



CONCEPTUAL DESIGN VISION » WESTERN CORRIDOR

CITY OF FORT LAUDERDALE » DRAFT JUNE 2021





CITY OF FORT LAUDERDALE

lasolas

Prepared for the City of Fort Lauderdale by:
THE CORRADINO GROUP

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» INTRODUCTION



»INTRODUCTION



When first constructed in 1917, a few years after Fort Lauderdale was incorporated in 1911, Las Olas Boulevard was just a dirt road. At the time, the area around Las Olas was swampy wetlands on the way to Fort Lauderdale Beach. As time changed, the street took on other jobs. As the area of what is now the Las Olas Isles was dredged in the 1920s, it became a connection not only to the beach, but to local residences with waterfront views still valued today. At the

same time, in 1921, Colee Hammock's lots were subdivided, with all but 14 lots being sold for development. Las Olas Boulevard became a connection between residences, the beach, and the rest of the City. Post World War II, the commercial segments of the corridor were constructed, with significant investment in the 1970s in the development of the Downtown, and a major renovation program in the 1980s that greatly increased property values. These historical influences helped shape the distinct character areas that we see today.

Today, Las Olas Boulevard is not only Fort Lauderdale and Broward County's most famous street, it is one of the most iconic streets in all of Florida. For decades it has served as

a major employment center at the heart of Downtown, a major attraction with historic retail, a plethora of restaurants, year-round events and festivals, as well as being a prized residential destination. Las Olas Boulevard attracts visitors from across the region and around the world.

Over time, the Corridor has evolved with the City, retail and commercial spaces have continued to adapt, vehicle traffic has impacted community character and quality of life, landscaping and street furniture are in need of refreshing, and climate change impacts make it necessary to rethink the civil engineering of underground infrastructure.

For decades, the redesign of Las Olas Boulevard has been on the minds of many. Attempts have been made on segments of the corridor, but there has not been a holistic vision in recent history. The diversity of place and the varied roles the street plays have resulted in a number of ideas, many competing with each other on how Las Olas should evolve. This has resulted in a variety of opinions and alternative concepts. One thing everyone can agree on is that Las Olas Boulevard has a high degree of value in the hearts of the City's residents and businesses. Improvements along the entire corridor in a unified concept would better enhance Las Olas's ability to address local transportation and urban design needs, as well as create a high value, marketable image for the future.

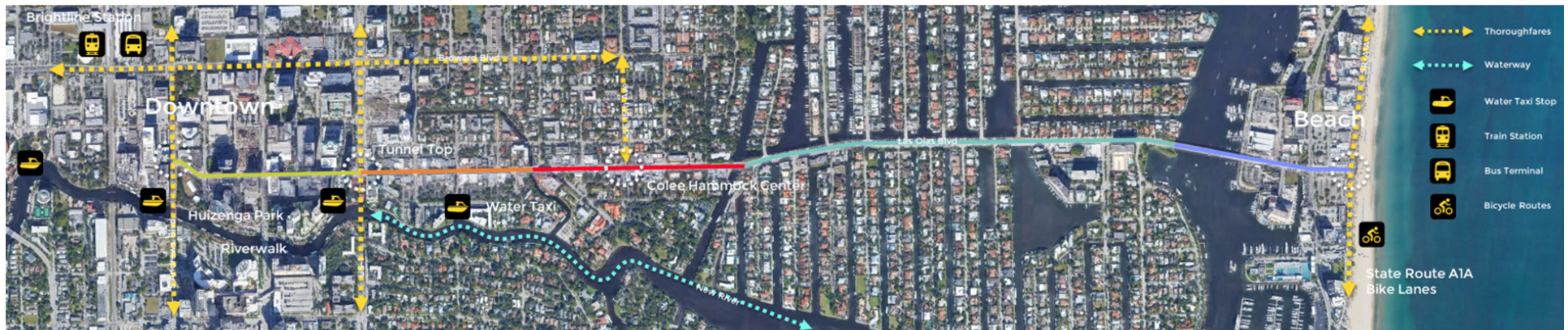
Through discussions that began in May 2017 in regards to an upcoming potential project on Las Olas Boulevard, it was determined that the project should not move forward. Instead, a unified effort was needed that would evaluate the transportation, landscaping, planning and urban design needs of the corridor as a whole to create a process that would build consensus on the future of a world-class corridor.

This effort was led by the two district commissioners, Vice Mayor Steve Glassman and Commissioner Ben Sorensen, with assistance from the designated Las Olas Working Group. The Working Group consisted of representatives from various stakeholders along the entire corridor who helped guide the vision. The efforts of the Working Group included hearing presentations from the various stakeholders on their concerns and providing comments on the issues and reviews of the vision over a 2.5 year timeframe from September 2018 to February 2021.

The Corridor

Las Olas Boulevard today has five distinct character areas; Downtown, The Shops, Colee Hammock, The Isles, and the Beach. There are a number of variables that comprise the makeup of each segment of the street:

1. The street consists of pedestrian areas, bicycle lanes, asphalt for cars and vehicles - all things that move and are in motion.
2. There are amenities throughout such as landscaping, street furniture, signage and lighting. These elements are static and have different purposes in different parts of the street. They are the basis of the visual identity for each segment of the street.
3. The street has different roles during the day and at nighttime. The street also differs in Weekday, Weeknight, Weekend and Event operations.
4. There is a need to evaluate underground infrastructure improvements, particularly related to flooding. This is particularly true in the Isles. It is highly recommended that the streetscape recommendations in this analysis be implemented after flood mitigation improvements have been developed.



2.4 miles long

It would be one of the longest, continuously protected, multimodal corridors in South Florida

Connecting Regional Trails

Safe connections will shorten the perceived distance between Downtown Fort Lauderdale and Las Olas Beach

Coordinating with Transit

Water taxis, Brightline, and bus transit should be coordinated.





» TRAFFIC ANALYSIS



»TRAFFIC ANALYSIS

Understanding traffic patterns and performance of Las Olas Boulevard is essential in achieving the primary goal of mobility. A balance must be struck between the needs of drivers, pedestrians and bicyclists, while also protecting and preserving the character and quality of life of each of the distinct areas, each of which behave differently in form and function, specifically from the perspectives of land use, urban design, landscape, and particularly mobility. From the perspective of mobility, Las Olas Boulevard is asked to be both a Main Street and a regionally significant corridor, in each case serving the needs of both automobile traffic and walkers and bikers. For the residents and businesses that must use it every day as a destination, it's a critical part of the daily commute. For people attracted here from other places, it's a regional connector, serving as the primary route through the community connecting I-95 and the Beach. In all respects it works in tandem with Broward Boulevard.

As with any project that seeks to balance multimodal needs, it is first important to understand the primary issues related to traffic. The defining aspect of any transportation system is space in the right-of-way, as each component of the transportation network, like swales, sidewalks, bicycle facilities, vehicle lanes and medians occupy space that could be utilized for other modes depending on what is needed or to be encouraged. Some character areas need to emphasize traffic flow, while others must protect neighborhood character, or further the ability to walk or bike to contribute to local quality of life and the foot traffic that is supportive of retail. Optimizing the performance of Las Olas Boulevard therefore requires an understanding of how much space is needed for cars.

To better understand this a traffic analysis was conducted, first by collecting data, and then analyzing intersections and roadway segments for level of service (LOS), speed and safety.

EXISTING PEAK HOUR ROAD SEGMENT LEVEL OF SERVICE ANALYSIS

Roadway Segment	Roadway Type	Existing 2 Way Peak Hour Volumes	Peak Hour LOS D Volume	Level of Service
Seven Isles Drive to Seabreeze Boulevard	4 Lanes Undivided	1665	2482	C
Isles of Capri to Seven Isles Drive	4 Lanes Divided	2007	2628	C
SE 15th Avenue to Isles of Capri	4 Lanes Undivided	2308	2482	C
SE 11th Avenue to SE 15th Avenue	2 Lanes Undivided	1044	1197	C
SE 6th Avenue to SE 11th Avenue	2 Lanes Divided	1177	1264	C
Andrews Avenue to SE 6th Avenue	4 Lanes Undivided	1189	2482	C

Data was collected during the peak months of March and April of 2019, in the form of 30 turning movement counts and 30 speed and volume counts. Additionally, crash data for the previous 5 years was collected.

This data was analyzed using a methodology and computer software acceptable to the City of Fort Lauderdale and the Florida Department of Transportation (FDOT).

To perform the analysis, the existing counts were examined to find out how the network performed today, in the existing condition. To this were added the volume of future development already planned and approved by the City, plus anticipated population growth, to find the future year performance in 2035. The results in both cases were measured against the level of service standard set by the City's Comprehensive Plan, to determine what would need to be done to improve the intersections and roads by adjusting signal timing, adding or subtracting lanes, opening or restricting flow, or making safety improvements as appropriate for each character area.

For reference, the City's LOS Standard is "E". This is measured on a continuum from "A" to "F", with each letter equating to a percentage of utilized capacity. For example LOS E, equates to between 90% and 100% utilization of capacity. All of this is measured at the busiest hours of the day.

Roadway Analysis

The future conditions analysis for the roadway links show that to maintain acceptable LOS performance in 2035, Las Olas Boulevard requires two lanes of travel, or one lane in each direction west of SE 15th Avenue, and four lanes of travel, or two lanes in each direction, east of SE 15th Avenue.

It was found that westbound traffic from the Beach and the Isles is generally heading towards the Shops, Downtown, US-1, or I-95. For the Beach and Isles areas, this is a one-way in, one-way out situation. However, once drivers reach SE 15th Avenue, they have the option to head north on SE 15th Avenue to Broward Boulevard to connect to US-1 and I-95, or head northeast towards Victoria Park. In the heart of

FUTURE PEAK HOUR ROAD SEGMENT LEVEL OF SERVICE ANALYSIS				
Roadway Segment	Roadway Type	FUTURE 2 Way Peak Hour Volumes	Peak Hour LOS D Volume	Level of Service
Seven Isles Drive to Seabreeze Boulevard	4 Lanes Undivided	2135	2482	C
Isles of Capri to Seven Isles Drive	4 Lanes Divided	2573	2628	C
SE 15th Avenue to Isles of Capri	4 Lanes Undivided	2959	2482	E
SE 11th Avenue to SE 15th Avenue	2 Lanes Undivided	1338	1197	E
SE 6th Avenue to SE 11th Avenue	2 Lanes Divided	1509	1264	E
Andrews Avenue to SE 6th Avenue	4 Lanes Undivided	1524	2482	C

Colee Hammock, SE 15th Avenue is the primary connection between Las Olas and Broward Boulevards.

Intersection Analysis

Traffic congestion and underperformance of a road in terms of level of service, travel time and delay is generally a product of bottlenecks at poorly performing intersections, and not the capacity of the roadway links between them. This is certainly true when looking at Las Olas Boulevard west of SE 15th Avenue, where the performance of the road will meet the LOS standard of “E” with one lane in each direction. Taking a closer look at the intersections along Las Olas Boulevard provided a clearer picture of how to best optimize travel in the corridor, as intersection issues were creating much of the undue delay and congestion, not overall volumes of vehicular traffic.



Key traffic concerns noted during the course of public workshops and in the traffic analysis included the intersections of SE 3rd Avenue and Las Olas Boulevard, and SE 15th Avenue and Las Olas Boulevard. During the analysis, it was noted that both intersections had a level of service exceeding the City’s stated standard.

For the intersection of SE 3rd Avenue and Las Olas Boulevard, the City is currently coordinating a study of a one-way pair with Andrews Avenue to determine if this will be a viable solution to improve traffic flow at SE 3rd Avenue and Las Olas Boulevard. This is a very urban location, of which the community character and quality of life fit well with the proposed improvement

For the intersection of SE 15th Avenue and Las Olas Boulevard, different alternatives were evaluated to determine a solution for congestion. These options included multiple roundabout configurations as well as dual left turns on southbound SE 15th Avenue. Each was compared to a “do-nothing” scenario. It was found that while both options would work in the short term, the dual left turn option provided the best long term. It should be

SE 15TH AVENUE AT LAS OLAS BOULEVARD INTERSECTION ALTERNATIVES ANALYSIS														
Alt. #	Intersection Traffic Control	Intersection	Existing AM Peak Hour Delay	V/C	Existing Midday Peak Hour Delay	V/C	Existing PM Peak Hour Delay	V/C	Future AM Peak Hour Delay	V/C	Future Midday Peak Hour Delay	V/C	Future PM Peak Hour Delay	V/C
1	Single Lane Roundabout	SE 15th Avenue and Las Olas	LOS C 17.4 seconds	0.723 (WB)	LOS D 34.2 seconds	0.969 (WB)	LOS E 36.0 seconds	0.977 (WB)	LOS F 51.4 seconds	1.049 (EB)	LOS F 137.7 seconds	1.288 (WB)	LOS F 142.9 seconds	1.314 (WB)
2	Single Lane Roundabout with Free Flow Rights	SE 15th Avenue and Las Olas	LOS B 13.7 seconds	0.687 (SB)	LOS C 19.2 seconds	0.833 (SB)	LOS C 21.0 seconds	0.881 (EB)	LOS E 37.2 seconds	1.02 (EBL)	LOS F 71.7 seconds	1.205 (SB)	LOS F 78.4 seconds	1.306 (EB)
3	Single Lane Roundabout with Free Flow Right WB Only	SE 15th Avenue and Las Olas	LOS B 14.1 seconds	0.702 (EB)	LOS C 19.9 seconds	0.833 (SB)	LOS C 21.3 seconds	0.888 (EB)	LOS E 39.7 seconds	1.05 (EB)	LOS F 76.0 seconds	1.22 (SB)	LOS F 80.1 seconds	1.318 (EB)
4	Addition of a Dual SB LT on SE 15th Avenue (i.e. SB LT, SB LT, SB TRT)- Split Phasing	SE 15th Avenue and Las Olas	LOS C 21.1 seconds	0.52	LOS C 21.4 seconds	0.67	LOS C 24.5 seconds	0.73	LOS C 23.6 seconds	0.64	LOS C 25.1 seconds	0.79	LOS C 28.0 seconds	0.85
0	Existing Geometry and Signal Timings at Intersection (Do Nothing)	SE 15th Avenue and Las Olas	LOS B 19.3 seconds	0.88	LOS C 21.8 seconds	0.93	LOS C 20.4 seconds	0.91	LOS C 33.5 seconds	1.1	LOS D 46.2 seconds	1.24	LOS D 41.0 seconds	1.2

noted that the intersections of SE 15th Avenue/Las Olas Boulevard and SE 15th Avenue/Broward Boulevard are linked, and both should be improved at the same time to optimize the roadway network. Additionally, Colee Hammock, the neighborhood which surrounds SE 15th Avenue, is extremely sensitive to the traffic volumes and speeds that cut through it. As such, the goal here is to balance the flow of traffic with the preservation of the neighborhood character and quality of life. It is believed that by focusing traffic on SE 15th Avenue, a balance can be achieved. Additional study at the intersection of Las Olas Boulevard and SE 16th Avenue is needed to determine the traffic operations at this intersection.

Crash Analysis

A crash analysis was conducted to see if any safety related improvements may be needed along the corridor. Using available crash data, it was found that the highest number of crashes at Las Olas Boulevard intersections occurred at SE 3rd Avenue, Seabreeze Boulevard, SE 15th Avenue and US-1/Federal Highway. Additionally, it was found that the number of crashes has increased yearly from 2015 to 2019. Various safety related improvements, such as reducing vehicle speeds, increasing visibility at crosswalks, and others, have been introduced into the concept plan across all character areas, particularly the Isles. The chart and map on the following page provides the crash type and general area of crashes.

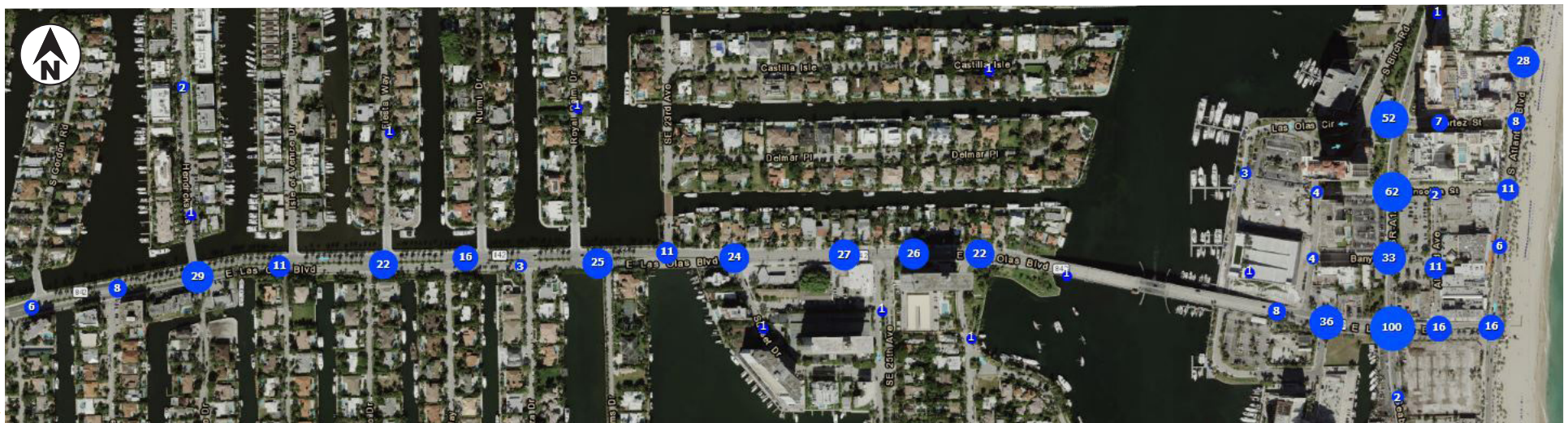
Crash Data for 2015-2019

	No Injury	Non-Traffic Fatality	Possible Injury	Non-Incapacitating Injury	Incapacitating Injury	Fatal (within 30 days)
Angle	167		25	21	5	1
Bicycle	9		7	9		
Head On	25		6	5		
Left Turn	143		32	15	1	1
Off Road	48		11	5	3	1
Other	627		43	32	4	2
Pedestrian	3		15	20	8	3
Rear End	671		125	31	1	
Right Turn	41			4		
Rollover	24		3	3		
Sideswipe	350		6	8		
Unknown	291		13	15		

