

SIBshuttle



SUNNY ISLES BEACH SHUTTLE COMPREHENSIVE OPERATIONS ANALYSIS

June 15, 2023



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SUNNY ISLES BEACH SHUTTLE

COMPREHENSIVE OPERATIONS ANALYSIS

EXECUTIVE SUMMARY

The City initiated the Comprehensive Operations Analysis to enhance the performance of its three transit routes, the Orange Line #1, Orange Line #2, and Blue Line so that they can improve efficiency and provide more effective service to the City's residents and visitors. This study focusses on improving service to increase the satisfaction with the service, balancing the needs of residents with overall service, and consider transitioning to augmenting the transit service during low demand times with demand response service. The study analyzes the route alignment, schedule, amenities, and other aspects of good mobility service. From the passengers' perspectives, the study also included public outreach, on-board surveys, an on-line survey to the city at-large, and interviewing drivers.

Based on inputs from the public through surveys and at the two workshops, interviews with drivers and City staff, and quantitative analysis, the recommendations are:

1&2. Combined Blue and Orange Line Route and Schedule Improvements will include: The existing Blue Line is to be repurposed to complement recommended changes to the Orange Route, while focusing more on lowering enroute time by limiting stops, and, including:

- The Orange Line recommendations have shifted it to provide service to the west side of the City, more on North Bay Road and less on Collins Avenue (A1A) and Atlantic Boulevard.
- To complement this, the Blue Line will focus more on Collins Avenue (A1A) and Atlantic Boulevard, and less on North Bay Road.
- The Orange Line focuses more on reaching many residential destinations.
- The Blue Line focuses on reaching more commercial destinations.
- Both will cover all major destinations, parks, and civic locations.
- The Blue Line will have a more limited stop route to maintain faster enroute average speed.
- The Blue Line will maintain the same service span to facilitate transfers.
- The Blue Line will also be scheduled to provide timed, additional capacity to Norman S. Edelcup School to provide extra capacity for middle school dismissal load.

3. Bus Stop Improvements: additional bus shelters will be added to certain locations, especially those locations where the route has been foreshortened from extending into parking lots of residential developments. In addition, upon finding that there are passengers that are uncomfortable with the use of smart phone applications for arrival information, nineteen dynamic schedule information kiosks are recommended at major stops and stops where shelters are added for foreshortened route alignments. The City administration has already budgeted in FY 2023/24 for six of these kiosks at the most highly utilized stops.

4. Smart-Phone Application Improvements to: 1)Correct the "Easy Tracker" page and the "Where I Am" page to accurately determine the time before arrival at any stop, 2) add direction arrows to the moving bus symbols on the "Routes Tracker" page, and 3) provide a page to show MDT connections and NMB connections with live schedule information to show where and when connecting transfers can be made.



5. Bus Vehicle Improvements: Replacement buses are recommended to have the following characteristics: 1) low-floor buses; 2) alternative power sources based on life-cycle cost analysis, operational feasibility and transitioning considerations; and 3) steering geometry for the tightest turn enroute. Existing buses and new orders should be fitted with on-board passenger information systems; and 2 to 3 position bike racks attached to the front of the buses.



6. Sunday On-Demand Service: Implement on-demand services on Sundays and in lieu of the SIB Shuttle service, and during hours of regular shuttle service, (8:00 am to 8:00 pm) for a one-year trial program. Only road vehicles should be used, either electric passenger cars or electric low-floor vans. A capacity of two vehicles to start is recommended, with contract to upgrade to three if needed. The service area should be the same as the Shuttle service area, with the additions of Walmart and Oleta River State Park.



Proposed Route Map
Sunny Isled Beach Shuttle Orange Line and Blue Line



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INTRODUCTION AND PROJECT OVERVIEW

The City of Sunny Isles continues to successfully operate its own public transit shuttle system since 2003. The principal purpose of the service is to shuttle passengers from the residential communities to shopping, recreation, and other destinations. The shuttle provides valuable mobility to the city's residents, and by reducing the use of private passenger cars also helps to reduce traffic congestion on Collins Avenue.

The City initiated this study to enhance the performance of its three routes, the Orange Line #1, Orange Line #2, and Blue Line so that they can improve efficiency and provide more effective service to the City's residents and visitors. This study primarily focuses on improving service to increase the satisfaction with the service, balancing the needs of residents with overall service, and consider transitioning to augmenting the transit service during low demand times with demand response service.

The study analyzes the route alignment, schedule, amenities, and other aspects of good mobility service. To define good service and understand the characteristics that people want in the service, the study takes four approaches: 1) to ask people in public workshops, 2) to ask transit riders by live on-board surveys, 3) to ask all residents by an on-line survey, and 4) by interviewing drivers who are in constant daily contact with their transit patrons. We also understand that there are potential new attractions by which the service may be improved, and all of the surveys ask about new destinations.

Overview of Scope of Work

This study includes four tasks to build a base of information about the existing shuttle system, its ridership, and travel behavior in the city. This information has been used to formulate enhancements and improvements that respond to current and near-term needs. These tasks are briefly described below.

- Task 1 Identify Existing Conditions and Route Performance: The purpose of this task is to collect all data necessary to assess the existing conditions and route performance. This will be used as the basis for any alternative route development. This set of existing conditions will be the basis upon which to develop all recommendations and system improvements, including:
- Boarding and alighting analysis of SIB Shuttle bus trips;
 - An onboard passenger interview survey;
 - Review of other transit circulators, shuttles and on-demand transit services in regional and adjacent municipalities circulators, shuttles;
 - Review of roadway conditions and location of major trip generators, as well as potential interface locations with other transit services
 - Review of operational data for Orange Line #1, Orange Line #2, and Blue Line
- Task 2 Alternative Routes: Review of alternative routes, including analysis of transfer locations/times to determine the efficiency of route connectivity, and feasibility of express and limited stop services.
- Task 3 Public Outreach: Preparation for, conduct of, and summarization of a public outreach, including the administration of an on-board survey of existing ridership.
- Task 4 Final Report: Preparation of the final recommendations and report.



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SIB Shuttle
Comprehensive Operations Analysis

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BACKGROUND & EXTERNAL CONDITIONS

The City of Sunny Isles Beach is comprised of 1.78 square miles of land located on a barrier island in northeast Miami-Dade County, Florida.

Bounded by the Atlantic Ocean on the east and the Intracoastal Waterway on the west, Sunny Isles Beach is located on a barrier island that is 2-½ miles in the north-south direction and a ½-mile east to west at the widest point. The City is characterized by a very dense residential population in a mix of high-rise, medium-rise, town house, and single-family residences, with a dense and narrow strip of commercial use along the west side of Collins Avenue and a smaller strip of mixed and commercial use along Sunny Isles Boulevard (NE 163rd Street), in the Gateway area. The three major roadways in the City maintained and under the jurisdiction of the State of Florida: Collins Avenue (State Road A1A); Lehman Causeway (State Road 856); and Sunny Isles Boulevard (State Road 826).

The City incorporates a K-8 public school within its boundaries, the Norman S. Edelcup school enrolling 2,200 students in a four-story building with fields at 201 182nd Drive. The City does not include a public high school within its borders, and high school students within the City are districted to attend the Alonzo and Tracy Mourning Senior High Biscayne Bay Campus, with an enrollment of 1,700 located at 260 NE 151st Street in North Miami Beach. Outside of the Sunny Isles Beach, the City’s students are also enrolled in the i-Prep Academy North, a public charter school at 1420 NE 21st Street, and in the public magnet school, MAST Academy at 3000 NE 151st Street.

As of the 2020 census, Sunny Isles Beach has a population of 22,342 people, comprised of 5,713 families living in 10,487 households. Sunny Isles Beach is a culturally diverse city, with many first-generation persons from eastern Europe.

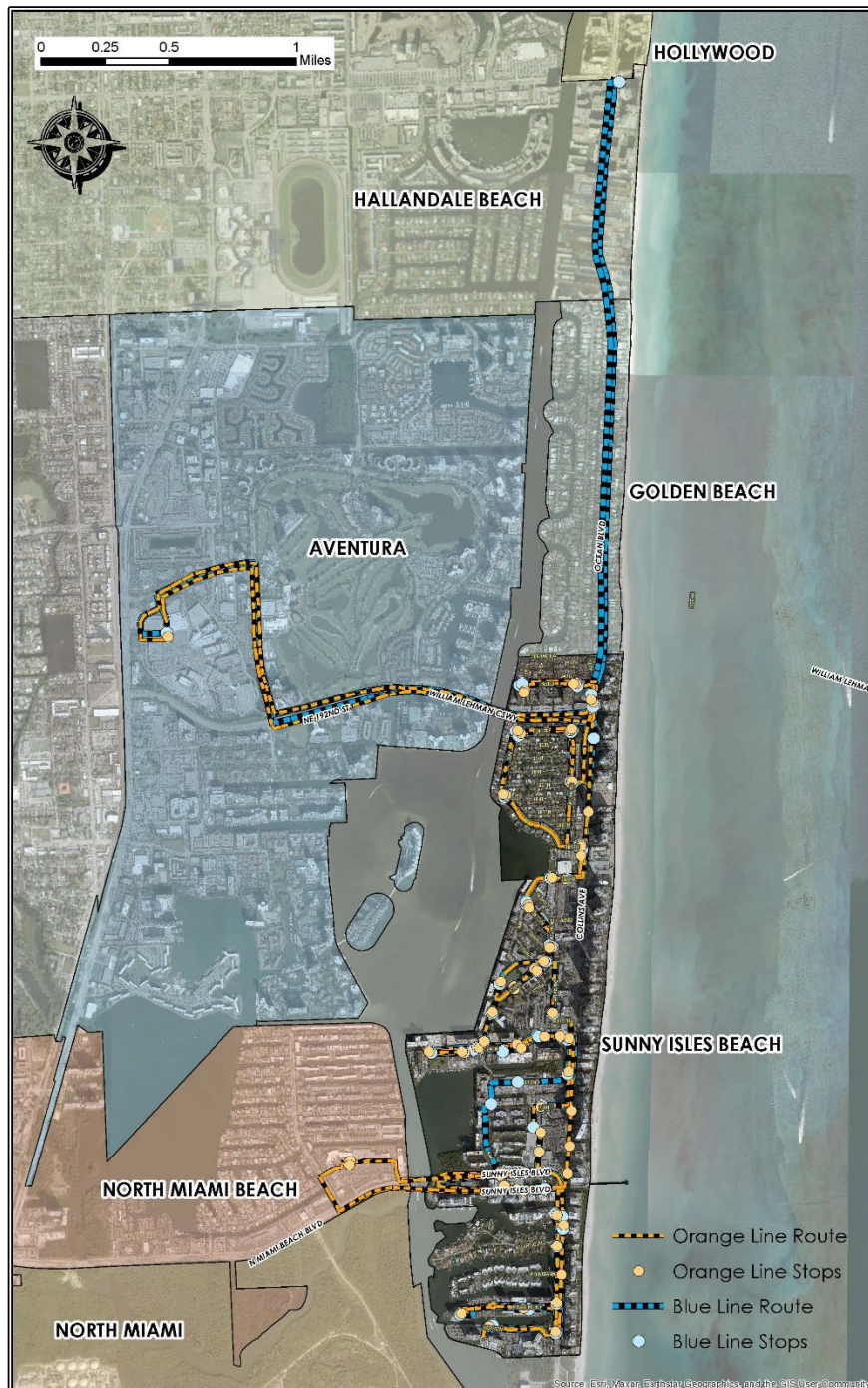
The City is compact, has a small street grid pattern with a complete sidewalk network, and is built out with high overall residential density, concentrations of elderly residents, and a growing student population.

The map series on the following pages illustrates the existing transportation network and characteristics of the City that are important to indicating the need for quality community transit.

**Exhibit 1
City of Sunny Isles Beach Boundaries**



Exhibit 2
City of Sunny Isles Beach Shuttle Routes



The Sunny Isles Beach Shuttle provides service throughout the City to augment the county-wide bus service provided by Miami-Dade Transit (MDT). While overlapping the MDT service area along Collins Avenue (A1A), Sunny Isles Boulevard (SR-826) and 174th Street, the SIB Shuttle provides coverage with closer stop spacing, shorter walks, and faster service to destinations that are more specific to the sunny Isles Beach residents' needs.

Exhibit 3
City of Sunny Isles Beach Miami-Dade Transit Network



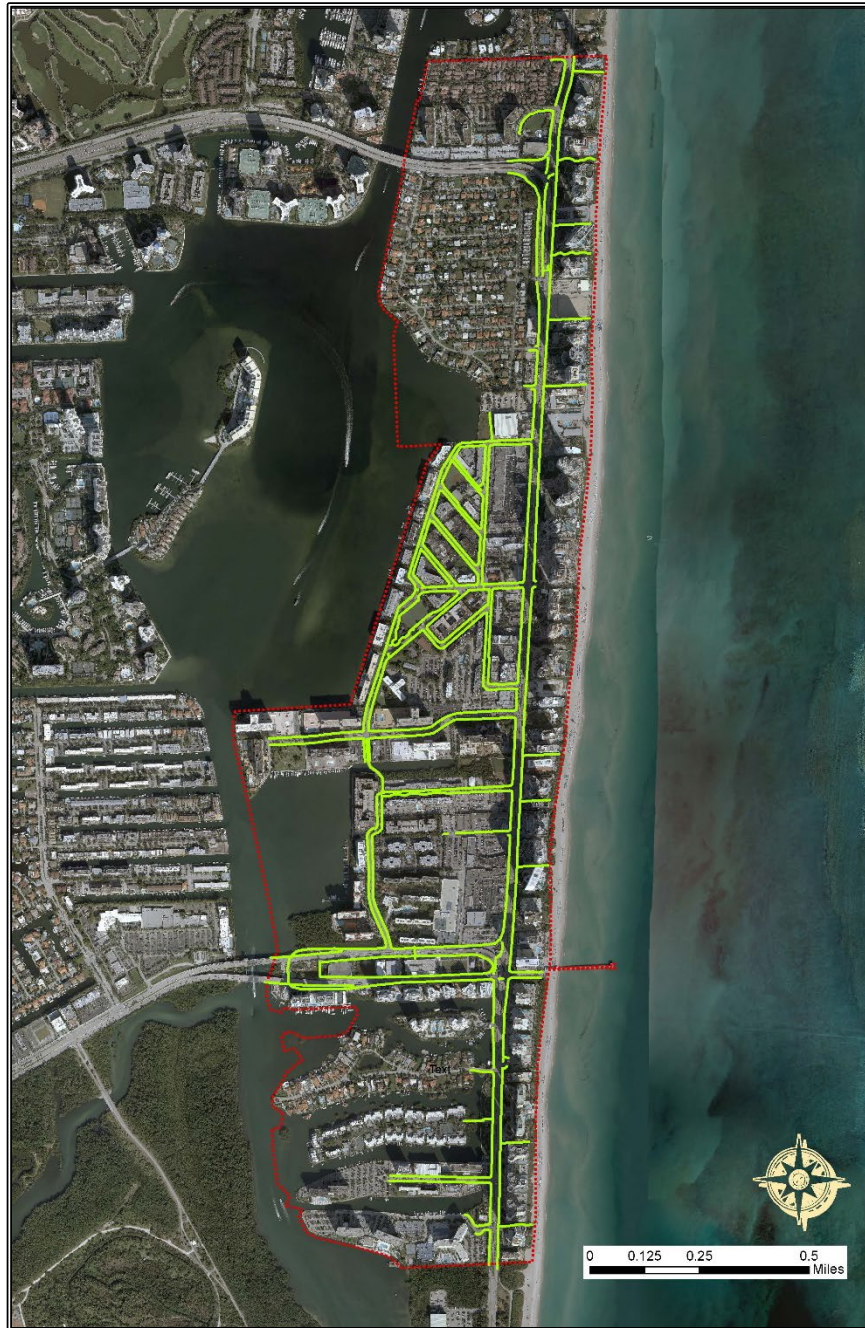
The regional transit network provided by MDT includes six routes that cross through the City of Sunny Isles Beach. The MDT network provides for the longer-distance needs of Sunny Isles Beach residents and day-time populations, providing direct service to destinations that include Downtown Miami, the Omni & Performing Arts Center, Miami Beach and South Beach, Mt. Sinai Hospital, the Northeast Transit Hub, Aventura Mall, and Hallandale Beach Boulevard. Routes 119 and 120 provide direct connections to the Miami Metro Mover and Metro Rail.

Exhibit 4
City of Sunny Isles Beach Roadway Network



The street network in Sunny Isles Beach is north-south spine that is Collins Avenue (A1A) with east west combs to the west and two major connections to the west across Sunny Isles Beach Boulevard (SR-826) at the Milton Littman Memorial Bridge and the Lehman Causeway (SR-856) at NE 191st Street. The Lehman Causeway is a fixed bridge providing for continuous traffic flow, while the Sunny Isles Boulevard connection is by draw bridge (rebuilt in 1989) with openings for larger boat traffic that exceed its 90-foot mean tide clearance.

Exhibit 5
City of Sunny Isles Beach Pedestrian Sidewalk Network



A complete pedestrian network is critical to transit utilization, providing a safe path to bus stops and a safe place to wait for a bus. A complete pedestrian network is especially important for elderly persons and any persons with mobility impairments. Throughout most of the City, except for the single-family Golden Shores area, and some of the internal areas of the private residential developments, the sidewalk network is complete with both sidewalks and marked crossings, especially along Collins Avenue.

Exhibit 6
City of Sunny Isles Beach Bicycle Facilities Network



A complete bicycle network is also important to transit utilization with consideration of the effects of first-and-last-mile connectivity. Whether by personal bikes, shared bikes, e-bikes, or shared scooters, it is essential to have safe paths that are neither on pedestrian sidewalks nor shared with vehicular traffic. Due to constrained right-of-way conditions and high traffic volumes, the bike lane network in the City is minimal and the City does not have a shared mobility presence.

Exhibit 7
City of Sunny Isles Beach Existing Land Use



The existing land use pattern in the City is one of horizontal mixed-use characterized by a very dense residential population in a mix of high-rises east of Collins Avenue, mid-rise building townhouse, and single-family residences, with a dense but narrow strip of commercial uses along the west of Collins Avenue generally in the Central Island area between Sunny Isles Beach Boulevard (SR-826) and 183rd Street, and single-family homes and townhomes in the Golden Shores area north of 185th Street to the Lehman Causeway. Commercial uses are located along the west side of the Collins Avenue spine with a smaller strip of mixed and commercial use along Sunny Isles Beach Boulevard (SR-826) in the Gateway area.

Exhibit 8
City of Sunny Isles Beach Number of Households



Residential density is a key predictor for high transit utilization. The map above shows the number of housing units for each census block. The most-dense areas are in the South End, and the southern part of the Central Island area, and at Ocean View just north of the Lehman Causeway. The census data under-reports residences and density along the beach where many of the beach-front high-rises are either seasonal or investment residences without permanent occupation.

Exhibit 9
City of Sunny Isles Beach Average Household Size



Household size is often a key factor for transit utilization, with larger households often being more disposed to using transit, especially as the number of vehicles in a household becomes proportionally smaller than the number of people needing different trips. On the other hand, small households that are comprised of elderly persons who may have limited driving ability, are also more likely to use transit. The household size metric is one that is used in combination with household automobiles, age, employment, and the presence of school aged children to help identify areas of potential need for transit services.

Exhibit 10
City of Sunny Isles Beach Persons that Use Public Transportation to Work



Included in census data and sourced from the American Community Survey (which is sampled from survey takers) are a series of lifestyle questions related to transportation. One of the most important indicators of demand for the SIB Shuttle is whether the person already uses transit for the trip to and from work, which may include the SIB Shuttle but also includes MDT or other services. The map above shows the location of populations of persons that report using transit to go to work. The numbers are a total of persons by area.

Exhibit 11
City of Sunny Isles Beach Households with No Vehicle



Also sourced from the American Community Survey transportation questions are questions regarding household vehicular ownership. The number of vehicles compared to the number of persons in the household is a good indicator of potential transit use; however, the most likely are households with no vehicles at all. The map above shows the prevalence of households by area with no vehicles at all. Development in the South End, Winston Towers, and Ocean View show the greatest need.

Exhibit 12
City of Sunny Isles Beach Employed Persons



Trip making can be made for a number of purposes, most of which are discretionary in terms of need and schedule to make the trips. The two non-discretionary trips are for commuting to and from work and for school attendance. The map above identifies the concentrations of employed residents in the City, with the highest concentrations indicating a greater need for transportation options, and also a greater need for high quality transit that is dependable with good real-time information and comfortable.

Exhibit 13
City of Sunny Isles Beach Students Enrolled in School



The other non-discretionary trips are for school attendance. The map above identifies the concentrations of school-age persons in the City. The SIB Shuttle already serves the demands of the Norman Edelcup K-8 school. Based on survey results and public input, this study will also identify if there are needs for the students in these areas to reach public schools located outside of the City: Alonzo & Tracy Mourning High School, MAST Academy at FIU magnet school; and the i-Prep Academy North charter school.



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Comprehensive Operations Analysis

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SHUTTLE SURVEY FINDINGS

Passenger On-Board Survey

To define good service and understand the characteristics that people want in the service and understand the potential new attractions by which the service may be improved, we asked transit riders using on-board surveys, and asked all residents by an on-line survey. The survey focused on identifying people's primary uses of the shuttle service, how often they used it, and how satisfied they were with the current service.

The on-board survey was conducted using survey cards, handed out to passengers as they entered the bus, with the surveyor providing pens and was available to answer any questions. The surveys were collected from the passengers before exiting the bus.

The survey covers three main topics of interest to this analysis:

1. Transit Travel Information: which includes the essential information about how often, when, and for what purpose passengers make trips on the SIB Shuttle, as well as the origin and destination of their shuttle trip.
2. Service Preferences: which are attitudinal and desire questions to understand the personal value of possible improvements.
3. Destination Preferences: The surveys included questions for passengers' preferences for new destinations that are not currently served. New destinations that were queried were: the Hallandale Walmart Supercenter, the Aventura Target, the Big Easy Casino in Hallandale, Gulfstream Park, Oleta River State Park, Alonzo and Tracy Mourning Senior High School, the FIU Biscayne Bay Campus, and the Aventura Brightline Station.

