



EXHIBIT "3"

# Hallandale Beach Mobility Roadmap

## City Commission Meeting

November 28, 2018

# Hallandale Beach Mobility Roadmap

## Review of Previous Studies

- Multimodal Mobility Plan (Oct. 2016)
- Basis of Design Report (2016)
- 2030 Transportation Master Plan (May 2009)
- MPO's Commitment 2040 Long Range Transportation Plan (Dec. 2014)

## Data Analyzed

- Existing Traffic Volumes
- On-Street Parking Locations
- Traffic Studies of Developments
- Crash Data Statistics
- Existing Bicycle and Sidewalk Network Conditions
- Existing Transit Network Conditions
- Previously Considered and Planned Transportation Projects

**Goal: Develop Short, Mid and Long-Term Transportation and Multi-Modal Improvements**

# Existing Transportation Network Limitations

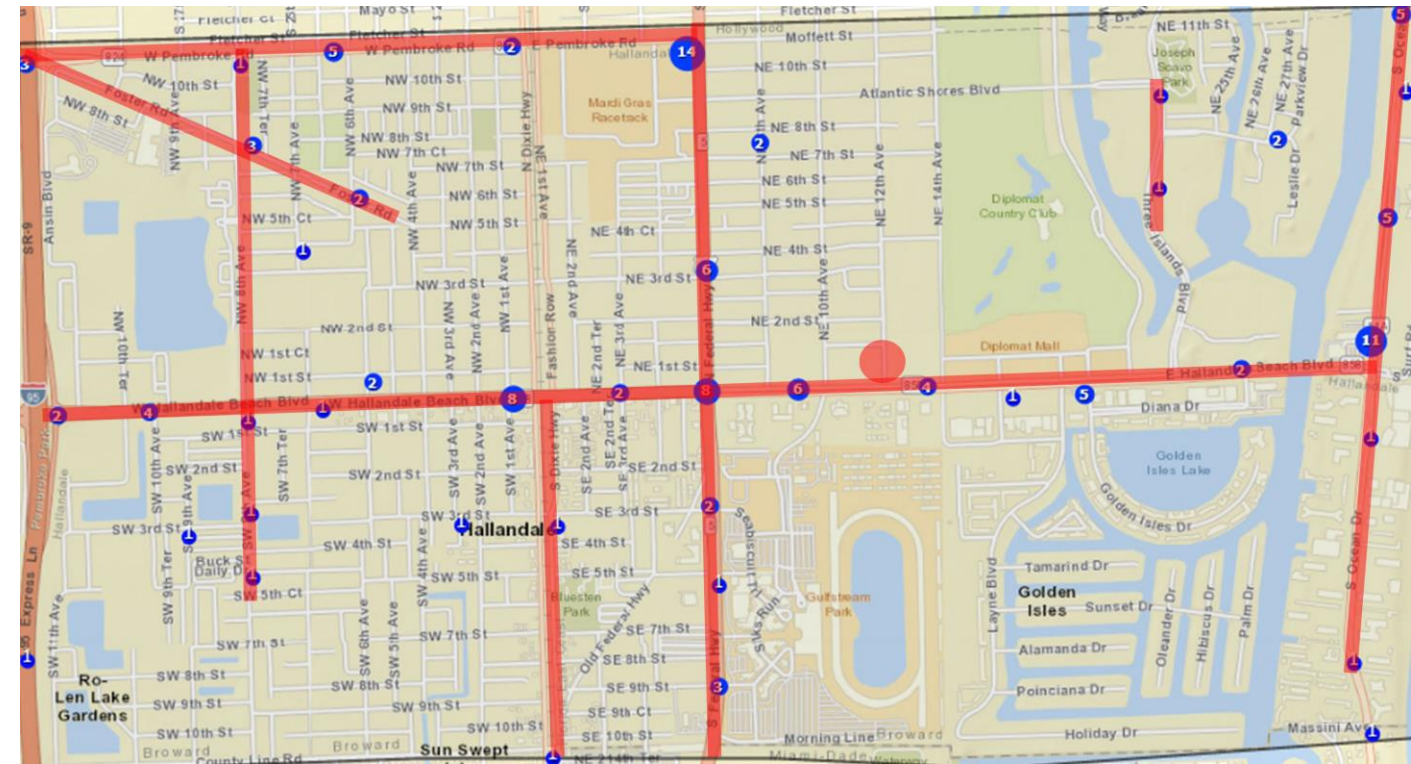
- Extensive Queuing and Delays along Major Arterials
  - HBB, Pembroke Rd, and US-1
- Poor Connectivity due to FEC Railways, Gulfstream Park and Waterways
- Limited Cross-Access Across FEC Railway
- Limited Travel Options for Bicyclists
- Limited Access to Beach
- Limited Access Across I-95