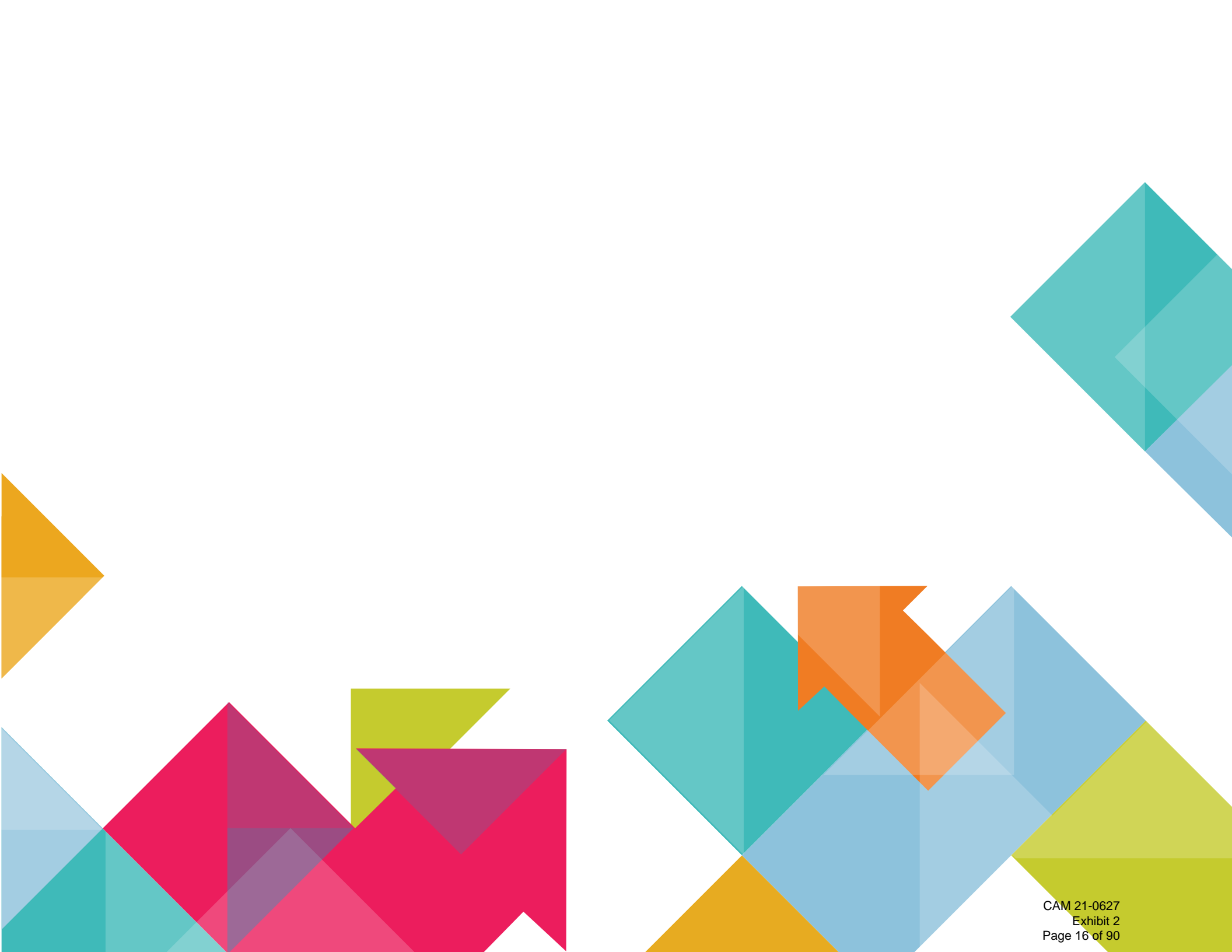


Speed Analysis

Due to concerns of speeding along Las Olas Boulevard, an analysis was also undertaken to evaluate speeding along the corridor. Generally, in order to determine that an area has a speeding problem, the speed at the 85% percentile of vehicles traveling on the roadway must exceed the posted speed limit by more than 4 MPH. Speeding was found to be an issue only in the Isles. Effecting safer travel and pedestrian crossings in the Isles is therefore needed, as well as traffic calming measures such as narrowing lanes and improving visibility and visual cues.









» PUBLIC ENGAGEMENT



»PUBLIC ENGAGEMENT

Critical to the success of any complex urban project such as this is public engagement. With hundreds of stakeholders in the five different and diverse character areas there are a plethora of opinions on how the corridor should look, feel and function. The approach here was to listen to everyone, understand the various ideas, develop concepts that balanced transportation professional engineering best practices and public ideas to the best extent possible. The intent was to accomplish as many of the objectives as possible to create a draft set of recommendations for review by stakeholders, then listen again to refine those concepts until consensus was had on a professionally recommended set of alternatives.

The goal of public engagement during the development of the Las Olas Streetscape Conceptual Design was to maintain an open line of communication that would promote coordination with the community, ensure responsiveness to community needs, and facilitate an exchange of information to create a better understanding of local needs and wants. A key outcome of outreach to a highly varied group of stakeholders, inclusive of residents, property owners, and local businesses, was building consensus to develop a unified plan.

The Las Olas Mobility Working Group consisted of residents, businesses, and other entities who represented neighborhood associations, business associations and property owners along the corridor. At the onset, the public engagement plan was designed to have presentations at 3 Las Olas Mobility Working Group meetings, approximately 2 group meetings or 8 one-on-one meetings with stakeholders, 1 Las Olas Mobility Working Group survey,

1 walking tour, 2 public workshops, and 1 conference presentation to the Commission.

The designated approach to public engagement for this project was adjusted during execution to respond to the changing dynamics regarding social interaction as a result of the COVID-19 pandemic. The updated approach included a combination of strategies to transition from in-person engagement methods to more virtual and digital methods.

Through the course of this project, at least 14 working group/workshop meetings and 2 walking tours occurred in February 2020 (in person) and in May 2020 (virtually), over 18 group meetings, and more than 75 one-on-one phone calls with individual residents or small groups (2-4 people) were conducted along with presentations to the City Commission. The general public was also kept informed of the project through tweets and email blasts, and all meetings were open to the general public.



Local Leadership

The development of the Las Olas Streetscape Conceptual Design, to include public engagement throughout the process, was completed under the leadership of Vice Mayor Steve Glassman and Commissioner Ben Sorensen. From the onset the Vice Mayor and Commissioner provided insight from their constituents and advice on building the stakeholder and outreach lists. Along with City Staff, they also provided input on the public engagement approach.

Community Representation

Las Olas Boulevard is Fort Lauderdale's marquee thoroughfare. Given its importance to the City as well as the many types of users who live, work, play and use the street, it was important to include residents, businesses, civic and religious organizations as well as the general public in this process. A range of engagement tools (Engagement Methods), as described below, were implemented to achieve representative participation. Given the need to build consensus, and understanding that effective networks were already established, leaders of many homeowner associations and local organizations



were included in periodic meetings, updates and working sessions, and were asked to act as conduits on behalf of their larger membership and constituents through the Las Olas Mobility Working Group.

Engagement Methods

Public engagement for the visioning process began in October 2019 with a kickoff presentation in meetings with the Las Olas Mobility Working Group and other key stakeholder groups within the City, and continued for the duration of the conceptual design process through March 2021. However, it should be noted that efforts prior to this study had been ongoing with the City since May 2017, where the concept of developing the Las Olas Mobility Working Group originated, with other local efforts predating the Working Group.



Unfortunately, planned in-person outreach activities had to be transitioned to virtual activities from mid-March 2020 onward, in response to social distancing guidance surrounding the pandemic.

The Las Olas Streetscape public engagement toolkit included:

- » Stakeholder Meetings:
 - o Dedicated working and progress meetings with the Las Olas Mobility Working Group
 - o Virtual meetings with HOAs, Civic Groups, Business Organizations, Churches, Residents, and individual stakeholders as requested
- » Corridor Walking Tour
- » Virtual Walking Tour
- » Digital Fact Sheets
- » Virtual Presentations (in lieu of in-person workshops)
- » Video Presentations
- » Social Media Channels
- » Virtual Newsletters (E-blasts)
- » Surveys
- » Las Olas Mobility Working Group webpage
- » Dedicated email address for public comments

Stakeholder Meetings

In an effort to promote as inclusive a process as possible, the consultant team undertook a robust schedule of one-on-one and group stakeholder meetings throughout the conceptual design process. With a focus on building

consensus and considering all feedback, the team attended regularly scheduled meetings of the Las Olas Mobility Working Group to provide updates, discuss progress, gather feedback, and provide information to be further distributed to larger stakeholder groups and constituents.

In addition, the team scheduled meetings with HOAs, Business Organizations, Civic Groups, property owners, business owners, churches and individuals and groups who will be directly impacted by the proposed conceptual design. These included meetings with the Fort Lauderdale Downtown Development Authority and its staff and the Executive Director of the Las Olas Association; Colee Hammock, Las Olas Isles, Downtown Fort Lauderdale and other civic associations; members of the first Presbyterian Church; and various business owners such as the Las Olas Company and Barron Real Estate, among others. The team also accepted individual meetings by request and remained open and flexible to meet with any individual or group who had questions and concerns or wanted to share feedback.



At the meetings with the various civic associations, updates to the project and feedback on various iterations were received and communicated back to the project team. These meetings were also used as a venue to ask attendees questions to better understand their concerns as well as qualities of place that impacted their daily lives or those of their neighbors.

Walking Tours

A series of walking tours were conducted in order to review the existing conditions of the Las Olas Corridor with stakeholder groups, and to collect feedback and input regarding the direction for the proposed conceptual design. The first in-person walking tour was held in February 2020.



Due to the pandemic, in lieu of further in-person tours, the consultant team pivoted to develop a virtual walking tour showcasing the corridor and met with key stakeholder groups virtually in May 2020 to review the existing conditions and collect input. The virtual tour was then made available to the general public via the Las Olas Mobility Working Group webpage.

Virtual Presentations

In lieu of in-person workshops, the consultant team developed virtual video presentations that detailed the draft and final proposed conceptual design considerations for review and discussion with stakeholders. Scheduled Las Olas Mobility Working Group meetings were used as the platform to review and discuss these presentations, as well as to review the purpose of the study, the scope of services, timeline, and expectations. The interactive virtual meetings also allowed for open discussion, question and answer segments and the ability to collect additional input from



stakeholder groups. In addition to the Las Olas Mobility Working Group members, who were each representing larger stakeholder groups, the consultant team also invited other civic and community interest groups to participate.

Presentations and supporting documentation were then made available to the general public on the Las Olas Mobility Working Group webpage.

Digital Communications

The Las Olas Mobility Working Group webpage was periodically updated to provide the general public with relevant project documents, presentations, videos, project updates, and other resources. The webpage also listed a project email address through which the general public could provide feedback or questions.

Important project milestones, such as the release of the virtual walking tour and the draft conceptual design documents, were posted through the City's social media pages to notify the public.



Handout Provided During The Plan Development Process

The Corridor



Proposed Conceptual Design Considerations

The vision of the Las Olas Streetscape project is to connect residents and visitors of Fort Lauderdale through the enhancement of the iconic Las Olas Boulevard representing our history and our future. This fact sheet gives a brief synopsis of the proposed conceptual design of the Las Olas Boulevard Streetscape.

Character Areas

Las Olas passes through five distinct urban character areas, each contributing to the continuous experience and visual identity of the street. These areas - Downtown, The Shops District, Colee Hammock, The Isles, and the Beach - have been studied individually and cohesively to inform the draft conceptual design recommendations.

Corridor-Wide Considerations

Branding and Identity

Consistent design elements throughout the streetscape

Safety Improvements

General enhancements for all users including crossings, separated facilities, sight triangle, and traffic improvements, and recommendations for future EMS enhancements

Bike Facilities

Separated facilities and parking available throughout the corridor in coordination with new public spaces and transit facility improvements

Improvements to Signalized Intersections

Modifications to intersections to address the needs of active transportation at currently signalized intersections

Drainage and Climate Change

Roadway changes, drainage improvements, and the addition of absorbent plant life and landscaping to prevent flooding

Wayfinding and Landscaping Improvements

Enhancements of signage, shade trees, foliage, land cover, sidewalk, and crosswalk design

DOWNTOWN

S Andrews Ave. to US-1

Downtown Las Olas is the prestigious address and front door for office and residential development.

Current Features and Opportunities:

- Generally pedestrian-friendly with ample shade
- There is a need for bicycle facilities to connect with the emerging adjacent districts and transit

Proposed Design Considerations

Separated Facilities - Enhanced Safety Through Separation of Traffic Modes

- Protected bicycle facilities - one-way cycle tracks on the north and south sides of Las Olas
- Floating bus stops along the cycle track

Improved Curbside Management and Enhanced Crossings in Tandem with Other Improvements

- Sidewalk widths will not be reduced
- Southside parking will be removed for bicycle lanes
- Northside parking will be removed between 3rd and 4th Avenue to extend the westbound turn on 3rd Avenue
- Gateway and wayfinding features at the corner of Las Olas and S Andrews Avenue
- New pedestrian crossing at SE 5th Avenue
- Enhanced crossings at multiple intersections
- Raised intersections and other enhanced conditions to support ADA
- Wayfinding for accessing nearby facilities

THE SHOPS

US-1 to SE 12th Ave.

The Shops possess a pedestrian scale and an iconic green canopy that support its role as a premier shopping strip.

Current Features and Opportunities:

- Pedestrian scale and iconic green canopy
- Narrow sidewalks can create pinch-points where street furniture and landscaping are not well coordinated
- Area is accessible through pedestrian alleys between street blocks and organized parking lots behind storefronts

Proposed Design Considerations

Curvy, Curbed Streets to Enhance the Quality of the Pedestrian Realm in Support of the Businesses in the Shops District

- "Curvy" alignment alternating side on-street parking
- A new Gateway Plaza at Tunneltop
- Expanded sidewalks for pedestrians
- Provision of amenities to complement businesses
- Raised intersections to support ADA

Outdoor Seating - Expansion of Outdoor Seating Options to Support Businesses

- Provision of modular, movable street furniture and landscaping
- Increased outdoor dining space
- Vista opportunity at Himmarshee Canal Bridge

Green Canopy - Ample Shading

- Incorporate signature landscaping

Festival Space - Design Supports Open Streets Events

- Incorporate design elements to facilitate open street events along the three blocks
- Wayfinding to facilitate alternative routes for drivers and cyclists
- Shared roadway and alternative routes directing bicyclists to SE 2nd Court and SE 4th Street

Las Olas Streetscape Masterplan

COLEE HAMMOCK

SE 12th Ave. to Isle of Capri Drive

Colee Hammock is the neighborhood center that caters to residents year-round.

Current Features and Opportunities:

- Has both a residential and commercial area
- Challenges in providing enough pedestrian space to support shopping activities
- There is a lack of shade trees
- Bicycle lanes encroach on parked cars and are interrupted at the SE 15th Avenue signalized intersection
- SE 15th Avenue is used as an alternative route for drivers to avoid downtown

Proposed Design Considerations

Improved Pedestrian Realm - Opportunity to Expand the Pedestrian Area and improve safety

- Expanded sidewalks and street trees along storefronts west of SE 15th Avenue
- Increased outdoor dining space
- Landscape buffers east of SE 15th Avenue
- Landscaped medians to facilitate crossings and communicate changes east of SE 15th Avenue
- A chicane between SE 15th Avenue and SE 13th Avenue offering additional space for public art and gateway feature
- Improved shaded area to enhance walkability
- Recommendation for a full replacement of the Sospio Canal bridge to add pedestrian and bicycle space while maintaining 4 lanes
- Opportunity for new West Isles green space with a waterfront sightseeing area
- Enhanced crossings at 13th, 15th and 17th Avenues

Cycle Tracks - Dedicated Space for Cyclists

- One-way cycle tracks on the north and south

Traffic Improvements - Use of Speed Tables, Speed Humps, and Diverters to Encourage Safe Speeds

- Dual left turn at SE 15th Avenue to improve the intersection capacity and overall safety
- Maintaining width of 15th Avenue north of 2nd Court
- Reducing car travel lanes west of SE 15th Avenue
- Speed tables or raised crossings at intersections
- Recommendation for additional traffic studies to review making 16th Avenue a southbound right turn only; and closing 17th Avenue at Las Olas to vehicular traffic

THE ISLES

SE 17th Ave. to Coral Way

The Isles is primarily residential and possesses a pleasant waterfront experience frequently used by joggers and bicyclists.

Current Features and Opportunities:

- Generally pedestrian-friendly with ample shade
- Waterfront locations and great views
- There is a need for bicycle facilities to connect with the emerging adjacent districts and transit

Proposed Design Considerations

Separated Paths - Area for Strolling and Leisure with Canal Views alongside Efficient Roadways

- Bicycle paths on the north and south
- Median maintained at 12 feet with palm trees
- Four traffic lanes maintained
- Seating in rest areas
- Xeriscaping and landscape improvements in open spaces
- Sidewalk widths are maintained or expanded

Traffic Calming - Additions to naturally slow traffic

- Reduced width of traffic lanes
- The addition of plant life and other visual cues

Landscaping and Engineering Design - To address flooding

Sight Triangle Extensions - Cantilevers at each bridge

Plentiful Shade - Expanded Shading Tree Options

New Crossings - With Landscaping and Hardscaping to Draw Attention to Pedestrians

THE BEACH

Terminating at State Road A1A

The Beach is a popular destination for residents and tourists alike.

Current Features and Opportunities:

- This is an area for strolling or exercising along the oceanfront
- Crossing this area is difficult for cyclists because the curb lane is shared with motor vehicles

Proposed Design Considerations

Waterfront Paths - Area for Strolling and Leisure with Canal Views

- Recommendation for the City to activate the space at Merle Fogg Park given the proposed under path
- Cantilever expansion of multi-use path on bridge
- Multi-use path coordinated to reach Las Olas Beach Park, parking garage, and bike trail from the Isles

Plentiful Shade - Expanded Tree Shading Options

Median Redesign - To Prevent Left Turns from Las Olas Boulevard North onto Birch Road

Safe Crossings - Crossings with Landscaping and Hardscaping to Draw Attention to Pedestrians Crossing the Street

- A proper bicycle crossing will ensure safe access to Las Olas Boulevard





» EXISTING CONDITIONS



»EXISTING CONDITIONS

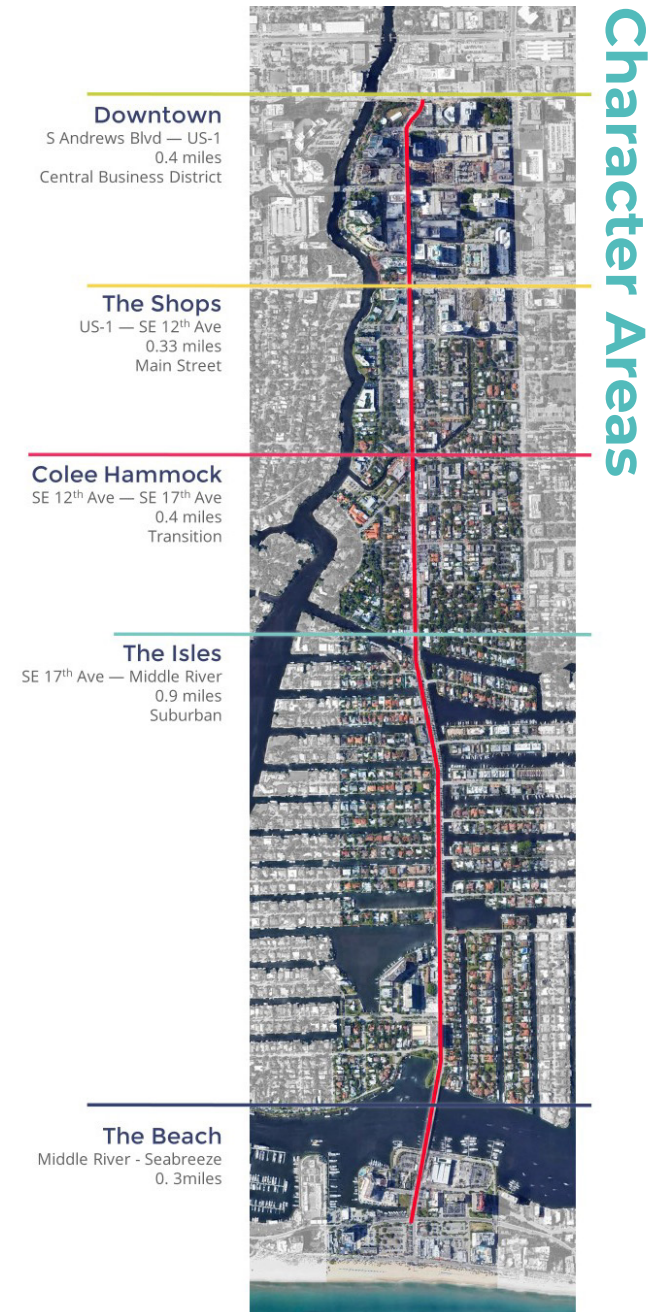
General Corridor Conditions

Las Olas Boulevard from Andrews Avenue to A1A is a 2.4-mile corridor that serves as one of three primary routes to Central Beach/Barrier Island in Fort Lauderdale. It is also a key corridor for the city that contains large office buildings within the Downtown Regional Activity Center, as well as neighborhood scale commercial buildings and residential areas. Las Olas Boulevard has various events throughout the year. The character of the street varies across five distinct areas which vary in width, adjacent land uses and patterns, and cross-sections. The Character Areas are as follows:

- Downtown – Andrews Avenue to SE 6th Avenue/Tunnel Top Plaza
- The Shops – SE 6th Avenue/Tunnel Top Plaza to Himmarshee Canal
- Colee Hammock – Himmarshee Canal to Sospiro Canal
- The Isles – Sospiro Canal to Intracoastal Bridge
- The Beach – Intracoastal Bridge to SR A1A

The available right-of-way varies between each character area, ranging from 60 feet to 133 feet. However, right-of-way constraints vary within each character area as described in their individual sections.

