. Guevara asked what the pilot project will be testing. The pilot project was designed to create awareness and promote waterborne transportation. It was noted that Miami Beach Commission believes in waterborne transportation as an alternative mode.
6. The existing interim agreement requires that the Miami Water Taxi, Inc provide the City of Miami Beach a surcharge collected from every ticket sales.
7. Mr. Morales is open to discussions and it is not opposed to a regional RFP
8. Discussion about amphibian vessels took place.
9. Miami Beach does not have another location for On-Demand services along the waterfront. At this time, they have Purdy.
10. The Miami Beach Marina is a City Marina which is operated by the RCI Marine Group.
11. Discussions about the commuter service took place:
 - a. Mr. Morales is not sure if the Purdy-Sea Isle marina route would be successful. It was noted that the vehicular travel time on the Venetian Causeway is about 20 min. The boat ride in a commuter service will be about 10 min.
 - b. It was suggested that the County explore Pelican Harbor – Sea Isle Marina route instead of the Purdy-Sea Isle Marina. This suggestion is based on idea that it may capture more passengers and have the potential to decongest Miami and Miami Beach as more traffic is north of 71st street on both sides of the causeway.



City of North Bay Village

Meeting date: July 27, 2017
 Time of Meeting: 12:00 noon

Attending:

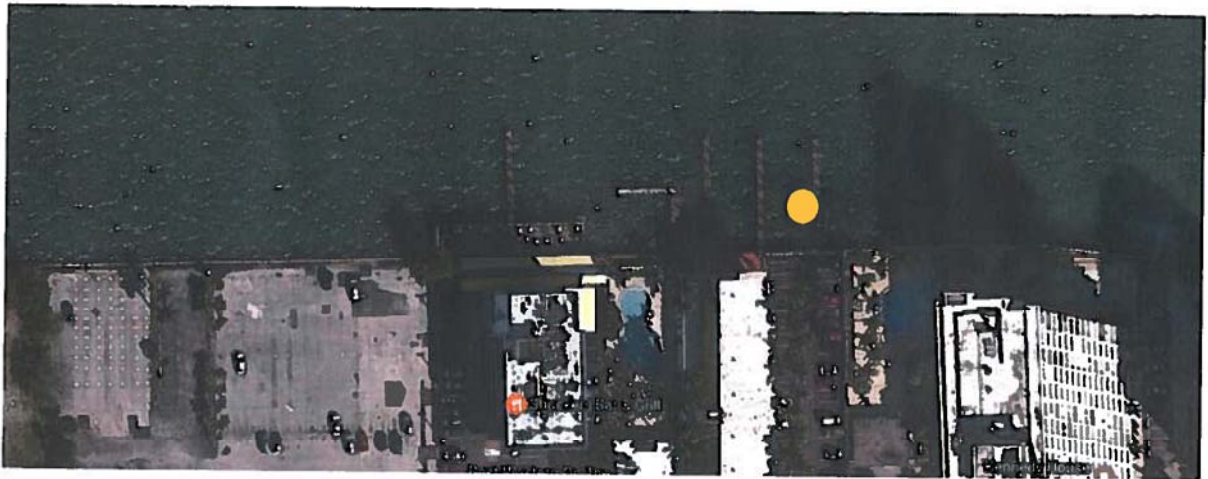
<p>Frank Rollason, City Manager 1666 Kennedy Causeway, Suite 300 North Bay Village, FL 33141 Tel: (305) 756-7171 Fax: (305) 756-7722 Cell: (305) 758-6144 frollason@nbvillage.com</p>	<p>Andreana Jackson, Commissioner Town of Surfside Municipal Building 9293 Harding Ave, Surfside, FL 33154 Tel: (305) 756-7171 Fax: (305) 756-7722 ajackson@nbvillage.com</p>	<p>Carlos Noriega, Chief of Police 1841 Galleon Street North Bay Village, FL 33141 Tel: (305) 758-2626 Fax: (305) 754-6832 cnoriega@nbvillage.com</p>
<p>Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihegedus@miamidade.gov</p>		