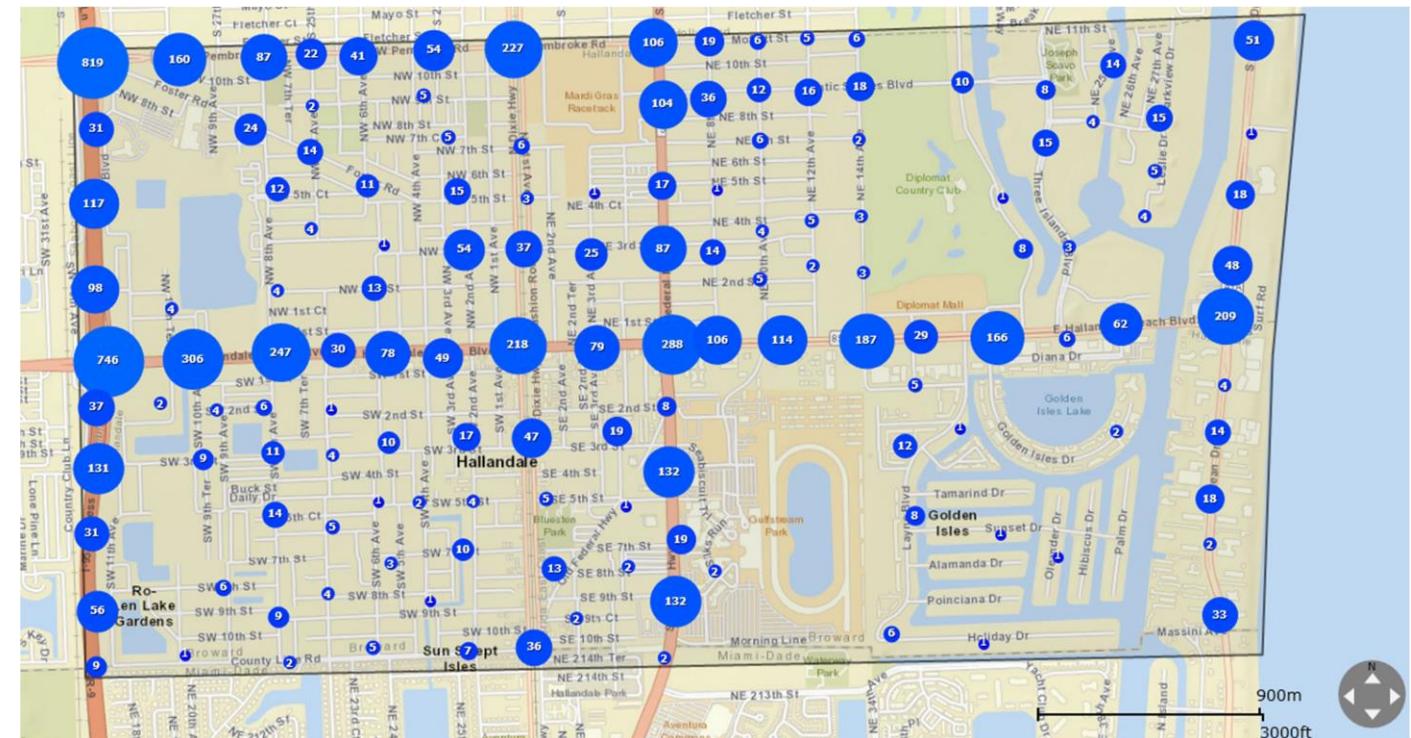
# Crash Analysis

- Vehicular and bike/ped crashes mostly occur along primary arterials
  - HBB, Pembroke Rd, US-1
- Substantial number of accidents at FEC Railway crossings
- Substantial number of accidents on Atlantic Shores Blvd
  - Mix of angled parking and wide streets
- High number of accidents along local road alternative routes
  - SE/SW 3<sup>rd</sup> St, NE/NW 3<sup>rd</sup> St, Foster Rd

Pedestrian/Bicycle Accidents Analysis (3 years)



Vehicle Accidents Analysis (3 years)