The surveys were administered from 10 am to 6 pm on: Tuesday, January 24th; Thursday, January 26th; and Saturday January 28th of 2023. A total offorty-three surveys were completed. A copy of the survey instrument is included as Exhibit 14, and a summary of responses follows. The surveys do not contain names and are included as *Appendix A* to this report.



Exhibit 14

On-Board Survey Passenger Instrument



The Height of Living SUNNY ISLES BEACH SHUTTLE RIDER SURVEY

The City of Sunny Isles Beach needs your help to provide improved service for the Sunny Isles Beach Shuttle, Orange Line and Blue Line. Please help us to understand your needs by completing this survey.

- 1. WHAT IS YOUR PREFERRED LANGUAGE?
2. HAVE YOU USED THE SIB SHUTTLE IN THE PAST YEAR?
3. HOW OFTEN DO YOU USE SIB SHUTTLE?
4. WHICH DAYS DO YOU MOST OFTEN USE IT?
5. WHAT IS THE MAIN PURPOSE OF YOUR TRIP?
6. NEAR WHAT STOP(S) DO YOU USUALLY GET ON THE BUS?
7. NEAR WHAT STOP(S) DO YOU USUALLY GET OFF THE BUS?

- 8. HOW DO YOU GET TO THE STOP?
9. HOW IMPORTANT ARE EACH OF THE FEATURES TO YOUR USE OF THE SIB SHUTTLE?
10. HOW IMPORTANT THESE ADDITIONAL DIRECT DESTINATIONS OR FREE CONNECTIONS TO YOU?

Surveyor: Date: Time: Bus Line:



On-Board Survey Results

Frequency of Use

- 1. Daily 46%
- 2. Occasionally 27%
- 3. Weekly 20%

Day of Use:

- 1. Weekday 86%
- 2. Saturday 34%
- 3. Sunday 11%

Trip Purpose:

The majority of the riders use the shuttle to reach discretionary trips, and only 33% take it to school or work, which are considered non-discretionary trips where the trip must be made, and at a specific time for arrival.

- 1. Grocery Store 58%
- 2. Library / City Hall 26%
- 3. Recreation 23%
- 4. Work / Place of Employment 20%
- 5. School 13%
- 6. Medical Facility / Doctor’s Office 11%

How People Reach the Shuttle Stop:

- 1. Walk under 5 minutes 37%
- 2. Walk over 5 minutes 9%
- 3. Bike transfer 0%
- 4. Bus transfer 0%
- 5. Drove themselves 2%
- 6. Dropped off by another person 0%

Origin Stops: Passengers get on the shuttle from the following stops:

- 1. Intracoastal Mall 23%
- 2. Aventura Mall 18%
- 3. Arlen House 18%
- 4. SIB government center 18%
- 5. Publix 18%
- 6. Winston Towers 18%
- 7. Plaza of the Americas 16%
- 8. Oceanview 13%
- 9. Pelican Community Park 9%
- 10. Coastal Towers 9%
- 11. Intracoastal Park & Oceania Park 9%
- 12. Gateway 6%
- 13. Heritage Park/Oceanview 6%
- 14. Golden Shore 6%



15. Intracoastal Yacht Club	2%
16. Senator Margolis Park	2%
17. Town Center	2%

Destination Stops: Passengers get off at the following stops:

1. Aventura Mall	37%
2. Publix	34%
3. Arlen House	20%
4. Winn Dixie	18%
5. Winston Towers	18%
6. Milam's	16%
7. SIB Government Center	16%
8. Plaza of the Americas	13%
9. Oceanview	9%
10. Gateway	6%
11. Heritage Park	6%
12. Golden Shores	6%
13. Intracoastal Park & Oceania Park	6%
14. Coastal Towers	4%
15. Intracoastal Yacht Club	4%
16. Senator Margolis Park	4%
17. Town Center	0%

Service Preferences:

1. More frequent service – less wait time	72%
2. On-time arrivals	69%
3. Smart phone app*	46%
4. Cleanliness of bus	46%
5. Route information at stops	46%
6. Later service	34%
7. Earlier service	34%
8. Bus stops and shelters	34%
9. Baggage Racks on buses	30%
10. No or fewer transfers to another bus	27%
11. Social distancing on-board	25%

New Destinations

1. Walmart- Hallandale	48%
2. Hallandale Gulfstream Park	25%
3. Aventura Brightline Station	23%
4. Hallandale Big Easy Casino	11%
5. Oleta River State Park	9%
6. FIU Biscayne Bay Campus	9%
7. Alonso Mourning Senior High School	9%

* The SIB Shuttle has a smartphone application provided under contract with TSO Mobile. The question is asked to affirm the importance of using the app for passengers.



City-Wide Survey

In addition to the on-board survey, a City-wide survey was administered through January, February, and March of 2023. This survey allowed for a greater outreach, with a total of 323 responses as of March 1, 2023. The City-wide survey was administered as an on-line survey through the City's website as well as the City's newsletter and social media outlets. The survey was written in three languages: English, Spanish and Russian.

The on-line survey branched to frame questions for existing riders and participants that do not and have not used the SIB Shuttle in the past. The questions are parallel to the on-board survey, but also include a few demographic questions, and questions about the awareness of the shuttle service. Transit services are often not known to those people that have no experience with it, and the questions are key to understanding the importance of marketing and a strong identity for the shuttle services.

1. Transit Travel Information: which includes the essential information about how often, when, and for what purpose passengers make trips on the SIB Shuttle, as well as the origin and destination of their shuttle trip. For non-riders, the same questions are framed conditionally in terms of "if you did use the SIB Shuttle, would you use it for..."
2. Service Preferences: which are attitudinal and desire questions to understand the personal value of possible improvements. For non-riders, the same questions are framed conditionally in terms of "if you did use the SIB Shuttle, would you prefer ..."
3. Destination Preferences: The surveys included questions for passengers' preferences for new destinations that are not currently served. New destinations that were queried were: the Hallandale Walmart Supercenter, the Big Easy Casino in Hallandale, Gulfstream Park, Oleta State River Park, Alonzo and Tracy Mourning Senior High School, the FIU Biscayne Bay Campus, and the Aventura Brightline Station. For non-riders, the same questions are framed conditionally in terms of "if you did use the SIB Shuttle, would you prefer..."
4. Awareness: Transit services are often not known to those people that have no experience with it, and the questions are key to understanding the importance of marketing and a strong identity for the service. These questions are only asked of participants that answered that they do not use the SIB Shuttle.
5. Demographics: A few key demographic questions were asked in the on-line survey only, including age, gender identity, persons in the household, vehicles in the households, income range, and occupation sector. These categorical descriptors to identify populations and correlate their preferences are self-reported and may include some biases.



City-Wide Survey Results (as of 2/28/23)

Awareness and Use of the Shuttle

- Yes, have used the Shuttle in the past year 50%
- No, have not used the shuttle in the past year 50%

Are you aware of the SIB shuttle’s specific routes and stops?

- Yes 35%
- No 64%

Of those active riders:

Frequency of Use:

1. Occasionally 57%
2. Weekly 25%
3. Daily 20%

Day of Use:

1. Weekday 83%
2. Saturday 27%
3. Sunday 17%

Trip Purpose: The majority of the riders use the shuttle to reach discretionary trips, and only 18% take it to school or work which are considered non-discretionary trips where the trip must be made, and at a specific time for arrival.

1. Grocery Store 59%
2. Clothing or another type of store 48%
3. Recreation 31%
4. Library / City Hall 26%
5. Medical Facility / Doctor’s Office 12%
6. School 11%
7. Work / Place of Employment 7%

How People Reach the Shuttle Stop:

1. Walk under 5 minutes 88%
2. Walk over 5 minutes 12%
3. Bike transfer 0%
4. Bus transfer 0%
5. Drove themselves 0%
6. Dropped off by another person 0%

Origin Stops - Passengers get on the shuttle from the following stops:

1. Winston Towers 41%
2. Milam’s Market 19%
3. Aventura Mall 18%
4. SIB government center 15%
5. Publix 15%
6. Intracoastal Mall 10%
7. Arlen House 8%



8. Heritage Park/Oceanview	8%
9. Pelican Community Park	7%
10. Golden Shores	7%
11. Plaza of the Americas	6%
12. Intracoastal Park & Oceania Park	3%
13. Intracoastal Yacht Club	3%
14. Senator Margolis Park	3%
15. Coastal Towers	1%
16. Town Center Park	1%
17. Gateway	0%

Destination Stops - Passengers get off the shuttle at the following stops:

1. Aventura Mall	44%
2. Intracoastal Mall	34%
3. Publix	33%
4. SIB Government Center	20%
5. Milam's	19%
6. Winston Towers	15%
7. Heritage Park/Oceanview	9%
8. Golden Shores	8%
9. Arlen House	7%
10. Plaza of the Americas	7%
11. Pelican Community Park	7%
12. Intracoastal Yacht Club	7%
13. Town Center Park	6%
14. Senator Margolis Park	6%
15. Intracoastal Park & Oceania Park	5%
16. Coastal Towers	2%
17. Gateway	0%

New Destinations among riders include (percent that answered important)

1. Aventura Brightline Station	68%
2. Walmart- Hallandale	56%
3. Target- Aventura	45%
4. FIU Biscayne Bay Campus	32%
5. Oleta River State Park	31%
6. Hallandale Gulfstream Park	27%
7. Alonso Mourning Senior High School	19%
8. Hallandale Big Easy Casino	11%

Service Preferences among riders include:

1. On-time arrivals	80%
2. Smart phone app	80%
3. Cleanliness of bus	70%
4. More frequent service – less wait time	70%
5. Route information at stops	56%
6. No or fewer transfers to another bus	46%
7. Bus stops and shelters	46%
8. Later service	34%



9. Baggage Racks on buses	30%
10. Social distancing on-board	29%
11. Earlier service	28%

On-Demand Ridesharing:

The City of Sunny Isles Beach is considering offering a free, on-demand ridesharing service for public travel, where an open vehicle arrives at your location only when you call it and takes you to your destination within the City. It is not scheduled, will pick-up and drop off door-to-door, and response time may vary depending on how busy it is.

Yes, I would use it	82%
No, I would not use it	17%

How frequently would you use this service?

Daily	15%
Weekly	50%
Monthly	19%
Never	14%

If you do not plan to use this service, what are your thoughts on the service?

Help other residents	59%
Reduce traffic	28%
Not valuable	12%

Respondent Stated Demographics:

How old are the riders?

• 65+	58%
• 55-64	14%
• 45-54	10%
• 35-44	11%
• 25-34	3%
• 24 and under	1%

Your gender is?

• Female	65%
• Male	30%
• Prefer not to say	4%

Household income is?

• Under \$15,000	8%
• \$15,000 - \$29,999	10%
• \$30,000 - \$49,999	12%
• \$50,000 - \$74,999	26%
• \$75,000 - \$99,999	10%
• \$100,000 - \$150,000	18%
• Over \$150,000	13%

Exhibit 15
Surveyed Passenger Stated Origins and Destinations
unweighted results of on-board survey and on-line surveys

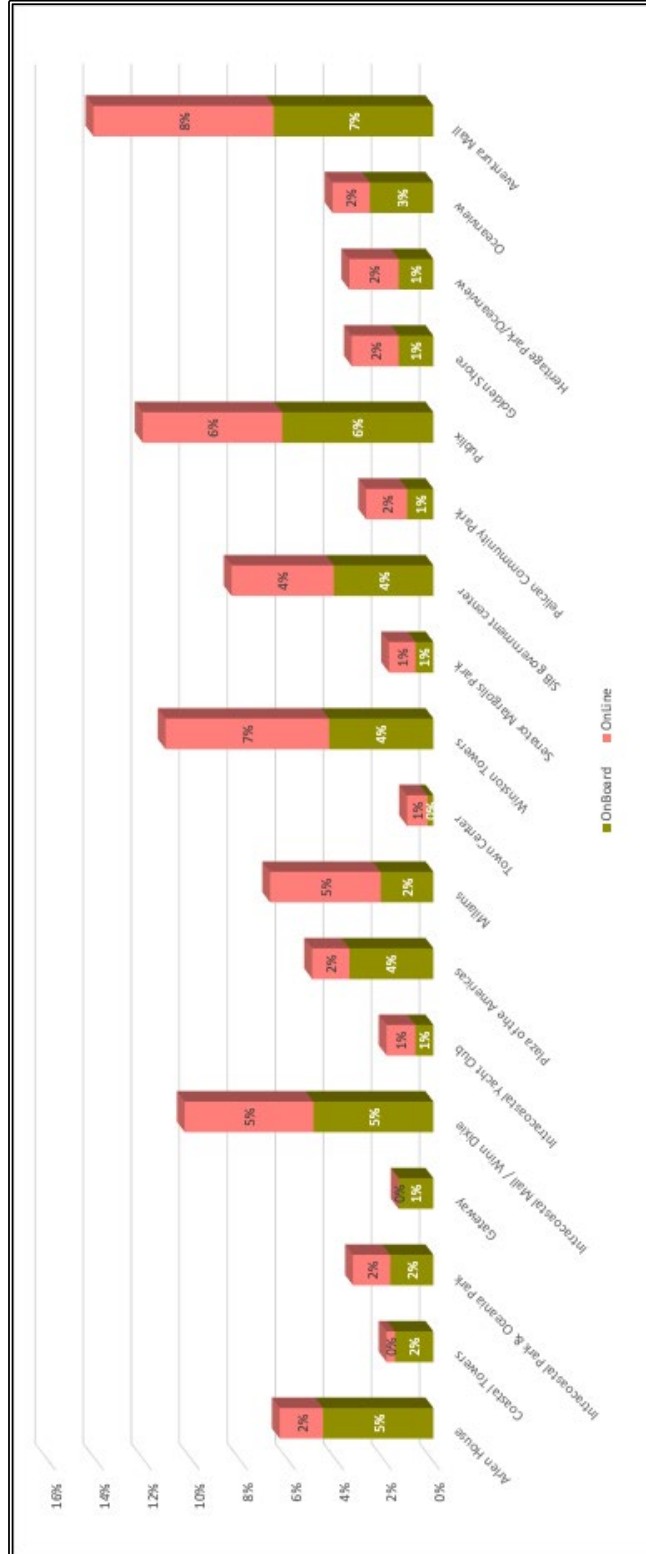


Exhibit 16

Surveyed Passenger Stated Preferences for New Destinations
unweighted results of on-board survey and on-line surveys
showing location and percent that prefer this location as a new destination



ATM High School 14% FIU Biscayne Bay Campus 21%

REVIEW OF NEIGHBORING COMMUNITY TRANSIT CIRCULATORS

Aventura Express Shuttle

The City of Aventura currently operates a fare-free shuttle system with three routes, North (purple), Central (green) and South Aventura (yellow). These routes do not currently connect with the City of Sunny Isles within the City; however, transfers can be made between the SIB Shuttle and the Aventura Express Shuttles at the Aventura Mall Bus Center. Service on the Aventura Shuttles runs six days per week; Monday through Friday from 6:45 am to 7:45 pm; and Saturday from 7:45 am to 9:45 pm. The Aventura Shuttle connects Aventura passengers to Aventura Mall, Aventura Hospital, Mount Sinai Medical Center, the Promenade Shops and is short walk from the Village of Gulfstream.

Aventura Circuit

Brightline provides a complimentary shuttle service between Aventura Mall and the Aventura Brightline Station with departures every 30 minutes. The Circuit provides service On Monday through Friday from 5:30 am to 8:15 pm, on Saturdays from 7:00 am to 9:15 pm, and on Sundays from 8:00 am to 9:15 pm. The Circuit arrives and departs Aventura Mall from the mall upper-level outside of Serafina Restaurant and adjacent to the valet parking station. It does not provide service to the Aventura bus station.

Exhibit 17

Aventura Express Shuttle Maps

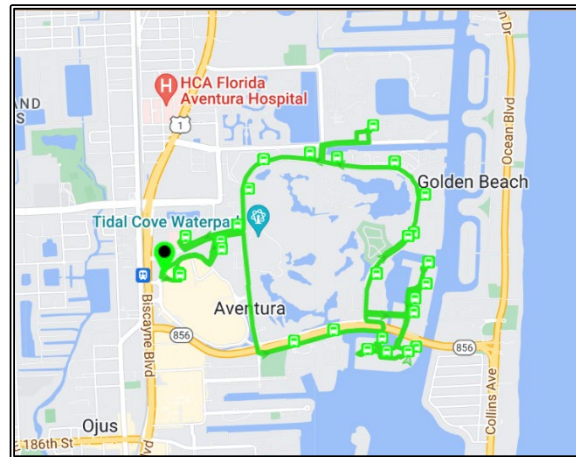
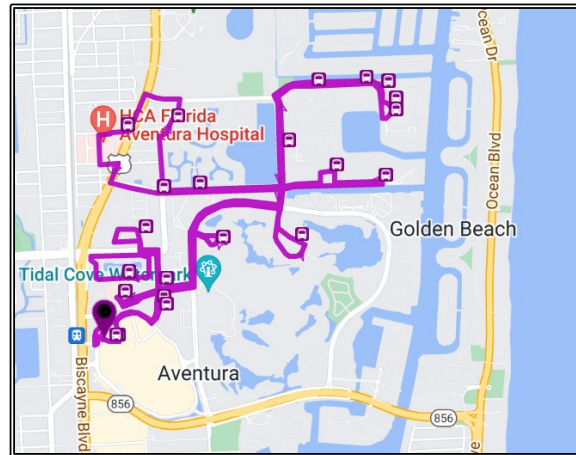
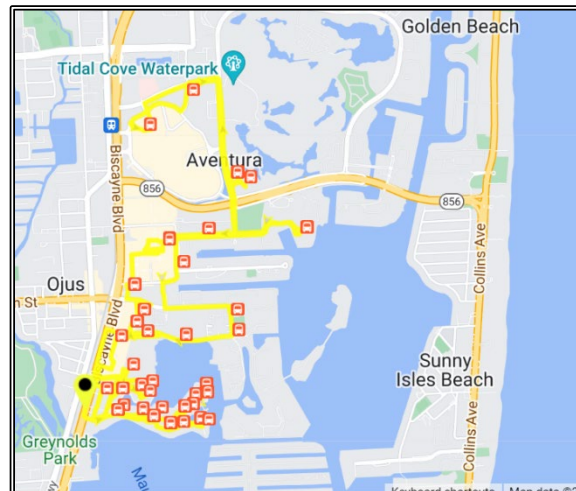
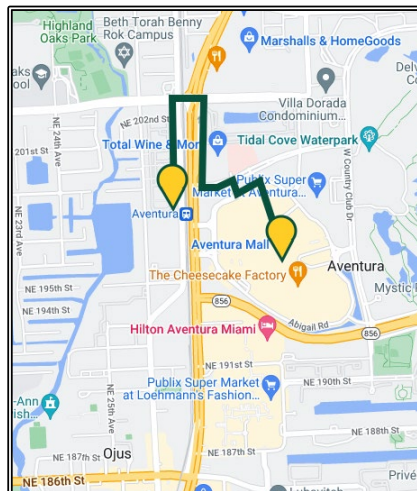


Exhibit 18
Aventura
Circuit
Route
to the
Brightline
Station





Aventura Freebee

Aventura also provides the Freebee on-demand service from 7:00 am to 11:00 pm to augment the Aventura Express Shuttle services. The on-demand service operates within the service area shown below using electric vehicles and provides service on request between any two points in the service area and also accepts rides by passengers flagging down and available vehicles. The Aventura Freebee service started on April 15, 2022, and is available to anyone in Aventura, whether they are a resident or a visitor.

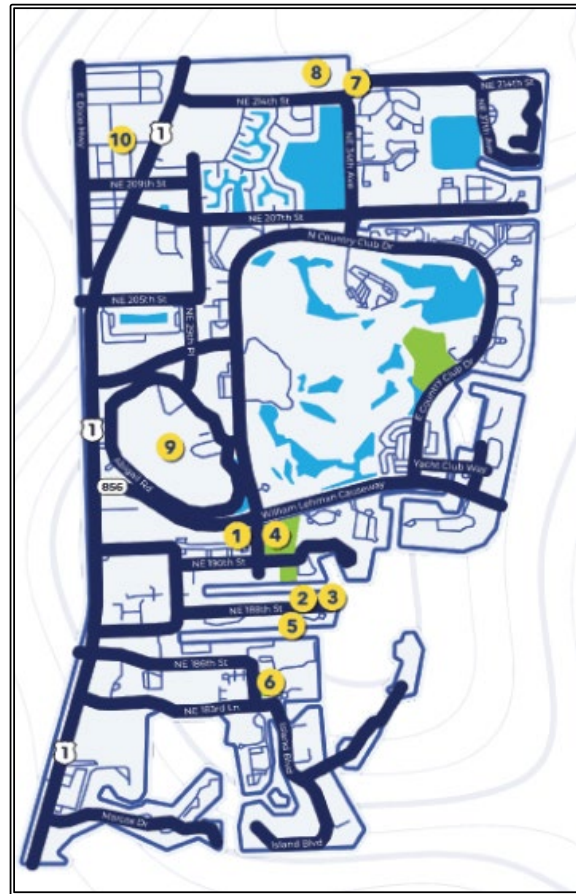
Contacts:

Aventura Express: 305-932-3523
express@cityofaventura.com

Aventura Circuit /Brightline Aventura Mall Connector:
831-539-2901

Aventura Freebee: 1-855-918-3733
ridefreebee.com

**Exhibit 19
Aventura Freebee Service Area**





Surfside /Bay Harbor Islands Interlocal Shuttle

The Cities of Surfside any Bay Harbor Islands currently operate a fare free shuttle system with two separate routes. These routes do not currently connect with the City of Sunny Isles. Stops along these routes include Surfside Publix, Saks, Walgreens, and residential buildings. The map shown to the right was deleted in December 2021, while the town updates the service.

