



PEDESTRIAN & BICYCLE CIRCULATION ENHANCEMENT STUDY

SEPTEMBER 2020





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► EXECUTIVE SUMMARY

The Town of Lauderdale-By-The-Sea has, in recent years, been active in improving local streetscapes, the eastern end of Commercial Boulevard being an example. Of importance for this study is the improvement of safety and connectivity to the beaches for residents, and evaluation of traffic calming needs on residential neighborhood streets such as Seagrape Drive, Imperial Lane and Codrington Drive. While the Town does not have “Complete Streets” policies per se, it has, through its redesign of its roadways, implemented new facilities based on context-sensitive needs for a multimodal town.

The existing conditions in Lauderdale-By-The-Sea are that most of the bicycle and pedestrian infrastructure is already in place along major thoroughfares. However, enhancements for connectivity to and from neighborhoods to beach access locations and commercial areas can be improved in certain locations. Traffic calming is also identified as an existing need along the local residential roads due to cut-through traffic from A1A to Commercial Boulevard.

The data collection and preparation for this study conducted in 2020, includes a review of existing Town demographic, socio-economic, land use, and transportation data. These resources include the Town’s Comprehensive Plan and Land Development Code. Additionally, field reviews were conducted to assess neighborhood characteristics.

The Town’s overall goal for this study is to develop a feasible plan to address gaps in sidewalk connectivity, obstacles to pedestrian and bicycle safety, including cut-through vehicular traffic, and deficiencies in public awareness of safe and convenient pedestrian and bicycle routes. The Town of Lauderdale-By-The-Sea will be undertaking the redesign and construction of the El Mar corridor. The El Mar Drive project is not a part of this study.

Due to social distancing guidelines caused by Covid-19, the in-person public involvement workshop was changed to an online presentation during a Town Commission meeting with an online survey provided online via the Town website over a 2-week period. Major findings based on survey results and analyses conclude that walking is a primary method of traveling in and around Lauderdale-By-The-Sea, furthering the importance of this study. Additionally, the majority of survey respondents feel safe walking and biking within Lauderdale-By-The-Sea. However, there are resident concerns regarding safety at certain intersections and cut through traffic.

Lauderdale-By-The-Sea has successfully demonstrated that walking and biking are viable modes of mobility in the community. The objective is to support these modes with infrastructure investment, policy, and regulation. Using the data collected and public input, the study identifies pedestrian and bicycling issues, needs, constraints and opportunities within the Town. The final analysis addresses each of the following:

- Concerns/problems identified by the community
- Gaps in the sidewalk and bikeway networks
- Midblock and other points where crossings could be developed
- Corridors and intersections where safety may be enhanced through infrastructure improvements
- Traffic calming needs to address identified problems that threaten pedestrian and bicyclist safety, especially cut-through traffic



The outcomes from this analysis will be beneficial to the Town and may be a catalyst for increased active transportation, which includes bicycling and walking, and physical activity by residents and visitors with a complete network. Additionally, recommendations for enhanced bicycle and pedestrian infrastructure and connectivity to pathways to the beach and commercial areas from the neighborhoods and public parking, including any needed improvements for crossings are provided. Areas where levels of stress negatively impacting comfortable walking and bicycling are as provided from survey respondents.

Potential techniques for traffic calming on roadways other than signage are evaluated and presented to the Town as a toolbox for further consideration. Preliminary recommendations to address the identified needs are provided with alternative solutions that include physical improvements, such as additional sidewalk and bikeway segments, streetscape improvements, alterations within the right-of-way to slow traffic and discourage cut-through traffic, wayfinding signage, and public outreach materials.

The goals are to:

- Improve the quality of life for all Lauderdale-By-The-Sea residents and visitors;
- Provide a network of mobility alternatives, by providing the best facilities for the most basic transportation that provides equitable access;
- Support pedestrian oriented development that creates a functional high-quality community that serves generations to come; and
- Many communities including Lauderdale-By-The-Sea demonstrate that walking and biking are viable modes of mobility in the urban environment. These modes of travel support infrastructure improvements, policy, and investments. The goal is that more people begin to walk and bike as modes of travel to home, work, and recreation. The data collected here is a building block for the development of successful plans and programs.

Key recommendations include:

- Traffic calming studies to address concerns along rights-of-way including but not limited to Codrington Drive, Imperial Lane, Bougainvilla Drive, Poinciana Street, Seagrape Drive, and Washingtonia Avenue, to name a few;
- Crosswalk improvements along Seagrape Drive;
- Reduction of neighborhood vehicle speed from 25 mph to 20 mph; and
- Infill sidewalks to connect to existing grid along Washingtonia Avenue, Bougainvilla Drive, Poinciana Street, Seagrape Drive, and Hibiscus Avenue.

The following are selected projects based on scoring and public input:

- Sidewalk connectivity along Hibiscus Avenue from Seagrape Drive to Bougainvilla Drive;
- Crosswalk improvement at Hibiscus and Bougainvilla Drive; and
- Crosswalk at Seagrape Drive/Washingtonia Avenue to provide east west connectivity.

This analysis advances the Town of Lauderdale-By-The-Sea's efforts to improve bicycle and pedestrian circulation and safety in the Town. Providing improved crossings, enhanced signage, lighting, shade, benches, and other amenities in high pedestrian locations are a few recommended solutions to enhance the overall experience for residents and visitors. These recommended improvements can efficiently and effectively increase people's ability to move around the community, thereby enhancing the quality of life while maintaining the character of the Town.



Summary of Recommendations

Location	Sidewalk Infill	Mid-block Crosswalks	Crosswalk Improvements	Education	Policy	Sharrow	Bicycle Racks	Bike Lanes	Traffic Calming Study	Amenities (Shade, Lighting Landscaping, Public Art, Pet Amenities (Waste Bags & Disposal), Etc.
Basin Drive										
Beach access at A1A North							X			X
Beach access at A1A South							X			X
Beach access at Hibiscus Avenue							X			
Beach access behind Mulligan's (14c Commercial Boulevard)			X							
Bougainvilla Drive from Pine Avenue to Hibiscus Avenue								X		
Bougainvilla Drive at Friedt Family Park (provide beach access to path at south side of park)		X								
Bougainvilla Drive at north side of Friedt Family Park (flashers)			X							
Bougainvilla Drive at Visitor Center		X								
Bougainvilla Drive at Hibiscus Avenue			X							
Bougainvilla Drive from Commercial Boulevard to Visitor Center										X
Bougainvilla Drive									X	
Bougainvilla Drive										
Commercial Boulevard on north side between A1A & El Mar Drive							X			
Codrington Drive									X	
East Tradewinds Avenue									X	
Hibiscus Avenue									X	
Hibiscus Avenue from Seagrape Drive to Bougainvilla Drive	X									
Imperial Lane									X	
Lombardy Avenue									X	
A1A from Imperial Lane to Codrington Drive								X		
A1A		X	X							
Pine Avenue									X	
Poinciana Street at Friedt Family Park		X								
Poinciana Street from Friedt Family Park to Commercial Boulevard	X									
Poinciana Street at Washingtonia Avenue			X							
Poinciana Street									X	
Poinciana Street										X
Seagrape Drive at Washingtonia Avenue			X							
Seagrape Drive south of Commercial Boulevard									X	
Seagrape Drive from Commercial Boulevard to Hibiscus Avenue	X									
South Tradewinds Avenue									X	
Townwide				X	X	X			X	X
Washingtonia Avenue									X	X
Washintonia Avenue from Seagrape Drive to Poinciana Street	X									
West Tradewinds Avenue									X	

► INTRODUCTION



The Town of Lauderdale-By-The-Sea will be undertaking the redesign and construction of the El Mar corridor. The El Mar Drive project is not a part of this study. Pedestrian facilities as an alternative to automobile travel are vital to Lauderdale-By-The-Sea as a tourist destination. The Town of Lauderdale-By-The-Sea desires to improve local pedestrian safety and comfort through the evaluation of existing infrastructure, study of existing and needs and planning for new facilities. The Town has, in recent years, been active in improving the local streetscape. The eastern end of Commercial Boulevard is an excellent example of the Town's desire to create a more pedestrian-oriented environment. The

improvement of pedestrian and cyclist safety, and the connectivity of residents and visitors to the beaches and commercial areas is central to this study, as is the evaluation of traffic calming needs on residential neighborhood streets such as Seagrape Drive, Imperial Lane, and Codrington Drive. The emphasis of this study will be within the southern portion of the Town in areas south of Pine Avenue.

This report is focused on improving mobility within the Town of Lauderdale-By-The-Sea by enhancing its multi-modal transportation system and supporting access and connectivity as a way of improving the quality of life. The vision is to achieve an interconnected community by building infrastructure that will support the goal of developing a network with connections through sidewalk and bicycle enhancements that will improve access to beaches and commercial areas for residents and visitors. The Town commissioned this study to determine the needs and options for encouraging a healthy community that incorporates bicycling and walking, thereby promoting a live, work, and play community. This study consists of the following:



1. Introduction
2. Study Approach
3. Vision
4. Background
5. Existing Conditions
6. Goals & Recommendations



A bicycle and pedestrian study can assist in identifying challenges and implementing strategies to improve accessibility, connectivity and safety of non-motorized trips. This Plan examines the priorities, requirements, methods, and resources that can be utilized to develop, implement and maintain a safe, functional bicycle and pedestrian-friendly environment in the Town of Lauderdale-By-The-Sea.

Bicyclists and pedestrians play a critical role within the transportation system. The infrastructure needed to facilitate these types of trips helps to connect people to services, facilities, and surrounding areas. The objective of this study is to capture current trends in bicycle and pedestrian travel, and to identify opportunities to increase non-motorized travel. Improving and promoting non-motorized travel in the Town will enhance a variety of aspects within this network, including accessibility, usability, connectivity, safety, public health, social equity, the environment, and quality of life for residents and visitors. Trends in pedestrian and bicycle travel will be used to develop, expand and prioritize programs to improve and expand pedestrian and bicycle facilities throughout Lauderdale-By-The-Sea. This bicycle and pedestrian study will examine the Town's current transportation network to identify potential improvement areas and opportunities to encourage more people to use pedestrian and bicycle networks.



STUDY APPROACH

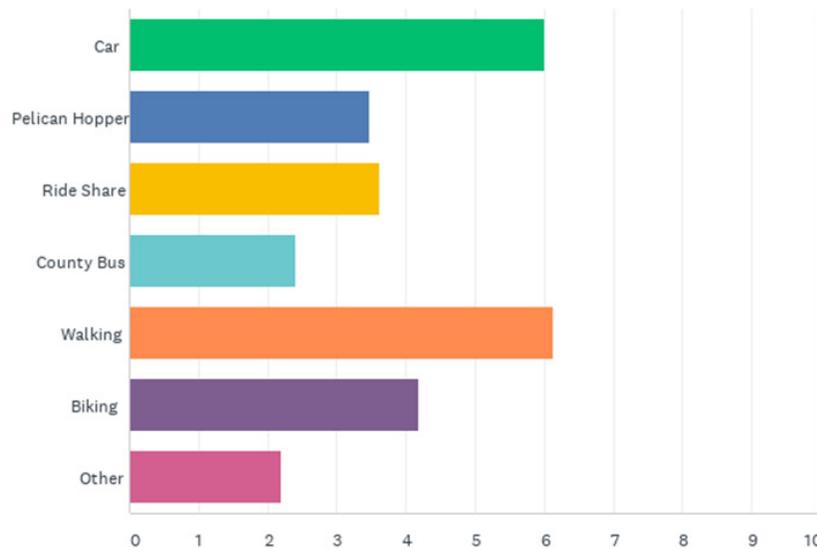
This study will provide a feasible plan to address gaps in sidewalk connectivity, obstacles to pedestrian and bicycle safety, including cut-through vehicular traffic, and deficiencies in public awareness of safe and convenient pedestrian and bicycle routes. Following the kick-off meeting and data collection tasks a public involvement survey was placed on the Town website for two weeks. Using the data collected and public input, pedestrian and bicycling issues, needs, constraints and opportunities are been identified. The analysis addresses concerns identified by the community, gaps in the sidewalk and bikeway networks, corridor and intersection improvements, and traffic calming needs.

Public Engagement Findings

Public Engagement for this study began with a presentation to the public via Town Commission meeting on May 26, 2020. A short presentation was given providing background on the project and its findings. The audience was given the opportunity to comment on what they perceived as existing issues affecting Lauderdale-By-The-Sea and provide feedback via an online survey, utilizing Survey Monkey, available for input from residents and stakeholders for a 2 week time frame. After a total of 182 responses, the outcome of the survey provided the following data (detailed results for all questions can be found in Appendix B):

Walking was the primary method of traveling in and around Lauderdale-By-The-Sea, followed by vehicular travel and biking.

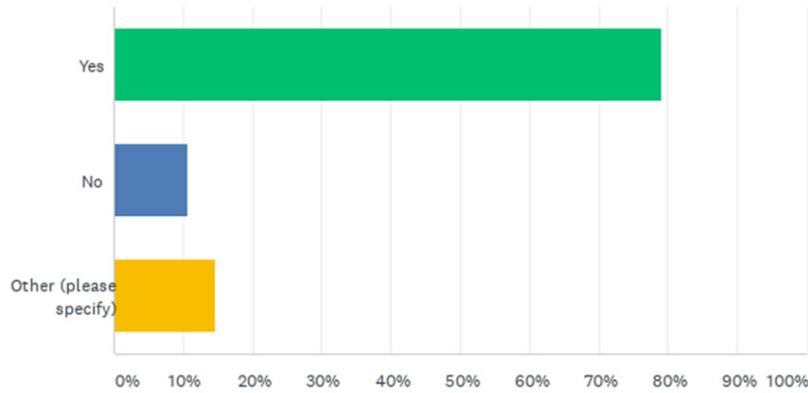
Q1 What is the primary way you get around Lauderdale-By-The-Sea?
(1 is use frequently - 6 is use the least)



Nearly 80% of respondents felt safe walking/biking within Lauderdale-By-The-Sea. However, respondents do not feel safe at the intersection of A1A and Commercial Boulevard and expressed that lower speeds could help them feel safer, particularly on El Mar Drive. Lighting and sidewalk improvements such as trip hazards and obstructions, were also listed as concerns, particularly on El Mar Drive.



Q5 Do you feel safe walking/biking/running in Lauderdale-By-The-Sea?



Although nearly 80% of respondents feel safe walking, biking, and running in the Town, when asked if in their neighborhood are there streets that they would consider dangerous, the following were listed.

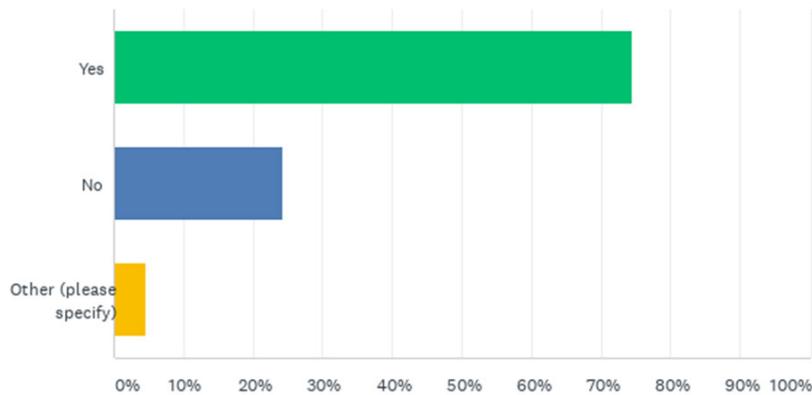
- Bougainvillea Drive
- Ocean Drive/A1A
- El Mar Drive
- Imperial Lane & A1A
- Bel Aire Avenue
- Tradewinds Avenue

Unsafe conditions due to speeding and cut through traffic were identified at the following locations:

- Seagrape Drive south of Commercial Boulevard
- Intersection of Washingtonia Avenue and Seagrape Drive
- South Tradewinds Avenue
- East Tradewinds Avenue

Regarding comfort nearly 75% of respondents alter their route based on lack of shade.

Q8 Do you ever alter your walking/biking/running route to be in the shade?



Additionally, there were quite a few complaints regarding bicyclist safety and bicyclists not following laws and endangering pedestrians. This can be easily resolved by implementing an educational program for cyclists throughout the Town.



Project Overview

COMPLETE STREETS

With crash rates rising in South Florida, the major aspect being planned for in our rights-of-way is the portion used by motor vehicles. Complete Streets utilize the right-of-way for each mode, (roadway, bicycle, pedestrians, and transit) where appropriate. Some features that a Complete Street may include are sidewalks, bike lanes, bike facilities, bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median refuges, accessible pedestrian signals, landscaped curb extensions, bioswales, roundabouts, on-street parking, and secure bicycle parking, among others. Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations. (Source: Smartgrowthamerica.org)

Lauderdale-By-The-Sea has implemented Complete Street concepts throughout the Town and is making strides to insure all right-of-ways are planned, designed, and operated for all modes of transportation. The areas surrounding the intersection of Commercial Boulevard and El Mar Drive are prime examples. Fully accessible by bicyclists, pedestrians, and vehicles, this area has it all. Regardless of age or ability this well planned area provides ample seating and shade for visitors to stay and enjoy the area. Auto dominant streets in South Florida inhibit transportation alternatives by making walking, bicycling, and taking public transportation difficult and unattractive. The presence of sidewalks and bike lanes give people options, and will reduce automobile congestion as sidewalk networks are built, creating a viable way to move.

The health benefits to complete streets are the opportunity to be active as part of daily life, decreasing probability of chronic diseases and other negative health outcomes credited to inactive lifestyles. Complete streets also provide roadway capacity by improving efficiency, equity for all users of all abilities and ages, public health, and safety.

PEDESTRIAN

The goal of the pedestrian environment is accessibility for all users, including the handicapped, young people and elderly. Sidewalks should be of adequate width, generally at least two people standing side-by-side in one direction and with room to pass walkers in the opposite direction. Federal guidelines require a minimum 4 foot sidewalk. However, wheel chair users need a minimum of 5 feet to turn around. Sidewalks and pathways should lack gaps, and should be continuous from block to block. Safety is of the utmost importance, not only the perception of safety, but also shelter from traffic, and reduction of accidents, injuries and fatalities. Appropriate drainage both on sidewalk and in the street to prevent standing water and pedestrians getting splashed while walking is also important.

PEDESTRIAN CROSSWALKS

The principles above are critical for pedestrians crossing the street. Crosswalks should be clear of obstructions and located so that they are visible to both drivers and pedestrians. Ideally, there should be legible signs and signals that offer direction for the driver and pedestrian. Mid-block crosswalks should be located where needed and combined with traffic calming measure where appropriate. On wider and busier streets, a center island median can be a critical safety measure. Crosswalks can be an enhancement to the environment, they can be "Public Art", and don't all have to look the same. There are many Lauderdale-By-The-Sea crosswalks that use patterns and colors to differentiate them from the street surface.



BICYCLING

Bicycling is a great way to enjoy time outdoors, run quick errands, get exercise and enjoy social events. To be enjoyable and a viable alternative to driving, it must be viewed as safe, convenient, and comfortable. The ideal bicycling network will consist of a grid of ½ mile to be sufficient in completing a local network. Bicycling facilities should include lighting, signage, and bollards (where appropriate), which enhance safety. Bicyclists can benefit from a cohesive wayfinding system as well. Persons who ride bicycles on streets are required to obey all traffic laws and signals similar to motor vehicles.

TRANSIT

To make transit a more usable mode, facilities should include shelter from the elements in case of rain, places to sit and rest, trash cans to ensure cleanliness, and availability of transit information. Transit stops should be easily accessible, including ADA compliance, which include landing pads for wheelchairs, appropriate ramps, and safe access, including appropriate places to cross before and after bus travel. Benches should be placed at stops with longer than 5 minute headways and shelters should be placed at stops with 10 minutes or greater headways. The Town is currently working with Broward County Transit (BCT) to upgrade many bus stops in LBTS to include new shelters, improved access and facilities. In some cases bus stops are being relocated to increase safety, as well as access to specific destinations (for example, the Town's Visitor Center).

ROADWAYS

Roadway design should ensure visibility for driver, pedestrian, and cyclist. It should ensure implementation of safe crossings and improved lighting. Control of speed through the use of traffic calming, and reduction of conflict points are tools which can be utilized to promote safety on the road.

Traffic Calming

Congestion on major roadways is the cause of cut-through traffic on once quiet neighborhood streets. In order to preserve the safety and quality of life for residents, commonly used traffic calming devices including speed humps, speed tables, chicanes, and narrower lanes, are being installed on neighborhood roadways. Another traffic calming measure that could be used is making areas texturally different. The idea is to raise the awareness of the driver and cyclist. Brick, stamped asphalt, and thermoplastic, are materials commonly used. Vertical impediments include speed tables and speed humps. Horizontal impediments, such as traffic circles, are designed to get the driver to pay attention and slow speed. Road narrowing reduces lane widths creating slower speeds. Partially or fully closing roads is another method, however changes to the historical development patterns of the Town should be considered only as a last resort.

Goal 2.3 of the FY2018 Action Plan is to reduce traffic in residential neighborhoods through the use of traffic calming initiatives in neighborhoods.



▼ SPEED TABLES/SPEED HUMPS

Speed tables are midblock traffic calming devices that raise the entire wheelbase of a vehicle to reduce its traffic speed. They are longer than speed bumps, and are flat-topped. Speed humps are the most commonly used vertical deflections throughout the Town. Vertical deflections include speed humps, tables, and textured crosswalks, raised intersections, and sidewalk extensions.



Speed Table



Speed Hump



◀ CHICANE

A chicane is a mid-block island or curb extension that narrows the roadway. The intent is to encourage slower traffic movement. These areas can be used to incorporate better landscaping and beautification.

CURB EXTENSIONS ▶

Curb extensions also known as bulb-outs narrow the roadway, slowing traffic and creating a more pedestrian friendly environment. A curb extension located at Imperial Lane is pictured on the right.





CHOKERS ►

Chokers are build-outs similar to bulb outs also known as curb extensions, (located closer to intersections) that narrow the road and change the perception to drivers. Narrowing using this form can still allow for two-way traffic.



▼ RAISED CROSSWALKS WITH MIDBLOCK MEDIAN ISLAND



Mid-block medians are used to narrow a street. They are effective in reducing travel speeds.

Traffic Engineers are responsible for reviewing speeds and volumes on local streets. It is recommended that traffic counts and speeds be analyzed on local roads in order to determine if traffic calming treatments are appropriate and if so which method(s) should be used.

Treatments can be effective for reducing vehicle speeds, but resident concerns are possible. Public outreach should also be performed in order to assess the experiences and suggestions of residents along these single-family corridors where cut-through traffic is prevalent.



West Tradewinds Avenue



The following table shows the speed impacts of traffic calming measures.

Speed Impacts of Traffic Calming Measures

Treatment	Sample Size	Average Speed After Traffic Calming (mph)	Average Change in Speed with Traffic Calming (mph)	Average % Change in Speed with Traffic Calming (mph)
12' Humps	184	27.3 (4.0)	-7.8 (3.7)	-22 (9)
14' Humps	15	25.6 (2.1)	-7.7 (2.1)	-23 (9)
22' Tables (Raised Sidewalks)	78	29.2 (3.1)	-7.3 (3.4)	-20 (8)
Raised Intersections	3	34.3 (6.0)	-0.3 (3.8)	-1 (10)
Narrowings (Chicanes, Pinchpoints, Neckdowns)	7	32.3 (2.8)	-2.6 (5.5)	-4 (22)

* Values in parentheses are standard deviations from the average.

Source: U.S. Traffic Calming Manual. Ewing, 2009:63

► VISION

The Town of Lauderdale-By-The-Sea is committed to providing a safe, sustainable transportation system for its residents, visitors, and businesses. The Town is also committed to supporting and encouraging the use of non-motorized transportation. These goals, however, exist in the context of a street system that has been engineered to facilitate and prioritize the movement of people in and out of the Town via motor vehicles, resulting in the reduction of non-motorized transportation.

It is evident that maintaining and furthering this transportation model is costly to the Town in many ways such as an increase in air pollution, more potential for crashes and injuries, an increasingly sedentary lifestyle, maintenance and operations costs, and inefficient urban land use; therefore there is a need for efficient public transportation and multimodal systems.

The FY 2019 Town Action Plan mission is for the overall improvement of the Town. Goals relevant to this study include the following:

- **Goal 3.2 Maintain and improve the walkability of the Town**
- **Goal 3.23 Develop a Walkability and Bike Master Plan for the main streets in Town.**

The above-mentioned goals further the Town's commitment to alternative modes of transportation.

The Town of Lauderdale-By-The-Sea will be undertaking the redesign and construction of the El Mar corridor. The El Mar Drive project is not a part of this study.

There are many residential and commercial areas in the Town which play a significant role in how people live, work, and enjoy life. Providing access to the beach and other desirable areas in the Town is very important. This access allows for individuals to have a greater sense of mobility, which in turn, allows for individuals to have a greater sense of place within their community.





What is mobility? Mobility can be defined as the movement of goods and people. Everything we do, everything a community needs and does, is focused around mobility. Whether it is the movement of a truck driver delivering shipments or if it's someone traveling back from the grocery store, or walking the kids to the beach, mobility is what maintains a thriving community. Planning for improvements to mobility is the goal of this plan.

Ensuring efficient mobility in the future will involve planning for increased movement and usage. As the area will likely have more pedestrian and economic activity, there will be a greater need to ensure connectivity throughout the Town and safety for the people using the grid system. This project will assist the vibrant vision that the Town of Lauderdale-By-The-Sea has for its current and future residents by promoting effective recommendations in the pedestrian and bicycle networks.

Providing for safe and reliable circulation options for non-motorized transportation is the foundation of this project. Having safe, convenient, and useable options for pedestrians and bicyclists to reach their destinations is vital to ensure future success. Ensuring safe, useable, and enjoyable pedestrian and bicycle activity requires careful and crucial analysis and placement of new infrastructure. Merely having new sidewalks is not enough. Connecting existing infrastructure is a critical component of ensuring an efficient sidewalk and bike path system. Remaining consistent throughout the Town is also very important. Being consistent and placing appropriate infrastructure in new areas is important to ensure people who use it will be happy, safe, and well connected throughout the Town. Maintaining consistency is important not only for the safety of individuals but also the enjoyability of each person who uses alternative modes of transportation. Being consistent with sidewalk placement does not mean sidewalks will be placed in every residential area or down every side street. Being consistent with the placement means providing the Town with a well-connected, safe sidewalk network. This is also true for bicycle routes. This plan understands the nature of the community and the desires of the people. With this understanding, the plan will work to improve overall connectivity, address gaps in the sidewalk and bicycle network, and address obstacles to pedestrian and bicycle safety.

▶ BACKGROUND

Demographics

The Town of Lauderdale-By-The-Sea is approximately 1.5 square miles in area, is located in Broward County along Florida’s “Gold Coast” and borders the Atlantic Ocean. Located next to the cities of Fort Lauderdale and Pompano Beach and between Palm Beach and Miami-Dade counties, the Town is positioned in a great location for many visitors and residents to enjoy a high-quality way of life. The Town is primarily built-out, but is experiencing some redevelopment of existing commercial properties and remodeling of existing single-family homes.

There are approximately 6,600 people who call the Town home year round. When the winter months arrive, the Town population grows to over 10,000 people. The median age of Lauderdale-By-The-Sea residents is 62.2 (Source US Census ACS 5 Year) compared to 40 in Broward County. With no schools and no public hospitals within the Town, employment is primarily executive/managerial, professional, sales, and hospitality. The major industries include finance, hospitality, insurance, real estate, retail trade, and tourism. The Town is home to oceanfront beaches, award-winning beach portals, tennis courts, shuffleboard and bocce ball courts, a children’s park, basketball court, and a community center. Also, one of four piers in Broward County (Anglin’s Pier) is located in Lauderdale-By-The-Sea.

Lauderdale-By-The-Sea’s major roadways include State Road A1A, also called North Ocean Drive, South Ocean Drive, or South Ocean Boulevard, traveling from north to south, and Commercial Boulevard, the only east/west road that goes directly into the Town. Residents and visitors are able to use public transit options to help travel around and connect to the mainland and nearby shopping in Sea Ranch Lakes. The Town operates the Pelican Hopper community shuttle, and Broward County provides regional bus service through the area.

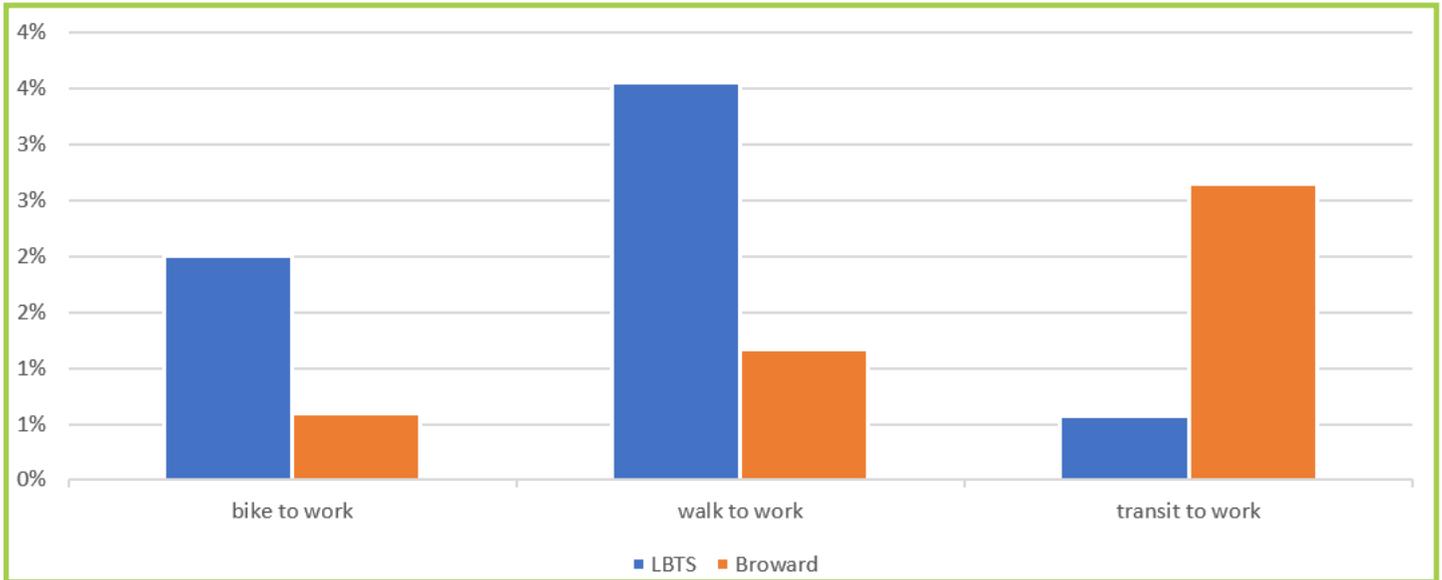
The community is primarily residential and has a unique, village-like atmosphere that the Town is committed to maintaining. In keeping with the charter-mandated low-rise, pedestrian-scale development, the Town promotes pedestrian and bicycle accessibility for its residents and visitors. By developing a plan to improve connectivity and circulation throughout the Town, residents and visitors will have better accessibility to popular destinations, such as the beach and the Commercial Boulevard corridor.

The Town understands accessibility and connectivity are very important for the community. Over 10% of housing





units in the Town of Lauderdale-By-The-Sea have no vehicle, while nearly 60% have only one vehicle. Nearly 2% bicycle to work compared to Broward County 0.6%, and 3.55% of Town residents walk to work compared to Broward County 1.17%. The Town of Lauderdale-By-The-Sea has an overall higher percentage of pedestrians and cyclists. However, Lauderdale-By-The-Sea has only .57% of its residents taking public transit to work, while Broward County has 2.65%; this may be because over 15% of Lauderdale-By-The-Sea residents work from home.



Source: Broward MPO

With an aging population, the Town is seeking mobility options for those who are not able to drive or do not own a vehicle. Improvements to bicycle and pedestrian infrastructure will be a benefit to the community and those seeking a lower-cost alternative to driving.

The Town is continuing to update and improve the existing travel network by reconstructing Commercial Boulevard with improved pedestrian features, new traffic signals, streetlights, pavers, and landscaping. In addition to the recent modifications focusing on public transit, bikeways, and signage, the Town is dedicated to improving connectivity, accessibility, usability, and safety.

Transportation Network

Roadways within the Town fall into four categories of responsibility.

1. State
2. County
3. Local
4. Private

Each jurisdiction provides routine maintenance on the roadways, and all roadway traffic controls, such as speed limits signs, stop signs, and traffic signals, fall under the jurisdiction of and are maintained by Broward County. Lauderdale-By-The-Sea must work across multiple jurisdictions to effect systematic changes affecting vehicular, bicycle, and pedestrian traffic.



