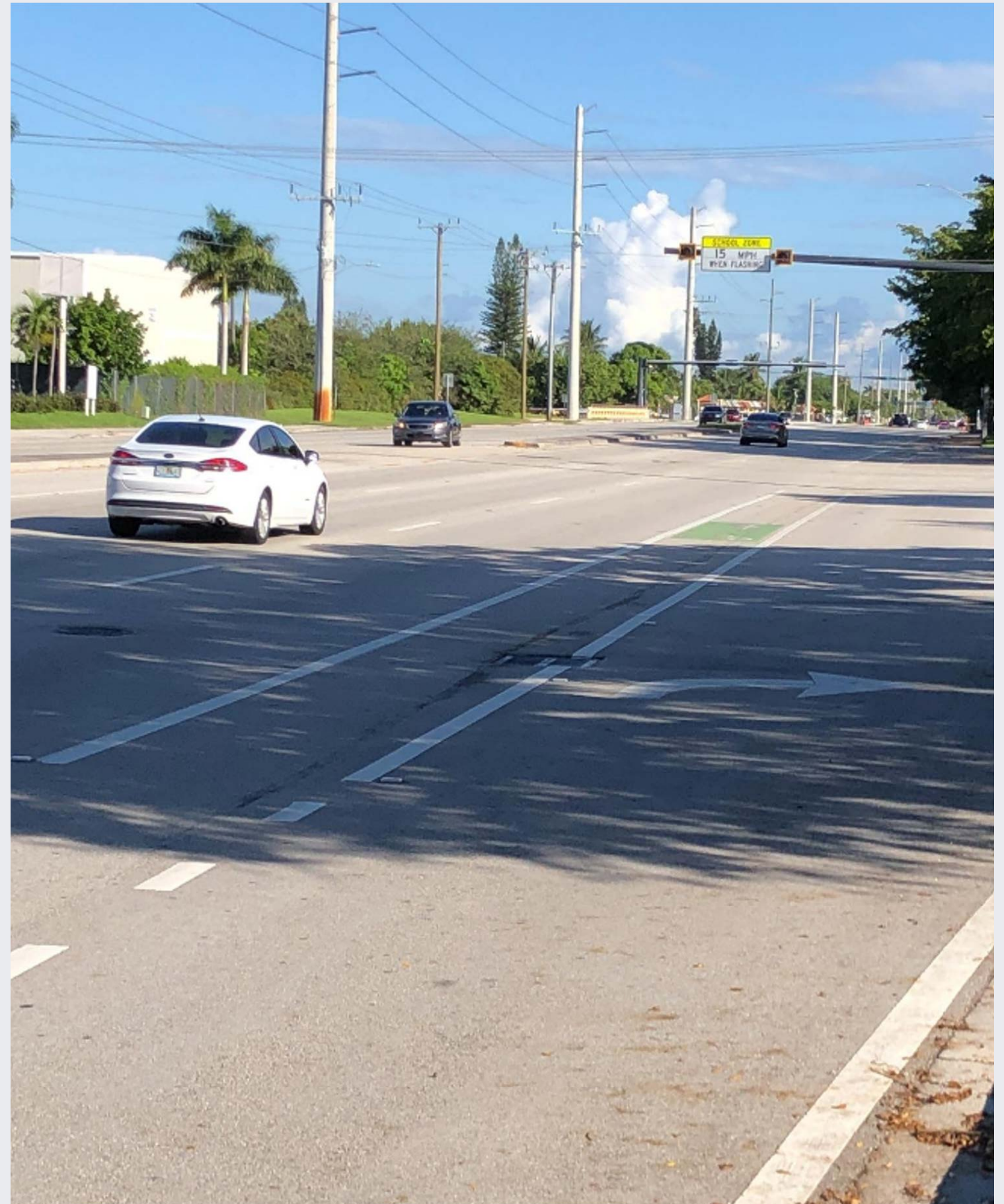


# NW 31st Avenue Mobility Plan





# Chapter 1:

Executive Summary &  
Introduction





# Chapter 1: Executive Summary & Introduction



## Purpose

The NW 31st Avenue Mobility Plan (plan) is intended to be the vision for NW 31st Avenue. A vision plan is specifically intended to identify the following: the overall purpose of a planning effort, the desired outcomes, and the guiding principles to achieve the outcomes. As a vision document, the plan gives purpose and guidance to achieve the desired outcome. The planning effort included two primary parts: (1) conduct a lane repurposing study for NW 31st Avenue from Oakland Park Boulevard to Commercial Boulevard and (2) develop a mobility plan to identify and provide solutions to enhance safety, connectivity, and multimodal improvements for NW 31st Avenue from Broward Boulevard to McNab Road.

**The plan's goal is to identify improvements and strategies that safely support movement and connectivity for NW 31st Avenue's future evolution and growth. This goal will be achieved by improving safety for all ages and abilities and enhancing connectivity.**

## Background

NW 31st Avenue is a north-south County-owned minor arterial roadway servicing local and regional trips through the jurisdictions of Fort Lauderdale, Lauderdale Lakes, Lauderdale Hill, Oakland Park, Tamarac, Pompano Beach, and unincorporated Broward County. Broward County Transit (BCT) is heavily used within the planning area with two primary BCT fixed routes. Transportation improvement projects in the past, such as widening to accommodate additional vehicular lanes, have resulted in narrowed pedestrian zone with higher traffic speeds. The pedestrian zone is also constrained by narrow or incomplete sidewalks, and numerous encroachments, such as utility boxes and poles, as well as parked vehicles. Additionally, residences abutting the right-of-way have difficulty backing out of driveways, and exiting side streets due to obstructions and speeding vehicles.

Examining bicycle and pedestrian crash data helped identify dangerous and problematic areas on NW 31st Avenue. To summarize, from January 2016 through December 2021, there were 2,242 crashes on NW 31st Avenue. Of those crashes, there were 635 injuries and 13 fatalities. Of the fatalities, six (6) were pedestrians and two (2) were bicyclists.

## Collaboration

The plan is the result of a partnership among the municipalities abutting NW 31st Avenue, Broward County (facility owner), and Broward MPO. The plan sponsor, City of Lauderdale Lakes, provided a local funding contribution and provided administration services to develop the plan. A stakeholder group comprised of representatives from each municipality along NW 31st Avenue and Broward County guided development of the plan. Recognizing the importance of public input from residents, a variety of means

were used to gather public comment during the planning process. An online survey was distributed to the public and a series of public meetings were held throughout the planning process, including virtual town hall meetings, open house at Boyd Anderson High School, and homeowner association meetings.

## Recommendations

This document includes a concept plan that is focused on improvements that provide safe and comfortable spaces for bicyclist, pedestrians, and transit users. One common theme throughout the plan is to manage vehicle speed on NW 31st Avenue. Vehicle speed has a major impact on the number of crashes and injury severity for all users. Another theme is the need and planning for better and safer pedestrian and bicycle facilities. Experienced cyclists may be more comfortable travelling next to motor vehicles, but less experienced cyclist tend to feel stressed and uncomfortable riding near motor vehicles.

### Examples of design elements in the plan that strengthen the pedestrian, bicyclist, and transit user zones include:

- 10' wide multimodal pathway separated by a curb.
- Speed management countermeasures such as, raised intersections, raised crosswalks, and pedestrian hybrid beacons.
- Improve the design of NW 31st Avenue to accommodate pedestrian, bicyclist, and transit user.

The plan discusses efforts that are necessary to achieve the vision to improve bicycle and pedestrian safety, and enhance multimodal connections. Cost estimates are provided for the recommended improvements, as summarized below.

- 10' wide multimodal pathway \$11 million.
- Speed management, medians, signalization, and crosswalks \$6.25 million.
- Set of strategies to improve multimodal conditions and enhance overall mobility on NW 31st Avenue.

# Chapter 1: Executive Summary & Introduction



## How to use this plan

The plan defines the multimodal transportation vision for NW 31st Avenue to guide future public and private investments. The document is divided into four sections:

### Chapter 2

#### Planning Context & Approach



Describes the planning area, the data driven approach, the partnership between the municipalities along the corridor and Broward County, and the public involvement used to develop the plan. It also describes the purpose and goal of the plan.

Page 5

### Chapter 3

#### Planning Analysis



Provides the context influencing the physical and operational conditions of NW 31st Avenue and describes the strengths, weaknesses, and opportunities affecting all users of the facility.

Page 11

### Chapter 4

#### Recommendations



Includes detail maps and illustrations describing the desired multimodal transportation improvements to accomplish the vision of NW 31st Avenue.

Page 30

### Chapter 5

#### Implementation



Describes the steps necessary to achieve the plan's goal and includes cost estimates for the proposed projects and strategies for funding.

Page 60



# Chapter 2:

## Planning Context & Approach





# Chapter 2: Planning Context & Approach



This Chapter describes the study area, the data driven approach, the partnership between the municipalities along the corridor, Broward County and Broward MPO, and the public involvement used to develop the plan. It also describes the purpose and goal of the plan.

## Study Area

The study area is six (6) miles in length bounded by Broward Boulevard to the south and McNab Road to the north (Figure 1). NW 31st Avenue is a County minor arterial roadway that serves a diverse population of users including pedestrians, bicyclists, transit users, and vehicular traffic within northcentral Broward County, passing through the cities of Fort Lauderdale, Lauderhill, Lauderdale Lakes, Oakland Park, Tamarac, and Pompano Beach. Between Broward Boulevard and Sistrunk Boulevard, NW 31st Avenue is four lanes with a center two-way left turn lane with an average daily traffic of 24,000 vehicles. North of Sistrunk Boulevard, NW 31st Avenue transitions to six lanes with a center two-way left turn lane and a center median north of NW 8th Road. Average daily traffic on NW 31st Avenue north of Sistrunk Boulevard ranges from 24,000 to 32,500 vehicles. Within the project area, BCT routes serve the corridor providing access to schools, employment centers, parks, and shopping.



NW 31st Avenue functions as both a regional route for through traffic, and as a neighborhood road for residents of the area. The adjacent neighborhoods feature an array of housing ranging from duplexes to multifamily apartments, as well as broad areas of single-family residential. Although there are areas of commercial strip or non-residential uses along the corridor, predominately non-residential commercial uses are located at major east-west (arterial) roadways creating a nodal pattern along NW 31st Avenue. As part of the planning analysis and further discussed in Chapter 3, a lane repurposing traffic analysis was conducted for the portion on NW 31st Avenue from Oakland Park Boulevard to Commercial Boulevard.

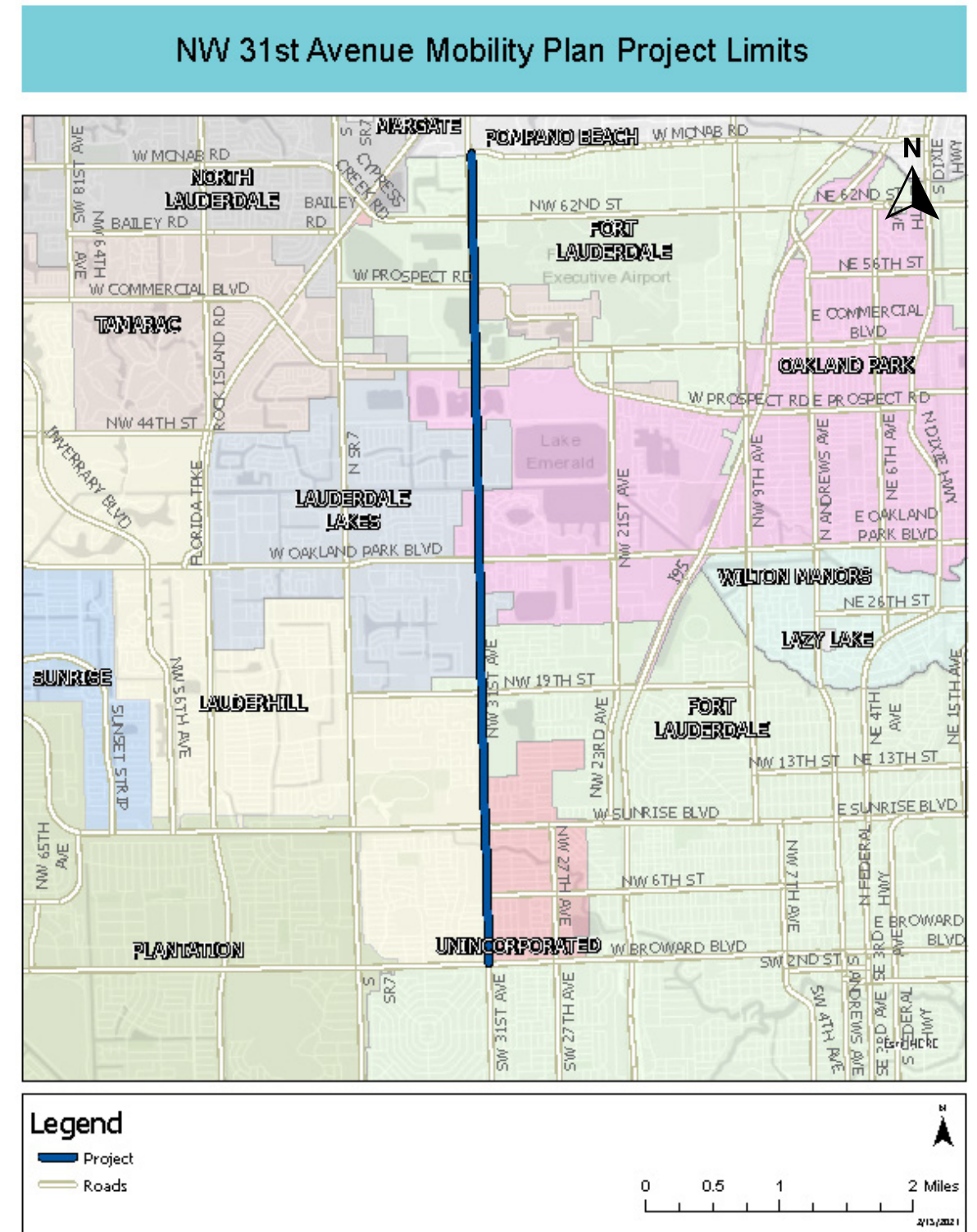


Figure 1

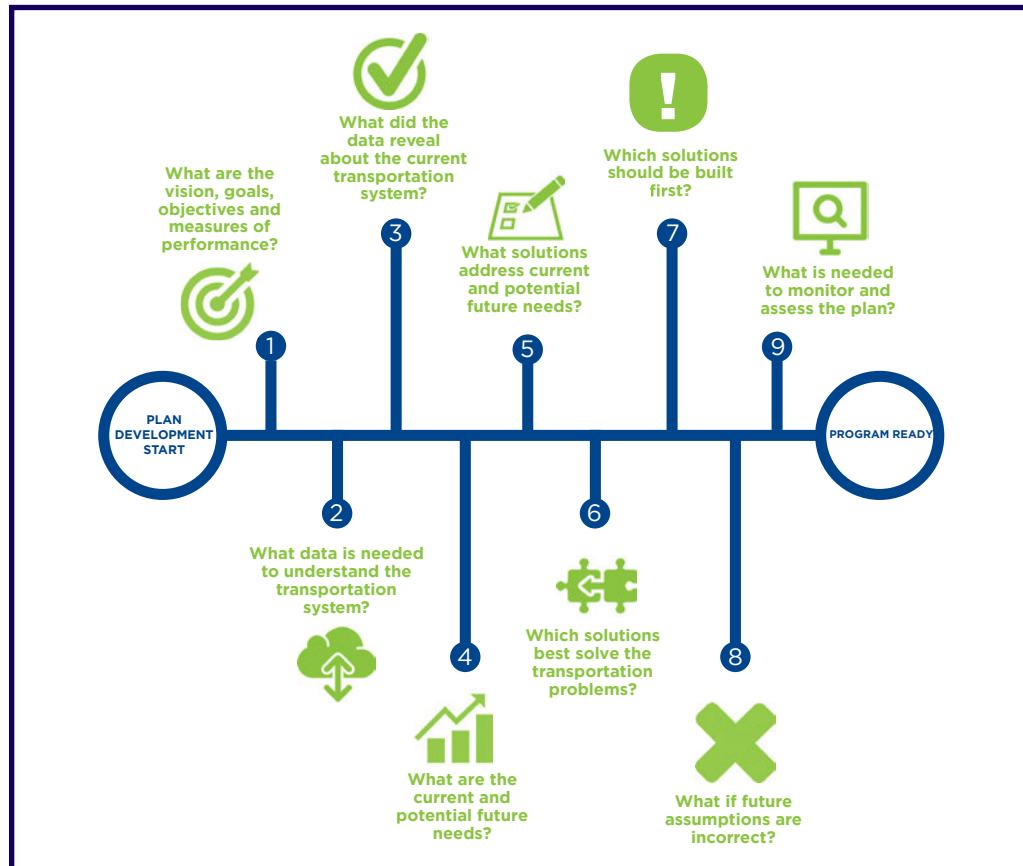


# Chapter 2: Planning Context & Approach



## Planning Approach

The plan was guided by an integrated technical planning approach consistent with the “How to Develop a Transportation Plan” process described in the Broward Metropolitan Planning Organization (“Broward MPO”) Transportation Planning Guidebook (January 2018).