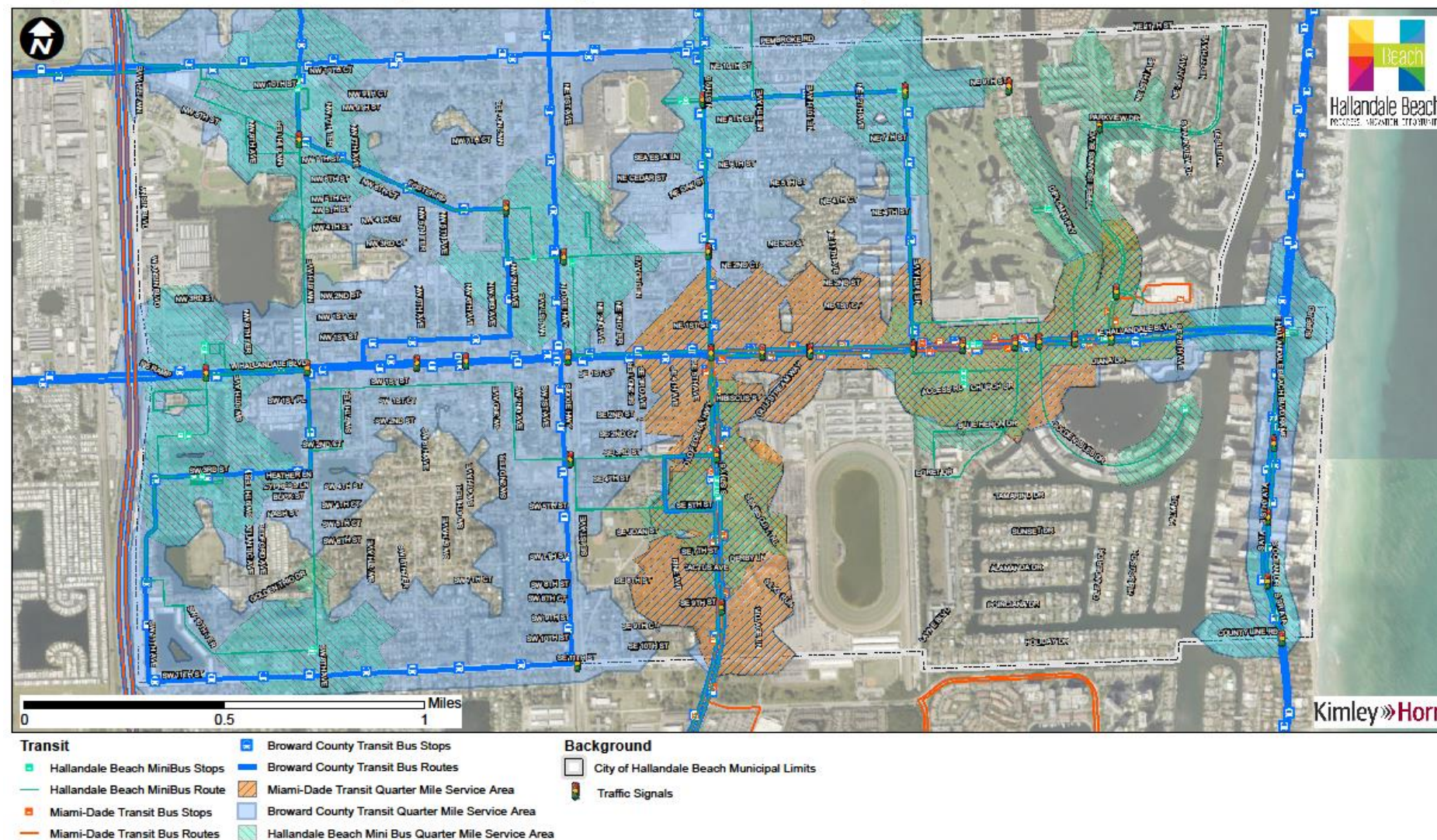




# Existing Transit Network

- Good coverage (1/4 mile walking distance)
- Poor headways for Minibus (i.e. 1 hour frequency)
- Better pedestrian amenities needed at bus stops
  - Real-time arrival signage
  - Benches and shelters

City of Hallandale Beach Mobility Plan Roadmap - Current Public Transportation Network

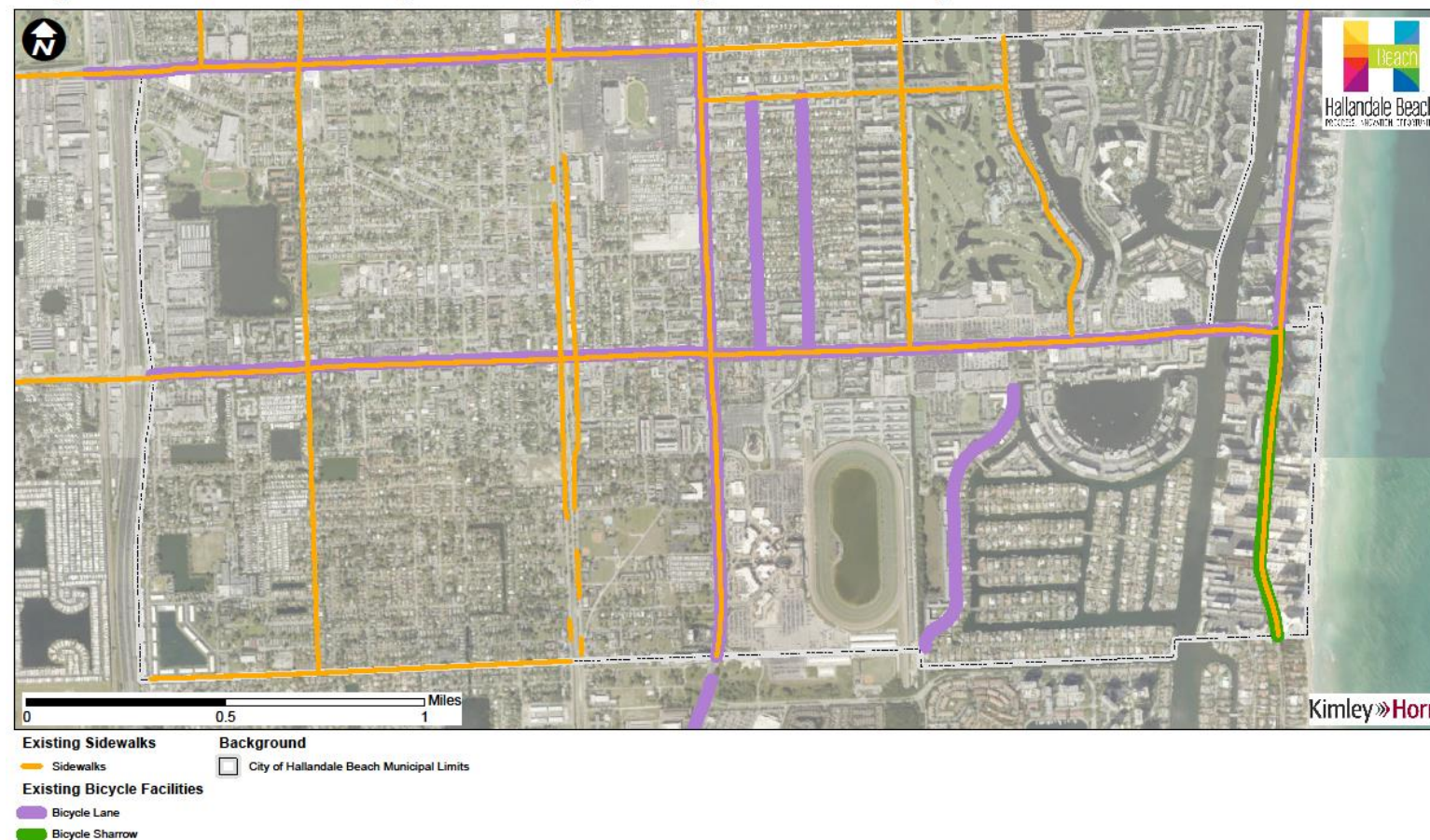




# Existing Sidewalk and Bicycle Facilities

- Limited bicycle network that is designed to serve advanced cyclists
  - Concentrated along principal arterials and Dixie Hwy/SE 1<sup>st</sup> Ave
- Sidewalks located on more than half of the streets
- Extensive distance between crossings along HBB
- Gaps in sidewalk network along Dixie Hwy
- Lack of benches and shade
- Improvements needed for compliance at ADA ramps