Future Traffic LOS

Legend



Roads

- Collector (Local)
- Minor Arterial (State)

Bicycle Facilities

- Marked Bike Lane
- Bicycle Wide Curb Lane

Transit Routes

- Route 11
- Route 55
- Town of Lauderdale-By-The-Sea
- Commercial Area

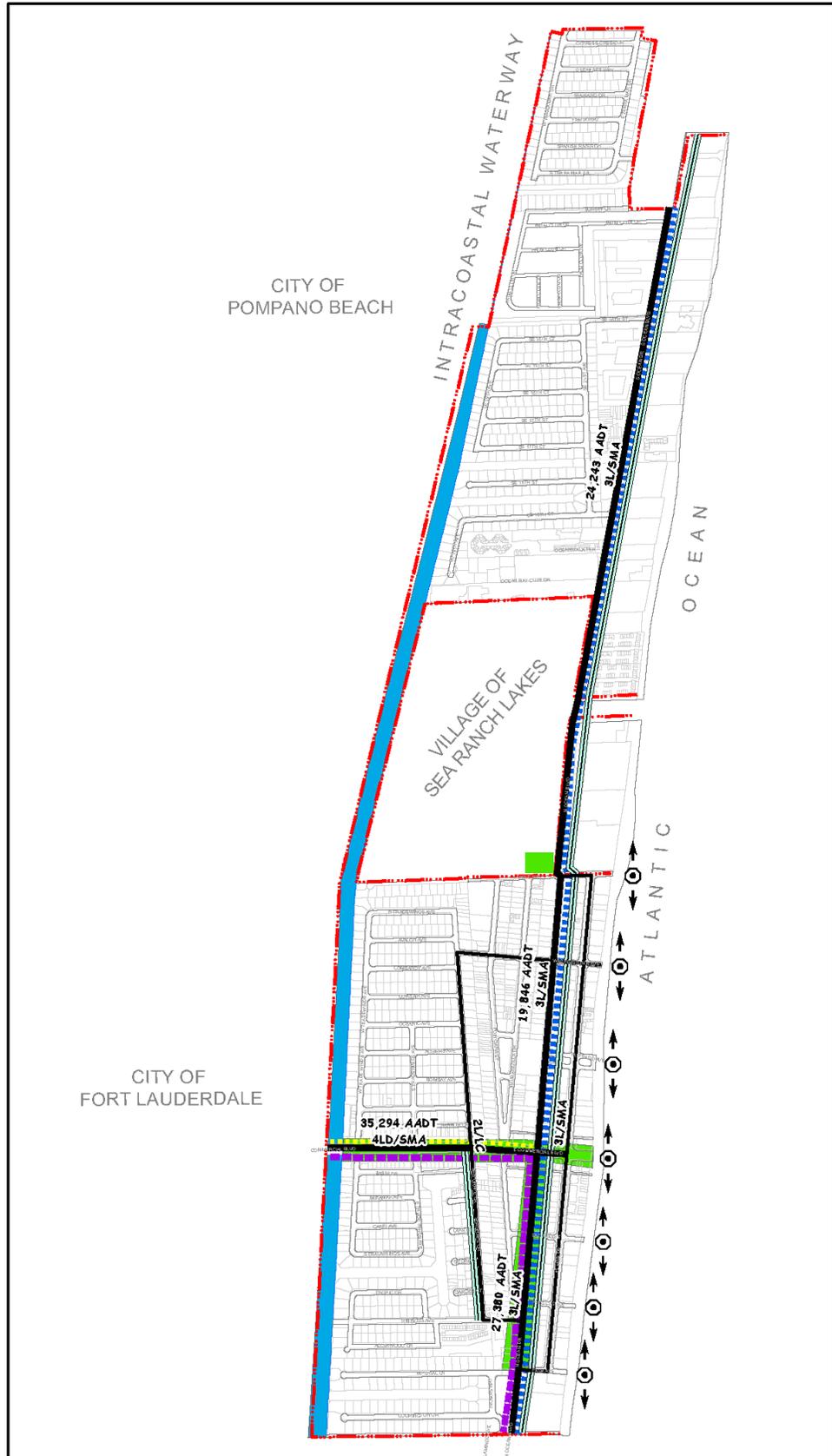
AAADT - Annual Average Daily Traffic based upon 2035 data
 SMA - State Minor Arterial
 CC - City Collector
 LC - Local Collector
 2L - Two Lane Roadway
 3L - Three Lane (One lane in each direction plus center scramble or turn lane)
 4LD - Four Lane Divided Roadway

Notes:
 Minor Arterials are Maintained by the State & are Evacuation Routes.
 Sidewalks provided all Minor Arterials & Collectors



0 500 1,000 1,500 2,000 Feet

Date: 07/07/2016



Source: Town of Lauderdale-By-The-Sea



The Level of Service provides traffic volumes in terms of Annual Average Daily Traffic (AADT). Annual Average Daily Traffic (AADT) is an estimate of the average daily traffic along a defined segment of roadway. This value is calculated from short term counts taken along the same section which are then factored to produce the estimate of AADT.

Since AADT corresponds to an average value based on a series of short term counts along a particular roadway, no specific date can be tied to the discrete values. These values account for seasonal traffic changes typically over a one-year period.

Commercial Boulevard is currently the only eastern road into the Town. As provided by the Broward County MPO, the current Level of Service (LOS) for Commercial Boulevard is LOS F (Forced or breakdown flow) - Commercial Boulevard and A1A (south of Commercial Boulevard). A1A or Ocean Boulevard is the Town's major north-south corridor with a Level of Service between LOS D (Approaching unstable flow) and E (Unstable flow) A1A Ocean Boulevard (north of Commercial). This level of service shows that there is congestion on the Town's major roadways, thus providing alternative mobility options as key to alleviating congestion.

Lauderdale-By-The-Sea's maintenance responsibility of roads includes policing, paving, sidewalk maintenance, and cleaning. Over the years, the Town has taken jurisdiction of most of the neighborhood streets through agreements with the County. Local roads compose the most significant component of Lauderdale-By-The-Sea's road infrastructure.

► EXISTING CONDITIONS

Lauderdale-By-The-Sea is currently not connected by a cohesive network of bicycle and pedestrian facilities. Minimal and generally sporadic sidewalk facilities exist on roads. Bicycle and pedestrian facilities exist on major corridors such as Commercial Boulevard, A1A, and sporadically on Seagrape Drive, Bougainvillea Drive, and Poinciana Street. Most sidewalks and bicycle paths are in moderate disrepair such as faded bicycle lane lines and sidewalk cracks, and needs resurfacing, landscape maintenance and other general safety improvements.



Sidewalks have generally not been provided on local streets. This has been a conscious choice by the Town in the single family neighborhoods. The thought among homeowners is that they decrease property values, but there is no evidence of this. In fact Planners and real estate agents alike believe sidewalks increase property values, particularly in suburban areas. Traffic intrusion is a problem in Lauderdale-By-The-Sea, specifically traffic cuts through the neighborhoods attempting to avoid congestion on the main roads. To remedy this problem, Lauderdale-By-The-Sea needs to develop a traffic calming network. The logical extension of this would be to enhance bicycle and pedestrian facilities.

Land Use

In considering how to complete the grid, it is important to understand how people connect from an origin and destination standpoint. People may ride their bicycles from residence to residence to visit neighbors and friends, but they may also ride from residence to parks, to employment, to retail and restaurants, to grocery stores, and to transit. Of course, there is also the return trip. However, for the purposes of this exercise, we can definitively split the Town's land use into two characteristic groups – base origins (where you start from at the beginning of the day – your residential areas) and destinations (commercial, park, beach, job). The map breaks down the community from this standpoint, with red representing destinations.

The vision and the goal of the Lauderdale-By-The-Sea residents in terms of sidewalks can be met with a simple grid. This grid would bring sidewalk access to the periphery of every neighborhood. By utilizing these major roadways, many of the important locations throughout the Town including commercial areas, beaches, and parks would have good coverage in terms of sidewalk infrastructure. This too would allow safe pedestrian access to these locations.

It is apparent that local connectivity is an issue in Lauderdale-By-The-Sea. Washingtonia Avenue is the only east/west corridor linking single family residential to North/South local roads Seagrape Drive, Poinciana Street, and Bougainvillea Drive.

To achieve local connectivity, the Town should strive to connect the residential streets and the basic sidewalk grid with major generators such as the beach and commercial activity centers. This would be used for longer distance walking and bicycle trips from the residential neighborhoods to parks or local shopping areas. It would be intended that these trips are more recreational and would be categorized by very wide 8' sidewalks or multi-use paths on each side of the road separated from the roads travel surface.



Connectivity to Friedt Family Park

The goal for local connectivity is to connect the existing locations that would likely benefit from having this type of infrastructure in place. These places include the local parks, commercial activity centers, and beaches. By connecting these sites, a user could get to nearly any pedestrian friendly location within the Town without having to travel on the roadway. Lauderdale-By-The-Sea also has paths that connect through the midblock. One example is the beach path that connects Sea Watch Restaurant and the Royal Coast Condominiums. Connecting the paths will allow the path users a safe and active way to get to the path for their recreational purposes.

Pedestrian connectivity improvements are needed in areas where there may be high pedestrian activity, such as behind Friedt Family Park. Creating a midblock crossing to existing sidewalk across the street would provide for better accessibility on Poinciana Street. Additional recommendations are provided in this report.



SIGNALIZATION

Below are the signalized intersections installed by Broward County and maintained by Lauderdale-By-The-Sea.

Intersection by Signal Type

FILE NO	MAJOR STREET	MINOR STREET	CITY 1	DEVICE TYPE	TYPE	AUDIBLE	PREEMPTION	SIGNAL ZONE	SIGNALHEAD COUNT	INSTALL DATE	ROAD JURISDICTION	PED COUNTDOWNS
1567	SR A1A	ASSUMPTION CHURCH (SOUTH 2001)	Lauderdale-By-The-Sea	PEDESTRIAN	TROMBONE	NO	NO	7620	6	2/27/2002	STATE	NO
1577	SR A1A	EL PRADO AVENUE	Lauderdale-By-The-Sea	PEDESTRIAN	MAST ARM	NO	NO	7620	4	12/19/2001	STATE	YES
1135	SR A1A	FLAMINGO AVENUE/ CODRINGTON DRIVE	Lauderdale-By-The-Sea	SIGNALIZED_INT	MAST ARM	NO	NO	7620	8	UNKNOWN	STATE	YES
1578	SR A1A	WASHINGTONIA AVENUE	Lauderdale-By-The-Sea	SIGNALIZED_INT	MAST ARM	NO	NO	7620	8	12/19/2001	STATE	YES
1463	SR A1A	PALM AVENUE/IMPERIAL LANE	Lauderdale-By-The-Sea	SIGNALIZED_INT	MAST ARM	NO	NO	7620	6	UNKNOWN	STATE	YES
1576	SR A1A	DATURA AVENUE	Lauderdale-By-The-Sea	SIGNALIZED_INT	MAST ARM	NO	NO	7620	8	12/18/2001	STATE	YES
1094	COMMERCIAL BOULEVARD (SR 870)	SEA GRAPE DRIVE	Lauderdale-By-The-Sea	SIGNALIZED_INT	MAST ARM	YES	NO	7620	8	12/21/1976	STATE	YES
1153	SR A1A	COMMERCIAL BOULEVARD (SR 870)	Lauderdale-By-The-Sea	SIGNALIZED_INT	MAST ARM	YES	NO	7620	9	Feb-65	STATE	YES

(Source: Broward MPO)

Crossing A1A (Ocean Boulevard) is easily accessible at controlled intersections, where crosswalk markings are in place. The distance between crossings create longer blocks. The longer blocks impact access to transit by creating difficulties and longer paths on return trips. There are some midblock crossings, however, some do not have signalization or lighting.



Unsignalized A1A midblock crossing (Approximately 1800 A1A)



Midblock crossing with solar rapid flashing beacon

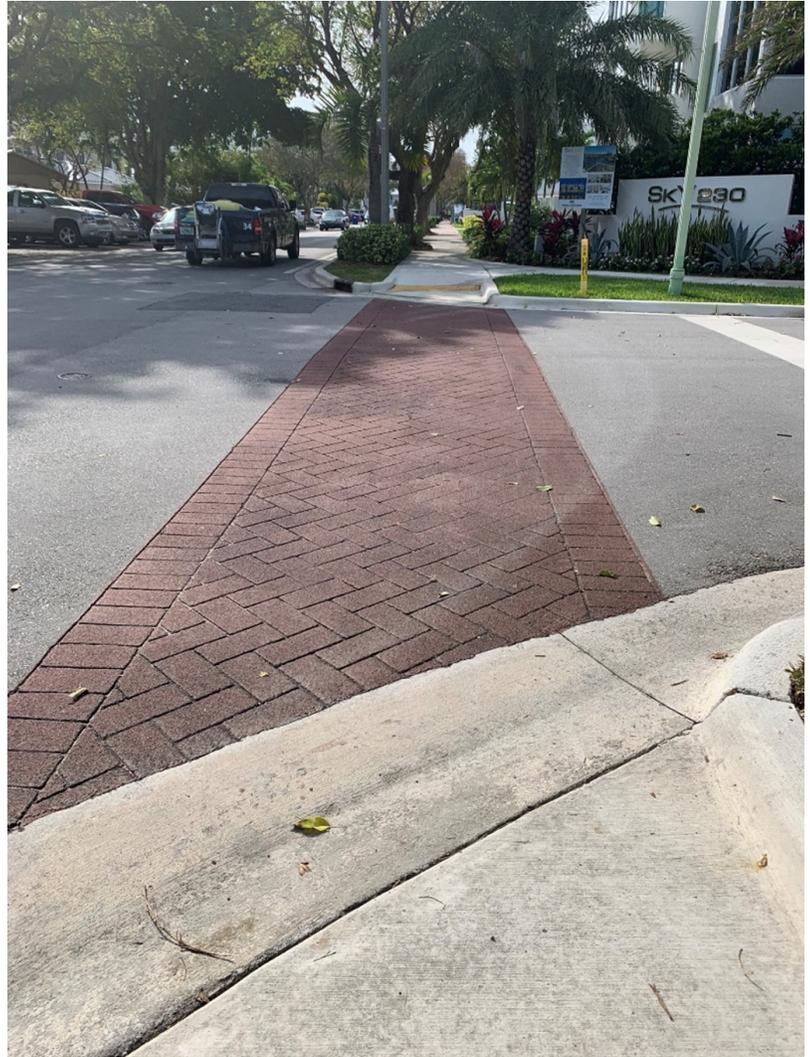


Signalized A1A midblock crossings



POLICIES

Policies set the standard for development and work in concert to serve and protect the Town's interests. The Town of Lauderdale-By-The-Sea adopted Article XI Seagrape Drive Sidewalk Plan, in an effort to improve sidewalks along the Seagrape Drive right-of-way. These are construction guidelines for sidewalks on the east side of the Seagrape Drive right-of-way. All new development and redevelopment of property along this roadway is required to provide for a frontage sidewalk which conforms with the elements in the section of the code. The Town should consider implementing a similar policy for other areas within the Town. There are also several locations where vehicular back out parking interferes with sidewalk continuity. However, many areas in the Town have had sidewalks installed while working around developments and associated parking that have been there for over 50 years. The Town has already adopted policies to remove back out parking on A1A.



Seagrape Drive crosswalk



PEDESTRIAN AMENITIES

Contributing in a positive way to the pedestrian experience is key to creating a walkable community. Shade, lighting, and seating are important factors, especially for those who require intermittent stops for rest and protection from the elements. Walking in Lauderdale-By-The-Sea is simple although there could, and should, be more shade and seating along pedestrian pathways, and various sidewalks in the Town. Like in many other cities in South Florida, Lauderdale-By-The-Sea does not have a sidewalk system in its local single-family neighborhoods. Within these neighborhoods, blocks are long. During the field study, there was a lack of shade via structures or trees along nearly every corridor except Seagrape Drive. Additionally, wayfinding may help with locating public beach access locations, particularly along the north side of the Town along A1A.



4401 Seagrape Drive



Seagrape Drive and Corsair Avenue



Approximately 4500 N. Ocean Drive

SIDEWALK STANDARDS

Level of Service (LOS) standards are commonly used to evaluate roadway conditions for traffic flow. Similar Pedestrian LOS standards provided by the Transportation Research Board's Highway Capacity Manual, are much less commonly used. For this study the following standards, based on sidewalk conditions, and whether or not sidewalks are present, supporting amenities, and the overall pedestrian environment quality were developed.

- **Standard A:** Highly pedestrian oriented and attractive sidewalks, pedestrian friendly intersection design, low-vehicular traffic volume, and ample pedestrian amenities.
- **Standard B:** Similar to A, but with fewer amenities and low to moderate level of interaction with motor vehicles.
- **Standard C:** Adequate for pedestrians, some deficiencies in intersection design, moderate interactions with motor vehicles.
- **Standard D:** Adequate for pedestrians but with deficiencies in intersection design and pedestrian safety and comfort features, some gaps in the sidewalk system, moderate to high interactions with motor vehicles.
- **Standard E:** Inadequate for pedestrian use, deficient pedestrian facilities, high interactions with motor vehicles.
- **Standard F:** Inadequate for pedestrian use, no pedestrian facilities, high interactions with motor vehicles.

The Town of Lauderdale-By-The-Sea does not have a set standard for pedestrian facilities. It is recommended that it adopt Standard B and construct facilities accordingly to reach this standard. Most streets that have sidewalks within the Town are close to meeting this standard with minor improvements. However, there are roads with no sidewalks. The Town is working towards connecting residential neighborhoods to busier roads with sidewalks that link to desired commercial and recreational areas in order to provide a basic grid through its sidewalk design requirements.

In this evaluation, it must be noted that there are areas of the Town where sidewalks are damaged by trees which need to be repaired. At various locations, light poles obstruct the sidewalk and need to be moved, or additional sidewalk constructed around the light poles to provide for adequate width. There are also several locations where vehicular parking interferes with sidewalk continuity. Policies should be adopted to prevent the issue from happening in the future. Overall, despite missing sidewalks in some areas, most of the Town's arterials and collector roadways have basic pedestrian amenities. However, lack of shade in many areas is an issue, particularly along single family corridors. Seating and rest areas are also sparse along long corridors.





Lauderdale-By-The-Sea SIDEWALK STANDARDS MAP

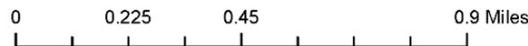


Legend

Lauderdale by the Sea Boundary

Sidewalk Standards

- A
- B
- C
- D
- E
- F



Prepared By:



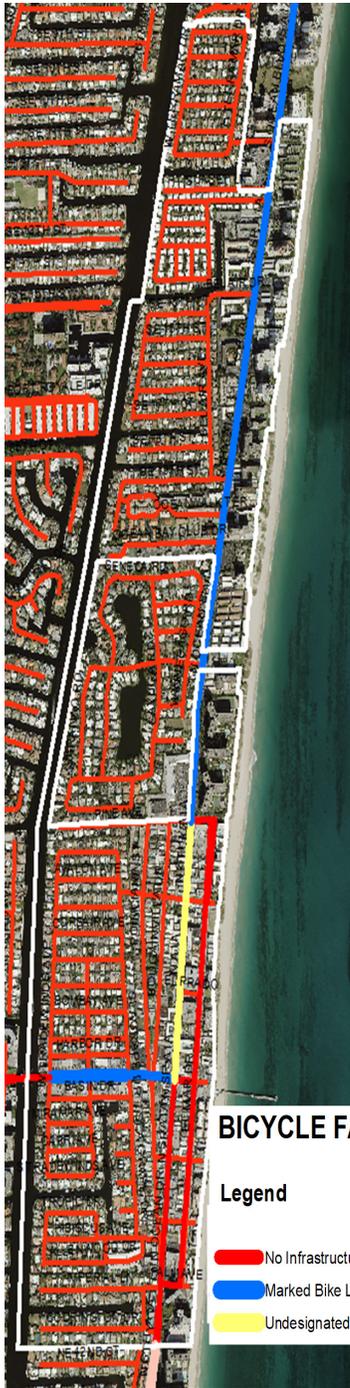
Date: 2/16/2020

- **Standard A:** Highly pedestrian oriented and attractive sidewalks, pedestrian friendly intersection design, low-vehicular traffic volume, and ample pedestrian amenities.
- **Standard B:** Similar to A, but with fewer amenities and low to moderate level of interaction with motor vehicles.
- **Standard C:** Adequate for pedestrians, some deficiencies in intersection design, moderate interactions with motor vehicles.
- **Standard D:** Adequate for pedestrians but with deficiencies in intersection design and pedestrian safety and comfort features, some gaps in the sidewalk system, moderate to high interactions with motor vehicles.
- **Standard E:** Inadequate for pedestrian use, deficient, pedestrian facilities, high interactions with motor vehicles.
- **Standard F:** Inadequate for pedestrian use, no pedestrian facilities, high interactions with motor vehicles.

Sidewalk Standard Data

NS Roadway	EW Roadway	From	To	Direction	Sidewalk Location	Sidewalk	Posted Speed Limit	Comments	Bicycle Facilities
Ocean Drive A1A		Northern City Limit (N. of Terra Mar Dr.)	Commercial Blvd	NB/SB	5' Both Directions	B	35	High Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	4' Bicycle Lanes, NB/SB
Ocean Drive A1A		Commercial	Imperial	NB/SB	5' Both Directions	B	35		4' Bicycle Lanes, NB/SB
Ocean Drive A1A		Imperial	Codington (Southern City Limit)	NB/SB	5' Both Directions	B	35		No bike lanes NB/SB
W Terra Mar Dr		Northern City Limit	S. Terra Mar Dr	None	N/A	F	25		None
E Terra Mar Dr		Northern City Limit	S. Terra Mar Dr	None	N/A	F	25		None
	Cypress Creek Dr	W. Terra Mar Dr	E. Terra Mar Dr.	None	N/A	F	25		None
	Oleander Way	W. Terra Mar Dr	E. Terra Mar Dr.	None	N/A	F	25		None
	Seaward Dr	W. Terra Mar Dr	E. Terra Mar Dr.	None	N/A	F	25		None
	Fiesta Way	W. Terra Mar Dr	E. Terra Mar Dr.	None	N/A	F	25		None
	Spanish River Dr	W. Terra Mar Dr	E. Terra Mar Dr.	None	N/A	F	25		None
	S Terra Mar Dr	W. Terra Mar Dr	E. Terra Mar Dr.	None	N/A	F	25		None
	Sunset Lane			None	N/A	F	25		None
Palm Club Dr	Palm Club Dr			None	N/A	F	25		None
Bel Aire Ave (SE 21st Ave)	Bel Aire Dr	Bel Aire Dr	Coral Reef Dr	None	N/A	F	25		None
	Bel Aire Dr	A1A	Bel Aire Ave	None	N/A	F	25		None
Blue Water Terr N (SE 19th Ave)				None	N/A	F	25		None
	Tropic Isle (SE 15 Ct)	Bluewater N	Bel Aire Ave	None	N/A	F	25		None
	Coco Palm Pl	Bluewater N	Bel Aire Ave	None	N/A	F	25		None
	Windward Dr	Bluewater N	Bel Aire Ave	None	N/A	F	25		None
	Sailfish Pl (SE 17 St)	Bluewater N	Bel Aire Ave	None	N/A	F	25		None
	Ocean Mist Dr (SE 17 Ct)	Bluewater N	Bel Aire Ave	None	N/A	F	25		None
	Waters Edge (SE 18 St)	Bluewater N	Bel Aire Ave	None	N/A	F	25		None
	Coral Reef Dr (SE 19 St)	Bluewater Ter S	Bel Aire Ave	None	N/A	F	25		None
Blue Water Terr S				None	N/A	F	25		None
	Ocean Walk Ln			None	N/A	F	25		None
	Ocean Walk Ter			None	N/A	F	25		None
	Ocean Bay Club Dr			None	N/A	F	25		None
	Pine Ave	West City Limit	Commercial Blvd	EB/WB	5' EB (south side)	B	25		None
	Pine Ave	Commercial	El Mar	EB/WB	5' Both Directions	B	25		None
El Mar Dr		Pine Ave	Washingtonia	SB/NB	5' Both Directions	C	25	Obstructions, Lack of shade and benches, moderate vehicle interaction	None, Obstructions, Drains, Poorly Marked
El Mar Dr		Washingtonia	Commercial Blvd	NB/SB	5' Both Directions	C	25	Obstructions, Lack of shade and benches, moderate vehicle interaction	None, Obstructions, Drains, Poorly Marked
El Mar Dr		Commercial	Palm	NB/SB	5' Both Directions	C	25	Obstructions, Lack of shade and benches, moderate vehicle interaction	None, Obstructions, Drains, Poorly Marked
El Mar Dr		Hibiscus	Palm	NB/SB	5' Both Directions	C	25	Obstructions, Lack of shade and benches, moderate vehicle interaction	None, Obstructions, Drains, Poorly Marked
	N Tradewinds Ave	W Tradewinds	Seagrape Dr			B	25		
	Avalon Ave					B	25		
	Washingtonia Ave	Seagrape Dr	Poinciana St	EB	6' EB (south side)	B	25		Lightpole Obstructions
	Washingtonia Ave	Poinciana	El Mar Dr	EB/WB	5' Both Directions	B	25		Vehicular Interaction Moderate

NS Roadway	EW Roadway	From	To	Direction	Sidewalk Location	Sidewalk	Posted Speed Limit	Comments	Bicycle Facilities
	Lombardy Ave	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
	Corsair Ave	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
	Oceanic Ave	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
E. Tradewinds	Oceanic Ave	Oceanic Ave	S Tradewinds Ave	None	N/A	F	25		None
	Algiers Ave	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
	Bombay Ave	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
	Neptune Ave	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
	Harbor Dr	W Tradewinds	Seagrape Dr	None	N/A	F	25		None
	Commercial Blvd	City Limit	Seagrape Dr	EB/WB	5' Both Directions	A	30		None
	Commercial Blvd	Seagrape Dr	Ocean Drive A1A	EB/WB	10+ ' Both Directions	A	30		4' Bicycle Lanes, EB/WB
	Commercial Blvd	Ocean Drive A1A	Beach	EB/WB	10+ ' Both Directions	A	30		No bike lanes NB/SB
	Basin Dr	W Tradewinds	E Tradewinds Ave	None	N/A	F	25		None
	Basin Dr	E Tradewinds Ave	Seagrape Dr	None	N/A	F	25		None
	Miramar Ave	W Tradewinds	E Tradewinds Ave	None	N/A	F	25		None
	Capri Ave	W Tradewinds	E Tradewinds Ave	None	N/A	F	25		None
	S Tradewinds Ave	W Tradewinds	E Tradewinds Ave	None	N/A	F	25		None
W. Tradewinds		N Tradewinds Ave	S Tradewinds Ave	None	N/A	F	25		None
Poinciana St		Pine Ave	Friedt Family Park	NB/SB	5' Both Directions	B	25	High Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	
Poinciana St		Friedt Family Park	Commercial Blvd	SB	5' SB (west side)	B	25		
Bougainvilla Dr		Pine Ave	Friedt Family Park	NB/SB	5' Both Directions	B	25	High Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	No bike lanes NB/SB
Bougainvilla Dr		Friedt Family Park	Commercial Blvd	NB	5' NB (east side)	B	25	High Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	No bike lanes NB/SB
Bougainvilla Dr		Commercial Blvd	Hibiscus	NB/SB	5' Both Directions	B	25	High Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	No bike lanes NB/SB
Bougainvilla Dr		Hibiscus	A1A merge	SB	5' SB (west side)	B	25	High Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	No bike lanes NB/SB
SeaGrape		N Tradewinds Ave	Hibiscus	SB	6' SB (west side)	B	25	Lack of comfort benches, Obstructions trees	No bike lanes NB/SB
SeaGrape		Commercial	Shore Court	NB	6' NB (east side)	F	25	Obstructions, drains, trees, Poorly marked, High levels of veh. Interaction	No bike lanes NB/SB
	Basin Dr	E Tradewinds Ave	Seagrape Dr	None	N/A	F			None
	Marine Ct			None	N/A	F			None
	Lake Ct			None	N/A	F			None
	Datura	Poinciana	Beach	EB/WB	5' Both Directions	B		Obstructions, Meters at beach access	None
	Shore Ct			EB	5' EB (south side)	A			None
	Garden Ct			EB	5' EB (south side)	A			None
	E Hibiscus	Bougainvilla	Beach	EB/WB	5' Both Directions	B		Moderate Levels of Vehicular Traffic, Low comfort (lack of shade and rest benches)	None
	Tropic Dr			None	N/A	F			None
	W Hibiscus Ave			None	N/A	F			None
	Allenswood			None	N/A	F			None
	Palm	A1A	Beach	EB/WB	5' Both Directions	B		Moderate level Vehicular Traffic	None
	Imperial Lane			None	N/A	F			None
	Codington Dr			None	N/A	F			None



BICYCLE FACILITY MAP

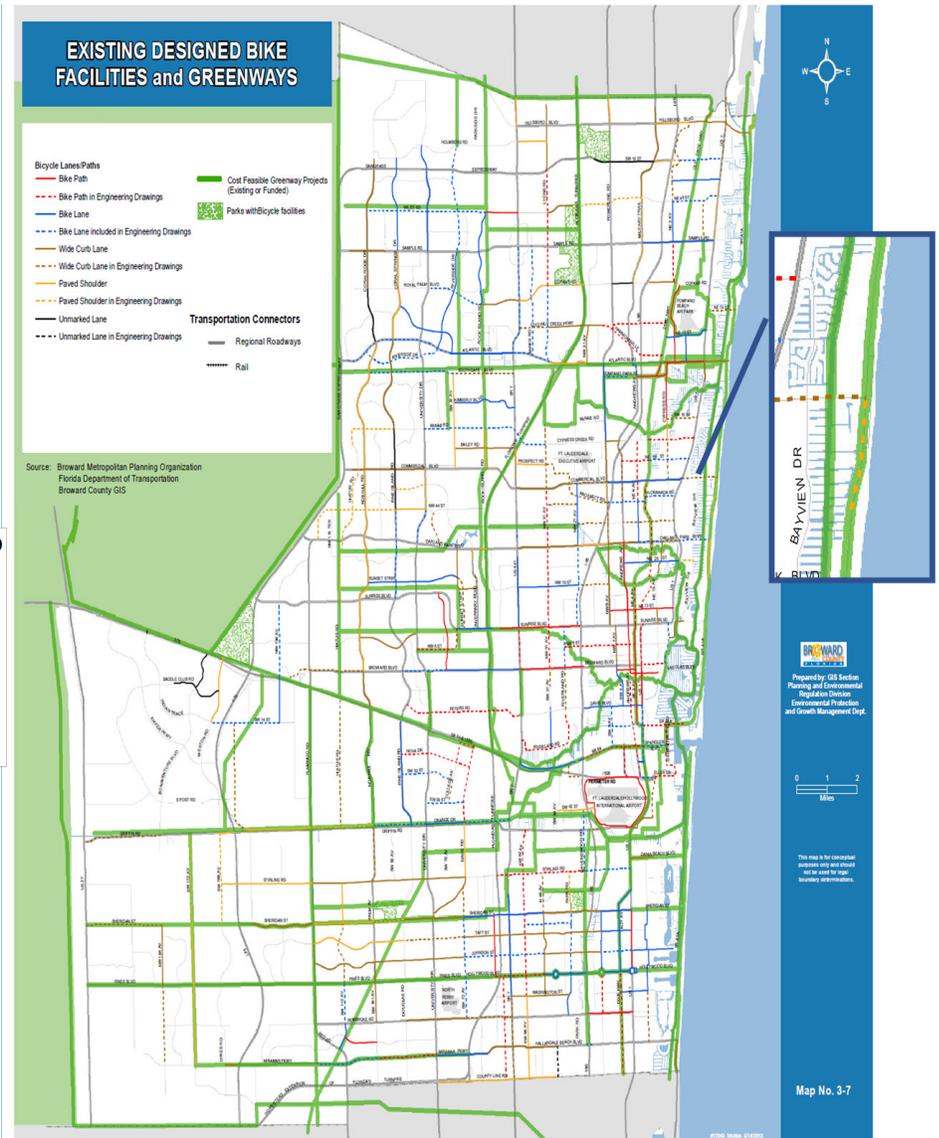
Legend

- No Infrastructure
- Marked Bike Lane
- Undesignated Lane

Existing Bicycle Facilities

Bicycle facilities currently exist, but in limited areas of the Town. There are only on-road shared routes (painted sharrows with limited signage) on adjacent roadway SR A1A Ocean Drive, and Commercial Boulevard.