Las Olas Boulevard has varying lane configurations depending on the character area. Currently there are two vehicular travel lanes in each direction of varying widths, with exception of the roadway between SE 10th Terrace and SE 15th Avenue, which has one lane of vehicular travel in each direction. However, in the Shops and Downtown section, on-street parking is permitted in the travel lanes next to the sidewalk between 11am and 3am, essentially reducing available travel lanes to one in each direction during hours when such parking is allowed.





Likewise, bike lane configuration is not consistent along Las Olas Boulevard. West of SE 10th Terrace, bicyclists share the travel lane with vehicular traffic. There is a designated bike lane from SE 10th Terrace to SE 15th Avenue and again from S. Gordon Road to the west end of the bridge over the Intracoastal Waterway. Bicycle lanes are unbuffered outside of Colee Hammock and not continuous along the entire corridor. Across the Intracoastal Bridge to the east, the bicycle lane starts again after crossing the Seabreeze

Boulevard. In areas where there are no bicycle lanes, bicycles navigate through regular traffic.

The entirety of the Corridor is serviced by Broward County Transit, Route 11. The Water Taxi and the City sponsored free Water Trolley are within proximity of Las Olas Boulevard with stops along South Fork of the New River easily accessible from the corridor, such as at SE 9th Avenue.

Sidewalks exist through the corridor, but at varying widths and are detailed further in their respective character areas. However, all of the areas except for the The Shops are greatly lacking in natural shade. Within The Shops area, where the Black Olives are in the median, shade is generally geared toward vehicular traffic and not pedestrians. While there are trees along the entire corridor, the overwhelming majority are palm trees. While the palms keep with the tropical feel of the corridor, they offer little in the way of shade and pedestrian experience.

As a whole, the entire corridor has distinct elements which create a visually haphazard situation. Las Olas Boulevard has over five different types of lightposts, and over eleven different types of hardscape throughout the corridor. The lack of visual identity makes it difficult to present a unified theme for Las Olas.

It is also important to note that while a majority of the tree species currently planted along Las Olas Boulevard are tropical and Florida Friendly™, they will not be appropriately resilient in the future. This is particularly important as various areas of Las Olas Boulevard are currently subject to some form of flooding risk, ranging from pooling in the Downtown area to flooding during King Tide in the Isles and Colee Hammock areas.

Character Areas Conditions

The following provides for additional details for each character area:

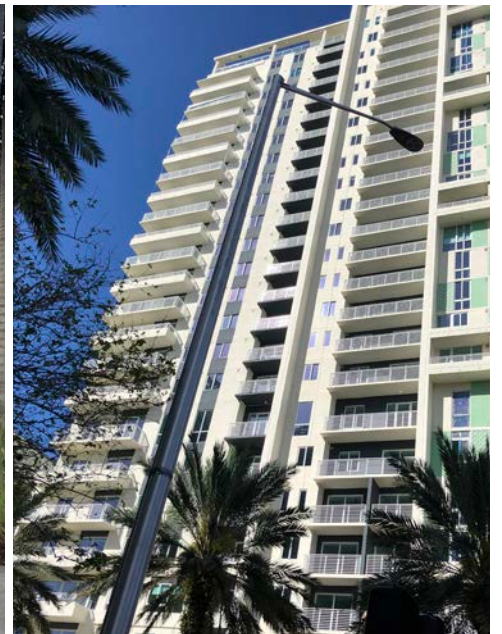
Downtown

- **General Right-of-Way Width:** 78.5 feet to 80 feet.
- **Pedestrian Facilities:** Sidewalks are wider in the Downtown area, with about 12 feet to 15 feet of sidewalk space between SE 1st Avenue and SE 5th Avenue, and at least 6 feet of sidewalk on both sides west of SE 1st Avenue. All intersections have east-west crosswalks, and north-south crosswalks can be found at Andrews Avenue, SE 1st Avenue, SE 2nd Avenue, SE 3rd Avenue, and SE 4th Avenue. No north-south crosswalk facilities exist at SE 5th Avenue and Las Olas Boulevard, where there are observations of regular pedestrian crossings.
- **Bicycles:** No on-street bicycle facilities exist on Las Olas Boulevard in this area, and bicyclists share vehicular lanes.
- **Vehicular:** This section of the corridor has two vehicular lanes in each direction, at a width of 10 feet per lane. However, as parking is allowed on the lanes adjacent to the sidewalks, between SE 3rd Avenue and SE 5th Avenue, between 11am and 3 am, one lane is generally utilizable for traffic during these hours in that portion of the corridor. As noted in the traffic analysis, the intersection of SE 3rd Avenue and Las Olas Boulevard has heavy congestion, requiring turn lanes. Current construction has resulted in a temporary 4-way Stop controlled intersection at SE 2nd Avenue. The intersection of SE 4th Avenue and Las Olas Boulevard

is raised, and the northbound and southbound lanes at this intersection are right turn only.

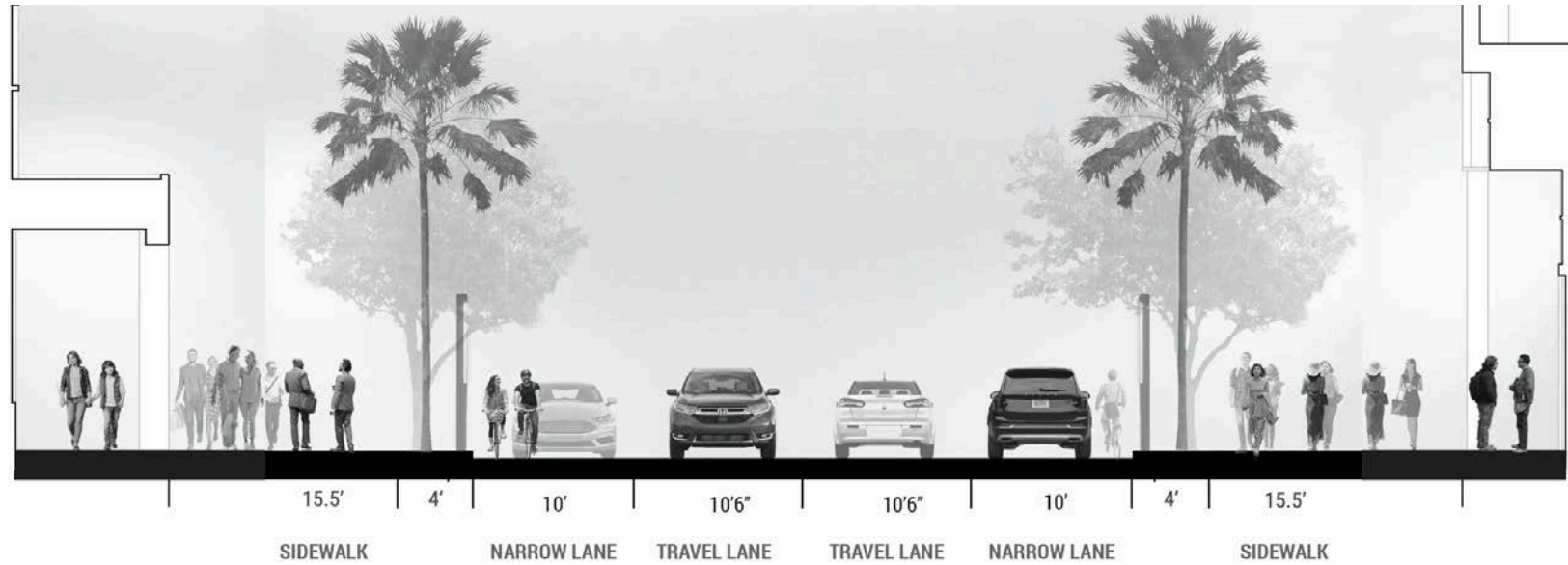
- **Landscaping and Street Furnishings:** Virtually every building has its own distinct paving pattern in the right-of-way. The hardscape is made up of multiple shapes and colors of pavers, stamped concrete, and traditional sidewalk, depending on the location. Benches are only found at a single bus stop shelter and at 100 E. Las Olas Boulevard, which recently completed new construction. This new construction has multiple benches, trash cans, and bike racks within the southern pedestrian right-of-way. Trash cans are rare in the Downtown District, and inconsistent in design. City-owned light poles in this segment are simplistic, painted black with a single square light, while their signage is more classic, almost Victorian in style. FDOT owned street lights are white with long arms and round lamps. Privately owned lights vary in style but all are chrome and modern themed.



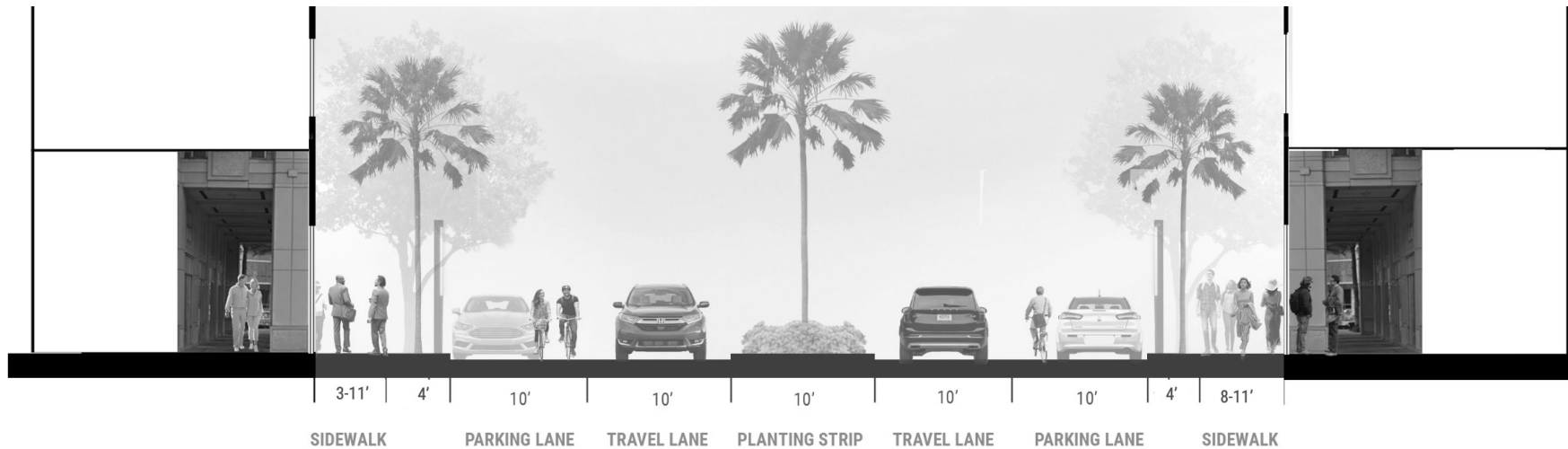




Downtown Existing Conditions between Andrews Avenue and SE 3rd Avenue



Downtown Existing Conditions between SE 3rd Avenue and Tunnel Top



The Shops

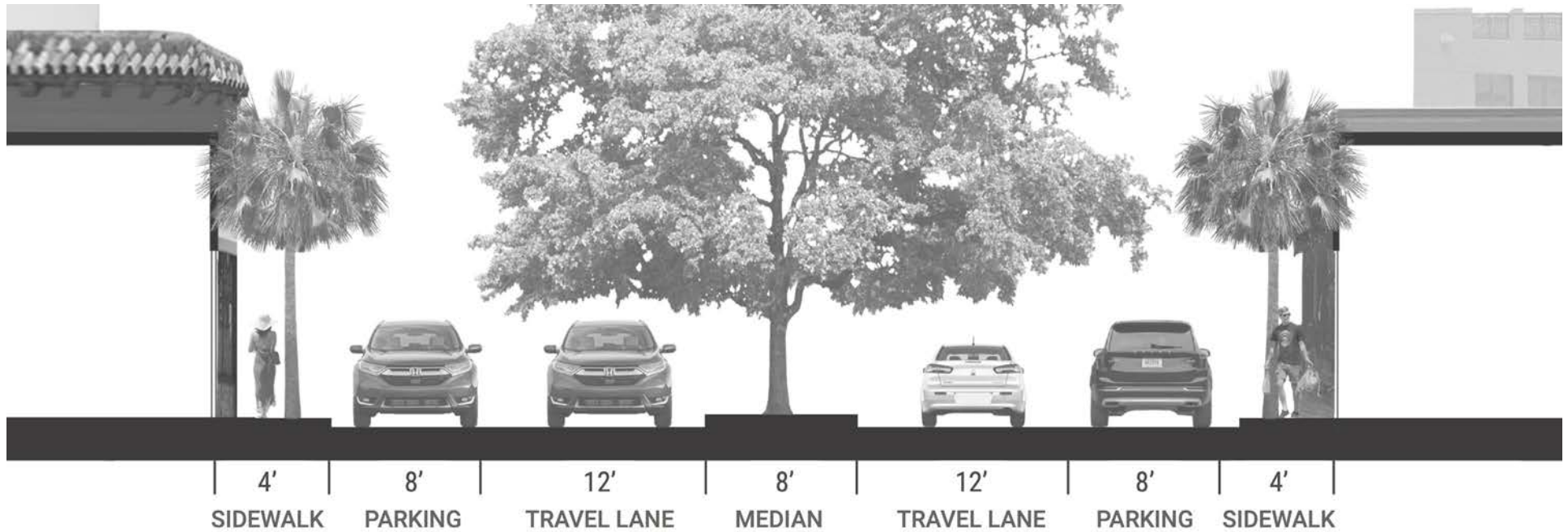
- **General Right-of-Way Width:** 60 feet.
- **Pedestrian Facilities:** Sidewalks exist on both sides of the street; usable sidewalk space can transition from 15 feet wide to 5 feet or less when paired with cabbage palms. This creates a natural bottleneck where groups must move single file in order to allow movement in both directions. This issue compounds when restaurants put menus out front for passersby to read. Customers take up valuable space while deciding upon where to eat, waiting on a table, etc. Generally, most of the sidewalks between SE 6th Avenue and SE 11th Avenue are pavers with at least 6 feet of available width. However, there are segments, such as by SE 6th Avenue, where the width of the sidewalks are substandard at 4 feet. Crosswalk ramps are misaligned at some intersections, such as SE 9th Avenue and Las Olas Boulevard, and while there are midblock crossings, these crossings are not compliant with the Americans with Disability Act.
- **Bicycles:** No on-street bicycle facilities exist on Las Olas Boulevard in this area, and bicyclists share the lane with vehicles. There is a bikeshare station by the intersection of Las Olas Boulevard and SE 10th Terrace.
- **Vehicular:** This section of the corridor has two vehicular lanes in each direction, at a width of 11 feet per lane. However, as parking is allowed on the lanes adjacent to the sidewalks between 11am and 3am, only one lane is generally utilizable for traffic during these hours.
- **Landscaping and Street Furnishings:** Both the North and South right-of-ways are planted with consistent, evenly spaced cabbage palms in tree pits surrounded

by shrubs. The medians are filled with large black olive trees, whose canopies spread over the traffic lanes to shade the pedestrian right-of-ways. This area is full of temporary structures. Restaurant menus, sale signs, and outdoor seating abound. The menus and signs are commonly directly in the right-of-way, blocking pedestrian traffic. Outdoor seating for restaurants is within their property line. Some businesses have even created their own structures such as wooden seating around an existing cabbage palm.

- **Other Considerations:** The Shops area is frequently utilized for public events, such as Christmas on Las Olas or the Las Olas Art Festival, whereby the area is closed to vehicular traffic.



The Shops Existing Conditions





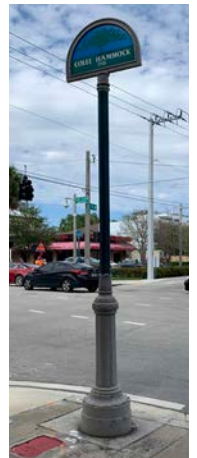
Colee Hammock

- **General Right-of-Way Width:** 60 feet to 70 feet. Colee Hammock's available right-of-way on Las Olas Boulevard is unique among the sections in that it is the only area to contract and expand from block to block. The right-of-way is 70 feet between SE 12th Avenue and SE 13th Avenue, 60 feet from SE 13th Avenue to SE 16th Avenue, SE 68 feet from 16th Avenue to 17th Avenue, and 60 feet from 17th Avenue to across Sospiro Bridge.
- **Pedestrian Facilities:** Sidewalks exist on both sides of the street; usable sidewalk space generally is 6 feet, with 2 feet tree wells periodically reducing the effective sidewalk space to 4 feet. North-south crosswalks are located at SE 13th Avenue and at SE 15th Avenue. The north-south crosswalk at SE 13th Avenue has in-ground pedestrian actuated lights.
- **Bicycles:** Generally, 4 feet bicycle lanes exist in this area of Las Olas Boulevard between the Himmarshee Canal Bridge and SE 17th Avenue. At intersections east of SE 15th Avenue and on the south side of Las Olas Boulevard at SE 16th Avenue, the lanes are marked green across the intersections. Various portions of the lanes are buffered by areas marked in blue. Spatial constraints east of SE 15th Avenue gradually narrow the bicycle lanes until they stop at SE 17th Avenue on the south side. On the north side, there is a bicycle lane gap between SE 15th Avenue and SE 16th Avenue.
- **Vehicular:** This section of the corridor has two vehicular lanes in each direction east of SE 15th Avenue, at a width of 11 feet per lane. West of SE 15th Avenue, this changes to one vehicular lane in each direction at a width of 11 feet per lane. The intersection of SE 15th Avenue and

Las Olas Boulevard is congested. The intersection of SE 17th Avenue and Las Olas Boulevard on the southbound leg is right turn only; however, there are sight distance issues at this intersection that negatively impact safety. On-street parking is provided on both sides of Las Olas Boulevard between SE 12th Avenue and SE 15th Avenue (32 spaces), and on the north side between SE 15th Avenue and SE 16th Avenue (8 spaces).