“How to Develop a Transportation Plan” process described in the Broward MPO Transportation Planning Guidebook (January 2018)

The planning process began by recognizing the purpose and need as described by the municipalities along NW 31st Avenue.

Development of the vision and goal of the plan for NW 31st Avenue was a collaborative effort with the municipalities along the corridor. To achieve the primary goal to balance transportation options on NW 31st Avenue by expanding the pedestrian and bicyclist zones, a lane repurposing traffic analysis was required as an initial step to determine if one lane in each direction from Oakland Park Boulevard to Commercial Boulevard, could be repurposed to create space within the existing right-of-way of NW 31st Avenue. These uses could include wider sidewalk, protected bicycle lanes, pedestrian lighting, street trees for shade, bus shelters and street furniture such as benches and bicycle racks.

**A substantial data collection effort of transportation-related information was undertaken in order to assess current conditions of the following:**

- Safety (e.g., vehicle, pedestrian, bicycle crash information, etc.)
- Transportation Behavior (e.g., AADT, bicycle and pedestrian counts, transit ridership, etc.)
- Transportation Infrastructure (e.g., transit routes and schedules, bicycle and pedestrian facilities, etc.)
- Demographic (e.g., population, age, household income, vehicle ownership, etc.)
- Land use (e.g., residential, commercial, industrial, etc.)
- Ownership (i.e., ROW, jurisdictional authority)

After data was collected to understand the transportation issues and concerns, various proposed improvements were evaluated with the stakeholders. There are often many workable solutions to address the transportation needs of the community. However, deciding which solutions to move forward as viable transportation projects requires a decision as to which solution addresses each transportation problem, or group of problems the best. Each potential solution was examined for the benefits, costs, and constraints associated with its implementation, as well as potential impacts to neighboring communities. This step-by-step process was utilized to ensure the recommendations were data-driven and community supported. Finally, an implementation plan with coordinated strategies on funding, identification of responsible parties, timeframes and sequence of improvements was developed to put the transportation solutions into practice and achieve the desired vision of NW 31st Avenue.

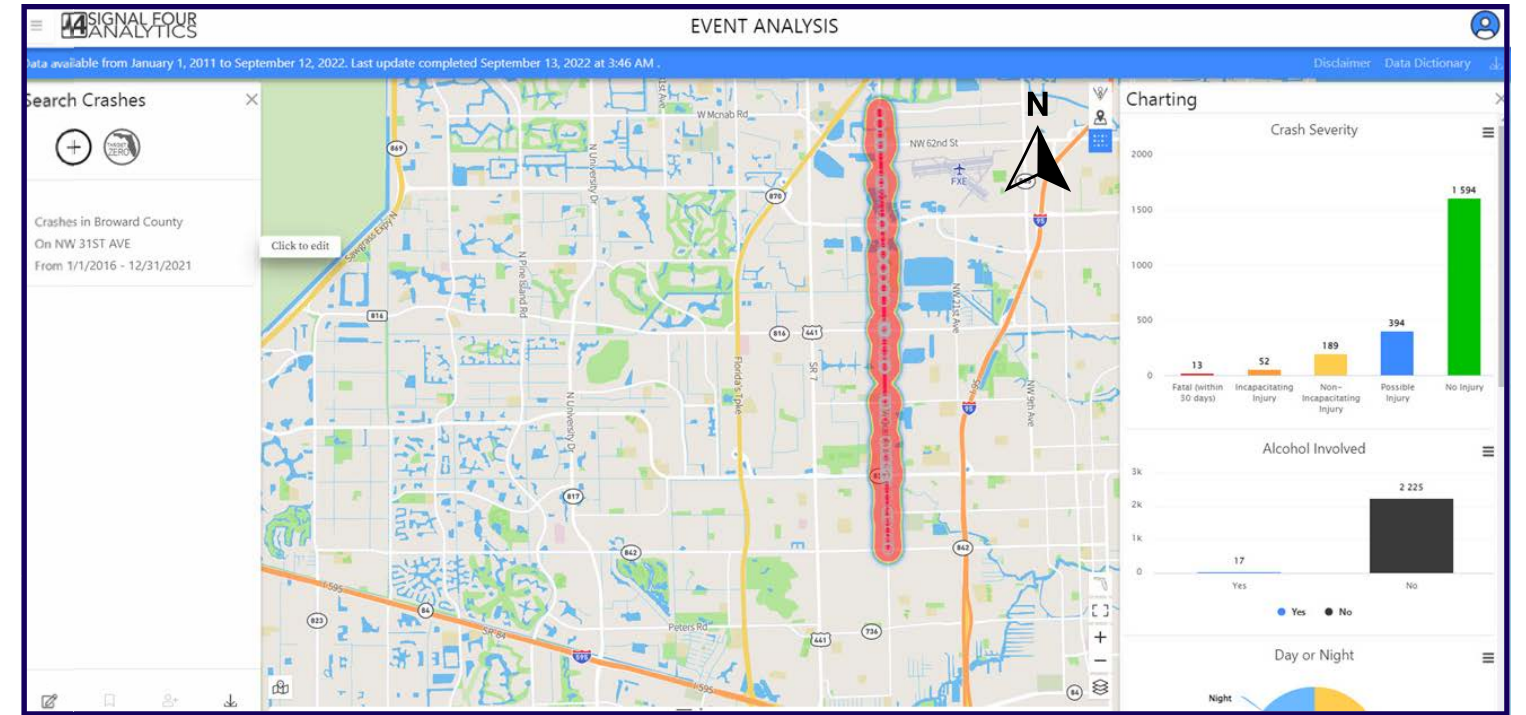
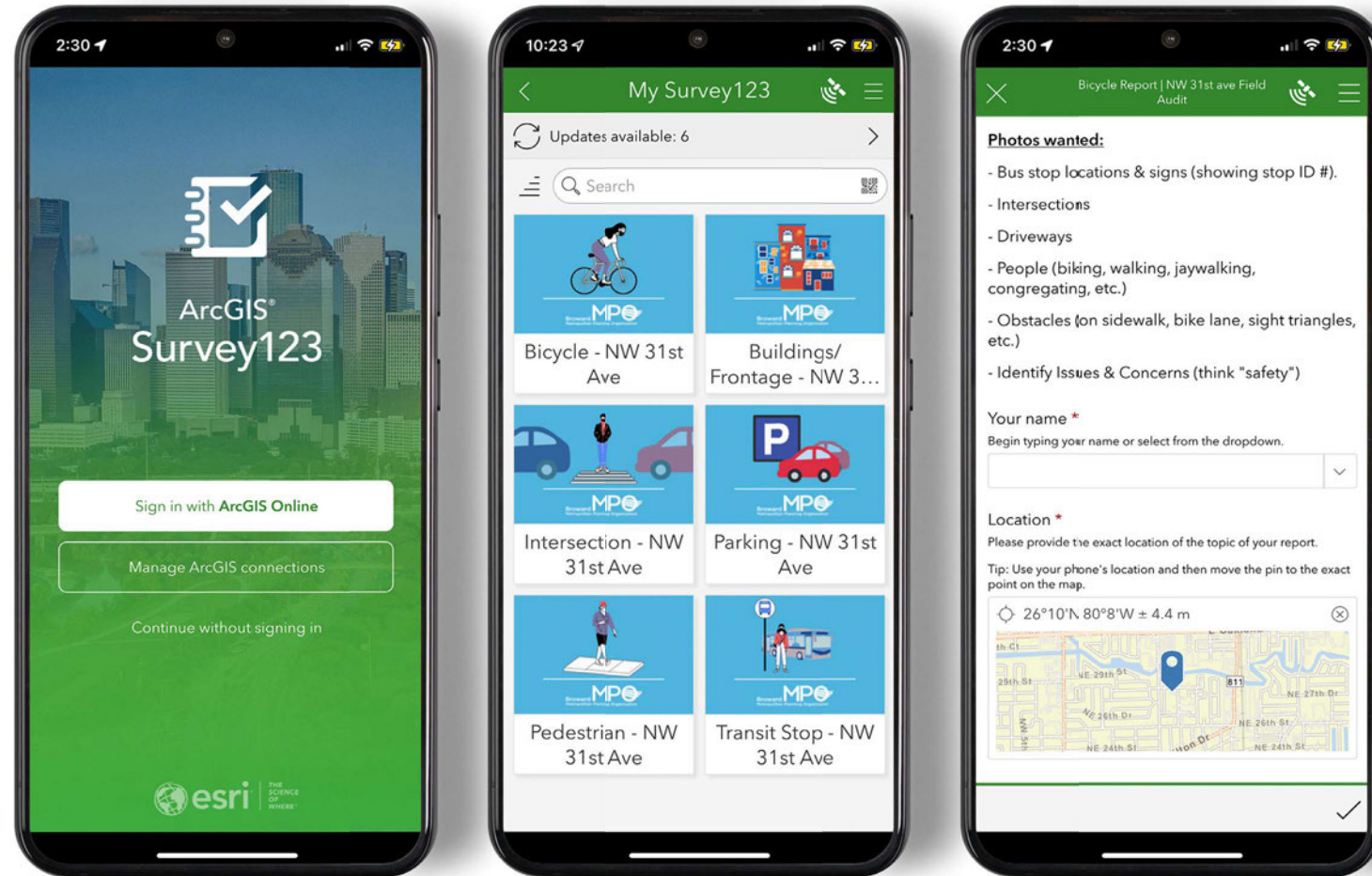




# Chapter 2: Planning Context & Approach



## Data Collection



As part of data collection in the planning process, a field audit mobile app was developed using Esri ArcGIS Online and Survey 123 applications. Observations, as well as geo-located pictures, were collected in the field along NW 31st Avenue over multiple days in a uniform and accurate manner. These Esri Geospatial Cloud data points were then managed within the ArcGIS Enterprise environment to make visual representations through maps, allowing for post-processing with multiple GIS data layers to develop context and identify improvements and guide recommendations for the data-driven plan.

The plan utilized crash data from Signal Four Analytics, developed by the GeoPlan Center at the University of Florida. Signal Four Analytics provides geospatial analysis of crash data and allows transportation planners to identify high-crash corridors, intersections, determine crashes types (e.g., sideswipe, rear-end collisions), identify roadway facility types where crashes are most likely to occur, identify contributing factors (e.g., excessive speed, distraction), identify roadway characteristics associated with crashes, such as lane width, pavement markings, signage, etc., determine key human factors or behaviors associated with the number and severity of crashes (e.g., alcohol or drug impairment), and assist in determining crash risk inequities across jurisdictional boundaries by using travel data to establish crash rates.



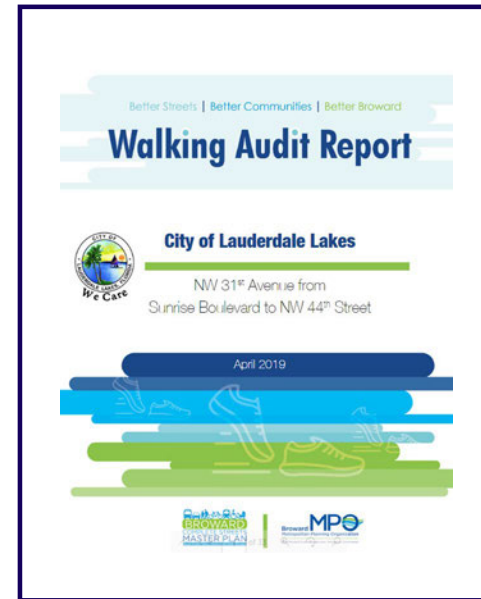
# Chapter 2: Planning Context & Approach



## Summary of other plans

### Lauderdale Lakes Walk Audit (2019)

The NW 31st Avenue Mobility Plan utilized the Walking Audit Report prepared in 2019 as a starting point during the planning process. It focused on a corridor-level analysis that identified project-level recommendations on NW 31st Avenue from Sunrise Boulevard to NW 44th Street. The recommendations were developed around Complete Streets concepts to promote safety improvements for the benefit of all users.



### NW 31st Avenue Overlay District



In 2020, the City of Lauderdale Lakes established the NW 31st Avenue Overlay District to improve the existing character and enhance the community's identity, maintain and improve property values, reduce the impact of blighted areas resulting from uncoordinated and non-uniform standards and regulations and protect the public health, safety and welfare of residents. The overlay provides for regulations that enhance the existing conditions of driveways and parking areas, exterior paint, colors and design for building facades, architectural features of trellises, fences, roofs, and the aesthetics of landscaping, garbage receptacles and lighting.

## TIGER Grant

**CONTRACT PLANS COMPONENTS**  
ROADWAY PLANS  
SIGNING & PAVEMENT MARKING PLANS  
SIGNALIZATION PLANS

**STATE OF FLORIDA**  
**DEPARTMENT OF TRANSPORTATION**  
**CONTRACT PLANS**  
**FINANCIAL PROJECT ID 440746-2-52-01**  
**(FEDERAL FUNDS)**  
**BROWARD COUNTY (86000163, 86000222)**  
**NW 31ST AVENUE**  
**FROM COMMERCIAL BLVD. (SR-870) TO WEST McNAB ROAD**

**INDEX OF ROADWAY PLANS**

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	SIGNATURE SHEET
3 - 5	TYPICAL SECTION
6	PROJECT CONTROL
7	GENERAL NOTES
8 - 23	ROADWAY PLANS
24 - 25	STORMWATER POLLUTION PREVENTION PLANS
26 - 27	TEMPORARY TRAFFIC CONTROL PLANS
UTV-1 - UTV-2 *	VERIFIED UTILITY LOCATE SHEET

\* These sheets are included in the Index of Roadway Plans only to indicate that they are part of the Roadway Plans. These sheets are contained in a separate digitally signed and sealed document.

**GOVERNING DESIGN STANDARDS:**  
Florida Department of Transportation, FY2019-20 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).  
Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fltdot.gov/design/standardplans>

**GOVERNING STANDARD SPECIFICATIONS:**  
Florida Department of Transportation, January 2009 Standard Specifications

**ROADWAY PLANS**  
**ENGINEER OF RECORD:**  
ALEJANDRO A. LEON, P.E.  
P.E. NO.: 74675  
APCTE, CORP.  
8935 NW 35th LANE, SUITE 200  
DORAL, FLORIDA 33172  
VENDOR NO.: 65-0770583

**FDOT PROJECT MANAGER:**  
THUC LE, P.E.

The Broward MPO was awarded federal funding for NW 31st Avenue through a competitive grant program called the Transportation Investment Generating Economic Recovery or TIGER. The NW 31st Avenue TIGER project limits are from Commercial Boulevard to McNab Road and included reducing the width of three travel lanes from 12-feet to 11-feet and reducing the median width to allow for a continuous 4-foot bicycle lanes. Additionally, three intersections were upgraded from span-wire to mast arms traffic signals.