According to Broward County Existing Designed Bike Facilities and Greenways Map (shown below), an existing wide curb lane is shown on engineering drawings along Commercial Boulevard, a paved shoulder in engineering drawings is shown on El Mar Drive south of Commercial Boulevard, and cost feasible greenway projects (existing or funded), are shown along A1A and El Mar Drive. The Town has chosen to do improvements on El Mar Drive on their own outside of the Greenway Project.





BICYCLE FACILITY TYPE

Bicycle facility planning must take into account varying levels of skill, experience, and age. As a coastal community, the Town has highly skilled riders riding in pelotons along A1A, an observable fact on the weekends in the morning. At the same time, as a diverse community with a higher percentage of seniors, families with children, visitors and vacationers, who may ride for recreation, Lauderdale-By-The-Sea must also account for differences in perception of safety and the ability to navigate more difficult travel circumstances which naturally occur on roadways with higher levels of vehicular traffic.

Bicycling facilities vary in the level of access and separation from traffic, and allow for different facilities to be developed which can accommodate the different populations in Lauderdale-By-The-Sea.

Shared Use Path: Off-road facilities shared with pedestrians. Generally, pathways are a minimum of 5 feet in width for each direction. Also known as Mixed-use paths.



Shown: Cyclists using Bike Lanes on A1A

Cycle Tracks: Bicycle facilities separated from vehicular traffic, with potential grade separation with roadway and/or sidewalks for pedestrians. Each cycle track should be approximately 5 feet in width, and are separate from sidewalks.

Bike Lanes: On-Road facilities designated for bicycles with a minimum of 4 feet in width, which may or may not have at grade separation from vehicles through buffer striping or barriers.

Sharrows: On-road bicycle facility where bicycles share designated lanes with vehicular traffic.

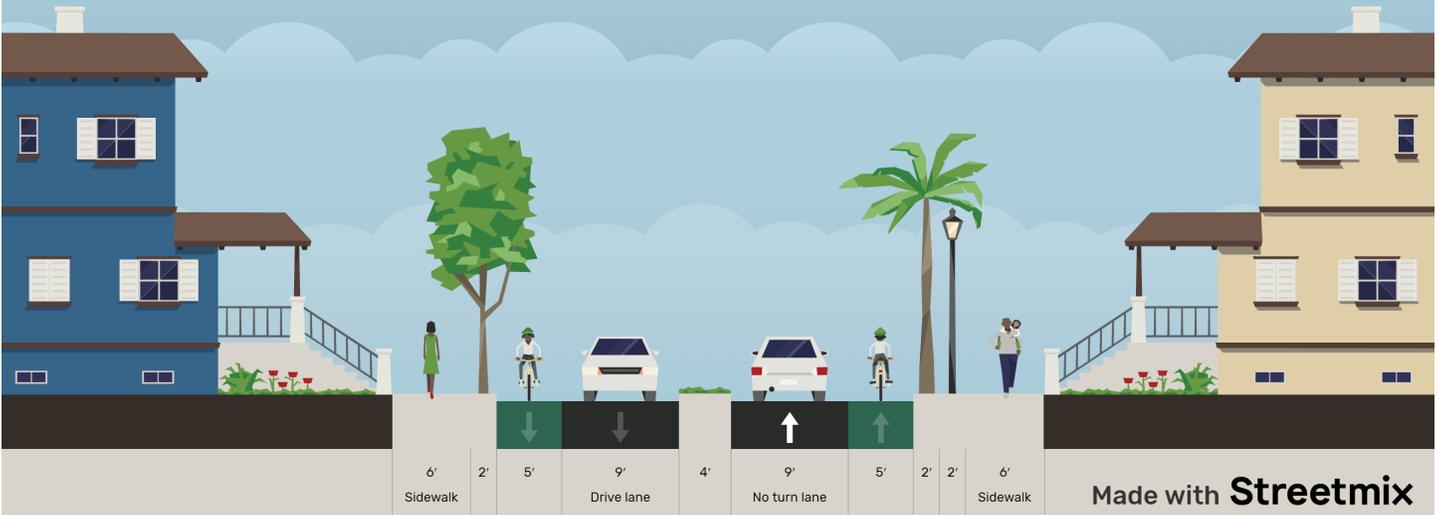
Different bicycle facilities require different dedications of right-of-way. Sharrows share the travel lane, and therefore do not need extra space, but all other forms of bicycle facilities will require at least 8’ total, 4’ to and 4’ coming back from the destination.

Each of these alternatives may be implemented based on local conditions and/or local preference. Specifically, the level of need for separation between pedestrians, bicycles, and vehicles should be considered. Generally, in high vehicular traffic areas, increased separation between bicycles and vehicles should be implemented, removing sharrows, and in some cases, bicycle lanes from consideration. In planning for pathways with high pedestrian activity, there should be a higher degree of separation between bicyclists and pedestrians, deemphasizing shared use paths as a viable option. The available right-of-way also serves as a constraint for facility development.

Different riders have different expectations and experiences. Planning for Lauderdale-By-The-Sea should take into consideration that there are two distinct ridership groups, the more experienced bicyclists, who would be comfortable on the Town’s bicycle lanes, and the average person, who would not, and require either facilities that are separated (i.e. bicycle lanes with a barrier, shared-use paths), or on an alternative street with less and/or slower traffic. It is important to note that the Town has no jurisdiction over A1A.



Bougainvillea



The above is for illustrative purposes only. With a 50' right-of-way it may be possible to add 4' bike lanes and 6' sidewalks to Bougainvillea.

BICYCLE LOS STANDARDS

Level of Service (LOS) standards are commonly used to evaluate roadway conditions for traffic flow. The following standards—based on sidewalk conditions, supporting amenities, and the overall bicycling environment quality—were utilized:

- **LOS A:** On and off street facilities, low level of interaction with motor vehicles, appropriate for all riders;
- **LOS B:** Low level of interaction with motor vehicles, appropriate for all riders;
- **LOS C:** Appropriate for most riders, some supervision may be required, moderate interaction with motor vehicles;
- **LOS D:** Appropriate for advanced adult bicyclists, moderate to high interactions with motor vehicles;
- **LOS E:** Cautious use by advanced adult riders, high interactions with motor vehicles;
- **LOS F:** Generally not safe for bicycle use, high level of interactions with motor vehicles.



Lauderdale-By-The-Sea BICYCLE LEVEL OF SERVICE MAP

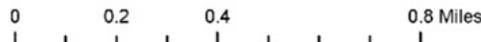


Legend

Lauderdale by the Sea Boundary

Bicycle Level of Service

- A
- B
- C
- D
- E
- F



Prepared By:



Date: 2/15/2020



The Bicycle LOS table provides a ranking of all segments of the Bicycling Network for the entire Town. Major and minor corridors were inventoried and were then evaluated for their quality and level for service. The segments were broken up at logical points, and then analyzed for LOS score assignment.

Bicycle LOS

Roadway	From	To	Direction	Bike LOS	Road Type	Posted Speed Limit	Grade Separated	Travel Lanes	Existing Bicycle Facilities	Grade Separated
Ocean Drive A1A	Northern Town Limit	Commercial Blvd	NB/SB	C	State Minor Arterial	35	Y	2	4' Bicycle Lanes, NB/SB, Poorly Marked, Moderate Level of Vehicle Interaction	Sidewalk Y
Ocean Drive A1A	Commercial	Imperial	NB/SB	C	State Minor Arterial	35	Y	2	4' Bicycle Lanes, NB/SB, Poorly Marked, Moderate Level of Vehicle Interaction	Sidewalk Y
Ocean Drive A1A	Imperial	Codington	NB/SB	F/None	State Minor Arterial	35	NA	4	N/A	Sidewalk Y
El Mar Dr	Pine Ave	Palm Ave	NB/SB	F/None	Local Collector	25	N	4	N/A	N
SeaGrape	Pine Ave	Hibiscus	NB/SB	F/None	Local Collector	25	N	4	N/A	N
Commercial Blvd	Town Limit	Ocean Drive A1A	EB/WB	C	State Minor Arterial	25	Y	4	4' Bicycle Lanes, EB/WB, High Level of Vehicle Interaction	Sidewalk Y
Commercial Blvd	Ocean Drive A1A	Beach	EB/WB	F/None	State Minor Arterial	25	NA	2	N/A	Sidewalk-Y

Overall, the Town lacks bicycling facilities, and bicyclists rely on riding on the street or sidewalk, especially on collectors. Overall, current levels of infrastructure are viable for more advanced riders but are not optimal for riders of all ages. For these folks, the grid is incomplete, and would likely result in them not riding. The level of infrastructure is reflected in averaging the LOS grade across the system, which rates around a LOS D, "Appropriate for advanced adult bicyclists, moderate to high interactions with motor vehicles."

While transportation planning heavily relies on vehicular traffic data, actual counts for bicyclists (and pedestrians for that matter) in the same manner as vehicular counts do not exist on a widespread level. Technology for bicycle counts is being tested and should be a consideration for the Town to incorporate into its planning processes as they become available (see Technology Section).

Bicyclists ride throughout the Town, especially along A1A, El Mar Drive, Poinciana Street, Bougainvillea Drive, Washingtonia Avenue, and Seagrape Drive. These roadways should be prioritized for bicycle infrastructure development due to existing usage. A1A and El Mar Drive have overlapping activity which require larger facilities for bicyclists and walkers. Where right-of-way is limited on these roads, combining facilities to create shared-use paths may be beneficial towards creating a multimodal system as it will provide more space overall for bicyclists and pedestrians. Planning must take into account

anticipated needs, and for network completion, understanding that an individual will more likely use a system if it provides a safe and viable path between origin and destination.

The average bicycle rider in the Town may not currently be riding because the existing grid is incomplete. While sharrows on regular roadways are allowed for bicycle usage, it doesn't always translate to a comfortable path for the average rider, especially for youth and parents. Further, if the existing grid is on a roadway which they are uncomfortable on, it may be no different than a gap in the system.

► **WAYFINDING**

The ability to navigate through a region is informed by landmarks, natural features, signs, and other visual cues. Wayfinding is a cost-effective and highly visible way to improve the pedestrian and bicycling environment by familiarizing users with the network, helping users identify the best routes to destinations, addressing misperceptions about time and distance, and helping overcome a barrier to entry for infrequent cyclists (e.g., "interested but concerned" cyclists). The City of Thunder Bay in Vancouver implemented a successful wayfinding plan that not only orients people to their locations but also promotes tourism and economic development while capitalizing on the uniqueness of the city. Tampa's successful downtown wayfinding program connects 300,000 annual visitors to major destinations in the City.

Currently, Lauderdale-By-The-Sea does not have a wayfinding system for bicyclists. However, bicyclists can benefit from a cohesive wayfinding system to reach these destinations. These signs can also include both distance to destination and expected time to destination. Generally, signs should be placed at the convergence of two or more routes, and assist bicyclists in finding their way to key destinations. The inclusion of bicycle wayfinding should be implemented in the Town as this improvement allows for motorists to be aware of bicyclists in the area. However, care must be taken to not clutter the right-of-way with signage.

A bikeway wayfinding system is typically composed of signs indicating direction of travel, location of destinations, and travel time/distance to those destinations; pavement markings indicating to bicyclists that they are on a designated route or bike boulevard and reminding motorists to drive courteously; and maps and mobile apps providing users with information regarding destinations, bicycle facilities, and route options.



B-Cycle Map



Source: segd.org



Pedestrian Directional Sign Bicycle Directional Sign

Source: tbnewswatch.com



► LANE MARKINGS

In Lauderdale-By-The-Sea, existing bicycle lanes are only marked by white lines on the roadway. Generally, bicycle facilities should be visibly marked, and increased visibility will result from using green lane markers. Bicycle Lanes and Cycle Tracks should be marked with green lanes where possible.



▼ BIKE BOXES

A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase. Appropriate locations include:

- At signalized intersections with high volumes of bicycles and/or motor vehicles, especially those with frequent bicyclist left-turns and/or motorist right-turns
- Where there may be right or left-turning conflicts between bicyclists and motorists
- Where there is a desire to better accommodate left-turning bicycle traffic
- Where a left turn is required to follow a designated bike route or boulevard or access a shared-use path, or when the bicycle lane moves to the left side of the street
- When the dominant motor vehicle traffic flows right and bicycle traffic continues through (such as at a Y intersection or access ramp)



Lauderdale-By-The-Sea should consider implementing Bicycle Boxes on at signalized intersections roadways with bicycle lanes. Specifically, these should be considered on A1A and Commercial Boulevard as initial locations for implementation. However, the implementation of these facilities at all signalized intersections on the major arterials should be considered for a standing policy adopted by the Town.

PROPOSED BICYCLE NETWORK

The goal is to create a bicycle network with access from single family residential areas to beach access points and Commercial Boulevard. This network would provide for shared lanes/sharrows, greenways and/or bicycle lanes. This grid would be geared towards both experienced and casual riders, to provide connections to the local community, but could go further in providing for parallel routes for the bicycle lanes on roadways with high traffic speed and/or traffic and to connect more of the neighborhoods (A1A).

Options such as creating a bi-directional shared-use path on one side of narrower roadways, such as Washingtonia Avenue could be considered; however, this would require a potentially costly realignment of the existing roadway travel lanes. Given the nature of Lauderdale-By-The-Sea’s grid, the most direct path for travelers across the Town are on Commercial Boulevard (east/west) and A1A (north/south). Having protected, shared-use paths on roadways is preferred from a technical standpoint. Overlaying the grid on lower traffic, lower speed roadways, such as Seagrape Drive, Bougainvillea Drive, Poinciana

AMENITIES AND QUALITY OF INFRASTRUCTURE

Bicycle pathway infrastructure should be supplemented by amenities which allow for bicycling to be a more viable mode of transportation within the Town. Basic amenities such as bicycle lockers and racks at destinations are as important to bicyclists as parking spaces are for drivers, because of the need of a secure space. Other amenities such as shade and rest areas are important for riders because of the South Florida weather, and comfort for alternative modes is a consideration for people used to the comfort and air conditioning of a car.



*Bike Lockers
Source: bikelid.com*

Hotels, motels, and apartment hotels receive exemptions from parking requirements for bicycle parking spaces, per Section 30-318 of the Town Code. However, the standard does not currently require bicycle parking or bicycle racks. Bicyclists, similar to pedestrians, are exposed to the elements, and would benefit from shade and rest areas.

Lauderdale-By-The-Sea is known for its beautiful beaches and experiences a high volume of pedestrian, bicycle, and vehicular activity along its beach corridors, A1A (Ocean Drive) and El Mar Drive. There are ten (10) public beach access points in the Town.

- | | | |
|------------------------|-------------------------------|--------------------|
| 1. A1A North | 5. El Prado Park | 8. Datura Avenue |
| 2. A1A South | 6. Commercial Boulevard North | 9. Hibiscus Avenue |
| 3. Pine Avenue | 7. Commercial Boulevard South | 10. Palm Avenue |
| 4. Washingtonia Avenue | | |

Beach Access Point	Bicycle Storage	Accessibility
Ocean Drive North	No	Good
Ocean Drive South	No	Good
Pine Avenue	Yes	Fair, Needs closer midblock crossing
Washingtonia Avenue	Yes	Poor, Needs intersection improvement for better accessibility
El Prado Park	Yes	Good, Needs lit crosswalks, high pedestrian traffic area
Commercial Boulevard North	Yes	Good
Commercial Boulevard South	Yes	Poor, Needs better sidewalk connectivity
Datura Avenue	Yes	Poor, Needs intersection improvement for better accessibility, Needs sidewalk improvement (obstructions-meters)
Hibiscus Avenue	No	Poor, Needs intersection improvement for better accessibility
Palm Avenue	Yes	Poor, Needs intersection improvement for better accessibility, Needs sidewalk improvement (obstructions-mailbox)



Completing the accessibility grid to these key locations is one objective of this study. Additionally, ensuring these access points have proper pedestrian and bicycle facilities is key. Several beach access points have cracked sidewalks. Obstructions such as parking meters or mailboxes are also found at these locations. Most beach access locations do not have marked crosswalks.





Transit

Broward County Transit (BCT) has partnered, since 1991, with numerous municipalities in the county, providing Community Shuttle Transportation Services. BCT continues to provide partial capital and operating/maintenance funding support for Lauderdale-By-The-Sea, as well as technical support including training, service planning, scheduling, and installation of shuttle stop signs. The Town of Lauderdale-By-The-Sea Community Shuttle Service, also known as the Pelican Hopper, offers free public transportation. Pelican Hopper Shuttles provide service through the Town and to Holy Cross Hospital, Monday through Saturday. Service is not available on certain holidays. The shuttle is wheelchair accessible and equipped with bicycle racks. A real-time tracker desktop and smart phone application is available that provides location assistance. The Pelican Hopper also connects to other public transportation, allowing connectivity to BCT routes 11, 36, 55, and 72. The Pelican Hopper stops at the following locations:

1. Village Shopping Center
2. Lauderdale-By-The-Sea Town Hall
3. Holy Cross Hospital & US 1
4. Commercial Boulevard & Seagrape Drive
5. Palm Avenue & A1A
6. Anglin Fishing Center
7. Village Shopping Center
8. Terra Mar Drive & A1A
9. SE 19th Street and A1A
10. Village Shopping Center



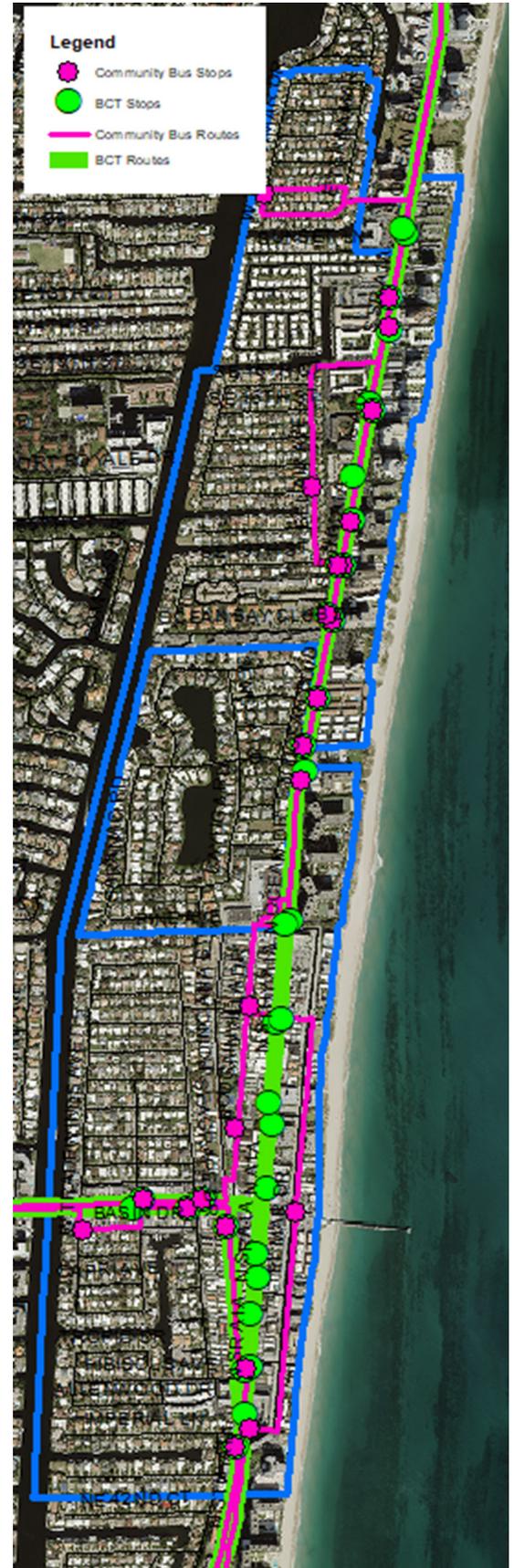
There are very few bus stops with shelters in Lauderdale-By-The-Sea. In order to create comfort for pedestrians waiting on transit, the Town is working with Broward County Transit on installing new shelters and associated street furniture (trash receptacles and bicycle racks) at stops within Lauderdale-By-The-Sea. Comfortable and accessible public transportation stops are key to creating a complete street network.

Community Bus Stops

STOP	DESCRIPTION
945 A1A	GATE HOUSE R
946 A1A	OCEANWALK T
947 A1A	SE 19 S (S)
948 A1A	SE 19 S (N)
949 A1A	SE 15 S
965 A1A	PALM & PALM CLUB DR
968 A1A	SE 19 S
969 A1A	OCEANWALK T
970 A1A	GATE HOUSE R
974 A1A	HIBISCUS A
2457	COMMERCIAL B/TRDWINDS A E
3430 A1A	IMPERIAL L
3760 A1A	#1421 Terra Mar
4231 A1A	ATLANTIC BEACH VIL #5450
5355	COMMERCIAL B/SEAGRAPE D
5356	BOUGAINVILLE D/COMMERCIAL B
5357	COMMERCIAL B/SEAGRAPE D
8351	ANGLIN FISHING PIER
8352	PALM A/A1A
8356	W TERRA MAR D/SPANISH RIVER D
8357	SE 21 A/SE 17 S
8358	LAUDERDALE BY-THE-SEA TOWN HALL
8377	BASIN D/COMMERCIAL B
8378	BOUGAINVILLE D/WASHINGTONIA A

Broward County Transit (BCT) Stops

STOP_ID	MAIN_STREE	CROSS_STRE	BENCH	SHELTER	SOLAR_LI
940 A1A		DATURA AVE	Y	N	N
941 A1A		COMMERCIAL BLVD	N	N	N
973 A1A		COMMERCIAL BLVD	N	N	N
974 A1A		HIBISCUS AVE	Y	N	N
969 A1A		OCEANWALK TERR	Y	N	N
938 A1A		PALM AVE	N	N	N
944 A1A		PINE AVE	Y	N	N
966 A1A		SE 15 ST	N	N	N
948 A1A		SE 19 ST	Y	N	N
968 A1A		SE 19 ST	Y	N	N
2399 A1A		SUNSET LN	N	N	N
971 A1A		WASHINGTONIA AVE	N	N	N
970 A1A		GATE HOUSE RD	Y	N	N
945 A1A		GATE HOUSE RD	N	N	N
939 A1A		HIBISCUS AVE	N	N	N
949 A1A		SE 15 ST	Y	N	N
965 A1A		PALM CLUB DR	Y	N	N
947 A1A		SE 19 ST	Y	N	N
967 A1A		#1717	Y	N	N
4231 A1A		GATE HOUSE RD	N	N	N
964 A1A		SUNSET LN	Y	N	N
943 A1A		WASHINGTONIA AVE	N	N	N
3760 A1A		SE 15 ST	Y	N	N
5356	BOUGAINVILLE DR	COMMERCIAL BLVD	N	N	N
5449 A1A		DATURA AVE	N	N	N
3430 A1A		IMPERIAL LN	N	N	N
942 A1A		L-B-S CITY HALL	N	N	N
972 A1A		EL PRADO (CITY HALL)	N	N	N
2400 A1A		PINE AVE	Y	N	N
946 A1A		OCEAN CLUB D	N	N	N
5355	COMMERCIAL BLVD	SEAGRAPE DR	Y	N	N
5357	COMMERCIAL BLVD	SEAGRAPE DR	Y	N	N
2457	COMMERCIAL BLVD	TRDWINDS AVE	Y	N	N
2488	COMMERCIAL BLVD	TRADE WINDS AVE	N	N	N



Safety

The Broward Sheriff’s Office Lauderdale-By-The-Sea District (BSO) provides semi-annual traffic crash and citation data to the Town. BSO is also responsible for providing historical trend data. These efforts are a result of the Town of Lauderdale-By-The-Sea’s 2018 Action Plan. The intent of Goal 2.4 is to reduce traffic, pedestrian, and bicycle violations through traffic enforcement. The Florida Department of Transportation (FDOT) awarded BSO Lauderdale-By-The-Sea District with funding for High Visibility Enforcement focusing on education and enforcement for pedestrian and bicycle safety at the middle of December 2017 through April 2018.

Year	Pedestrian Crashes	Bicycle Crashes	Fatalities	Fatality Location
2013	3	8		
2014	5	5		
2015	8	8	1 bicyclist fatality	A1A & Gatehouse Road
2016	2	5		
2017	3	9	1 pedestrian fatality	A1A & Gatehouse Road
2018	7	5		
2019	5	4		

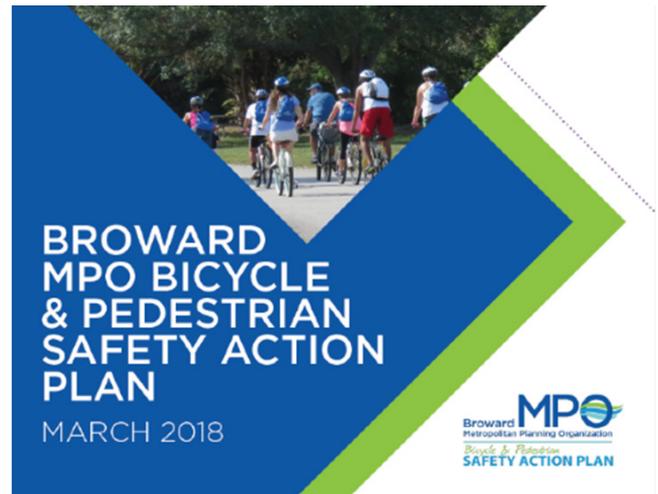
Source: Florida Department of Transportation, State Safety Office

Based on the 2017 vs. 2018 Lauderdale-By-The-Sea Traffic Analysis provided by Broward Sheriff’s Office, Ocean Drive and Commercial Boulevard were the top crash and citation locations in 2017. In 2018 this shifted to Ocean Drive and Bougainvillea Dr/Hibiscus Avenue.

The Broward MPO Bicycle and Pedestrian Safety Action Plan (BPSAP), adopted in March of 2018, was created to provide safer walking and bicycling solutions for Broward County. The Plan focuses on areas where changes are needed and includes strategies for accomplishing these changes. The BPSAP will promote a region that:

- Prioritizes walking and bicycling through providing safe and comfortable facilities;
- Encourages people to walk and bike through educational campaigns and physical amenities;
- Enforces laws related to walking and bicycling safety with a focus on aggressive behavior from drivers;
- Evaluates the impact of changes to hold agencies accountable for outcomes; and
- Brings together agencies to work towards a common goal.

Safety is an additional consideration. Perception of safety from a bicyclist’s viewpoint is contingent on knowledge of whether an area has had injuries or fatalities, and the amount of automobile and truck traffic. Also, different rider groups will perceive challenges to safe bicycle riding differently.





Vision Zero has been adopted by Broward County MPO. It is a road safety guiding principle that no traffic-related deaths are acceptable. This is understood to mean that safety should be the top priority of the transportation system. Vision Zero policies should be adopted in the Town of Lauderdale-By-The-Sea. Some have already been implemented, such as low speed limits. For further information please see <http://www.visionzeroinitiative.com/>

There needs to be a critical examination of pedestrian safety in high vehicle and pedestrian interaction locations throughout the Town, with respect to the existing and physical conditions and the use of traffic control devices. It is recommended that the Town of Lauderdale-By-The-Sea prepare a traffic engineering study to review pedestrian safety along the Commercial Boulevard and A1A corridors, and to provide recommendations for improvements. Commercial Boulevard has a high interaction of pedestrians, bicycles, and local and tourist vehicles.

The safety study should evaluate proposed and implemented bicycle lanes throughout, and pedestrian features at every signalized intersection. Mid-block crossings supplemented with high-emphasis pavement markings, patterned pavement, pedestrian warning signs, and Rectangular Rapid Flashing Beacon (RRFB) installations should be evaluated. The Town should prioritize safety and take positive action to protect its most vulnerable road users (pedestrians and bicyclists).

There are pedestrian crossing locations along Commercial Boulevard. Approximately 40,000 vehicles per day use the road which, with a speed limit of 30 mph, operates at a Level of Service F, indicating heavy congestion.

Numerous techniques can be considered to evaluate the most appropriate measures to improve the safety performance of the corridor with respect to pedestrians and bicyclists. Some of these techniques may include:

- Speed reduction
- Signage
- Additional rectangular Rapid Flashing Beacons
- Additional marked crosswalks
- Increased pedestrian head start and crossing times in each signal phase
- Pedestrian count down signals where not in place
- Lighting improvements
- Street safety education campaign
- Regular monitoring of progress

The Town can conduct a thorough study of the corridors to determine additional measures that can be taken to improve safety.

Additional countermeasures include:

- Pedestrian Signal Upgrades
- Pedestrian Signal Timing
- Street Lighting
- Mid-block Crosswalks
- Complete Street Concepts
- ADA facility upgrades
- Signs and Markings
- Bus Stop relocation
- Drainage Improvements
- Education



Additional countermeasures - bicycle:

- Green bike lanes in conflict areas
- Complete street concepts
- Bicycles share the road signs
- Bike/pedestrian warning signs on driveways
- New bike lanes
- State law – 3 foot clearance sign
- Other signs
- Street lighting
- Education/Enforcement
- Landscape maintenance

Increased stakeholder coordination and education and engineering strategies can assist in the achievement of safety improvements throughout the Town. Educational campaigns to increase pedestrian and cyclist safety behaviors as well as motorist safety awareness will help improve bicycle and pedestrian safety.

Pedestrian and Cyclist Technologies

Technological advancements in mobility for pedestrians and bicyclists for the purpose of improving safety planning and mobility can assist municipalities with planning. Automated pedestrian and bicycle counters, video cameras, crash databases, and GPS/mobile applications, to inform the public about bicycle and pedestrian safety improvements, are just a few. There are also data mining techniques, that can demonstrate an approach that can be applied to identify facilities with highest need of improvement.

Lauderdale-By-The-Sea is a seaside town with an area of about 1.5 square miles of land. This small size allows for many residential areas to be within walking and biking distance of the beach, or commercial areas near the beach. Applied technologies for pedestrians and cyclists can detect various transportation modes on roads, optimizing and harmonizing efficiency in walking, cycling, and even driving. The following technologies can be incorporated in the Town's existing streetscapes to improve the functionality of streets and sidewalks for tourists and residents. Improved streets and sidewalks can improve the quality of life in the Town of Lauderdale-By-The-Sea by allowing for safer mobility and choices for getting around, shifting more people out of cars especially for short trips by enhancing mobility and perception of safety for pedestrians and cyclists.

IN ROAD WARNING LIGHTS (IRWL)

In Road Warning Lights are a series of amber lights embedded in the roadway that face oncoming traffic. The lights are visible to approaching drivers as a warning that a pedestrian is in the marked crosswalk or near it. Lights can be activated by using a traditional push button, or an automatic sensor. In-road lights alert motorists that a pedestrian is preparing to cross a street. The pedestrian activates the system, and in-ground lights begin to flash in unison, warning the motorist that a pedestrian is in the vicinity of the crosswalk ahead. IRWL enhance safety of marked crosswalks. Locations with low pedestrian-visibility are good candidates for IRWL. IRWL improve pedestrian visibility and slow down vehicles when pedestrian crossings are occurring.



Source: Tapco.net



PEDESTRIAN HYBRID BEACONS (PHB)

PHBs are often considered for installation at locations where pedestrians need to cross and vehicle speeds or volumes are high, but traffic signal warrants are not met. These devices have been successfully used at school crossings, parks, senior centers, and other pedestrian crossings on multilane streets. PHBs are typically installed at the side of the road or on mast arms over midblock pedestrian crossings.



Pedestrian Hybrid Beacon - Source: nacto.org

EXTENDED TIME (TAP CARDS)

Extended time cards are beneficial for Using Radio Frequency Identification (RFID) technology, a reader detects designated RFIC card issued to elderly and disabled pedestrians which triggers the crossing light to extend. Targeted areas will consist of areas with larger aging populations.

AUTOMATED PEDESTRIAN DETECTION

Automated pedestrian detection devices can sense when a pedestrian is waiting at a crosswalk and automatically send a signal to switch to a pedestrian WALK phase. This detection is best suited for intersections near schools, or in areas with tourists who may not be familiar with push signals. Automatic pedestrian detection gives an advantage to pedestrians to change traffic lights. These sensors can reduce the percentage of pedestrians who cross roadways at inappropriate times. Some automated pedestrian detection devices are also able to determine whether a pedestrian needs more time to cross the roadway and will lengthen the crossing interval to accommodate the slower pedestrian.

LAMPOST CAMERA SENSORS

Camera vision technology sensors can capture what is on the street and process types of movements and patterns into numerical data. These sensors record data such as pedestrian movement, vehicle movement, parking activity and more. Ultimately, this data can evaluate traffic patterns, determine where bicycle lanes are needed, and give real-time accurate data to help with future planning. In addition, data can also be used by law enforcement in solving crimes. The compact area of Lauderdale-By-The-Sea allows for a variety of sensors and devices to be deployed and maintained.