City of Hallandale Beach Mobility Plan Roadmap - Existing Sidewalks and Bicycle Facilities



# Future Traffic Conditions

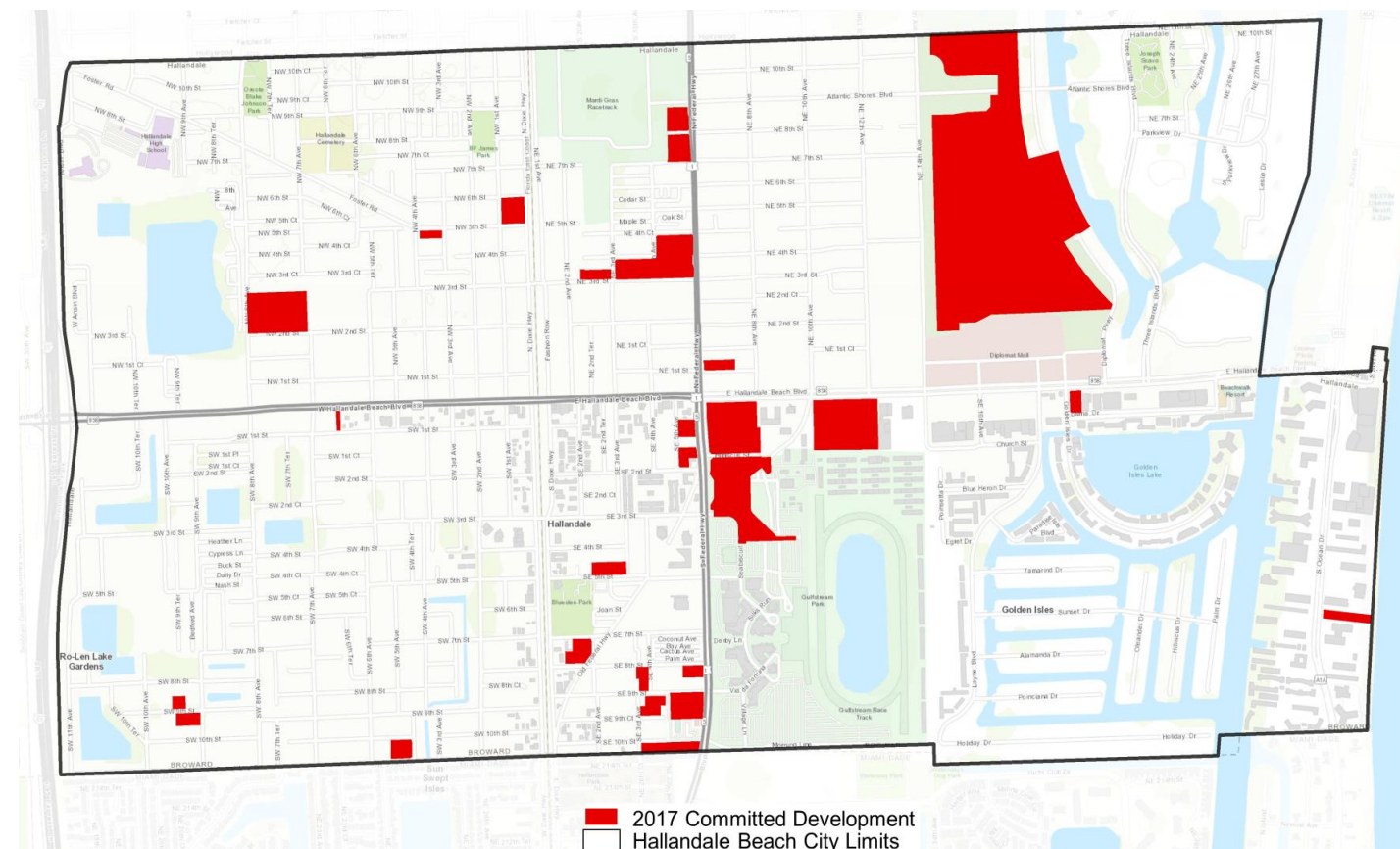
## Economic Development

- Majority of development is concentrated in the City Center

## Future Traffic Conditions

- Capacity available along Dixie Hwy, SE 1<sup>st</sup> Ave, SR A1A, SE 11<sup>th</sup> St., HBB east of US-1, and local roads
- US-1, HBB west of US-1, and Pembroke Rd at capacity