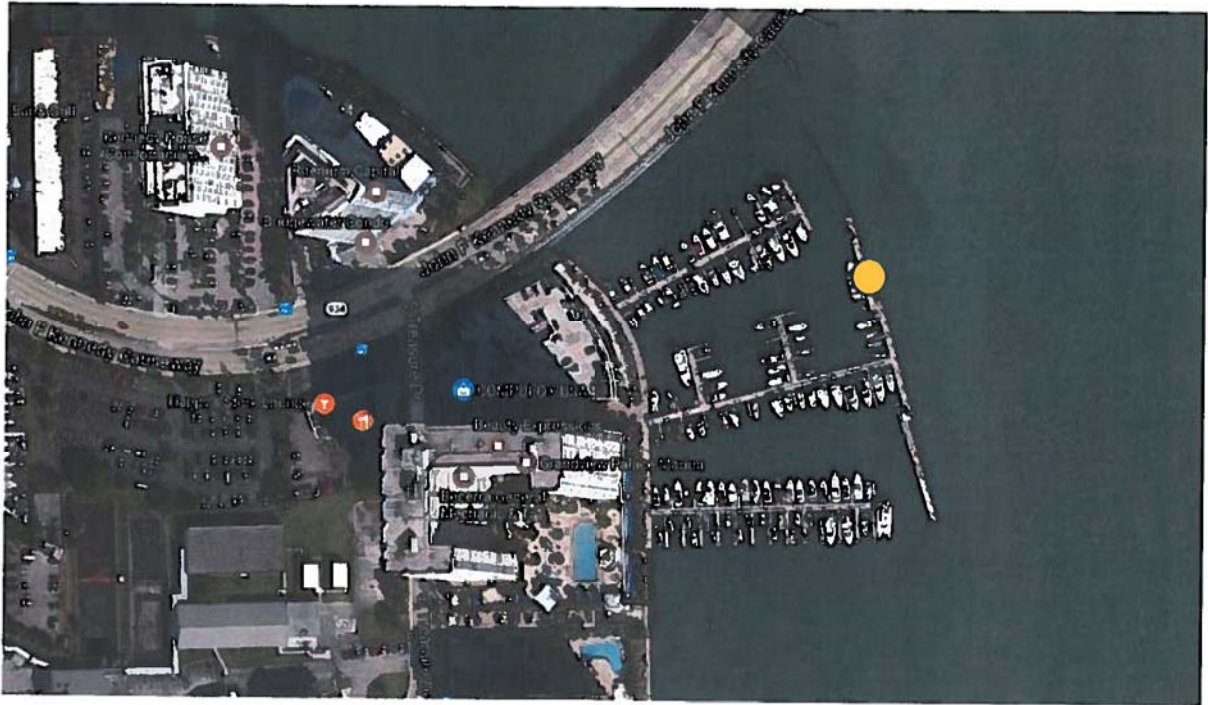
Discussions:

1. Currently working with F.I.N.D on boardwalk
2. The Boardwalk will eventually have docks
3. Would like to incorporate an on-demand waterborne transportation service onto the dock configuration. Also consider Shuckers and the marina at the east end of the islands
4. Currently working on sea grass surveys – Coastal is the contractor
5. Shuckers and Best Western were sold to a company in France which is willing to provide docking for on-demand services
6. The City has one circulator
7. The City is considered the 12th denser municipality with 8,000 residents in less than ¾ mile.