SMART BICYCLE PARKING

Smart Bicycle Parking is an app-based parking system for bicycles. Parking capability is launched through a mobile app that identifies free spaces and keeps track of the time parked, and once the locker is unlocked and bike is retrieved, the app collects payment. Bicycle parking goes hand in hand with bicycle usage. Bike lockers provide long-term parking solutions for bicycles at an affordable price and offer the most protection for bicycles. These are often placed at bus or train stations to help with first mile/last mile connections. A service provider must be selected, and locations must be determined based on location of most trafficked bicycle areas.



Source: sfbike.org



Offering safe bicycle parking incentivizes more people to use bicycles. While short-term parking may be suitable for bicycle racks, bicycle lockers offer long-term parking solutions for bicycles at an affordable price and provide the most protection for bicycles, which is especially suitable in hot climates.

Funding

Future planning for additional bicycle and pedestrian-based infrastructure in the Town of Lauderdale-By-The-Sea is vital. During the development of the Pedestrian and Bicycle Circulation Enhancement Study, consideration was given to the evaluation of the existing transportation network, citizen participation, current and future land use patterns, and cost. The Town is responsible for providing transportation resources to its residents that are safe, reliable, and convenient. Additionally, the Town must make a diligent effort to secure various forms of funding in order to provide effective mobility and access, as well as exercise fiscal accountability and pursue innovative funding strategies. With increasing construction cost, and increased limitations on the ability to generate revenue, cities are creating partnerships with other jurisdictions as well as the private sector, in order to create new funding opportunities to finance projects.

The Trump Administration has promised to invest \$900 million in American infrastructure through the Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grants program. The funding has been awarded to 55 projects in 35 states. Miami-Dade County was the only project in South Florida to receive funding. The Underline Project is based on the design and construction of enhancements to a 10-mile corridor including separated bike and pedestrian facilities, lighting, wayfinding, and intersection safety improvements.

Fiscal Year 2019 BUILD Transportation grants are for investments in surface transportation infrastructure and have been awarded on a competitive basis to projects with a significant impact in their local or regional communities. BUILD funding supports roads, bridges, transit, rail, ports or intermodal transportation. The program selection criteria encompassed safety, economic competitiveness, quality of life, state of good repair, environmental sustainability, innovation, and partnerships with a broad range of stakeholders. The Department of Transportation has awarded 50% of BUILD Transportation grant funding to projects located in rural areas. For this round of BUILD grants, the maximum grant award is \$25 million, and no more than \$90 million can be awarded to a single State. A 20% match is required for the BUILD grant. The next round ends between May and July. BUILD grants for urban areas must at least be \$5 million in value. The Town of Lauderdale-By-The-Sea may have to collaborate with adjacent municipalities on a multi-city project in order to meet the requirements, as none of the projects are \$5 million.

Broward County MPO Needs Summary by Mode includes \$500-\$520 million for Bicycle and Pedestrian projects and \$20-\$47 million for Greenways. Between 2020 and 2045, \$12.8 billion is available to fund Commitment 2045 transportation improvements throughout Broward County.

The Surface Transportation Block Grant Program (FAST Act) is primarily for Federally-maintained roads, but exceptions can be made for: "Bridge and tunnel projects; safety projects; fringe and corridor parking facilities/programs; recreational trails, pedestrian and bicycle projects, and safe routes to school projects; boulevard/roadway projects largely in the right-of-way of divided highways; inspection/evaluation of bridges, tunnels, and other highway assets; port terminal modifications; and projects within the pre-FAST Act title 23 definition of "transportation alternatives," (23 U.S.C. 133(c))". *Source: <https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm>*



The Complete Streets and other Localized Initiatives Program (CSLIP) provides funding up to \$3 million for small local transportation projects which improve the safety and mobility for all transportation users in Broward. This competitive grant program can fund projects such as (but not limited to): complete streets projects, traffic calming and intersection improvements, ADA upgrades, mobility hubs, bus shelters, bike racks and technology advancements such as transit signal priority and traffic control devices.

PeopleForBikes Community Grant Program funds bicycle infrastructure projects and advocacy initiatives for rider safety. Non-profits, government agencies are eligible for this up to \$10,000 grant.

The FHWA Office of Human Environment's Measuring Multimodal Network Connectivity Pilots grant funds pilot projects using multimodal network connectivity measures for performance-based planning and/or project development. Pilot projects must include case study reports showing practical implementation of the FHWA Guidebook for Measuring Multimodal Network Connectivity. Eligible agencies are State DOTs, MPOs, and Regional TPOs. The FHWA share of the pilot projects will be up to \$100,000, with a matching requirement of at least a 20% non-federal share. In-kind contributions may count as match. (fdot.gov)



► GOALS AND RECOMMENDATIONS

The overall goal is to serve a variety of users from a bicycle and pedestrian perspective, so a multi-faceted approach is being recommended in this Plan. Walking and biking are modes that do not require the use of an automobile. Providing the ability to use these modes supports multimodal and intermodal initiatives that have been set forth by both Lauderdale-By-The-Sea and Broward County. An overall bicycle and pedestrian master plan linking the existing Town generators with the overall county system, coupled with the Town municipal circulator routes connected with the Broward County Transit routes, and the potential of internal traffic calming projects would make Lauderdale-By-The-Sea a model for intermodal suburban communities in the county.

RECOMMENDATION

There needs to be proper bicycle and pedestrian counts. These are essential to:

- Establish the current level of activity
- Identify facilities for improvement
- Conduct before-and-after evaluations of new programs and facilities
- Provide a baseline to monitor trends with future counts
- Counts are needed in order to begin working on a methodology to study the relationship between walking and cycling activity and prioritize investment.

Pedestrian Improvements

NETWORK COMPLETION

The pedestrian network in the Town needs to be complete. The Town has focused its efforts on Commercial Boulevard, creating a beautiful and comfortable walking environment. However, access to the corridor needs improvement. All main access streets should have either a sidewalk or a shared use path. Main roadways which serve the beach access points and commercial corridor should have a minimum of 6-foot sidewalks. A challenge in implementing sidewalks throughout the district include the need to acquire additional right-of-way on the streets which do not have sidewalks on both sides of the street. These should be implemented either through investment by the Town, or as a requirement for new or redevelopments coming in to ensure adequate pedestrian facilities exist.



The issue of midblock crossing near parking areas on Commercial Boulevard can be resolved by installing bollards with landscaping.



COMFORT

Seating and shade is necessary to create a comfortable walking environment for pedestrians. Seating is ample along the commercial corridor, but lacking elsewhere. Shade is also lacking in many areas; shade trees should be placed at regular intervals, especially at seating areas and bus stops without shelters. Lauderdale-By-The-Sea is currently working with Broward County Transit to place shelters at locations where there are none. Upon project completion, 23 of 29 transit stops could have shelters in place.



BLOCK LENGTH AND WALKING DISTANCE IMPROVEMENTS

In areas with short block lengths, closely spaced intersections ensure that pedestrians can easily find crosswalks without having to go out of their way, but many areas have long blocks with widely-spaced intersections and fewer crossing opportunities. Mid-block crosswalks may provide a convenient crossing for pedestrians when other crossing opportunities are distant, or where a destination creates high crossing demand. Site-specific analysis and environmental clearance would be required for any proposed mid-block crossing to identify whether it would result in or contribute to unacceptable levels of service or delay to transit vehicles. These improvements may include:

- Flashing beacons
- Special Intersection Paving
- Raised median midblock pedestrian crossing

Addressing walking distance to beach access points and commercial areas will enhance mobility and accessibility. These improvements are particularly needed to address lack of connectivity between the east and west side of roadways. The following lists the intersections at which improvements could be made to allow for safe pedestrian crossings:

1. A1A and Palm Club Drive - midblock crossing at this location.



2. A1A midblock crossing at approximately Coral Reef Drive signalization improvements.



3. Sidewalk improvement to beach access behind Mulligans.



- 4. Seagrape Drive between Commercial Boulevard and Hibiscus Avenue - midblock crossing.
- 5. Seagrape Drive and Washingtonia Avenue crosswalk improvements.



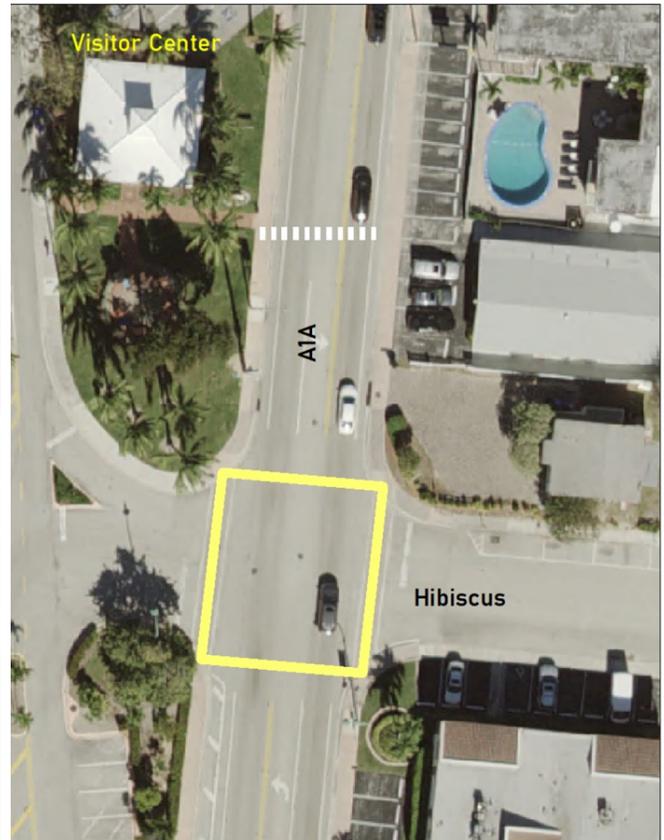
- 6. Washingtonia Avenue and Poinciana Street - Intersection crosswalk improvements.
- 7. Poinciana Street and Friedt Family Park - midblock crossing.



8. Bougainvillea Drive and Friedt Family Park - midblock crossing to access beach.



9. Bougainvillea Drive north of Friedt Family Park - existing midblock signalization improvements.
10. A1A and Hibiscus - Midblock crossing to Visitor Center.

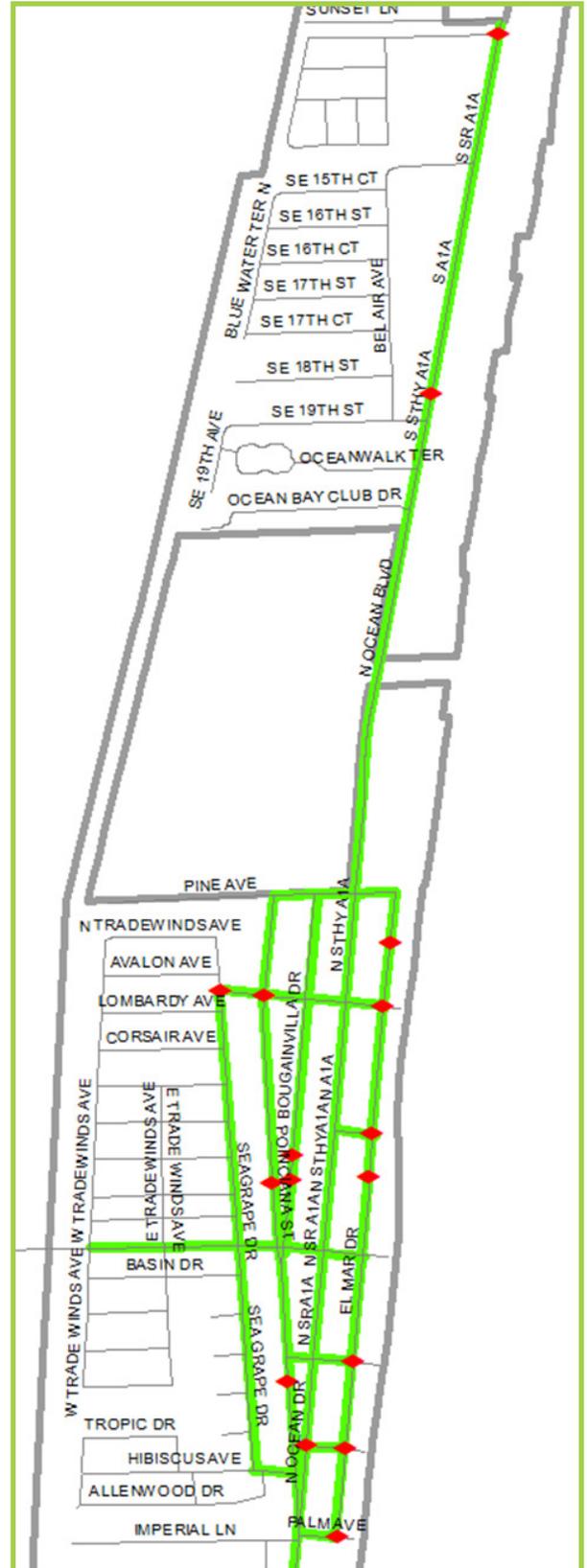




The Conceptual Pedestrian Network Map shows the conceptual pedestrian network, including sidewalks/ shared use paths, and crossings. The Town should:

- Acquire land as needed for sidewalk rights-of-way as desired.
- Repair sidewalks and/or remove obstructions
- Begin completing the Sidewalk Network
- Provide additional shade, shelter, and seating
- Create Mixed Use Paths to continue to complete the sidewalk network
- Develop possible greenways
- Enhance crossings

Conceptual Pedestrian Network Enhanced Crossings



Legend

◆ Enhanced Crossings



Traffic Calming

The Town should over time reduce the neighborhood vehicular speed from 25 to 20 mph on all local roads, especially those next to heavily used roadways such as Seagrape Drive. The various types of traffic calming devices such speed humps and chicanes, as described earlier in the study, may be useful to slow speeds on Lauderdale-By-The-Sea's neighborhood roads. It is recommended that the Town conduct a traffic calming speed study to determine if and what type of traffic calming devices are needed on the following roadways:

1. Codrington Drive
2. Imperial Lane
3. Bougainvillea Drive
4. Poinciana Street
5. Seagrape Drive
6. West Tradewinds Avenue
7. Washingtonia Avenue
8. Basin Drive
9. Pine Avenue





Bicycling Enhancements

Bicycling can serve as a mobility option once the appropriate infrastructure is in place. Bicycle facilities come in multiple forms and function for travel and storage. Storage bicycle racks and lockers can also double as public art. Bicycle facilities for travel range from sharrows to bike lanes, shared use paths and cycle tracks, as discussed earlier. Existing connections in the Town need to do the following:

- Connect to and from the region;
- Integrate the neighborhoods into the connection;
- Create ease of internal mobility; and
- Better connect the west single-family homes to the beach and the commercial areas.

Local bicycling facilities were evaluated and included as well as the LOS for the facilities. The amount of bicycle parking is sufficient in some areas of the Town, but not in others. Bicycle facility recommendations are provided below:

- Complete the bicycle network grid
- Improve existing bicycle facilities
- Provide additional BShare stations at north and south end of A1A and/or El Mar Drive
- Provide bicycle racks at the following locations:
 - Beach Access point at approximately North A1A 1600 S. Ocean Avenue
 - Beach Access point at approximately S. A1A Ocean Club Drive
 - Beach Access point at Hibiscus Avenue
 - Beach Access point near El Mar Drive south of Commercial Boulevard (behind Mulligans restaurant)
 - North side of Commercial Boulevard between A1A and El Mar Drive

The existence of multiple groups with divergent needs raises the question: What are the appropriate facilities for Lauderdale-By-The-Sea? Accommodating different groups in a diverse community means that the Town should be planning for an integrated bicycle grid with multiple options, such as:

BIKE LANES

Bicycle lanes should be at least 4' in width on each side of the roadway except for one-way streets and should be marked in green paint. Bike lanes are recommended for A1A, Bougainvillea Drive (north of Commercial Boulevard), Washingtonia Avenue, Poinciana Street, and Seagrape Drive.

SHARED-USE PATHS

Also known as mixed-use lanes, shared-use path generally should be 10' in width, though more space can be given as necessary. Due to the combination of uses, shared-use paths are good candidates for areas with more limited right-of-way available, or where more space for both pedestrians and bicyclists are desired.





SHARROWS

Other roadways within the grid are designated as sharrows. While technically bicyclists can ride on any roadway, as bicycles are legally defined as vehicles, the purpose of designating specific roadways is to 1) Create a knowledge system of routes for potential riders; 2) Ensure that markings are in place to warn drivers; 3) To provide a focal point for additional “greenway” landscaping when possible, and 4) To provide a system which allows for continued monitoring for traffic calming and other needs to ensure continued safety. Roadways in the grid designated as sharrow roadways are: Tradewinds Avenue, both West and East, and Bougainvillea Drive, south of Commercial Boulevard.

Additionally, bicycle parking requirements could be modified, and additional racks and lockers could be installed at key hub locations. The Town may consider implementing bicycle parking/rack requirements for new commercial and multi-family developments.

Minimum requirements for bicycle parking or racks for residential and commercial developments could be implemented to create additional facilities.

The Town should explore utilizing protected bicycle intersections such as bike boxes, at locations with high traffic, such as A1A and Commercial Boulevard.



Bike Racks are needed at the following locations:

1. Beach Access point at approximately 1600 S. Ocean Drive (A1A)
2. Beach Access point north of Sea Watch Restaurant
3. Beach Access point at Hibiscus Avenue
4. Beach Access point near El Mar Drive south of Commercial Boulevard (behind Mulligans restaurant)
5. North side of Commercial Boulevard between A1A and El Mar Drive

BICYCLE EDUCATION

It is believed that recommendations will be best implemented if they are administered by a committee that can help craft various policies or educational efforts and make recommendations to the Town Commission. For staff to administer to such an effort alone, on top of their existing responsibilities could be overburdening. As such a Bicycle/Pedestrian Committee is recommended to be tasked with developing bicycle and pedestrian programs such as a public education campaign. This is a multi-faceted effort that could encompass the following:

- Developing a bicycle facilities map
- Developing a bicycle brochure discussing safety, equipment, etc.,
- Working with local partners to assist in the development and funding of educational materials, and needed equipment such as helmets, etc.,
- Coordinating with local groups to discuss the benefits of biking and walking

This group could also assist in circulating the educational material with local merchants to make cycling and walking a more accepted practice in the Town.



As a result of the existing conditions analysis and public input about fifty projects were developed in four project classifications:

- Pedestrian Focused Improvements
- Bicycling Focused Improvements
- Traffic Calming
- Planning & Design

Lauderdale-By-The-Sea can fund these projects from a variety of sources. Most of the sidewalk additions and repairs would typically come from its capital improvement budget, or transportation fund. Grant opportunities exist on many levels.

Conceptual Project List

Rank	Facility	From	To	Recommended Improvement	Project Type	Planning Level Cost Estimates
1	Hibiscus	Seagrape	Bougainvilla	Construct 230 linear feet of 5' sidewalk to connect existing sidewalk grid	Pedestrian Focused Improvements	\$7,088
2	Townwide			Policy/Ordinance regulating no new sidewalk facilities to be built with obstructions	Pedestrian Focused Improvements	\$3,000 - \$8,000
3	Townwide			Policy/Ordinance regulating golf carts		\$3,000 - \$8,000
4	Seagrape			Crosswalk at Washingtonia to provide connectivity from west to east 2 ramps 2 detection strips	Pedestrian Focused Improvements	\$41,472
4	Bougainvilla			Crosswalk improvements @ Hibiscus (ramps, detection strips (2), paint)	Pedestrian Focused Improvements	\$1,352
4	Ocean Dr A1A			Midblock Crosswalk at Visitor Center	Pedestrian Focused Improvements	Ground Flashers (Solar Powered) \$40,000 Flashing Beacons \$15,000 Pedestrian hybrid beacon \$58,000 High Visibility Thermoplastic Striping 24" \$2.74/linear ft at 40lf High Visibility Thermoplastic Striping 12" 1.47/linear ft ADA Compliant Curb Ramps at Crosswalk \$1,150 Each In Street Crosswalk Stop Sign (Stop for Pedestrians within Crosswalk) \$375 each Total between \$45,000 - \$60,000
4	Ocean Dr A1A			Midblock Crosswalk at Palm Club Drive	Pedestrian Focused Improvements	Ground Flashers (Solar Powered) \$40,000 Flashing Beacons \$15,000 Pedestrian hybrid beacon \$58,000 High Visibility Thermoplastic Striping 24" \$2.74/linear ft at 40lf High Visibility Thermoplastic Striping 12" 1.47/linear ft ADA Compliant Curb Ramps at Crosswalk \$1,150 Each In Street Crosswalk Stop Sign (Stop for Pedestrians within Crosswalk) \$375 each Total between \$45,000 - \$60,000+ (possible driveway clearance issues)
4	Washingtonia	Seagrape	Poinciana	Construct 280 linear feet (north side of roadway) of sidewalk to connect existing sidewalk grid	Pedestrian Focused Improvements	\$8,538
5	Seagrape	Commercial	Hibiscus	Construct approx 1,600 linear feet of 5' sidewalk on east side of roadway	Pedestrian Focused Improvements	\$48,332
6	Ocean Dr A1A			4' Bicycle Lanes (Green lane markers)	Bicycling Focused Improvements	\$1.2 million
7	Townwide			Policy/Ordinance requiring owners to maintain clear sidewalks	Pedestrian Focused Improvements	\$3,000 - \$8,000
8	Bougainvilla	Pine Avenue	Hibiscus	Implement 4' bicycle lane to provide connectivity	Bicycling Focused Improvements	\$406,689
9	Various			Conduct a speed/count study to determine if the construction of traffic calming devices along requested corridors are required.	Traffic Calming	\$4,000 each
9	Seagrape			Install traffic calming device south of Commercial (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
10	Various			Provide bicycle safety educational program	Bicycling Focused Improvements	\$10,000 - \$40,000
11	Poinciana			Intersection improvement crosswalk at Washingtonia (Raised intersection/Traffic Calming)	Pedestrian Focused Improvements/Traffic Calming	\$50,000 - \$114,000
12	Various			Develop and adopt a standard template for wayfinding within the Town	Planning & Design	\$15,000
12	Bougainvilla			Midblock Crosswalk at Friedt Family Park to provide connectivity from west to east (beach access at south side of park)	Pedestrian Focused Improvements	\$41,812

Rank	Facility	From	To	Recommended Improvement	Project Type	Planning Level Cost Estimates
12	Bougainvilla			Midblock Crosswalk improvement (flashers) at North of Friedt Family Park	Pedestrian Focused Improvements	\$40,340
12	Bougainvilla			Midblock Crosswalk at Visitor Center to connect existing sidewalk grid	Pedestrian Focused Improvements	\$41,812
12	Ocean Dr A1A	Imperial	Condrinton	4' Bicycle Lanes	Bicycling Focused Improvements	\$45,000
12	Ocean Dr A1A			Enhanced Midblock Crosswalk at SE 19th Street (beacons/flashers)	Pedestrian Focused Improvements	Ground Flashers (Solar Powered) \$40,000 Flashing Beacons \$15,000 Pedestrian hybrid beacon \$58,000 High Visibility Thermoplastic Striping 24" \$2.74/linear ft at 40lf High Visibility Thermoplastic Striping 12" 1.47/linear ft ADA Compliant Curb Ramps at Crosswalk \$1,150 Each In Street Crosswalk Stop Sign (Stop for Pedestrians within Crosswalk) \$375 each Total between \$45,000 - \$60,000
12	Poinciana			Midblock Crosswalk at Friedt Family Park to provide connectivity from west to east	Pedestrian Focused Improvements	\$41,812
12	Poinciana	Friedt Family Park	Commercial	Construct 448 linear feet (east side of roadway to El Prado) of sidewalk to connect existing sidewalk grid	Pedestrian Focused Improvements	\$13,694
12	Bougainvilla	Friedt Family Park	Commercial	Construct 448 linear feet (west side of roadway to El Prado) of sidewalk to connect existing sidewalk grid	Pedestrian Focused Improvements	\$13,694
13	Various			Conduct Traffic Calming Study	Traffic Calming	\$45,000
14	Hibiscus			Traffic Calming Device (dependent on results of speed/count study)		Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Codrington			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Imperial Lane			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Bougainvilla			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Poinciana			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	West Tradewinds			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Washingtonia			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Basin			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Pine			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Lombardy			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
14	Various			Reduce neighborhood vehicular speed from 25 mph to 20 mph on all local roads	Traffic Calming	\$25,000
15	South Tradewinds			Install traffic calming device (Dependent on results of traffic calming study)	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
15	East Tradewinds			Install traffic calming device	Traffic Calming	Speed Hump \$2,800/hump \$9,000-\$13,000/chicane/bulb-out \$85,000+/circle
16	Poinciana			Lighting Improvements	Pedestrian Focused Improvements	In-pavement system \$18,000-\$40,000, Individual \$5,800
16	Bougainvilla			Lighting Improvements	Pedestrian Focused Improvements	In-pavement system \$18,000-\$40,000, Individual \$5,800

Rank	Facility	From	To	Recommended Improvement	Project Type	Planning Level Cost Estimates
16	Washintonia			Lighting Improvements	Pedestrian Focused Improvements	In-pavement system \$18,000 - \$40,000, Individual \$5,800
17	Townwide			Policy requiring commercial and multi-family development to provide bicycle racks/parking.	Bicycling Focused Improvements	\$3,000 - \$8,000
17	Various			Expansion of B-Cycle to additional location by adding one or two kiosk locations at north and south side of A1A or El Mar Drive	Bicycling Focused Improvements	\$40,000 - \$60,000
18	Ocean Dr A1A			Bike box at Commercial and A1A	Bicycling Focused Improvements	\$1,660
19	Beach Access			Improve striping from beach access to sidewalk behind Mulligan's	Pedestrian Focused Improvements	\$850
20	Various			Adopt Bicycle LOS Standard, recommended LOS B	Bicycling Focused Improvements	\$3,000 - \$8,000
21	Bougainvilla	Commercial	Visitor Center	Provide shade via structure, benches, trees	Pedestrian Focused Improvements	\$50,000
21	Various			Amenity Program: Provide benches, pet amenities (waste bags & disposal), trees/landscaping, and other features throughout the City	Pedestrian Focused Improvements	\$60,000
22	Beach Access			Provide Bicycle Rack at Ocean Drive North	Bicycling Focused Improvements	(10 ft, fits approximately 8 bicycles each) \$7,500 each or \$200/rack
22	Beach Access			Provide Bicycle Rack at Ocean Drive South	Bicycling Focused Improvements	(10 ft, fits approximately 8 bicycles each) \$7,500 each or \$200/rack
22	Beach Access			Provide Bicycle Rack at Hibiscus	Bicycling Focused Improvements	(10 ft, fits approximately 8 bicycles each) \$7,500 each or \$200/rack
22	Commercial			Provide Bicycle Rack at North side of Commercial Boulevard between A1A and El Mar	Bicycling Focused Improvements	(10 ft, fits approximately 8 bicycles each) \$7,500 each or \$200/rack
23	Various			Shared lanes or sharrows, all roadways classified as local	Bicycling Focused Improvements	Pavement marking 20 at \$300 total \$6,000
24	Commercial			Installation of bollards and landscaping in median west of A1A	Pedestrian Focused Improvements	\$730-\$4,000
25	Townwide			Art in Public Spaces at beach access locations and crosswalks	Pedestrian Focused Improvements	\$45,000

Disclaimer: All projects subject to maintaining agency approvals. The Town will work with the agencies outside jurisdiction for approvals.

Projects were scored based on the following criteria:

- Project increases accessibility to economic hubs
- Project reduces vehicle trips on major corridors
- Project reduced vehicle trips on local streets
- Project shifts modes from auto to other
- Project does not adversely affect the environment
- Project improves network connectivity
- Project improves safety
- Public input

Priority Projects

Based on the above-mentioned scoring criteria, the following projects were identified as high priority projects that can be implemented.

- Sidewalk connectivity along Hibiscus Avenue from Seagrape Drive to Bougainvilla Drive
- Crosswalk improvement at Hibiscus Avenue and Bougainvilla Drive
- Crosswalk on Seagrape Drive at Washingtonia Avenue to provide east west connectivity

1. Construction of 230 linear feet (.044 miles) of 5' sidewalk along Hibiscus Avenue from Seagrape Drive to Bougainvilla Drive. 5' sidewalk along north side of the roadway with 4" depth. This project would cost approximately \$7,088. For details see Appendix C.



Drawing is conceptual and not to scale.

2. Crosswalk improvement at Hibiscus Avenue and Bougainvilla Drive would only cost the Town \$1,352. This cost includes 40 linear feet of Thermoplastic 12", 80 linear feet of Thermoplastic 24", detectable warnings, and concrete sidewalk and driveways 4". For details see Appendix C.





3. Crosswalk on Seagrape Drive/Washingtonia Avenue to provide east west connectivity would cost the Town approximately \$41,472. This would include 12" and 24" Thermoplastic, detectable warnings, signage, and solar powered ground flashers. For details see Appendix C.



Drawing is conceptual and not to scale.

Comparable Projects

CITY OF HOLLYWOOD

The City of Hollywood has performed mobility improvements at various locations. The Broward Metropolitan Planning Organization (MPO) is investing over \$300 million to create safer, healthier communities in Broward County. This project is one of many within a larger plan to create enhanced bicycle, pedestrian, and public transportation access. Project length is 5.4 miles and includes installation of bike lanes along Hollywood Boulevard and Park Road; shared lane pavement markings along 35th Avenue, Polk Street, Rainbow Drive, Circle Drive, and Van Buren Street to enhance the safe travel of bicycles and motor vehicles in the same traffic lane; installing sidewalks along Fillmore Street, Hollywood Boulevard, and the intersections of Polk Street and Van Buren Street at 24th Avenue; adding a mid-block crossing on Hollywood Boulevard, east of 28th Avenue; relocating the existing water main on the north side of Hollywood Boulevard; and adding french drains on Hollywood Boulevard between Academy Circle and 35th Street, and on Park Road between Washington Street and Johnson Street.

Construction Cost: \$3,049,774

Construction Start Date: July 10, 2019

Anticipated Completion: Fall 2020

Source: www.d4fdot.com

CITY OF POMPANO BEACH

The City of Pompano Beach is in the process of installing sidewalks on NE 6th Street and SW 6th Street to improve connectivity and the addition of high emphasis pavement markings at railroad crossings.

Estimated Construction Cost: \$277,929
Completion Date: Summer 2020



Source: www.d4fdot.com

CITY OF FORT LAUDERDALE

The City of Fort Lauderdale completed the installation of pedestrian safety improvements on N. Andrews Avenue and NE 3rd Avenue at NE 1st Street as part of the Vision Zero initiative in 2019. Construction included crosswalks, pedestrian refuge areas, landscaped medians and lights. Funded through the City’s CIP \$500,000 was used to construct improvements as part of the Downtown Walkability Program.

Additional improvements along Las Olas Boulevard included raised intersections funded through the same CIP program. The duration of the project was 6 months.

Completed: 2018 Cost:\$600,000 including design



Source: www.fortlauderdale.gov



CITY OF WESTON

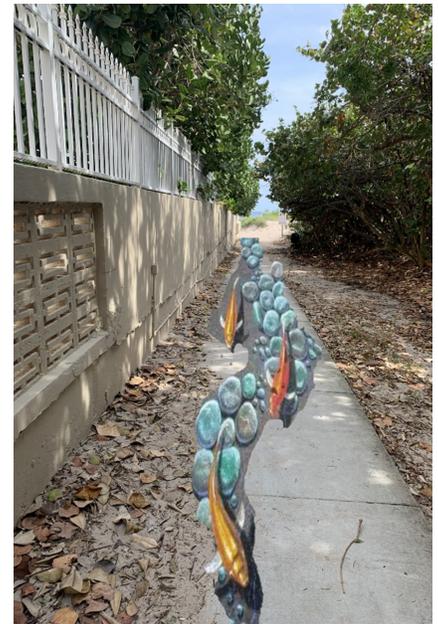
The Saddle Club Road from West Lakeview Drive to Weston Road project includes bike lanes and lane width reduction. Funded by 2020 MPO CSLIP administered by FDOT on behalf of the City of Weston.

Length: 1.767 miles Cost: \$414,000 Completion: 2025

Recommended Policies

Several ordinances can be implemented in the Town to assist with Bicycle and Pedestrian enhancement and safety efforts.