Hallandale Beach Developments Map





# Suggested Vehicular Improvements

## Short-Term Improvements

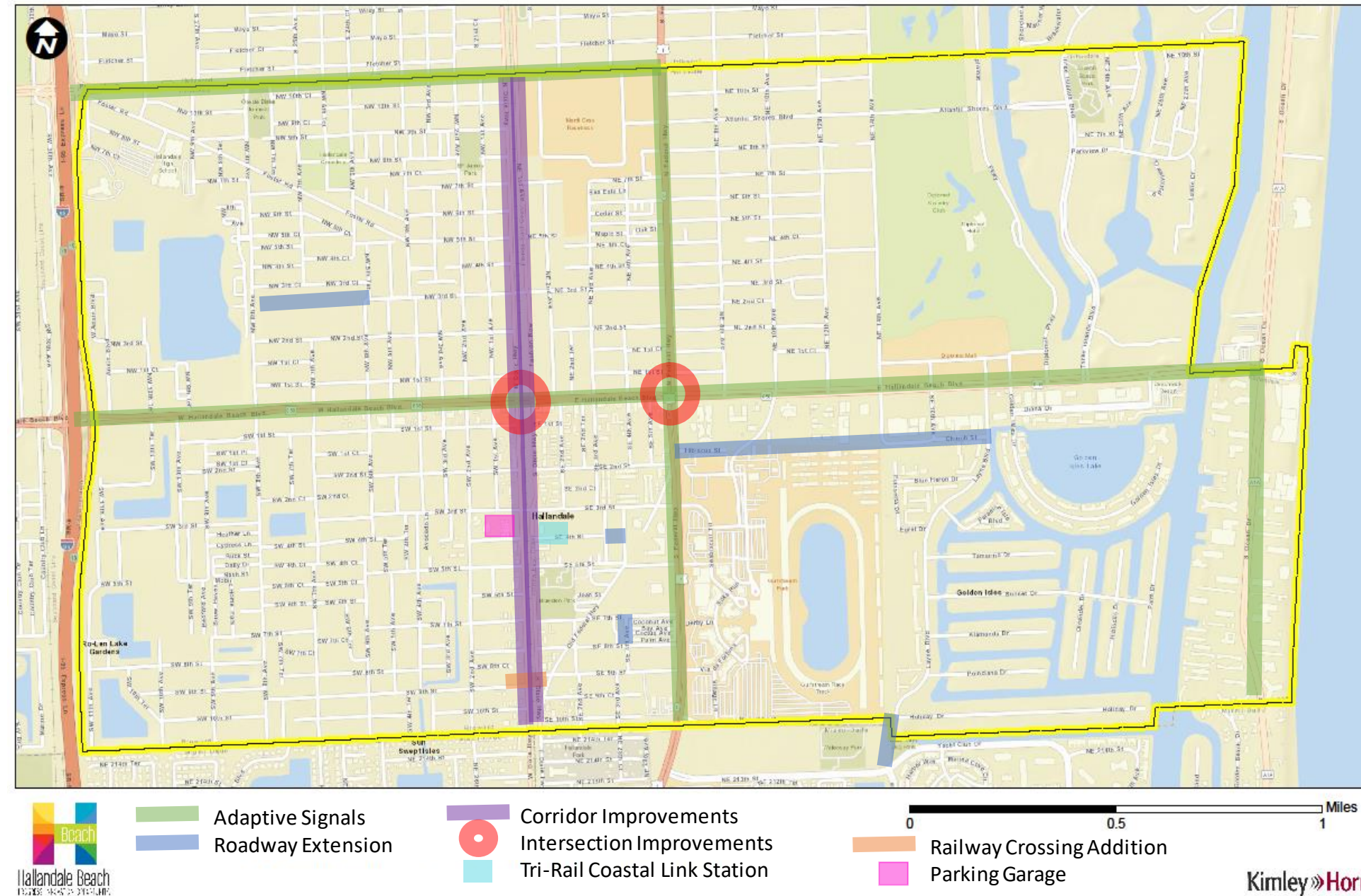
- Adaptive signals along major arterials
- Connect local roads
- Traffic study of HBB and Dixie Hwy/1<sup>st</sup> Ave

## Mid-Term Improvements

- Double left-turn lanes from NE 14<sup>th</sup> Ave and HBB
- SE 2<sup>nd</sup> St extension between US-1 and Layne Blvd
- Interceptor garage at SE 4<sup>th</sup> St and Dixie Hwy
- FEC Railway crossing at SE/SW 9<sup>th</sup> St
- Old Federal Hwy and SE 3<sup>rd</sup> St intersection improvement

## Long-Term Improvements

- Intersection improvements at HBB and Dixie Hwy/1<sup>st</sup> Ave
- HBB to US-1 southbound flyover
- Extend Layne Blvd south





# Suggested Vehicular Improvements

Phase	Suggested Improvements	Description	Goal of Improvement	Estimated Cost	Jurisdiction
Short Term (0-5 Years)	NW 3rd Street Extension between NW 5th Terrace and NW 8th Avenue	New 2-lane roadway extending NW 3rd Street between NW 5th Terrace and NW 8th Ave. with on-street parking on one side	Improve connectivity and provide alternate east-west route	\$1.45 Million	City of Hallandale Beach
	SE 4th Street Extension between SE 3rd Avenue and SE 4th Avenue	New 2-lane roadway extending SE 4th Street between SE 3rd Avenue and SE 4th Avenue	Improve connectivity within local traffic network	\$260,000	City of Hallandale Beach
	SE 4th Avenue Extension between SE 7th Street and SE 8th Street	New 2-lane roadway extending SE 4th Avenue between SE 7th Street and SE 8th Street	Improve connectivity within local traffic network	\$260,000	City of Hallandale Beach
	Adaptive Signal Installation along Hallandale Beach Boulevard	Install 13 adaptive traffic control signals along Hallandale Beach Boulevard between I-95 and A1A,	Improve traffic flow along major east-west arterial	\$780,000	FDOT
	Adaptive Signal Installation along A1A	Install 5 adaptive traffic control signals south of Hallandale Beach Boulevard along A1A	Improve traffic flow along major north-south arterial	\$300,000	FDOT
	Adaptive Signal Installation along US-1	Install adaptive traffic control signals along US-1 between Pembroke Road and SE 11th Street	Improve traffic flow along major north-south arterial	\$360,000	FDOT
	Adaptive Signal Installation along Pembroke Road between I-95 and US-1	Install 4 adaptive traffic control signals along Pembroke Road between I-95 and US-1	Improve traffic flow along major east-west arterial	\$240,000	FDOT
	Traffic Study of Hallandale Beach Boulevard and Dixie Highway/1st Avenue Intersection and Converting Dixie Highway and SE 1st Avenue to 2-Way Streets	Conduct traffic study to assess the preferred intersection design at Hallandale Beach Boulevard and Dixie Highway/1st Avenue while also considering converting Dixie Highway and 1st Avenue to 2-way streets	Improve traffic conditions at critical intersection, improved access to neighborhoods and across FEC Railway	\$200,000	FDOT, Broward County and City of Hallandale Beach