# Chapter 2: Planning Context & Approach



## Public & Stakeholder Input

- Summary of Survey

An online survey was open from January through February 2022. The survey was distributed through various outlets, including social media, emails, websites, and flyers posted on the NW 31st Avenue and at BCT bus stops. There were 64 participants in this survey. Most of the participants live adjacent to NW 31st Avenue. Participants were asked questions such as:

- Use of transit along NW 31st Avenue.
- Comfort level walking, crossing the road, biking and exiting driveways and side streets along NW 31st Avenue.
- Preferences for different mobility improvements such as protected bike lanes, pedestrian lighting, bus shelters, wider sidewalks, and speed management techniques.

### Results of the online survey include the following highlights:

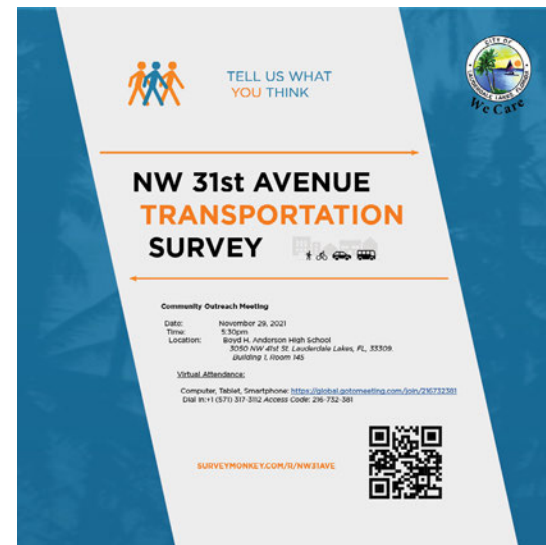
- 6% of the participants take the bus on a weekly basis.
- Most of those that take the bus use it to go to work and for shopping trips.

The dominant theme of the survey was concerns regarding speeding traffic and traffic safety (too many crashes). This also was reflected with participants feeling that existing conditions are unsafe to ride a bicycle and walk along NW 31st Avenue.

### Top 3 Concerns:

1. Speeding Traffic 71.88%
2. Traffic Safety 65.63%
3. Unsafe Conditions to Walk and Bike: 40.63%

The full survey results are included in the Appendix.



***“My family would love to bike from place to place, but the lack of connecting sidewalks is a problem. Bike lanes are out of the questions due to wild traffic.”***

***“It’s dangerous because of speeding cars.”***

***“Safety just needs to be improved. It is paramount.”***



Vehicle crashed into rear of a Palm Aire home due to speeding on NW 31st Avenue.

A Transportation Town Hall was held on March 30, 2021, that introduced the planning effort to the community and provided an opportunity for questions and how to stay involved. Other opportunities for public input included an Open House at Boyd Anderson High School on November 29, 2021, a Community Outreach Meeting on January 27, 2022, and HOA meetings. Summary of comments from all meetings are included in the Appendix.

### Stakeholder Input

Throughout the planning process there were regularly scheduled stakeholder meetings. Stakeholders included Broward County, cities of Fort Lauderdale, Lauderdale Lakes, Oakland Park, Tamarac, Pompano Beach, and Broward MPO. These meetings ensured that appropriate data, analysis, adopted policies, and procedures were utilized for the traffic analysis for the lane elimination. Additionally, the stakeholder meetings provided an opportunity for open dialogue to discuss issues and concerns along NW 31st Avenue and strategize countermeasures and identify improvements that are locally supported.



# Chapter 3:

## Planning Analysis





# Chapter 3: Planning Analysis



The planning analysis was prepared through the execution of two sequential steps. The first step was a lane repurposing analysis from Oakland Park Boulevard to Commercial Boulevard to determine if one lane in each direction on NE 31st Avenue between could be repurposed for bicycle, pedestrian and transit zones. The second step hinged on the outcome of the lane repurposing analysis to determine if multimodal improvements would need to fit within the existing lane configuration or adjust to the new space made available through the lane repurposing. The second step also included an assessment of key indicators impacting transportation and environmental justice, motorized and non-motorized traffic data, transit, land use, analysis of safety, and field audit findings in order to develop recommended improvements and strategies.

## Step 1: Lane Repurposing Analysis

A lane repurposing, also known as “right-sizing” or “road diet”, is the process of eliminating or narrowing travel lanes on a roadway to improve safety and operations for all users. Drivers’ speeds on roadways with multiple through lanes are limited by the speed of the lead vehicle in the through lanes. When a through lane is converted to a bicycle lane, sidewalk or other user space, drivers’ speeds must slow down due to vehicles waiting to make left or right turns. Lane repurposing can create a safer pedestrian experience by offering fewer lanes of traffic to cross.

Each lane repurposing analysis is unique and must take into account local policies, vision of the community, surrounding context and an analysis of existing and future annual average daily traffic (AADT) conditions. The lane repurposing traffic analysis for NW 31st Avenue between Oakland Park Boulevard and Commercial Boulevard was conducted to ensure that traffic congestion will not increase to the point of diverting traffic to alternative routes, exceeding roadway capacity.

### Benefits of lane repurposing

- **19-47% reduction in crashes**
- **Reduced speed differential (smaller difference between fastest speeds and slowest speeds) resulting in a more consistent traffic flow**
- **Access for all road users (drivers, transit users, pedestrians, and bicyclist)**
- **Integration of the roadway into surrounding land uses that result in enhanced quality of life**

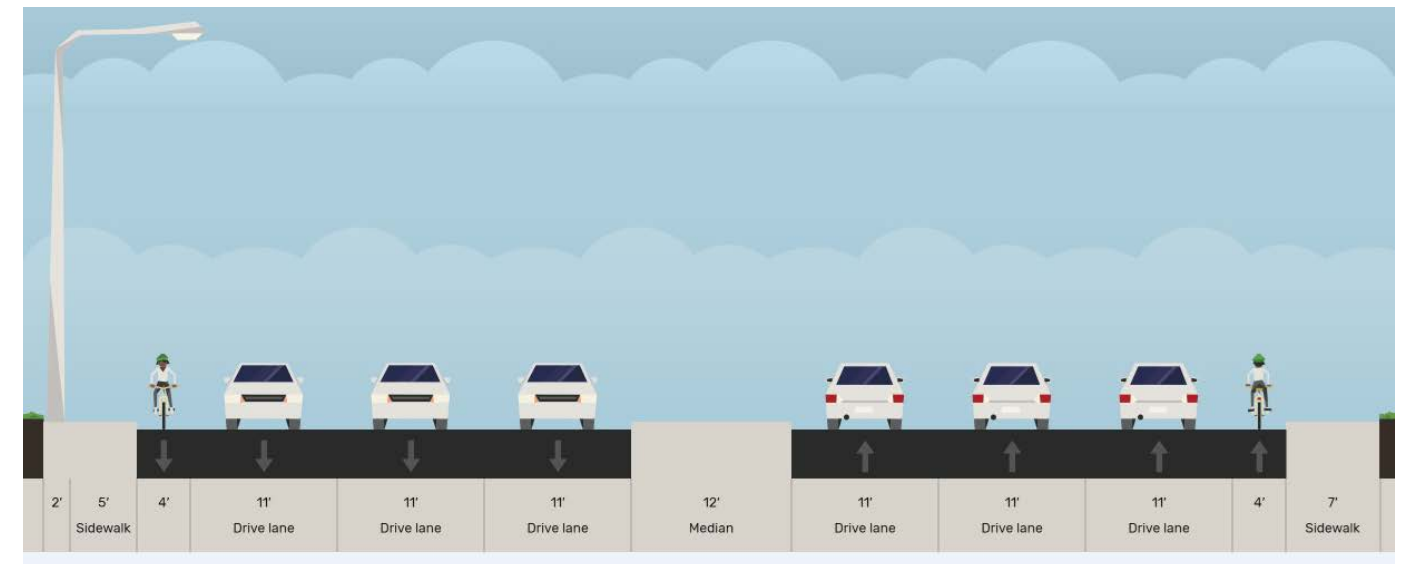
*(Source: Federal Highway Administration)*

The following section summarizes the lane repurposing analysis and findings. The entire traffic analysis report is included in the Appendix.

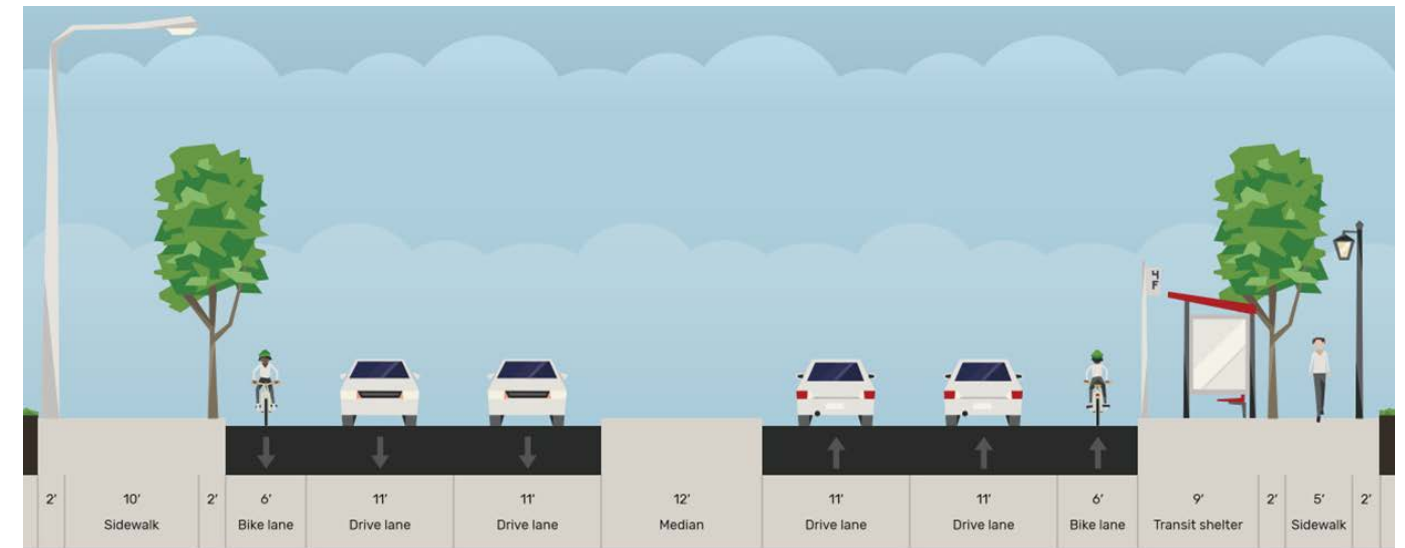
### Typical Sections / Existing & Proposed

The lane repurposing study determined the feasibility of reducing the number of lanes on NW 31st Avenue from six (6) lanes to four (4) lanes between Oakland Park Boulevard and Commercial Boulevard. The lane repurposing will promote lower speeds, multimodal uses and may decrease crashes.

#### Existing (No-Build)



#### Proposed Lane Repurposing (Build)

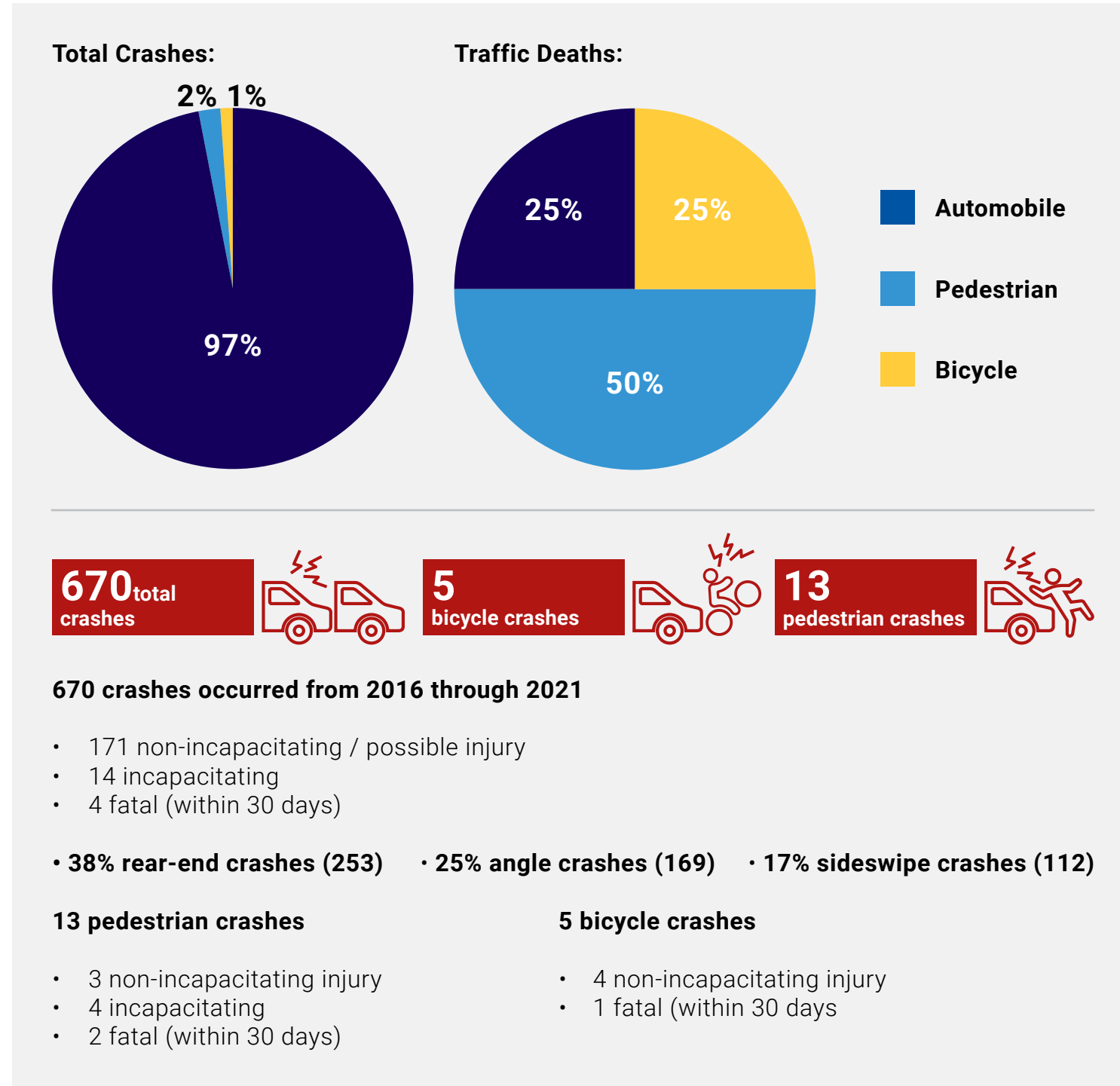




# Chapter 3: Planning Analysis



Crash Analysis Summary of Lane Elimination Segment: NW 31st Avenue from Oakland Park Boulevard to Commercial Boulevard



## Traffic Operations

The lane repurposing study area shown in Figure 2, extends 1.5-mile around NW 31st Avenue. This buffer evaluates the impact of the lane repurposing on NW 31st Avenue and on adjacent roadways.