- An Ordinance to require property owners to maintain clear sidewalks so that they are not hazardous to pedestrians or cyclists.
- Expand the Seagrape Drive Sidewalk Plan efforts to other areas. The Town of Lauderdale-By-The-Sea adopted Article XI Seagrape Drive Sidewalk Plan in an effort to improve sidewalks along the Seagrape Drive right-of-way. These are construction guidelines for sidewalks on the east side of Seagrape Drive right-of-way. All new development and redevelopment of property along this roadway is required to provide for a frontage sidewalk which conforms with the elements in the section of the code.
- Golf Cart Ordinance: The Town needs to make a determination as to whether or not golf carts are permitted on bicycle facilities and sidewalks. The Town utilizes golf carts for staff to get around Town for inspections, site visits, and other business. House Bill 971 has provided cities and counties the ability to enact ordinances regulating the operation of golf carts, when such is permissible under federal law. The Town would need to consider the character of the community, and the locations that golf carts would be allowed.
- There are a great number of utilities such as power poles and fire hydrants obstructing sidewalks. An effort should be made to ensure that new facilities are not constructed with built in obstructions. This could be implemented by adopting the appropriate policy in the Land Development Regulations.
- Beach Access Enhancements: The Town could implement Art in Public Places through beach access enhancements and painted crosswalks.



IMPLEMENTATION

It is recommended that the Town of Lauderdale-By-The-Sea create an implementation plan. This is an effective tool that can formalize the implementation of the selected projects. This should include staff and decision makers involved in the planning, design, construction, and maintenance of the Town roadways. Timelines must be integrated in this process with the examination of existing policies, documents, and procedures.

The implementation plan must include an evaluation of the design process, any network gaps, and transportation infrastructure. It should also include standards, best practices, evaluation of street design, and a project checklist.



► APPENDIX A: GOALS, OBJECTIVES, AND POLICIES

FUTURE LAND USE

Goal 1.0

To maintain a coastal, resort oriented residential community characterized by a land use mix which reflects a balancing of year round, seasonal and tourist population needs with minimal disruption to natural systems that discourages urban sprawl, is energy efficient and reduces greenhouse gas emissions.

Objective 1.1

To provide and maintain the Level of Service Standards for all community services.

Policy 1.1.3: Require all proposals for development and redevelopment to meet drainage requirements for on-site water retention, provide safe and convenient on-site traffic flow and provide required on-site parking.

Policy 1.5.2: Within the Town, maintain the Town's low rise, pedestrian scale in the review of future development and redevelopment considerations consistent with the Town Charter.

Policy 1.5.9: Priority shall be given to water-dependent uses such as marinas and public access to waterways, in decisions affecting waterfront property.

Objective 1.6

To improve the overall physical appearance of the Town's business and seasonal residential areas.

Policy 1.10.2: The Town will encourage and implement the use of compact building design principles which preserve more open space, contain mixed use, support multimodal transportation options, make public transportation viable, reduce infrastructure costs and take advantage of recycled building materials.

RECREATION AND OPEN SPACE

Goal 3.0

To satisfy the recreational needs of Town residents through the provision of various recreation facilities and opportunities.

Objective 3.1

Provide for public access to and interaction with the Town's beach area.

Policy 3.1.1: Maintain and upgrade the Town's existing beach access points and adjacent vehicular parking areas.

Policy 3.1.5: Continue to seek funding support for upgrading beach access locations through grants and other funding opportunities.

Policy 3.2.2: If deemed satisfactory, allow private efforts to provide additional improvements or facilities to the Town's major park or Public Beach Area.



TRANSPORTATION ELEMENT

Goal 4.0

To maintain a local transportation system that serves the needs of the community in a safe, efficient, cost effective and aesthetically pleasing manner that promotes the reduction of greenhouse gas emissions.

Objective 4.1

Reduce the annual percentage rate of accidents occurring on Town roadways during the planning period.

Policy 4.1.5: Budget or secure agency funding for safety related activities on an “as needed” basis.

Policy 4.1.6: Except for schools, regional and community facilities shall be located close to major traffic corridors and mass transit routes adequate to carry the volume of traffic generated by such facilities.

Policy 4.1.7: Protect the safety of motorists, bicyclists and pedestrians by controlling the connections of driveways and access points to roads using, where possible, the FDOT Access Management Guidelines on State roadways.

Objective 4.3

Minimize through traffic and traffic speeds in residential areas.

Policy 4.3.1: Implement a traffic calming program to reduce “cut-through” traffic and speeds in neighborhood areas.

Policy 4.3.2: Utilize a variety of techniques to calm traffic volumes in neighborhoods including traffic control changes, traffic calming measures and enforcement.

Policy 4.3.3: Monitor traffic speeds in residential areas and utilize selective enforcement at problem locations.

Policy 4.4.2: Prohibit back out parking on SR A1A and Commercial Boulevard.

Policy 4.4.3: Require all sidewalk construction to provide handicapped ramps.

Objective 4.5

Provide for existing and future right-of-way needs and developer responsibility for project related transportation improvements.

Policy 4.5.1: As a condition of project development approval, secure existing and future right-of-way conveyances or easements for SR A1A and Commercial Boulevard consistent with the Broward County Trafficways Plan.

Policy 4.5.3: Continue to promote ridership and utilization of the Lauderdale-By-The-Sea Community Shuttle.

Policy 4.6.2: Work with Broward County and FDOT to consider low cost solutions to problem intersection operation.



Policy 4.6.3: Request Broward County and or the State to provide turn lanes and bus bays at designated locations along SR A1A and Commercial Boulevard.

Objective 4.7

Improve non-vehicular transportation modes such as mass transit, pedestrian and bicycle circulation in the Town thereby promoting the reduction of greenhouse gas emissions.

Policy 4.7.1: Investigate providing bicycle routes in conjunction with traffic and pedestrian signal locations.

Policy 4.7.2: Establish a program to identify locations where sidewalks are required within the single family residential area.

Policy 4.7.3: Improve street signage relative to bicycles and pedestrian activities.

Policy 4.7.5: Participate in bicycle planning programs of the Broward MPO and District IV of the FDOT to provide bike lanes and include consideration of bicycle and pedestrian ways in transportation planning activities.

Policy 4.7.6: Where feasible, include the construction of sidewalks and bikeways in all improvement projects; include ample signage and/or pedestrian signalization to designate and promote preferred non-vehicle routes to promote the reduction of greenhouse gas emissions.

Policy 4.7.7: Investigate the feasibility of installing bicycle racks at Town parks, beach portals, bus stops, commercial establishments and tourist centers to promote the reduction of greenhouse gas emissions.

Policy 4.7.8: Support Broward County's implementation of the potential SR A1A Greenway including a multipurpose path, bike lanes and sidewalks.

Policy 4.7.9: Coordinate with the Broward County Mass Transit Division, the Broward County Metropolitan Planning Organization and the Florida Department of Transportation to provide a more transit friendly, pedestrian and pleasing environment of bus stops, shelters and wider sidewalks within the Town to promote the reduction of greenhouse gas emissions.

Policy 4.7.10: Incorporate pedestrian improvements into the 2011 update of the Town's Master Plan to encourage increased walking and reduce automobile vehicular miles of travel.

Policy 4.7.11: Identify cost effective capital improvements such as bicycle racks/lockers, kiosks, sidewalk improvements, signage, etc., that improve pedestrian, multi-modal and transit ridership in the Town's 2012 Five Year Capital Improvement Program thereby reducing greenhouse gases.

Objective 4.8

Provide roadway facilities that are visually pleasing.

Policy 4.8.3: Establish a program for roadway, landscaping, pedestrian, lighting, drainage and utility improvements to El Mar Drive.

Policy 4.8.4: Continue to implement a program to reduce the amount of paved swales within the residential neighborhoods.



Objective 4.9

Policy 4.10.2: Encourage mixed use and transit oriented developments which support increase transit ridership, pedestrian movements, bicycling and other non-auto travel

Policy 4.11.1: Work with Broward County Mass Transit Division and the Broward MPO to secure bus bays along major transit corridors.

ECONOMIC/REDEVELOPMENT

Goal 10.0

To promote the continued economic vitality of the Town’s seasonal residential and business areas in a manner sensitive to the overall best interests of existing Town residents.

Policy 10.2.1: The Town shall consider and develop a local funding strategy to implement facility and landscaping improvements to the Town’s parks and recreation facilities, Town properties, beach access points, public right-of-ways and major entryways.

Objective 10.3

To broaden the tourist market base by encouraging innovation and modernization in the type, character and appearance of local tourist residential and business uses.

Objective 10.6

Provide for the perpetuation of the overall low-rise, pedestrian oriented atmosphere of the southern portion of the Town consistent with the Charter.

Policy 10.6.1: Maintain Plan land use designations and current building height limitation consistent with the Charter.

Policy 10.6.2: With regard to the above, consider amendments to the Plan with a clear emphasis towards maintaining an open, pedestrian friendly building character.

HOUSING

Policy 2.5.1: The Town shall promote new housing projects which contain compact building design principles, mixed use, medium to medium high densities, promote pedestrian activity and support multi-modal transportation options.

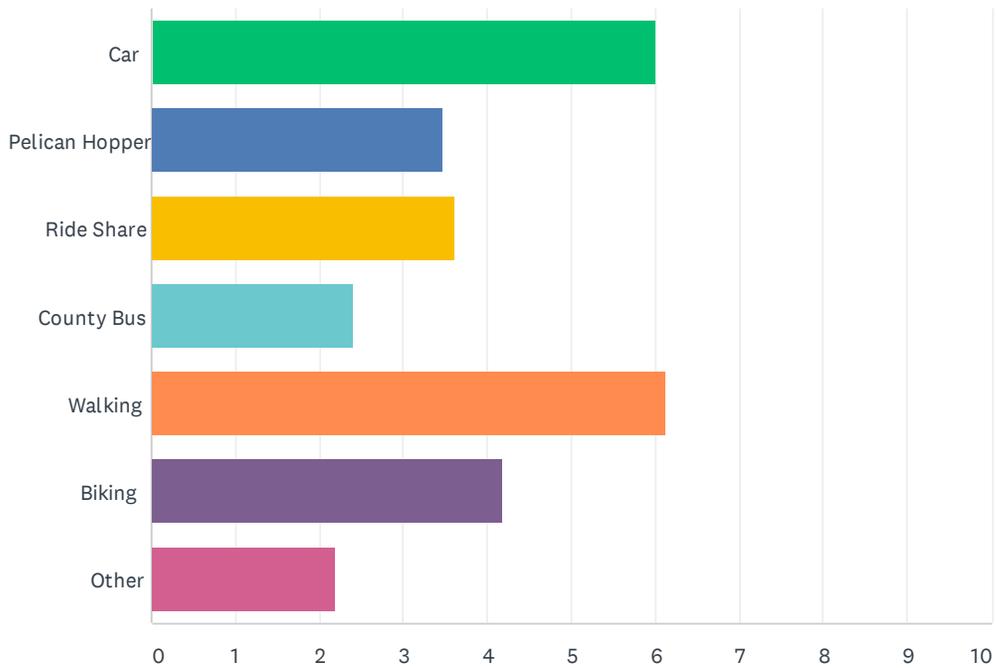


► APPENDIX B: LBTS PEDESTRIAN PLAN PUBLIC OUTREACH SURVEY

Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q1 What is the primary way you get around Lauderdale-By-The-Sea? (1 is use frequently - 6 is use the least)

Answered: 177 Skipped: 0



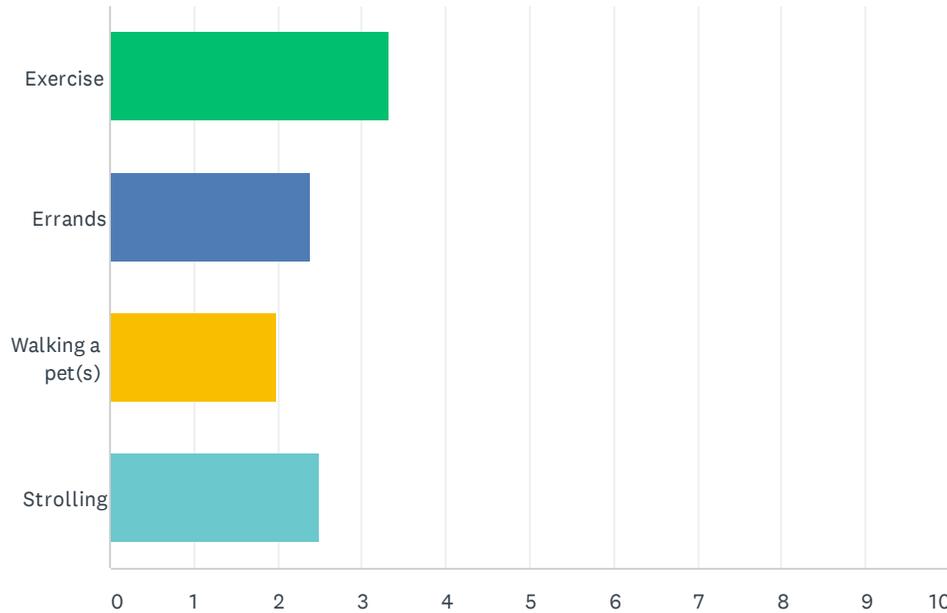
	1	2	3	4	5	6	7	TOTAL	SCORE
Car	35.59% 63	38.98% 69	16.95% 30	7.34% 13	0.56% 1	0.56% 1	0.00% 0	177	6.00
Pelican Hopper	1.13% 2	9.04% 16	16.38% 29	20.34% 36	23.73% 42	21.47% 38	7.91% 14	177	3.47
Ride Share	0.00% 0	4.52% 8	24.29% 43	24.86% 44	25.42% 45	15.82% 28	5.08% 9	177	3.61
County Bus	1.13% 2	0.56% 1	3.95% 7	13.56% 24	20.90% 37	33.33% 59	26.55% 47	177	2.41
Walking	54.24% 96	24.86% 44	10.17% 18	2.82% 5	5.08% 9	2.82% 5	0.00% 0	177	6.12
Biking	6.78% 12	19.21% 34	22.60% 40	17.51% 31	12.99% 23	13.56% 24	7.34% 13	177	4.19
Other	1.13% 2	2.82% 5	5.65% 10	13.56% 24	11.30% 20	12.43% 22	53.11% 94	177	2.19



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q2 When you walk, what is your primary purpose? (1 is frequent reason to walk - 4 is least reason to walk)

Answered: 175 Skipped: 2



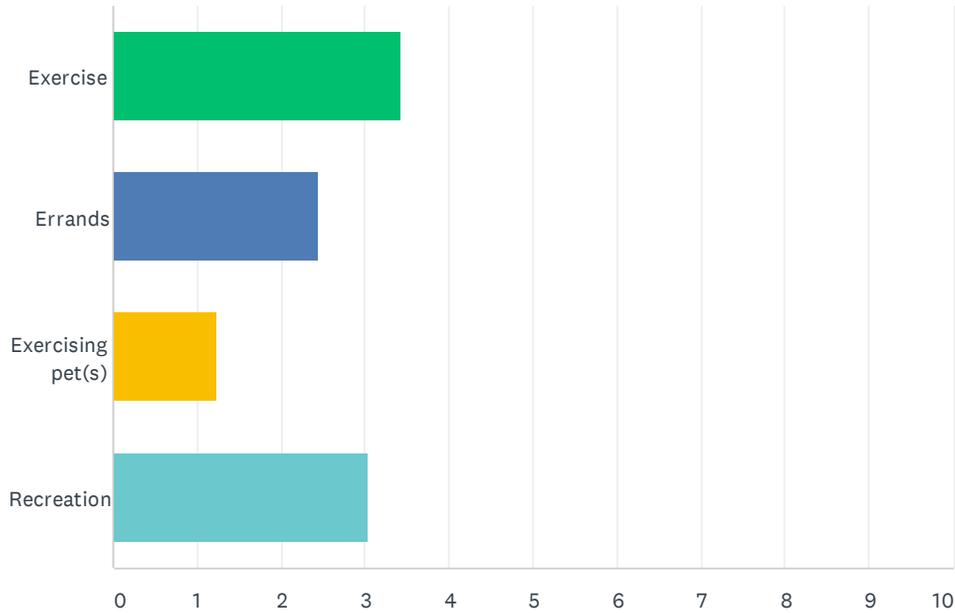
	1	2	3	4	TOTAL	SCORE
Exercise	54.97% 94	27.49% 47	12.87% 22	4.68% 8	171	3.33
Errands	13.58% 22	28.40% 46	41.36% 67	16.67% 27	162	2.39
Walking a pet(s)	18.49% 27	17.12% 25	9.59% 14	54.79% 80	146	1.99
Strolling	20.00% 32	26.88% 43	35.00% 56	18.13% 29	160	2.49



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q3 When you are on a bicycle, what is your primary purpose? (1 is frequent reason to bike - 4 is least reason to bike)

Answered: 155 Skipped: 22



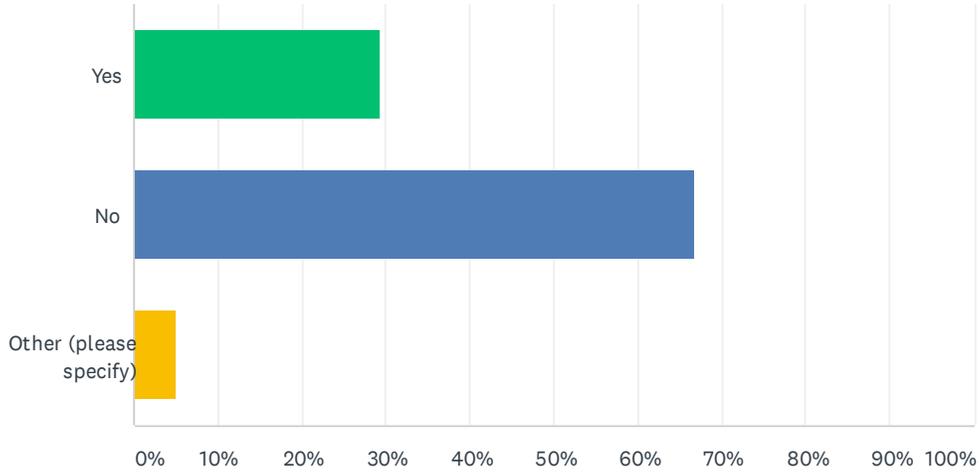
	1	2	3	4	TOTAL	SCORE
Exercise	58.39% 87	29.53% 44	9.40% 14	2.68% 4	149	3.44
Errands	9.92% 13	31.30% 41	51.15% 67	7.63% 10	131	2.44
Exercising pet(s)	0.83% 1	2.50% 3	15.83% 19	80.83% 97	120	1.23
Recreation	37.14% 52	36.43% 51	19.29% 27	7.14% 10	140	3.04



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q4 Do you run for exercise?

Answered: 177 Skipped: 0



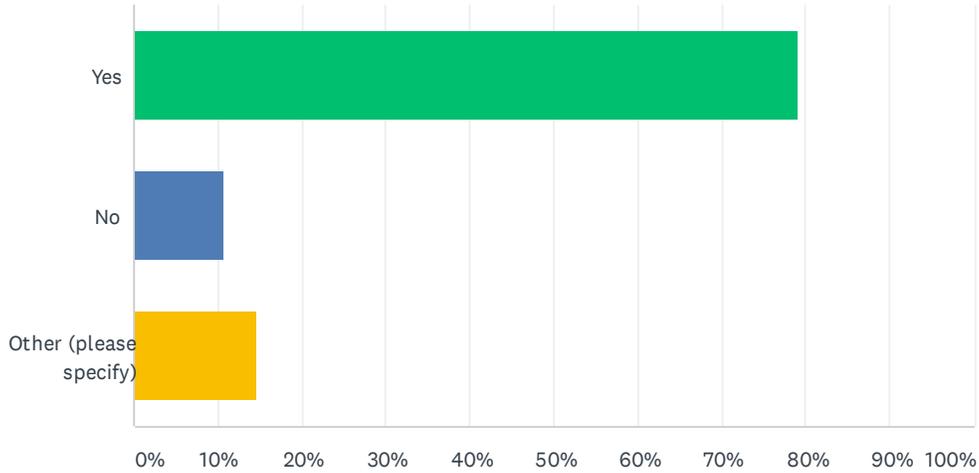
ANSWER CHOICES	RESPONSES	
Yes	29.38%	52
No	66.67%	118
Other (please specify)	5.08%	9
Total Respondents: 177		



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q5 Do you feel safe walking/biking/running in Lauderdale-By-The-Sea?

Answered: 177 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	79.10%	140
No	10.73%	19
Other (please specify)	14.69%	26
Total Respondents: 177		



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q6 Where are the two places you are most likely to walk/bike/run?

Answered: 176 Skipped: 1

#	RESPONSES	DATE
1	ocean drive and on the beach	6/16/2020 12:30 PM
2	To Galt Ocean Mile since I can use El Mar which has less traffic then A1A. Would like to walk in the opposite direction for a change, but there is little off main road walking except for a development that is farther to get to	6/16/2020 11:54 AM
3	Along the beach and on commercial	6/15/2020 12:13 AM
4	A1A Poinciana	6/14/2020 11:26 PM
5	1. Anglin Square/Restaurants etc 2. Publix and CVS	6/14/2020 10:11 PM
6	To pier and beach	6/13/2020 3:47 PM
7	To beach To downtown	6/13/2020 11:27 AM
8	In my neighborhood north of Commercial or Anglins Square for walking. Cycling extends to El Mar Drive and north and south on A1A	6/13/2020 9:37 AM
9	Along A1A to Commercial Blvd or to El Prado Park	6/13/2020 9:16 AM
10	Within my neighborhood and on Ocean to the beach	6/12/2020 4:00 PM
11	pier & Shopping	6/12/2020 2:07 PM
12	El Mar Drive	6/12/2020 2:01 PM
13	1900 N Ocean to Pier	6/12/2020 1:25 PM
14	El Mar, sea grape	6/12/2020 11:55 AM
15	el mar , commercial	6/12/2020 10:17 AM
16	A1a	6/11/2020 11:17 PM
17	A1A, El Mar Drive	6/11/2020 8:59 PM
18	Walk on beach ride on road all around itown	6/11/2020 6:32 PM
19	Grocery store and the pier	6/11/2020 12:29 PM
20	El Mar, Commercial from Sea Grape to beach	6/10/2020 6:01 PM
21	Beach and AIA	6/10/2020 9:49 AM
22	El Mar Drive and on A1A	6/10/2020 9:49 AM
23	El Mar which is the worst place. And the other dangerous place is by Pam Rossi's store. Bikers need to walk bikes over bridge.	6/9/2020 7:10 PM
24	To the beach Restaurant	6/9/2020 6:16 PM
25	El Mar and Sea Grape are safest for walking	6/9/2020 5:25 PM
26	Ocean Drive, beach	6/9/2020 1:25 PM
27	pier publix	6/9/2020 1:00 PM
28	Downtown, beach	6/9/2020 12:13 PM
29	Beach and supermarket	6/9/2020 10:07 AM
30	The pier	6/8/2020 9:54 PM
31	To the beach	6/8/2020 9:46 PM
32	Beach area and area around Aruba	6/8/2020 9:32 PM
33	City Center and tourist areas	6/8/2020 2:46 PM
34	Through my neighborhood and on El Mar.	6/8/2020 2:02 PM
35	To the town	6/7/2020 10:18 PM



36	Neighborhood streets To the beach	6/7/2020 6:25 PM
37	Beach and sidewalks around town	6/7/2020 3:23 PM
38	Bar/restaurant in LBTS Bar/restaurant near Pompano Pier	6/7/2020 1:26 PM
39	El mar / Bougainvilla	6/7/2020 12:41 PM
40	A1A & el mar & commercial	6/7/2020 11:17 AM
41	A1A Beach	6/7/2020 8:29 AM
42	El Mar Drive and Bougainvillea	6/7/2020 8:18 AM
43	El Mar Drive, and on the residential streets along the inland waterways	6/6/2020 10:42 PM
44	Publix #1 and downtown LBTS!	6/6/2020 8:38 PM
45	El mar Boigainvilla/ sea grape	6/6/2020 7:58 PM
46	El mar or a1a	6/6/2020 10:01 AM
47	Beach King and or restaurant	6/6/2020 9:01 AM
48	Everywhere where there is no cars	6/6/2020 12:57 AM
49	Anywhere near water	6/5/2020 10:22 PM
50	Along e beach and Elmar.	6/5/2020 6:59 PM
51	No where	6/5/2020 6:50 PM
52	Walk on sidewalk	6/5/2020 6:11 PM
53	Around the beach, shopping	6/5/2020 5:37 PM
54	Pine ace toEl Mar around to palm ave ocean	6/5/2020 5:14 PM
55	Only on the side streets and at the park	6/5/2020 5:01 PM
56	By the Beach	6/5/2020 4:56 PM
57	A1A & El mar	6/5/2020 3:41 PM
58	Along beach	6/5/2020 3:13 PM
59	Along El Mar Dr and north up A1A	6/5/2020 2:51 PM
60	A1A Beach	6/5/2020 2:31 PM
61	ElMar Drive and A1A	6/5/2020 1:11 PM
62	el mar drive and galt mile	6/5/2020 1:08 PM
63	Publix and downtown	6/5/2020 1:06 PM
64	El Mar	6/5/2020 12:57 PM
65	El mar drive down to the pier during the day. I don't walk at night because I worry about rift raft	6/5/2020 12:33 PM
66	A1A, Terra mar island	6/5/2020 12:28 PM
67	A1A and El Mar	6/5/2020 12:23 PM
68	ElMar into town from Sea Ranch Club.	6/5/2020 12:22 PM
69	Walgreens, Publix, Pump!	6/5/2020 12:15 PM
70	Commercial to beach	6/5/2020 12:14 PM
71	Down to the area by the restaurants and pier.	6/5/2020 12:13 PM
72	The square or ElPrado Park	6/5/2020 11:37 AM
73	El Mar Drive. Washingtonia.	6/5/2020 11:31 AM



74	A1A. El mar	6/5/2020 11:04 AM
75	THIS IS A TEST. DO NOT COUNT THE ANSWERS TO THIS SURVEY.	6/5/2020 11:00 AM
76	Town center El mar	6/5/2020 11:00 AM
77	LTBS circle	6/5/2020 10:55 AM
78	Work	6/5/2020 10:03 AM
79	El mar and neighborhood	6/5/2020 10:02 AM
80	A1A	6/5/2020 9:57 AM
81	El Mar Drive Galt Ocean Mile	6/5/2020 9:51 AM
82	in our neighborhood of Bel-air and through town, down el mar drive to Caribe and back	6/5/2020 9:46 AM
83	El Mar, back/residential streets	6/5/2020 9:30 AM
84	Commercial and A1A area, and the Sea Ranch Centre	6/5/2020 9:29 AM
85	Bel Air	6/5/2020 9:15 AM
86	The beach/ the street	6/5/2020 9:04 AM
87	El Mar Bougainvillea	6/5/2020 8:53 AM
88	El Mar Drive only	6/5/2020 8:34 AM
89	El Mar	6/5/2020 8:31 AM
90	A1A just north & south of Commercial & loop thru town square	6/5/2020 8:31 AM
91	Beach or along A1A	6/5/2020 8:20 AM
92	Beach and el mar	6/5/2020 8:14 AM
93	ElMar Ocean	6/5/2020 8:14 AM
94	Aruba Ocean 101	6/5/2020 8:11 AM
95	Walk along A1A	6/5/2020 8:01 AM
96	A1A, beach	6/5/2020 5:53 AM
97	El Mar Commercial	6/4/2020 1:29 PM
98	along the beach/el mar and poinciana street	6/3/2020 11:11 AM
99	Ocean drive north of Commercial. And Commerical near the pier	6/3/2020 10:04 AM
100	El Mar and Commercial Bld	6/3/2020 8:56 AM
101	A1A	6/3/2020 7:40 AM
102	El Mar Drive A1A	6/1/2020 9:12 PM
103	El mar Drive, Bougainvilla	6/1/2020 6:51 AM
104	El mar dr A1A	6/1/2020 5:57 AM
105	Beach and into town	5/31/2020 5:11 PM
106	El Mar and a1a	5/30/2020 10:45 PM
107	El Mar - Downtown	5/30/2020 9:19 PM
108	To the beach Along A1A, Elmar, Galt Ocean Drive	5/29/2020 9:53 PM
109	Elmar drive and throughout local neighborhood streets	5/29/2020 4:12 PM
110	Neighborhoods	5/29/2020 12:47 PM
111	El Mar Drive Bouganvillea Drive Commercial Blvd	5/29/2020 9:02 AM



112	In neighborhoods around town and off of A1A	5/29/2020 7:57 AM
113	El Mar	5/29/2020 12:09 AM
114	Commercial Blvd Beach	5/28/2020 10:00 PM
115	Beach and downtown.	5/28/2020 8:59 PM
116	The loop N Tradewinds down Seagrape to Commercial and back W Tradewinds	5/28/2020 8:31 PM
117	Beach and El Mar	5/28/2020 8:23 PM
118	El mar & A1A	5/28/2020 7:04 PM
119	El Mar, A1A	5/28/2020 5:52 PM
120	around A1A and Commercial	5/28/2020 4:40 PM
121	South to Fort Lauderdale and north to Pine on Ocean and El Mar.	5/28/2020 4:24 PM
122	A1A and Terra Mar Drive	5/28/2020 3:01 PM
123	Silver Shores area	5/28/2020 1:05 PM
124	Commercial to the beach. Silver Shores	5/28/2020 8:43 AM
125	Just walk. Does not have a bike, I don't like bikers. Too many and do not respect rules.	5/28/2020 8:20 AM
126	Elmar and A1A	5/28/2020 8:18 AM
127	South end of El Mar to Commercial Flamingo Ave to Winn Dixie	5/28/2020 8:04 AM
128	El Mar Drive, neighborhoods	5/28/2020 7:16 AM
129	A1A	5/28/2020 7:16 AM
130	El Mar and sea grape dr.	5/28/2020 6:52 AM
131	el mar drive or a1a	5/27/2020 10:23 PM
132	Residential neighborhood Town	5/27/2020 9:49 PM
133	Run the ocean	5/27/2020 9:34 PM
134	Commercial down to the ocean and along el mar drive	5/27/2020 9:09 PM
135	away from our congestion and only on sidestreets	5/27/2020 9:03 PM
136	El Mar Silver Shores	5/27/2020 8:59 PM
137	East of A1A	5/27/2020 8:51 PM
138	El mar drive, commercial	5/27/2020 8:40 PM
139	along Ocean Blvd at our condo at the Beach	5/27/2020 7:51 PM
140	Elmar drive & Commercial	5/27/2020 7:49 PM
141	Beach and El Mar	5/27/2020 7:28 PM
142	A1A Palm Club Bel Air Ter a Mar	5/27/2020 7:05 PM
143	A1A and commercial blvd	5/27/2020 7:00 PM
144	Into town to beach	5/27/2020 6:51 PM
145	1) downtown 2) grocery store	5/27/2020 6:44 PM
146	El mar drive	5/27/2020 6:40 PM
147	Commercial Ave and Publix shopping center	5/27/2020 6:38 PM
148	peir and bank	5/27/2020 6:38 PM
149	El mar	5/27/2020 6:34 PM



150	El Mar Drive Bougainville Drive	5/27/2020 6:29 PM
151	A1A and beach	5/27/2020 6:28 PM
152	Prado Park Plunge beach access	5/27/2020 6:14 PM
153	beach, restaurants & shops	5/27/2020 6:10 PM
154	Elmar A1A	5/27/2020 6:04 PM
155	downtown & downtown!	5/27/2020 6:03 PM
156	Near bougainville	5/27/2020 5:49 PM
157	A1A El Mar	5/27/2020 5:46 PM
158	my neighborhood (silver shores) El Mar drive to downtown	5/27/2020 5:39 PM
159	ocean 101, exercise	5/27/2020 5:28 PM
160	El Mar drive To the Square Neighborhood by publix	5/27/2020 5:27 PM
161	A1A and El Mar	5/27/2020 5:27 PM
162	Publix/El Mar Drive	5/27/2020 5:07 PM
163	Beach - run-walk A1A - Bike	5/27/2020 4:55 PM
164	El Mar and Commercial Blvd	5/27/2020 4:53 PM
165	A1A, El Mar	5/27/2020 4:53 PM
166	From Imperial to Publix on bike Walking from one end of Elmar to the other	5/27/2020 4:52 PM
167	down town	5/27/2020 4:52 PM
168	El Mar, Seagrape	5/27/2020 4:52 PM
169	Center of our town	5/27/2020 4:51 PM
170	El mar drive and beach	5/27/2020 4:51 PM
171	A1A, El Mar Drive	5/27/2020 4:50 PM
172	El mar	5/27/2020 4:50 PM
173	El Mar Drive Sea Grape	5/27/2020 4:46 PM
174	ElMar & Beach	5/27/2020 4:45 PM
175	EL MAR AND SOUTH OCEAN	5/27/2020 4:43 PM
176	El Mar and Ocean Dr	5/27/2020 4:41 PM



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q7 Where are the two places you wish were safer to walk/bike/run?