- **Landscaping and Street Furnishings:**

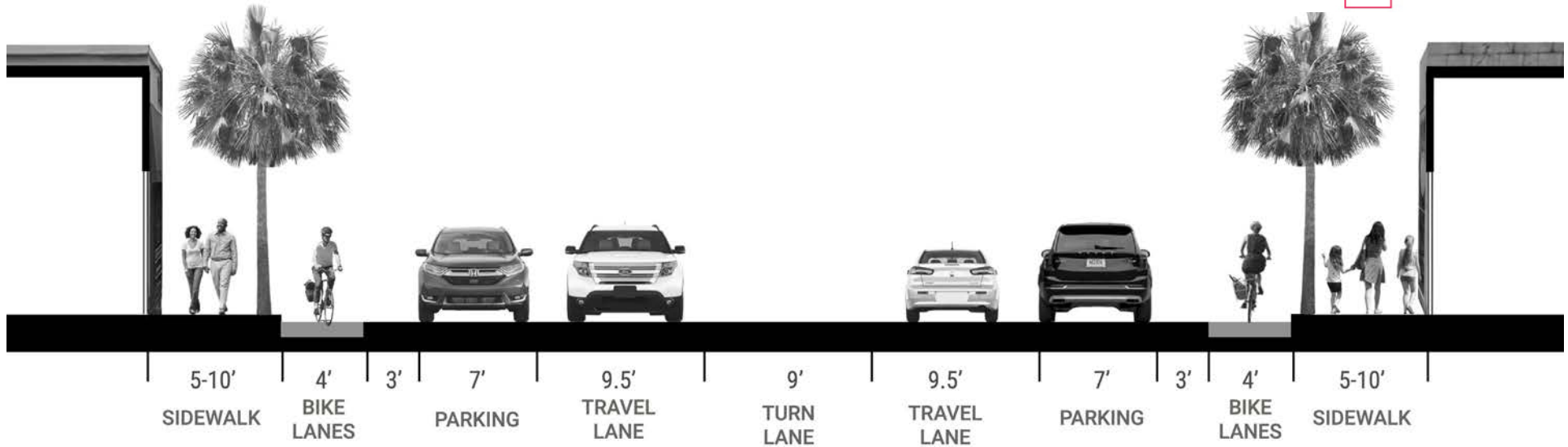
Both the north and south right-of-ways are planted with consistent, evenly spaced cabbage palms in tree pits. There are a few benches that can be found outside of businesses and by a driveway on the northern right-of-way. However, these are temporary in nature; benches tend to get brought back into the businesses at closing. This area is the most pedestrian friendly as it has an abundance of sight amenities. Trash and recycling cans are adequately spaced for consistent usage.



- **Other Considerations:** The Himmarshee Canal and Sospiro Canal bridges are both advanced in age. Further, Sospiro Bridge is constrained for expansion by the existing water mains immediately to the north of the bridge, and by available space to the south of the bridge.

Due to the age of the of the Sospiro Bridge, at about 75 years old, it may be more efficient to engage in a complete reconstruction. Next steps here should be coordination between the City and FDOT to assure the City CIP and FDOT Work Programs are in alignment relative to what needs to be done, cost and timing.

Colee Hammock Existing Conditions





The Isles

- **General Right-of-Way Width:** 100 feet to 130 feet.
- **Pedestrian Facilities:** Sidewalks exist on both sides of the street; usable sidewalk space generally is 6 feet. The sidewalk on the south side of Las Olas Boulevard between the Marathon Gas station and SE 25th Avenue is constrained by the landscaping, causing “pinch-points” of 3 ft of pedestrian space in front of the retail and restaurant establishments. Between SE 15th Avenue in Colee Hammock and SE 25th Avenue, while there are east-west crosswalks at every intersection, there are no north-south crosswalks. There is also a lack of a north-south crosswalk by Merle Fogg Park.
- **Bicycles:** Generally, bicycle lanes of at least 4 feet exist in this area of Las Olas Boulevard from just east of the Sospiro Bridge to Poinciana Drive on the south side, and Plaza Las Olas on the north side. Neither Sospiro Bridge nor the Intracoastal Waterway Bridge has separate bicycle facilities; bicyclists are expected to utilize vehicular travel lanes (sharrows).
- **Vehicular:** This section of the corridor has two vehicular lanes in each direction, at a general width of 12 feet per lane. Given the configuration of the bridges and intersection setback for the isles on the north side of Las Olas Boulevard, there is a sight distance issue which may impact safety. Speeding, as noted in the traffic analysis, is an issue for this area.
- **Landscaping and Street Furnishings:** The entirety of “The Isles” is planted with palms and has no seating except for the occasional bus stop bench. The lack of shade is evident here and creates a heat island

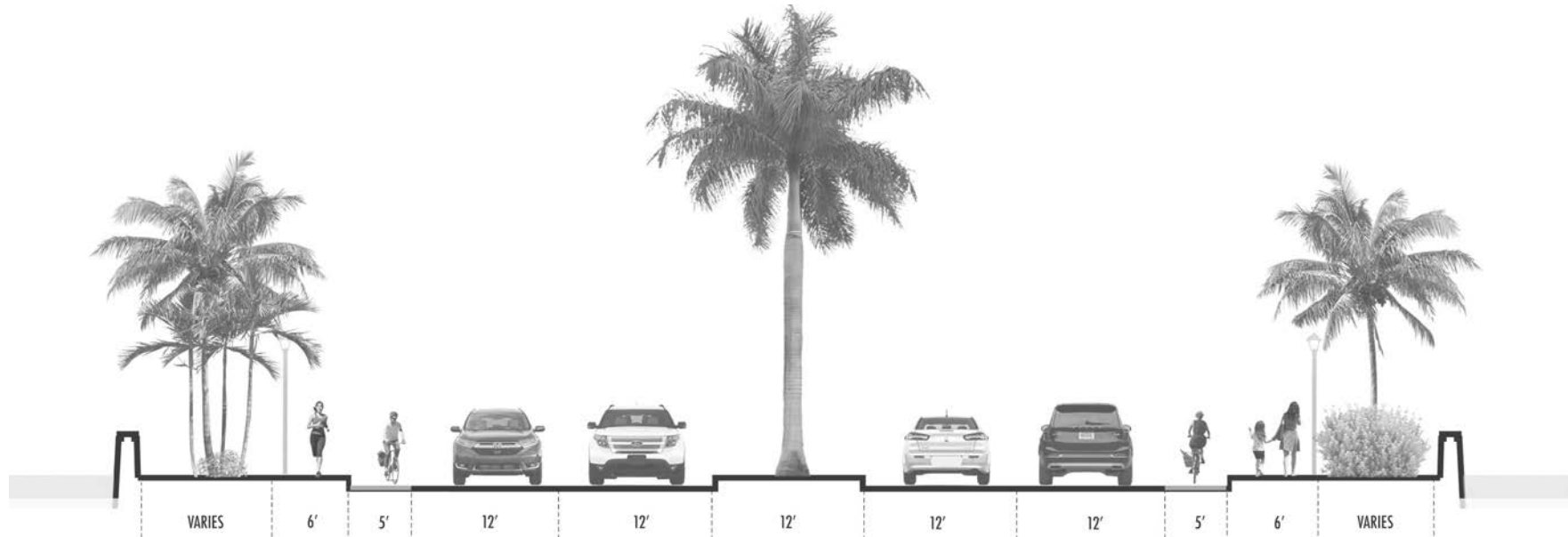
effect that detracts from the pedestrian experience. In addition, there are several historical markers and structures along the corridor.

- **Other Considerations:** This area is the longest segment of Las Olas Boulevard; however, the character of the area west of Seven Isles Drive has significant differences with the area east of Seven Isles Drive, including available right-of-way and land use.

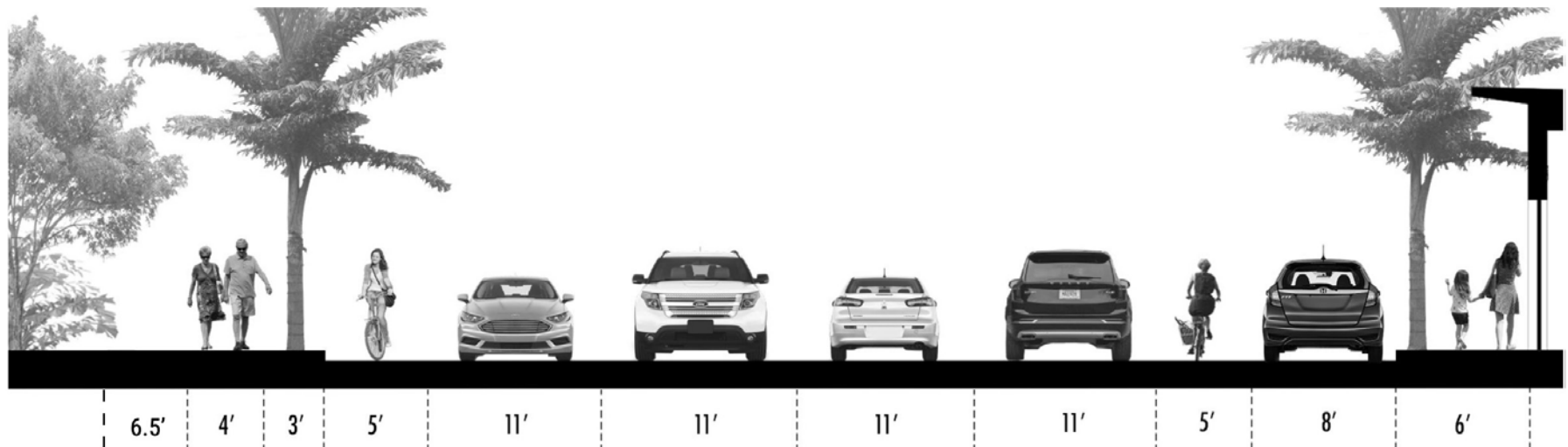




The Isles Existing Conditions between Sospiro Canal and SE 23rd Avenue



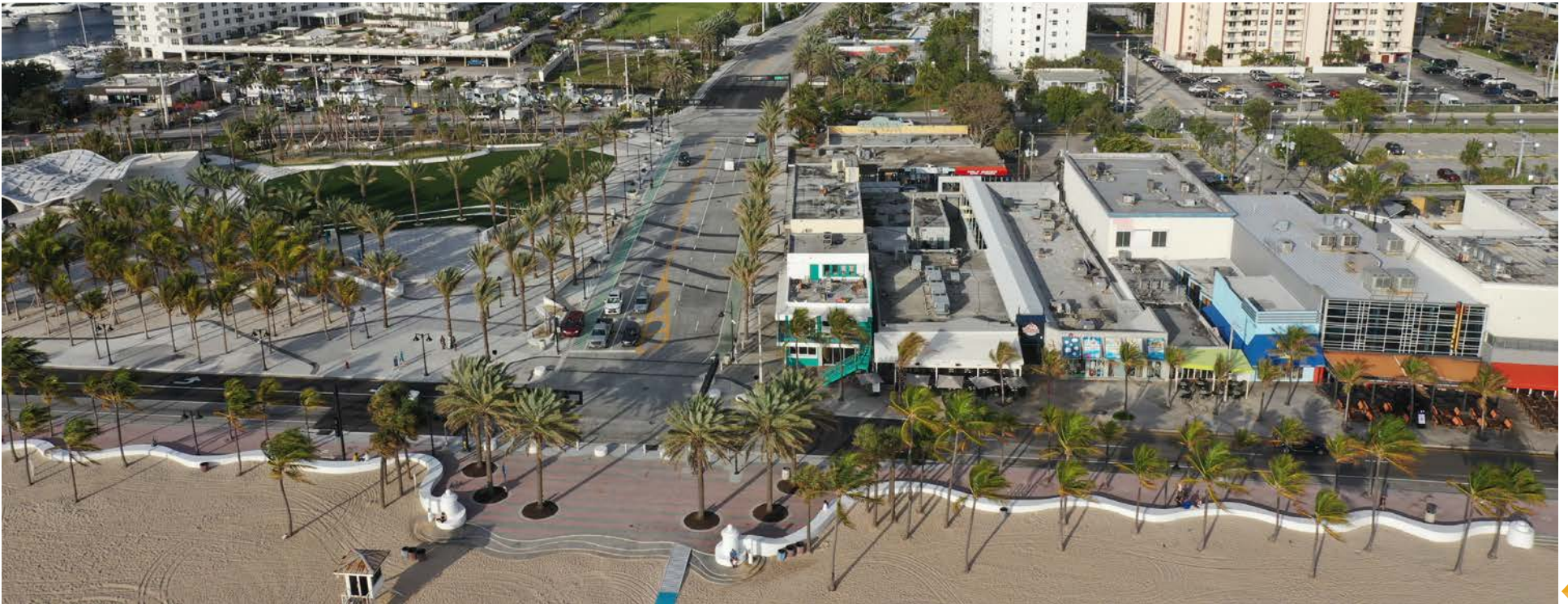
The Isles Existing Conditions between SE 23rd Avenue and Plaza Las Olas



The Beach

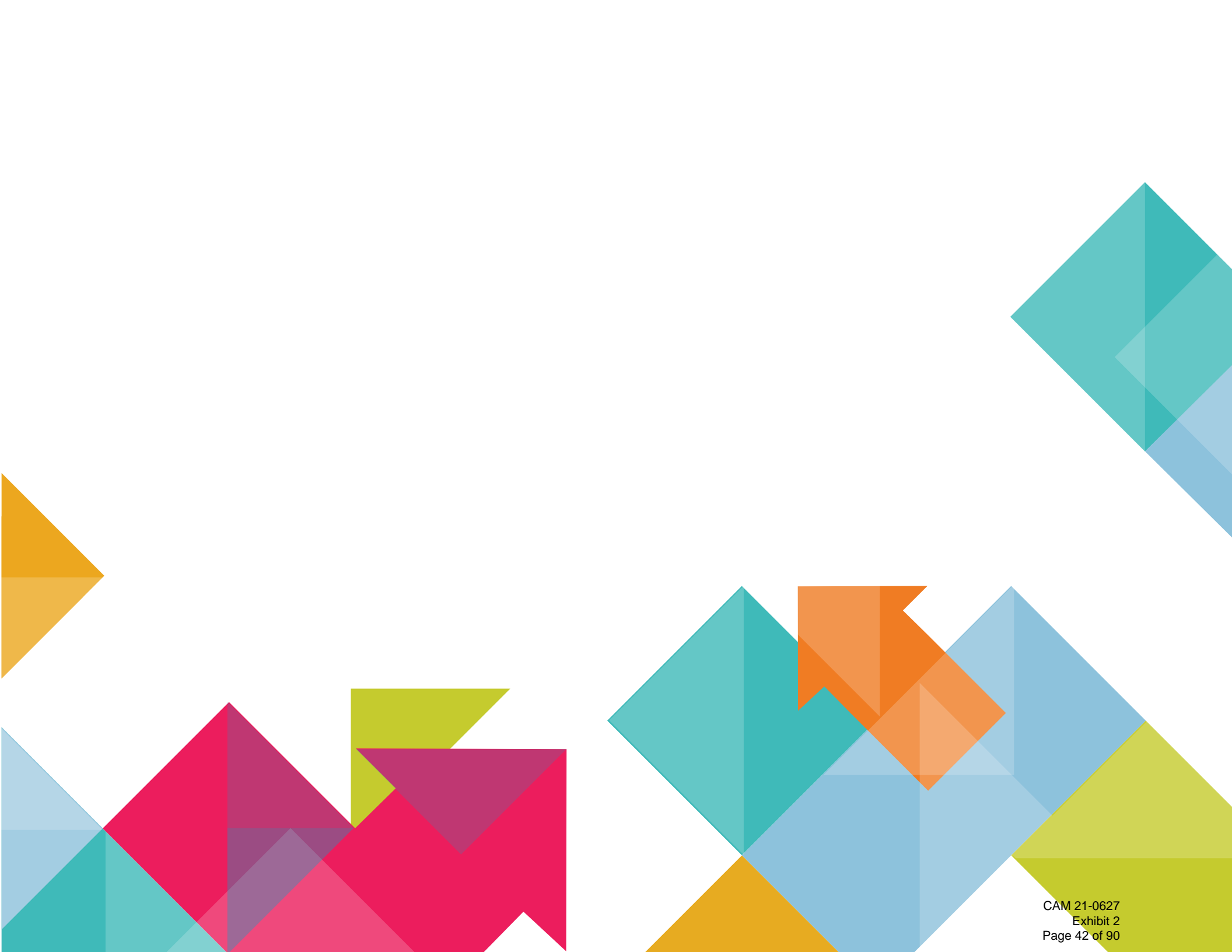
- **General Right-of-Way Width:** 100 feet to 130 feet.
- **Pedestrian Facilities:** Sidewalks on both sides of Las Olas Boulevard are generally at least 6 feet in width and are adequate. However, the pedestrian realm is lacking in shade trees.
- **Bicycles:** 4 feet bicycle lanes exist on the south side of Las Olas Boulevard between Seabreeze Boulevard and S. Fort Lauderdale Beach Boulevard and are marked in green. This connects to the A1A route to the east. Heading west, bicyclists merge into vehicular traffic to share the lane across the Intracoastal Waterway Bridge.

- **Vehicular:** This section of the corridor has two vehicular lanes in each direction, at a width of 11 feet per lane. During prior construction of improvements in the Beach area, the median at the eastern end of the Intracoastal Waterway Bridge, which normally extends beyond Birch Road to Las Olas Circle, was not reconstructed.
- **Landscaping and Street Furnishings:** The Beach area contains seating along Las Olas Oceanside Park. As noted elsewhere, this area has palm trees but is lacking in shade trees. Due to the Las Olas Oceanside Park improvements, the street is curbsless between Seabreeze Boulevard and S. Fort Lauderdale Beach Boulevard, with bollards.