Contact: transportation@balharbourfl.gov

**Exhibit 20
Surfside / Bay Harbour Shuttle Map**

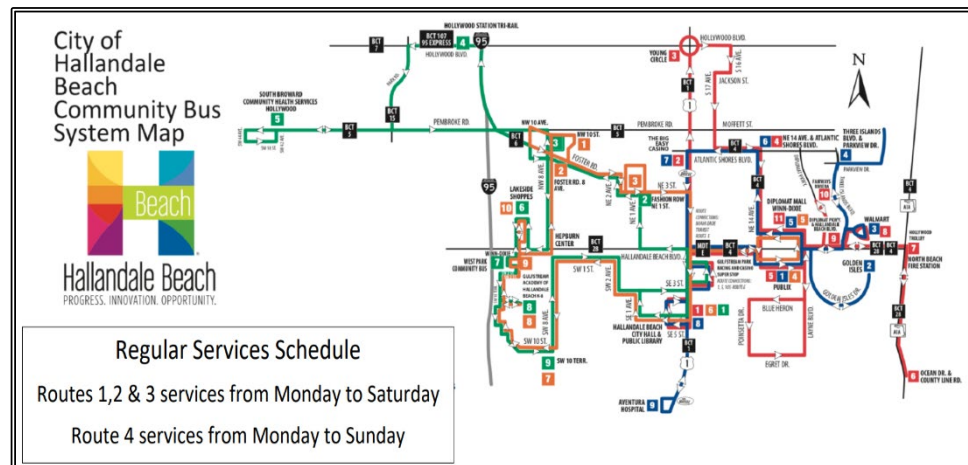


Hallandale Beach Community MiniBus

The Hallandale Beach MiniBus currently operates a fare free shuttle system with four routes, Routes 1, 2,3, and 4. Route 1 currently connects with the City of Sunny Isles Shuttle at the Hallandale Beach Fire Station sixteen times a day. Service on the Hallandale Beach Community Minibus is provided 7 days per week, Monday through Sunday, from 7:00 am to 6:00 pm. The minibus connects residents to the Hallandale Walmart, Publix, City Hall, Winn-Dixie, and Gulfstream Casino. Current SIB service on the Blue Line connects to the Hallandale Community MiniBus via the Hallandale Fire Station stop.

Contact: 954-457-2220 #6 icolmenares@cohb.org

**Exhibit 21
Hallandale Beach
Community Bus
Map**





North Miami Beach Trolley

The North Miami Beach trolley currently operates a fare free shuttle system with four routes, Routes A, B, C, and D. Route A currently connects with the City of Sunny Isles Shuttle at the Intracoastal Mall sixteen times a day. Service on the North Miami Beach Trolley runs Monday through Saturday from 7:30 am to 7:30 pm. The North Miami Beach trolley provides access to Walmart, Publix, City Hall, Jackson North Medical Center, as well as Intracoastal Mall and Oleta River State Park. The main hub to connect between routes is the Mall at 163rd Street Walmart. Transfers to the SIB Shuttle can be made at the Intracoastal Mall to the North Miami Beach Trolley Route A. Service to Alonzo & Tracy Mourning Senior High School and FIU Biscayne Bay Campus are provided by Route C. There is no service to Oleta River State Park which is within the City of North Miami.

Contact: 305-957-3523
nmbtransit@citynmb.com

**Exhibit 22
North Miami Beach Trolley**





Miami-Dade Transit Service in Sunny Isles Beach

Four separate Miami-Dade Transit routes traverse the City of Sunny Isles Beach. Most operate on a 15-to-60-minute headway during both on-peak and off-peak periods. Evening service is less. Transit service is often expressed in terms of a level-of-service (LOS), the frequency with which buses serve a particular area. For the purposes of local transit service, an area is considered served if a bus passes within one-quarter to one-half mile of a point. For the purposes of this study, service was considered only when a bus route passed within one-quarter mile of a location. For most of Sunny Isles Beach, there is frequent transit service of some type within this area. The following map and table show the existing MDT Routes and coverage areas within Sunny Isles Beach. The Sunny Isles Beach Shuttle is not currently advertised on MDT website; however, the City administration is currently working with the Miami-Dade Department of Transportation and Public Works to share data so the Sunny Isles Beach Shuttle will appear on the MDT

Exhibit 23
Miami-Dade Transit Routes in Sunny Isles Beach System Map Excerpt



app and website.



Summary of Other Transit Service that Connects to the Sunny Isles Beach Shuttle

**Table 1
Other Transit Service in Sunny Isles Beach**

Route	Service Locations & Major Destinations	Service Days	Transfer to SIB shuttle stops
Miami-Dade Transit 105 / E	Golden Glades Park & Ride Lot, Jackson North, The Mall at 163rd Street, City of North Miami Beach, Eastern Shores, Winston Towers, Aventura Mall, Turnberry Isle, Diplomat Mall/Hallandale	Monday – Friday Saturday Sunday	Aventura Mall Collins Av. & 169 th St. N. Bay Rd & 174 th St. Collins Av. & 185 th St.
Miami-Dade Transit 108 / H	City of North Miami Beach, Skylake Mall, The Mall at 163rd Street, Sunny Isles Boulevard, City of Bal Harbour, Bal Harbour Shops, City of Miami Beach, Collins Avenue	Monday – Friday Saturday Sunday	Collins Avenue & Atlantic Avenue
Miami-Dade Transit 119 / S	Aventura Mall to Downtown Miami through Miami Beach. Stops include the Adrienne Arsht Center Metromover station / Omni Metrobus terminal, and Government Center Metrorail / Metromover station.	Monday – Friday Saturday Sunday	Collins & 169 th St. Collins & 193 rd St. Aventura Mall
Miami-Dade Transit 120 / Beach MAX	Aventura Mall to Downtown Miami through Miami Beach. Stops include the Adrienne Arsht Center Metromover station / Omni Metrobus terminal, and Government Center Metrorail / Metromover station.	Monday – Friday Saturday Sunday	Collins and 169 th Aventura Mall
North Miami Beach Trolley	Intracoastal Mall, Stratford, Lorenzo's Market, Inland Tower, NMB Library, Three Seasons, Walmart	Monday – Friday Saturday Sunday	Intracoastal Mall
Aventura Express Shuttle	Three routes in Aventura	Monday – Friday Saturday	Aventura Mall
Hallandale Mini Bus (Broward County)	Four routes in Hallandale Beach	Monday – Friday Saturday	Hallandale Fire Station



EXISTING SUNNY ISLES BEACH SHUTTLE OPERATIONS

The Sunny Isles Beach Shuttle system consists of 3 fixed-alignment, fixed-schedule routes, the Orange 1 Line, Orange 2 Line, and Blue Line. The Orange 1 Line and Orange 2 Line operate on the same alignment with similar schedules, and are practically the same route, except that Orange 1 operates heading one way through the modified loop, while Orange 2 operates the other way with the timing staggered to decrease the effective headway for passengers whose needs are met to reach their destination in either direction.

The routes generally run north and south with extensions along east-west streets to provide services for stops at major residential buildings, such as Winston Towers, Arlen House, Coastal Towers, Ocean View, Intracoastal Yacht Club, and also many midrise residential developments. Non-residential stops also include parks, schools, the library, City Hall, and the City’s Gateway Center. Along Collins Avenue, stops on the east side provide service to high-rise condo-hotel and residential developments, Samson Park, and beach access points. Along the west side of Collins, the Sunny Isles Beach Shuttle stops at commercial destinations of local interest.

Two locations outside of the City are served: one at the Winn Dixie in the Intracoastal Mall which is in the City of North Miami Beach; and the other at the Aventura Mall Bus Hub in the City of Aventura. The Intracoastal Mall two-way extension is approximately 1 mile in length and requires the crossing of a draw bridge that can impact schedule adherence. The Aventura Mall Bus Hub two-way extension is approximately 4½ miles in length and crosses the intracoastal waterway over a fixed bridge with no schedule adherence impacts, except for mall traffic.

The Blue Line primarily runs the same alignment as the Orange Lines, except that: 1) it does not go to the Intracoastal Plaza; 2) it runs along North Bay Road from Sunny Isles Beach Boulevard and 172nd Street to Collins Avenue instead of the back of Plaza of the Americas and 170th Street; and 3) it runs a dog-leg extension to the north after the Ocean View stop to run along Collins Avenue to stop at the Hallandale Fire Station. The two-way extension is 4½ miles.

The route map with stops is shown in Exhibit 26, and the schedule as published is shown in Exhibit 27.

The services are fixed-alignment and fixed-schedule transit services; therefore, route deviations and demand-response services are not provided. The Orange Lines run Monday through Sunday, from 8:00 am to 7:50 p.m. The Blue Line runs on Monday through Friday from 7:45 am to 3:50 pm.

The shuttle routes include fifty-four fixed and marked stops. The shuttle makes stops in response to a signal from a passenger in the vehicle at a designated stop, or in response to a passenger waiting at a stop. If no passenger makes a request, the shuttle proceeds past the stop without stopping, and in this way some schedule make-up time is gained. Information for the shuttle includes signage at every stop.

Exhibit 24
Sunny Isles Beach Shuttle Stop at City Hall





Additional route and schedule information is provided by a brochure, and a smart phone application that provides real-time information of where the buses are, real-time arrival time for a passenger waiting at a stop, and nearest stop information based on a user’s location. Information provided via the City’s website, and the city maintains a call-in service for passengers that do not use the smart phone application.

The shuttle service is operated by City of Sunny Isles Beach, Public Works Department. Drivers are City employees, and the vehicles are owned and maintained by the City.

There are seven currently operating vehicles, including two vans with one bus on order. The buses are all branded with graphic wraps.

Table 2
Sunny Isles Beach Transit Vehicles

Vehicle ID	Year Make and Model	In Service	Year Out of Service	Seats	Low Floor	Fuel
1226	2012 Ford F-550	Yes	<i>due to be retired</i>	24	No	Diesel
1609	2016 Glaval Legacy	Yes	2023	28	No	Diesel
1721	2017 El Dorado Aero-Elite	Yes	2024	24	No	Diesel
1819	2018 El Dorado Aero-Elite	Yes	2025	24	No	Diesel
2004	2020 El Dorado Aero-Elite	Yes	2027	24	No	Diesel
2310	2023 Ford F-450	Yes	2030	24	No	Gasoline
1714	2017 Ford Passenger Van	Yes	2024	15	No	Gasoline
2115	2021 Ford Transit Van	Yes	2028	15	No	Gasoline
2316	2023 El Dorado Aero-Elite	2023	2030	28	No	Diesel
23xx	2023 Mini Bus	to be delivered 7/2023	2030	15	No	Gasoline

Exhibit 25
Sunny Isles Beach Shuttle Vehicles





The Height of Living

SIB Shuttle
Comprehensive Operations Analysis

Exhibit 26

Sunny Isles Beach Shuttle Route Alignments and Stops

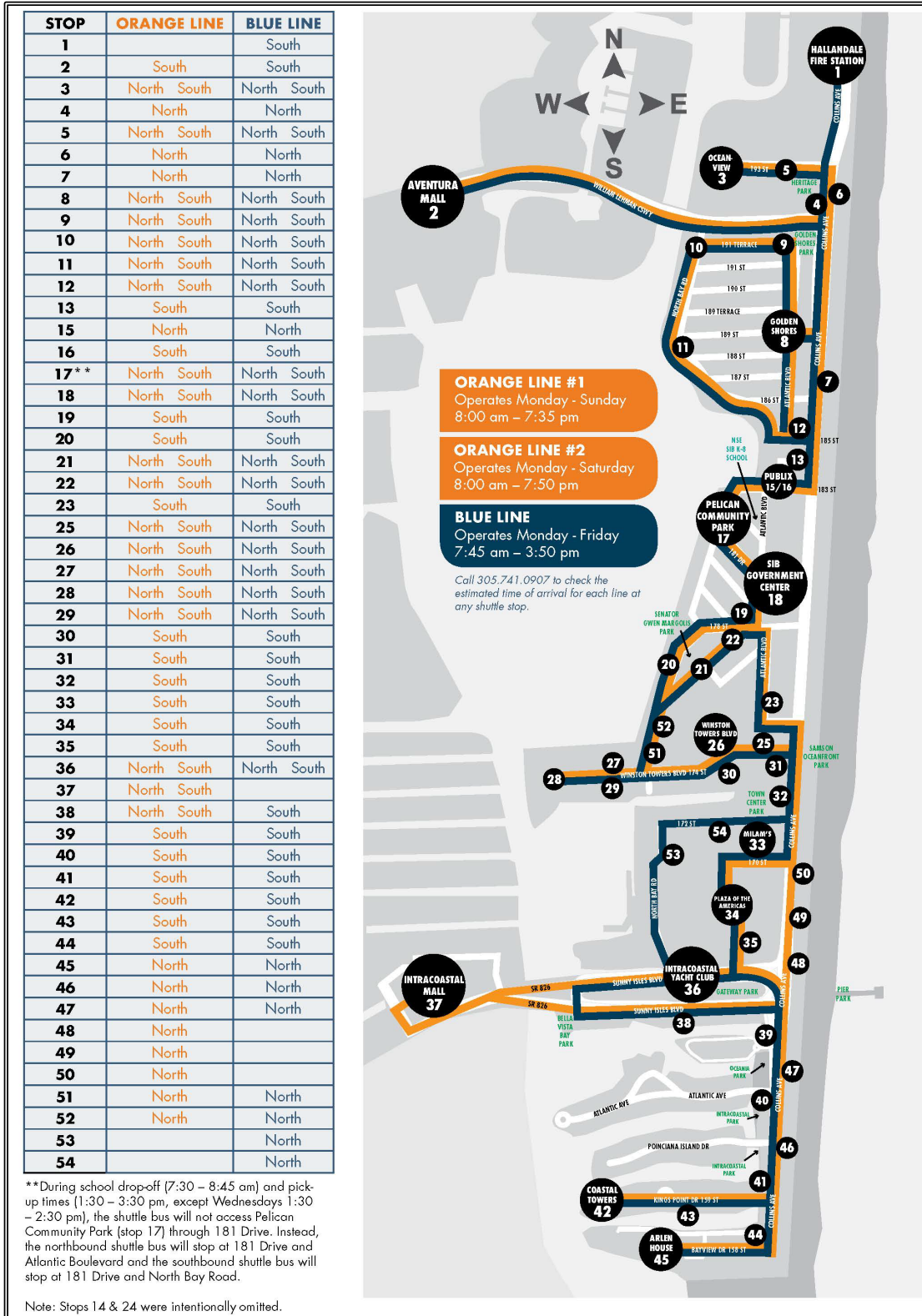




Exhibit 27
Sunny Isles Beach Shuttle Schedule

		45 ARLEN HOUSE	37 INTRACOASTAL MALL	36 INTRACOASTAL YACHT CLUB	26 WINSTON TOWERS BLVD	17/18 GOVT. CENTER/ PELICAN COMMUNITY PARK	15 PUBLIX	8 GOLDEN SHORES	3 OCEANVIEW	1 HALLANDALE FIRE STATION	2 AVENTURA MALL TRANSIT HUB
NORTHBOUND	ORANGE LINE #1 Operates Monday - Sunday	8:50am 10:50am 12:50pm 2:50pm 4:50pm 6:50pm	9:00am 11:00am 1:00pm 3:00pm 5:00pm 7:00pm		9:10am 11:10am 1:10pm 3:10pm 5:10pm 7:10pm	9:15am 11:15am 1:15pm** 3:15pm 5:15pm 7:15pm	9:20am 11:20am 1:20pm 3:20pm 5:20pm 7:20pm	9:30am 11:30am 1:30pm 3:30pm 5:30pm 7:30pm	9:35am 11:35am 1:35pm 3:35pm 5:35pm 7:35pm+		9:45am 11:45am 1:45pm 3:45pm 5:45pm
	ORANGE LINE #2 Operates Monday - Saturday	8:05am 9:50am 11:50am 1:50pm 3:50pm 5:50pm 7:50pm+	10:00am 12:00pm 2:00pm 4:00pm 6:00pm		8:10am 10:10am 12:10pm 2:10pm 4:10pm 6:10pm	8:15am** 10:15am 12:15pm** 2:15pm** 4:15pm 6:15pm	8:20am 10:20am 12:20pm 2:20pm 4:20pm 6:20pm	8:30am 10:30am 12:30pm 2:30pm 4:30pm 6:30pm	8:35am 10:35am 12:35pm 2:35pm 4:35pm 6:35pm		8:45am 10:45am 12:45pm 2:45pm 4:45pm 6:45pm
	BLUE LINE Operates Monday - Friday	9:10am 11:10am 1:10pm 3:10pm		7:45am 9:20am 11:20am 1:20pm 3:20pm	7:50am 9:25am 11:25am 1:25pm 3:25pm	8:00am** 9:30am 11:30am 1:30pm** 3:30pm	9:35am 11:35am 1:35pm 3:35pm	9:40am 11:45am 1:40pm 3:40pm	9:45am 11:50am 1:45pm 3:50pm+	9:55am 1:55pm	10:05am 12:05pm 2:05pm
<p>** During school drop-off and pick-up times, the shuttle bus will stop at 181 Drive and Atlantic Boulevard instead of Pelican Community Park. + Last stop</p>											
		2 AVENTURA MALL TRANSIT HUB	3 OCEANVIEW	8 GOLDEN SHORES	16 PUBLIX	17/18 GOVT. CENTER/ PELICAN COMMUNITY PARK	26 WINSTON TOWERS BLVD	33 MILAM'S	34 PLAZA OF THE AMERICAS	37 INTRACOASTAL MALL	42 COASTAL TOWERS
SOUTHBOUND	ORANGE LINE #1	9:45am 11:45am 1:45pm 3:45pm 5:45pm	8:00am 9:55am 11:55am 1:55pm 3:55pm 5:55pm	8:05am 10:05am 12:05pm 2:05pm 4:05pm 6:05pm	8:10am 10:10am 12:10pm 2:10pm 4:10pm 6:10pm	8:15am** 10:15am 12:15pm** 2:15pm** 4:15pm 6:15pm	8:20am 10:20am 12:20pm 2:20pm 4:20pm 6:20pm	8:25am 10:25am 12:25pm 2:25pm 4:25pm 6:25pm	8:30am 10:30am 12:30pm 2:30pm 4:30pm 6:30pm	8:35am 10:35am 12:35pm 2:35pm 4:35pm 6:35pm	8:45am 10:45am 12:45pm 2:45pm 4:45pm 6:45pm
	ORANGE LINE #2	8:45am 10:45am 12:45pm 2:45pm 4:45pm 6:45pm	8:55am 10:55am 12:55pm 2:55pm 4:55pm 6:55pm	9:05am 11:05am 1:05pm 3:05pm 5:05pm 7:05pm	9:10am 11:10am 1:10pm 3:10pm 5:10pm 7:10pm	9:15am 11:15am 1:15pm** 3:15pm** 5:15pm 7:15pm	9:20am 11:20am 1:20pm 3:20pm 5:20pm 7:20pm	9:25am 11:25am 1:25pm 3:25pm 5:25pm 7:25pm	9:30am 11:30am 1:30pm 3:30pm 5:30pm 7:30pm	9:35am 11:35am 1:35pm 3:35pm 5:35pm 7:35pm	8:00am 9:45am 11:45am 1:45pm 3:45pm 5:45pm 7:45pm
	BLUE LINE	10:05am 12:05pm 2:05pm	8:10am 10:15am 12:15pm 2:15pm	8:20am 10:25am 12:20pm 2:20pm	8:25am 10:30am 12:30pm 2:25pm	8:30am 10:35am 12:35pm 2:30pm	8:40am 10:45am 12:45pm 2:40pm	8:45am 10:50am 12:50pm 2:45pm	8:50am 10:55am 12:55pm 2:50pm		
<p>** During school drop-off and pick-up times, the shuttle bus will stop at 181 Drive and North Bay Road instead of Pelican Community Park.</p>											



Table 3
Sunny Isles Beach Shuttle Route Characteristics Summary

	Orange 1 Line	Orange 2 Line	Blue Line
Service Span	8:00 am to 7:35 pm 11 hours, 35 minutes	8:00 am to 7:50 pm 11 hours, 50 minutes	7:45 am to 3:50 pm 8 hours, 5 minutes
Scheduled Headway	120 minutes	120 minutes	120 minutes
Total Average Trip Time	115 minutes	115 minutes	125 minutes
Scheduled Layover (make-up) Time	5 minutes	5 minutes	none
Average Time Between Stops	2.25 minutes	2.25 minutes	2.45 minutes
Average Distance Between Stops	2,200 feet (0.42 miles)	2,200 feet (0.42 miles)	2,330 feet (0.44 miles)
Total Distance per 2-Way Run	21.3 miles	21.3 miles	22.5 miles
Mileage in City of Sunny Isles Beach	17.5 miles (82%)	17.5 miles (82%)	17.7 miles (78%)
Mileage Outside of the City of Sunny Isles Beach	3.75 miles (18%)	3.75 miles (18%)	4.85 miles (22%)
Average Scheduled Travel Speed	11.1 mph	11.1 mph	10.8 mph
Number of Daily Runs	6	6	4
Average Passengers per Revenue Mile	0.42 pass. / rev. mi.	0.36 pass. / rev. mi.	0.14 pass. / rev. mi.
Average Passengers per Revenue Hour	4.7 pass. / rev.hr.	3.9 pass. / rev.hr.	2.1 pass. / rev.hr.



Sunny Isles Beach Shuttle Driver Interviews

To completely understand the operations, opportunities and challenges for the operations of the SIB Shuttle, four of the five shuttle drivers were interviewed on the mornings of January 18th and January 19th. After the interviews at the bus depot office, the consultant rode with a driver on the 19th for three runs in the morning to be able to understand first-hand issues and suggestions from the driver.

The five drivers are City employees and have long tenures as SIB Shuttle drivers. Past experience shows that the people that know bus operations best are the drivers. The Sunny Isles Beach Shuttle drivers are no exception and provided a wealth of operational information as well as sharing passenger issues that they ascertain over time from regular shuttle riders.

The driver interview responses are combined and summarized below.

Operations

What route locations are difficult to drive due to traffic, lack of stops, difficult turns, long waits, missed lights, or other reasons?

- *King David / Walgreens: the southbound right to 174th Street is difficult. There is a closed lane from southbound Collins Avenue. It is difficult to find a gap for the right turn, and long queue causes missing the green light.*
- *North from 158th Street Stop to go 3 lanes to the left side to enter 163rd Street and causes bus to wait at stop for a long time.*
- *Construction areas in general. Right now, there is construction on Collins, Coastal Towers and in Golden Shores.*
- *Waste management pick-up in golden Shores also causes delay.*
- *Arlen House U-turn all the way at the west side in the parking lot is hard to make without a broken U-turn.*
- *Winston towers U-turn is also difficult depending on the number of cars, trucks, deliveries and parked cars. People stop you from being able to make the U-turn. Bus 1609 is harder to turn than the two 28-passenger buses.*
- *Ocean View U-turn is good.*
- *Construction in Golden Shores*
- *Southbound traffic build-up behind the traffic light at Collins and 193rd Street – can put the beginning of the schedule 10 to 15 minutes behind*
- *Bridges – bridge openings delay schedules from 10 to 15 minutes.*
- *Construction in Golden Shores*

Is the schedule adequate overall – too much or too little time?