Answered: 161 Skipped: 16

#	RESPONSES	DATE
1	safer to walk on the beach	6/16/2020 12:30 PM
2	El Mar. I look for places that are shaded in the morning. I wish El Mar had a little more shade	6/16/2020 11:54 AM
3	Draw bridge	6/15/2020 12:13 AM
4	A1A Commercial Blvd	6/14/2020 11:26 PM
5	Commercial and AiA Crossing Commercial. (But we like the one cross walk)	6/14/2020 10:11 PM
6	All pretty safe	6/13/2020 3:47 PM
7	A1A Commercial	6/13/2020 11:27 AM
8	A1A and Commercial Blvd.	6/13/2020 9:37 AM
9	A1A	6/13/2020 9:16 AM
10	Ocean Blvd. Bike lanes are on street without divider	6/12/2020 4:00 PM
11	A1A&Commercial	6/12/2020 2:07 PM
12	El Mar drive	6/12/2020 2:01 PM
13	The entire town	6/12/2020 1:25 PM
14	Bougainvilla and El mar	6/12/2020 11:55 AM
15	el mar , a1a	6/12/2020 10:17 AM
16	A1A	6/11/2020 11:17 PM
17	A1A and A1A	6/11/2020 8:59 PM
18	On A1A	6/11/2020 6:32 PM
19	Wish more lighting on El Mar since some of our walks are in the evening on that street.	6/11/2020 12:29 PM
20	Ocean Drive, Sea Grape with speeders	6/10/2020 6:01 PM
21	AIA & bridges	6/10/2020 9:49 AM
22	A1A	6/10/2020 9:49 AM
23	El Mar. Bridge.	6/9/2020 7:10 PM
24	Commercial bridge	6/9/2020 6:16 PM
25	There is no sidewalk on Hibiscus Ave from Bougainvilla Dr to Tropic Drive. Very dangerous walking from the 70 homes on Tropic Dr, Allenwood Dr, and Hibiscus Ave to the beach or town. Hibiscus is the main artery that connects pedestrians from these 70 homes to the sidewalk structure at Bougainvilla Dr and sections of town east. Recommend building sidewalk on north side of Hibiscus Ave from Bougainvilla Dr to Tropic Dr. (approx 700 ft of sidewalk) to improve pedestrian safety for the 70 residential homes that have to exit Hibiscus to walk to the beach or village.	6/9/2020 5:25 PM
26	ocean drive, beach	6/9/2020 1:25 PM
27	residential areas, areas without sidewalks	6/9/2020 12:13 PM
28	Elmar Drive and Commercial Blvd	6/9/2020 10:07 AM
29	Cross walks	6/8/2020 9:54 PM
30	At night	6/8/2020 9:46 PM
31	N/A. I feel very safe in the community	6/8/2020 9:32 PM
32	West of A1A	6/8/2020 2:46 PM
33	El Mar	6/8/2020 2:02 PM
34	Commercial Blvd & A1A	6/7/2020 6:25 PM



35	Crossing streets	6/7/2020 3:23 PM
36	A1A can be dark, lights out for turtles, bike lanes are narrow towards Sea Ranch area.	6/7/2020 1:26 PM
37	Crossing A1A by plunge & crossing by Washingtonia if I had to say Plus the curve on Bougainvilla where we stop but they don't to get on commercial that's huge	6/7/2020 12:41 PM
38	A1A	6/7/2020 11:17 AM
39	I feel safe everywhere Some neighborhoods don't have sidewalks	6/7/2020 8:29 AM
40	A1A and Commercial Blvd.	6/7/2020 8:18 AM
41	Ocean Drive and n/a	6/6/2020 8:38 PM
42	A1A	6/6/2020 7:58 PM
43	Alley walking towards Aruba's	6/5/2020 10:22 PM
44	Along A1A	6/5/2020 6:59 PM
45	No where	6/5/2020 6:50 PM
46	none	6/5/2020 5:37 PM
47	A1A & El Mar	6/5/2020 5:14 PM
48	A1A and commercial	6/5/2020 5:01 PM
49	Along A1A	6/5/2020 4:56 PM
50	I feel safe	6/5/2020 3:41 PM
51	Commercial El Mar	6/5/2020 3:13 PM
52	A1A and El Mar	6/5/2020 2:51 PM
53	None	6/5/2020 2:31 PM
54	Crossing A1A at intersection at Hibiscus Avenue and at stop sign which people run through on Hibiscus and Bougainvilla.	6/5/2020 1:11 PM
55	south end of elmar by holiday inn site	6/5/2020 1:08 PM
56	Everywhere	6/5/2020 1:06 PM
57	El Mar	6/5/2020 12:57 PM
58	El mar drive at night.	6/5/2020 12:33 PM
59	A1A and El Mar	6/5/2020 12:23 PM
60	Walking down ElMar early morning.	6/5/2020 12:22 PM
61	The square, El Mar drive	6/5/2020 12:15 PM
62	Same	6/5/2020 12:14 PM
63	I feel pretty safe	6/5/2020 11:37 AM
64	Commercial/A1A.	6/5/2020 11:31 AM
65	A1A. El mar	6/5/2020 11:04 AM
66	test	6/5/2020 11:00 AM
67	A1A Commercial/A1A intersection	6/5/2020 11:00 AM
68	LTBS circle	6/5/2020 10:55 AM
69	Commercial	6/5/2020 10:03 AM
70	El mar and A1A	6/5/2020 10:02 AM
71	A1A	6/5/2020 9:57 AM



72	our neighborhood could use sidewalks, and up A1A	6/5/2020 9:46 AM
73	Commercial Blvd, A1A	6/5/2020 9:30 AM
74	Commercial bridge and A1A	6/5/2020 9:29 AM
75	Same as above; Bel Air	6/5/2020 9:15 AM
76	A1A	6/5/2020 8:53 AM
77	The connection between the Galt and El Mar is very dangerous.	6/5/2020 8:31 AM
78	Sidewalk area just north of Ocean walk Ter is a little uneven/ commercial bridge needs a guard rail as cars FLY by	6/5/2020 8:31 AM
79	Beach, along A1A	6/5/2020 8:20 AM
80	I feel safe every where	6/5/2020 8:14 AM
81	Far end of El Mar where the old hotel is.	6/5/2020 8:14 AM
82	N/A	6/5/2020 8:11 AM
83	A1A	6/5/2020 5:53 AM
84	El Mar at night is dark	6/4/2020 1:29 PM
85	along el mar and poinciana st	6/3/2020 11:11 AM
86	Along Ocean drive overall	6/3/2020 10:04 AM
87	North side of Hibiscus between Bougainvillea and Sea Grape	6/3/2020 8:56 AM
88	A1A	6/3/2020 7:40 AM
89	N/A	6/1/2020 9:12 PM
90	Commercial & A1A	6/1/2020 6:51 AM
91	A1A	6/1/2020 5:57 AM
92	We feel safe everywhere	5/31/2020 5:11 PM
93	El Mar and A1a	5/30/2020 10:45 PM
94	More lighting at night on El Mar would be nice.	5/30/2020 9:19 PM
95	Intersection of Commercial and Ocean. They should have an "all walk" light including diagonal for pedestrians.	5/29/2020 9:53 PM
96	Elmar Dr	5/29/2020 4:12 PM
97	The bridge and Commercial Blvd	5/29/2020 12:47 PM
98	From Trade Winds Avenue West to Commercial Blvd & El Mar Drive & Ocean Drive Areas.	5/29/2020 9:02 AM
99	A1A and Commercial Blvd.	5/29/2020 7:57 AM
100	El Mar	5/29/2020 12:09 AM
101	Commercial sidewalks	5/28/2020 10:00 PM
102	A1A for biking.	5/28/2020 8:59 PM
103	N/A	5/28/2020 8:31 PM
104	A1A and El Mar	5/28/2020 7:04 PM
105	A1A could have a bigger bike lane	5/28/2020 5:52 PM
106	Bridge area	5/28/2020 4:40 PM
107	El Mar and Ocean Drive south of commercial after dark and Bougainville from Ocean north to Pine after Dark and commercial west of Sea Grape to Federal after dark.	5/28/2020 4:24 PM
108	A1A	5/28/2020 3:01 PM



109	Silver Shores - East Tradewinds needs speed bumps or more stop signs, everyone speeds and cuts through that street to get to Sea Grape or West Tradewinds.	5/28/2020 1:05 PM
110	Commercial and A1A	5/28/2020 8:43 AM
111	Bikers do not respect transit rules at any streets in town. Specially el mar and A1A	5/28/2020 8:20 AM
112	A1A and Commercial Blvd. This is due to the cars that are speeding. No police giving speeding tickets in early morning hours 6AM to 10AM.	5/28/2020 8:18 AM
113	El Mar Ave	5/28/2020 8:04 AM
114	El Mar Drive	5/28/2020 7:16 AM
115	A1A	5/28/2020 7:16 AM
116	El Mar and sea grape because of traffic	5/28/2020 6:52 AM
117	all are safe for me	5/27/2020 10:23 PM
118	N/a	5/27/2020 9:49 PM
119	Do not know	5/27/2020 9:34 PM
120	A1A	5/27/2020 9:09 PM
121	pompano 10 th street but not on our narrow streets where the bikers ride double file. a bike lane on A1A is the stupidest idea since New Coke	5/27/2020 9:03 PM
122	1) El Mar (bicyclists paying no attention to any rule of the road or to any common courtesies). 2) A1A (bicyclists paying no attention to any rule of the road or to any common courtesies).	5/27/2020 8:59 PM
123	Closer to the beach	5/27/2020 8:51 PM
124	A1A	5/27/2020 8:40 PM
125	-	5/27/2020 7:51 PM
126	Commercial and Ocean Dr.	5/27/2020 7:49 PM
127	A1A	5/27/2020 7:28 PM
128	A1A A1A	5/27/2020 7:05 PM
129	A1A	5/27/2020 7:00 PM
130	A1a	5/27/2020 6:51 PM
131	the side streets that do not have sidewalks (walking) and biking anywhere here is a nightmare for safety reasons	5/27/2020 6:44 PM
132	A1a	5/27/2020 6:40 PM
133	N. Ocean Blvd	5/27/2020 6:38 PM
134	A1A and Commercial	5/27/2020 6:38 PM
135	Beach - need a board walk	5/27/2020 6:34 PM
136	Bougainvilla Drive	5/27/2020 6:29 PM
137	Any place at night	5/27/2020 6:28 PM
138	Stop sign areas	5/27/2020 6:14 PM
139	commercial	5/27/2020 6:04 PM
140	el mar drive & a1a	5/27/2020 6:03 PM
141	Near bougainville	5/27/2020 5:49 PM
142	A1A	5/27/2020 5:46 PM
143	el mar drive sea grape drive (Lighting and the sidewalks)	5/27/2020 5:39 PM



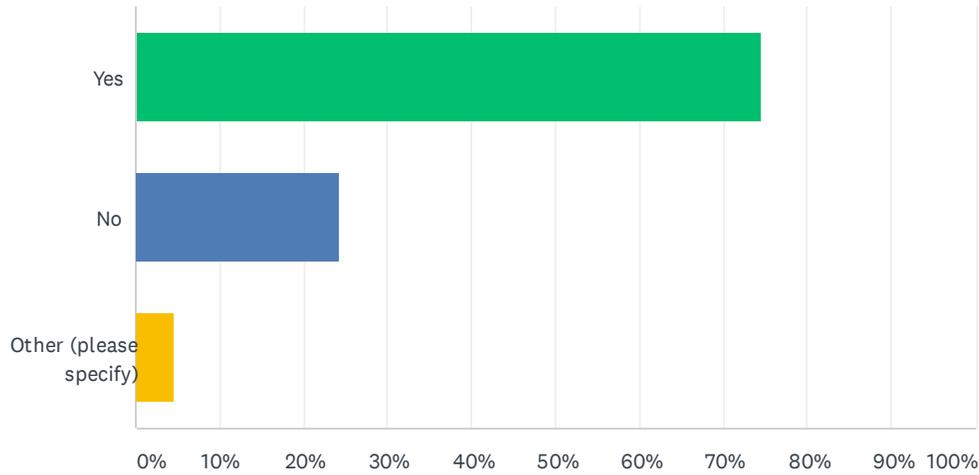
144	a1a	5/27/2020 5:28 PM
145	A1a	5/27/2020 5:27 PM
146	El Mar and A1A	5/27/2020 5:27 PM
147	The areas on El Mar that have no lights during sea turtle season.	5/27/2020 5:07 PM
148	Commercial Blvd - bike	5/27/2020 4:55 PM
149	N/a	5/27/2020 4:53 PM
150	A1A, commercial	5/27/2020 4:53 PM
151	A1A the cars Speed from Imperial to Commercial	5/27/2020 4:52 PM
152	A1A	5/27/2020 4:52 PM
153	none	5/27/2020 4:52 PM
154	A1A	5/27/2020 4:51 PM
155	Lombardy Ave and Commercial Blvd	5/27/2020 4:51 PM
156	.	5/27/2020 4:50 PM
157	X	5/27/2020 4:50 PM
158	Bougainvillea A1A	5/27/2020 4:46 PM
159	ElMar	5/27/2020 4:45 PM
160	WOULD BE NICE FOR SOUTH OCEAN TO BE SAFER BUT THAT IS HARD. MAKING EL MAR 1 LANE WOULD MAKE THAT SAFER	5/27/2020 4:43 PM
161	Commercial and Ocean Dr	5/27/2020 4:41 PM



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q8 Do you ever alter your walking/biking/running route to be in the shade?

Answered: 177 Skipped: 0



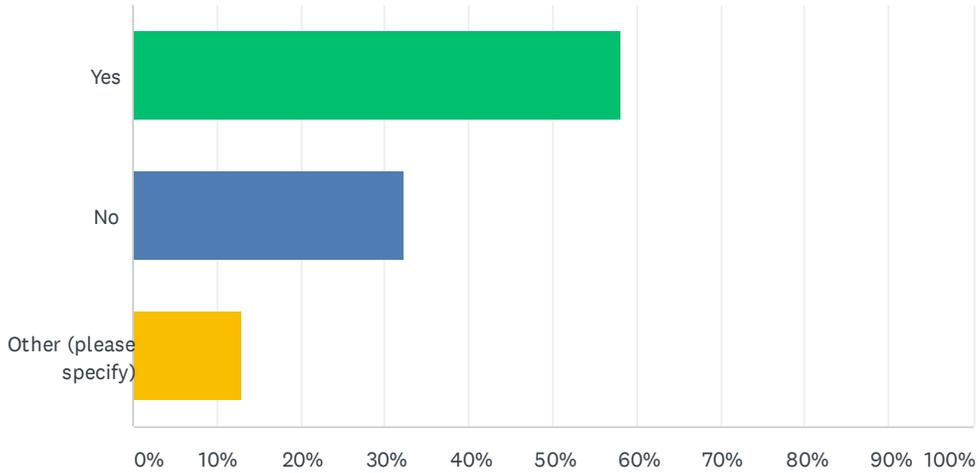
ANSWER CHOICES	RESPONSES	
Yes	74.58%	132
No	24.29%	43
Other (please specify)	4.52%	8
Total Respondents: 177		



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q9 Would you walk/bike/run more often if you felt it was safer to do so?

Answered: 177 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	58.19%	103
No	32.20%	57
Other (please specify)	12.99%	23
Total Respondents: 177		



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q10 In your neighborhood, are there streets that you consider dangerous? If so, where are they?

Answered: 159 Skipped: 18

#	RESPONSES	DATE
1	no	6/16/2020 12:30 PM
2	No	6/16/2020 11:54 AM
3	No	6/15/2020 12:13 AM
4	A1A	6/14/2020 11:26 PM
5	S of Commercial - Sea grape. Basin late at night by the marina where the boats are	6/14/2020 10:11 PM
6	No	6/13/2020 3:47 PM
7	Commercial	6/13/2020 11:27 AM
8	Commercial Blvd.	6/13/2020 9:37 AM
9	Not sure- I don't think so. But I don't feel safe walking at night or in the dark, in general.	6/13/2020 9:16 AM
10	None	6/12/2020 4:00 PM
11	Not Really	6/12/2020 2:07 PM
12	Sections of Hibiscus & Sea Grape	6/12/2020 2:01 PM
13	Commercial and Ocean	6/12/2020 1:25 PM
14	Bouginvilla and see grape are dangerous because of too much through traffic	6/12/2020 11:55 AM
15	no	6/12/2020 10:17 AM
16	A1a where there r no traffic lights	6/11/2020 11:17 PM
17	A1A where it changes over to South Ocean Blvd. from North Ocean is very dangerous to anyone that is not in a vehicle. I've witnessed first hand someone who was hit by a guy on a motorcycle while he was crossing a dark, poorly lit section of the road. Neighbors have told me he was the fourth person this year to get hit in that exact same spot. We need better lighting & more crosswalks (like the one near Publix, in front of Plunge) on A1A!!!	6/11/2020 8:59 PM
18	No	6/11/2020 6:32 PM
19	no	6/11/2020 12:29 PM
20	Sea Grape with speeders by passing Ocean Dr to Commercial	6/10/2020 6:01 PM
21	Bridges at Atlantic and Commercial	6/10/2020 9:49 AM
22	cars entering and exiting the roadway to and from parking lots	6/10/2020 9:49 AM
23	EL MAR. Live in Sea Ranch Club Condominiums.	6/9/2020 7:10 PM
24	No	6/9/2020 6:16 PM
25	Hibiscus Ave is dangerous because it is the main artery for residence to walk to beach and there is no sidewalk to allow safe pedestrian exit of the 70 homes on Tropic, Allenwood, and Hibiscus Ave	6/9/2020 5:25 PM
26	not particularly	6/9/2020 1:25 PM
27	no... less foot traffic in our neighborhood would be great... prefer "non residents" stay on A1A not cut thru Bel air	6/9/2020 1:00 PM
28	due to speeding and high traffic, walking in the street is hazardous	6/9/2020 12:13 PM
29	Corner of Hibiscus and Seagrape and corner of Hibiscus and Poinciana	6/9/2020 10:07 AM
30	Cross walk by sea watch	6/8/2020 9:54 PM
31	No	6/8/2020 9:46 PM
32	No, I feel very safe.	6/8/2020 9:32 PM
33	N/A	6/8/2020 2:46 PM



34	#1. E Tradewinds Ave does not have speed bumps and is often used as a cut-through and drivers do not adhere to the posted speed limit. They often speed down the street or run stop signs. #2. El Mar is not safe for biking as there is no designated bike lane. Drivers often get too close to bikers and/or pedestrians.	6/8/2020 2:02 PM
35	Yes, Bougainvilla Dr South bound. Cars like to speed	6/7/2020 10:18 PM
36	I am cautious after dark on El Mar and side streets near El Mar. I feel comfortable west of A1A.	6/7/2020 6:25 PM
37	No	6/7/2020 3:23 PM
38	There are tight areas, but overall we are lucky to have what we have 😊	6/7/2020 1:26 PM
39	Bougainvilla curve where we stop to get on commercial they should too	6/7/2020 12:41 PM
40	Commercial Blvd	6/7/2020 11:17 AM
41	The two main streets of Bel Air are narrow so you must walk/run/bike and drive with caution	6/7/2020 8:29 AM
42	A1A	6/7/2020 8:18 AM
43	No.	6/6/2020 8:38 PM
44	South end el Mar South end Bougainvilla	6/6/2020 7:58 PM
45	No	6/6/2020 9:01 AM
46	Alley ways	6/5/2020 10:22 PM
47	Speeding down Hibiscus.	6/5/2020 6:59 PM
48	El Mar is dangerous for cars!	6/5/2020 6:50 PM
49	No	6/5/2020 5:37 PM
50	Poinciana st. People fly down that road	6/5/2020 5:14 PM
51	There are poor drivers everywhere. I never assume that anyone is going to stop at the stop sign at Washingtonia... at bouganvilla or Poinciana. And as I have already mentioned I totally avoid walking down A1A.	6/5/2020 5:01 PM
52	A1A	6/5/2020 4:56 PM
53	No	6/5/2020 3:41 PM
54	If they don't have enough lighting	6/5/2020 3:13 PM
55	Sea Grape and Hibiscus, Hibiscus and Bougainvilla. People speed and disregard stop signs.	6/5/2020 1:11 PM
56	southern section of A1A	6/5/2020 1:08 PM
57	no	6/5/2020 1:06 PM
58	Activity on El Mar is haphazard and chaotic. Bikers, walkers, runners all act as if they have right of way on the road. Walkers do not stay on the sidewalks and often cross the road in front of bikes and vehicles, almost daring them not stop.	6/5/2020 12:57 PM
59	A1A	6/5/2020 12:23 PM
60	Not very	6/5/2020 12:22 PM
61	No	6/5/2020 12:15 PM
62	Don't live in lbs, frequent visitor	6/5/2020 12:13 PM
63	No but we could use more street lights. Poinciana & Bouganvilla & Washingtonia	6/5/2020 11:37 AM
64	Silver Shores in General is a bit scary due to small streets and all the cut through traffic. West and East Tradewinds North of Commercial especially.	6/5/2020 11:31 AM
65	No	6/5/2020 11:04 AM
66	POI5Y B	6/5/2020 11:00 AM
67	No	6/5/2020 11:00 AM



68	LBTS circle	6/5/2020 10:55 AM
69	No	6/5/2020 10:03 AM
70	Crossing A1A at the Palm Club (1431 to 1438)	6/5/2020 9:57 AM
71	bel air drive, and AIA	6/5/2020 9:46 AM
72	Commercial, A1A, Sea Grape south of Commercial because of speeding cars and drivers taking alternative route off A1A to get to the bridge	6/5/2020 9:30 AM
73	Not really	6/5/2020 9:29 AM
74	Coral Reef Drive and Bel Air Ave - speeders even with speed bumps on Coral Reef Drive.	6/5/2020 9:15 AM
75	No	6/5/2020 9:04 AM
76	A1A	6/5/2020 8:53 AM
77	Area between Galt and El Mar.	6/5/2020 8:31 AM
78	No	6/5/2020 8:31 AM
79	Oakland Park	6/5/2020 8:20 AM
80	N/a	6/5/2020 8:14 AM
81	No	6/5/2020 8:11 AM
82	a1a	6/5/2020 5:53 AM
83	NO	6/4/2020 1:29 PM
84	yes in and around the sports complex, tennis courts, near the church at night	6/3/2020 11:11 AM
85	No	6/3/2020 10:04 AM
86	Need a sidewalk on Hibiscus between Bougainvillea and Sea Grape. No where to walk to the beach but in Hibiscus road where busy car traffic.	6/3/2020 8:56 AM
87	A1A	6/3/2020 7:40 AM
88	No	6/1/2020 9:12 PM
89	No	6/1/2020 6:51 AM
90	A1A	6/1/2020 5:57 AM
91	Sea Grape south of Commercial. Rare but occasional drunk renters and / or suspicious men walking around	5/31/2020 5:11 PM
92	No	5/30/2020 10:45 PM
93	With more lighting on El Mar, it would be fine.	5/30/2020 9:19 PM
94	No except for traffic trying to avoid Commercial. South Tradewinds Ave sometimes.	5/29/2020 9:53 PM
95	Neighborhood streets are safe	5/29/2020 12:47 PM
96	Bougainvillea Drive, Ocean Drive & El Mar Drive at and around Commercial Blvd	5/29/2020 9:02 AM
97	A1A	5/29/2020 7:57 AM
98	Intersection of Imperial and A1A	5/29/2020 12:09 AM
99	No	5/28/2020 10:00 PM
100	No	5/28/2020 8:59 PM
101	There should be a sign at the bottom of the stop-sign on Washingtonia at the corner of Sea Grape notifying that it is NOT a 3-way stop. It should not be made into a 3-way stop, just a sign on the stop sign notifying that it is not.	5/28/2020 8:31 PM
102	No	5/28/2020 7:04 PM



103	No.	5/28/2020 5:52 PM
104	A1A	5/28/2020 4:40 PM
105	El Mar after dark due to lack of lighting both north and south of commercial and nearly every west of Ocean after dark.	5/28/2020 4:24 PM
106	A1A traffic	5/28/2020 3:01 PM
107	East Tradewinds - too much cut through traffic and no speed bumps, only one stop sign. Everyone flies down that street. Sea Grape and Washingtonia intersection - gets alot of cut through traffic, everyone turning onto Sea Grape from Washingtonia thinks its a 3 way stop and I almost get hit while driving a few times a week by cars pulling out in front of you from Washingtonia when you are going North or South on Sea Grape. Some streets also definiately need more street lights. Oceanic and East Tradewinds is pitch black at night, hard to see people walking their dogs or running.	5/28/2020 1:05 PM
108	No	5/28/2020 8:43 AM
109	El mar and A1A have too many bikers invading all roads. Do not respect transit rules	5/28/2020 8:20 AM
110	What do you mean by dangerous? I've fractured my shoulder and hip from falls due to terrible pavements in town.	5/28/2020 8:18 AM
111	Yes busy roads & dark areas	5/28/2020 8:04 AM
112	No	5/28/2020 7:16 AM
113	A1A	5/28/2020 7:16 AM
114	bougainvilla - risky at night. I've had cars stop while I was walking alone and ask me to come over to the car. Also, cars drive too fast and run the stop sign on bougainvillea.	5/28/2020 6:52 AM
115	no	5/27/2020 10:23 PM
116	None	5/27/2020 9:49 PM
117	No	5/27/2020 9:34 PM
118	No	5/27/2020 9:09 PM
119	too many tall bushes at corners. cant see oncoming traffic	5/27/2020 9:03 PM
120	El Mar and A1A (bicyclists paying no attention to any rule of the road or to any common courtesies).	5/27/2020 8:59 PM
121	Closer to the beach	5/27/2020 8:51 PM
122	No	5/27/2020 8:40 PM
123	no	5/27/2020 7:51 PM
124	Commercial and Ocean Dr.	5/27/2020 7:49 PM
125	No	5/27/2020 7:28 PM
126	No	5/27/2020 7:05 PM
127	A1A	5/27/2020 7:00 PM
128	Just nighttime. No lights on wl mar. Holiday inn abandoned and sketchy	5/27/2020 6:51 PM
129	no	5/27/2020 6:44 PM
130	Everywhere in LBTS except el mar drive	5/27/2020 6:40 PM
131	No	5/27/2020 6:38 PM
132	A1A	5/27/2020 6:38 PM
133	No	5/27/2020 6:34 PM
134	Bougainvilla - north of Commercial Drivers tend to speed on this road.	5/27/2020 6:29 PM



135	None	5/27/2020 6:28 PM
136	Just the drivers not stopping at stop signs when they should yield to pedestrians	5/27/2020 6:14 PM
137	no	5/27/2020 6:10 PM
138	no	5/27/2020 6:04 PM
139	cars speeding down the street looking for access streets, and then turn around when they find there isn't one	5/27/2020 6:03 PM
140	Na	5/27/2020 5:49 PM
141	Intersection of Commercial Blvd. and A1A	5/27/2020 5:46 PM
142	hibiscus	5/27/2020 5:39 PM
143	I feel safe in lbs	5/27/2020 5:28 PM
144	Crossing A1A is dangerous	5/27/2020 5:27 PM
145	A1A in the Area of Assumption Church, car go too fast and don't slow for pedestrians	5/27/2020 5:27 PM
146	No	5/27/2020 5:07 PM
147	A1A - no pedestrian crosswalk at Hibiscus.	5/27/2020 4:55 PM
148	No	5/27/2020 4:53 PM
149	Bel air avenue	5/27/2020 4:53 PM
150	I have always felt dafe in our community as always pay attention to my surroundings	5/27/2020 4:52 PM
151	no	5/27/2020 4:52 PM
152	A1A	5/27/2020 4:51 PM
153	Yes, Lombardy Ave has NO speed bump or speed limit sign. People drive like crazy fast on that street, although it's residential.	5/27/2020 4:51 PM
154	No, but I like them lit.	5/27/2020 4:50 PM
155	No	5/27/2020 4:50 PM
156	N/A	5/27/2020 4:46 PM
157	no	5/27/2020 4:45 PM
158	WE'RE ON SOUTH OCEAN SO NOT REALLY	5/27/2020 4:43 PM
159	No	5/27/2020 4:41 PM



Town of Lauderdale-By-The-Sea Pedestrian Plan Public Outreach Survey

Q11 Is there anything else you would like us to know about walking/biking/running in Lauderdale-By-The-Sea?