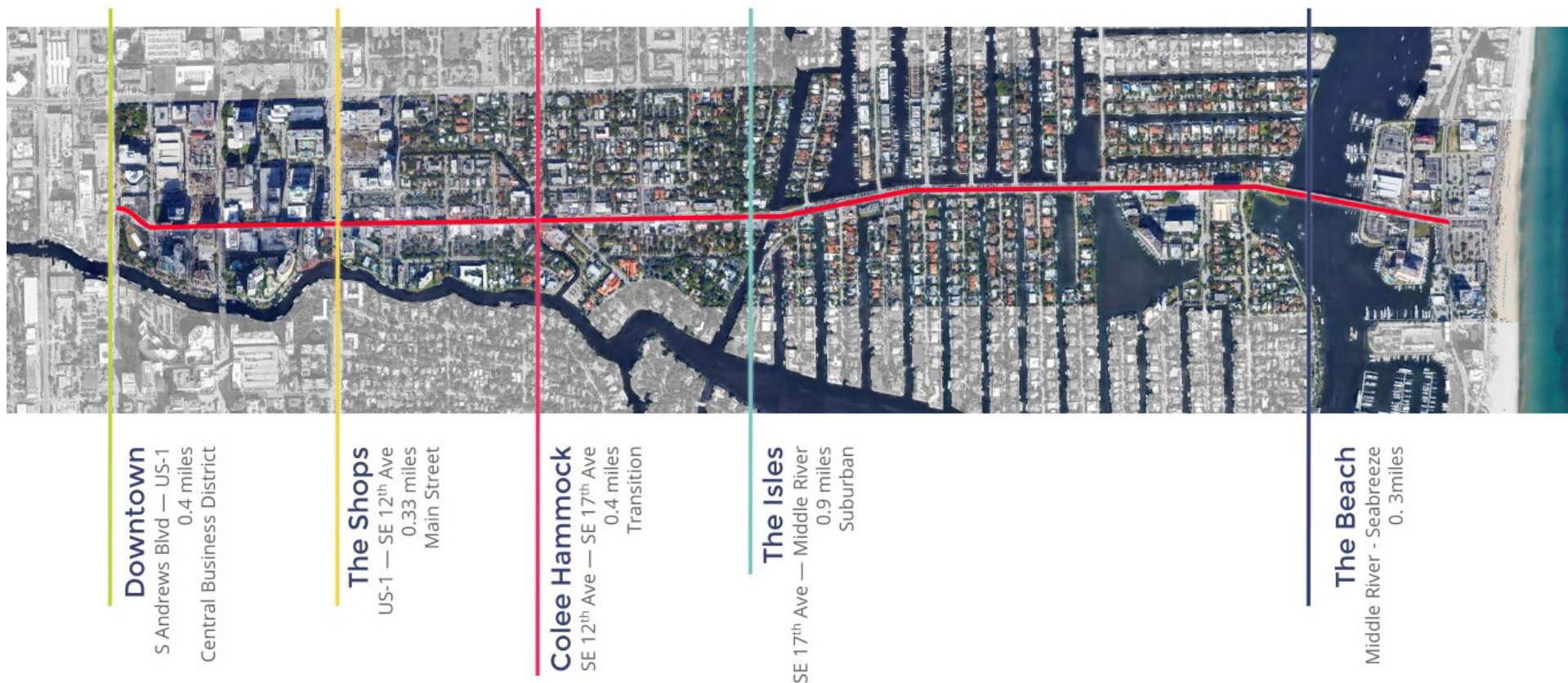




» OVERALL VISION AND AREA RECOMMENDATIONS



Character Areas



» OVERALL VISION AND AREA RECOMMENDATIONS

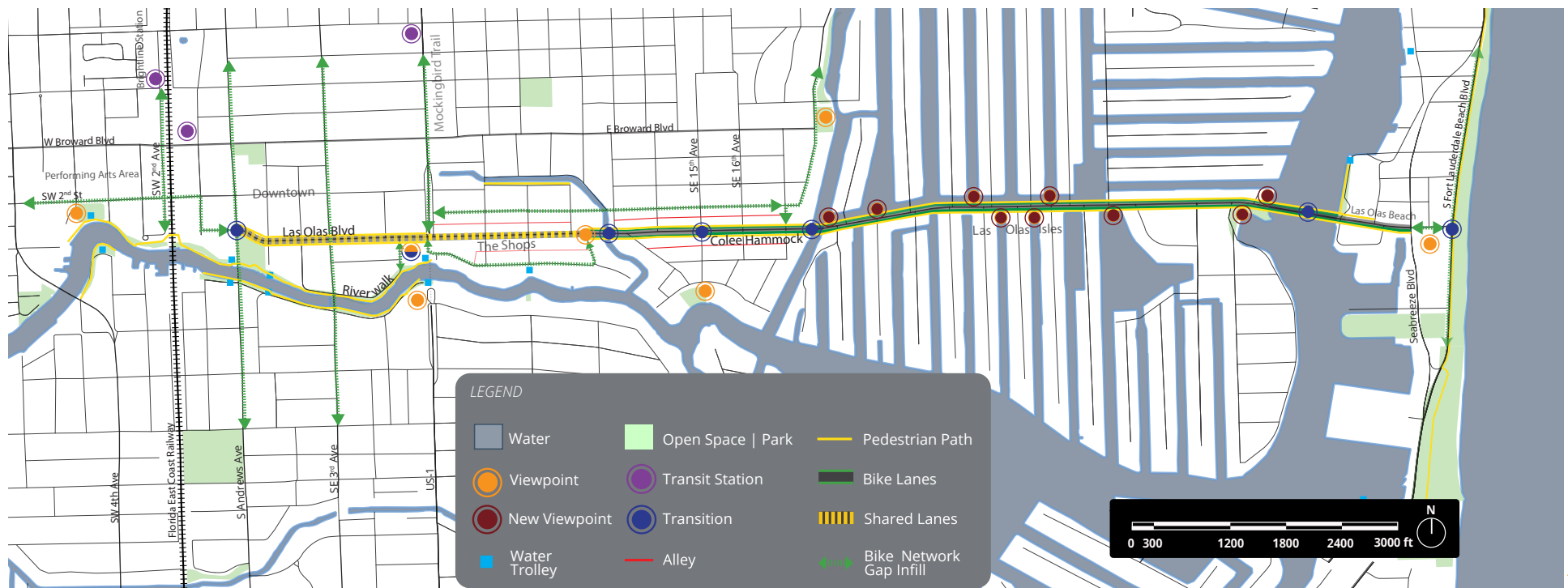
The Overall Concept

The design of Las Olas Boulevard strives to create a street where residents and visitors feel invited to share company, go for a stroll, and be comfortable in their community.

As the major thoroughfare connecting Downtown Fort Lauderdale and Central Beach, Las Olas Boulevard must balance moving people efficiently through a variety of transportation needs, inclusive of pedestrian, bicycling, vehicular, and transit modes, with space programmed to

safely accommodate alternative modes such as scooters when they are present. Within the context of the network, Las Olas Boulevard is the most direct route between Downtown and the Beach. Its centrality also places it within reach of transit, the Water Taxi, and park facilities. The natural geography of the corridor also offers a number of opportunities for viewpoints and gateway features at transitions, such as connecting with Riverwalk via Tunnel Top Plaza.

Some general opportunities for enhancement were identified throughout the corridor, including: improved comfort with shade trees, cohesive branding, connections to nearby destinations, uninterrupted bicycle facilities, and wayfinding.



Embracing and creating a street that acknowledges these opportunities will help:

- Emphasize the safety of all users in the design of intersections. Prioritize safety of the most vulnerable users of the street.
- Provide well-designed bicycle facilities to ensure mobility and safety to provide a desirable environment that is comfortable, enriching and which encourages people to prioritize biking as a primary mode of transportation. This includes continuity of pathways to provide better comfort for bicyclists.
- Create streets that are flexible and can accommodate a wide scale and range of activities.
- Ensure the street's design and material components speak to the aspirations, cultural preferences and expectations of the community.

The overall vision involves a strategy that starts by understanding that Las Olas Boulevard is part of a larger city and has to integrate with other areas to become even more successful in the future.

Some general opportunities for enhancing the corridor include:

1. A cohesive landscaping strategy that protects pedestrians from the elements of the sun.
2. Improve the overall connectivity of the street network to enhance the mobility of pedestrians, bicyclists, transit users, and drivers.

3. Highlight the presence of pedestrians and cyclists while reducing the speed differential between modes of transportation, and improvements in line with Americans for Disabilities Act to facilitate a safer and more accessible environment.
4. Singular branding to aid in wayfinding to and from the corridor to nearby intermodal transportation facilities, as well as communicating alternative routes to help drivers avoid getting stuck in traffic.

Each segment within this corridor is different but contribute to the continuous experience and visual identity of the street. Through discussions, the identity of each area was brought forward:

- 1. Downtown.** This section of Las Olas will remain the prestigious address and front door for office and residential development that it aims to be. The streetscape of this area should support a walkable downtown with ample shade and seating, with considerations for how the corridor can create connections to the Riverwalk, Brightline, and SW 2nd Street at the edge of the Downtown area.
- 2. The Shops.** This area is iconic today and will be iconic in the future. The environment will be redesigned to prioritize pedestrians and maintain a Main Street charm that serves as the core of its identity today. Sidewalks will be greatly widened and vehicular lanes will narrow, with trees realigned to shade people, not cars. Landscaping, lighting and street furniture will support easy pedestrian walks and unify the district at night. The area will be designed to allow the street to be a place to hold festivals, and support future business development.

3. Colee Hammock. This section has the potential to be the neighborhood center that caters to residents year-round. It must be treated delicately. Colee Hammock is the key transition area from the Beach and Isles to the busier Historic Shops and Downtown portions of the Corridor. Colee Hammock is bisected by SE 15th Avenue, and acts as an extension of the corridor in the larger Broward Boulevard, Las Olas Boulevard system. Preservation of this neighborhood's character and quality of life is wholly dependent on how this traffic is handled. Wider sidewalks, secure bicycle paths and flowering trees will create an inviting, aesthetically pleasing neighborhood street that will bring value to the surrounding residences. To support the small businesses that serve the neighborhood, the redesigned streetscape will include areas of outdoor seating for the restaurants and cafés that line Las Olas Boulevard.

4. The Isles. The Isles remains a key portion of the corridor that should provide a relaxing walk with ample shade for the residents of the Isles and travelers en route to the beach. Due to the nature of the road here, as a transportation conduit encouraging higher speed driving, it is critical that any plan acknowledge there needs to be a clear separation between vehicles and bicycles and pedestrians. Traffic flow must be designed to allow residents to access their homes and for beachgoers to access the beach. Pedestrian and bicycle paths are safely buffered and have multiple stopping points along this long walk. Improved landscaping, integrated resiliency in design for drainage and improved emergency response times are a must for this neighborhood.

5. The Beach. The Beach serves as a destination and a gathering point at one end of the corridor. While the Beach area was planned by itself, the implementation of the Las Olas Oceanside Park and associated streetscape improvements creates a need to better connect this area with the rest of the corridor. Connections to other paths (such as A1A bicycle pathways) may be enhanced by bridging new connections over the Intracoastal Waterways, while unity of design may be achieved through adopting similar landscaping and wayfinding to present one unified concept for Las Olas.



Principles

For each area, we applied the following principles in considering the recommendations for the future streetscape of each area.

Pedestrian Safety and Comfort

- Provide universal access and well-designed pedestrian facilities to ensure not just a bare minimum level of safety, but also a desirable environment that is comfortable, enriching and encourages people to prioritize walking as a primary mode of transportation.

Social Gathering

- Ensure that areas of social gatherings, including events and programs, have optimum level of safety, comfort and convenience.
 - ♦ Implement street-calming features to reduce traffic speed to help create the right environment for social gathering.
 - ♦ Increase useable public space for pedestrians.
 - ♦ Create streets that have a strong pedestrian scale and character.
 - ♦ Create streets that are flexible and can accommodate a wide scale and range of activities.

Sidewalks and Crosswalks

- Sidewalks play a vital role in city life. As conduits for pedestrian movement and access, they enhance connectivity and

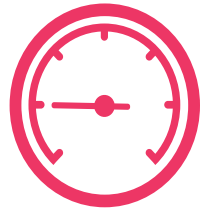


promote walking. As public spaces, sidewalks serve as the front steps to the city, activating streets socially and economically. Safe, accessible, and well-maintained sidewalks are a fundamental and necessary investment for cities, and have been found to enhance general public health and maximize social capital.

- Crosswalks are vital connectors for sidewalks, and generally within the corridor, enhanced crosswalks, including in-ground lights, beacons, and paint are necessary. In some areas, the intersection should be raised and/or patterned to slow traffic down.

Vehicular Circulation and Controls

- Ensure Mobility and Access - Improve the overall connectivity of the street network to enhance the mobility of pedestrians, bicyclists, transit users, automobile drivers and emergency providers.
- Calm traffic to a desired speed that respects all modes of travel.
- Emphasize the safety of all users in the design of intersections. Prioritize safety of the most vulnerable users of the street.
- Use signals, signal timing and operations techniques to improve mobility and safety of all users.
- Design local and low-volume streets for shared space that is accessible to both pedestrians and vehicles, and to allow pedestrians to move more freely within the entire right-of-way of the street.
 - ♦ Utilize speed control devices such as neckdowns, speed tables, and others to enhance safety.



- Design streets to be flexible to accommodate changes (size, turning radius, propulsion, etc) in the existing modes of travel (automobile, public transit vehicles, bicycles, etc.).

Bicycle Network

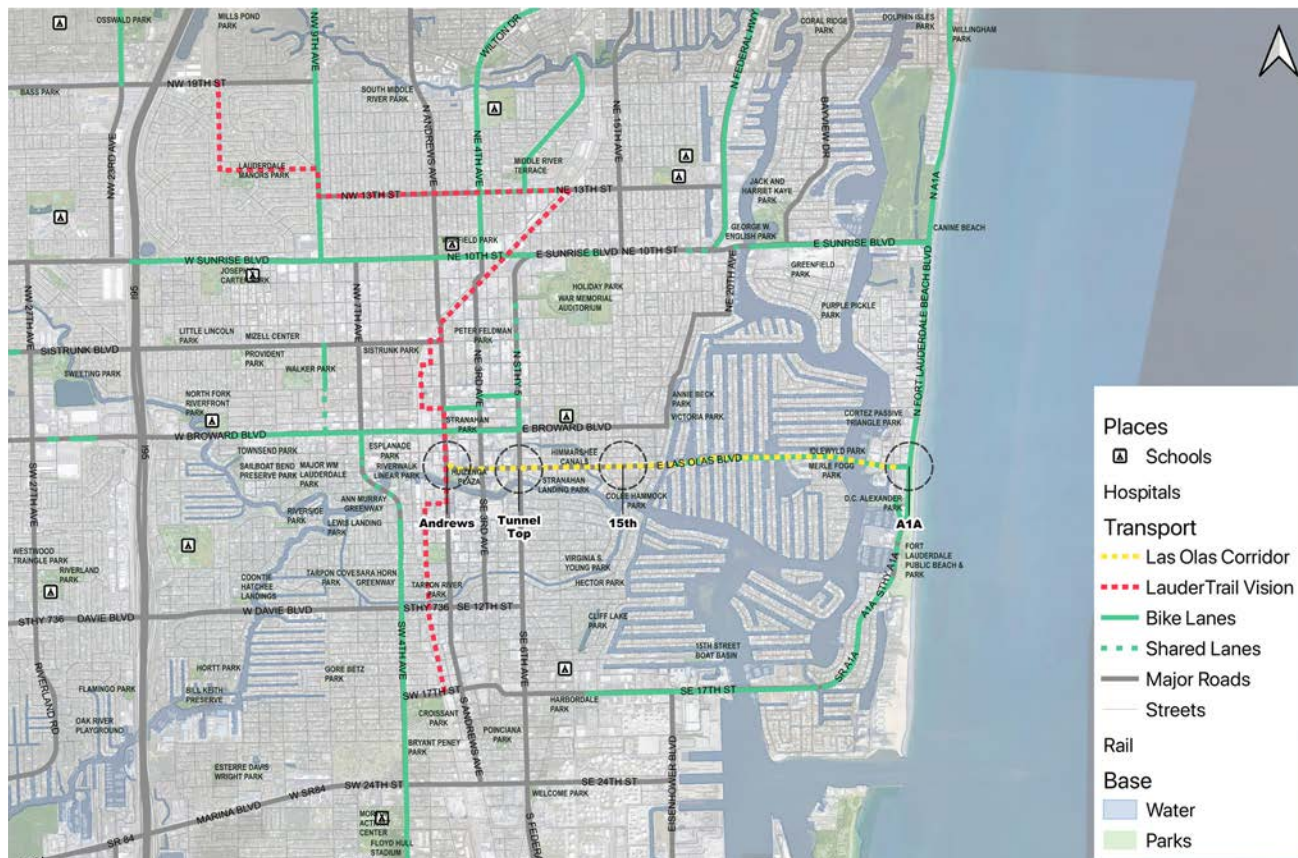
- Provide well-designed bicycle facilities to enhance mobility, to create a desirable environment that is comfortable, enriching, and encourages people to prioritize biking as a primary mode of transportation.

- Las Olas is geographically important for the development of a bicycle network within Fort Lauderdale and continuous pathways should be implemented where possible.



Image and Identity

- Ensure the street's design and material components speak to the aspirations, cultural preferences and expectations of the community.





- Use streetscape design that captures the unique history of the region.
- Ensure that iconic streets are well-connected and easily accessible to all users.
- Emphasize and celebrate an iconic street's location and layout in the overall network of roads of the city, town or surrounding region.
- Program the street to encourage a 24/7 environment, including active daytime use and vibrant nightlife and weekend times.

Stormwater Management

Stormwater management is a critical element that must be addressed. While outside the area of this study, through discussions with stakeholders, it is clear that this consideration of resiliency and future subsurface work will

affect the utilization of the corridor as a transportation corridor and should be coordinated with the streetscape improvements. Facility design must account for the physical constraints of the site, the presence of subsurface utilities, the local climate, and the feasibility of maintenance agreements.

Sustainable stormwater management aims to achieve the following goals:

- 1. Improve water quality.** Vegetated strips and swales filter and reduce sediment and filter pollutants through settling, physical filtration in the soil matrix, biological breakdown by microbes, and nutrient uptake by plants.
- 2. Detain stormwater flows.** Stormwater runoff is detained in facilities such as flow-through planters, pervious pavements, and bioswales. Detaining the flows mitigates the peak flow rates from the rain event, which in turn helps reduce erosion, loss of nutrients, scouring, and load-carrying capacity.
- 3. Reduce stormwater volumes.** Overall stormwater runoff volumes may be reduced by designing facilities that absorb and infiltrate rain water in place. Water-tolerant plant root systems maintain the porosity of the soil while taking up excess water in the stormwater facility.
- 4. Relieve burden on municipal waste systems.** Sustainable stormwater systems reduce the amount of stress on a city's wastewater treatment facilities, and may reduce long-term costs if applied at a citywide scale. Unlike traditional infrastructure, which does not add any additional value beyond its stormwater conveyance function, green infrastructure can be incorporated into neighborhood parks and landscaping.

» Downtown



The Downtown area of the corridor encompasses the area between Andrews Avenue and what will be the Tunnel Top Plaza at SE 6th Avenue. This section of the corridor is generally pedestrian friendly due to the presence of public spaces along the private property. There is ample shade due to the tall buildings. There is a need for bicycle facilities to connect with the emerging adjacent districts, including Performing Arts and Government Center, as well as Brightline, Riverwalk, and bike lanes in nearby Colee Hammock to the east.



In this central business district, enhanced pedestrian crossings at intersections will improve the safety and comfort of the pedestrian experience in Downtown. This includes new crossings at SE 4th Avenue and ensuring that the stop signs at SE 2nd Avenue become permanent fixtures.

Recommendations

General recommendations for Downtown include improvements that enhance conditions for Americans with Disabilities, and wayfinding for accessing nearby facilities such as Riverwalk, Performing Arts District, and Brightline Station.



The Downtown District consists of formalized plantings to emphasize the existing conditions and business forward identity. This formality will help the user to denote that this area is ultimately a traditional business district. The species chosen will also soften the harshness of the existing conditions, creating a warmer, more inviting, experience.

Subareas of the Downtown section vary in regards to available right-of-way. As a result, considering the vision for this area, different cross-sections have been created that acknowledge the spatial constraints for streetscape design. As visually shown in the following cross sections, the section should generally have the following qualities:

1. Vehicular travel lanes:

- i. Between Andrews Avenue and SE 3rd Avenue, two travel lanes in each direction. Inside lanes at 10.6', and outside lanes at 10'.
- ii. Between SE 3rd Avenue and Tunnel Top Plaza, two travel lanes in each direction. All lanes at 10', and outside lanes convertible to parking lanes at certain periods of the day.
- iii. Where needed such as at SE 3rd Avenue, turn lanes will be retained.
- iv. SE 2nd Avenue/Las Olas Boulevard: Recommend making the 4-way stop signs at this intersection permanent.
- v. Parking: Retain on both sides, along with rideshare pick up locations. Side street rideshare pick-up locations should be encouraged.