- Shuckers Waterfront Grill
- Future Boardwalk
- Grand View Palace Marina





City of North Miami

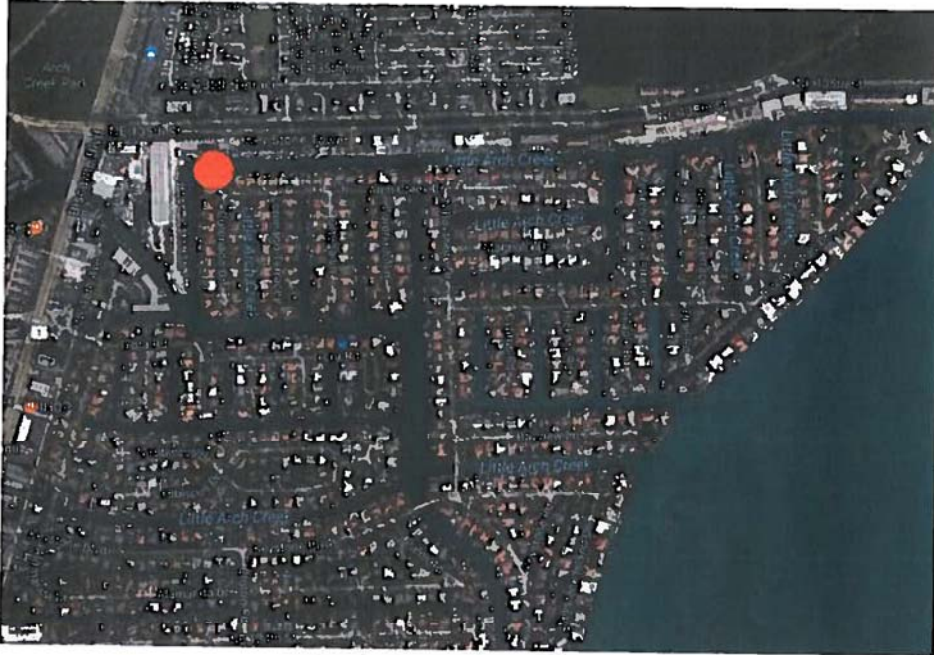
Meeting date: December 22, 2016

Time of Meeting: 2:00 pm

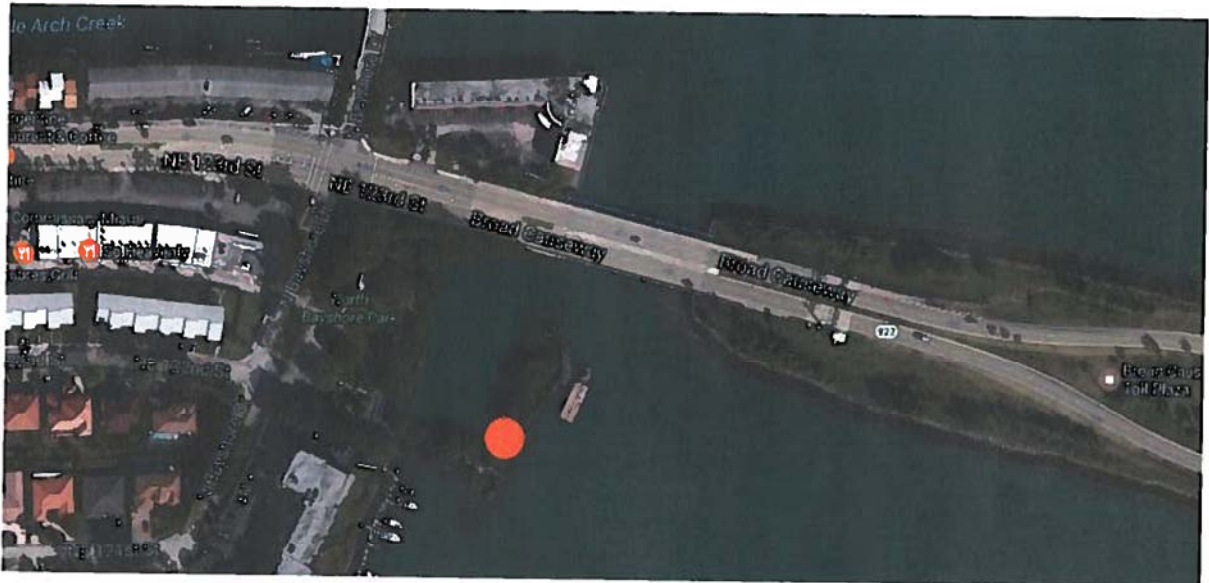
Attending:

<p>Arthur H. Sorey III Deputy City Manager City of North Miami 776 NE 126 Street North Miami, FL 33161 Tel: (305) 895-9888 Fax: (305) 893-1367 asorey@northmiamifl.gov</p>	<p>Julian Guevara, Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FL 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov</p>
<p>Irene Hegedus, Chief of Transp. Enhancements. Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov</p>	

1. Mr. Sorey indicated that the City of North Miami is very interested in Waterborne Transportation.
2. Several locations were discussed; however, it is unlikely that they may work.
Mr. Sorey will be reaching out to the Keystone Marina which is private. He feel that it is unlikely that this location would work.
The North Bayshore Park was also discussed but it was noted that the park has shallow waters and it is unlikely capable to servicing on-demand waterborne vessels. He noted that the existing pier is about to be remodeled. This location does not have parking.
The use of a circulator to access the park was discussed.
3. Mr. Sorey indicated that he will be doing some research and getting back to us.



● Keystone Marina



● North Bayshore Park

City of North Miami Beach

Meeting date: December 15, 2016
Time of Meeting: 12:00 noon

Attending:

Richard G. Lorber, AICP, LEED, AP
Director of Community Development
17050 NE 19th Avenue, 1st floor
North Miami Beach, FL 33162
Tel: (305)354-4441
Cell: (305) 332-1204
Fax: (305) 787-6012
Richard.lorber@citynmb.com

Irene Hegedus,
Chief of Transp. Enhancements.
Miami-Dade County
701 NW 1st Ct., suite 1700
Miami, FL 33136
Tel: (786) 469-5395
ihegedus@miamidade.gov

Discussions:

1. Very interested in Waterborne Transportation On-Demand services.
2. There is a primary site of interest – Existing Intercostal Mall located on 163 causeway. Mr. Lorber explained that the City of North Miami Beach recently rezoned the sites to allow for high density and mix use development. Architect Bernard Zyscovich was hired to prepare a master plan of the sites.
3. This is a private development. The City is interested in approaching the developer to see if a dock and its accompanied parking could be incorporated into the design. Mr. Lorber also noted that the area is highly congested and an underpass may be considered as access to the development.
4. There were two other sites discussed: The Harbor, and Marina Palms – both are private developments with potential issues with water navigation and docking facilities.
5. Mr. Lorber mentioned that the FIU Biscayne Campus may have a dock and they may be interested.