Answered: 131 Skipped: 46

#	RESPONSES	DATE
1	no	6/16/2020 12:30 PM
2	Would like signs making it clear that bikes should be on the bike lane and not on the sidewalk. Better too if they rode their bike with traffic. Love that scooters are not allowed in LBTS	6/16/2020 11:54 AM
3	No	6/15/2020 12:13 AM
4	Traffic light timing to cross A1A requires such a long wait that many people don't wait	6/14/2020 11:26 PM
5	Part timers (maybe they are renters) dont pick up after their dogs....and its the large ones that they don't pick up after. This is in the residential areas. Silver Shores	6/14/2020 10:11 PM
6	More pedestrian only areas would be nice near pier	6/13/2020 3:47 PM
7	Need better bike lanes and more shade	6/13/2020 11:27 AM
8	It would be great if there was a path/boardwalk on the beach in front of the hotels/condos and restaurants.	6/13/2020 9:37 AM
9	I wish there was a bit more shade and more garbage cans. It would also be nice to have pet pickup stations sporadically!	6/13/2020 9:16 AM
10	No. Thanks for the concern.	6/12/2020 4:00 PM
11	Need More Sitting Areas With Shade!!!	6/12/2020 2:07 PM
12	Research Sea Pines in Hilton Head Island, SC for a planned bike/walk community.	6/12/2020 1:25 PM
13	Need more bike lanes and traffic calming / slowing measures	6/12/2020 11:55 AM
14	speed bumps needed to slow drivers on El Mar.	6/12/2020 10:17 AM
15	Need more traffic lights. People r getting killed trying to cross the street!!	6/11/2020 11:17 PM
16	Yes. Bikers who continue to ride with the flow of traffic on A1A are a nightmare waiting to happen. We need to designate certain biking areas (perhaps on larger roads or utilizing the very wide sidewalks throughout the town) to prevent any more vehicle/cyclist accidents in the future.	6/11/2020 8:59 PM
17	Great town!	6/11/2020 6:32 PM
18	no	6/11/2020 12:29 PM
19	We need a fenced area for dogs to run and play together	6/10/2020 6:01 PM
20	Require helmets and MASKS now. El Mar should not all bikes. Needs signs to tell pedestrians to walk in sidewalk NOT in the road. Add green flashing lights in walkway beside Pam Rossi's store.	6/9/2020 7:10 PM
21	We need a dog beach	6/9/2020 6:16 PM
22	Please consider building sidewalk to improve safety of pedestrians on North side of Hibiscus Ave from Bougainvillea Dr to Tropic Drive. (approx 700 ft of sidewalk)	6/9/2020 5:25 PM
23	The entrance to LBTS from N Ocean BLVD where it narrows down is a nightmare. I would suggest Jersey Barriers instead of arrows on the road which mean this way only to direct traffic either continuing straight onto A1A or taking a right on Palm Ave	6/9/2020 10:07 AM
24	Lack of side walks on some streets	6/8/2020 9:46 PM
25	I enjoying going to the beach so I am glad that it is open again.	6/8/2020 9:32 PM
26	Speed bumps on E Tradewinds would be welcome. Wider sidewalks and a designated bike lane on El Mar.	6/8/2020 2:02 PM
27	No	6/7/2020 10:18 PM
28	The influx of bicyclists and pedestrians during the pandemic, particularly on Commercial Blvd, made things less safe as they would ride in the middle of the street to avoid others or run through a minor intersection without looking for traffic.	6/7/2020 6:25 PM



29	Nope	6/7/2020 1:26 PM
30	I love it with all my heart	6/7/2020 12:41 PM
31	6 Parking spots for LBTS residents at EL Prado is extremely important to me. The only issue I truly care about. Must have resident permit parking close to beach and town.	6/7/2020 11:17 AM
32	Grateful for our bike lanes that keep bikers off the sidewalks and roads	6/7/2020 8:29 AM
33	No.	6/7/2020 8:18 AM
34	Wider sidewalks on A1A and better lighting on El Mar Drive.	6/6/2020 8:38 PM
35	Miss it	6/6/2020 9:01 AM
36	Could we have a boardwalk ?	6/5/2020 10:22 PM
37	People should not be walking on the road on ElMar!	6/5/2020 6:50 PM
38	Some of the choices in the server I never do but had no choice to use them.	6/5/2020 5:37 PM
39	We need decent bike lanes and paved streets and sidewalks	6/5/2020 5:14 PM
40	I know that there are a few people that have protested closing off any part of El Mar. You would have my vote to close it off entirely! what a wonderful area that would be if it were only open to pedestrians and bicycles!!!	6/5/2020 5:01 PM
41	Having 4 BSO Units around the Aruba's and 101 ocean Is a waste of manpower . These officers Could be utilized in other locations then a far more dangerous then LBTS In writing tickets to people who did nothing wrong .	6/5/2020 3:41 PM
42	Additional pet waste bags and disposal areas would be appreciated! Not fun walking around with a full bag and no where to dispose.	6/5/2020 3:13 PM
43	Would like a bike path along the beach away from the psycho drivers	6/5/2020 2:51 PM
44	No, thanks.	6/5/2020 1:11 PM
45	Perhaps restrict bikers to right lane only on El Mar and vehicles stay in left lane.. Have a security guard enforce traffic rules at El Mar/Commerce T zone (from Ocean drive to Aruba and a few blocks either side on El Mar) —no tickets unless they argue with directives. Politely assume they don't know the rules! Make that T zone pedestrian/Bicycle only. No motorized vehicles.	6/5/2020 12:57 PM
46	We could use more dog bag stations to throw away dog poop. More lights at night and wider sidewalks.	6/5/2020 12:33 PM
47	Definitely need more shade and wider sidewalks	6/5/2020 12:22 PM
48	Too many cars in the square itself. Pedestrian isle it with a bike lane.	6/5/2020 12:15 PM
49	Traffic at circle near Aruba's needs restricted to parking only	6/5/2020 12:14 PM
50	No	6/5/2020 11:37 AM
51	Nope!	6/5/2020 11:31 AM
52	ILQERGPQIOUREHG	6/5/2020 11:00 AM
53	No	6/5/2020 11:00 AM
54	Love to come - by car- don't want to have to fight bikes/ walkers	6/5/2020 10:55 AM
55	No	6/5/2020 10:03 AM
56	Nice to have visible crosswalks installed	6/5/2020 9:57 AM
57	creating a board walk, would increase the amount of people out, and would be a great addition to the city. also a walking path on the pier. The city should outright but the pier. Also, close off the center of town, lower the risk of cars going in circles.	6/5/2020 9:46 AM
58	I would like a designated area that could be fenced so that our very friendly pet community could have dogs off leash to run and play	6/5/2020 9:30 AM



59	I don't feel safe riding in the bike lane on A1A. I worry about the car traffic and not being seen.	6/5/2020 9:29 AM
60	Make speed bumps in BelAir and other areas more noticeable with approaching arrows and warning (yellow) paint on all	6/5/2020 9:15 AM
61	I only feel unsafe at night, due to lack of lighting, and due to unchecked speeding.	6/5/2020 8:34 AM
62	Commercial bridge needs a guard rail! Cars speed over it all the time. BSO does great speed enforcement, however for me to feel safe a guard rail with reflectors would be wonderful	6/5/2020 8:31 AM
63	All is good	6/5/2020 8:14 AM
64	Would like a dog park	6/5/2020 8:14 AM
65	LBTS is my Happy Place.	6/5/2020 8:11 AM
66	bike riders do not comply with traffic laws	6/5/2020 5:53 AM
67	No	6/4/2020 1:29 PM
68	please install better lighting	6/3/2020 11:11 AM
69	Better signage as well as Specific crosswalks along A1A between Washingtonia and Commercial as well as Commercial and further south. It would've been good to be able to answer not applicable on some of these such as walking pets. We don't have any therefore not the right people at answering that specific question and/or not something we do. Also with some of the questions on how do you move, some we don't use at all so should be n/a.	6/3/2020 10:04 AM
70	High traffic, especially during season prevents access across Commercial Blvd and across A1A	6/3/2020 8:56 AM
71	Nop	6/3/2020 7:40 AM
72	Need more trees to provide shade and better sidewalks	6/1/2020 9:12 PM
73	No	6/1/2020 6:51 AM
74	No	6/1/2020 5:57 AM
75	Desperately need a cross-walk on Hibiscus crossing A1A, long overdue. Need another speed bump and stop sign on Sea Grape south of Commercial. Cars use that to avoid A1A and many go way too fast.	5/31/2020 5:11 PM
76	N/a	5/30/2020 10:45 PM
77	I only do the El Mar and downtown area so am not familiar with the other areas.	5/30/2020 9:19 PM
78	no	5/29/2020 9:53 PM
79	No	5/29/2020 12:47 PM
80	Please leave the dogs safely at home when dog owners are going out to dine or bar hop. Reasons...cleanliness, safety. Establishments providing a comfortable atmosphere in and around the Establishments without other patrons & visitors having to be concerned about what a dog 's behavior or when "overserved" patron's behavior may disrupt their relaxing, enjoyable dining or visit experience.	5/29/2020 9:02 AM
81	Electirc piles on ElMar are in the middle of the sidewalks and cause you to have to walk into the street when lots of people are out walking.	5/29/2020 7:57 AM
82	NEED bigger and better sidewalks!	5/29/2020 12:09 AM
83	LBTS has nice bike lanes. Bikers continue to use sidewalks and seem to demand walkers give right of way. These are side "walks" not side "bikes." I prefer to have scooters to bikes on the sidewalks. Most bikers don't even have the courtesy to announce their presence when approaching walkers from behind. Bikers should walk their bikes across the intracoastal bridge if they choose to use very narrow side walk. This is the most dangerous place since a small biker/pedestrian collision could send either or both into high speed traffic on the bridge. Bottom line LBTS should outlaw bikes on sidewalks-they can use the very nice bike lanes in the street. Can't legislate biker attitude so this is next best thing.	5/28/2020 10:00 PM
84	N/A	5/28/2020 8:31 PM



85	Need to consider cars backing across sidewalk onto El Mar	5/28/2020 7:04 PM
86	It would be nice to have bike lanes for A1A like they have south of town in Fort Lauderdale.	5/28/2020 5:52 PM
87	thanks for asking	5/28/2020 4:40 PM
88	After dark is very intimidating for adults and unsafe for young adults due to lack of lighting and activity, there seems to be very few law enforcement patrols on El Mar and on north and south streets west of El Mar. We need the same number of patrols as there has been during the pandemic.	5/28/2020 4:24 PM
89	Its a great neighborhood to enjoy while walking, running or biking but a few additions to slow "cut through traffic" in the neighborhood and more lighting would be fantastic.	5/28/2020 1:05 PM
90	No	5/28/2020 8:43 AM
91	Rules for proper biking should be impose. It's impossible to drive and we cars need the roads.	5/28/2020 8:20 AM
92	I love this town. I just feel there should be more police monitoring traffic speed. Thank you for keeping this town a great place to live.	5/28/2020 8:18 AM
93	More security	5/28/2020 8:04 AM
94	Too many people walk in the streets	5/28/2020 7:16 AM
95	TERRIBLE bicycle experience. bike lanes not respected by cars nor pedestrians nor fellow bikers!!!!	5/28/2020 7:16 AM
96	Traffic lights take too long to change when pressing pedestrian crossing buttons on a1a making crossing less safe e.g. Imperial lane and A1A	5/28/2020 6:52 AM
97	keep bikes off sidewalks and have them obey speed limits when on the road	5/27/2020 10:23 PM
98	Too much traffic	5/27/2020 9:49 PM
99	No	5/27/2020 9:34 PM
100	No	5/27/2020 9:09 PM
101	ban biking and erase bike lanes on A1A. One death will haunt us one day	5/27/2020 9:03 PM
102	Don't encourage bicyclists to use El Mar nor A1A in any way, shape or form unless there will be police present who are dedicated to make bicyclists obey laws of the road and common decency.	5/27/2020 8:59 PM
103	No	5/27/2020 8:51 PM
104	Sidewalks are uneven in places..trip hazards. Also, utility covers loose sometimes.	5/27/2020 8:40 PM
105	no	5/27/2020 7:51 PM
106	Reminding bicyclist to obey traffic laws.	5/27/2020 7:49 PM
107	Very comfortable place to do all three.	5/27/2020 7:28 PM
108	No	5/27/2020 7:05 PM
109	Sidewalks and street flooding are a safety issue	5/27/2020 6:51 PM
110	giving walkers the right of way to cross streets at will and expect cars to stop might be the dumbest thing I have ever seen. Tragedies in the making	5/27/2020 6:44 PM
111	Make it more bike and walking friendly Reduce cars delivery trucks and parking No trucks during daylight hours	5/27/2020 6:40 PM
112	More shade on El Mar	5/27/2020 6:38 PM
113	Need a beach boardwalk	5/27/2020 6:34 PM
114	Walkable city is ideal.	5/27/2020 6:29 PM
115	More street lights after the plaza	5/27/2020 6:28 PM
116	Love to maximize any shaded breezy spots for walking, biking, pet walking, errands.	5/27/2020 6:14 PM



117	Need better lighting. I don't feel as safe at night	5/27/2020 6:04 PM
118	No	5/27/2020 5:49 PM
119	No	5/27/2020 5:27 PM
120	No.	5/27/2020 4:55 PM
121	No	5/27/2020 4:53 PM
122	No	5/27/2020 4:53 PM
123	no	5/27/2020 4:52 PM
124	No	5/27/2020 4:51 PM
125	No	5/27/2020 4:51 PM
126	In areas where there is a wall next to the sidewalk, make sure the sidewalk has enough light at night.	5/27/2020 4:50 PM
127	Yes, El Mar Drive. Median, walking Lane, 1 car Lane, bicycle lane, wider sidewalk	5/27/2020 4:50 PM
128	There are only 4 places to cross Commercial Blvd, which divides the town for pedestrians	5/27/2020 4:46 PM
129	drainage & width of sidewalks can be a problem as well as the light sequence at Commercial & A1A	5/27/2020 4:45 PM
130	WE GENERALLY FEEL SAFE IN WALKING AND RIDING BUT WOULD LOVE EL MAR TO BE SINGLE LANE WITH BETTER SHADE TREES.	5/27/2020 4:43 PM
131	Looking forward to improvements along El Mar	5/27/2020 4:41 PM



► APPENDIX C: AFFILIATED PLANNING DOCUMENTS

BROWARD METROPOLITAN ORGANIZATION (MPO) COMMITMENT 2045 LRTP

The Broward County Long Range Transportation Plan (LRTP) is a comprehensive multimodal transportation plan that looks forward at least 20 years, considering solutions that will best address projected mobility needs with given available resources. The LRTP is developed by the local Metropolitan Planning Organization (MPO) through a process of engaging the community and all implementing agencies within the metropolitan region. This Plan is very similar to a Comprehensive Plan consisting of a vision, mission, goals, and objectives, as well as financial analysis, strategies, and policies.

As stated in the LRTP, the MPO’s three key goals are to:

1. Move People & Goods
2. Create Jobs
3. Strengthen Communities

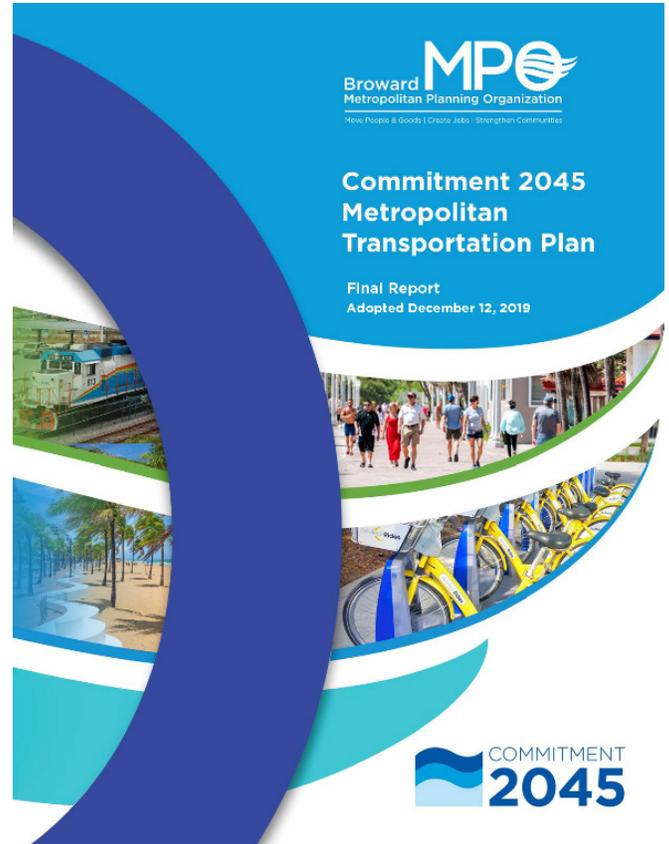
The Broward MPO developed a new approach to funding transportation projects and now manages funding programs in six major categories:

1. Highway
2. Transit
3. Systems Management/Safety
4. Complete Streets & Localized Initiatives
5. Complete Streets Master Plan
6. Mobility Hubs

Based on these goals and objectives, the plan gives great emphasis on projects that support the usage and improvement of the existing transportation system. In addition, the Plan not only addresses the need for roadway improvements but also encourages the improvement and maintenance of multimodal transportation systems. The inclusion of multi-modal projects and improvements in the Plan, such as transit expansion and improvements, sidewalk improvements, pedestrian and bicycle trail improvements, and environmentally sensitive projects, promote the quality of life for the County’s residents and visitors.

The Southeast Florida Regional Transportation Plan (RTP) is a document that identifies the most significant transportation investments needed to meet growing travel demands throughout Broward, Miami-Dade, and Palm Beach Counties. The Plan provides a set horizon year (2040) to provide time for agencies to gather funds and complete the appropriate work required to design and construct the proposed improvements projects. Essential elements of the RTP include:

- Estimates of growth over the next 25 years
- Goals for accommodating such growth
- Regional multi-modal options
- Public engagement
- Regionally significant investments
- Funding

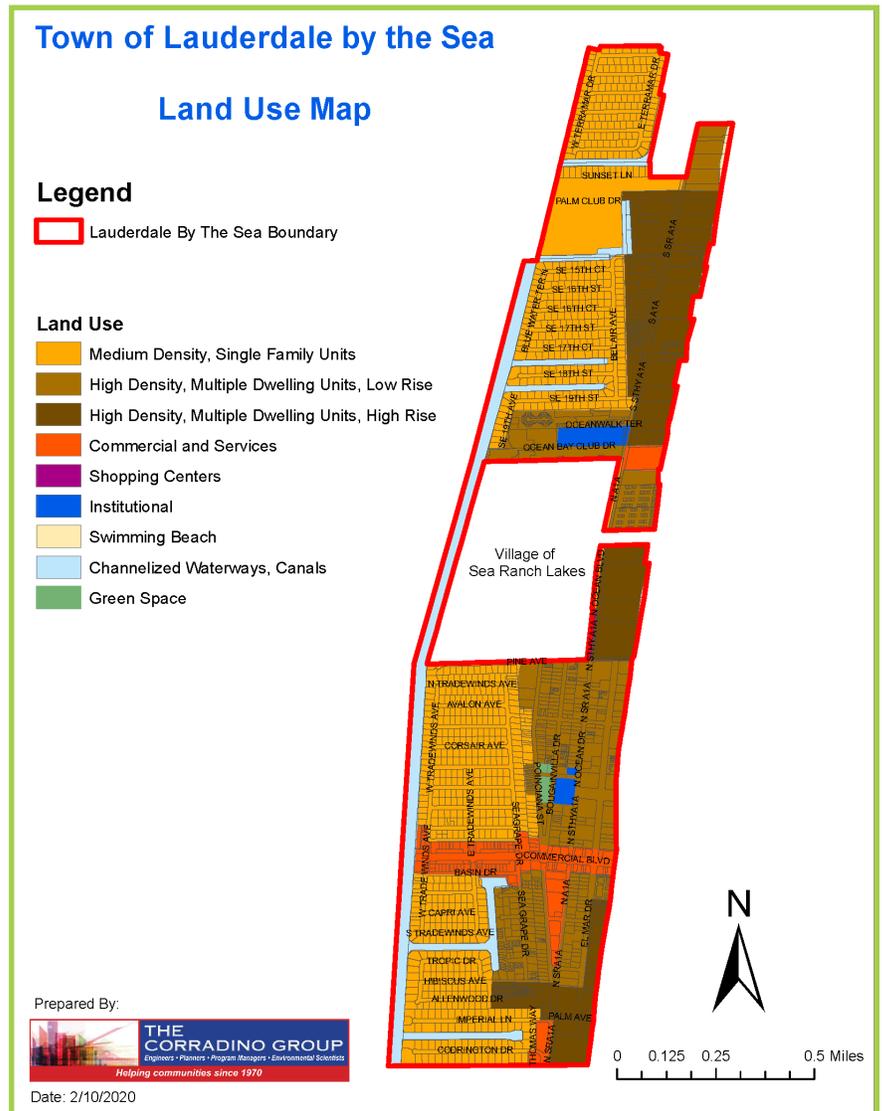


The RTP’s main goal is to provide a coordinated regional planning and decision making that results in a seamless system of multimodal facilities to meet the travel needs of people and freight. Under this and many other goals and objectives, the Plan proposes a variety of multimodal projects that support and provide sustainable and reliable transportation options for the region’s residents businesses, visitors, and the national economy as well.

The Town has a number of potential projects in mind should funding become available. Currently, the Town is working with Broward County Transit to install bus shelters where there is currently limited seating, shade and other amenities.

LAUDERDALE-BY-THE-SEA COMPREHENSIVE PLAN

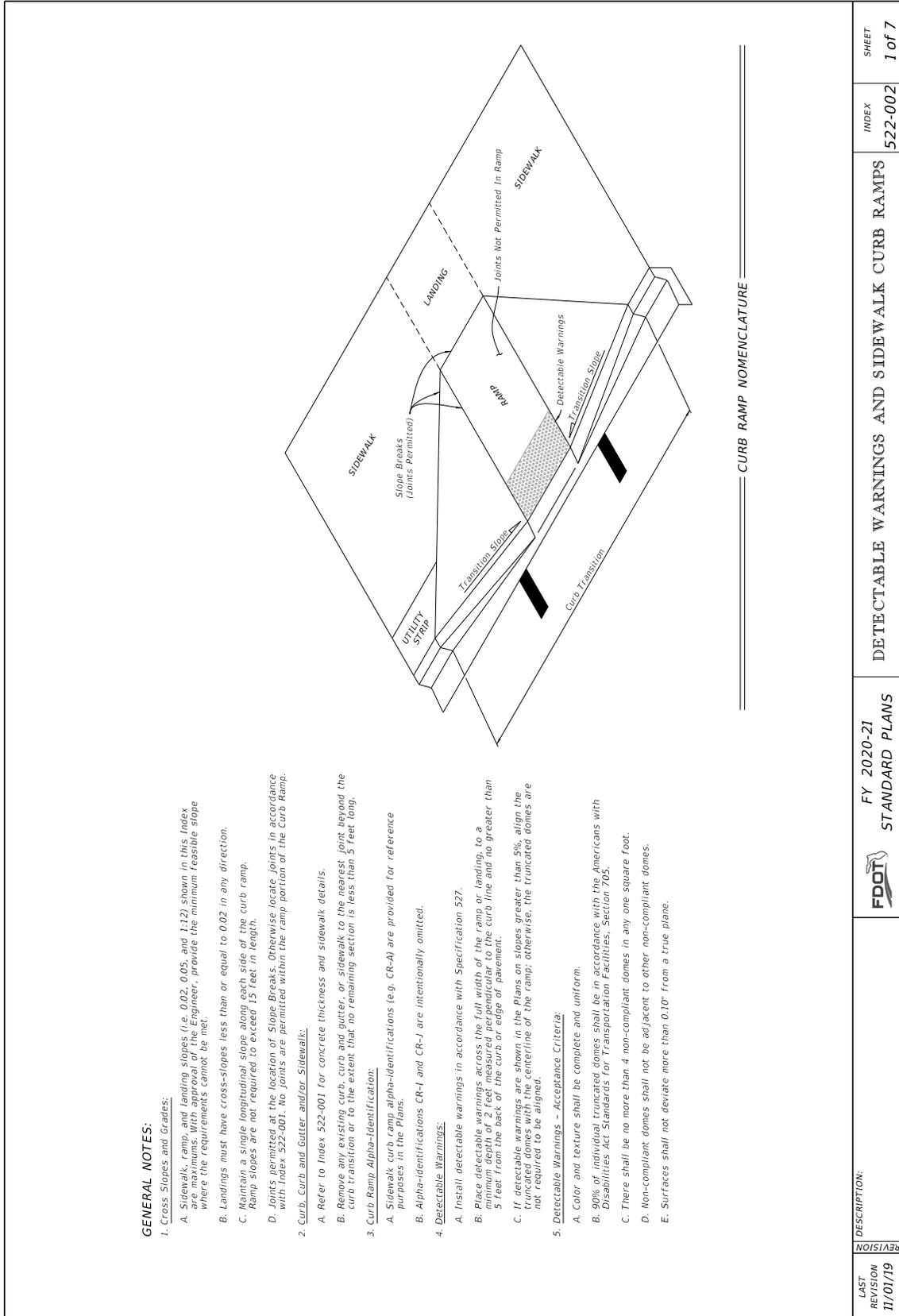
Adopted in 2011, the Lauderdale-By-The-Sea Comprehensive Plan provides a vision for the Town that is based on the ideals and goals residents and Town officials have for the Town’s future. The Town is currently working on a complete update of the Comprehensive Plan to reflect projects that have been completed, as well as changes in technology, State law and other factors. This Plan ensures that the Town maintains the capability to continue to guide development and redevelopment and provides for the maintenance of existing development so that the nature and character of the Town may be preserved for future generations. The Comprehensive Plan guides decisions made regarding land use, transportation, housing, infrastructure, conservation, open space, capital improvements, and intergovernmental coordination. The Future Land Use and Transportation Elements set policy for conserving and preserving the Town’s neighborhoods, its capital investments, its natural resources, and planning for a multimodal system emphasizing public transportation. A review and analysis of the Comprehensive Plan will be performed from which various



goals, objectives, and policies relating to transit mobility will be updated and new ones identified. It is crucial to review and identify all the existing policies related to transit mobility at the initial stage of this Plan to better accommodate and accomplish the Town’s set goals and objectives. Goals, Objectives, and Policies related to improved mobility options are provided in Appendix I.



► APPENDIX D: DETAILS FOR APPENDIX

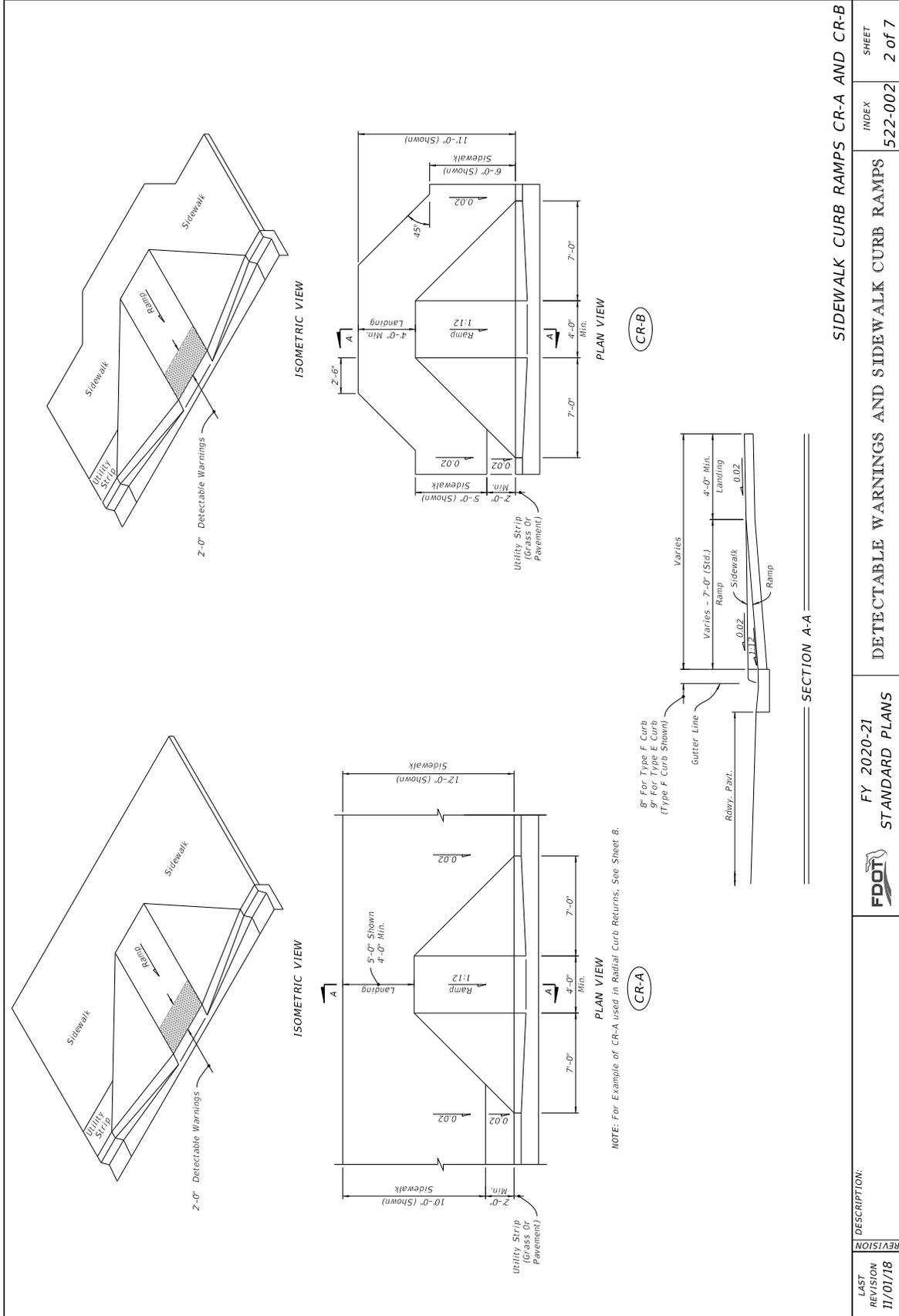


GENERAL NOTES:

1. Cross Slopes and Grades:
 - A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.
 - B. Landings must have cross-slopes less than or equal to 0.02 in any direction.
 - C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.
 - D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.
2. Curb, Curb and Gutter, and/or Sidewalk:
 - A. Refer to Index 522-001 for concrete thickness and sidewalk details.
 - B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.
3. Curb Ramp Alpha-Identification:
 - A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.
 - B. Alpha-identifications CR-I and CR-J are intentionally omitted.
4. Detectable Warnings:
 - A. Install detectable warnings in accordance with Specification 527.
 - B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.
 - C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.
5. Detectable Warnings - Acceptance Criteria:
 - A. Color and texture shall be complete and uniform.
 - B. 90% of individual truncated domes shall be in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
 - C. There shall be no more than 4 non-compliant domes in any one square foot.
 - D. Non-compliant domes shall not be adjacent to other non-compliant domes.
 - E. Surfaces shall not deviate more than 0.10" from a true plane.

LAST REVISION 11/01/19	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	INDEX 522-002	SHEET 1 of 7
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS					

WA P5-60-2 002/2020



SIDEWALK CURB RAMPS CR-A AND CR-B

DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

STANDARD PLANS

FY 2020-21

REVISION

11/01/18

INDEX

522-002

DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

STANDARD PLANS

FY 2020-21

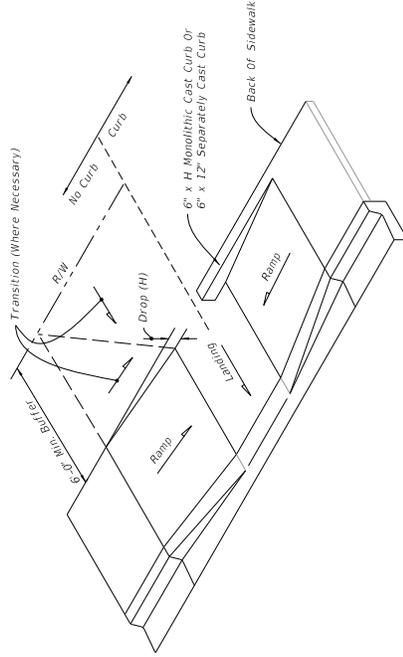
REVISION

11/01/18

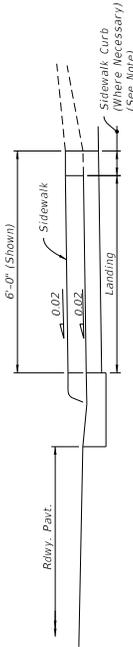
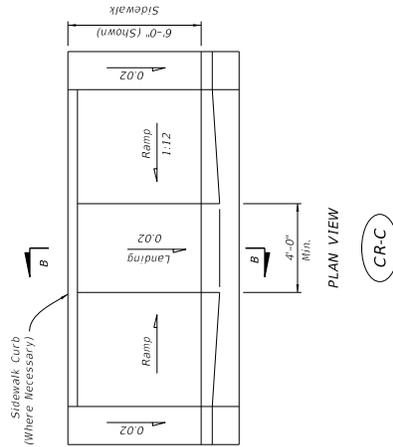
SHEET

2 of 7

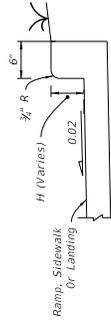
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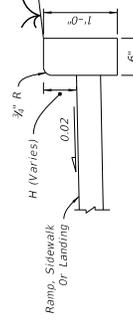
CONSTRUCTION OF SIDEWALK CURB IN CUT SECTIONS



NOTE: For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details.