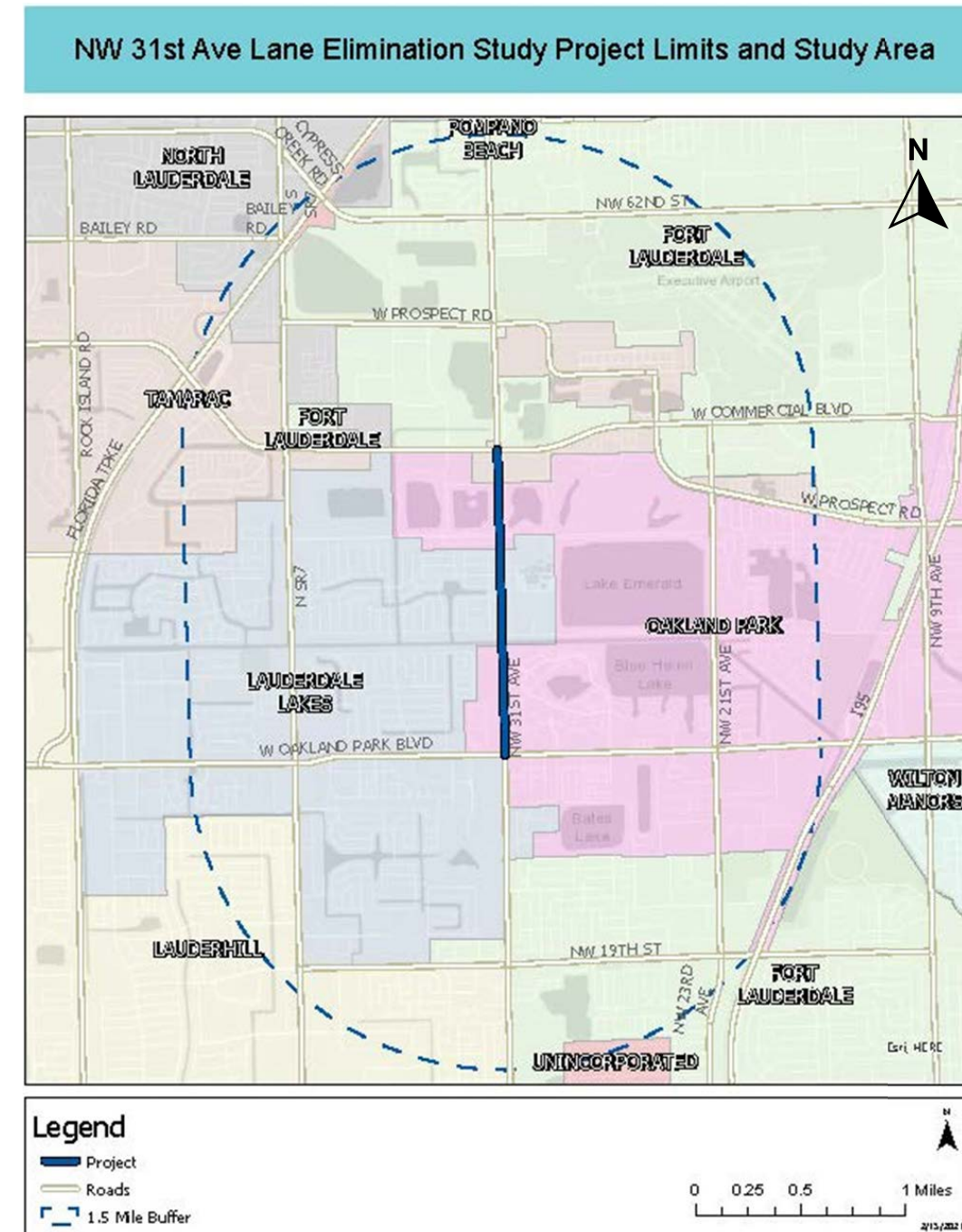


Figure 2: Lane Elimination Study Area



# Chapter 3: Planning Analysis



Broward County’s lane repurposing (elimination) policy requires impacts be less than 3% of existing and projected (2045) roadway segment vehicle capacity (also known as “de minimis” impact). Estimated impacts exceeding this threshold would be considered “adverse” if such estimated additional impact would affect existing and / or projected overcapacity segments, or estimated to create an overcapacity condition. The 3% threshold for de minimis is patterned after the Broward County Land Use Plan amendment “significance” threshold as described below.

*Policy 2.14.9 The impact analysis for proposed amendments to the Broward County Land Use Plan shall continue to consider as significant those regional roadway segments that are projected to experience, as a result of the net effect from the proposed amendment, an impact of three percent (3%) or greater than the p.m. peak hour level of service capacity for those regional roadway segments.*

Roadway level of service (LOS) is a qualitative measure used to relate the quality of vehicle traffic service, with “A” describing the highest quality (free flow traffic) and “F” describing the lowest quality (forced traffic flow in which the amount of traffic approaching a point exceeds the amount that can be served). NW 31st Avenue is a County minor arterial roadway currently operating at LOS C and is expected to operate at LOS F for both alternatives (build, 4-lane configuration and no-build, existing 6-lane configuration) in the design year (2045). To evaluate the impact of repurposing one travel lane in either direction (northbound and southbound), a link level analysis was conducted using a travel demand model for the region called the Southeast Regional Planning Model (SERPM).

The traffic impact analysis described roadway characteristics for existing and future (2045) such as number of lanes, capacity, level of services, average weekday traffic volumes, peak hour traffic volumes, 3% de minimis threshold values, historical traffic counts and growth, traffic volume growth based on SERPM, and population and employment growth. The analysis concluded with three key findings:

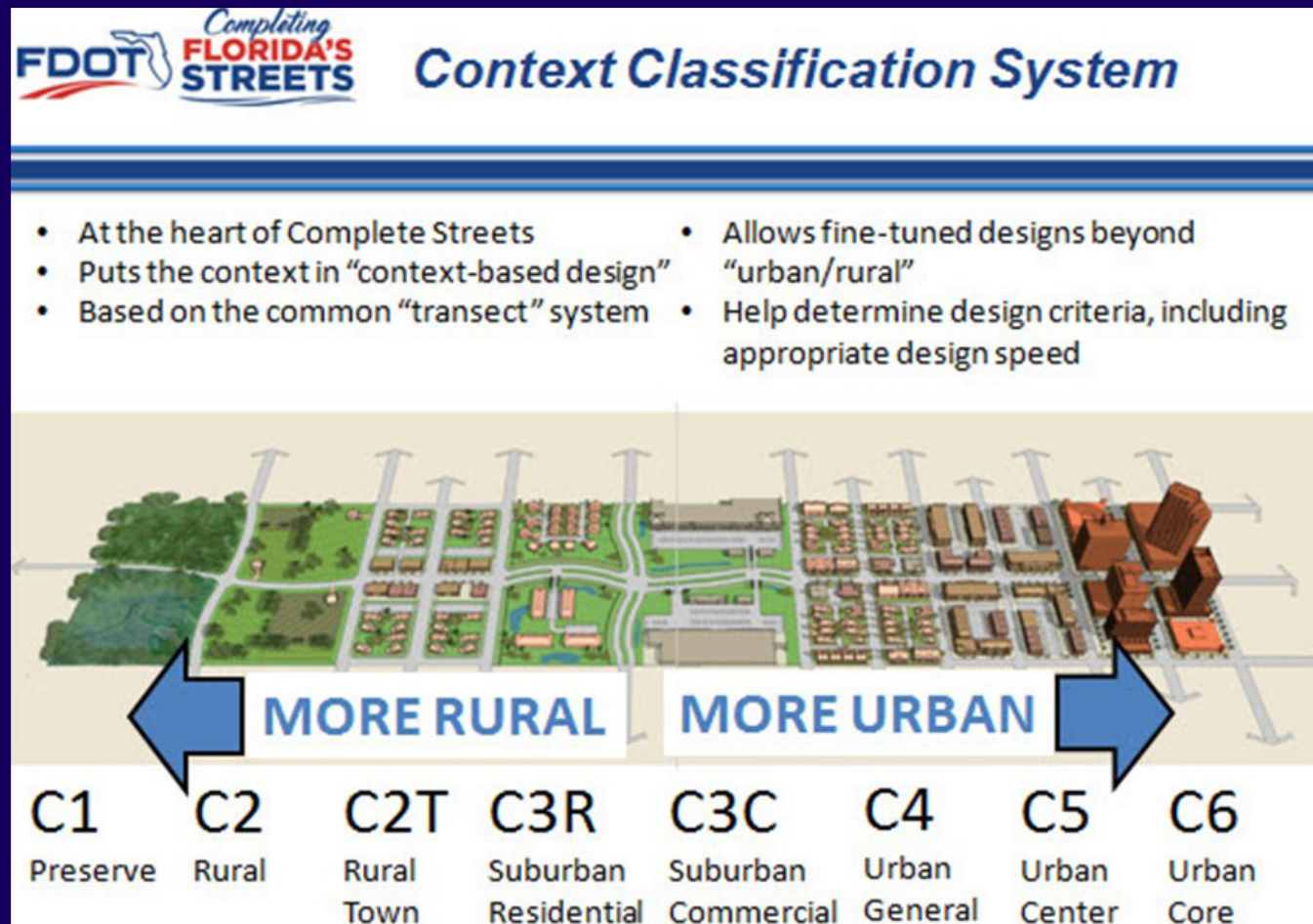
- NW 31st Avenue fails to meet the County’s 3% de minimis threshold policy with the lane repurposing (build).
- The SERPM model shows traffic dispersion throughout the study area with two segments on State Road (SR-7) and Prospect Road experiencing higher volume to capacity (v/c) ratios with adverse impacts (exceeding 3% de minimis threshold County Policy 2.14.9).
- Traffic volume growth forecast over the next 25 to 30 years from the SERPM model is reasonable when compared to population and employment growth rates as well as linear growth trends derived from historical traffic counts.

Based on these findings, it was decided to move forward with the NW 31st Avenue planning effort with the understanding that all proposed multimodal improvements would need to fit within the existing right-of-way with a 6-lane configuration.





# Chapter 3: Planning Analysis



Complete Streets are context sensitive, and the approach provides transportation system design that considers local land development patterns. Roadways will be planned and designed to support the safety, comfort, and mobility of all users based on the unique context of each roadway. The FDOT context classification system broadly identifies the various built environments existing in Florida. The context classification of a roadway will inform FDOT's planning, Project Development and Environment (PD&E), design, construction, and maintenance approaches to ensure that state roadways are supportive of safe and comfortable travel for their anticipated users. Identifying the context classification of a roadway is a preliminary step in planning and design, as different context classifications will have different design criteria.

**The Context Classification Matrix outlines the measures used to determine context classification. These include:**

1. Distinguishing Characteristics - Give a broad description of the land use types and street patterns found within each context classification
2. Primary Measures - Measure the roadway connectivity and building use and form
3. Secondary Measures - Look at existing and allowed development intensity

Source: Florida Department of Transportation

Based on FDOT's Context Classification criteria, NW 31st Avenue is C4 "Urban General" classification, which is described as having a mix of uses set within small blocks with a well-connected roadway network that may extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor, or behind the uses fronting the roadway.



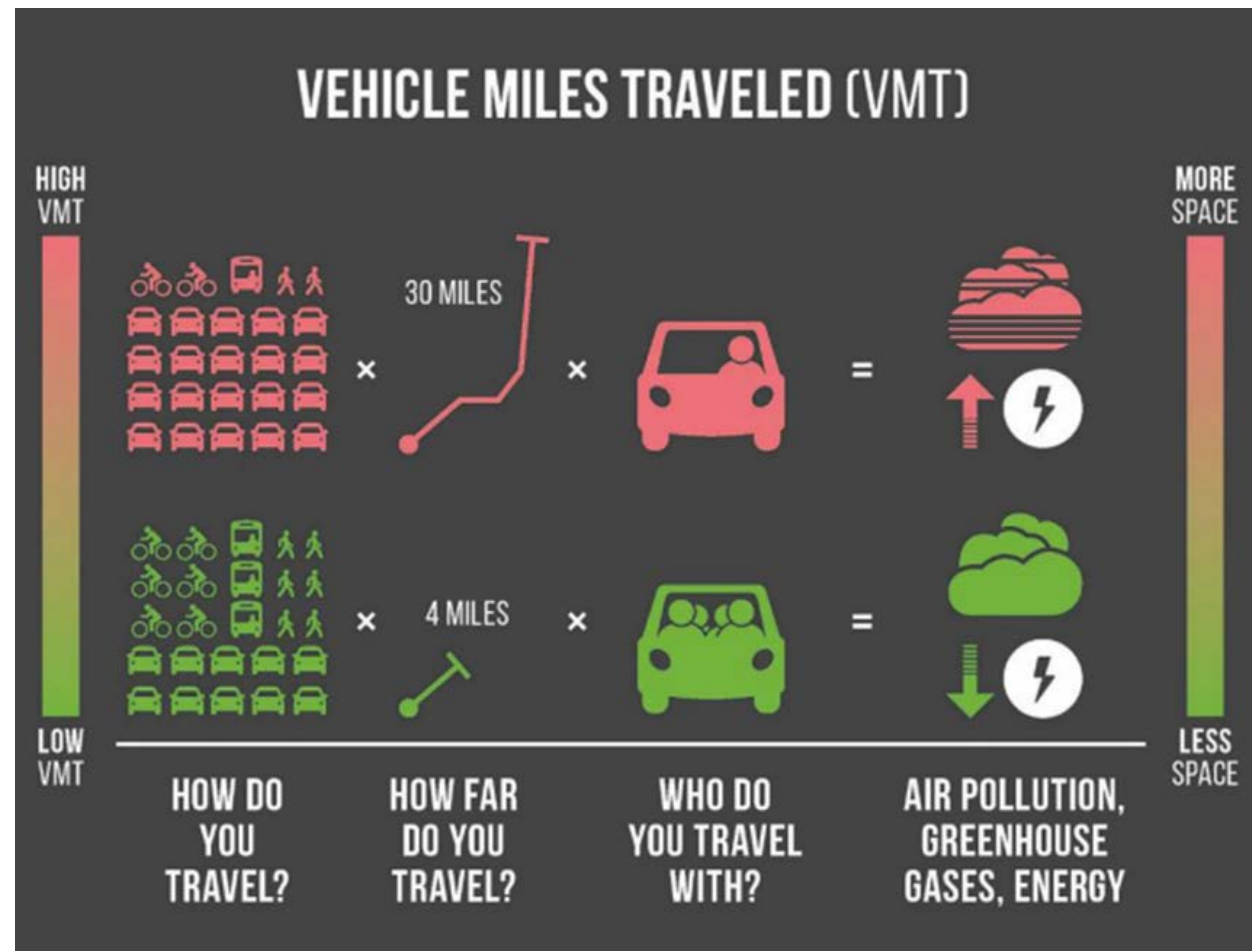


# Chapter 3: Planning Analysis



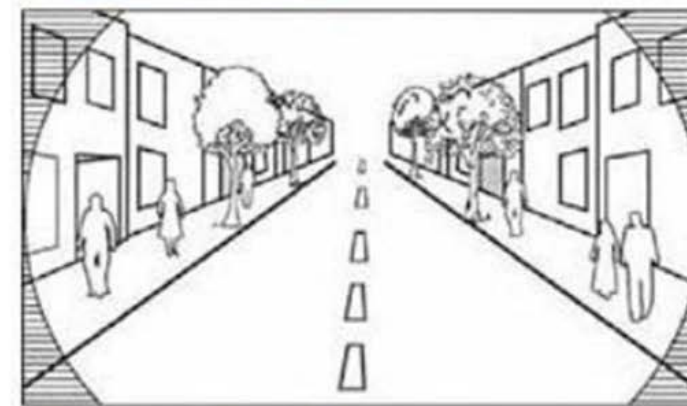
## Vehicle Miles Traveled

California established a modernized environmental planning process that takes a more universal approach to calculate the effects of transportation. This new approach replaced the previous vehicular delay referred to as Level of Service (LOS) to measure transportation network impacts. Vehicle Miles Traveled (VMT), or the amount of driven and length of trips, is used to assess transportation impacts on the environment. The image below depicts how VMT works.