- *Schedule is too tight. If the run goes off by a few minutes, then everything gets late for the rest of the day. It is hard to recover time.*
- *We’re pushing it all the time. The schedule is too tight.*
- *The schedule is too tight. It is faster southbound. There is not enough time for variations on stops. Older people take longer to board and leave. Also, people ask direction questions at the door before getting on board. They answer, but this takes time.*



Equipment:

Is the bus adequate? Size / Capacity?

- Capacity is adequate for all except the school drop-off runs. At school times, have had to leave some students at the stop due to bus overcrowding.
- Capacity is adequate for all except the school drop-off runs, particularly at 7:45 in the morning – students come from Arlen House, Coastal Towers, Winston Towers, and North Bay Road.

Access?

- Access is good, but it takes some time for some elderly persons to climb the stairs. This contributes to problems with tight schedules.

Comfort?

- Air conditioning can be a problem.

Driver Breaks (driver exchange and break at City Hall Rescue Station Office)

- Relief location is good, and time is adequate.
- Restroom schedule can be tight.

Inadequate Stops

- Collins and 158th Street
- Walgreens on the north side, going southbound – the right turn gets blocked.

Passengers:

What do passengers like most?

- Passengers are generally satisfied with the service.
- There are some that just board to ride the bus.

What do passengers complain about most?

- Late arrivals
- Air conditioning
- Being on-time, not being prompt

What are some ideas that would make the service better, more efficient or better service?

- For school pick-up and drop-off hours, send two buses in a row to provide enough capacity to pick up safely without having to leave students behind and not have an over-crowded bus. Then, up to 60 could be seated for that run.
- Many passengers are not app-tech savvy, so major bus stops should have live-feed arrival and schedule information on the stop pole, similar to the solar-powered kiosk in North Miami Beach at Winn Dixie.



Other Comments:

- *The school overcrowding is a big issue. Students attend Norman C. Edelcup (K through 8) and come mostly from Winston Towers and Oceanview. The students on the bus are middle school age. They use the Publix stop across 183rd Street from the school. The bus is often overcrowded in the morning to-school trips (8:35 am to be in school) and again at school let out (3:05 pm, except Wednesday at 2:05 pm). Most students are well behaved; however, some have shown poor conduct on board, and often occupy seats forcing elderly who board at subsequent stops to stand. Drivers sometimes suggest to their regular passengers to board one stop earlier to get a seat on the next time that they use the bus.*
- *Sundays need a speedier route that just hits the target areas for older riders: Ocean View, Winston Towers, Golden Shores, Marian Towers, 178th Street and Atlantic Avenue, behind Mc Donald's.*
- *The bus is often overcrowded in the morning to-school trips (8:35 am to be in school) and again at school let out (3:05 pm, except Wednesday at 2:05 pm). Students can range from 20 to 40 students. Most students are well behaved; however, some have shown poor conduct on board.*
- *The SIB Shuttle smart phone app is confusing to a lot of people. The directions of the buses on the app map are not shown. The app does not show expected delays for construction, bridges, bus breakdowns. The app will provide next bus data without proper coordination with schedule updates increases their perception of lateness. For example, if a bus just passed a stop on the app, it shows the next arrival based on scheduled bus headway, but the bus may be late and just arriving. It is confusing to passengers, and they sometimes miss a bus that they should not have.*

Notes from On-Board Test Rides

On January 19th from 8:00 am to 10:30 pm, the Corradino Project Manager for this study rode with a driver on over two runs of the Orange Line to affirm and fully understand some of the responses from the driver interviews. The notes below were taken during the sample ride.

- From public works driveway to 159th Street and start of service is 13 minutes, heavily affected by backed-up traffic behind light at Collins Avenue and 193rd Street.
- Arlen House – older residents do not use phone app.
- Arlen House – speed bumps slow progress down and are uncomfortable.
- Arlen House – turn around is in parking lot and can be affected by parked cars such as long pick-up trucks. Turn arounds are more challenged in Bus 1609. (turn around no longer occurs in parking)
- Arlen House and other private property segments do not have bus stop signs – stops are made by driver judgement and their familiarity with passengers.
- Smart phone app next arrival information is out of sync.
- The smart phone app map of bus location does not show bus directions and is confusing on both Orange and Blue Lines.
- Noted that the North Miami Beach stop post at Intracoastal Mall has a live next arrival and schedule display. It is very effective. *(Note: the City administration has included funding for six of these kiosks.)*
- Winston towers turnaround is also tight and can be affected by parked cars on the street just near the turn-around circle.
- Driver knowledge and effort is very important to rider experience. Drivers know their passengers, and when one passenger started walking when the bus was late, driver noticed and picked up off the stop location, and safely. Drivers also coordinate with each other by radio to get a route back on time.
- Right turn eastbound on Kings Point Drive (Coastal Towers) cannot be reached because of traffic queue.
- Delivery trucks stopped on road challenge progress of bus and schedule.
- When a run becomes late, it is very difficult to recover time.
- Bridge up eastbound on Sunny Isles Beach Boulevard caused a delay of between 10 and 15 minutes.
- Many people go short distances, often within walking distance.
- Driver relationship with regular passengers is very good.



Exhibit 28
AM Delay Behind 189th St. Signal

Exhibit 29
Delay Behind Drawbridge





The Height of Living

SIB Shuttle
Comprehensive Operations Analysis

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RIDERSHIP – BOARDING & ALIGHTING COUNT RESULTS

The most important measure for the success of a transit system is ridership. Ridership is the utilization of the transit service normalized for availability. It provides both a measure of total usage and a measure of efficiency. For example, a bus service that runs for 2 hours with 40 passenger boardings (20 passengers per revenue hour) has higher ridership than a bus service that runs for 8 hours with 80 passenger boardings (10 passengers per revenue hour). The 2-hour service serves less passengers overall; however, it is more efficient. In this way, the absolute number of boardings provides an indication of social benefit, and the ridership measure provides a measure of efficiency against a benchmark. Transit ridership, expressed as passengers-per-service-hour is used to provide a baseline to benchmark the effect of improvements, and an analysis tool to determine relative utilization of transit service by individual alignment segments, or by times of day or days of week.

The Sunny Isles Beach Shuttle routes have a unique geographic pattern of being a series of out-and-back ribs from an offset spine. Therefore, when evaluating individual route segments there are frequently no alternative alignments; either an out-and-back extension is deleted, kept, or added. Because of the go-no-go nature of these decisions, an initial screening to identify low productivity segments is used initially, with a further refinement as the impacts of recommendations are analyzed.

Also unique to the Sunny Isles Beach Shuttle routes is that the Orange 1 Line and the Orange 2 Line are the same route, and the Blue Line is predominantly along the same alignment. To properly analyze segments, it is best to combine the utilization for the different routes, albeit showing the distinction. The segment ridership analysis has been summarized and graphically shown as stacked bar graphs to show the absolute annual utilization and relative utilization between segments.

The graph of ridership by corresponding segments is shown in Exhibit 30. The ridership sums are from the Fiscal Year 2021/22

Coastal communities in Florida often have strong seasonal variations for transit ridership if the service is significantly used by tourists and other visitors. If the service predominantly serves permanent year-round residents, then there will be less variation. To help verify and affirm how and who is using the shuttle, the monthly ridership was also analyzed and is shown in Exhibit 31.

The source of the ridership data is from daily, run-by-run logs taken by drivers. To automate this function and provide more accurate data while relieving driver workload, the City administration will be implementing Automatic Passenger Counters (APC) this year. When the APC are operational, they will be run with driver logs as a six-month test to verify APC data with driver logs, after which the APC will be relied on for data. The APC counts every passenger that boards and every person that exits the transit vehicle. This data has greater benefit than just counting passengers that board and can more accurately identify busy home origin stops and the most productive destination stops.

The ridership records are included as Appendix B.

Exhibit 30
Sunny Isles Beach Shuttle Route Segment Utilization - FY 2021/22

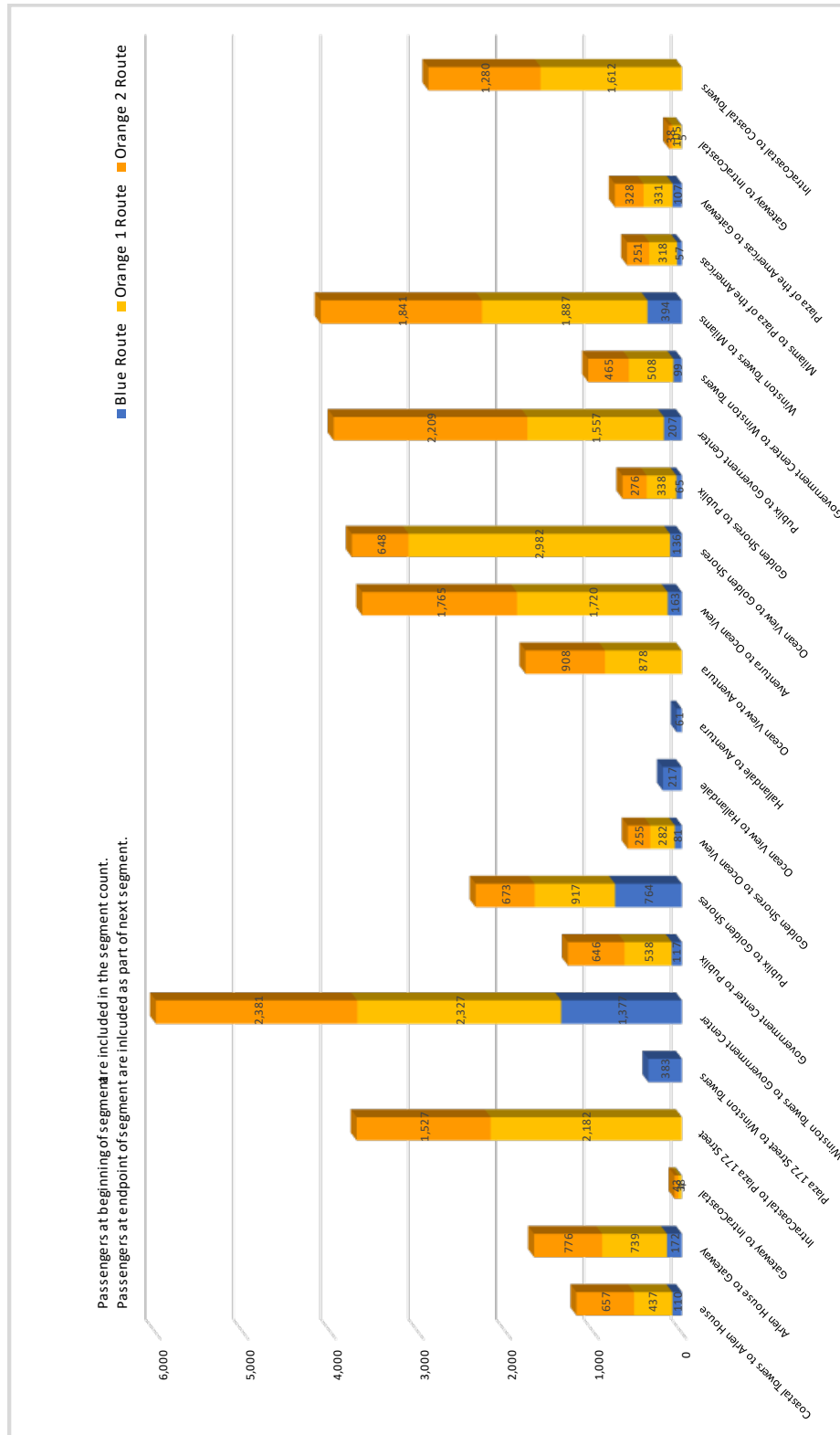
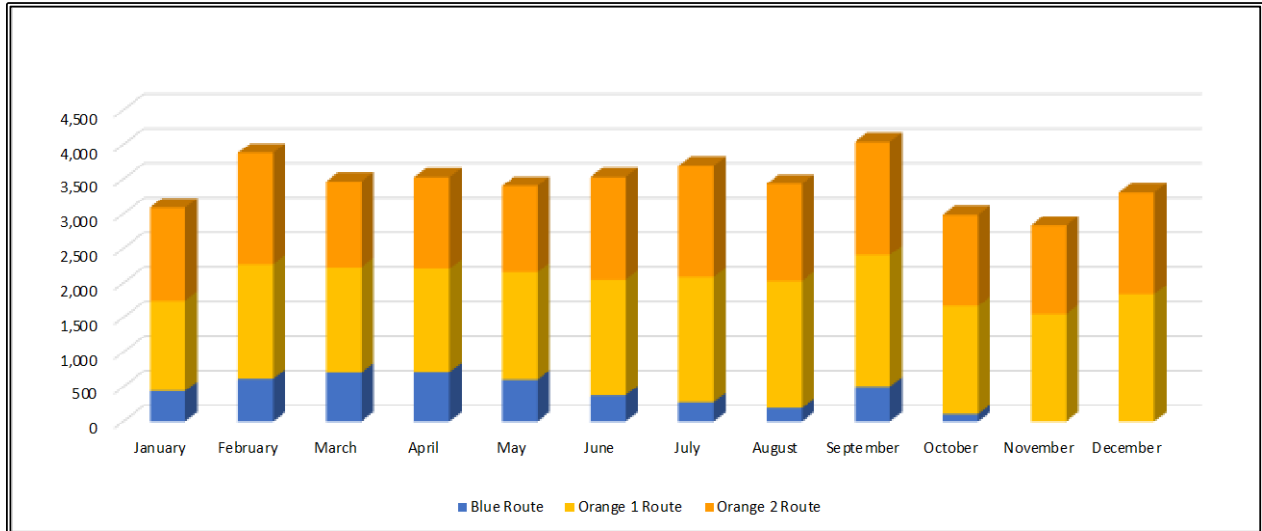




Exhibit 31
Sunny Isles Beach Shuttle Monthly Variation of Ridership FY 2021/22





The Height of Living

SIB Shuttle
Comprehensive Operations Analysis

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INTERGOVERNMENTAL COORDINATION & PUBLIC OUTREACH

Neighboring Cities and Miami-Dade County

The consultant has contacted, met with as needed, and obtained information regarding their municipal transit services and municipal on-demand services. The surrounding communities that were contacted include:

- City of Aventura, Miami-Dade County express@cityofaventura.com; 305-932-1287
- Town of Surfside and Town of Bal Harbour, Miami-Dade transportation@balharbourfl.gov 305-
- City of North Miami Beach, Miami-Dade County nmbtransit@citynmb.com; 305-957-3523
- City of Hallandale Beach, Broward County icolmenares@cohb.org; 954-457-2220 ext. 6

Stakeholder and Public Outreach

A public outreach meeting was held as the *Transit Study Town Hall* from 6pm to 8pm on March 21, 2023, to inform the public regarding the study and take questions, comments and other input from participants regarding improvements and needs of the SIB transit services. Transit service was made available for participants to attend the meeting and return home. The City videotaped the meeting and made it available on the City’s website. Following the *Transit Study Town Hall* on the 21st, a second meeting was held at the Senior Roundtable on the following Wednesday, March 22nd. Both meetings were held at the Gateway Center, located with direct transit access at 151 Sunny Isles Boulevard in the City of Sunny Isles Beach, Florida.

In addition to workshops, public outreach was conducted via an on-board survey that was conducted from 10 am to 6 pm for three days in 2023 on Tuesday, January 24th, Thursday, January 26th and Saturday, January 28th. On-board surveys were returned by 43 of the riders that were asked. The City also conducted a transit on-line survey in January, February, and March 2023 regarding shuttle services. Over 300 surveys were filled out on-line.

Public Outreach Workshops Input Summaries

The PowerPoint presentation that was provided for each workshop before questions, comments and other inputs is attached in Appendix C. The meeting was conducted in English language, and to accommodate non-English speakers, the PowerPoint as translated into Spanish and Russian languages and posted on the City website. The meeting was 40 minutes long, with the first 30 minutes taken by the presentation and the later 10 minutes comprised of questions, comments and responses. The following bullets highlight the input from the attendees.

Workshop Attendees Input Summary:

1. Is there a study for coordination between bicycles and cars to address the high incidence of safety impacts between bicycles and cars?
2. There is no coordination between the smartphone application and the schedules, particularly where the application shows that the bus has already passed by, and the person says that he can see the bus coming a little behind schedule.



3. The response to Question 2 led to a short discussion of how bus schedules are also impacted by delivery and construction trucks standing in travel lanes, making passage very difficult.
4. The Mayor of Sunny Isles Beach thanked attendees for their time and assured them that their comments have been heard and noted.



DATA COLLECTION TAKE-AWAYS

The goal of the recommendations is to improve mobility for the citizens, employees, and visitors of Sunny Isles Beach by providing expanded service and connections, grow ridership and ensure effective and efficient use of funding, and to better achieve the specific objectives to fulfill the funding criteria of the Miami Dade CITT funds that provides funding for the Sunny Isles Beach Community Shuttle.

The motivation for the recommendations is based on the main ideas learned from the data collection work that has been done to this point, added to and verified by feedback at the public workshop. The main points listed by data source are summarized below.

Land Use Analysis:

1. Sunny Isles Beach is a very compact land area, with over 90% of the land within the area considered to have adequate access and service coverage by Miami-Dade County Transit bus service based on the ¼ mile service area criteria; therefore, coverage is not a useful metric for this *Sunny Isles Beach Shuttle* analysis. Instead, with a large elderly population, quality-of-service is the main focus.
2. Although high-rises line the east side of Collins Avenue along the beach, the population of permanent residents that are currently using the *Sunny Isles Beach Shuttle* are west of Collins Avenue, with the highest densities at Arlen House, Coastal Towers, Plaza of the Americas north of Sunny Isles Boulevard, Winston Towers, and Ocean View at 193rd Street.
3. Persons that already use public transit is a key indicator of where to maintain or improve service. Based on census data, the concentrations of persons that use transit are in: the Plaza of the Americas area; the area north of Winston Towers between 175th Street and 178th Street and 178th Drive; and Ocean View.
4. Households with no vehicle are also a key indicator of where to maintain or improve service. Based on census data, the concentrations of persons with no vehicle are in: Arlen House; Coastal Towers; Winston Towers and the area to its north; and Ocean View.
5. Currently, few of the *Sunny Isles Beach Shuttle* passengers are using the service for work trips, but if the shuttle were to attract that population, the concentrations of employed persons in the City are at Coastal Towers, Plaza of the Americas, Winston Towers, Golden Shores, and Ocean View.
6. The *Sunny Isles Beach Shuttle* is being used for student transportation at school drop-off and pick-up times. Based on survey data, the concentrations of enrolled students are in: the Plaza of the Americas area; Winston Towers; the area north of Winston Towers; Golden Shores; and Ocean View. Connections to the Alonzo and Tracy Mourning Senior High School (ATM), the MAST Academy at FIU magnet school; and the i-Prep Academy North charter school, and FIU Biscayne Bay Campus (college) can be made by connection to the North Miami Beach Trolley system. Survey results showed a low percentage of responses for riders or non-riders that desired extensions to these ATM (14%), MAST or FIU (21%).



Other Municipal Transit Service Trends:

1. The towns of Surfside and Bay Harbor Islands have combined their municipal shuttle service to create more efficient service with better service for the residents if the towns.
2. The City of Hollywood has replaced its fixed route municipal shuttle with an on-demand ride-share program with a charge of \$2 per ride. Additional information regarding the effectiveness of the change will be sought for possible insights in Sunny Isles Beach.

Passenger Survey:

1. Responses indicate that 46% are daily ridership. For a municipal circulator, this demonstrates a high level of dependency and anticipate use into the future. Most riders are weekday riders. Based on responses, only 11% use the SIB Shuttle on Sundays. This will be corroborated with the actual ridership data.
2. The great majority of trips are discretionary, in that few are for work or school. Discretionary in this case indicating some flexibility of schedule.
3. Virtually all of the riders walk to the shuttle stop for pick-up or after drop-off.
4. The five top service components of importance are: 1) less wait time, 2) on-time arrivals, 3) the smart phone application, 4) cleanliness of the bus, and 5) route information at stops. This indicates that a major focus for the recommendations should be scheduling for reliability and better alignment between actual schedule performance and rider information.
5. The top three new destinations that are desired are: 1) the Walmart Superstore in Hallandale, 2) the Target in Aventura and 3) the Brightline Station in Aventura, indicating good support for extending the Aventura leg to Brightline Station and Target. The Walmart extension will depend on further analysis. Currently, all of the destinations are accessible by connections to the free Brightline Aventura Circuit Connection (Brightline Station), the Aventura Express North Route (Target), or Hallandale Community MiniBus (Walmart).
6. Alonso and Tracy Mourning High School, the FIU Biscayne Campus, and the Oleta State Park only showed low support (14%, 21% and 20% respectively), and there is no demonstrated motivation to consider planning a route extension to that area at this time.
7. When asked about on-demand ride-sharing, 82% of the City -wide on-line survey respondents stated that they would use it. The majority stated that they would use it once or more per week. For those who would not use it, the majority saw value in it for helping other residents. Only 12% thought that it had no value at all.

Ridership Data:

1. Overall, ridership for the Orange Lines is increasing year-over-year, and compared to other municipal shuttles, good.
2. The Hallandale Fire Station extension has very low ridership and should be considered for permanent deletion or use for the Walmart Superstore as a new destination.