2. Pedestrian:

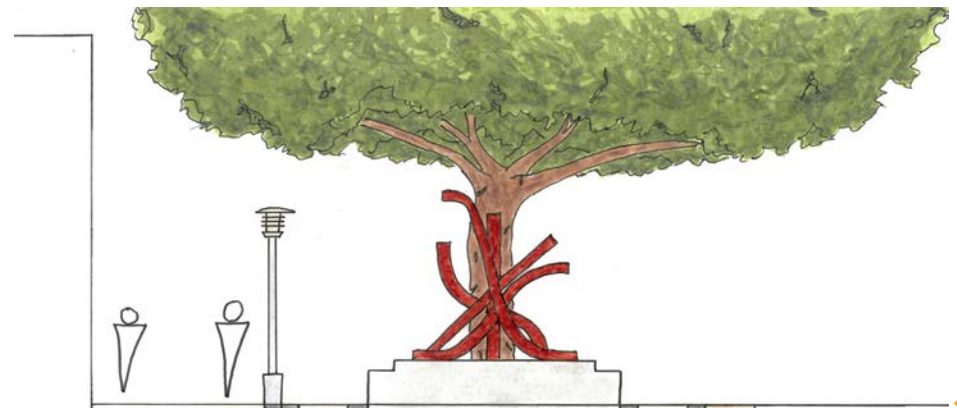
- i. Sidewalks: 4' - 16' on each side. Sidewalk widths shall be roughly equal to existing widths when plan is implemented.
- ii. New crosswalk at SE 5th Avenue and Las Olas Boulevard.

3. Bicycle:


- i. Bicycle sharrows will be maintained on the corridor. The city should examine placement of formal bicycle lanes on parallel facilities.

4. Wayfinding and Landscaping:

- i. The Downtown District consists of formalized plantings to emphasize the existing conditions and business forward identity.
- ii. As Downtown Las Olas is meant for active movement, bike racks and trash receptacles should be plentiful.
- iii. Benches should not be placed in this district, as the interstitial spaces and existing site features, such as raised planters, can be utilized as areas of rest.
- iv. The Downtown District hardscape within the right-of-way will begin a continuous design/pattern throughout each district. For areas outside of the right-of-way, property owners may maintain their own hardscapes to differentiate themselves from other businesses.
- v. Hardscape area as noted in the wayfinding and other sections of this plan features the words "Meet Me @ Las Olas" and acts as the starting point of the flowing hardscape design/pattern seen throughout the entirety of Las Olas Boulevard.
- vi. As the future plans for Huizenga Park develop, this area may evolve to include a public art installation.



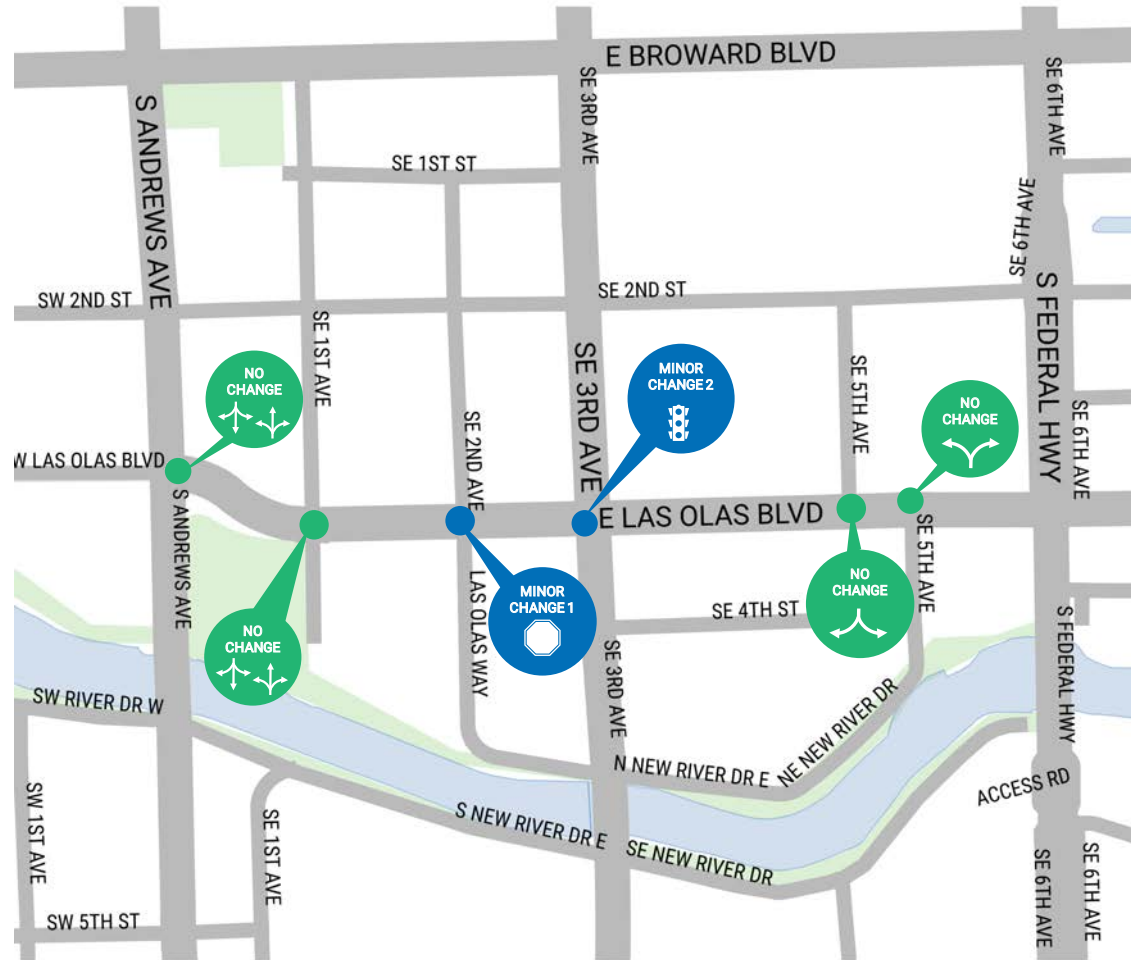
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LEGEND

- NO CHANGE
- MINOR CHANGE
 - 1. All-way Stop Intersection Control



Downtown Traffic Summary



Final image to be updated

Final image to be updated

The following provides for the recommended plant palette for the Downtown area.

Large Trees



Quercus Virginiana
Live Oak*



Bursera simaruba
Gumbo Limbo*

Flowering Trees/Accents



Elaeocarpus decipiens
Japanese Blueberry



Filicium decipiens
Japanese Fern Tree

Shrubs



Conocarpus erectus
Green Buttonwood*



Clusia nana
Dwarf Clusia

Medium Trees



Eugenia foetida
Spanish Stopper*



Caesalpinhia granadillo
Bridalveil



Lagerstroemia spp.
Crepe Myrtle



Chrysophyllum oliviforme
Satin Leaf*



Chrysobalanus icaco
Cocoplum "red tip"*



Ficus microcarpa
Green Island Ficus

Small Trees



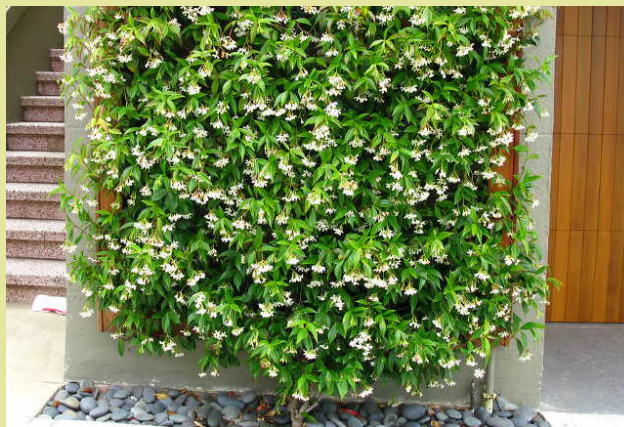
Conocarpus erectus var. sericeus
Silver Buttonwood*



Ardisia ecallanoides
Marlberry

Vines

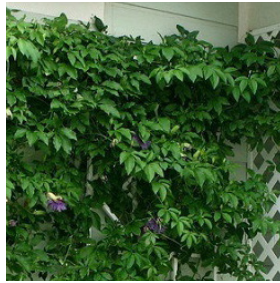
Vines are very beneficial to a project's planting palette. They soften hardscapes, reduce heat, attract pollinators, and form stunning living screens, especially while flowering. The various species will be utilized in the shade structures throughout the corridor. Vines can be separated into four basic types based on their climbing habits: Clinging, Twining, Sprawling, and Tendril Climbing.



SPECIES	NATIVE	IRRIGATION NEEDS	LIGHT REQUIREMENTS	CLIMBING HABIT	FLOWER COLOR	FLOWERING SEASON
<i>Passiflora incarnata</i> - Passion Flower	Yes	Low	Full Sun	Tendril Climbing	White & Purple	Spring - Summer
<i>Gelsemium sempervirens</i> - Yellow jessamine	Yes	Moderate	Full Sun - Part Shade	Twining	Yellow	Winter-Spring
<i>Campsis radicans</i> - Trumpet creeper	Yes	Low	Full sun -Shade	Clinging Roots	Orange - Red	Spring - Summer
<i>Bougainvillea spp.</i> - Bougainvillea	No	Low	Full Sun	Twining	Red, Pink, Orange	All Year
<i>Allamanda cathartica</i> - Golden Trumpet	No	Moderate	Full Sun	Sprawling	Yellow	Warm Months
<i>Trachelospermum jasminoides</i> - Star Jasmine	No	Moderate	Full sun -Shade	Twining	White	Spring
<i>Bignonia capreolata</i> - Crossvine	Yes	Low	Full Sun - Part Shade	Tendril Climbing	Orange - Red	Spring
<i>Lonicera sempervirens</i> - Coral Honeysuckle	Yes	Low	Full Sun - Part Shade	Twining	Orange - Red	Spring- Fall



Passiflora incarnata
Passion Flower*



Bougainvillea spp.
Bougainvillea



Bignonia capreolata
Crossvine*



Gelsemium sempervirens
Yellow Jessamine*



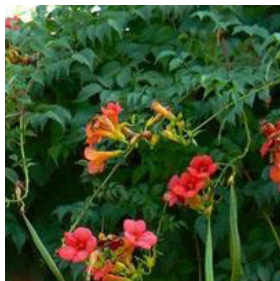
Allamanda cathartica
Golden Trumpet



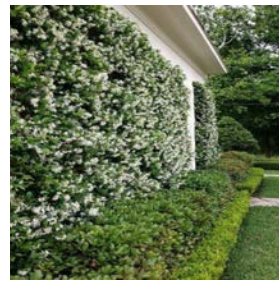
Lonicera sempervirens
Coral Honeysuckle*



Campsis radicans
Trumpet Creeper*



Trachelospermum jasminoides
Star Jasmine



»The Shops



The Shops area of the Las Olas Corridor is the heart of the corridor's entertainment district. Surrounded by residences and with access to Riverwalk, this destination area of the corridor hosts many restaurants and local shops that provide variety to the neighborhood. The area is also home to various festivals during the year, including the Las Olas Art Festival.

The Shops possess a pedestrian scale and an iconic green canopy that support its role as a premier shopping strip. However, the Black Olive trees, in addition to being a non-native species that create issues for the maintenance of the road, are also planted in a manner as to shade cars, not people. Redesigning this area of the corridor to remove the median and provide shade trees on both sides of the street will create a better walking experience to encourage foot traffic beneficial for local businesses.

Currently, the narrow sidewalks can create pinch-points where street furniture and landscaping are not well coordinated, especially because the area is popular for both locals and visitors alike. Shifting the space utilized by the median and some of the parking will enhance the pedestrian experience and also address the Americans with Disabilities Act issues found in this portion of the corridor.

The area also has organized parking lots behind storefronts which are accessible through alleys between street blocks. The east Riverwalk terminus at the Tunnel Top Plaza, serves as a water taxi stop and is where The Shops District begins. As a central business and entertainment district within the corridor, parking is a concern that was heard throughout the visioning process.

Recommendations

The environment will be redesigned to benefit pedestrians by enhancing the landscaping, street furniture and outdoor dining with a shared-street concept. The recommendations re-assign space from the median to expand the sidewalk area. The expanded sidewalk area will be used to provide amenities to complement the businesses located in this area. Street trees will create a cohesive canopy. Speed tables at intersections with local roads will enhance pedestrian safety.

The design of The Shops maintain many of the species found within the Downtown District, while adding splashes of color, new textures, and species. The species that overlap create a transition between the two areas and a large canopy to shade pedestrians and vehicles along this stretch of the corridor. Species not found in Downtown add in various colors of bark and flowers to accentuate the playfulness of The Shops. The addition of palms in this segment also adds a tropical feel to the experience.

Continuous hardscape and trellis designs are one of many opportunities to enhance the identity of The Shops area, while facilitating wayfinding. The elements of the area should be:

1. Vehicular Travel Lanes:

- a. 11' in each direction.
- b. There will be one travel lane in each direction,
- c. Parking: Retained on both sides of the street. At least one space per block should be designated as rideshare pick-up/drop-off locations. Side street rideshare pick-up locations should be encouraged.



- d. Building structured parking should be considered in the future, as needed. The number of spaces will be dependent on future development and density of the area.
- e. Curbed with no median, and shade trees for pedestrians. Due to spatial constraints resulting from retention of parking, larger shade trees may not be permissible; however, the recommended plant palette provides for smaller shade trees which may be supplemented by shade structures to complement the reduced canopy.

2. Sidewalks:

- a. Generally 6' - 12' wide on each side.
 - i. Intersections: Raised and ADA compliant mid-block crossings should be implemented, where possible.

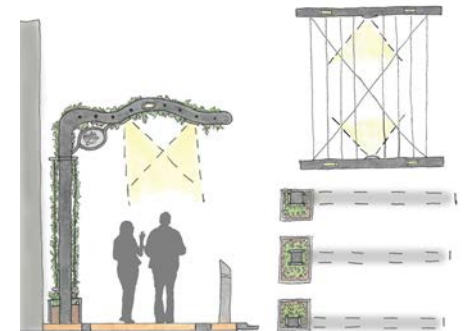
3. Bicycle:

- a. Cyclists can use a sharrow in this section of Las Olas Boulevard.
- b. Additionally, pathways should be explored to supplement the bicycle network on SE 4th Street and SE 2nd Court.

- c. Where space allows, a bike rack should be at the north and south sides of each intersection.

4. Wayfinding and Landscaping:

- a. Plant life should contain splashes of color, new textures, and species, with wide canopies.
- b. Vines should be utilized to fill out the proposed shade structures, further adding to the texture, human scale, and coloration of this section.
- c. All the Black Olive trees within the medians should be removed as most are demonstrating poor health and structure and are unlikely to survive a relocation process.
- d. Benches should be placed outside of the primary pedestrian zones to avoid impeding circulation. Modern curved-wood benches, of varying radii, should be placed underneath the shade trees to emphasize interaction between groups of different sizes.
- e. Trash receptacles should be placed within the expanded area with a maximum 200 feet between them.
- f. Remaining space within the expanded pedestrian zones can be utilized for business usage, e.g. restaurant seating.
- g. Hardscape area as noted in the wayfinding and other sections of this plan features the words "Meet Me @ Las Olas" and acts as the starting point of the flowing hardscape design/pattern seen throughout the entirety of Las Olas Boulevard.





Proposed Curbed Conventional Street Section



Curbed Street



Curbed Street
Expanded
sidewalk areas



Raised Intersections
Curb extensions



Business Amenities

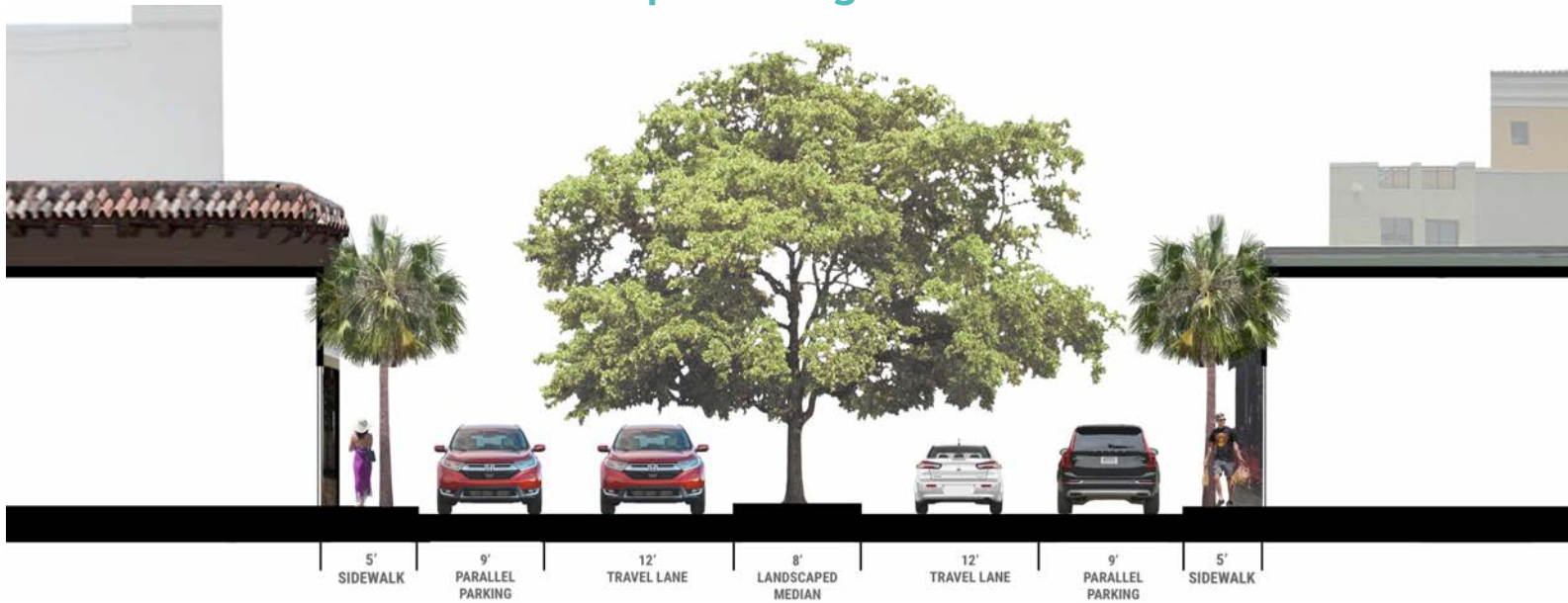
LEGEND

- NO CHANGE
- MINOR CHANGE
1. Gateway Features



The Shops Traffic Summary

The Shops Existing Conditions



The Shops Proposed Conditions



The following provides for the recommended plant palette for The Shops area.