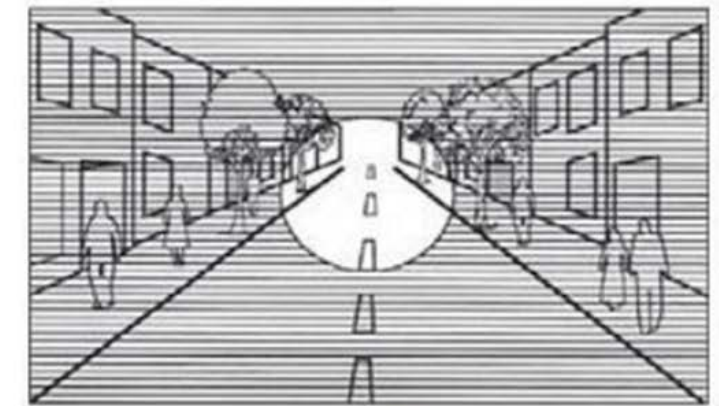


Since the 1950's, analysis of transportation impacts was often determined solely by something called Level of Service (LOS). Developed largely for analyzing traffic capacity on highways as opposed to environmental effects, LOS is an outdated and flawed approach that was expensive to calculate, did little to benefit the environment, and promoted urban sprawl rather than smart infill growth. (Source: City and County of San Francisco)

## Why Speed Matters



Field of vision at 15 MPH



Field of vision at 30 to 40 MPH

A driver's field of vision increases as speed decreases. At lower speeds, drivers can see more of their surroundings and have more time to see and react to potential hazards.



Speed is especially lethal for vulnerable users like pedestrians and people biking. The risk of injury and death increases as speed increases.

(Source: City of Portland, OR)



# Chapter 3: Planning Analysis



## Step 2: Multimodal Transportation Analysis

Step 2 was a multimodal transportation analysis focused on efforts to increase access, safety, and mobility by developing a complete picture of transportation conditions. This analysis included transportation indicators, environmental justice, traffic data, land use, transit and field observations.

The following section summarizes these findings.





# Chapter 3: Planning Analysis



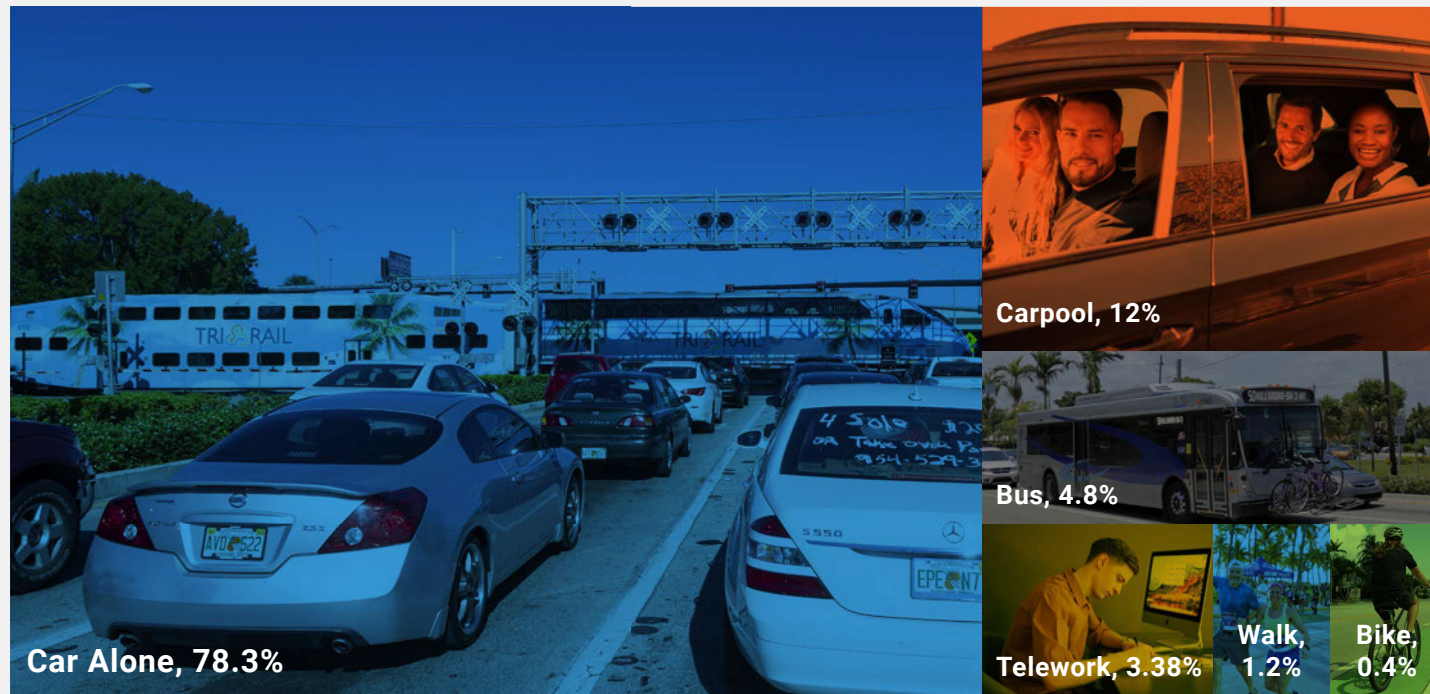
## 5 Key Transportation Indicators

### Commute Mean Travel Time

# 28.6 minutes

The average commute time is the amount of time residents spend commuting to work. The average commute time within the study area is 28.6 minutes, which is slightly higher than the national commute mean travel time of 27.8 minutes.

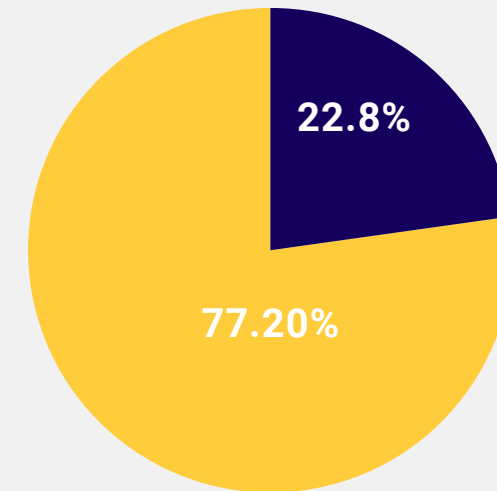
### Commute Type



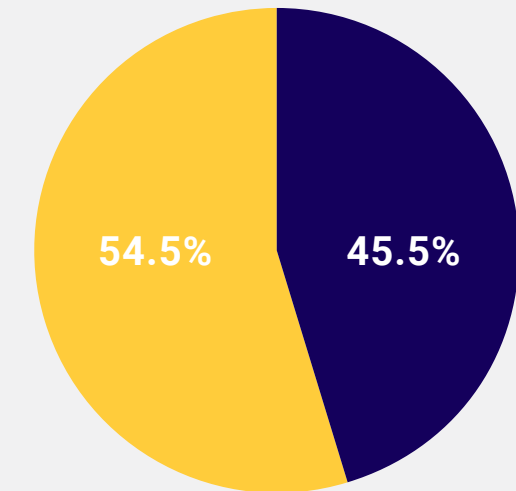
Understanding commuting to and from work can reveal potential barriers to different travel options and inform decisions about where additional modes of transportation may be needed. 78% of residents within the study area drive alone to work. 12% carpool, 4.8% use transit, 3.3% telework, 1.2% walk and 0.4% bike to and from work.

### Percent of Income Spent On Transportation

#### Median Income



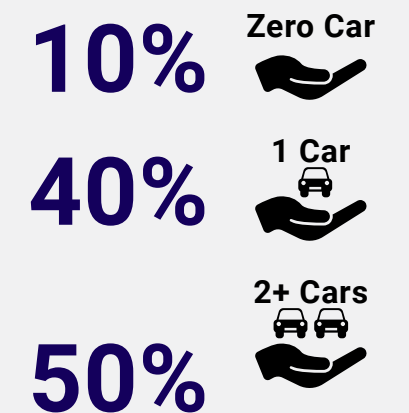
#### Low Income



Housing costs are the single largest expense for most households. Together with transportation costs, they account for approximately half of the average household budget. The cost of commuting is the percent of income spent on transportation. Within the study area, 22.8% of income is spent on transportation for median income families and 45% of income for low income individuals.

### Vehicle Access

As indicated in commute type, most residents within the study area drive to work alone. Having access to employment, schools, and shopping may be out of reach for some residents without a car. 10% households within the study area have no vehicle, compared to 5.8% of households in Broward County overall. This indicates a relatively high transit-dependent population which calls for safe, easy, and efficient access to other transportation options such as public transit.



Source: US Census Bureau

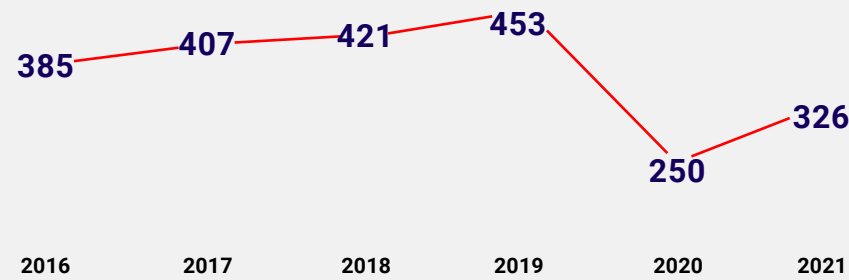


# Chapter 3: Planning Analysis

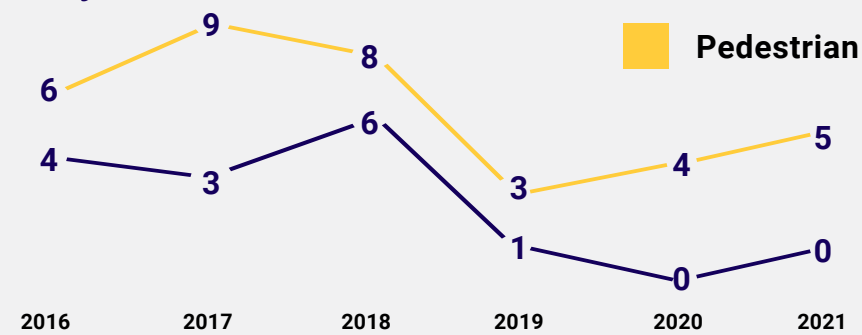


## Crash Trends

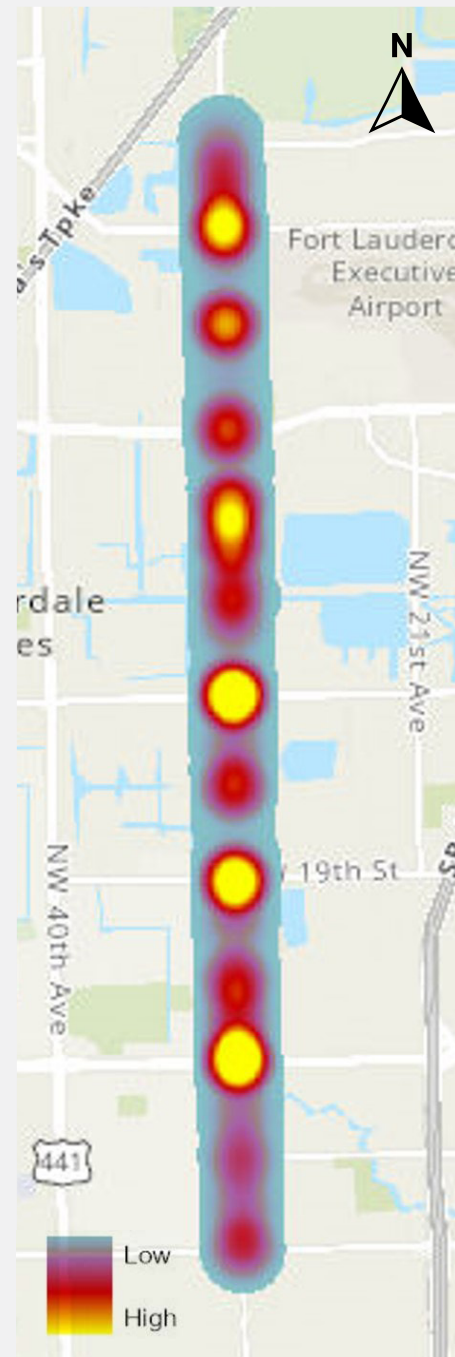
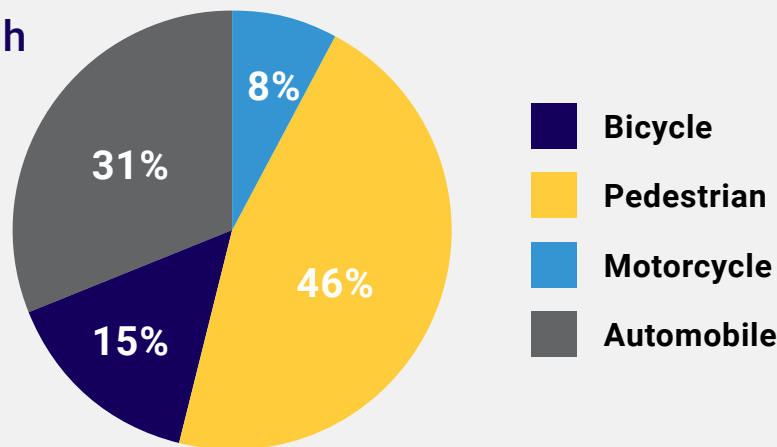
### All Crash



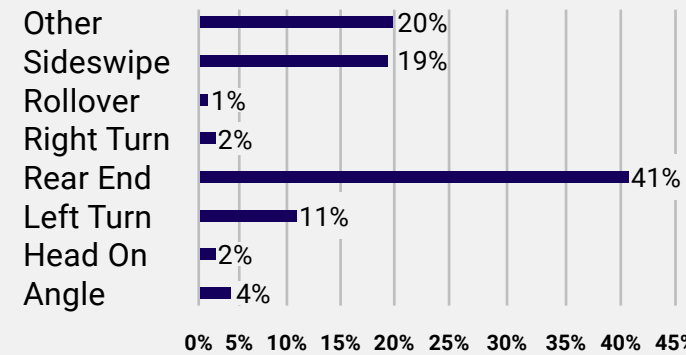
### Bicycle & Pedestrian Crashes



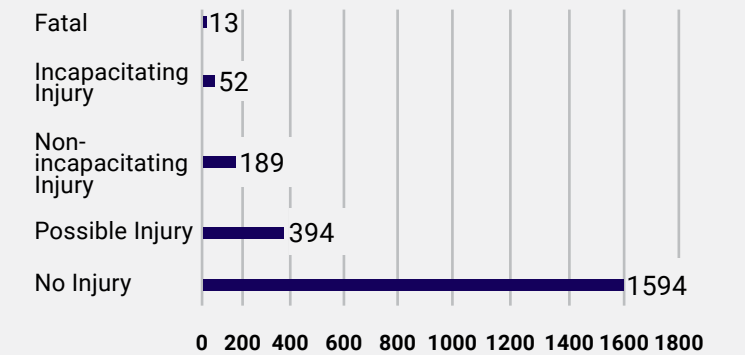
### All Crash



### All Crash Type



### Crash Severity



81% of all crashes on NW 31st Avenue were not at intersections. Crash data on identified challenging and problematic areas for roadway users. Crash location, type, and severity from January 1, 2016, through December 31, 2021, were included in the crash analysis (entire report found in the Appendix).

Crash data identified high concentration or crash clusters near Prospect Road and NW 62nd Street; NW 39th Street and NW 44th Street; NW 19th Street; NW 6 Street and Sunrise Boulevard.