**Total Estimated Cost of Short-Term Improvements: \$3.9 Million**

# Suggested Vehicular Improvements

<b>Mid Term (6-10 Years)</b>	SE 2nd Street Extension between US-1 and Layne Boulevard	New 4-lane bi-directional roadway between US-1 and Layne Boulevard to include ADA upgrades to curb ramps and detectible warning devices for all crosswalks and sidewalks	Improve connectivity and alleviate congestion along Hallandale Beach Boulevard	\$2.1 Million	City of Hallandale Beach and Gulfstream Park
	Hallandale Beach Boulevard and NE 14th Avenue Eastbound Double Left-Turn Lanes	Implement eastbound dual left-turn lanes from NE 14th Avenue onto Hallandale Beach Boulevard	Improve traffic conditions at intersection	\$500,000	City of Hallandale Beach and FDOT
	Old Federal Highway and SE 3rd Street intersection improvements	Restripe an eastbound left-turn lane and through lane and right-turn only lane. Adjust traffic signals to reflect this change.	Improve traffic conditions at intersection	\$25,000	City of Hallandale Beach
	FEC Railway Crossing at SE/SW 9th Street and closure of 11th Street Railway Crossing	Construction of new crossing at SE/SW 9th Street over the FEC Railway. Includes new roadway, ROW acquisition for road alignment, and installation of traffic control. Requires closure of 11th Street crossing.	Improves interconnectivity and access to/from Gulfstream Park	\$1.7 Million	City of Hallandale Beach and FEC Railway
	Interceptor Parking Garage at SE 4th Street and Dixie Highway with Shuttle Service	Off-site public parking garge to support Gulfstream Park, Beach, economic development in area, and potential Coastal Link Train Station	Reduce traffic and help spur development around potential transit station	\$5 Million	City of Hallandale Beach
<b>Long Term (11-20 Years)</b>	Intersection improvements at Hallandale Beach Boulevard and Dixie Highway/1st Avenue	Intersection improvements should be based on a traffic study and consider improving traffic, safety, financially feasible, and community building	Improve traffic conditions at critical intersection	Up To \$33.7 Million for Flyover	FDOT
	Intersection improvements at Hallandale Beach Boulevard and US-1	Intersection improvements should be based on a traffic study and consider improving traffic, safety, financially feasible, and community building	Improve traffic conditions at critical intersection	Up to \$45 Million for Southbound Flyover	FDOT
	Extend Layne Blvd. from Holiday Drive to connect to NE 213th Street and NE 34th Avenue Intersection	New 2-lane roadway extending Layne Boulevard south of Holiday Drive to connect with the intersection of NE 213th and NE 34th Avenue, add traffic signal mast arm	Provide alternative route to reduce traffic along Hallandale Beach Blvd.	\$600,000	City of Hallandale Beach, Gulfstream Park, City of Aventura

Notes: Cost esimates do not include land acquisition costs, only construction costs. To calculate section cost multiply total cost by the ratio of the length of the specific section and the total project length.

To determine cost estimates per section of roadway, simply determine the ratio of that section to the entire roadway length in linear feet and multiply that ratio by the cost estimate.

## Total Estimated Cost of Mid-Term Improvements: \$2.6 Million

## Total Possible Cost of Long-Term Improvements: Up To \$79.3 Million





# Transportation Improvements Funding Sources

## USDOT (FHWA and FTA)

- Better Utilizing Investment to Leverage Development (BUILD)
- Transportation Alternatives (TA)
- Surface Transportation Block Grant (STBG) Program
- Highway Safety Improvement Program (HSIP)
- Congestion Mitigation and Air Quality (CMAQ) Improvement Program

## MPO

- Broward MPO Complete Streets Localized Initiatives Program (CSLIP)
- Unified Planning Work Program (UPWP)
- Transportation Improvement Program (TIP)

## FDOT

- Resurfacing Program (3R)
- Park & Ride Lot Program (Garage)