Operational Analysis & Driver Interviews:

1. Orange 1 Line and Orange 2 Line are identical with opposite alternating directions. We will determine if there are any impacts to renaming and combining the routes. The Blue Line is nearly identical with the exception of deleting the Intracoastal Mall stop, adding North Bay Road, and adding a long extension to Hallandale Beach. There will be further analysis to recombining segments into the Orange Line for efficiency and quality-of-service.
2. Upon review of the published schedule, for a trip time of 115 minutes on both Orange Routes, there is only 5 minutes of recovery time (4%). This is inadequate, especially considering that the route is affected by traffic delays, a drawbridge, delivery blockages and school dismissal loads. Confirming this, every driver that was interviewed noted that the schedule is very tight, and they have difficulty keeping the schedule while providing top-notch service to help passengers with questions. Additionally, some of the older passengers require more time to enter the 3 steps on the large buses. The schedule will be further analyzed to include better recovery time.
3. At a 115-minute run time and 2-hour headway in one-direction, there is little margin to add extensions and keep service quality on the Orange Lines.
4. The Orange Lines and the Blue Line have substantial mileages traversed outside of the City. (18% and 22% respectively) This needs to be considered for any recommendations for extensions outside of the City, as the limit for ½-penny sales tax funding is 30%.
5. U-turns are required in several places along the route alignments, with several in parking lots. U-turns should be formalized and where parked cars can inadvertently obstruct a turn, agreements or changes in public parking will be considered to assure consistent, safe and timely passage by the buses without the potential need of backing maneuvers. Also, the #1609 bus has a larger turning radius, both because of its length and suspension geometry. Policy will be considered for a minimum turning performance requirement for future vehicle selections.
6. Noting that some passengers have difficulty entering and exiting the bus, further adding to stop dwell time, policy should be considered for low-floor requirements for future vehicle procurement.
7. While scheduling will address on-time performance, better integration of smart-phone application information with real-time locations and time before arrival of the buses will improve passenger satisfaction with on-time performance.
8. Drivers have noted that some passengers are not tech-savvy regarding use of the smart-phone applications, and that many passengers respond very well to the additional live information available at the Intracoastal Mall stop. At this location, there is an outdoor screen displaying bus information, and live time to arrival information for NMB Trolley Route A. Drivers have relayed for passengers, that more of these at SIB Shuttle stops would be helpful to the passengers that are not comfortable with use of the phone app. (Note: the City administration has budgeted for six of these kiosks in the FY 2023/24 proposed budget.)



Public Workshop & Stakeholders:

The following are based on the feedback and other input that was received by attendees of two public workshops held on March 21, 2023 and March 22, 2023.

1. There is not coordination between the smartphone application and real time bus arrivals, particularly where the application shows that the bus has already passed by, and the person says that he can see the bus coming a little behind schedule.
2. Bus schedules are very impacted by traffic and by delivery and construction trucks standing in travel lanes, making passage very difficult.



RECOMMENDATIONS

Based on inputs from the public through surveys and at the two workshops, interviews with drivers and City staff, and quantitative analysis, the recommendations are:

1. Combined Blue and Orange Line Route and Schedule Improvements will include. The existing Blue Line is to be repurposed to complement recommended changes to the Orange Route, while focusing more on lowering enroute time by limiting stops, and, including:
 - The Orange Line recommendations have shifted it to provide service to the west side of the City, more on North Bay Road and less on Collins Avenue (A1A) and Atlantic Boulevard.
 - To complement this, the Blue Line will focus more on Collins Avenue and Atlantic Boulevard, and less on North Bay Road.
 - The Orange Line focuses more on reaching many residential destinations.
 - The Blue Line focuses on reaching more commercial destinations.
 - Both will cover all major destinations, parks, and civic locations.
 - The Blue Line will have a more limited stop route to maintain faster enroute average speed.
 - The Blue Line will maintain the same service span as the Orange Line to facilitate transfers.
 - The Blue Line will also be scheduled to provide timed, additional capacity to Norman S. Edelcup School to provide extra capacity for middle school dismissal load.
2. Bus Stop Improvements: additional bus shelters will be added to certain locations, especially those locations where the route has been foreshortened from extending into parking lots of residential developments. In addition, upon finding that there are passengers that are uncomfortable with the use of smart phone applications for arrival information, nineteen dynamic schedule information kiosks are recommended at major stops and stops where shelters were added for foreshortened route alignments. The City administration has already budgeted in FY 2023/24 for six of these kiosks at the most highly utilized stops.
3. Smart-Phone Application Improvements to: 1) Correct the “Easy Tracker” page and the “Where I Am” page to accurately determine the time before arrival at any stop, 2) add direction arrows to the moving bus symbols on the “Routes Tracker” page, and 3) provide a page to show MDT connections and NMB connections with live schedule information to show where and when connecting transfers can be made.
4. Bus Vehicle Improvements: Replacement buses are recommended to have the following characteristics: 1) low-floor buses, 2) alternative power sources based on life-cycle cost analysis, operational feasibility and transitioning considerations, and 3) steering geometry for the tightest turn enroute. Existing buses and new orders should be fitted with on-board passenger information systems; and 2 to 3 position bike racks attached to the front of the buses.
5. Sunday On-Demand Service: Implement on-demand services on Sundays and in lieu of the SIB Shuttle service, and during hours of regular shuttle service, (8:00 am to 8:00 pm) for a one-year trial program. Only road vehicles should be used, either electric passenger cars or electric low-floor vans. A capacity of two vehicles to start is recommended, with contract to upgrade to three if needed. The service area should be the same as the Shuttle service area, with the addition of Walmart and Oleta River State Park.



ORANGE LINE ALIGNMENT (ROUTE) & SCHEDULE

The Orange Line, comprised of Orange 1 and Orange 2 for each direction, performs well in terms of ridership, coverage of the City and access to major destinations; however, all of the concerns are relative to on-time performance as further detailed in the Take-Aways Section of this report (pp 49-52))The Orange Line runs a long route at an average trip time of 115 minutes, with high variance in scheduling due to rush hour traffic, queues behind traffic light congestion, inability to make permissive rights, delivery and construction lane blockages, speed bumps, and drawbridge operations.

For a 115-minute route, at least 10% of slack time should be in the route schedule to allow for drivers to make-up time by cutting dwell at make-up time locations instead of being late.

The 12 minutes that would be needed in the round-trip schedule would also allow for stops behind bridge openings on Sunny Isles Beach Boulevard to be mostly absorbed in a single run without setting the next run to be late from the beginning. Bridge openings can often cause delays of 15 minutes. The bridge cannot be avoided, as the Winn Dixie stop at the Intracoastal Mall is too important of a stop, and accounts for a high percentage of passenger stops and boardings.

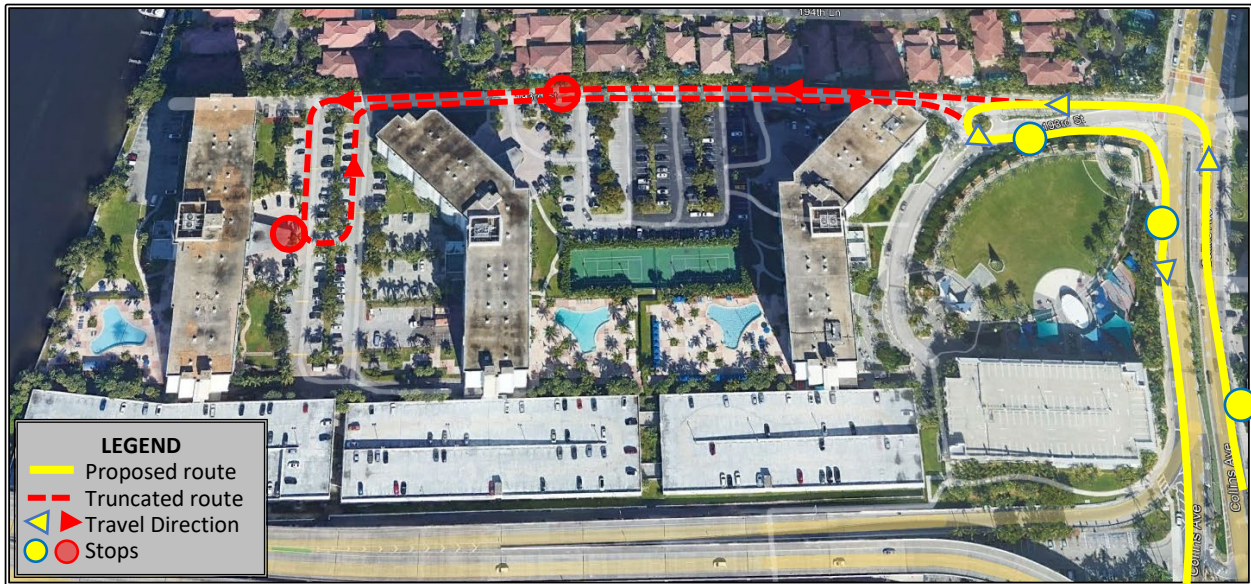
The proposed schedule and alignment are fine-tuned to reduce time without major alignment truncations that impact the service area. Over-extended and very low utilization parts of the alignment are truncated only to extent that service area walk times are still within criteria, the time saved is used to gain make-up time on each run without impacting the already very long route time. Generally, time reductions only have utility if a whole run can be made in a day; however, these changes are specifically toward the goal of providing sufficient recovery time per run at Aventura Mall which has a layover area, and the Gateway Center which is City property and well situated near the south end of the route for recovery time.

The specific recommendations follow.

Ocean View:

The buses are scheduled to go to the west end of 193rd Street to turn around in the parking lot. The recommendation is to reduce this unnecessary length and increase safety by not traversing parking lots, to stop instead at the location just before the traffic circle on the west side of Heritage Park.

**Exhibit 32
Orange Line Modifications at Ocean View**

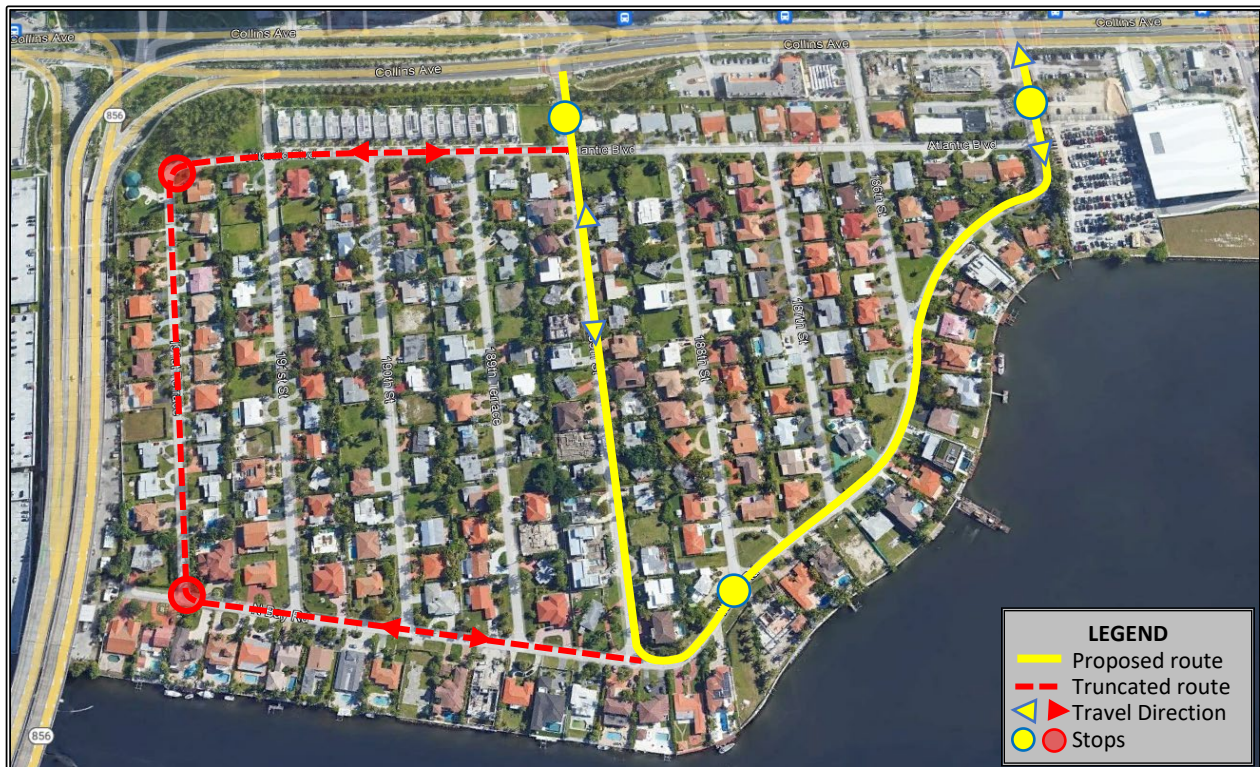


- Walk distance is increased for the most westward building by a ¼-mile and for the central building by 800 feet.
- Speed humps reduce average bus speed to below 15 mph.
- 2,200 feet distance and 2 minutes average run and stop time is saved on the one-way run time.
- No bus stops with shelter amenities are abandoned by this change. If further truncated to the traffic circle, then add shelter.
- An additional bus stop shelter with information kiosk is required at the new stop.

Golden Shores:

Golden Shores is the largest single-family neighborhood in Sunny Isles Beach, and it is important to provide service to the community; however, the higher density townhomes and duplexes are located along Atlantic Avenue, with the lower density area along North Bay Road. The recommendation is to shorten the North Bay Road segment in a manner that minimizes impacts yet gains useful time for the Orange Line schedule. Bay Road will still be served with the stop between 189th Street and 188th Street, and the northern corner stops at 191st Terrace will be deleted.

**Exhibit 33
Orange Line Modifications at Golden Shores**

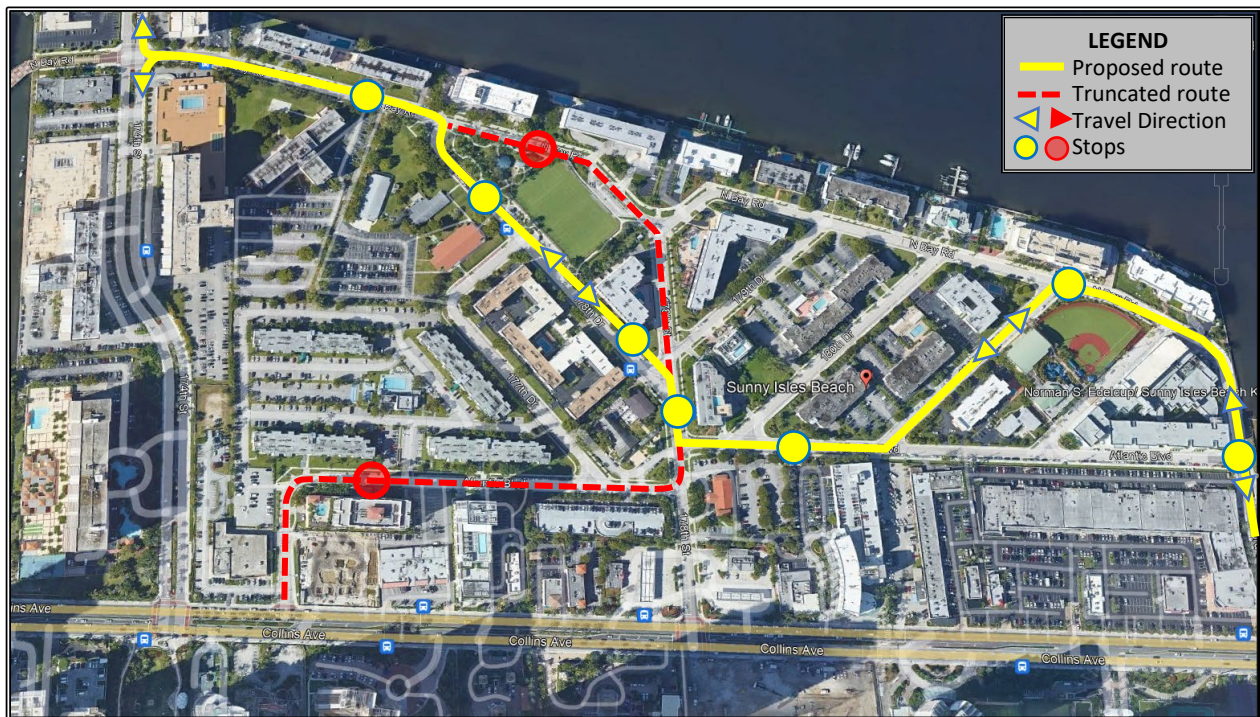


- Walk distance is increased for the north part of Golden Shores by a maximum of a ¼-mile from the furthest house. The average increase is less.
- North Bay Road has speed humps and reduces average bus speed to below 15 mph.
- No shelter amenities are abandoned by this change.
- The stop at Golden Shores Park is no longer available; however, as a park without parking and accessed from within Golden Shores, it is a neighborhood park and tot lot, and not a destination park.
- 3,100 feet distance in one direction and 3 minutes average run and stop time is saved on the one-way run time.

North Bay Road / Atlantic Boulevard north of Winston Towers

The section of Sunny Isles Beach between 174th Street and 183rd Street includes several important residential developments including Winston Towers, and several important destinations, including the Publix at 183rd Street, Norman S. Edelcup K-8 School, Pelican Community Park and Senator Gwen Margolis Park. Part of the street grid here is aligned on north-south / east-west angles centering on 178th Street. The current service provides coverage through duplication of service along the parallel corridors of North Bay Road and Atlantic Boulevard. Atlantic Boulevard locations are also well served by the Miami-Dade County transit lines along Collins Avenue approximately 350 feet away; whereas the North Bay Road service is unique and provides service to the front door locations of more condominiums and apartments than Atlantic Boulevard. The recommendation for this area is to reduce the duplication, concentrating service on North Bay Road, and truncating the Atlantic Boulevard segment from the Orange Line, with Atlantic Boulevard to be served instead by the Blue Line Express which will connect Winston Towers to the Walgreens.

**Exhibit 34
Orange Line Modifications from Publix to Winston Towers**



- The largest condominiums on Atlantic Boulevard are the King David and 17700 Atlantic Boulevard, and each will have an increased walk distance of 700 feet to the nearest stop.
- 178th Drive on the southeast side of Senator Gwen Margolis Park will be used between 178th Street and North Bay Road.
- At the south end of North Bay Road, the Orange Line will continue to 174th Street as the existing route currently runs, to and from 700 Winston Towers.
- No bus stops with shelter amenities are abandoned by this change.
- 2,500 feet distance in one direction and 2 minutes one-way run and stop time are saved.



- Drivers noted the permissive right turn from 175th Terrace onto Collins Avenue (southbound) is often blocked by vehicle queues behind the signal on Collins Avenue and they need to wait to make the right turn. This turn is deleted for the Orange Line by this recommendation.

North Bay Road / Plaza of the Americas/ Gateway Park

The section of Sunny Isles Beach between 172nd Street and Sunny Isles Beach Boulevard presents a choice of service concepts between providing close-proximity service to commercial uses at RK Centers, and service to residents along North Bay Road, including the Intracoastal Yacht Club, Beach Place, Porto Bellagio, Golden Bay, and Intracoastal Yacht Club. The choice also affects the route’s double loop along Sunny Isles Beach Boulevard and the order of stops to Gateway Park and the Intracoastal Mall (Winn Dixie). Currently, between the Blue Line and the Orange Line, both routes attempt to serve both purposes with service that is not entirely similar (the Blue Line does not serve the Intracoastal Mall).

Service to the Plaza of the Americas is duplicative of MDT transit service. Other than Milam’s supermarket, there are no significant destinations for the purposes of the Sunny Isles Beach service. Furthermore, the service to most of the Plaza of the Americas shopping center is from the rear of the establishments and few passthroughs for pedestrians. There are no other uses along the rear of the stores; just parking lots and a parking garage.

The recommendation is to concentrate the local service on residential needs and allow the reconfigured Blue Line Express to serve displaced needs to the Milam’s market and RK Centers.

**Exhibit 35
Orange Line Modifications on North Bay Road / Plaza of the Americas**



- No bus stops with shelter amenities are abandoned by this change.
- Commercial destinations in the shopping center are still to be served by the Blue Route
- 1,900 feet distance in one direction and 1-½ minutes are saved on the one-way run and stop time.
- The double loop on Sunny Isles Beach Boulevard Business Loop is simplified, although still needs to be approached from the business loop left from Collins Avenue and cannot realize time savings on the flyover.
- The stop at Gateway Park is proposed as a scheduled make-up stop.

Sunny Isles Beach Boulevard

Based on the North Bay Road / Plaza of the Americas / Gateway Park recommendation, the path necessary to travel through Sunny Isles Boulevard (SR 826) by the proposed Orange Line is shown below. There are no modifications to the route; however, by maintaining an order between the stops at Intracoastal Mall and the Gateway Center based on always entering and exiting the Gateway Center from the south side, the necessity for using the west turnaround of the inner Business Loop is avoided.

Service at the Gateway Center is maintained, which is especially important because the Gateway Center stop is recommended to be an important recovery time stop and used as a convenient and comfortable transfer between the Orange Line and Blue Line Express.

The stop is also recommended for a live schedule information kiosk.

**Exhibit 36
Orange Line Modifications Impact on Sunny Isles Beach Boulevard**



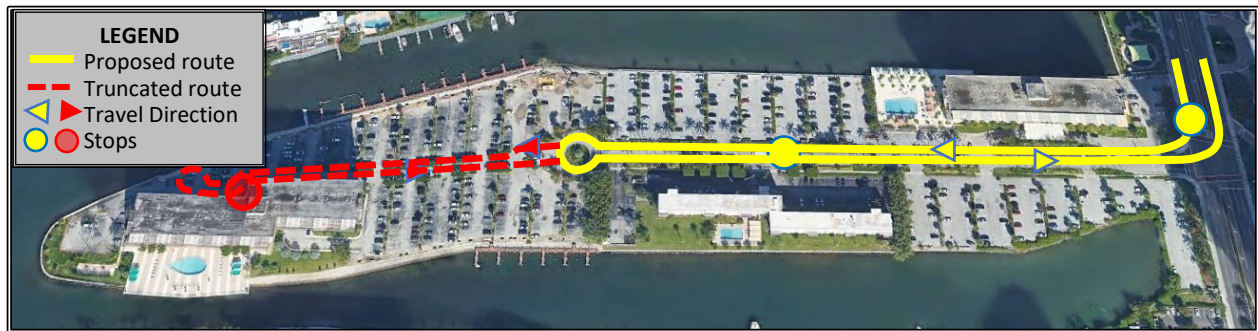
Coastal Towers

The Coastal Towers schedule and route map requires buses to travel the entire length of the development, past the first turnaround and a second gate house to the west end and turn around in the parking lot. The schedule is based on an alignment map turns around at the western end of the development. Depending on the length and position of parked cars, sometimes the bus cannot make the turn through the lot and needs to reverse. The roadway along 159th Street within the development also has speed bumps that effectively slow down bus speeds to below 15 mph average. The recommendation is to reduce this unnecessary length of travel and turn around at the traffic circle before the second gate.