- Intercostal Mall Site- Preferred site
- The Harbor Site
- Marina Palms Site



City of Sunny Isles Beach

Meeting date: October 19, 2016

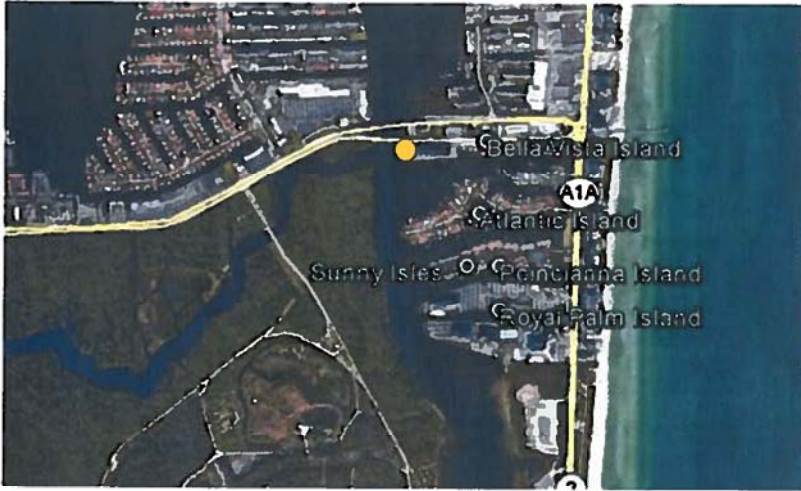
Time of Meeting: 4:00 pm

Attending:

<p>Christopher Russo, City Manager 18070 Collins Avenue Sunny Isles Beach, FL 33160 Cell: (786) 202-1131 Tel: (305) 792-1701 Fax: (305) 792-1683 crusso@sibfl.net</p>	<p>Claudia Hasbun, Zoning Adm./Planning Mgr. Community Development Department 18070 Collins Avenue Sunny Isles Beach, FL 33160 Cell: (786) 390-0951 Tel: (305) 792-1757 Fax: (305) 792-1569</p>
<p>Silvia Flores, Asst. Director Cultural & Community Services 18070 Collins Avenue Sunny Isles Beach, FL 33160 Tel: (305) 792-1706 Fax: (305) 792-1566</p>	<p>Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov</p>

Discussions:

1. Interested to be part of a pilot program for technology/signalization
2. Interested in docking facility – indicated that the placement would be under 829, at the end of Sunny Isle Boulevard. – it has a parking lot and will restore the existing docks. Land is owned by FDOT.
3. About 12 years ago had discussions with Broward as they are interested in having connections to the North.
4. Sunny Isles indicated that they have computerized schedules for trolleys and tracking. Contact Silvia Flores.



Town of Bay Harbor Islands

Meeting date: **NO MEETING**

Town of Golden Beach

Meeting date: October 28, 2016

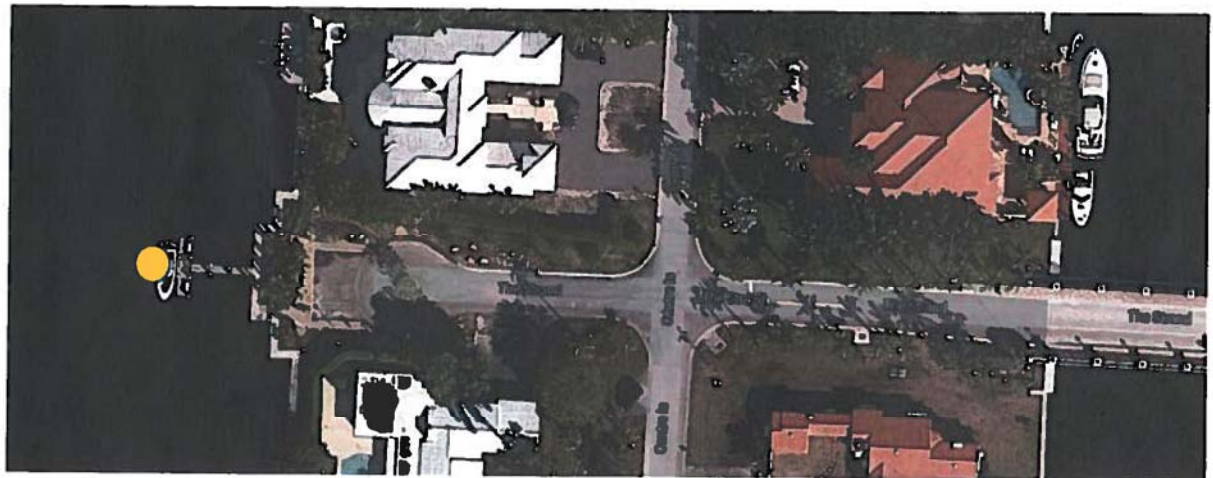
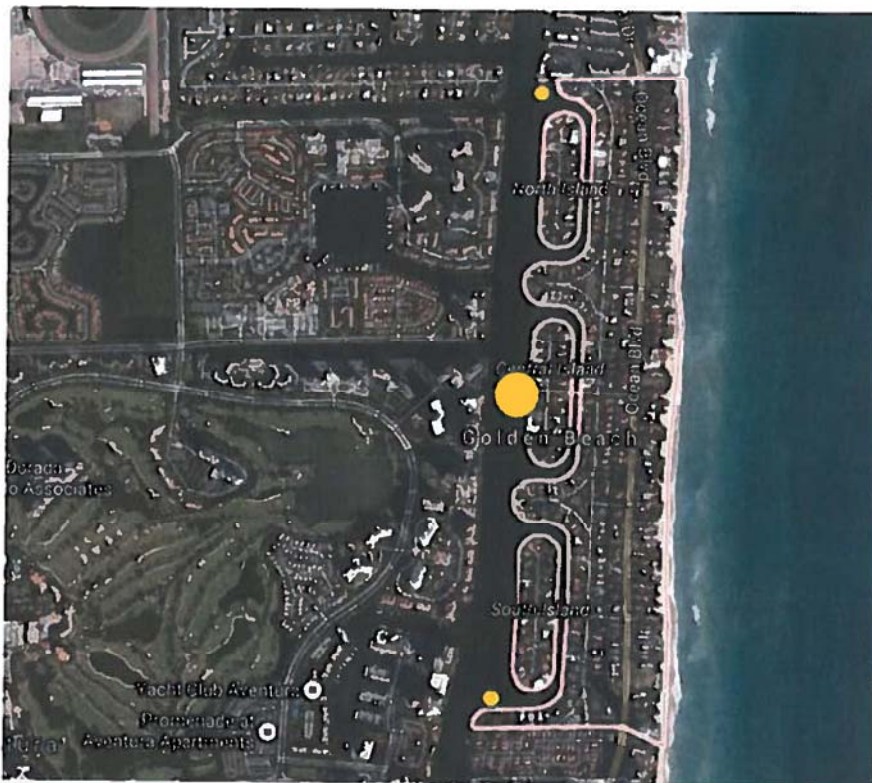
Time of Meeting: 10:30 am