**2,242**  
total crashes



**17**  
bicycle crashes



**33**  
pedestrian crashes



### Environmental Conditions



Source: Signal Four University of Florida

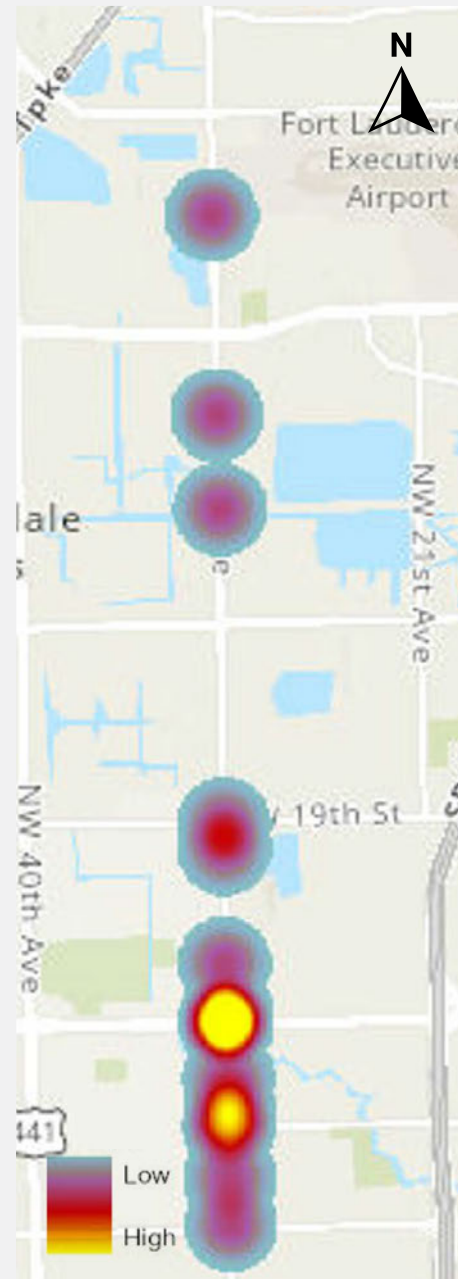


# Chapter 3: Planning Analysis



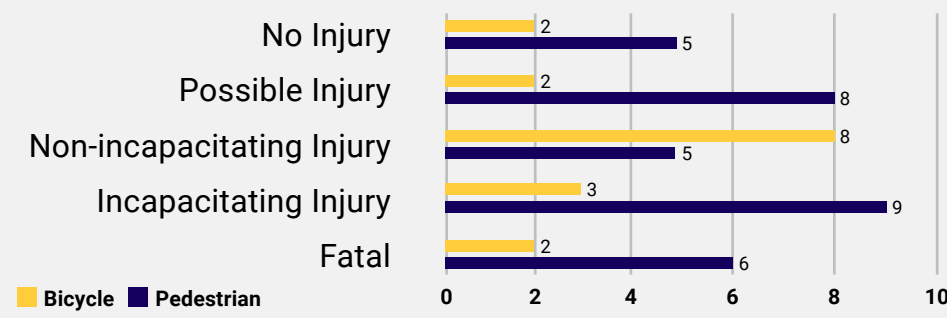
## Bicycle & Pedestrian Crashes

### Bicycle Crashes

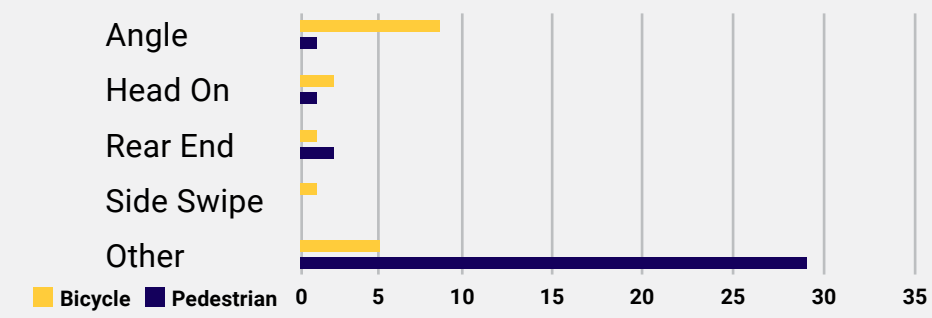


- Crash data on NW 31st Avenue identified several challenging and problematic areas for vulnerable users such as bicyclist and pedestrians. Crash location, type, and severity from January 1, 2016, through December 31, 2021, were included in the crash analysis (entire report found in the Appendix).
- NW 31st Avenue, 18% of crashes involving a pedestrian were fatal and 67% result in injury. 12% of crashes involving a bicyclist were fatal and 76% result in injury.
- Crash data identified high concentration of pedestrian crash clusters south of NW 62nd Street; between NW 39th Street and NW 44th Street; NW 19th Street; NW 6 Street and Sunrise Boulevard.
- Crash data identified high concentration of bicyclist crash clusters between NW 39th Street and NW 44th Street; south of NW 19th Street; and north of Sistrunk Boulevard.

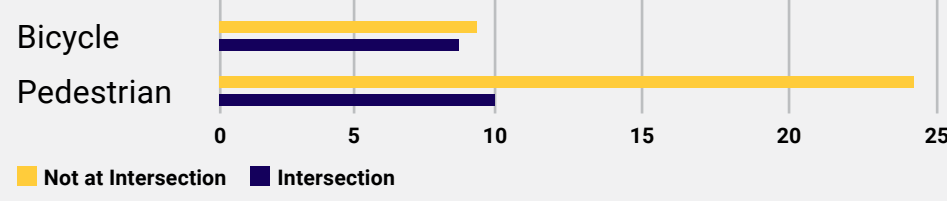
### Crash Severity



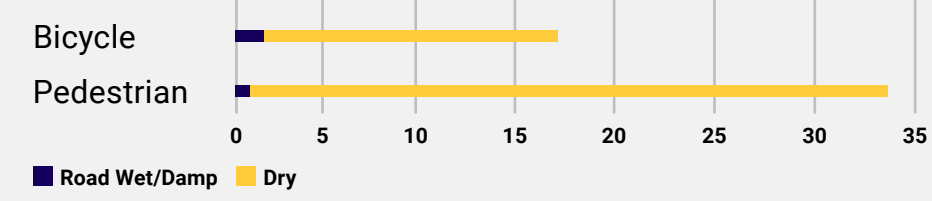
### Crash SType



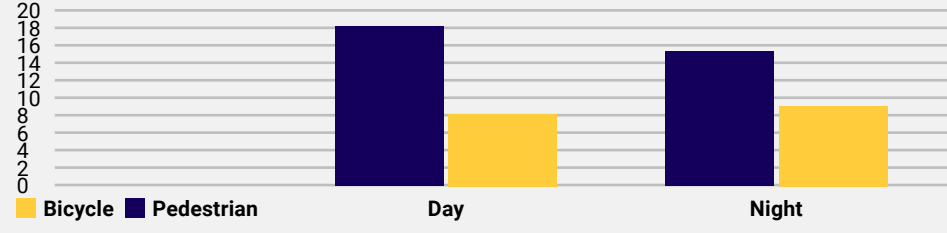
### Location



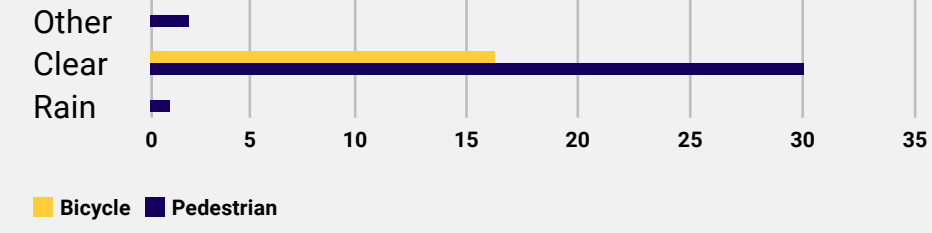
### Road Condition



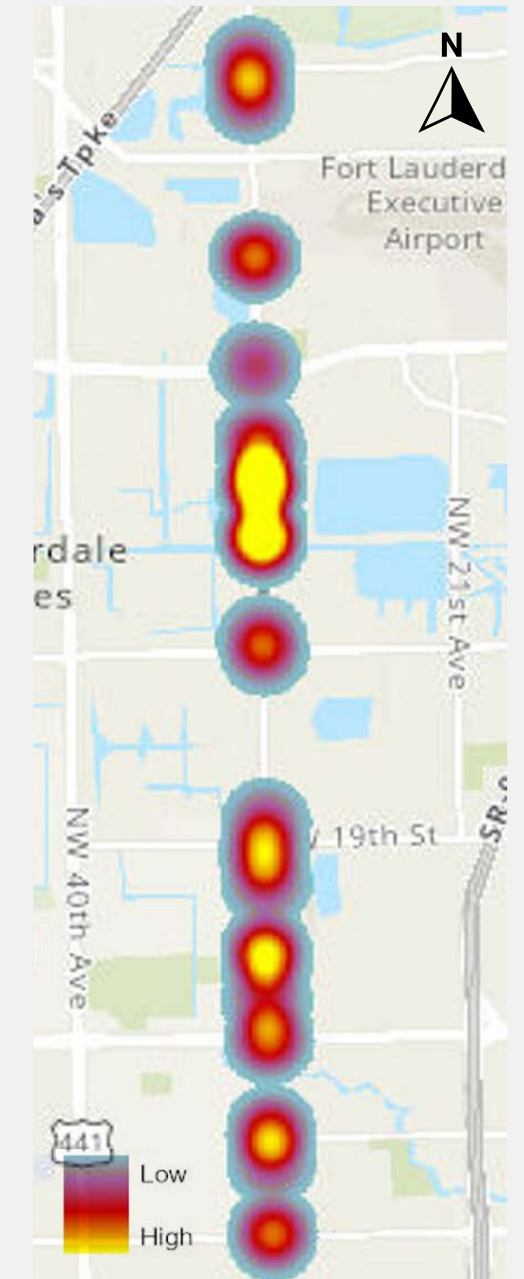
### Day/Night



### Weather

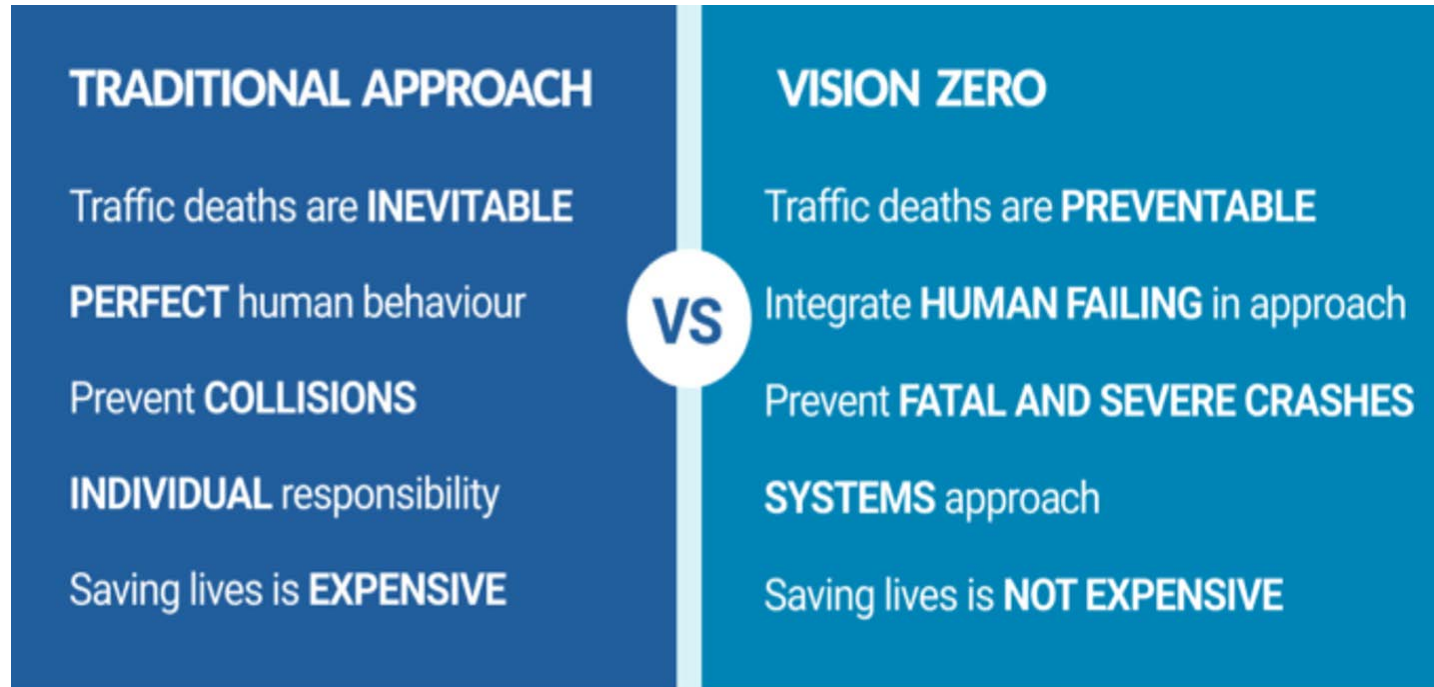


### Pedestrian Crashes





# Chapter 3: Planning Analysis



Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all.

**Vision Zero is a significant departure from the status quo in two major ways:**

Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure those inevitable mistakes do not result in severe injuries or fatalities. This means that system designers and policymakers are expected to improve the roadway environment, policies (such as speed management), and other related systems to lessen the severity of crashes.

Source: Vision Zero Network

The City of Fort Lauderdale adopted a Vision Zero Action Plan.

Vision Zero Fort Lauderdale is a response to citizens' concerns about safety for the traveling public, whether walking, biking, driving, or riding a train or bus. Vision Zero Fort Lauderdale incorporates the City's vision into specific objectives and strategies developed to achieve a zero fatality transportation network with the following guiding principles:

**Principle 1:** There is not an acceptable level of fatality or injury on our streets.

**Principle 2:** Traffic deaths and injuries are not accidents but preventable crashes.

**Principle 3:** The public should expect safe behavior on city streets and actively participate in efforts to make them safer.

Source: Fortlauderdale.gov



Target Zero is a statewide initiative to reduce the number of transportation-related serious injuries and deaths across Florida to zero. Vision Zero has the same goal as Target Zero, which is zero serious injuries and fatalities across the transportation system. In Florida, Target Zero builds upon the Vision Zero belief by focusing on influencing dangerous driver behaviors before serious and fatal crashes occur. Target Zero aligns resources and establishes actions for all safety partners to take evolutionary steps to improve how Florida connects, interacts, plans, designs, operates, and maintains its transportation system. (Source: FDOT) The Broward MPO agrees to plan and program projects so they contribute toward the accomplishment of the FDOT safety target of zero.