This change has been recently implemented by the City administration in response to safety and schedule considerations. This recommendation confirms that the change should be retained and included on updated map diagrams for brochures, the smart phone app, and other media.

The change should be accompanied by partnering with Coastal Towers to establish a shelter on 159th Street at the turn-around.

**Exhibit 37
Orange Line Modifications at Coastal Towers**



- Walk distance is increased for only the Coastal Towers West Building by 500 feet.
- The change causes a net reduction of travel distance by 1,500 feet and 1 minute and 8 seconds is saved on the one-way run time.
- Requires a bus stop shelter with bench and information kiosk.

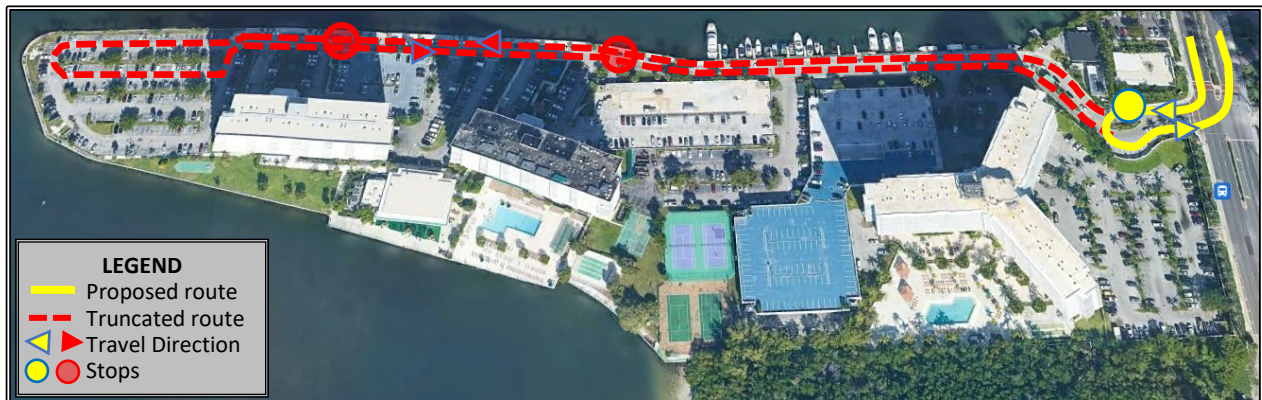
Arlen House

The Arlen House schedule and route map requires buses to travel the entire length of the development and turn around in the parking lot at the west end of the lot. Depending on the length and position of parked cars, sometimes the bus cannot make the turn through the lot and needs to reverse. Bayview Drive (158th Street) within the Arlen House has speed bumps that effectively slow down bus speeds to below 15 mph average. The recommendation is to reduce this unnecessary length of travel and turn in the traffic circle at the entrance to the development.

This change has been recently implemented by the City administration in response to safety and schedule considerations. This recommendation confirms that the change should be retained and included on updated map diagrams for brochures, the smart phone app, and other media.

The change must be accompanied by partnering with Arlen House and the City Public Works Department to modify pavement markings and signage at the proposed turn-around to safely establish the turn-around for buses only, and to construct a shelter with schedule kiosk on 158th Street on the north side and at least 100 feet from the intersection.

**Exhibit 38
Orange Line Modification at Arlen House**



- Walk distance is increased for only the Arlen House West Buildings by 700 to 1,300 feet. The service area is maintained.
- The change causes a net reduction of travel distance by 3,700 feet and 3 minutes of run and stop time is saved on the one-way run time.
- Requires pavement markings and traffic signage.
- Requires a bus stop shelter with bench and information kiosk.



Recovery Time Stops

In total, the recommended changes result in a time saving of 14 minutes in both direction for the Orange Line, and 21 minutes for the Blue Line. As currently scheduled, the Orange Line has 5 minutes of recovery time at the Aventura stop, where the pull-in time and pull-out time are respectively scheduled at 45 minutes after the hour and 50 minutes after the hour. The proposed schedule provides 17 minutes layover time on the Orange Line and 11 minutes on the Blue Line.

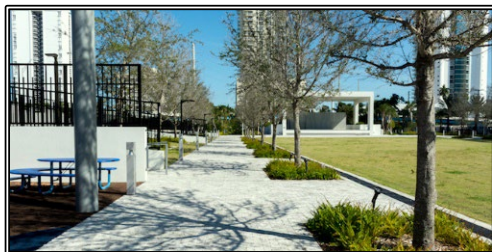
With heavy delays due to peak hour traffic queues on Collins Avenue, bridge openings, delivery blockages, and school let out times, the 5 minutes headway is not enough for schedule recovery on a 120-minute run, within the run. The time saved on the route is to be used to add more recovery time to bring recovery time from 5 minutes and 4% of run time to 17 minutes and 14% of run time on the Orange Line. The changes are made in response to one of the top concerns among riders and potential riders about schedule adherence. There are two proposed locations for the recovery time stops, with 7 minutes at Aventura Mall, and two 5-minute layovers at the Gateway Center (one 5-minute layover for the Blue Line)

The **Aventura Mall Stop** will continue to be used because it has attributes that are beneficial for a recovery time stop, including:

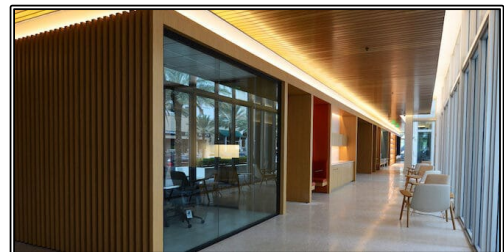
- Location at the northern end of the route alignment.
- Located at a public transit facility.
- Location where additional time to catch the bus is often appreciated by mall visitors.
- The additional time at the stop facilitates transfers to other buses.
- There is an allowance for dwell time at the designated stop, and a designated area for layover.
- There is a restroom for driver relief time and passengers.
- The facility is sheltered.

The **Gateway Center Stop** will be added as the recovery time stop at the south end of the route.

- Location at the southern end of the route alignment.
- The location is a City-owned and operated public facility.
- It is located at a City resident destination.
- The additional time at the stop facilitates program participants to meet the bus if they are a few minutes late from their program.
- There is clearance, ground-level parking spaces, and room to wait for pick-up and drop-offs.
- There are comfortable restrooms and facilities for driver relief time and passengers.
- A prolonged stop will help passengers to become more familiar with the program offerings of the Gateway Center.
- The comfort of the facility can make an excellent transfer location between the Orange Line and the proposed Blue Line Express



**Exhibit 39
Orange Line
Recovery Time
Stops, Gateway
Center**



BLUE LINE ALIGNMENT (ROUTE) & SCHEDULE

The existing Blue Line is to be repurposed to complement recommended changes to the Orange Route, while focusing more on lowering enroute time by limiting stops, and, including:

- The Orange Line recommendations have shifted the Orange Line to provide service more to the west side of the City, more on North Bay Road and less on Collins Avenue and Atlantic Boulevard.
- To complement this, the Blue Line will focus more on Collins Avenue and Atlantic Boulevard, and less on North Bay Road.
- The Orange Line focuses more on reaching many residential destinations.
- The Blue Line focuses on reaching more commercial destinations.
- Both will cover all major destinations, parks, and civic locations.
- The Blue Line will have a more limited stop route to maintain faster enroute average speed.
- The Blue Line will maintain the same service span as the Orange Line to assure that transferring riders are not stranded in any way.
- The Blue Line will also be scheduled to provide timed, additional capacity to Norman S. Edelcup School at 3:05 pm on Monday, Tuesday Thursday and Friday and Wednesday at 2:05 pm to provide extra capacity for middle school dismissal load.

Exhibit 40
Orange Line Service Area Coverage



Exhibit 40 illustrates the Sunny Isles Beach Shuttle service area coverage in its existing configuration for the Orange Line, and that with the recommended changes will be unchanged. The Sunny Isles Beach Shuttle will reach every part of the City. The service area coverage is defined by a ¼ mile distance around the route alignments, showing every area that is within acceptable walking distance to and from the bus routes.



The Height of Living

SIB Shuttle
Comprehensive Operations Analysis

COMBINED ORANGE LINE & BLUE LINE ALIGNMENT MAP, STOPS & SCHEDULES

Exhibit 41
Combined Routes: Blue Line Express & Orange Line as Proposed

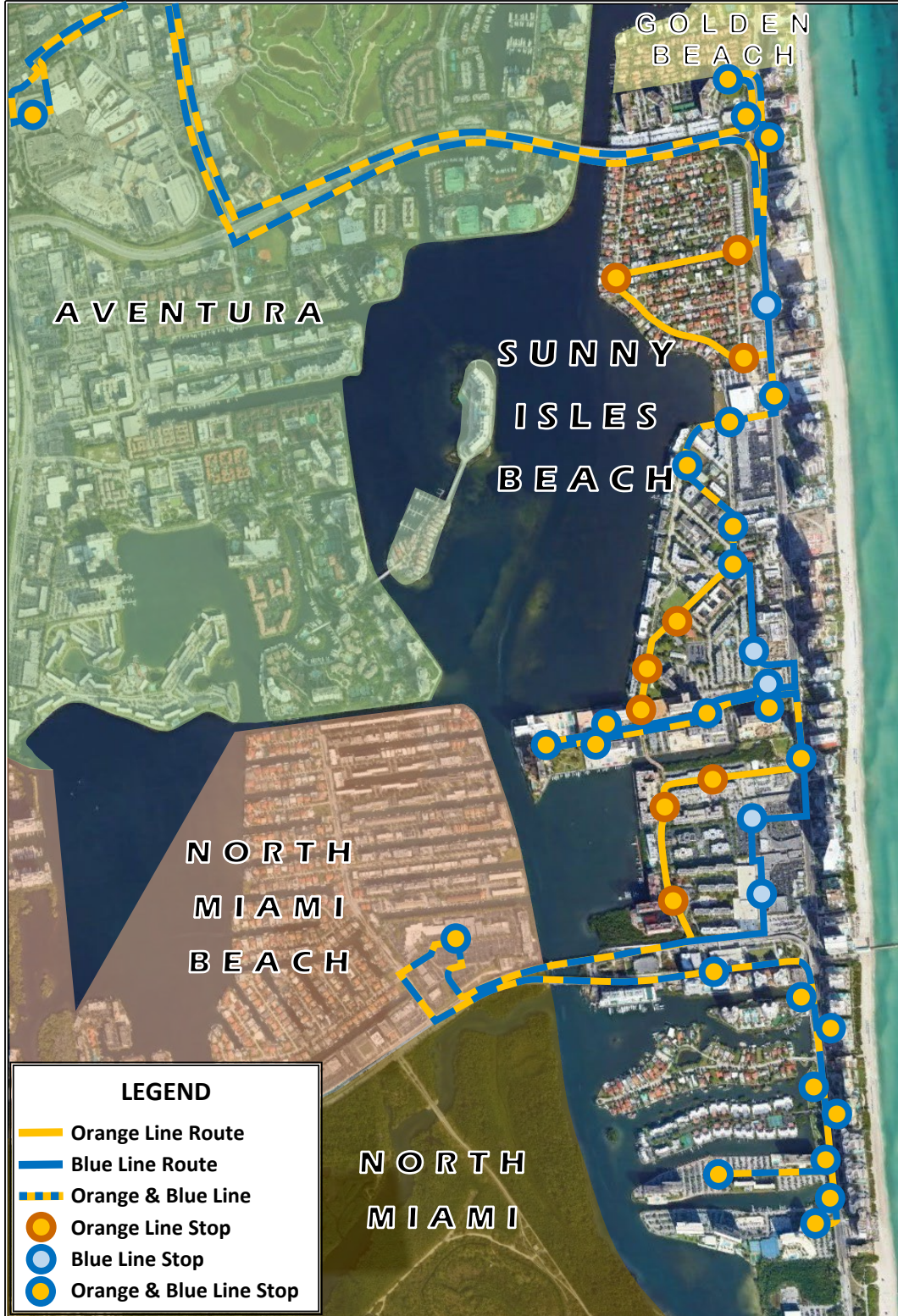




Table 4
Proposed Blue Line & Orange Line Stops

Stop	Location	Orange Line	Blue Line	Notes
2	Aventura Mall	North, South	North, South	Recovery Time Stop
5	Ocean View	North, South	North, South	
4	Heritage Park, Collins Av & 193 rd Street	South	South	
6	Marco Polo Resort, 19201 Collins Avenue	North	North, South	
7	Marenas / Millenium, Collins & 187 th St.		North, South	
8	Golden Shores, 189 th St & Atlantic Avenue	North, South		
11	Golden Shores, 189 th St & N. Bay Road	North, South		
12	Golden Shores, 185 th St & Atlantic Avenue	North, South		
13	Publix, Sahara Club; Collins Av. & 184 th St.	North, South	North, South	
15/16	Publix, 183 rd Street	North, South	North, South	
17	Pelican Community Park, N. Bay Rd. & 181 Dr.	North, South	North, South	
18	Sunny Isles Beach Government Center	North, South	North, South	
19	Le Frontenac, 178 th Street & Atlantic Blvd.	North, South	North, South	
22	Marbella Tower/ Le Cartier, 178 th Drive	North, South		
21	Senator Gwen Margolis Park, 178 th Drive	North, South		
52	Fairview House, N. Bay Road	North, South		
51	Le Boutanique; North Bay Road & 174 th Street	North, South		
23	King David Condo, Atlantic Blvd & 175 th Ter.		North, South	
27	Winston Towers 500, 174 th Street	North, South	North, South	
28	Winston Towers 700, 174 th Av Turnaround	North, South	North, South	
29	Winston Towers 100, 174 th Street	North, South	North, South	
30	Winston Towers 300/600, 174 th Street	North, South	North, South	
31	Winston Towers 600, 174 th Street	North, South	North, South	
26	Winston Towers 400, 174 th Street	North, South	North, South	
25	Walgreens, 174 th Street, w.o. Collins Av.	North, South	North, South	
32	Town Center Park, Collins Av. & 172 nd St	North, South	North, South	
54	Salem House / Avila South, 172 nd Street	North, South		Salem (WB), Avila (EB)
53	Porto Bellagio, N. Bay Road, s.o. 172 nd Street	North, South		
36	Intracoastal Yacht Club, N. Bay Road	North, South		
33	Milam's Market, 170 th Street, w.o. Collins Av.		North, South	
34	RK Centers, Marshalls, Collins Av & 167 th St.		North, South	
37	Intracoastal Mall, Winn Dixie, NE 163 rd St	North, South	North, South	
38	Gateway Center and Park, SIB Blvd.	North, South	North, South	Recovery Time Stop
39	Intracoastal Park North, Collins & 160 th	South		
40	Collins Avenue & Kings Pointe Drive	South		
43	Coastal Towers, Kings Point Dr. (159 th St)	North, South	North, South	
44	Arlen House, Bay Drive	North, South	North, South	
46	Turnberry Ocean Colony, Collins & 160 th	North	North	
47	Oceania, Collins & 164 th	North	North	



**Table 5
Deleted Stops from Existing Routes**

Stop	Location	Orange Line	Blue Line	Notes
1	Hallandale Fire Station	n.a.	North, South	This stop has very low utilization at 32 passengers per month (approximately 1 per day on average) and requires an extra 4 ½ miles of travel. This stop and transfers to the Walmart are recommended to be included in the Sunday on-demand service area.
3	Ocean View west stop	North, South	North, South	This stop is deleted for safety and time reasons because it is within the parking lot and requires time to reach the door of the back building, whereas the stop that is retained at the east end of the development still provides service within an acceptable walking distance of ¼-mile from the west building.
9	Golden Shores Park, 191 st Terrace & Atlantic Boulevard	North, South	North, South	The stop is deleted to save enroute time on a low utilization stop in a single-family residential area. The park has no parking and is a neighborhood park and tot lot. The walk distance to the nearest Orange Line Stop is increased by a ¼ mile at maximum.
10	Golden Shores 191 st Terrace & North Bay Road	North, South	North, South	The stop is deleted to save enroute time on a low utilization stop in a single-family residential area. The walk distance to the nearest Orange Line Stop is increased by a ¼ mile at maximum.
20	Margolis Park west side, N. Bay Road	North, South	North, South	The North Bay Road-side of the park is within 300 feet walking distance of the stop with shelter on the 178 th Drive side of the park.
50	Jade Signature / RK , Collins Av. & 170 th St.	North	n.a.	New routes do not run on this segment of Collins Avenue (A1A). Deleted stop is a northbound-only stop. The location is still within the service area of the Milam's Stop at a 550-foot walk with crosswalk.
49	Sands Pointe / RK , Collins Av. & 167 th St.	North	n.a.	New routes do not run on this segment of Collins Avenue (A1A). Deleted stop is a northbound-only stop. The location is still within the service area of the RK Center Stop at a 900-foot walk with crosswalk.
48	Newport Beachside / La Perla, Collins & 163 rd	North	n.a.	New routes do not run on this segment of Collins Avenue (A1A). Deleted stop is a northbound-only stop. The stop is also within the influence of the traffic at the intersection of Collins Avenue (A1A) and Sunny Isles Boulevard (SR-826) and causes an additional impediment to traffic flow. The stop and the pier is still within the service area of the RK Centers Stop at a 1,000-foot walk with crosswalk.



Table 6
Additional Stops Requested by Surveys, Impacts, & Alternative Free Connections

Stop	Location	Survey Result	Additional Roundtrip Miles from closest stop	Alternative Free Transfer Connection	Notes
Walmart Superstore	2251 E. Hallandale Beach Boulevard, Hallandale Florida. (Broward County)	52%	5 miles (RT) to Walmart main entrance	None	There is no free connection from a Sunny Isles Beach Shuttle stop. The Hallandale Community Bus reaches the destination, and its closest stop is Ocean Drive and the County Line. Walmart would be accessible from the proposed SIB on-demand service on Sundays.
Gulfstream Park	901 South Federal Highway Hallandale Florida. (Broward County)	26%	4 miles to traffic circle	None	There is no free connection from a Sunny Isles Beach Shuttle stop. The Hallandale Community Bus reaches the destination, and its closest stop is Ocean Drive and the County Line, or Walmart which would be accessible from proposed SIB on-demand service on Sundays.
Target	21265 Biscayne Boulevard, Aventura, Florida	46%	3 miles (RT) Target door	Aventura North Route (purple) from Aventura Mall	This is a one transfer connection at Aventura Mall with no cost and same stop transfer (no additional walking)
Brightline Station	19796 West Dixie Highway Aventura, Florida	46%	2½ miles (RT) to bus drop off / pick-up	Aventura Circuit Route from Aventura Mall	This is a one transfer connection at Aventura Mall with no cost and same stop transfer.
Oleta River State Park	3400 NE 163 rd Street, North Miami Beach, Florida	20%	2½ miles(RT) to concession parking lot	North Miami Beach Trolley Route C from Intracoastal Mall	The closest stop is the Intracoastal Mall. There is no free transit transfer. Oleta River State Park would be accessible from the proposed SIB on-demand service on Sundays.
Alonzo & Tracy Mourning Senior High School	2601 NE 151 st Street, North Miami Beach, Florida	14%	5 miles (RT) to main gate	North Miami Beach Trolley Routes C & A from Intracoastal Mall	The closest stop is the Intracoastal Mall. This is a free transfer, but requires two transfers: to the NMB Route A at Intracoastal Mall, then at the 163 rd Street Mall to the NMB Route C.
FIU Biscayne Bay Campus	3000 NE 151 st Street, North Miami, Florida	21%	7 miles (RT) to bus drop-off / pick-up	North Miami Beach Trolley Routes C & A from Intracoastal Mall	The closest stop is the Intracoastal Mall. This is a free transfer, but requires two transfers: to the NMB Route A at Intracoastal Mall, then at the 163 rd Street Mall to the NMB Route C.