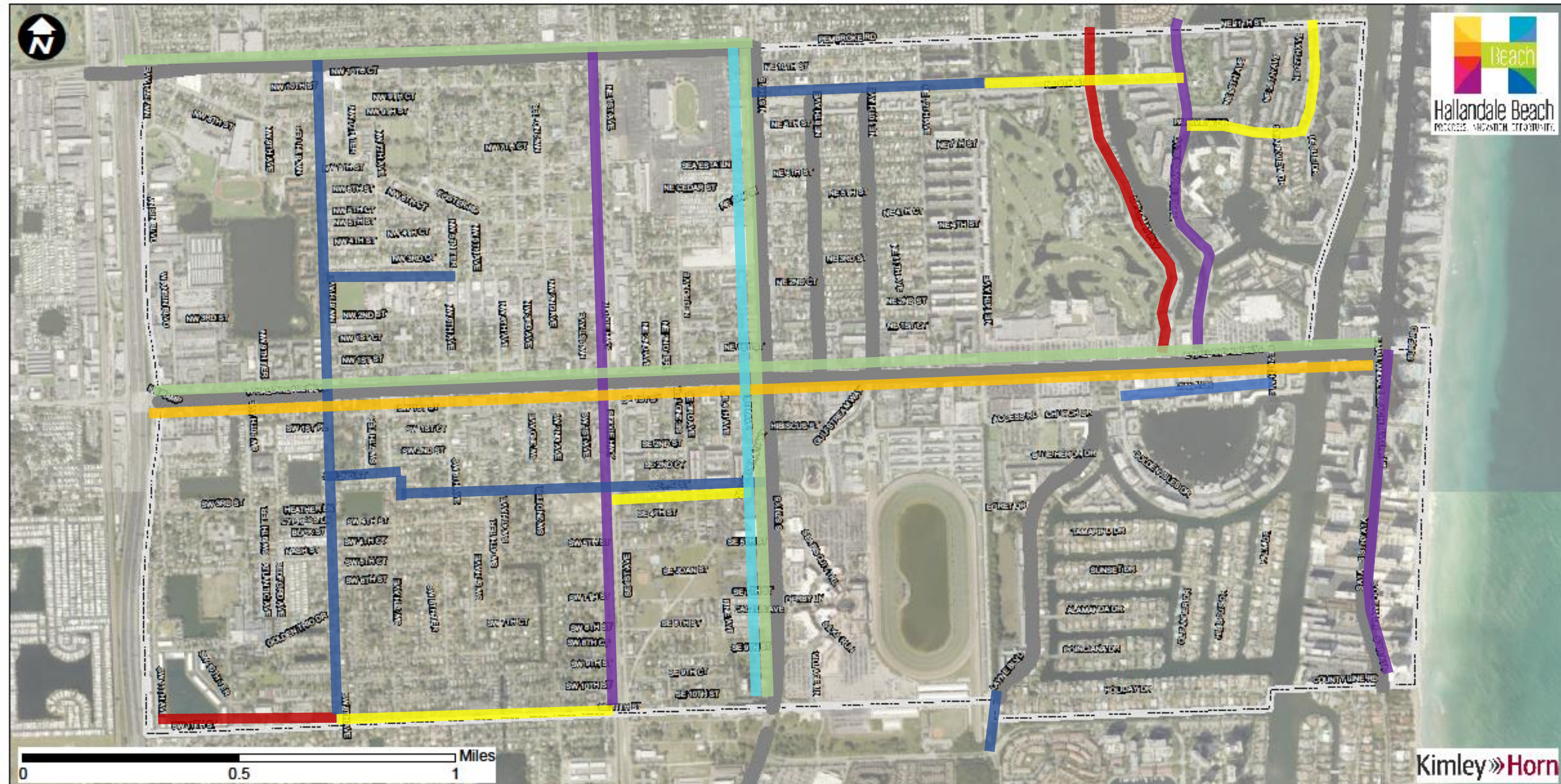
## Broward County

- Penny Surtax
- County Incentive Grant Program (CIGP)

## Capital Improvement Projects (CIP) Budget – City of Hallandale Beach



# Suggested Multi-Modal Improvements



Kimley»Horn



# Suggested Short-Term Multi-Modal Improvements

Phase	Location	Description	Goal of Improvement	Cost	Jurisdiction
Short Term (0 - 5 Years)	Pembroke Rd. between I-95 and NE 14th Ave.	Enhance existing bike lanes with green paint, bike boxes, and markings in both directions	Enhance existing east-west bike path along major arterial	\$205,000	FDOT
	US-1 between Countyline Rd. and Pembroke Rd.	Enhance existing bike lanes with green paint, bike boxes, and markings in both directions	Enhance existing north-south bike path along major arterial	\$160,000	FDOT
	Hallandale Beach Boulevard between I-95 and A1A	Enhance existing bike lanes with green paint, bike boxes, and markings in both directions	Improve bicycle conditions along major east-west arterial	\$590,000	FDOT
	NW 3rd Street Extension between NW 5th Terrace and NW 8th Avenue	Along with construction of road extension, provide 4 foot bike lanes in each direction and sidewalks on both sides of the street	Improve connectivity and continue complete street Improvements along NE/NW 3rd Street	\$325,000	City of Hallandale Beach
	Bus Stop Improvements at well utilized stops	Installation of bus shelters and next bus technology at 13 stops and next bus info at 2 additional locations	Increase the ridership of the BCT and MDT	\$520,000	City of Hallandale Beach, BCT, and MDT
	Community Bus Comprehensive Operational Analysis	Perform an analysis to reduce the headways and alter the routes to provide service to underserved areas	Increase the ridership of the Community Bus and keep operational costs down	\$70,000	City of Hallandale Beach
	Sidewalk Condition Assessment Comprehensive Analysis	Develop a prioritization list of repair/replacement/installation of the sidewalk network	Improve walkability and safety for pedestrians	\$75,000	City of Hallandale Beach
	Parking Conditions Assessment Comprehensive Analysis and Park-and-Ride Lots	Assess the on-street parking system needs, opportunities, and management; Adding parking in the RAC, and implementing park-and-ride lots with shuttle service from privately owned lots	Improve parking conditions to support residential and commercial activity	\$100,000	City of Hallandale Beach
	Atlantic Shores Boulevard between Three Islands Boulevard and US-1	Stripe in green color bicycle lanes and realign angled parking between US-1 and NE 12th Ave. in each direction. Widen ROW for bike lanes in each direction between NE 12th Ave. and Diplomat Pkwy. Implement sharrows in each direction between Diplomat Pkwy and Three Islands Blvd.	Provide east-west bike path along major collector and improves safety conditions for all users	\$335,000	City of Hallandale Beach

Notes: Cost estimates do not include land acquisition costs, only construction costs. To calculate section cost multiply total cost by the ratio of the length of the specific section and the total project length.