## ON FLORIDA'S ROADS...



**...even one life lost is too many**

Source: FDOT



# Chapter 3: Planning Analysis



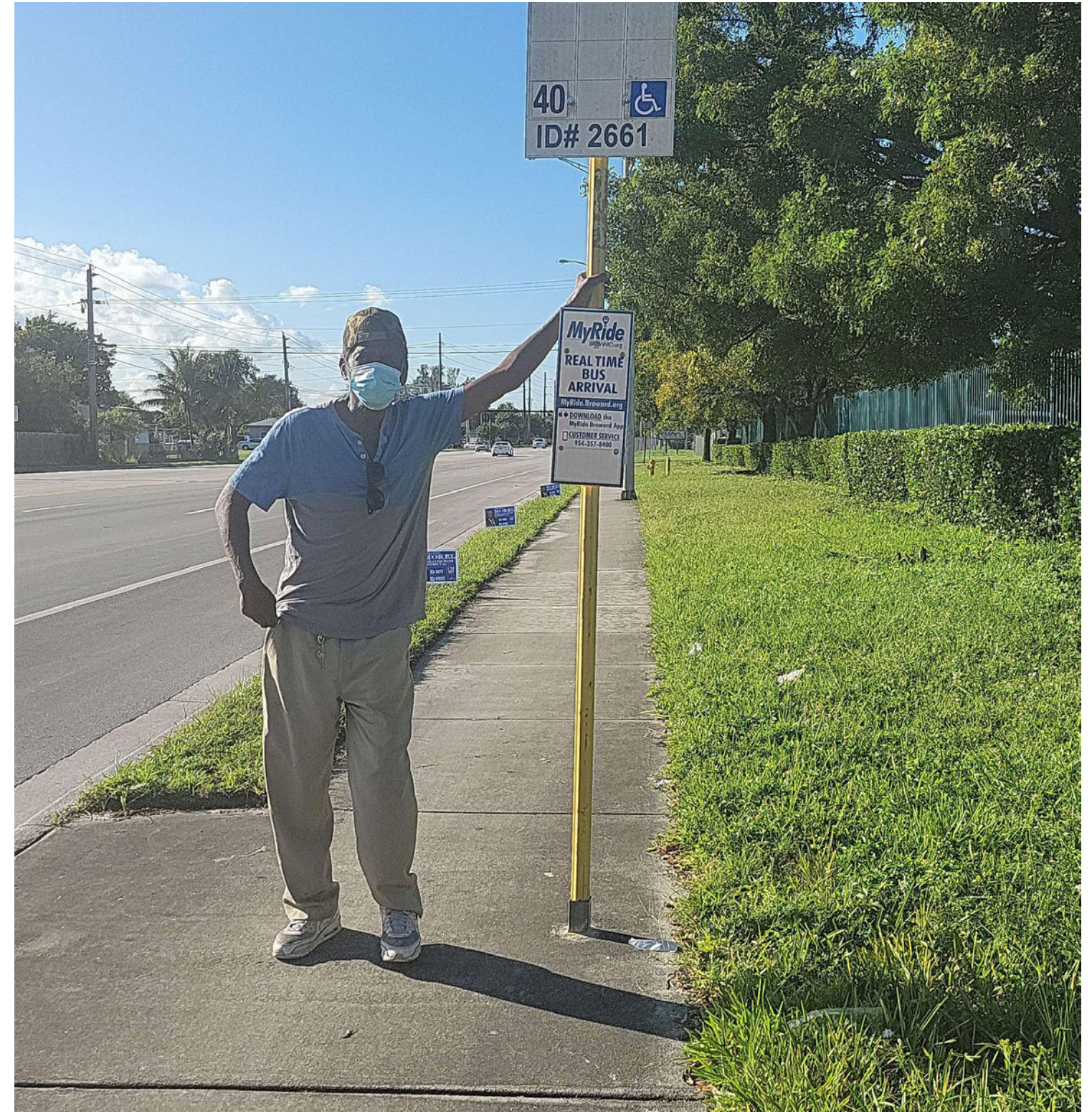
## Environmental Justice

Federal transportation policy, implemented by state and local governments, historically targeted minority communities, resulting in displacement and a disproportionate amount of detrimental environmental and health impacts and deprived those communities of access and opportunity. Environmental Justice (EJ) analysis requires defining and identifying people that have been historically disadvantaged and making sure that they have abundant opportunities for participation in decisions that could impact them. EJ analysis requires evaluating whether transportation investments or policies result in disproportionate negative impacts or the delay or disruption in benefits of that investment or decision.

### Key EJ indicators include:

- People of color
- Households below poverty level
- Senior population (age 65 and over)
- Limited English speaking households
- Persons without high school diploma

**Environmental Justice (EJ) is the fair treatment and meaningful involvement of all people, regardless of race, ethnicity, income, national origin, or educational level with respect to the development, implementation and enforcement of environmental laws, regulations and policies. (Source U.S. Department of Transportation)**



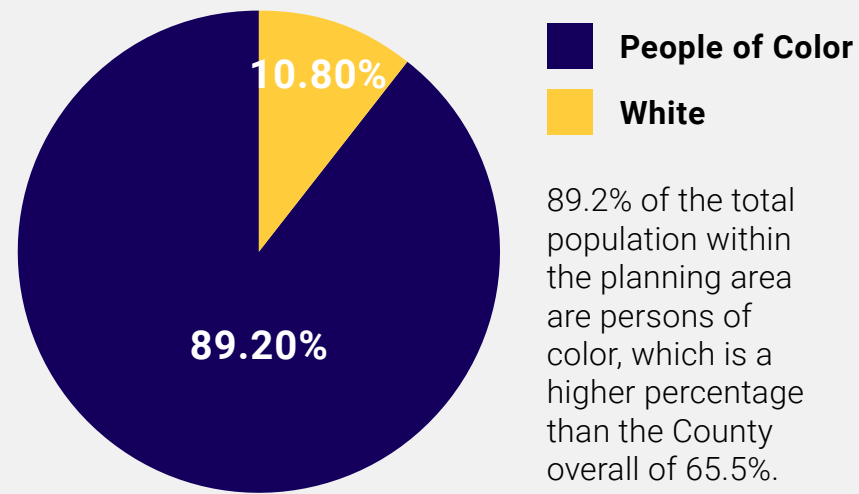


# Chapter 3: Planning Analysis

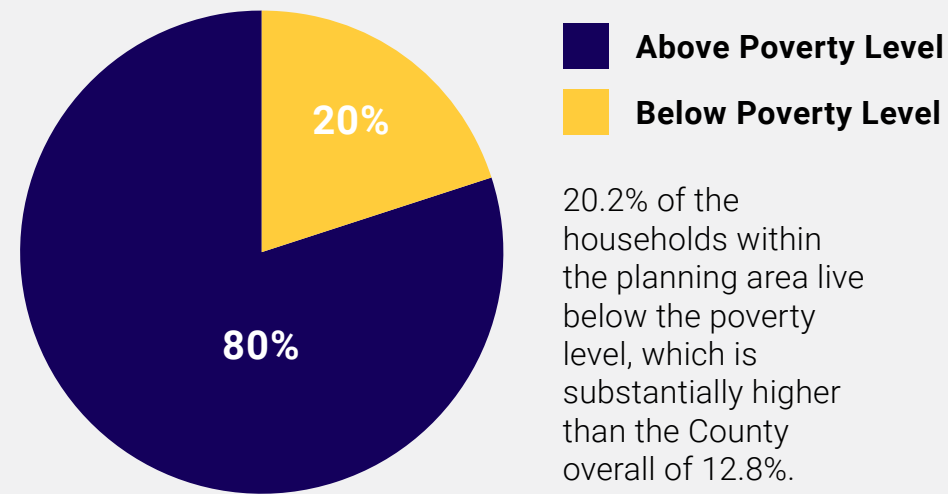


## Environmental Justice Indicators

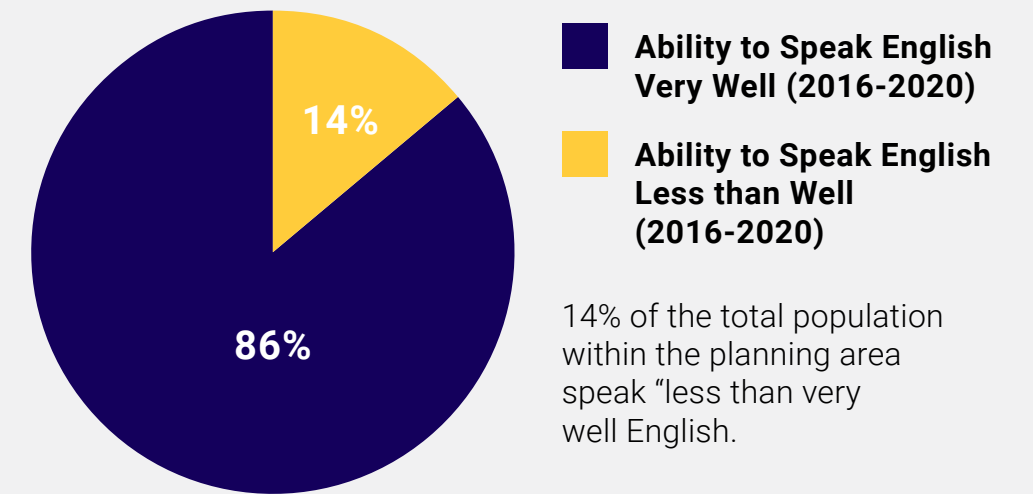
### People of Color



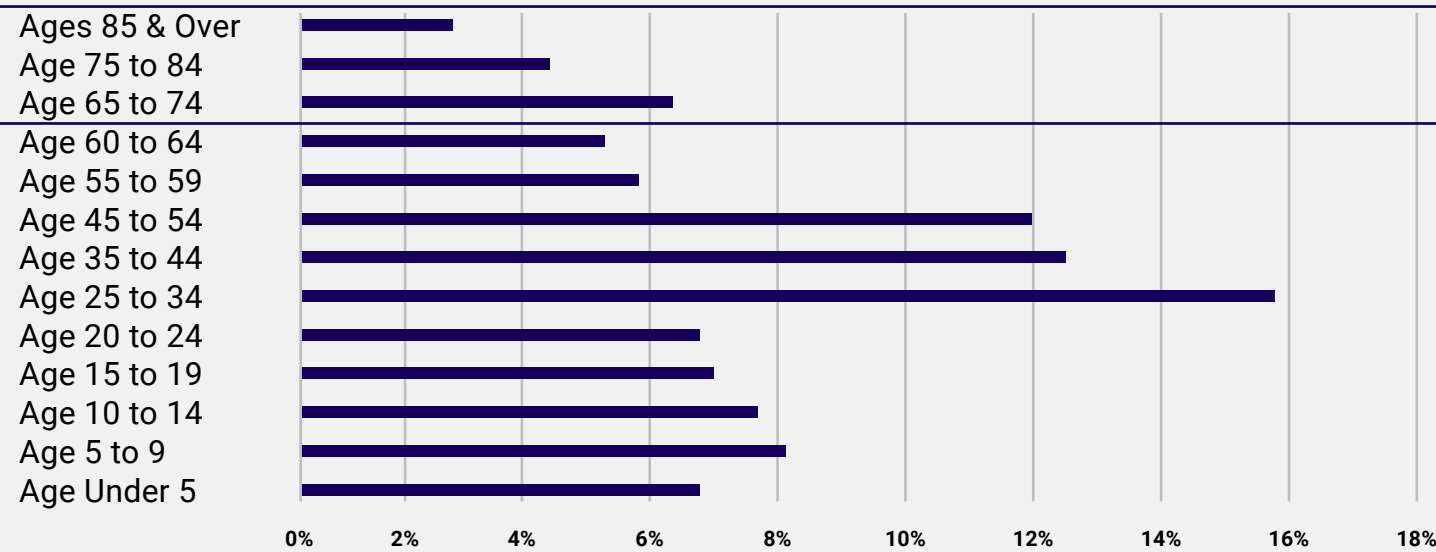
### Households Below Poverty Level



### % of Population Ability to Speak English

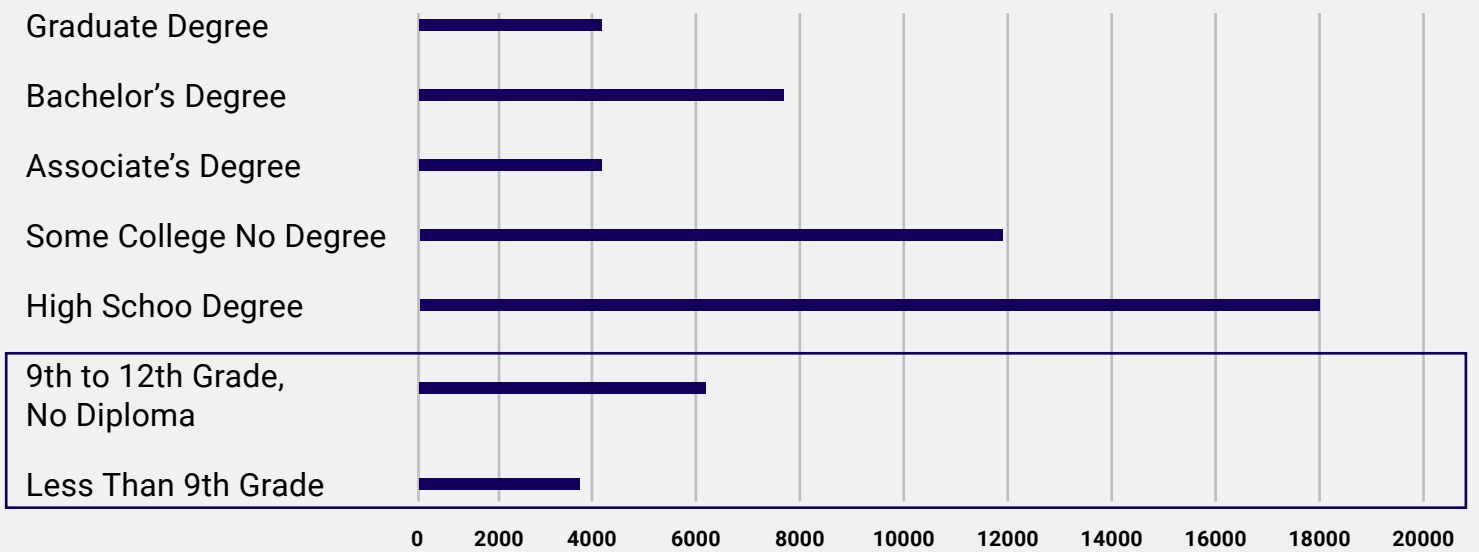


### Age Totals



13.1% of the population within the planning area is age 65 and over.

### Educational Attainment



18.2% of the planning area's population are without a high school diploma.



# Chapter 3: Planning Analysis



## Walkability Index

The United States Environmental Protection Agency (EPA) developed the National Walkability Index to measure the relative walkability of our nation's communities. The National Walkability Index is a nationwide geographic data resource that ranks block groups according to their relative walkability. The "Walkability Proximity to Transit" ranking is based on a 1-20 range, with 20 being in close proximity to transit and walk trips. The dataset shows how easy it is for someone to walk to a transit stop. High values (near 20) mean it is easy to walk to a transit stop. Areas with lower values are areas that require a long walk to a transit stop. Areas without transit data available were given a score of 1. The NW 31st Avenue planning area currently has a walkability proximity to transit ranking of 12.9 which indicates overall it is somewhat walkable to get to a bus stop and that some trips to work, errands, or other purposes can be accomplished easily by walking to transit. Improving this score will require many factors such as transit supportive land uses, reliable transit network, enhancing connectivity, safe and comfortable walking conditions.