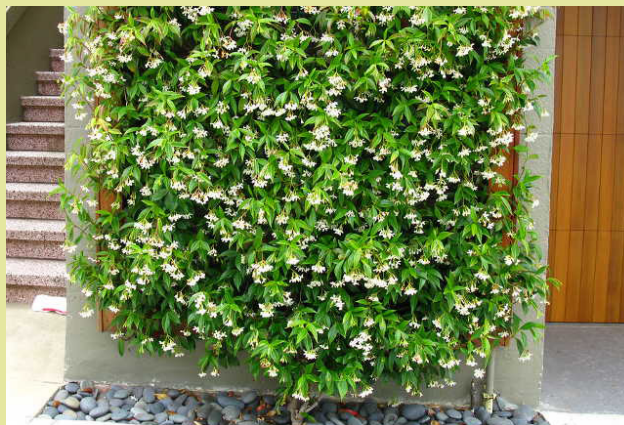
Plant Palette to be updated



Plant Palette to be updated

Vines

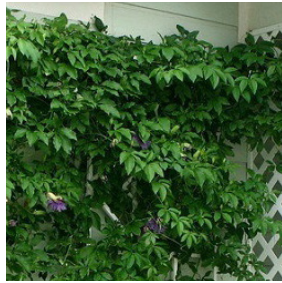
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Passiflora incarnata
Passion Flower*



Bougainvillea spp.
Bougainvillea



Bignonia capreolata
Crossvine*



Gelsemium sempervirens
Yellow Jessamine*



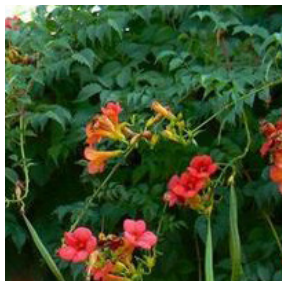
Allamanda cathartica
Golden Trumpet



Lonicera sempervirens
Coral Honeysuckle*



Campsis radicans
Trumpet Creeper*

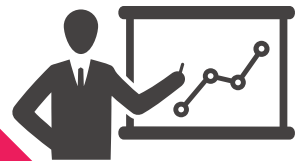


Trachelospermum jasminoides
Star Jasmine





» IMPLEMENTATION SEQUENCE AND COST ESTIMATES



»IMPLEMENTATION SEQUENCE AND COST ESTIMATES

Implementation of this vision for Las Olas Boulevard requires detailed attention given both the magnitude of the project, and its effect on day-to-day life during construction. This section reflects the overall Las Olas Boulevard creative branding, and is applicable to both Eastern and Western Corridor reports, covering all five character areas. The public engagement process has made clear that stakeholders in The Shops area are concerned about anticipated disruption from construction of the Tunnel Top Plaza. Coordination should also be considered with the Downtown area proposals.

Costs, “shovel readiness”, and maintenance-of-traffic are factors by which to evaluate each section. Downtown is the most shovel-ready area, while The Shops area has the highest level of pedestrian traffic and therefore developing this section may be the most complicated. While there are portions of the Downtown area where water “pools”, this condition is likely to be easily remedied.

The City should consider that various types of funding may be available for individual aspects of the project. For example, midblock crosswalks and other bicycling and pedestrian improvements qualify under Transportation Alternatives, while funding for aspects of water and drainage improvements can be available from several sources, including the Florida Department of Economic Opportunity. As funding becomes available, the City should reprioritize aspects or entire sections to take advantage of funding availability.

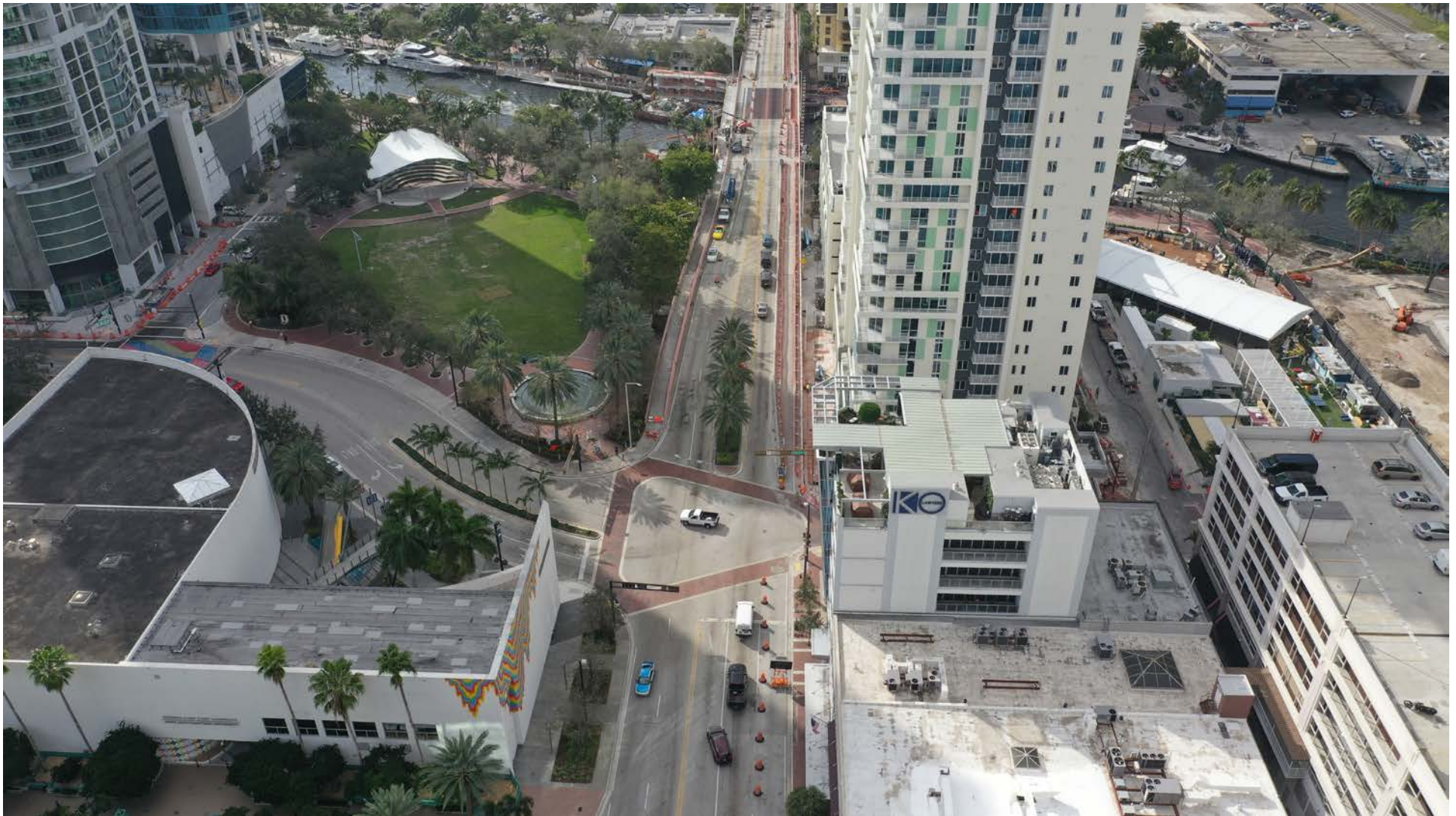
Considering the above, the following provides the recommended segment prioritization for implementation:

1. The Shops
2. Downtown

Landscaping Implementation Criteria

For any streetscape design project, details of landscape implementation are extremely important and must go beyond a simple redesign of the multimodal facilities within the right-of-way to enhance mobility aspects. The range of landscaping elements from shade to seating and wayfinding have a significant impact on an individual's experience.

To successfully emphasize the iconic nature of Las Olas Boulevard, implementation must establish, at the forefront of the design, each area's theming, consistent with the overall goals of the project. The visual aesthetic of the landscape, hardscape, wayfinding, and sight amenities must cohesively work to enhance the user experiences. The user experiences, both from pedestrian and vehicular standpoints, are vitally important to the success of this project. During the conceptual masterplan process, alternatives were explored, and recommendations have been outlined that may not completely comply with the City of Fort Lauderdale Design Standards set forth by the City's Zoning Ordinance and Code regulations. Recommendations for implementation, formed through the master planning process, are outlined below along with the relative design standards and code regulations from the City of Fort Lauderdale.



Landscape Recommendations

»A tree inventory of the existing site was completed in March 2020. It is recommended that this inventory be confirmed before final design and implementation.

- ◆ Based upon the current tree inventory:
 - Trees and palms with poor or dead ratings should be removed from the site.
 - Trees and palms with a “fair” rating should be relocated on site, when possible. The designer is to

coordinate with both the City Urban Forester and Parks and Recreation Department to relocate trees and palms to other City-owned property if on-site space is not available.

- Trees that will remain on-site during construction should be securely protected by a protection barrier.

» The proposed plant palette has been endorsed by the City of Fort Lauderdale Urban Forester. Each section's specific plant palette can be found in its respective portion of this report.

- ♦ While the specifications are written as minimum sizes, the installation of larger plant material is encouraged when available.
- ♦ Silver Buttonwood, Spanish Stoppers, and Simpson's Stoppers are to be specified as multi-trunk.
- ♦ All shrubs must be of the dwarf variety when species selection allows.

» All trees must be surrounded by pervious surfaces to allow for irrigation and stormwater infiltration. Tree grates are not approved and must not be used within the project, per the City of Fort Lauderdale Urban Forester.

» All trees within hardscaped areas must utilize a tree root cell system, i.e., the City of Fort Lauderdale preferred Silva Cell System by Deeproot.

- ♦ Silva Cells allow for proper root growth, stormwater and irrigation infiltration, and pavement support. The use of Silva Cells will reduce the opportunity for future damage to both the trees and hardscape.
- ♦ Soil volume and root space within Silva Cells varies based on mature canopy spread and DBH (Diameter

at Breast Height). Reference is to be made to the "How Much Soil to Grow A Big Tree" pamphlet and Deeproot contacted for recommended ratio of tree size-to-soil volume.

- ♦ To decrease the amount of Silva Cells needed, it is recommended that large and medium trees, as noted in the plant palette, utilize the 32" deep cells, while small trees should use 17" deep cells.

» Tree Placement:

- ♦ Trees should be placed no more than 40' on centers throughout the corridor, while accounting for regulated sight lines and distances.
- ♦ It is recommended that in The Shops area, all trees should be of large canopy type or be large ornamental trees (per the plant palette). These trees are to be placed 30' on centers, within the expanded pedestrian zone opposite of the parallel parking, to gain the maximum amount of natural canopy coverage.
- Low-low/high-efficiency irrigation is to be used whenever irrigation is necessary. As of the writing of this document, the City of Fort Lauderdale uses Rainbird brand irrigation equipment.
 - ♦ It is recommended that this preference be reconfirmed prior to final design and installation.

» Soil amendment:

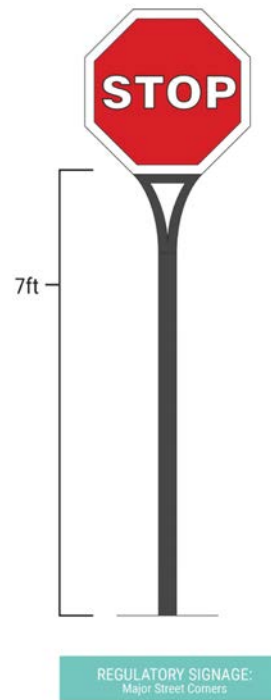
- ♦ It is recommended that the soils in each area be sampled and tested prior to final design and installation. Soil amendment may be necessary, depending on test results.

Signage and Wayfinding (Corridor-wide Considerations)

Wayfinding is key to creating the identity and branding of the Las Olas Corridor. As the corridor currently sits, there is no thematic or visual connector of the four districts to themselves, or the beach. These elements work to unify the four different districts and the beach through consistent theming and symbology. Some pieces are subtle while others are meant to grab attention and reinforce the “Instagram-able” moment. Integration of technology into the signage and wayfinding is vitally important for the project. A hierarchy of design allows for accessibility to both pedestrian and vehicular users. Symbology should maintain a consistent hierarchy, and adhere to the branding found in the wayfinding exhibits.

The hierarchy of wayfinding is based on the information the signage provides and how often it can be found. Large signs that contain multiple forms of information are less common along the corridor and therefore command more attention. These major forms of wayfinding include the open space and street corner signage.

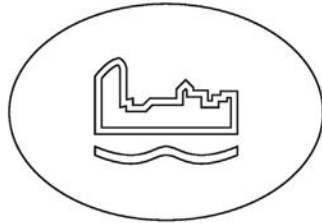
The common wayfinding signage provides subtle and symbolic notation of current location and other destinations. The symbols laid out in the wayfinding exhibit are found on bike racks and bollards throughout the corridor, including the trellis shade structures in The Shops District. Each district utilizes the same bike rack form, however, each



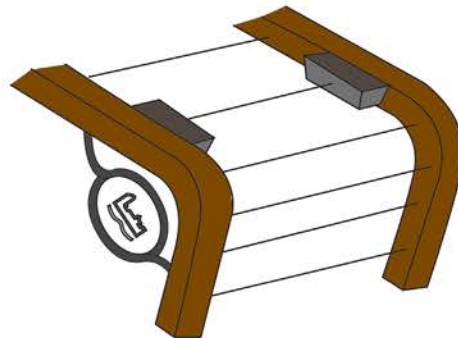
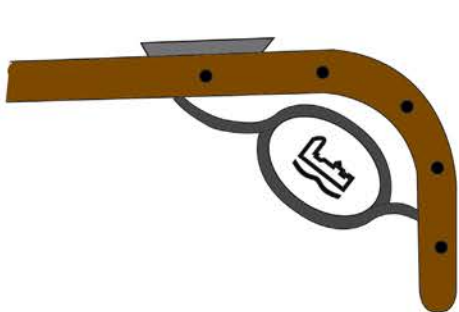
depicts its own distinct symbology within the “Meet Me @” swirl. Bollards are found at midblock crossings and intersection crosswalks and utilize the same symbology. The given district symbology and swirl are engraved within the top of the bollard, while generic locations, such as district names or “Parking” and directional arrows, are engraved on the east and west sides of them as well as on the street face. The trellis iconography and bike racks are meant for subtle hints of location and branding on the pedestrian level, while the bollards can be utilized by vehicular users as well.

The open space signage is found in specific identity nodes such as Huizenga Park and the Tunnel Top Plaza. This signage is designed to be at a pedestrian scale, approximately 4.5’ tall and 4’ wide. Therefore, multiple symbols, directions, and locations (both along and outside of the corridor) are shown. The curvature of the sign’s legs and ellipse main board reinforce the “Meet Me @” hardscape features. These two design features are also found on the corner signage. The corner signage displays pertinent information for vehicular users, and due to its size can be more specific in nature. Corner signage is found at the major intersections of Andrews Avenue, SE 3rd Avenue, SE 6th Avenue, and SE 8th Avenue. Similar in design to the open space signage, the corner signage has curved legs and an ellipse main board, where the board is a minimum of 7’ above ground. The thin supports minimize any obstruction to pedestrian circulation, while the height and size of the signage allow for vehicular and pedestrian usage. To maintain consistency throughout the corridor, all regulatory signage, such as stop and speed limit signs etc., should be remounted on similar support sign panels as the corner signage.

DISTRICT ICONOGRAPHY

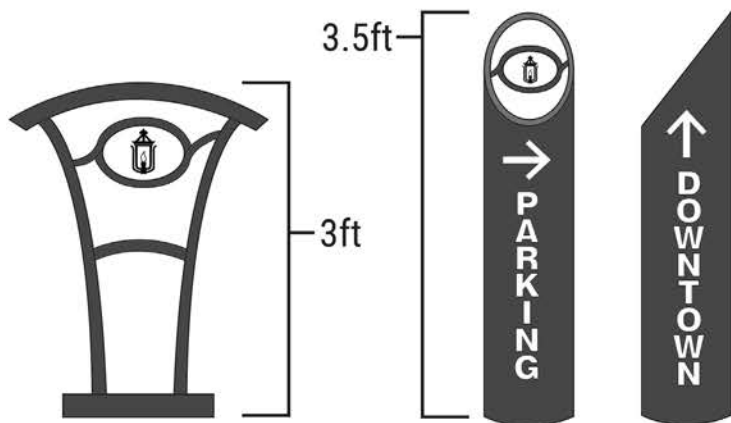


OTHER LOCATIONS



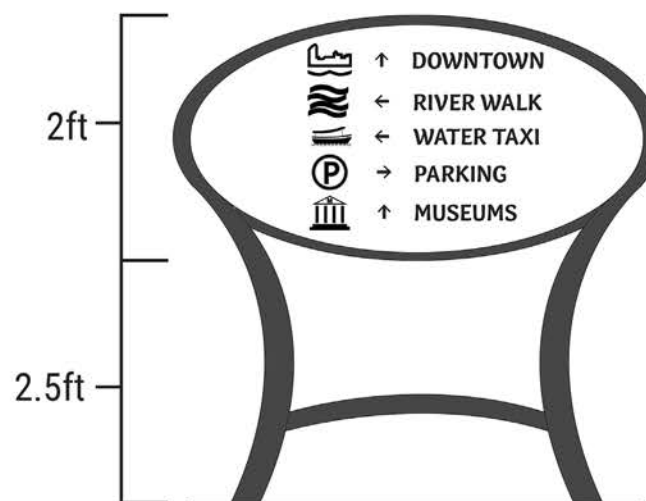
Vines not shown for clarity

TRELLIS ICONOGRAPHY: Historic Shops

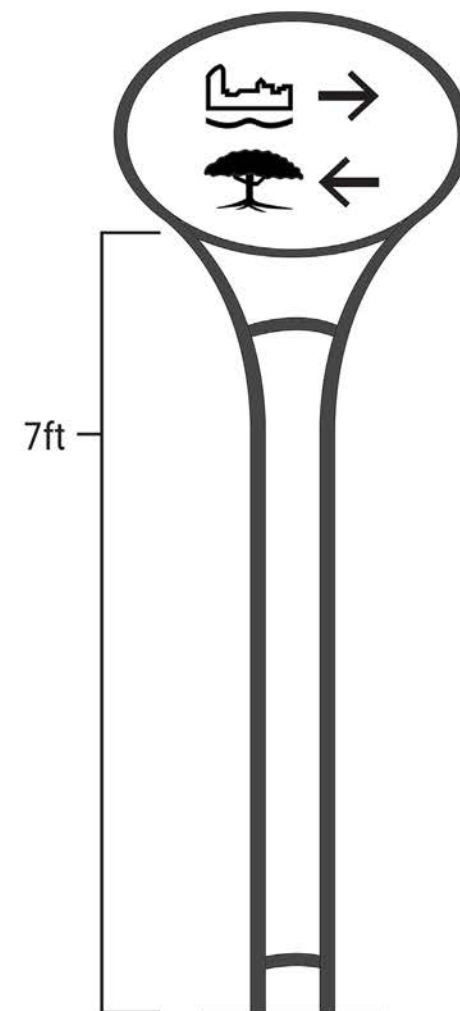


BIKE RACK:
Throughout the Corridor

BOLLARDS:
Mid-Block Crossings, Street
Corners & Crosswalks



OPEN SPACE SIGNAGE:
Huizenga Park, Tunnel Top Plaza



CORNER SIGNAGE:
Major Street Corners

The outlier of the wayfinding hierarchy is the “Meet Me @” hardscape features in each district. The hardscape features become the iconic moment in each of the districts, and provide the “Instagrammable” moment while simultaneously giving the user a distinct location in regard to wayfinding. Each district has the slogan “Meet Me @” either “Downtown Las Olas” or “The Shops” inlaid in the hardscape. The words fill out the swirl that can be found in all of the iconography previously outlaid. These areas present the opportunity for public art installations and impromptu seating, creating meeting spots and gathering areas. In total there will be five of these hardscape features; three of which are in the western corridor; one in the Downtown District at Andrews Avenue, and two in The Shops District.