## Total Estimated Cost of Short-Term Improvements: \$2.4 Million

# Suggested Mid-Term Multi-Modal Improvements

Phase	Location	Description	Goal of Improvement	Cost	Jurisdiction
<b>Mid Term (6-10 Years)</b>	A1A south of Hallandale Beach Blvd. to County Line Rd.	Implement a road diet by repurposing a through lane with 7 foot wide green buffered bike lanes in each direction	Provide north-south bike path along principal arterial	\$79,000	FDOT
	SE 1st Ave. between SE 11th Street and Hallandale Beach Boulevard	Implement a road diet by repurposing a through lane and adding continuous 7 foot sidewalks, 7 foot wide green buffered bike lanes, and ADA upgrades to curb ramps and detectible warning devices	Improve safety and provide prominent north-south bike and pedestrian path along major collector road	\$395,000	City of Hallandale Beach
	SE/SW 3rd Street between US-1 and SW 7th Ave.	Sharrows from US-1 to Dixie Hwy. and 4 foot wide bike lanes west of Dixie Hwy. and sidewalk on north side of street between SE 1st Ave. and SE 3rd Ave.	Provide east-west bike and pedestrian paths along local road	\$405,000	City of Hallandale Beach
	Diana Drive from Golden Isles Drive to SE 26th Avenue	Provide 6 foot sidewalks in each direction, parallel parking, bulb-outs, and drainage and flood mitigation features	Improve pedestrian conditions	\$150,000	City of Hallandale Beach
	Bus Stop Improvements along Hallandale Beach Boulevard	Installation of bus shelters and next bus technology on Hallandale Beach Boulevard	Increase the ridership of the BCT and MDT	\$605,000	City of Hallandale Beach, BCT, and MDT
	Transit Signal Priority on US-1	Install transit signal priority systems along US-1 between Pembroke Road and SE 11th Street	Increase the ridership of the transit routes along US-1	\$64,000	City of Hallandale Beach, BCT, and MDT
	Countyline Rd. between SW 11th Ave and Dixie Hwy.	Shared-use path from SW 11th Avenue to SW 7th Terrace and sharrows between SW 7th Terrace and Dixie Hwy	Provide east-west bike and pedestrian paths along local road	\$200,000	City of Hallandale Beach

Notes: Cost estimates do not include land acquisition costs, only construction costs. To calculate section cost multiply total cost by the ratio of the length of the specific section and the total project length.

## Total Estimated Cost of Mid-Term Improvements: \$1.9 Million



# Suggested Long-Term Multi-Modal Improvements

Phase	Location	Description	Goal of Improvement	Cost	Jurisdiction
Long Term (11 - 20 Years)	Three Islands Blvd. between Hallandale Beach Blvd. and NE 11th Street	Analyze potential for a road diet to add 7 foot wide buffered bike lanes in each direction	Provide a north-south bike path along a local road	\$215,000	City of Hallandale Beach
	Foster Road between NW 11th Avenue and Dixie Highway	Add 4 foot wide bike lanes and 6 foot wide sidewalks in each direction. ADA upgrades to all curb ramps and detectible warning devices for all crosswalks and sidewalks	Improve pedestrain and bicycle conditions along local road	\$5 Million	City of Hallandale Beach
	Old Federal Highway between US-1 and SE 1st Avenue	Complete sidewalk network, on-street parking on both sides of the street, bike lanes or sharrows, traffic calming features, and ADA upgrades	Improve ped/bike conditions along local road connecting arterial and collector streets	\$1.5 Million	City of Hallandale Beach
	Layne Boulevard between Holiday Drive and NE 213th Street	Along with road extension provide 5 foot sidewalk on east side of street and 4 foot bike lanes in each direction	Improve connectivity and continue north-south bicycle and pedestrian paths	\$130,000	City of Hallandale Beach
	SW/NW 8th Avenue between Countyline Rd. and Pembroke Road	Add 4 foot wide bike lanes in each direction and 7 foot wide sidewalks in each direction. ADA curb ramps and detectible warning devices for all crosswalks and sidewalks	Provide a north-south bike path and pedestrian path along a local road	\$1.5 Million	City of Hallandale Beach
	Diplomat Pkwy. between Hallandale Beach Blvd. and NE 11th Street	Implement shared use path for bikes and pedestrians on one side of the street	Provide a north-south bike path and pedestrian path along a local road	\$395,000	City of Hallandale Beach
	Increase Community Bus Frequency	Add additional buses to improve operating headways to 30 minutes or less, which would require an increase in annual O/M costs	Increase ridership of Community Bus	\$2.2 Million annually	City of Hallandale Beach
	Upgrade Community Bus trolleys	Replace six (6) Community Bus trolleys with more fuel efficient and higher capacity vehicles	Improve service and reduce ongoing costs	\$600,000	City of Hallandale Beach
	Parkview Drive between Three Islands Blvd. and NE 11th Street	Implement sharrows in both directions	Provide a north-south/east-west bike path along a local road	\$75,000	City of Hallandale Beach

Notes: Cost estimates do not include land acquisition costs, only construction costs. To calculate section cost multiply total cost by the ratio of the length of the specific section and the total project length.



## Total Estimated Cost of Long-Term Improvements: \$11.6 Million

# Multi-Modal Funding sources

- **USDOT Recreational Trails Program (11<sup>th</sup> Street and Dixie Hwy/1<sup>st</sup> Ave)**
- **MPO**
  - Broward MPO Complete Streets Localized Initiatives Program (CSLIP)
  - Mobility Hubs
  - Complete Streets Master Plan
  - Transportation Improvement Program (TIP)
- **FDOT**
  - SUNTrail (Dixie Highway/1<sup>st</sup> Avenue)
  - Resurfacing Program (3R)
  - Safe Routes to School (SRTS)
  - Transit Corridor Program (HB Minibus)
  - Intermodal Development Program (HB Minibus)
- **Broward County Transit (BCT) Grant**
- **Capital Improvement Projects (CIP) Budget – City of Hallandale Beach**
- **Rails to Trails – Doppelt Family Trail Development Fund**
- **Bike Florida – Share the Road Challenge Grant**