Table 7
Proposed Orange Line Schedule Southbound

Stop	Stop Destination	Street	Location	Run 1 Bus 1	Run 1 Bus 2	Run 2 Bus 1	Run 2 Bus 2	Run 3 Bus 1	Run 3 Bus 2	Run 4 Bus 1	Run 4 Bus 2	Run 5 Bus 1	Run 5 Bus 2	Run 6 Bus 1	Run 6 Bus 2
SOUTHBOUND															
2	Aventura Mall Bus Station	Aventura Mall	between JC Penney and Nordstrom			9:00	9:55	10:56	11:50	12:51	13:46	14:46	15:41	16:42	17:36
	Parking Lot / Bus Storage	1st run - not in service	to start SB at Marco P		8:00										
	Parking Lot / Bus Storage	1st run - not in service	to Gateway to start NB	7:45											
6	Marco Polo Resort (Run 1 from parking lot)	Collins Avenue	n.o. Lehman Csy.		8:06	9:07	10:01	11:02	11:57	12:57	13:52	14:53	15:47	16:48	17:43
5	Ocean View	193 Street	2nd building		8:08	9:09	10:04	11:05	11:59	13:00	13:54	14:55	15:50	16:51	17:45
4	Heritage Park	Collins Avenue	n.o. Lehman Csy.		8:10	9:11	10:06	11:06	12:01	13:02	13:56	14:57	15:52	16:52	17:47
8	Golden Shores	189th Street	Atlantic Avenue		8:12	9:13	10:07	11:08	12:03	13:03	13:58	14:59	15:53	16:54	17:49
11	Golden Shores	189th Street	North Bay Road		8:13	9:14	10:09	11:10	12:04	13:05	14:00	15:00	15:55	16:56	17:50
12	Golden Shores	185th Street	Atlantic Avenue		8:15	9:16	10:10	11:11	12:06	13:06	14:01	15:02	15:56	16:57	17:52
13	Publix / Sahara Club	Collins Avenue	n.o. 183rd Street		8:16	9:17	10:11	11:12	12:07	13:08	14:02	15:03	15:58	16:58	17:53
15 / 16	Publix / Edclup School	183rd Street	Atlantic Boulevard	35 to 3:05/2:05	8:18	9:19	10:13	11:14	12:09	13:10	14:04	15:05	16:00	17:00	17:55
17	Pelican Community Park	North Bay Road	181st Drive		8:19	9:20	10:14	11:15	12:10	13:10	14:05	15:06	16:00	17:01	17:56
18	Sunny Isles Beach Government Ctr	Atlantic Boulevard			8:20	9:21	10:16	11:16	12:11	13:12	14:06	15:07	16:02	17:02	17:57
19	Le Frontenac	178th Street	Atlantic Boulevard		8:21	9:22	10:16	11:17	12:12	13:12	14:07	15:08	16:02	17:03	17:58
22	Marbella Tower / Le Cartier	178th Drive			8:21	9:22	10:16	11:17	12:12	13:13	14:07	15:08	16:02	17:03	17:58
21	Senator Gwen Margolis Park	178th Drive			8:22	9:23	10:17	11:18	12:13	13:13	14:08	15:09	16:03	17:04	17:59
52	Fairview House	North Bay Road	s.o. 178th Drive		8:23	9:23	10:18	11:19	12:13	13:14	14:09	15:09	16:04	17:05	17:59
51	Le Boutanique	174th Street	North Bay Road		8:23	9:24	10:18	11:19	12:14	13:15	14:09	15:10	16:04	17:05	18:00
23	King David Condo	Atlantic Boulevard	n.o. 175th Terrace												
27	Winston Towers 500	174th Street			8:23	9:24	10:19	11:19	12:14	13:15	14:09	15:10	16:05	17:05	18:00
28	Winston Towers 700	174th Street	17th St Turnaround		8:24	9:25	10:19	11:20	12:14	13:15	14:10	15:11	16:05	17:06	18:01
29	Winston Towers 100	174th Street			8:24	9:25	10:20	11:21	12:15	13:16	14:11	15:11	16:06	17:07	18:01
30	Winston Towers 300/400	174th Street			8:25	9:26	10:21	11:21	12:16	13:17	14:11	15:12	16:07	17:08	18:02
31	Winston Towers 600	174th Street			8:26	9:27	10:22	11:22	12:17	13:18	14:12	15:13	16:08	17:08	18:03
25	Walgreens	174th Street	Collins Avenue												
32	Town Center Park	Collins Avenue	172nd Street		8:28	9:28	10:23	11:24	12:18	13:19	14:14	15:15	16:09	17:10	18:04
54	Salem House / Avila South	172nd Street	east of N. Bay Road		8:30	9:30	10:25	11:26	12:20	13:21	14:16	15:16	16:11	17:12	18:06
53	Porto Bellagio	North Bay Road	172nd Street		8:30	9:31	10:25	11:26	12:21	13:22	14:16	15:17	16:11	17:12	18:07
36	Intracoastal Yacht Club	North Bay Road	s.o. 172nd Street		8:31	9:32	10:26	11:27	12:22	13:22	14:17	15:18	16:12	17:13	18:08
33	Milams Market	170th Street	w.o. Collins Avenue												
34	RK Centers Marshalls	w.o. Collins Avenue	167th Street												
37	Intracoastal Mall / Winn Dixie	NE 163rd Street	NE 25th Avenue		8:33	9:34	10:28	11:29	12:24	13:25	14:19	15:20	16:14	17:15	18:10
38	Gateway Center and Park	Sunny Isles Beach Blvd	w.o. Collins Avenue		8:43	9:43	10:38	11:39	12:33	13:34	14:29	15:29	16:24	17:25	18:19
39	Intracoastal Park North	Collins Avenue	s.o. Atlantic Isle		8:45	9:46	10:40	11:41	12:36	13:37	14:31	15:32	16:27	17:27	18:22
46	Turnberry Ocean Colony	Collins Avenue	across Poinciana Is.												
40	Collins Avenue & Kings Point Dr.	Collins Avenue	n.o. Kings Point Drive		8:46	9:46	10:41	11:42	12:36	13:37	14:32	15:32	16:27	17:28	18:22
43	Coastal Towers	Kings Point Drive	middle building		8:48	9:48	10:43	11:44	12:38	13:39	14:34	15:34	16:29	17:30	18:24
44	Arlen House	Bay Drive	middle building		8:50	9:51	10:45	11:46	12:41	13:42	14:36	15:37	16:31	17:32	18:27

Key:

- White rows are southbound stops and part of the schedule.
- Green rows are recovery time stops and part of the schedule.
- Gray rows are northbound stops and not part of the schedule.
- Blue rows are Blue Line stops and not part of the schedule.



Table 7 - continued
Proposed Orange Line Schedule Southbound

Stop	Stop Destination	Street	Location	Run 1 Bus 1	Run 1 Bus 2	Run 2 Bus 1	Run 2 Bus 2	Run 3 Bus 1	Run 3 Bus 2	Run 4 Bus 1	Run 4 Bus 2	Run 5 Bus 1	Run 5 Bus 2	Run 6 Bus 1	Run 6 Bus 2
NORTHBOUND															
44	Arlen House	Bay Drive	middle building	7:57	8:50	9:51	10:45	11:46	12:41	13:42	14:36	15:37	16:31	17:32	18:27
43	Coastal Towers	Kings Point Drive	middle building	7:59	8:53	9:53	10:48	11:49	12:43	13:44	14:39	15:39	16:34	17:35	18:29
40	Collins Avenue & Kings Point Dr.	Collins Avenue	n.o. Kings Point Drive												
46	Turnberry Ocean Colony	Collins Avenue	across Poinciana Is.	8:03	8:56	9:57	10:51	11:52	12:46	13:47	14:42	15:43	16:37	17:38	18:33
47	Oceania	Collins Avenue	s.o. Atlantic Isle	8:05	8:58	9:59	10:53	11:54	12:49	13:49	14:44	15:45	16:39	17:40	18:35
38a	Gateway Center Overpass	Sunny Isles Beach Blvd	w.o. Collins Avenue	8:07	9:00	10:01	10:55	11:56	12:51	13:51	14:46	15:47	16:41	17:42	18:37
37	Intracoastal Mall / Winn Dixie	NE 163rd Street	NE 25th Avenue		9:01	10:02	10:56	11:57	12:52	13:53	14:47	15:48	16:43	17:43	18:38
38	Gateway Center and Park	Sunny Isles Beach Blvd	w.o. Collins Avenue	8:16	9:11	10:11	11:06	12:07	13:01	14:02	14:57	15:57	16:52	17:53	18:47
34	RK Centers Marshalls	w.o. Collins Avenue	167th Street												
33	Milams Market	170th Street	w.o. Collins Avenue												
36	Intracoastal Yacht Club	North Bay Road	s.o. 172nd Street	8:19	9:13	10:14	11:08	12:09	13:04	14:05	14:59	16:00	16:55	17:55	18:50
53	Porto Bellagio	North Bay Road	172nd Street	8:20	9:14	10:15	11:09	12:10	13:05	14:06	15:00	16:01	16:55	17:56	18:51
54	Salem House / Avila South	172nd Street	east of N. Bay Road	8:20	9:15	10:15	11:10	12:11	13:05	14:06	15:01	16:01	16:56	17:57	18:51
32	Town Center Park	Collins Avenue	172nd Street	8:20	9:15	10:16	11:10	12:11	13:06	14:07	15:01	16:02	16:56	17:57	18:52
25	Walgreens	174th Street	Collins Avenue	8:24	9:19	10:19	11:14	12:15	13:09	14:10	15:05	16:05	17:00	18:01	18:55
23	Winston Towers 600	174th Street													
30	Winston Towers 300/400	174th Street		8:25	9:19	10:20	11:15	12:15	13:10	14:11	15:05	16:06	17:01	18:01	18:56
27	Winston Towers 500	174th Street		8:26	9:20	10:21	11:16	12:16	13:11	14:12	15:06	16:07	17:02	18:02	18:57
28	Winston Towers 700	174th Street	17th St Turnaround	8:26	9:21	10:22	11:16	12:17	13:11	14:12	15:07	16:08	17:02	18:03	18:57
29	Winston Towers 100	174th Street		8:27	9:21	10:22	11:17	12:18	13:12	14:13	15:07	16:08	17:03	18:04	18:58
23	King David Condo	Atlantic Boulevard	n.o. 175th Terrace												
51	Le Boutanique	174th Street	North Bay Road	8:28	9:22	10:23	11:17	12:18	13:13	14:14	15:08	16:09	17:04	18:04	18:59
52	Fairview House	North Bay Road	s.o. 178th Drive	8:28	9:23	10:23	11:18	12:19	13:13	14:14	15:09	16:09	17:04	18:05	18:59
21	Senator Gwen Margolis Park	178th Drive		8:29	9:23	10:24	11:18	12:19	13:14	14:15	15:09	16:10	17:04	18:05	19:00
22	Marbella House / Le Cartier	178th Drive		8:29	9:24	10:24	11:19	12:20	13:14	14:15	15:10	16:10	17:05	18:06	19:00
19	Le Frontenac	178th Street	Atlantic Boulevard	8:29	9:24	10:25	11:19	12:20	13:15	14:15	15:10	16:11	17:05	18:06	19:01
18	Sunny Isles Beach Government Ctr	Atlantic Boulevard		8:30	9:25	10:26	11:20	12:21	13:16	14:16	15:11	16:12	17:06	18:07	19:02
17	Pelican Community Park	North Bay Road	181st Drive	8:31	9:25	10:26	11:21	12:22	13:16	14:17	15:11	16:12	17:07	18:08	19:02
15 / 16	Publix / Edclup School	183rd Street	Atlantic Boulevard	8:32	9:26	10:27	11:22	12:22	13:17	14:18	15:12	16:13	17:08	18:08	19:03
13	Publix / Sahara Club	Collins Avenue	n.o. 183rd Street	8:34	9:28	10:29	11:24	12:24	13:19	14:20	15:14	16:15	17:10	18:10	19:05
12	Golden Shores	185th Street	Atlantic Avenue	8:37	9:32	10:32	11:27	12:28	13:22	14:23	15:18	16:19	17:13	18:14	19:08
11	Golden Shores	189th Street	North Bay Road	8:38	9:33	10:34	11:28	12:29	13:24	14:25	15:19	16:20	17:14	18:15	19:10
8	Golden Shores	189th Street	Atlantic Avenue	8:41	9:35	10:36	11:31	12:31	13:26	14:27	15:21	16:22	17:17	18:17	19:12
7	Marenas / Millenium	Collins Avenue	187th Street												
6	Marco Polo Resort	Collins Avenue	n.o. Lehman Csy.	8:44	9:39	10:39	11:34	12:35	13:29	14:30	15:25	16:25	17:20	18:21	19:15
5	Ocean View	193 Street	2nd building	8:46	9:41	10:42	11:36	12:37	13:32	14:33	15:27	16:28	17:22	18:23	19:18
4	Heritage Park	Collins Avenue	n.o. Lehman Csy.												
2	Aventura Mall Bus Station	Aventura Mall	between JC Penney and Nordstrom	8:53	9:48	10:48	11:43	12:44	13:38	14:39	15:34	16:34	17:29	18:30	19:24

Key:

- White rows are northbound stops and part of the schedule.
- Green rows are recovery time stops and part of the schedule.
- Gray rows are southbound stops and not part of the schedule.
- Blue rows are Blue Line stops and not part of the schedule.



Table 8
Proposed Blue Line Schedule Southbound

Stop	Stop Destination	Street	Location	Run 1 Bus 1	Run 2 Bus 1	Run 3 Bus 1	Run 4 Bus 1	Run 5 Bus 1	Run 6 Bus 1	Run 7 Bus 1	Run 8 Bus 1
SOUTHBOUND											
2	Aventura Mall Bus Station	Aventura Mall	between JC Penney and Nordstrom		9:26	10:53	12:20	13:47	15:14	16:41	18:08
	Parking Lot / Bus Storage	1st run - not in service	to start SB at Marco P	7:59							
5	Ocean View	193 Street	2nd building	8:01	9:28	10:55	12:22	13:49	15:16	16:43	18:10
4	Heritage Park	Collins Avenue	n.o. Lehman Csy.	8:03	9:30	10:57	12:24	13:51	15:18	16:45	18:12
7	Marenas / Millenium, Collins & 187th	Collins Avenue	187th Street	8:04	9:31	10:58	12:25	13:52	15:19	16:46	18:13
13	Publix / Sahara Club	Collins Avenue	n.o. 183rd Street	8:06	9:33	11:00	12:27	13:54	15:21	16:48	18:15
15 / 16	Publix / Edelcup School	183rd Street	Atlantic Boulevard	8:07	9:34	11:01	12:28	13:55	15:22	16:49	18:16
17	Pelican Community Park	North Bay Road	181st Drive	8:08	9:35	11:02	12:29	13:56	15:23	16:50	18:17
18	Sunny Isles Beach Government Ctr	Atlantic Boulevard		8:09	9:36	11:03	12:30	13:57	15:24	16:51	18:18
19	Le Frontenac	178th Street	Atlantic Boulevard	8:09	9:36	11:03	12:30	13:57	15:24	16:51	18:18
23	King David Condo	Atlantic Boulevard	n.o. 175th Terrace	8:11	9:38	11:05	12:32	13:59	15:26	16:53	18:20
25	Walgreens	174th Street	Collins Avenue	8:11	9:38	11:05	12:32	13:59	15:26	16:53	18:20
26	Winston Towers 300/400	174th Street		8:12	9:39	11:06	12:33	14:00	15:27	16:54	18:21
27	Winston Towers 400 / Le Boutanique	174th Street	North Bay Road	8:13	9:40	11:07	12:34	14:01	15:28	16:55	18:22
28	Winston Towers 700	174th Street	17th St Turnaround	8:14	9:41	11:08	12:35	14:02	15:29	16:56	18:23
29	Winston Towers 100	174th Street		8:14	9:41	11:08	12:35	14:02	15:29	16:56	18:23
30 / 31	Winston Towers 600	174th Street		8:15	9:42	11:09	12:36	14:03	15:30	16:57	18:24
32	Town Center Park	Collins Avenue	172nd Street	8:17	9:44	11:11	12:38	14:05	15:32	16:59	18:26
33	Milams Market	170th Street	w.o. Collins Avenue	8:18	9:45	11:12	12:39	14:06	15:33	17:00	18:27
34 / 35	RK Centers Marshalls	w.o. Collins Avenue	167th Street	8:19	9:46	11:13	12:40	14:07	15:34	17:01	18:28
38a	Gateway Center Overpass	Sunny Isles Beach Blvd	w.o. Collins Avenue	8:21	9:48	11:15	12:42	14:09	15:36	17:03	18:30
37	Intracoastal Mall / Winn Dixie	NE 163rd Street	NE 25th Avenue	8:23	9:50	11:17	12:44	14:11	15:38	17:05	18:32
38	Gateway Center and Park	Sunny Isles Beach Blvd	w.o. Collins Avenue	8:27	9:54	11:21	12:48	14:15	15:42	17:09	18:36
39	Intracoastal Park North	Collins Avenue	s.o. Atlantic Isle	8:30	9:57	11:24	12:51	14:18	15:45	17:12	18:39
46	Turnberry Ocean Colony	Collins Avenue	across Poinciana Is.								
41	Collins Avenue & Kings Point Dr.	Collins Avenue	n.o. Kings Point Drive	8:30	9:57	11:24	12:51	14:18	15:45	17:12	18:39
43	Coastal Towers	Kings Point Drive	middle building	8:32	9:59	11:26	12:53	14:20	15:47	17:14	18:41
44	Arlen House	Bay Drive	middle building	8:35	10:02	11:29	12:56	14:23	15:50	17:17	18:44

Key:

- White rows are southbound stops and part of the schedule.
- Green rows are recovery time stops and part of the schedule.
- Gray rows are northbound stops and not part of the schedule.



Table 8 continued
Proposed Blue Line Schedule Northbound

Stop	Stop Destination	Street	Location	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7	Run 8
				Bus 1	Bus 1	Bus 1	Bus 1	Bus 1	Bus 1	Bus 1	Bus 1
NORTHBOUND											
44	Arlen House	Bay Drive	middle building	8:35	10:02	11:29	12:56	14:23	15:50	17:17	18:44
43	Coastal Towers	Kings Point Drive	middle building	8:37	10:04	11:31	12:58	14:25	15:52	17:19	18:46
41	Collins Avenue & Kings Point Dr.	Collins Avenue	n.o. Kings Point Drive								
46	Turnberry Ocean Colony	Collins Avenue	across Poinciana Is.	8:40	10:07	11:34	13:01	14:28	15:55	17:22	18:49
47	Oceania	Collins Avenue	s.o. Atlantic Isle	8:42	10:09	11:36	13:03	14:30	15:57	17:24	18:51
38a	Gateway Center Overpass	Sunny Isles Beach Blvd	w.o. Collins Avenue	8:44	10:11	11:38	13:05	14:32	15:59	17:26	18:53
37	Intracoastal Mall / Winn Dixie	NE 163rd Street	NE 25th Avenue	8:46	10:13	11:40	13:07	14:34	16:01	17:28	18:55
38	Gateway Center and Park	Sunny Isles Beach Blvd	w.o. Collins Avenue	8:55	10:22	11:49	13:16	14:43	16:10	17:37	19:04
34/ 35	RK Centers Marshalls	w.o. Collins Avenue	167th Street	8:57	10:24	11:51	13:18	14:45	16:12	17:39	19:06
33	Milams Market	170th Street	w.o. Collins Avenue	8:58	10:25	11:52	13:19	14:46	16:13	17:40	19:07
32	Town Center Park	Collins Avenue	172nd Street	8:59	10:26	11:53	13:20	14:47	16:14	17:41	19:08
25	Walgreens	174th Street	Collins Avenue	9:00	10:27	11:54	13:21	14:48	16:15	17:42	19:09
26	Winston Towers 300/400	174th Street		9:01	10:28	11:55	13:22	14:49	16:16	17:43	19:10
27	Winston Towers 400 / Le Boutanique	174th Street	North Bay Road	9:02	10:29	11:56	13:23	14:50	16:17	17:44	19:11
28	Winston Towers 700	174th Street	17th St Turnaround	9:03	10:30	11:57	13:24	14:51	16:18	17:45	19:12
29	Winston Towers 100	174th Street		9:03	10:30	11:57	13:24	14:51	16:18	17:45	19:12
30 / 31	Winston Towers 600	174th Street		9:04	10:31	11:58	13:25	14:52	16:19	17:46	19:13
23	King David Condo	Atlantic Boulevard	n.o. 175th Terrace	9:08	10:35	12:02	13:29	14:56	16:23	17:50	19:17
18	Sunny Isles Beach Government Ctr	Atlantic Boulevard		9:09	10:36	12:03	13:30	14:57	16:24	17:51	19:18
17	Pelican Community Park	North Bay Road	181st Drive	9:09	10:36	12:03	13:30	14:57	16:24	17:51	19:18
15 / 16	Publix / Edelpcup School	183rd Street	Atlantic Boulevard	9:10	10:37	12:04	13:31	14:58	16:25	17:52	19:19
13	Publix / Sahara Club	Collins Avenue	n.o. 183rd Street	9:12	10:39	12:06	13:33	15:00	16:27	17:54	19:21
7	Marenas / Millenium, Collins & 187th	Collins Avenue	187th Street	9:13	10:40	12:07	13:34	15:01	16:28	17:55	19:22
6	Marco Polo Resort	Collins Avenue	n.o. Lehman Csy.	9:14	10:41	12:08	13:35	15:02	16:29	17:56	19:23
5	Ocean View	193 Street	2nd building	9:16	10:43	12:10	13:37	15:04	16:31	17:58	19:25
4	Heritage Park	Collins Avenue	n.o. Lehman Csy.	9:19	10:46	12:13	13:40	15:07	16:34	18:01	19:28
2	Aventura Mall Bus Station	Aventura Mall	between JC Penney and Nordstrom	9:26	10:53	12:20	13:47	15:14	16:41	18:08	19:35

Key:

White rows are northbound stops and part of the schedule.

Green rows are recovery time stops and part of the schedule.

Gray rows are southbound stops and not part of the schedule.



Table 9
Sunny Isles Beach Shuttle Route Characteristics Summary with Proposed Recommendations

	Orange 1 Line	Blue Line
Service Span	7:45 am to 7:06 pm 11 hours, 21 minutes	8:59 am to 7:35 pm hours, minutes
Scheduled Headway	60 minutes	50 minutes
Total Average One-Way Trip Time	56 minutes	50 minutes
Percent of Delay Time to Total Time <small>(includes stop dwell time, layover, and average traffic operation delay)</small>	69%	
Scheduled Layover (make-up) Time	14 minutes	11 minutes
Number of Stops	31 southbound 30 northbound	26 southbound 26 northbound
Average Time Between Stops	1.90 minutes	1.94 minutes
Average Distance Between Stops	1,884 feet (0.36 miles)	1,745 feet (0.33 miles)
Average Walk to Nearest Stop	942 feet (0.18 miles)	1,745 feet (0.17 miles)
Total Distance per 2-Way Run	21.80 miles	17.19 miles
Mileage in City of Sunny Isles Beach	69%	74%
Mileage Outside of the City of Sunny Isles Beach	31%	22%
Average Scheduled Travel Speed	11.31 mph	10.24 mph
Number of Vehicles	2	1
Number of Daily Runs	12	8
Average Annual Daily Passengers Estimate <small>(based on last 2022 calendar year data by segment)</small>	187	108
Average Passengers per Vehicle Revenue Mile <i>(at same ridership)</i>	0.72 pass./ rev. mi.	0.79 pass. /rev. mi.
Average Passengers per Vehicle Revenue Hour <i>(at same ridership)</i>	8.1 pass. / rev.hr.	8.1 pass. / rev.hr.

BUS STOP IMPROVEMENTS

There are two primary improvements that are recommended: 1) to add additional bus stop shelters in locations where the route alignment has been truncated, and 2) to add additional dynamic next arrival information at key stops and stops with shelters.

Additional Bus Shelters

There are four locations that are within condominium developments where the Orange Line route alignment has been foreshortened from the western end of the development to a central location within the development. Where door-to-door service has been changed to require short walks within the condominium grounds, the new central location of the stop must be programmed for a shelter as soon as practical. All of these will require coordination with the condominium management. The shelters must include ADA access and a continuous path to crosswalks, pad (larger than shelter), bench, signage, and an illuminated shelter. The shelter should be at least 4-feet deep and in the range of 50 square feet in area (larger than the bus shelter behind City Hall). Evening illumination should be provided by solar power to avoid the cost of electrical connections.