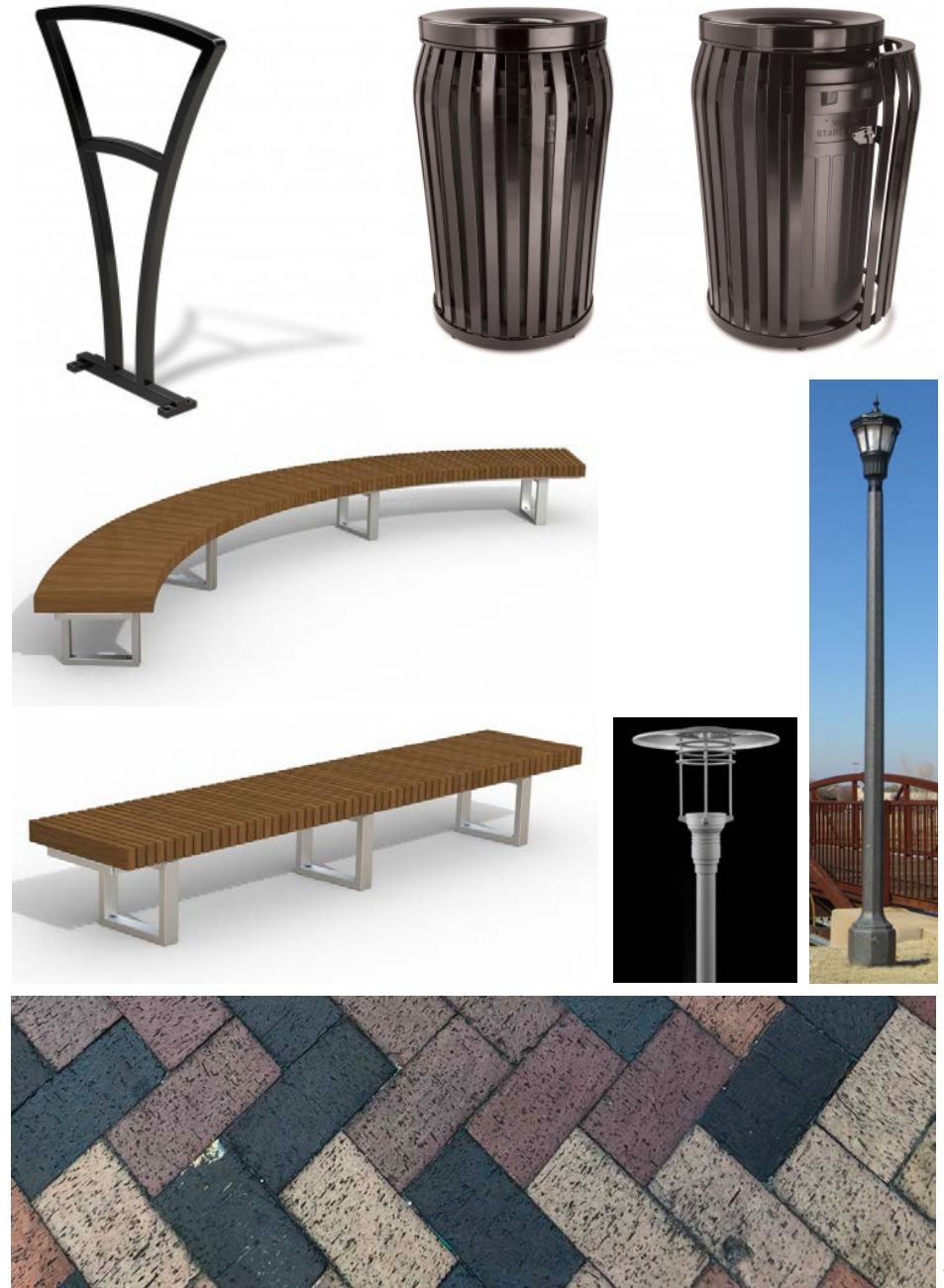
These iconic areas will be prime for social media sharing and tagging and create a draw to each district. These nodes present the opportunity to introduce technology to the corridor. The “Meet Me @” locations can be geo-tagged in various apps and help people get around. Geo-tags can also allow for tagging in social media posts. This creates a distinct brand for the entire corridor that advertises itself through its users. Other forms of technology yet to be determined can be utilized in the previous forms of wayfinding. QR codes can be placed on bollards and signage that when scanned can reveal a list of surrounding businesses or current location, for example. It is recommended that the inclusion of technology through social media, apps, QR codes, and other options be addressed in final design.



Site Amenity Recommendations

The following images provide for examples of bicycle racks, light pole fixtures, trash receptables, and benches for Las Olas Boulevard. These were selected to provide a modern look in line with the City's design for the Tunneltop Plaza as well as preferred designs utilized within the Downtown Development Authority area and those Citywide. However, through discussions with stakeholders, it was suggested and recommended that overall design selections for these amenities be deferred to civil engineering and design phase. Thus, these images are being provided as part of an "inspirational" approach, with the final selection in later project phases.

- » Trash receptacles are to be the City of Fort Lauderdale preferred model: *Victor Stanley DYN-SD-45* with dual-flow divider lid, in powder-coated black.
- » Bike racks are to be consistent with the conceptual design found in the wayfinding guidelines.
- » Benches are to be of a modern design with a mix of two types. The design should be curved and of varying radii for each bench, made of wood, or composite material made to look like wood, and have sleek metal supports that can be direct buried.



Hardscape Recommendations

» Hardscape is to consist of integrally colored concrete, texturized with a surface retarder.

- ♦ Integral color to be *Scofield* brand from Color Chart A-312, and include colors used in Las Olas Tunnel Top Plaza. Surface retarder to be *Scofield* brand *LITHOCAST Surface Retarder*.
- ♦ Curbs and dark gray bands referenced below to be color *C-34 Dark Gray*.
- ♦ Prior to design and installation, designer to reconfirm products and colors used within the Tunnel Top Plaza's installed hardscape.

» Primary pedestrian circulation

- ♦ Historic Shops Area
 - Includes first 10' offset from the building façade.
 - A 6" *C-34 Dark Gray* concrete strip, offset from the building façade by 2', is to run parallel with the roadway to designate the threshold and area for trellis planter boxes. An 8" dark gray band to be offset from curb 2' for ADA compliance.
 - The darkest earth tone should fill the space between the façade and the gray strip, as well as in the space between that strip and the curb.
 - Concrete to be textured with surface retarder.
- ♦ Downtown Area
 - A Pedestrian Circulation Zone is recommended; however, business owners have provided decorative hardscape features throughout this area. These are to remain to maintain business identity.

- Expanded and less attractive/damaged areas are to be consistent with the new design.
 - Sidewalk color and texture are to match primary pedestrian circulation zone of The Shops area.
 - An 8" *C-34 Dark Gray* band should separate the proposed color from the existing business pattern. Another band to be offset 2' from curb for ADA compliance.
- It is recommended to coordinate with the City of Fort Lauderdale because pavers (matching the proposed design's colors) may be acceptable to maintain consistency with the businesses' hardscape features.

» Expanded Pedestrian Zone

- ♦ The Shops Area
 - The expanded pedestrian zones in The Shops (opposite from the sides with parallel parking) are to be a middle shade of earth tone, directly related to the coloration of the Tunnel Top Plaza.
 - This color is to be lighter than the primary pedestrian circulation, but darker than the roadway.
 - Concrete is to utilize a surface retarder to add a texturized topcoat. This texture will work as a tactile warning as users approach the roadway.
 - Dividing line between primary pedestrian circulation and this zone is to be dark gray and 8" Wide.

» Planters

- ♦ Shrub beds surrounding trees within The Shops Area are to be ringed with 6" wide dark gray colored concrete strip.

» Roadway

♦ The Shops Area

- Color and texture are to match Las Olas Boulevard at its intersection with SE 6th Avenue. Color is to be lighter than both the primary pedestrian circulation and expanded pedestrian zones.
- The first 60' before and after a midblock crossing are to utilize a surface retarder to add texture to the topcoat. The texture draws attention to the crosswalk as vehicles drive over it.
- Curbs to be dark gray to match separation strip.

♦ Downtown Area

- Roadway not to be colored concrete; see roadway section for details.

» Identity Nodes

- ♦ The “Meet Me @” hardscape features are to use all three of the earth tones seen in previous hardscape design.
- ♦ “Letters” to have inlaid look, either sawcut and sunk stone, or marble or concrete.
 - Metal potentially used for “Letters” must be clear-coated cast aluminum or bronze.
- ♦ The Shops Area
 - The center of the “Meet Me @” feature is to be white, smooth trowel finished concrete.
 - Swirl to be lightest earth tone with surface retarder finish, surrounded by 6” dark gray concrete strip, smooth trowel finish. Outer side of swirl is to match color and texture of primary pedestrian zone and expanded pedestrian zone.



- ♦ Downtown Las Olas Area
 - Center and swirl are to match The Shops.
 - Outer sides to match traditional gray color and texture of primary pedestrian zone and expanded pedestrian zone, respectively.

Relevant City of Fort Lauderdale Zoning Ordinances and Code Regulations

- » 50% of required street trees shall be shade trees.
- » Street trees shall be provided at a ratio of one street tree per forty (40) feet of street frontage, or greater fraction thereof.
 - ♦ Where overhead utilities exist, required street trees may be small at a ratio of one small trees per (20) feet of street frontage.



- ♦ Where shade trees cannot be installed, palm trees or ornamental trees may be provided at a ratio of at least one palm or ornamental tree every twenty (20) linear feet of street frontage.
- » Las Olas Boulevard from Andrews Avenue to the halfway point between SE 8th Avenue and SE 9th Avenue is zoned as part of the RAC and, therefore, has its own requirements
 - ♦ Approved trees for Las Olas Boulevard include Sabal Palm, Live Oak, Maypan Palm, and Carpentaria Palm. The proposed plant palette has been approved by the City of Fort Lauderdale Urban Forester to include other species within the RAC. However, a written appeal request to the department may be necessary per **Sec. 47-21.14 Additional Landscape Requirements for Special Uses and Areas of the City Code**.
 - ♦ The necessity for installation of an irrigation system for street trees (within the RAC) and the type and kind to be used shall be determined by the city based on tree species requirements.
- » Per City Code, trees must satisfy the following size requirements. (Refer to landscape OPC for tree sizing specifications).
 - ♦ Shade Trees: Minimum 14ft height and 8ft spread, with a minimum of 6ft ground clearance.
 - ♦ Palm Trees: Minimum 18ft height, with a minimum of 8ft green wood.
 - ♦ Ornamental Trees: Minimum 12ft height and 6ft spread, with a minimum of 6ft ground clearance.
 - ♦ Per designer recommendation, the installation of larger plant material is encouraged when available.

»Trees to remain onsite during construction must be secured by a tree protection barrier meeting the City of Fort Lauderdale Standard Detail.

Cost Estimates

Cost estimates have been developed at the “planning level” only, due to the need for additional considerations and discussions during the design phase. Estimates provided are based on comparable planning projects and adjusted based on the Florida Department of Transportation Long Range Cost Estimates and Historical Cost items. Contingency has been added to account for potential to mitigate drainage issues, or in the case of the Intracoastal Bridge.

Depending on the timeframe of implementation, inflation factors should be used. Final costs past the planning phase are contingent on the details of the engineering design of the corridor. During public discussion, the decision was made to select options that did not result in land acquisition. However, should the City change its decision during the engineering design phase, land acquisition costs, if any, should be added. Other costs should be considered, depending on the drainage improvements to be determined by the City’s Public Works Department.

Florida Department of Transportation long range estimates (LRE), bridge cost and historical cost data from Group 12 (encompassing Broward County) were utilized as needed for roadway, bridge, and intersection improvements. In addition to the construction costs, PD&E (15%), Design (12%), CEI (15%), mobilization (10%) and Mobilization and Maintenance of Traffic (MOT) (10%) were all calculated based on the base construction cost and added to the list.

In cases where the long-range estimates were utilized as the basis, MOT is already accounted for in those estimates and was not recalculated/adjusted.

Generally, the cost estimates were arrived at through a combination of cost estimates for individual landscape items, with tree specimens, benches, and wayfinding signs using prevailing costs. For landscaping, it should be noted that tree specimen costs utilized were sourced from prior projects or nurseries.

As a cross check, the cost of the improvements was compared to regional projects of a similar nature in the City of Miami, City of Coral Gables, and City of West Palm Beach. The per mile cost for as built ranges from \$4.88 million to \$5.68 million per 0.1 mile. When adjusted for inflation to give an “apples to apples” comparison, the upper end is in the range of approximately \$7.8 million to \$8.6 million per 0.1 mile. By comparison, this project is at \$6.88 million per 0.1 mile. The data on the right provides the Florida Department of Transportation’s current inflation cost factors.

Year	Inflation Factor
2022	2.7%
2023	2.8%
2024	2.9%
2025	3.0%
2026	3.1%
2027	3.2%
2028	3.3%
2029	3.3%
2030	3.3%

This difference can be attributed to the differences in our project, which requires more drainage work over a longer stretch, but at the same time will use less paver materials in favor of stamped concrete and other considerations.



Roadway Assumptions

Given the invasive nature of the underground/subsurface improvements, including drainage needs across the corridor, the costs are likely to be more akin to LRE estimates for new constructions than a simple milling and resurfacing. The roadway costs were arrived at utilizing LRE estimates and the length of the segment.

Lighting

Where necessary, such as for light posts/lighting, Area 12 of the Florida Department of Transportation historical cost items were utilized, with an assumed number of poles based on the corridor length and the need for higher numbers in some areas. However, it should be noted that this number is subject to change based on final design and this is a planning level estimate. Due to the higher-than-normal potential for design phase differences based on local conditions, and because the Department of Transportation light pole is based on standard and not a specifically designed pole for aesthetic reasons, a 15% contingency was applied here as well.

Utilities

A base assumption of movement of poles was calculated for each segment of above ground utilities. Should above ground utilities be undergrounded, additional budgetary resources will be needed.

Downtown Considerations

Roadway and Intersection

The Downtown section utilized a combination of LRE estimates adjusted for subsegments with and without medians. It is assumed that improvements will be needed at SE 3rd Avenue and Las Olas Boulevard in the future, and as part of the upgrade, the current lights system will be improved to account for local severe weather events to improve resiliency. Additionally, a new midblock crossing will be placed at SE 5th Avenue and Las Olas Boulevard as described in the report.



Drainage

A minor planning level estimate is provided for this section given pooling/puddling within the area.

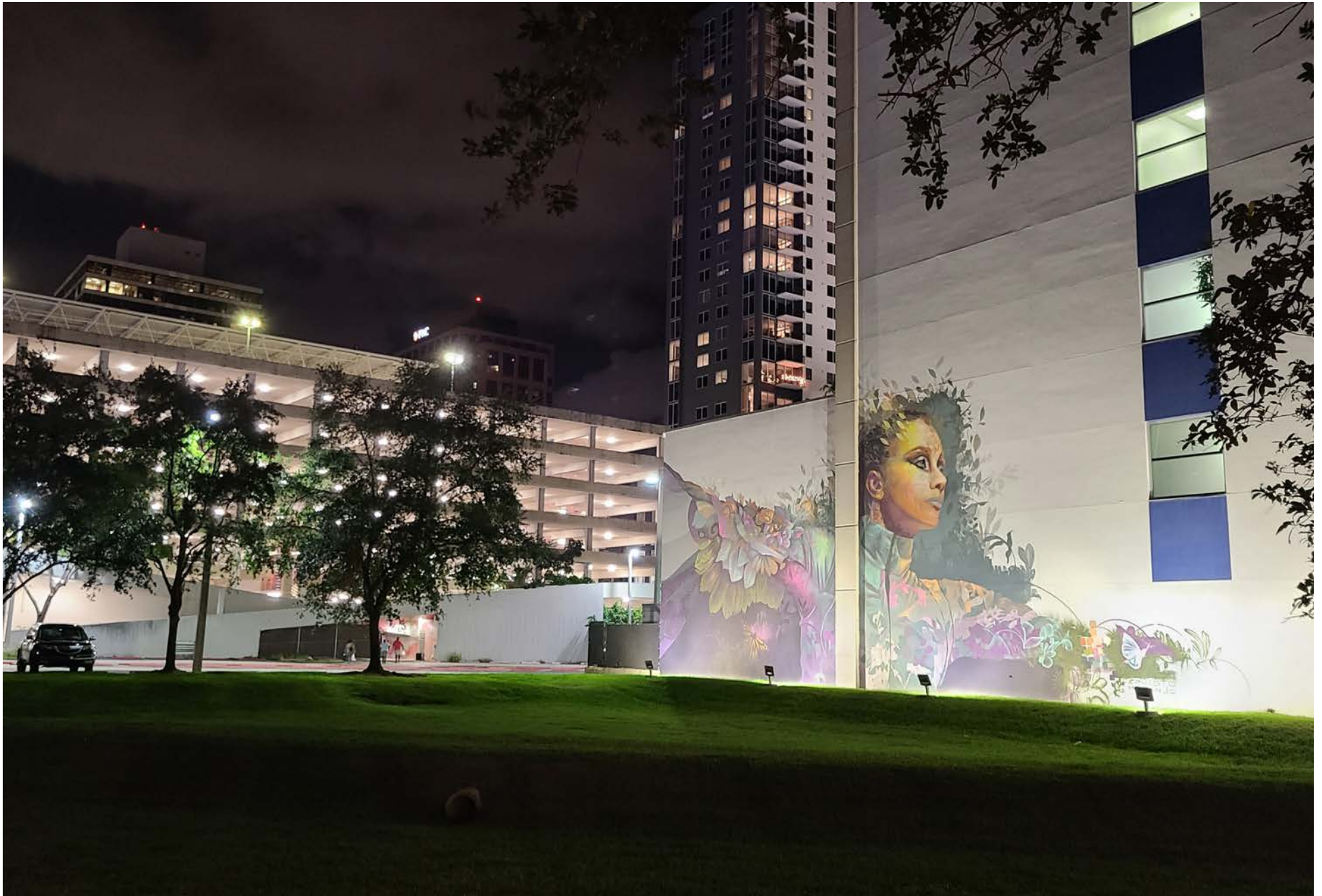
Historic Shops Considerations


Roadway Improvements

Improvements to the roadway involve the raising of three intersections and reconstruction of the corridor for a street with curbs.

Midblock crossings at existing locations may need consideration for retention given their status as existing infrastructure and are accounted for here.

	Downtown	Shops	Total
Streetscape	\$1,167,883	\$2,164,234	\$3,332,117
Landscaping	\$3,556,679	\$5,654,169	\$9,210,848
Lighting	\$331,387	\$386,861	\$ 718,248
Utilities	\$218,978	\$270,073	\$ 489,051
Bridges	\$-	\$14,599	\$14,599
Intersection and Midblock Improvements	\$1,569,343	\$310,219	\$ 1,879,562
Other (Subsurface, etc.)	\$729,927	\$364,964	\$ 1,094,891
Design	\$908,904	\$1,099,814	\$ 2,008,718
CEI	\$1,136,130	\$1,374,768	\$ 2,510,898
Maintenance of Traffic (MOT)	\$757,420	\$916,512	\$ 1,673,932
Contingency	\$1,037,665	\$1,255,621	\$ 2,293,286
Total	\$11,414,315	\$13,811,832	\$ 25,226,147





**"Las Olas will become a destination
to serve residents and visitors alike.
An active unique world class live,
work and play street."**



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