MONOLITHIC CAST CURB



SEPARATELY CAST CURB

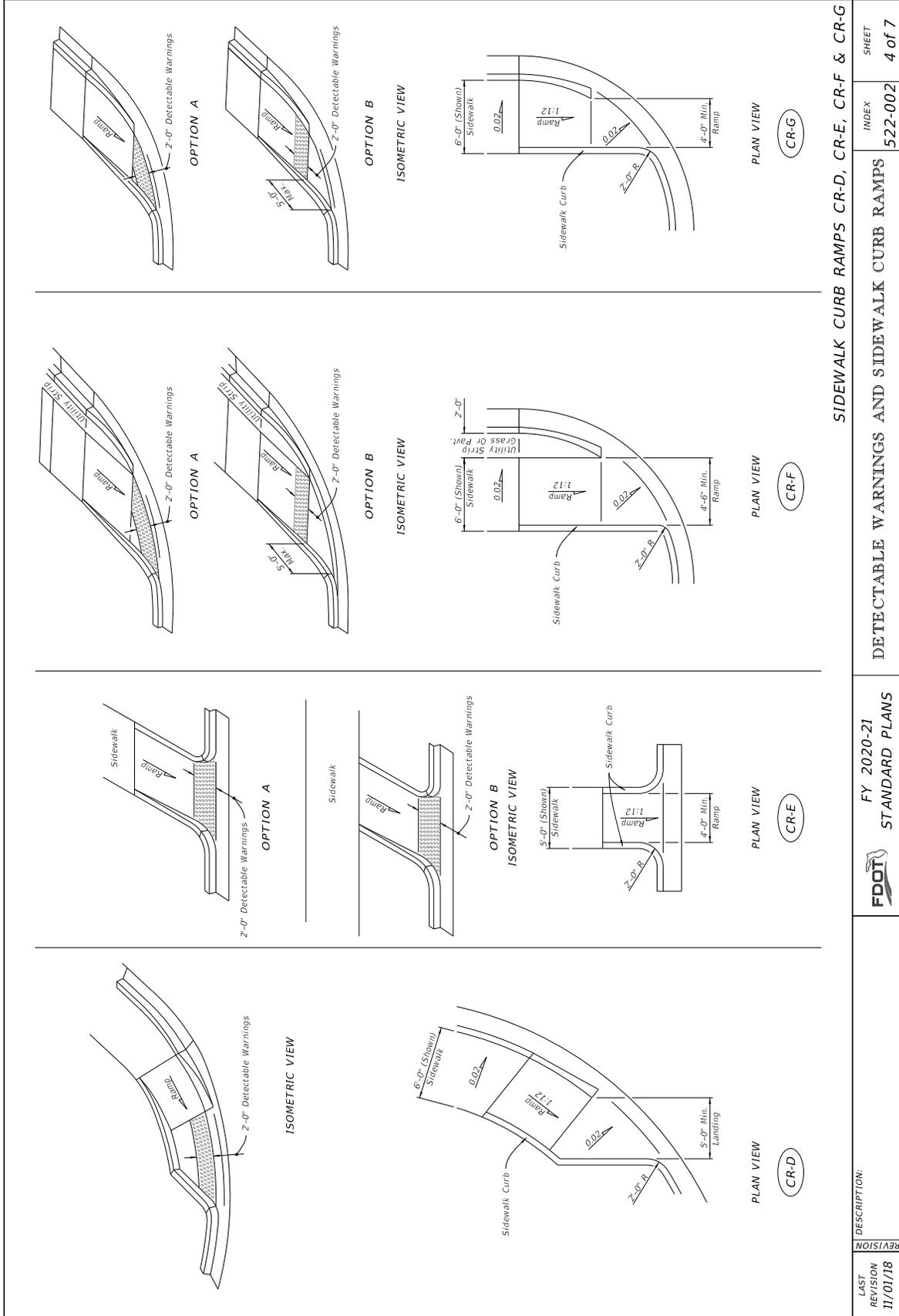
SECTION B-B

SIDEWALK CURB OPTIONS

SIDEWALK CURB RAMPS CR-C AND SIDEWALK CURB

LAST REVISION 11/01/18	DESCRIPTION:	INDEX	SHEET
	REVISION	522-002	3 of 7
	STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	
	FDOT	FY 2020-21	
		SIDEWALK CURB RAMPS CR-C AND SIDEWALK CURB	

2-10-03 RA 7/20/2020



SIDEWALK CURB RAMP CR-D, CR-E, CR-F & CR-G

DETECTABLE WARNINGS AND SIDEWALK CURB RAMP

STANDARD PLANS



FY 2020-21

DESCRIPTION:
LAST REVISION
11/01/18

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522-002

REVISION

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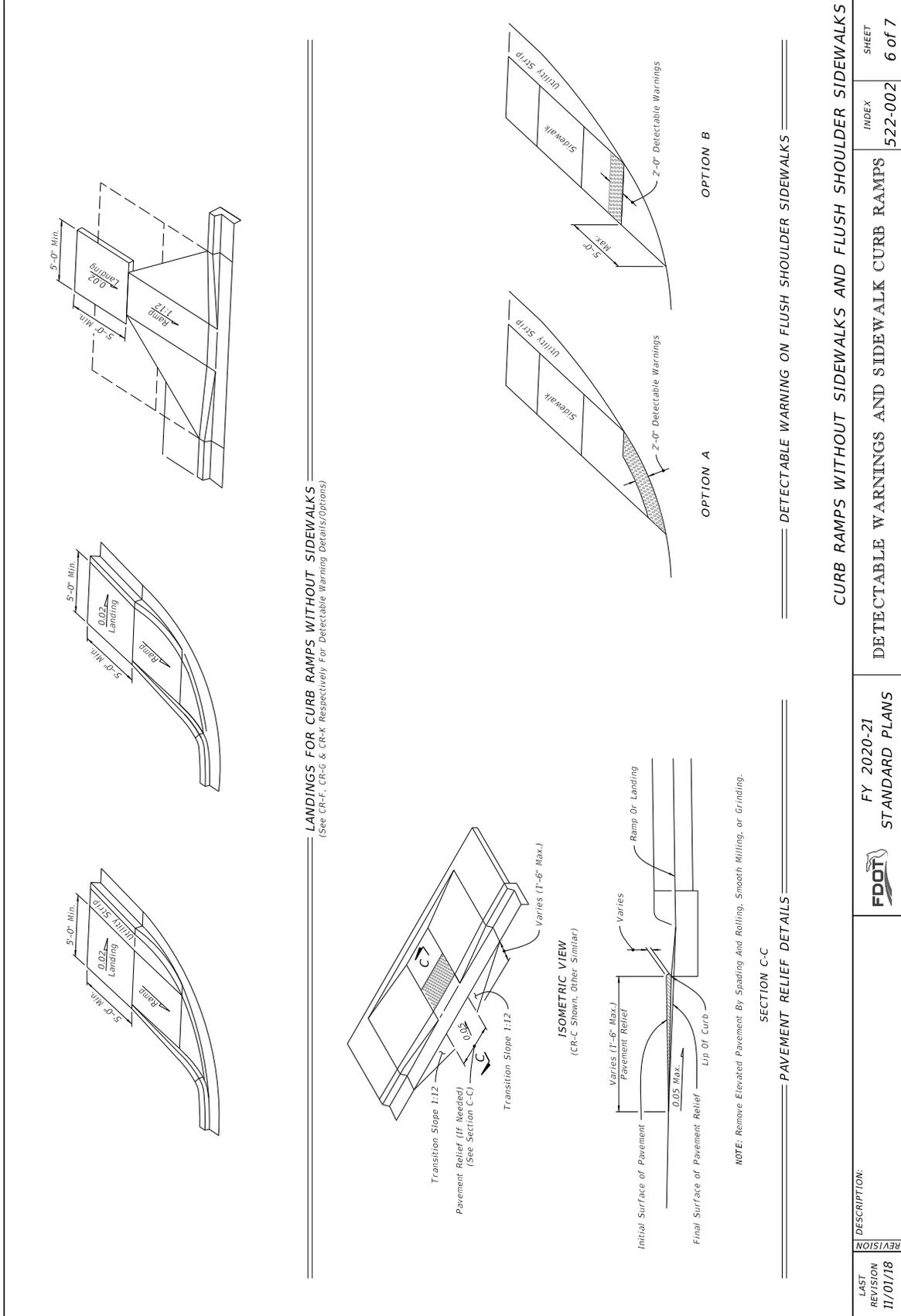
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SHEET
4 of 7

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CURB RAMP WITHOUT SIDEWALKS AND FLUSH SHOULDER SIDEWALKS

DETECTABLE WARNING AND SIDEWALK CURB RAMP

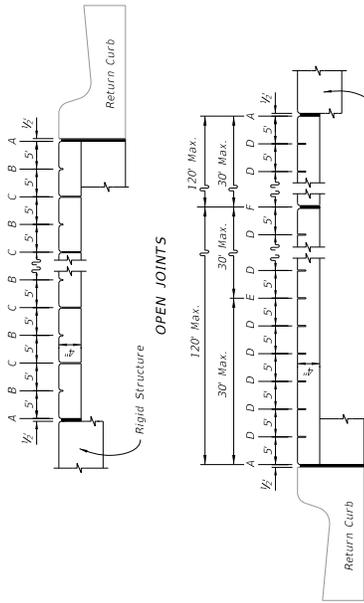
LAST REVISION 11/01/18	DESCRIPTION:	FDOT	STANDARD PLANS	INDEX	SHEET
				522-002	6 of 7

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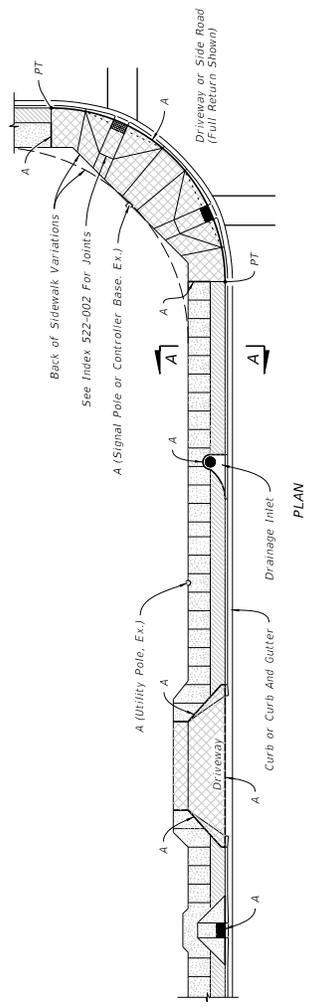


GENERAL NOTES:

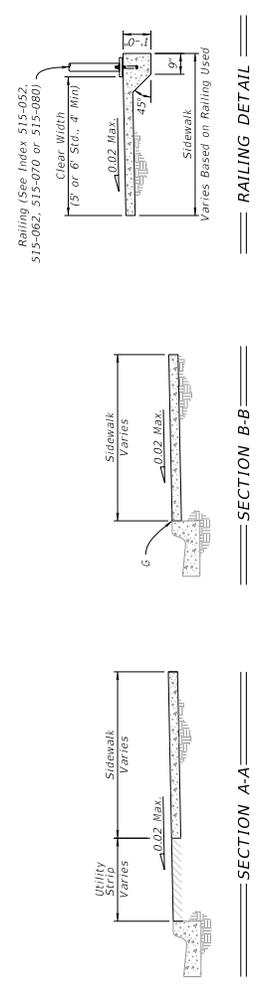
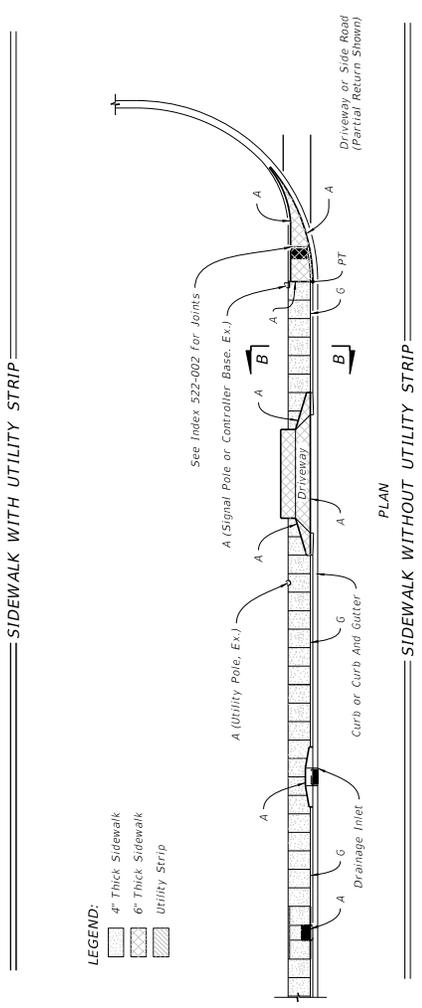
1. Construct sidewalks in accordance with Specification 522. Use 6" concrete for Sidewalks and Curb Ramps Located within Curb Returns (See Plan View). Install all other concrete with thickness as shown, unless otherwise detailed in the Plans.
2. Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.
3. For Driveways see Index 522-003.
4. Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils and not more than 1/2".
5. Construct sidewalks with Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Railing or Pipe Guiderail shown in the plans. (See RAILING DETAIL)



- LEGEND:**
- A- 1/2" Expansion Joints (Preformed Joint Filler) between the sidewalk and driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).
 - B- 1/2" Dummy Joints, Tooled
 - C- 1/2" Formed Open Joints
 - D- 3/4" Saw Cut Joints, 1 1/2" Deep (within 96 hours) Max. 5' Centers
 - E- 3/4" Saw Cut Joints, 1 1/2" Deep (within 12 hours) Max. 30' Centers (Joint(s) Required When Length Exceeds 30')
 - F- 1/2" Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.
 - G- Cold Joint With Bond Breaker, Tooled



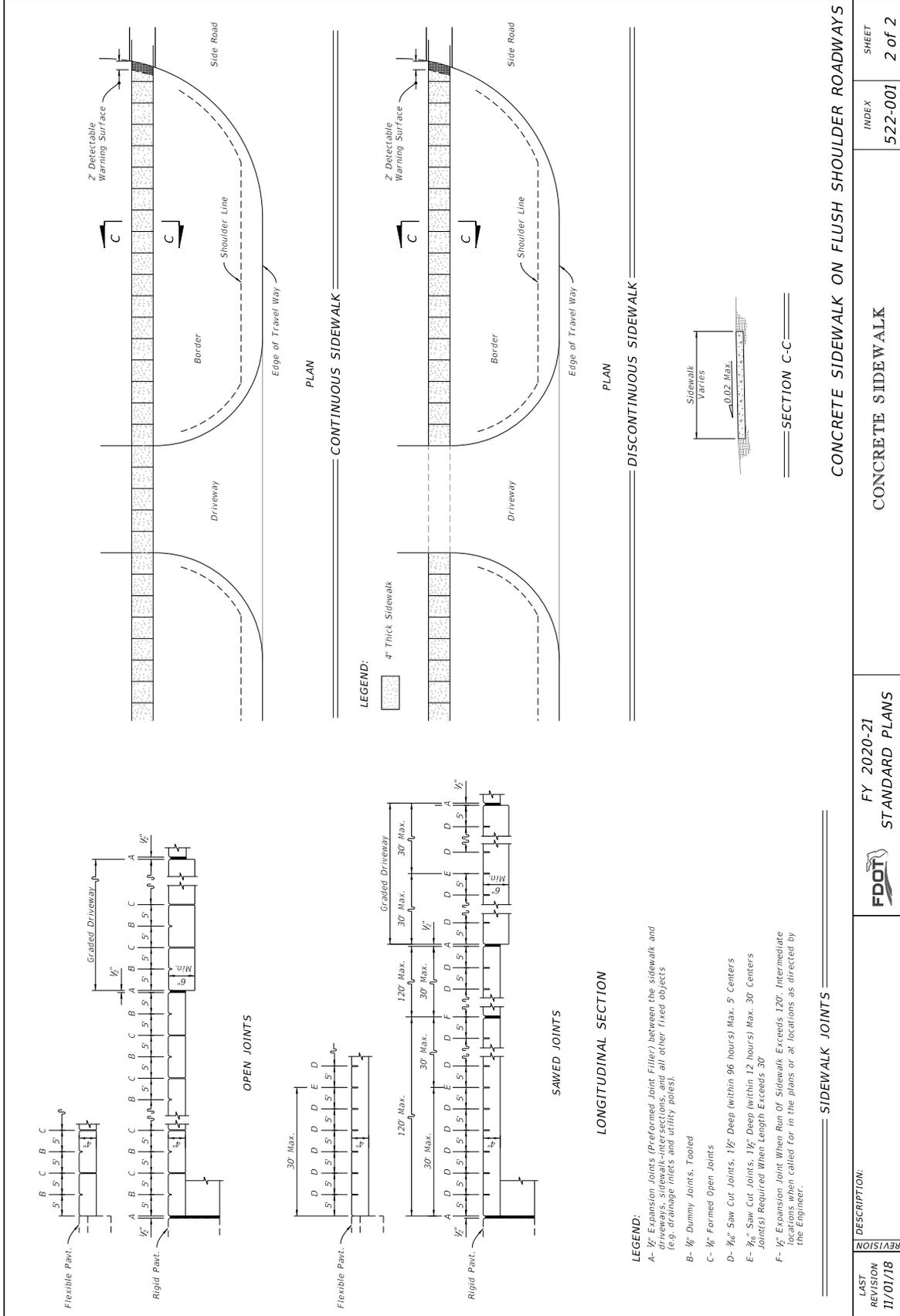
- LEGEND:**
- 4" Thick Sidewalk
 - 6" Thick Sidewalk
 - Utility Strip



GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS

DESCRIPTION:	STANDARD PLANS	INDEX	SHEET
REVISION	FY 2020-21	522-001	1 of 2
LAST REVISION	FDOT		
11/01/18			

MA 251:11 610C/P1/01



INDEX 522-001

CONCRETE SIDEWALK ON FLUSH SHOULDER ROADWAYS
CONCRETE SIDEWALK

STANDARD PLANS



FY 2020-21

DESCRIPTION:

LAST REVISION	REVISION
11/01/18	

SHEET 2 of 2

NY 6551-11 610C/P1/01

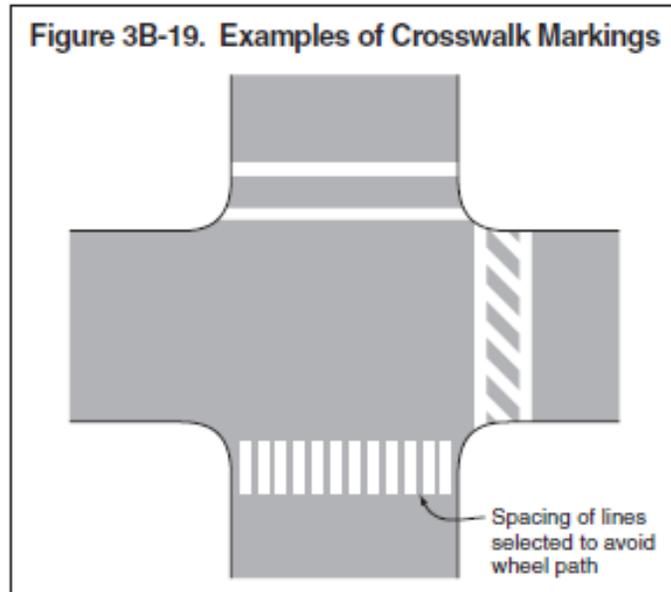
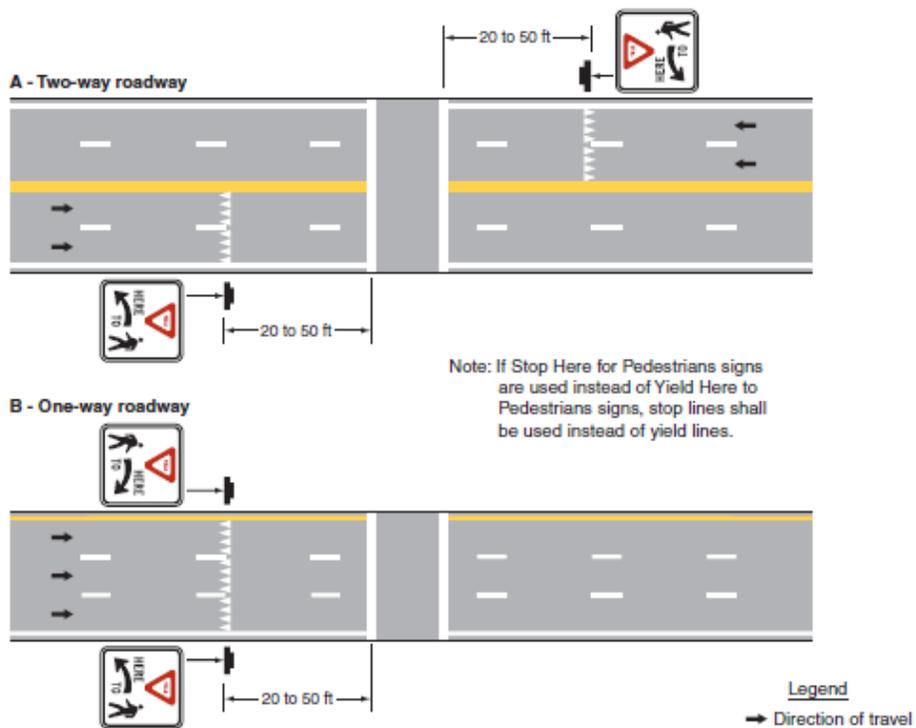
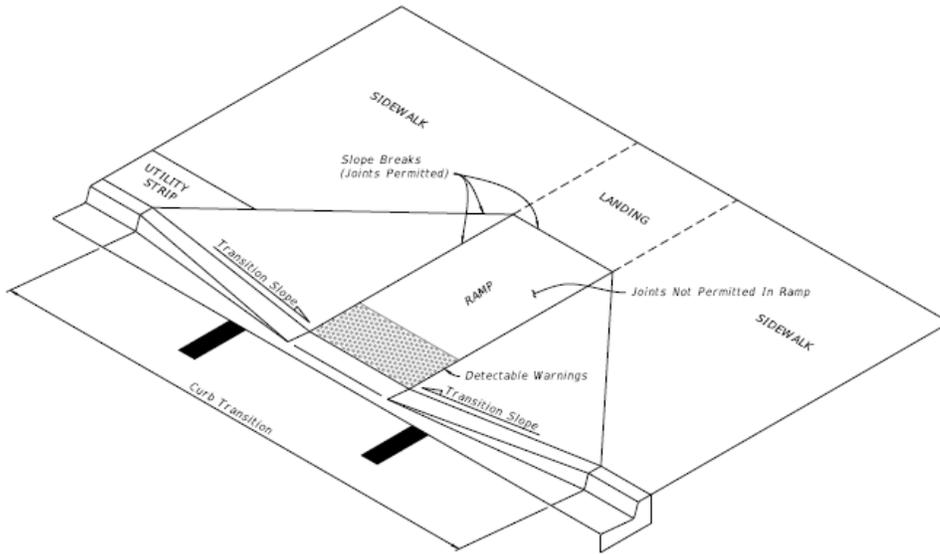
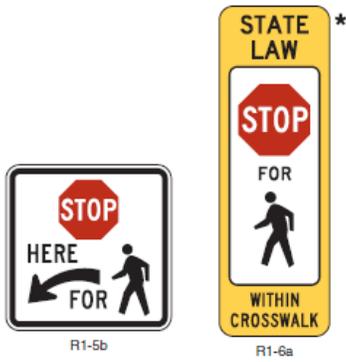


Figure 3B-17. Examples of Yield Lines at Unsignalized Midblock Crosswalks







FDOT Long Range Estimating System - Production					
R4: Project Details Composite Report					
By Version					
Project: SIDEWK-O-03-BB			Letting Date: 01/2099		
Description: Sidewalk construction; 5' one side, 4 inch depth					
District: 09	County: 99 DISTRICT/STATE WIDE				
Project Manager: Cost-per-Mile Model/Template					
Version 13-P Project Grand Total					
					\$161,109.76
Description: July 2019 Updates					
Pay Items					
Pay Item	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
102-1	MAINTENANCE OF TRAFFIC	2.00			\$2,735.08
101-1	MOBILIZATION	10.00			\$13,948.90
110-1-1	CLEARING & GRUBBING	1.25	AC	\$11,000.00	\$13,750.00
120-1	REGULAR EXCAVATION	322.66	CY	\$5.00	\$1,613.30
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	2,933.33	SY	\$40.00	\$117,333.20
570-1-1	PERFORMANCE TURF	3,121.07	SY	\$1.30	\$4,057.39
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$7,671.89	\$7,671.89
Project Unknowns			0.00	%	\$0.00
Design/Build			0.00	%	\$0.00
Version 13-P Project Grand Total					\$161,109.76



FDOT Long Range Estimating System - Production					
R4: Project Details Composite Report					
By Version					
Project: NUU2LN-U-01-BB			Letting Date: 01/2099		
Description: New Construction 2 Lane Undivided Urban Arterial with 4' Bike Lanes					
District: 09	County: 99 DISTRICT/STATE WIDE				
Project Manager: Cost-Per-Mile Model					
Version 14-P Project Grand Total					\$4,898,101.57
Description: July 2019 Updates					
Pay Items	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
102-1	MAINTENANCE OF TRAFFIC	7.00			\$288,332.29
101-1	MOBILIZATION	10.00			\$440,736.51
104-10-3	SEDIMENT BARRIER	10,560.00	LF	\$1.70	\$17,952.00
104-11	FLOATING TURBIDITY BARRIER	250.00	LF	\$12.50	\$3,125.00
104-12	STAKED TURBIDITY BARRIER- NYL REINF PVC	250.00	LF	\$3.80	\$950.00
104-15	SOIL TRACKING PREVENTION DEVICE	1.00	EA	\$2,500.00	\$2,500.00
104-18	INLET PROTECTION SYSTEM	53.00	EA	\$120.00	\$6,360.00
107-1	LITTER REMOVAL	1.20	AC	\$15.00	\$18.00
107-2	MOWING	1.20	AC	\$25.00	\$30.00
110-1-1	CLEARING & GRUBBING	14.12	AC	\$11,000.00	\$155,320.00
120-1	REGULAR EXCAVATION	19,360.00	CY	\$5.00	\$96,800.00
120-6	EMBANKMENT	86,920.53	CY	\$8.00	\$695,364.24
160-4	TYPE B STABILIZATION	21,800.53	SY	\$3.80	\$82,842.01
285-709	OPTIONAL BASE,BASE GROUP 09	18,773.33	SY	\$17.00	\$319,146.61
334-1-53	SUPERPAVE ASPH CONC, TRAF C, PG76-22	2,065.07	TN	\$105.00	\$216,832.35
337-7-80	ASPH CONC FC,TRAFFIC B,FC-9.5,PG 76-22	1,501.87	TN	\$102.00	\$153,190.74
400-2-2	CONC CLASS II, ENDWALLS	36.00	CY	\$1,400.00	\$50,400.00
425-1-351	INLETS, CURB, TYPE P-5,	36.00	EA	\$5,200.00	\$187,200.00
425-1-451	INLETS, CURB, TYPE J-5,	10.00	EA	\$7,800.00	\$78,000.00
425-1-521	INLETS, DT BOT, TYPE C,	5.00	EA	\$3,600.00	\$18,000.00
425-1-541	INLETS, DT BOT, TYPE D,	1.00	EA	\$3,900.00	\$3,900.00
425-2-41	MANHOLES, P-7,	5.00	EA	\$7,200.00	\$36,000.00
425-2-71	MANHOLES, J-7,	1.00	EA	\$7,100.00	\$7,100.00
430-175-112	PIPE CULV, OPT MATL, ROUND, 12"S/CD	2,328.00	LF	\$83.00	\$193,224.00
430-175-130	PIPE CULV, OPT MATL, ROUND, 30"S/CD	208.00	LF	\$110.00	\$22,880.00
430-175-142	PIPE CULV, OPT MATL, ROUND, 42"S/CD	5,056.00	LF	\$150.00	\$758,400.00
430-175-154	PIPE CULV, OPT MATL, ROUND, 54"S/CD	200.00	LF	\$260.00	\$52,000.00



FDOT Long Range Estimating System - Production					
R4: Project Details Composite Report					
By Version					
Project: NUU2LN-U-01-BB			Letting Date: 01/2099		
Description: New Construction 2 Lane Undivided Urban Arterial with 4' Bike Lanes					
District: 09	County: 99 DISTRICT/STATE WIDE				
Project Manager: Cost-Per-Mile Model					
Version 14-P Project Grand Total					\$4,898,101.57
Description: July 2019 Updates					
520-1-10	CONCRETE CURB & GUTTER, TYPE F	10,560.00	LF	\$20.00	\$211,200.00
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	5,866.67	SY	\$40.00	\$234,666.80
550-10-220	FENCING, TYPE B, 5.1-6.0', STANDARD	1,180.00	LF	\$17.00	\$20,060.00
550-60-234	FENCE GATE, TYP B, SLIDE/CANT, 18.1-20' OPEN	1.00	EA	\$1,800.00	\$1,800.00
570-1-1	PERFORMANCE TURF	23,467.00	SY	\$1.30	\$30,507.10
570-1-2	PERFORMANCE TURF, SOD	18,197.33	SY	\$2.80	\$50,952.52
630-2-11	CONDUIT, F&I, OPEN TRENCH	5,280.00	LF	\$6.70	\$35,376.00
630-2-12	CONDUIT, F&I, DIRECTIONAL BORE	689.00	LF	\$19.00	\$13,091.00
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24"	21.00	EA	\$680.00	\$14,280.00
700-1-11	SINGLE POST SIGN, F&I GM,	20.00	AS	\$340.00	\$6,800.00
700-1-12	SINGLE POST SIGN, F&I GM, 12-20 SF	2.00	AS	\$1,200.00	\$2,400.00
700-2-14	MULTI- POST SIGN, F&I GM, 31-50 SF	2.00	AS	\$4,400.00	\$8,800.00
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	135.00	EA	\$3.50	\$472.50
710-11-111	PAINTED PAVT MARK, STD, WHITE, SOLID, 6"	4.00	NM	\$980.00	\$3,920.00
710-11-131	PAINTED PAVT MARK, STD, WHITE, SKIP, 6"	2.00	GM	\$420.00	\$840.00
711-15-101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	2.00	GM	\$4,500.00	\$9,000.00
711-15-131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	1.00	GM	\$1,500.00	\$1,500.00
715-1-13	LIGHTING CONDUCTORS, F&I, INSUL, NO.4-2	17,907.00	LF	\$1.70	\$30,441.90
715-500-1	POLE CABLE DIST SYS, CONVENTIONAL	21.00	EA	\$590.00	\$12,390.00
715-511-140	LIGHT POLE COMP, F&I, SGL ARM SM, AL, 40'	21.00	EA	\$13,000.00	\$273,000.00
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$50,000.00	\$50,000.00
Project Unknowns			0.00	%	\$0.00
Design/Build			0.00	%	\$0.00



FDOT Long Range Estimating System - Production					
R4: Project Details Composite Report					
By Version					
Project: NUU2LN-U-01-BB			Letting Date: 01/2099		
Description: New Construction 2 Lane Undivided Urban Arterial with 4' Bike Lanes					
District: 09	County: 99 DISTRICT/STATE WIDE				
Project Manager: Cost-Per-Mile Model					
Version 14-P Project Grand Total				\$4,898,101.57	
Description: July 2019 Updates					
Version 14-P Project Grand Total				\$4,898,101.57	



FDOT Long Range Estimating System - Production					
R4: Project Details Composite Report					
By Version					
Project: MIDXWK-O-05-BB			Letting Date: 01/2099		
Description: Signalized Mid-Block Crossing with four lanes and middle turnlane with parking on both sides					
District: 09	County: 99 DISTRICT/STATE WIDE				
Project Manager: Cost Model					
Version 14-P Project Grand Total					
					\$141,824.14
Description: July 2019 Updates					
Pay Items	Description	Total Quantity	Unit	Weighted Avg. Unit Price	Total Amount
102-1	MAINTENANCE OF TRAFFIC	10.00			\$11,162.86
101-1	MOBILIZATION	10.00			\$12,279.15
522-1	CONCRETE SIDEWALK AND DRIVEWAYS, 4"	10.00	SY	\$40.00	\$400.00
527-2	DETECTABLE WARNINGS	16.00	SF	\$27.00	\$432.00
630-2-11	CONDUIT, F& I, OPEN TRENCH	45.00	LF	\$6.70	\$301.50
630-2-12	CONDUIT, F& I, DIRECTIONAL BORE	505.00	LF	\$19.00	\$9,595.00
632-7-1	SIGNAL CABLE- NEW OR RECO, FUR & INSTALL	1.00	PI	\$5,200.00	\$5,200.00
633-4-1	SIGNALS COMMUNIC- TWISTED PAIR CABLE	436.00	LF	\$3.50	\$1,526.00
635-2-11	PULL & SPLICE BOX, F&I, 13" X 24"	4.00	EA	\$680.00	\$2,720.00
635-2-13	PULL & SPLICE BOX, F&I, 30" X 60" OR 36"	1.00	EA	\$2,600.00	\$2,600.00
639-1-122	ELECTRICAL POWER SRV,F&I, UG,PUR CONT	1.00	AS	\$2,200.00	\$2,200.00
639-2-1	ELECTRICAL SERVICE WIRE, F&I	252.00	LF	\$6.20	\$1,562.40
646-1-11	ALUMINUM SIGNALS POLE, PEDESTAL	1.00	EA	\$1,300.00	\$1,300.00
649-21-10	STEEL MAST ARM ASSEMBLY, F&I, 60'	1.00	EA	\$46,000.00	\$46,000.00
650-1-14	VEH TRAF SIGNAL,F&I ALUMINUM, 3 S 1 W	4.00	AS	\$940.00	\$3,760.00
653-1-11	PEDESTRIAN SIGNAL, F&I LED COUNT, 1 WAY	2.00	AS	\$670.00	\$1,340.00
665-1-11	PEDESTRIAN DETECTOR, F&I, STANDARD	2.00	EA	\$240.00	\$480.00
670-5-111	TRAF CNTL ASSEM, F&I, NEMA, 1 PREEMPT	1.00	AS	\$29,000.00	\$29,000.00
700-1-11	SINGLE POST SIGN, F&I GM,	4.00	AS	\$340.00	\$1,360.00
700-3-101	SIGN PANEL, F&I GM, UP TO 12 SF	2.00	EA	\$200.00	\$400.00
706-3	RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	10.00	EA	\$3.50	\$35.00



FDOT Long Range Estimating System - Production					
R4: Project Details Composite Report					
By Version					
Project: MIDXWK-O-05-BB			Letting Date: 01/2099		
Description: Signalized Mid-Block Crossing with four lanes and middle turnlane with parking on both sides					
District: 09	County: 99 DISTRICT/STATE WIDE				
Project Manager: Cost Model					
Version 14-P Project Grand Total					
					\$141,824.14
Description: July 2019 Updates					
711-11-123	THERMOPLASTIC, STD, WHITE, SOLID, 12"	200.00	LF	\$2.50	\$500.00
711-11-125	THERMOPLASTIC, STD, WHITE, SOLID, 24"	72.00	LF	\$4.80	\$345.60
711-16-101	THERMOPLASTIC, STD-OTH, WHITE, SOLID, 6"	0.04	GM	\$4,100.00	\$164.00
711-17	THERMOPLASTIC, REMOVE	69.00	SF	\$5.90	\$407.10
999-25	INITIAL CONTINGENCY AMOUNT (DO NOT BID)	1.00	LS	\$6,753.53	\$6,753.53
Project Unknowns					
			0.00	%	\$0.00
Design/Build					
			0.00	%	\$0.00
Version 14-P Project Grand Total					\$141,824.14