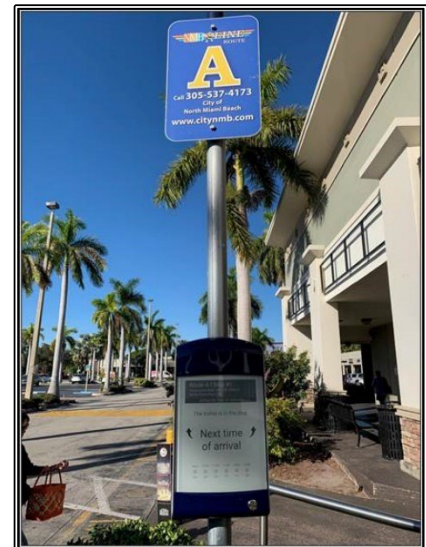
**Exhibit 42
Bus Stop**



Bus Stop Dynamic Schedule Information

Based on comments from workshop participants and comments from drivers, it has been observed that some of the passengers and some potential passengers are senior citizens that are not comfortable with or accustomed to the use of a smartphone application for bus stop arrival information. In order to justly provide these riders with the same level of information available to other persons that are smart phone savvy, dynamic schedule information with accurate next arrival posting should be provided at major stops and stops with aggregations of senior citizens with high shuttle ridership. The dynamic next arrival information should use the same bus location and time estimate algorithms as the smart phone application, and ideally should be tied into that information source if not delivered by the smart phone app vendor. An example of an outdoor kiosk of this type that is also solar powered is located just outside of Winn Dixie at Intracoastal Mall. This one only provides arrival information about the NMB Trolley Route A. It does not include SIB Shuttle information. Five kiosks have been included in the proposed FY 2023/24 budget by City administration.

**Exhibit 43
Information Kiosk**



A summary of additional bus stop shelters and kiosks is provided in Table 10.



Table 10
Additional Bus Shelters and Dynamic Schedule Kiosks at Bus Stops

Stop	Location	Additional Shelter	Dynamic Schedule Kiosk	Notes
2	Aventura Mall		Yes	terminal is sheltered
3	Ocean View	yes	in FY 23/24 budget	
4	Heritage Park, Collins Av & 193 rd Street		yes	existing MDT shelter
5	Marco Polo Resort, 19201 Collins Avenue			
6	Golden Shores, 189 th St & Atlantic Avenue		yes	existing shelter
7	Golden Shores, 189 th St & N. Bay Road			
8	Golden Shores, 185 th St & Atlantic Avenue			
9	Publix, Sahara Club; Collins Av. & 184 th St.			
10	Publix, 183 rd Street	Expand Shelter	in FY 23/24 budget	existing shelter
11	Pelican Community Park, N. Bay Rd. & 181 Dr.	yes	yes	existing pad and bench
12	Sunny Isles Beach Government Center		in FY 23/24 budget	existing shelter
13	Le Frontenac, 178 th Street & Atlantic Blvd.			
14	Marbella Tower/ Le Cartier, 178 th Drive			
15	Senator Gwen Margolis Park, 178 th Drive		yes	existing shelter
16	Fairview House, N. Bay Road			
17	Winston Twr. 400/Le Boutanique; N. Bay & 174 th			
18	King David Condo, Atlantic Blvd & 175 th Ter.			
19	Winston Towers 500, 174 th Street			existing shelter
20	Winston Towers 700, 174 th Av Turnaround		in FY 23/24 budget	existing shelter
21	Winston Towers 100, 174 th Street			existing shelter
22	Winston Towers 300/600, 174 th Street		yes	existing shelter
23	Winston Towers 600, 174 th Street		yes	existing shelter
24	Walgreens, 174 th Street w.o. Collins Avenue		yes	existing shelter
24	Town Center Park, Collins Av. & 172 nd St			
25	Salem House / Avila South, 172 nd Street			
26	Porto Bellagio, N. Bay Road, s.o. 172 nd Street			
27	Intracoastal Yacht Club, N. Bay Road			
28	Milam's Market, 170 th Street, w.o. Collins Av.		yes	
29	RK Centers, Marshalls, Collins Av & 167 th St.			
30	Intracoastal Mall, Winn Dixie, NE 163 rd St		Existing	combine with NMB ?
31	Gateway Center and Park, SIB Blvd.		Yes (2) under porte cochere and in lobby	stop is shelters
32	Intracoastal Park North, Collins & 160 th		yes	existing shelter
33	Turnberry Ocean Colony, Collins & 160 th			existing shelter
34	Collins Avenue & Kings Pointe Drive			existing shelter
35	Coastal Towers, Kings Point Dr. (159 th St)	yes	yes	
36	Arlen House, Bay Drive	yes	in FY 23/24 budget	
TOTAL NUMBER OF NEW SHELTERS & KOSKS		4	19	
Total Cost for Shelters @ \$7,150 ea. + 30 hr. labor x \$40		\$33,400	-	
Total Cost for Kiosks @ \$6,930 each		-	\$131,670	Includes five in budget at \$34,650

SMART-PHONE APPLICATION IMPROVEMENTS

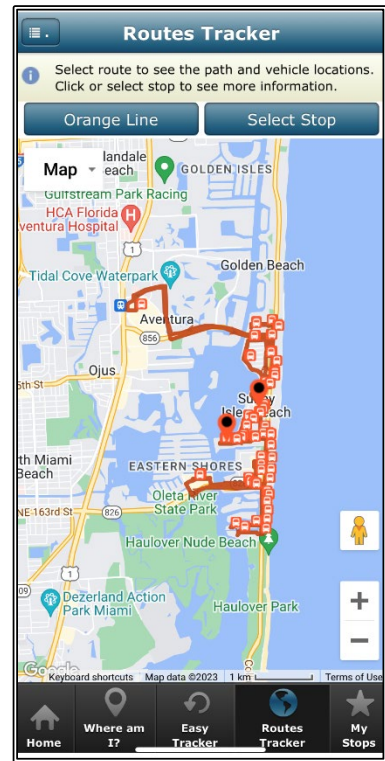
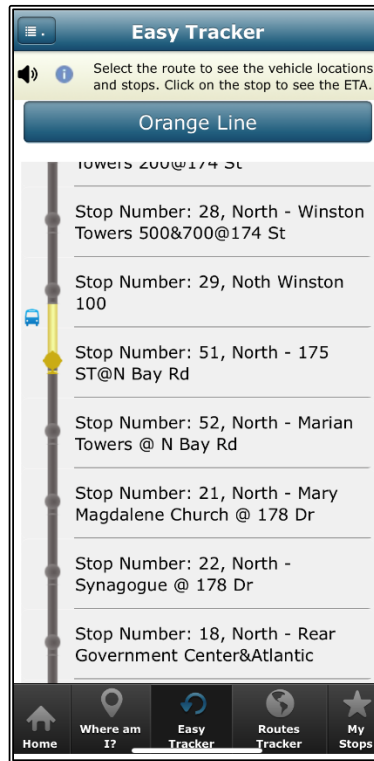
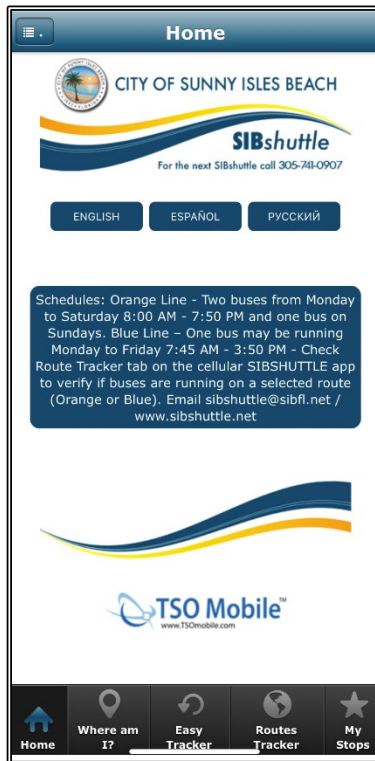
At both workshops, and in interviews with bus drivers, numerous comments were received that the current smart phone application for the Sunny Isles Beach Shuttle has a fault on the “Easy Tracker” page to provide next arrival information. While the “Routes Tracker” page provides bus locations and movement based on the last polling point, the page for the time of next arrival uses schedule information. Riders also noted that it was difficult to distinguish the direction of travel on the “Routes Tracker” page.

The smart phone application functioning in a manner that is reliable and easy to understand is critical for the convenience of passengers, and to reduce the user effect of arrivals and departures that are off scheduled times. For example, a late bus is not perceived as a strong inconvenience if the passenger has useful information and can choose to wait in a more comfortable place until just before the bus arrives. Even if they wait at the bus stop, lateness is more easily tolerated with useful information that assures the passenger of the upcoming arrival.

The recommendations are:

1. Correct the “Easy Tracker” page and the “Where I Am” page polling information to accurately determine the time before arrival at any stop independent of the scheduled time of arrival.
2. Add direction arrows to the moving bus symbols on the “Routes Tracker” page.
3. Provide a page to show MDT connections and NMB connections with live schedule information to show where and when connecting transfers can be made.

Exhibit 44 Smart Phone Application Pages



BUS VEHICLE IMPROVEMENTS

The Orange Line and Blue Line services run with seven vehicles that are owned and operated by the City and described on Table 2 (p. 34). They are each diesel powered, air-conditioned, and have an ADA-compliant wheelchair lift. They each have: GPS for polling position to provide information to the smart phone application as well as operations; 2-way radios for driver communications, automatic passenger counters (APC) to become operational this year, and each are clearly branded with graphic wraps. The shuttle service is operated by City of Sunny Isles Beach, Public Works Department.

Exhibit 45
Low Floor Bus with ADA Ramp at Front Door



Several issues related to the vehicles are:

- The height of the floor and steepness of the stairs has received complaints from some passengers. Drivers also note that the high floor and steep stairs to board and debark causes additional dwell time at stops when there are one or more elderly persons climbing or descending the stairs.
- At the workshops, there was a question about creating a more bike friendly environment in the City. With regard to the scope of these recommendations, we note that the buses do not have bike racks.
- Passengers’ major complaint with regard to comfort on the bus was that the air conditioning setting is too cold.
- Drivers have noted, and it was observed on test rides that sometimes turns are partially blocked by a parked car, and one U-turn is not passable without a broken U-turn by Bus #1609. Any enroute reversing must be avoided. Drivers noted that is related to the steering design more than to the size and wheelbase of the vehicle.

The City intends to replace buses on a 7-year schedule. At the time of replacement, the City should seek a design that has the following attributes to address passenger and driver concerns.

- Replacement buses should be low-floor buses without any steps between the entrance door and the floor of the bus seating area. The step up over the ground is typically in the range of 9 to 14 inches. New technology low-profile tires providing for the lower heights in the range of 9 inches. (as a comparison, typical riser height for public or residential stairs is 7 inches.)

At busy stops where roadway geometry is appropriate and there is sufficient depth, the stop can use a raised platform, lowering the step height even further.

- Alternative power sources, such as battery electric, should be compared to internal combustion power based on life-cycle cost analysis for the cost of vehicles, charging equipment, electricity, maintenance, and residual value of vehicles and batteries. Because the City owns and operates its own fleet and storage area, it is a better position to use an alternative fuel source.
- Buses are to be equipped with 2 or 3 position bike racks attached to the front of the buses. Bike racks should be installed as retrofits to the current fleet of buses; this recommendation does not need to wait for bus vehicle replacement.
- The tightest radiuses for turns in the proposed route are at the traffic circles at Coastal Towers and at the end of 174th Street at Winston Towers 700. The geometry of these turn-arounds are to be determined as built, and used for developing specifications for new buses, both for wheel turn radii, and for body clearance radii.
- The buses should also be equipped with an on-board passenger information system. Using one or two, appropriately scaled LED screens, the system provides a number of functions for passenger information and passenger comfort, including:
 - with real-time, accurate bus location,
 - schedule updates and service changes
 - detours
 - destination information
 - passenger safety and policy messaging
 - weather alerts
 - municipal events
 - other public service announcements

Exhibit 46
On-Board Passenger Information System



SUNDAY ON-DEMAND SERVICE

The SIB Shuttle has its lowest ridership day-of-week on Sundays, and the City is considering cost effective options for continuing service on Sundays in a more effective manner for few rides, smaller passenger loads, and at a scale the responds to the lower passenger volumes, with the same diversity of needs in terms of destinations and schedules.

Shared -Ride, On-Demand Service

As an alternative to the curtailed Sunday service using only Orange Line 1 at a 2- hour headway with very low passenger loads and utilization, the City is considering other mobility options. In many municipalities, contracted on-demand service is quickly expanding in use to provide public mobility at passenger volumes and destination spreads that are not suitable for mass transit options.

There are two potential provider models for the services, each with different cost structures.

- 1) The multi seat low speed electric vehicles (LSEV) (see sidebar below), typically associated with the companies, Freebee, circuit, or similar, provide services based on a fixed annual fee for a defined service area, service time and duration independent of utilization. Cost is inelastic to utilization; however, contracted service variables such days-of-week, daily service hours, service area and numbers of vehicles affect the cost. The municipality pays a fixed fee to provide the service to its residents.

Exhibit 47
LSEV Type On-Demand Vehicle



- 2) The alternative that uses dedicated and branded regular vehicles, is provided by shared-ride companies such as Uber, Lyft and others. The vehicles are regular road cars; however, they are branded to be easily recognizable as an on-demand transit service. This is preferable for most passengers of these services. From the passenger’s perspective, all services are the same and based on a call and dispatch application. From the municipality’s perspective, the cost structure is not completely fixed fee and based on application vouchers (not tangible paper) and their use, so the cost structure is partly or wholly based on a per ride cost.

Exhibit 48
Passenger Car Type On-Demand Vehicle





For both delivery models, vehicles, other equipment, the smart-phone or web-based application, the dispatching system – hardware and software, user data, branding, and advertising revenue are all the property of the private provider. Drivers are the contractors or employees of the provider. The providers offer a turn-key mobility service.

The contracted on-demand service would have the following basic user characteristics:

- Free ride service to residents of Sunny Isles Beach.
- Drivers go door-to-door from home to the passenger’s destination.
- The ride may be shared with other passengers, so while door-to-door, it is not direct at all times.
- On-demand rides are called by using the smart phone application or a web page.
- Hailing available rides shall not be permitted to avoid additional delay on busy streets, especially Collins Avenue. Some on-demand services do permit hailing an available vehicle.
- Operate in a “geo-fenced” service area.
- Either LSEV or electric cars are used.

The on-demand provider will provide a turn-key service that includes:

- Drivers
- Vehicles
- Charging Stations and Vehicle Electricity
- App Development, Maintenance, and Licensing
- Hiring, Training, and Scheduling of Drivers/Ambassadors
- Program and Performance Management
- Live Data Integration
- Vehicle Maintenance
- Insurance
- Marketing, PR, and Outreach
- Sponsorship/Advertising Sales
- Transportation Planning and Design
- Miscellaneous Supplies (Cleaning, etc.)

The existing SIB Shuttle Sunday service with one bus scheduled, provides a capacity of 24 to 28 seats, albeit with less efficacy as every passenger has to ride a fixed route no matter their origin and destination. An on-demand service using 6 to 8-seat position LSEV provides only a capacity of its 6 to 8 seats; however, efficacy is higher as more short trips provide for a higher effective capacity.

Prediction of resident adoption to shared micro-mobility services as a is uncertain and varies greatly from location to location and by the match between service area demographics, area type (downtowns, suburban areas or commercial corridors), pedestrian environment quality, the cost of parking, and the relative convenience of driving or regular transit.

While some transit riders may be unwilling to transition to the unfamiliar app-based services in small vehicles, new riders that do not currently use transit may use the on-demand service. For some insight regarding the use of use of shared mobility, a study performed for shared car location analysis, provides



useful demographic and land use inference of where shared micro-mobility has a higher probability of sustained service.

- 1-person households are positively correlated with shared mobility use.
- Households with children are negatively correlated with shared mobility use.
- Rental households are positively correlated with shared mobility use.
- People that drive alone or carpool to work are negatively correlated with shared mobility use.
- People that take transit to work are positively but weakly correlated with shared mobility use.
- People that walk to work are positively correlated with shared mobility use.
- Household auto ownership is negatively correlated to shared mobility use: with more cars generally decreasing the likelihood of shared mobility use.
- Residential density is strongly and positively correlated to shared mobility use.

LSEV

Neighborhood Electric Vehicles (NEV), alternatively referred to as Low-Speed Electric Vehicles (LSEV) or Low Speed Vehicles (LSV) are regulated by §319.145 F.S. As defined by §320.01 F.S, "low-speed vehicle" means any four-wheeled vehicle that has a top speed greater than 20 mph but not greater than 25 mph, including, but not limited to, neighborhood electric vehicles. Low-speed vehicles must comply with the federal safety standards in 49 C.F.R. s. 571.500 and §316.2122. Municipalities are authorized to regulate the use of LSEV, LSEV or NEV upon any state, county or municipal roads within the jurisdiction subject to the following conditions:

- may be operated only on streets where the posted speed limit is 35 miles per hour or less. This does not prohibit an LSV from crossing a road or street at an intersection where the road or street has a posted speed limit of more than 35 miles per hour (§316.2122(1));
- must be equipped with headlamps, stop lamps, turn signal lamps, taillamps, reflex reflectors, parking brakes, rearview mirrors, windshields, seat belts, and vehicle identification numbers (§316.2122(2));
- must be registered and insured in accordance with s. 320.02 and titled pursuant to chapter 319 (§316.2122(3));
- any person operating a low-speed vehicle or mini truck must have in his or her possession a valid driver license (§316.2122(4));
- a county or municipality may prohibit the operation of LSV on any road under its jurisdiction if the governing body of the county or municipality determines that such prohibition is necessary in the interest of safety (§316.2122(5))



Recommendation:

- Implement on-demand services on Sundays and in lieu of the SIB Shuttle service, and during hours of regular shuttle service, (8:00 am to 8:00 pm) for a one-year trial program.
- Use only road-licensed automobiles. LSEV may be limited from using roads in State and County jurisdiction which would limit the proposed Sunny Isles Beach service area to be impossible to provide adequate service as intended.
- Operate initially in a “geo-fenced” service area, which would be: 1) the City of Sunny Isles Beach, 2) Intracoastal Mall, 3) Aventura Mall bus depot, 4) the Hallandale Walmart to replace deleted service to the Hallandale Fire Station, and 5) the Oleta River State Park, a new destination that is a desired new stop, likely to be used on Sunday, and too impactful to add to the SIB Shuttle schedule.
- Establish a benchmark maximum wait time of 30 minutes for 10% or more for users’ ride to arrive at the trip origin.
- Use only road-licensed automobiles. LSEV may be limited from using roads in State and County jurisdiction which would limit the proposed Sunny Isles Beach service area to be impossible to provide adequate service as intended. The road vehicles used by the on-demand companies are either 4-passenger Teslas or vans. When contracting, start with two vans that will provide capacity similar to existing Sunday demand, and if wait times become too long for users, add an additional vehicle.
- Identify parking locations for vehicles with electric vehicle fast-charge stations. The provision of free parking by the City will generate a credit back.
- Augment the provider’s marketing and outreach with information campaign at the beginning of service, including the City’s website, paper media on-board buses and at City parks and community facilities, presentations at major condominium associations.
- Include in its contract, summaries of data about utilization, home origin zones, destination zones, time of call and time of pick-up with personal data stripped. The data will be used to plan for future mobility service planning.
- Survey residents in general by the City’s web site, similarly to the bus survey conducted for this study. The on-line survey should be conducted to sample satisfaction with the service, provide stated preferences, and provide additional confirmations of how the service was used (trip purpose, origin/destination, time of use).
- Determine usage in general, by destination, by time and by trip purpose.
- Before the end of the trial, year, analyze ridership and survey data to determine usage, user satisfaction, if capacity is sufficient, cost efficiency, and mobility efficacy. Use the data to determine:
 - Reversion to regular bus service with service improvements based on on-demand data;
 - Continue the existing level of on-demand service;
 - Expand the on-demand service on Sundays by time-of-day or number of vehicles;
 - Expand the service for Saturday service
- If the service is expanded, it is not recommended to expand for weekdays to replace bus service. There is not sufficient capacity for some of the stops, such as the Norman S. Edelcup School stop,



and the City has a substantial investment in capital equipment (vehicles, bus stops, etc.), drivers and driver training, and community good will by drivers and City staff.

The impact of the Sunday service change from the user perspective will be determined from the provider data and survey. There is no available statistically-based information regarding acceptance and ridership of on demand services; however, in many locations people are quick to adapt, both existing riders and new users. Notably, the use of on-demand services is expanding, especially for downtown areas and in suburban areas that are difficult to service with scheduled transit.

The cost impact to the City is estimated below in Table 11. It is based on Sunday service from 8:00 am to 8:00 pm for 1 year. Savings to the Sunny Isles Beach Shuttle operation are comprised of variable operating expenses, and do not include fixed operating expenses or capital amortization components. Shuttle savings are based on total annual costs divided by 18 (there are 18 bus-service days: Orange Line #1, 7 days, 1 bus; Orange Line #2, 6 days, 1 bus; Blue Line, 5 days, 1 bus).

Based on information received from three other cities, the unit cost for on-demand service per vehicle service hour ranges from \$25/hour (GEM e6 6-passenger LSEV) to \$35/hour (Tesla 4-passenger vehicles). The provider will credit the municipality back for free parking, which in one case is \$100 per space per month. The provider may sell advertising and will retain 100% of advertising revenue to a maximum, after which it will provide a 50/50 split with the municipality. The threshold will vary, but in the case of a city using two LSEV for 72 hours per week, the threshold amount is \$72,000. Contracts have a minimum of service hours, and there are several variables; however, for the comparison below, \$50* per vehicle (vans) service hour is used, for two vehicles, 12 hours per day, 52 Sundays per year.

Table 11
Estimate of Net Cost for On-Demand Service on Sundays

Cost Component	Existing Transit Service Savings	On-Demand Service 2 vans	Comments
Vehicle Cost	not applicable	included	City owns vehicles. Savings to on depreciation expense is negligible because depreciations is by years
Vehicle Fuel or Electricity	\$4,700	included	
Vehicle Maintenance	\$7,200	included	
Labor Cost	\$25,000	included	
Turnkey On-Demand Provider <ul style="list-style-type: none"> • 12 hours per day • 52 days per year • 2 van vehicles • 1,248 total annual vehicle hours 		\$62,400	estimate
Total	\$29,500	\$62,400	Sundays only, 12 hours per day.

* van cost to be confirmed