Attending:

<p>Alexander Diaz, Town Manager 1 Golden Beach Drive Golden Beach, FL 33160 Tel: (305) 932-0744 mtalley@goldenbeach.us</p>	<p>Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihegedus@miamidade.gov</p>
<p>Julian Guevara, Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FL 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov</p>	

Discussions:

1. The town does not have a shuttle but share with Sunny Isles Beach
2. They have 6 canals and are becoming non-navigable because of the type of grass that is reproducing on the bottom.
3. Parks have sea wall space at the end of the islands that could be used for waterborne transportation.
4. There is also one dock, already in place, on the canal that is currently used by the police vessel. The dock is secured and there is parking.
5. Golden Beach is very interested.
6. It was noted that they would like MDC to come to the North-East Mayors meeting and talk about Waterborne Transportation. He is interested in exploring the issuance of a regional RFP for waterborne On-Demand services and having one city taking the lead. It was discussed that Miami Beach would probably be their best option as the mayors have good relationships with Mr. Levin.
7. Mr. Diaz explained that CITT does not allow the municipalities to share services. Each has to have their own shuttles. These municipalities, along Collins Avenue are very small this rule create a very inefficient system where riders must transfer 3 and 4 times to move 2 miles. He noted that Golden beach is about 1000 feet x ½ mile in area and are the second most affluent area in the county.



Town of Surfside

Meeting date: October 19, 2016

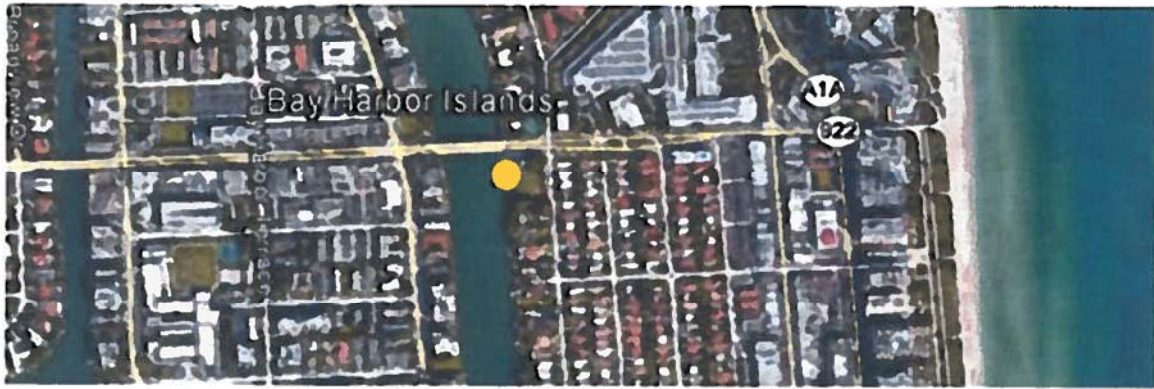
Time of Meeting: 11:00 am

Attending:

<p>Guillermo Olmedillo, Town Manager Town of Surfside Municipal Building 9293 Harding Ave, Surfside, FL 33154 Tel: (305) 861-4863 Fax: (305) 993-5097 golmedillo@townofsurfsidefl.gov</p>	<p>Randy Stokes, Assistant Public Works Director Town of Surfside Municipal Building 9293 Harding Ave, Surfside, FL 33154 Tel: (305) 861-4863 x236 Fax: (305) 861-1302 rstokes@townofsurfsidefl.gov</p>
<p>Irene Hegedus, Chief of Transp. Enh. Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov</p>	

Discussions:

1. Very interested in multi-modal forms of transportation
2. Potential location for on-demand waterborne transportation stop at 96th and intercostal – there is a park
3. There is no dock at this location
4. Interested in sharing dock facility with Bal Harbour and Bay Harbour islands
5. Mr. Olmedillo would like to speak to Mr. George Gonzales, Manager of Village of Bal Harbour and Ron Wasson, Manager of Town of Bay Harbor Islands.
6. It was explained that the 3 municipalities share a circulator which connects to Miami Beach and Aventura.
7. Very interested in sharing the cost of the docking facility



Village of Bal Harbour

Meeting date: October 21, 2016

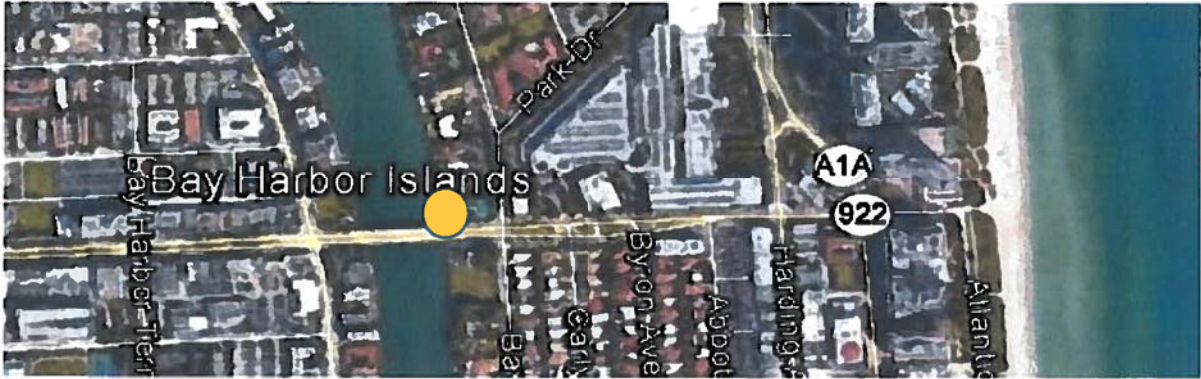
Time of Meeting: 11:00 am

Attending:

Jorge Gonzalez, Village Manager 655 96 th Street Bal Harbour, FL 33154 Tel: (305) 866-4633 jgonzalez@balharbourfl.gov	John Oldenbrug, Director of Parks & Public Spaces 655 96 th Street Bal Harbour, FL 33154 Tel: 305-993-7336 joldenbrug@balharbourfl.gov
Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1 st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov	

Discussions:

1. Interested in the dock across from City Hall. The dock needs to be repaired – vessels cannot go under the 96th street bridge
2. It was explained that each municipality has its own shuttle. Mr. Gonzalez would like assistance to improve and clean up the service in order to become more effective and efficient. He explained that he does not see why the shuttle has to stop in each of the condominiums along Collins Avenue
3. Each municipality spends about \$100,000 in their shuttle.
4. Noted that in conversations with Surfside they are interested in reaching out and see if the docking facilities cost can be shared between municipalities



Village of Indian Creek

Meeting date: **NO MEETING**

NOTE – On Friday, September 30, 2016 Village Clerk Marilane Lima contacted our office to follow up on our request to meet; Ms. Lima provided a verbal response stating that this initiative did not apply to village.

Village of Key Biscayne

Meeting date: **NO MEETING**

NOTE – On Friday, September 30, 2016 Chief of Staff Jennifer Duque contacted our office to follow up on our request to meet; Ms. Duque provided a verbal response stating that this initiative did not apply to village.

Village of Miami Shores

Meeting date: October 3, 2016
Time of Meeting: 3:30 pm

Attending:

Tom Benton, Village Manager 10050 NE 2 Avenue Miami Shores, FL 33138 Tel: 305-795-2207 Fax: 305-756-8972 bentont@miamishoresvillage.com	Irene Hegedus, Chief of Transp. Enhancmt. Miami-Dade County 701 NW 1 st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihegedus@miamidade.gov
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Discussions:

1. Mr. Benton explained that Miami Shores may not be interested in waterborne Transportation docking facilities. He noted that the only location would be at the end of 96 street along a linear park that Miami Shores has and where there are expensive residences right across from it. He expects neighbors to raise complaints about potentially having people park in front of these properties.
2. It was noted that this is an on-demand service and layovers are not expected to take place within this area; however, Mr. Benton asked for a letter summarizing the discussion to show to the elected officials and make a determination then.
3. North Bay Village has requested the potential for 3 stops. North Bay Village is in close proximity to Miami Shores. Multi-modal systems is important and perhaps, a trolley, could connect the village to other waterborne on-demand services that are located in close proximity.

Village of Palmetto Bay

Meeting date:

Time of Meeting:

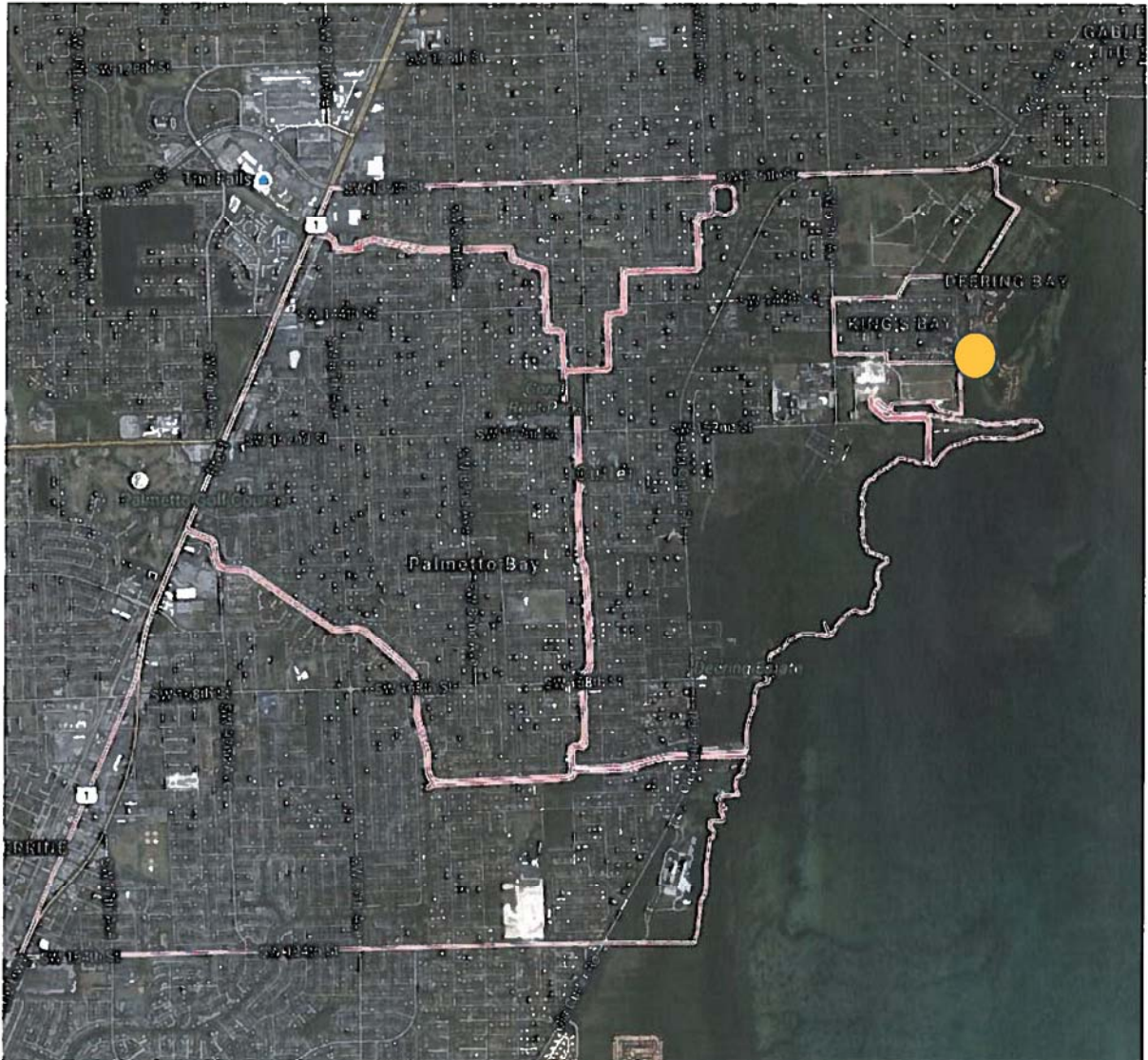
Attending:

<p>Ed Silva, Village Manager Village of Palmetto Bay Municipal Center Office of the Village Manager 9705 East Hibiscus Street Palmetto Bay, FL 33157 Tel: (305) 259-1234 Fax: (305) 259-1290 Esilva@palmettobay-fl.gov</p>	<p>Corrice Patterson, Director of Public Works Village of Palmetto Bay Public Services Department 9495 SW 180-th Street Palmetto Bay, FL 33057 Tel: (305) 969-5011 Fax: (305) 969-5091 cpatterson@palmettobay-fl.gov</p>
<p>Julian Guevara, Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FL 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov</p>	

Discussions:

1. The Village of Palmetto Bay recommended the Deering Bay area and/or the FPL site area for future waterborne use. The Village is currently seeking approval from the commission to purchase the FPL site (referred to as the Cutler Plant) – they mentioned that this site would be a lot more convenient than the Blackpointe marina site given its connectivity to transit and the ease of access from the bay (apparently the Manager is also a boater). The Deering Bay on the other hand is privately owned and any water taxi operation from these docks would require agreement between private parties for use.
2. They were interested in learning about the specifics of the Fort Lauderdale Water Taxi. We will send them the information we received from Robyn and also to get them the contact information for James.
3. They also wanted to see a template RFP for water taxi concession. We will forward Miami Beach's Agreement for their reference.
4. In general, they looked very eager to implement this method of transportation out of the recommended site. They understand that we will be working on an ordinance to clear the

permitting process for water taxi; they would like to be kept apprised of our progress. They have no problem with the waterbus pilot starting with the envisioned routes as they understand these have far less concerns and are more enticing to commuters.



FIU Biscayne Bay Campus

Meeting date: January 11, 2017
 Time of Meeting: 2:00 PM

Attending:

<p>Dr. Pablo Ortiz Vice President, FIU</p>	<p>Steven V. Moll Vice Provost, FIU 3000 NE 151 St. HL 314 North Miami, FL 33181-3605 Tel: (305) 919-5700 Fax: (305) 919-5391 mollsv@fiu.edu</p>
<p>Thomas Hartley Executive Dir., Parking and Transportation FIU 885 SW 109th Avenue, PG5 Market Station Miami, FL 33199 Tel: (305) 348-1655 Fax: (305) 348-6489 thatley@fiu.edu</p>	<p>Julissa Castellanos Dir. Academic Support Services + Operations FIU 3000 NE 151 St, LIB 314 North Miami, FL 33181 Tel: (305) 919-5708 Fax: (305) 910-5391 castellj@fiu.edu</p>
<p>Christina Schettini</p>	<p>Julian Guevara, Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FI 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov</p>
<p>Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov</p>	

Discussion:

1. Although FIU is not considered a municipality, it is strategically located along the waterfront with the potential of enhancing student services as well as Transportation for the community.

2. DTPW approached FIU Biscayne Campus administration to report on the various discussions that took place with the municipalities interested in the service and explore opportunities for a potential/future stop either for on-demand and/or commuter service docking facility.
3. The FIU campus currently has two docks. It was explained that one of the docks is fully functional and used for the research vessel. The other dock, closer to the Biscayne Bay requires upgrades and for all purposes is non-functioning.
4. The group noted that based on their demographics point-of-origin, most of their students come from the West (inland) and no necessarily would benefit from waterborne transportation; however, this service has the potential for opening higher attendance from students coming from the North along waterways, such as Ft. Lauderdale.
5. They may be interested in the on-demand service to gauge how the service does and then consider the commuter service.
6. Before they can provide an answer, they would like to get an idea on how much the reconstruction of the dock would be and would like to evaluate parking infrastructure. It was noted that the president of FIU, is not key on developing a parking ramp and there is the desire to continue with surface parking. The existing surface parking meets the campus demand but may be tight for a park+ride or commuter service type of approach.
7. FIU is not opposed to the idea and would like to investigate further.
8. FIU noted that they are more interested in the Coastal Link corridor as proposed by the MPO.

DERM

Meeting date: January 11, 2017
 Time of Meeting: 4:00 PM

Attending:

<p>Lee Hefty, Assistant Director, RER Division of Environmental Resources Management Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (305) 372-6754 Fax: (305) 372-6402 heftyl@miamidade.gov</p>	<p>Pamela Sweeney Chief RER Division of Environmental Resources Management Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (305) 372-6594 Fax: (305) 372-6402 Sweenpa@miamidade.gov</p>
<p>Lisa Spadafina Chief RER Division of Environmental Resources Management Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (305) 372-6567 Fax: (305) 372-6402 spadal@miamidade.gov</p>	<p>Julian Guevara, Municipal Manager Miami-Dade County 701 NW 1 Ct, Suite 1700 Miami, FL 33136 Tel: (786) 469-5133 Fax: (786) 469-5580 juliang@miamidade.gov</p>
<p>Irene Hegedus, Chief of Transp. Enhancements Miami-Dade County 701 NW 1st Ct., suite 1700 Miami, FL 33136 Tel: (786) 469-5395 ihgedus@miamidade.gov</p>	

Discussion:

1. Meeting took place to evaluate potential approach for the deployment of the waterborne On-demand Service.

2. The various locations were briefly discussed and noted that not all proposed docks are currently in place. DTPW will forward DERM the list of proposed locations for their evaluation.
3. It was noted that the West bank of the Biscayne Bay has many limitations due to the manatee migratory patterns.
4. Some areas on the West bank have historic docks and will be easier to evaluate the service for these locations. It was noted that the use of existing travel corridors is not critical, however, the approach to the docks is.
5. During the evaluation process DERM reviews the MOPs (marine operating plans) for each of the docks. The docks need to be a transient slip and evaluations are dictated by the use and the manatee plan.
6. Mr. Hefty suggested a 2 phase approach:
 - Get the service up and running using existing infrastructure with the necessary MOPs while at the same time continue with the process of evaluating and potentially changing the manatee protection plan.
7. It was noted that changing the manatee protection plan is a long process. The Department has been working on this but the state has been reluctant on any changes when demonstration of need is not present. It was also noted that the Commission does not have the authority to modify the protection plan. Only the State has that authority.
8. It was verified that DERM is not working on an Ordinance related to Waterborne Transportation.