**12.9**  
**Walkability Index**  
NW 31ST Ave Study

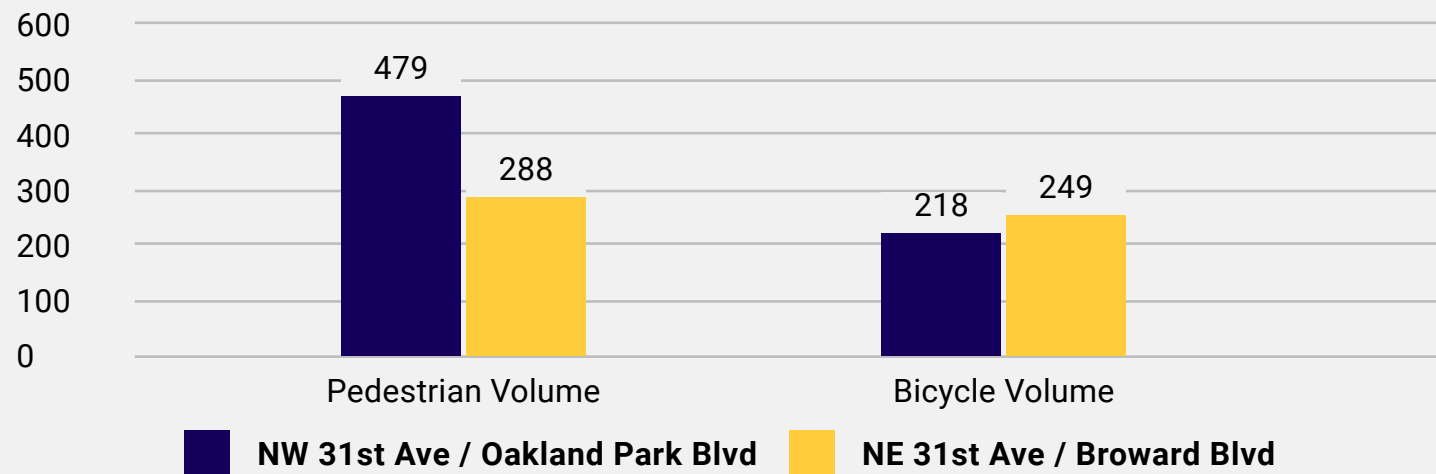


# Chapter 3: Planning Analysis



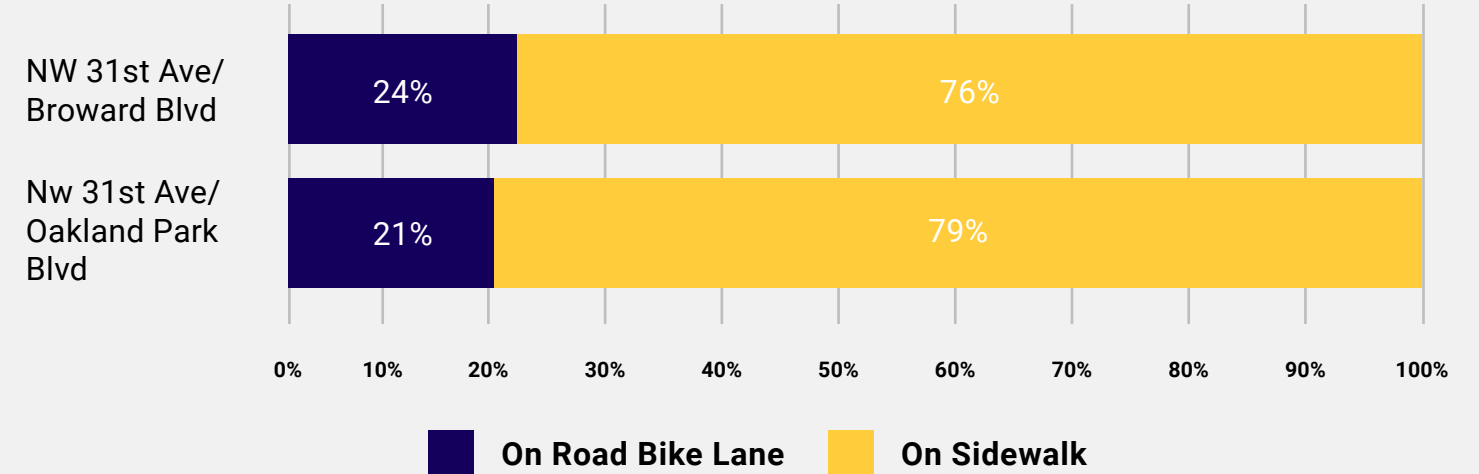
## Motorized and Non-Motorized Traffic Data

### Bicycle & Pedestrian Counts



Bicycle and pedestrian volume counts took place on Thursday, February 24th, 2022, and Saturday, February 26th, 2022. Two days were chosen to compare weekday data to the weekend data. The counts measured the total 24 hours of the day. The weather for both days was ideal for active transportation. Temperatures were recorded in the upper 70 degrees for both days with no precipitation. The sunrise for both days was at 6:50 a.m., and the sunset was at 6:20 p.m. A total of 467 bicyclist were observed with 53% (248) observed on weekday and 47% (219) on weekend.

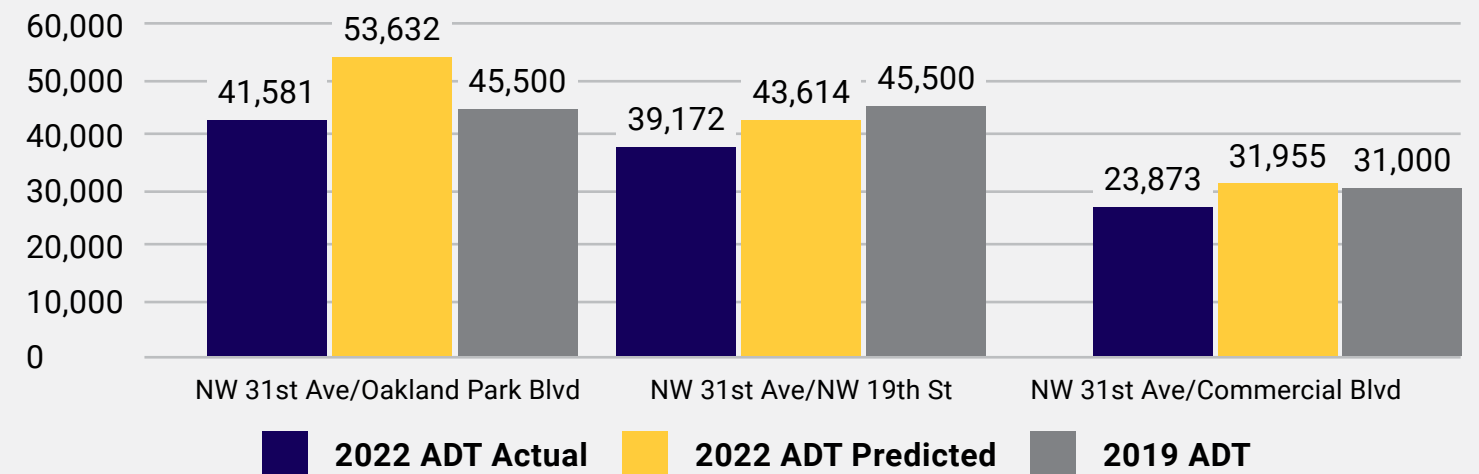
### Bicycle Location Preference



The bicycle volume counts were obtained using portable video monitoring equipment. The video equipment was attached to high poles and secured to a fixed structure such as a street sign for support. The video recordings began at 12:00 a.m. each day and ran for 24 hours. After the recordings were collected, the videos were monitored for activity in the areas of interest. At both count site locations, there was an overwhelming majority (76% and 79%) of bicyclist preferring to ride on the sidewalk to riding on the road in the bike lane.

### Average Daily Traffic (Motorized Vehicles)

Traffic volume counts were obtained using portable traffic counters that were deployed on NW 31st Avenue at Broward Boulevard, Oakland Park Boulevard, NW 19th Street, and Commercial Boulevard. Data was recorded on Thursday, February 24, 2022, for a 24-hour period beginning at 12 a.m. The weather for this date was clear with a high temperature of 81 degrees. There was no inclement weather that could influence the recordings. Traffic volumes at all three count locations were lower than the 2019 annual daily traffic (ADT) and below the 2022 predicted ADT, indicating a slower growth rate since the pandemic. The entire report is included in the Appendix.





# Chapter 3: Planning Analysis

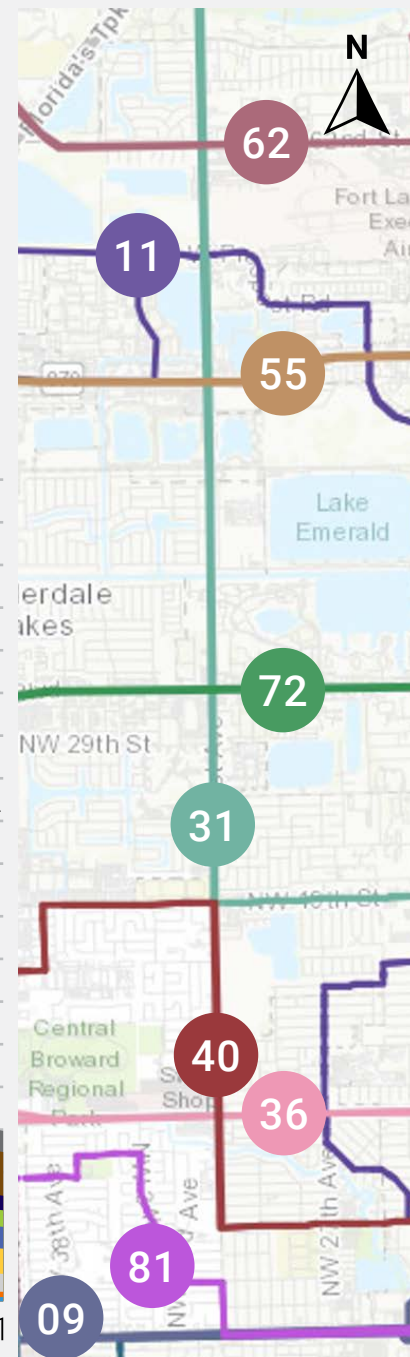
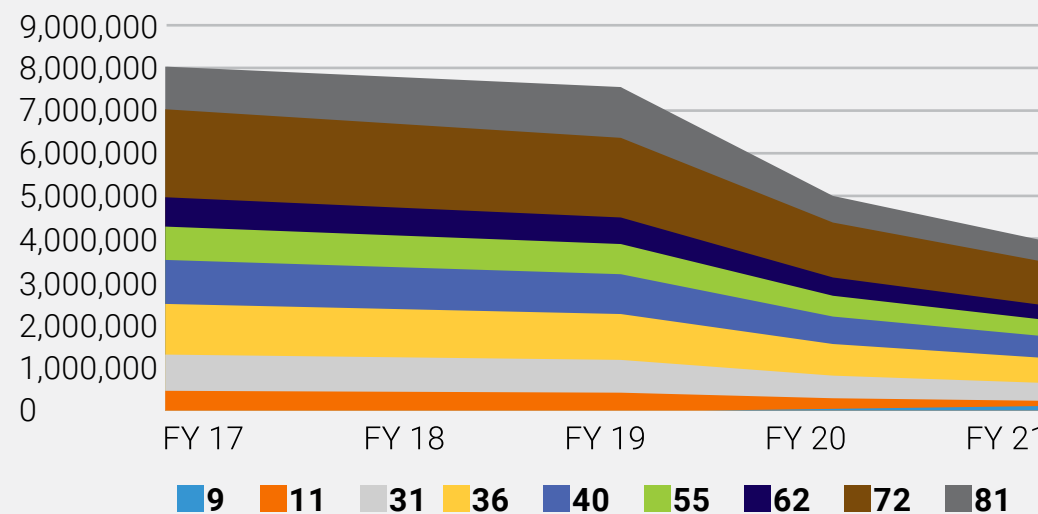


## Transit & Land Use

### Transit

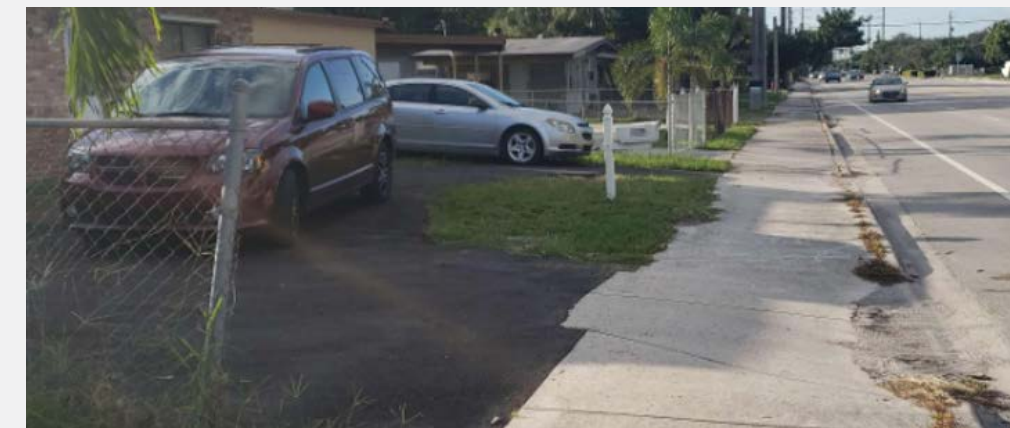
BCT fixed route service is heavily used within the planning area with two primary BCT routes. Route 40 servicing Lauderhill Transit Center to Galleria Mall, covering NW 31st Avenue from NW 6th Street to NW 19th Street. Route 31 servicing Broward Central Terminal to Hillsboro Boulevard, covering NW 31st Avenue from NW 19th Street to the plan limits at McNab Road, as well as several east-west route connections. The map with corresponding table and chart depict BCT routes and annual ridership for fiscal years 2017 through 2021.

Route	FY 17	FY 18	FY 19	FY 20	FY 21
9	-	-	1,539	79,658	79,320
11	693,716	668,499	621,822	395,364	340,066
31	760,413	708,731	681,949	494,269	360,475
36	1,410,659	1,416,750	1,347,585	841,111	699,243
40	914,276	888,059	820,937	543,940	464,760
55	579,489	574,979	576,461	430,888	348,470
62	512,532	503,408	481,649	390,166	363,815
72	2,256,531	2,171,119	1,996,790	1,283,343	1,130,462
81	935,189	886,632	865,979	625,877	544,722



### Land Use

NW 31st Avenue corridor includes a patchwork of residential, commerce, community, and activity center land uses as depicted in the map. As redevelopment is proposed along NW 31st Avenue, the land use plan is used to make sure the development is in-line with County and municipal priorities. The land use plan includes priorities and parameters such as transit and mobility, affordable housing, climate resilience and adaptation, economic development, environmental protection, enhancement and protection of recreation and open space areas, and disaster preparedness.





# Chapter 3: Planning Analysis



## Field Observations

Field observations were conducted in October 2021 to inventory and analyze physical conditions, existing uses, traffic conditions, and parcel characteristics on NW 31st Avenue. A total of 334 records were collected as part of the field observations. The entire report is included in the Appendix. This section summarizes some of the field observations with pictures and findings. Other observations are found in the Appendix.

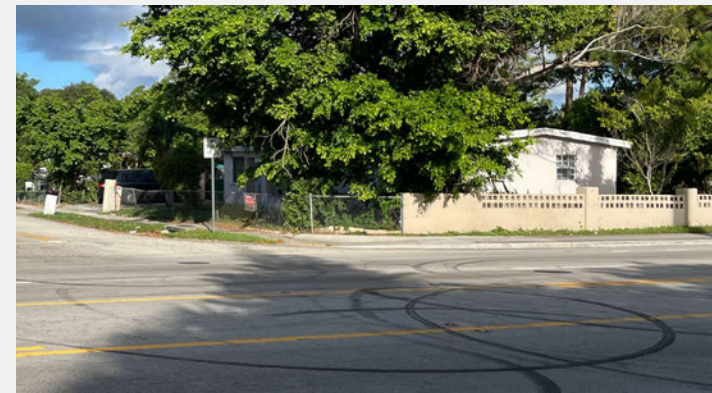
- Speeding vehicles
- Vehicles using center two-way left turn lane (between Broward Blvd and NW 6th St) to pass other vehicles traveling in same direction
- Bicyclist using sidewalk in lieu of on-street bike lanes
- Obstructions of sidewalk (parked vehicles, utility poles)
- High transit use
- Pedestrians walking in roadway with traffic where no crosswalk.
- Large number of pedestrians near high school and middle school
- Property damage (wall) at NW 44th St from vehicle crashing into it
- Vehicles do not yield to pedestrians at crosswalks
- Difficult back-out parking with speeding vehicles and three lanes of traffic
- Sidewalk terminates on east side of NW 31st Avenue near Commercial Blvd
- Circular tire marks (doughnuts) found throughout the roadway
- Transit stops are not ADA compliant (a ramp can't be extended for wheelchair boarding due to narrow sidewalk)



Bicyclist on sidewalk south of Sistrunk Blvd



Missing sidewalk near Broward Blvd intersection



Circular tire marking "doughnuts" at NW 2nd St



Single family residences with back-out driveways



Speeding vehicles create uncomfortable walk



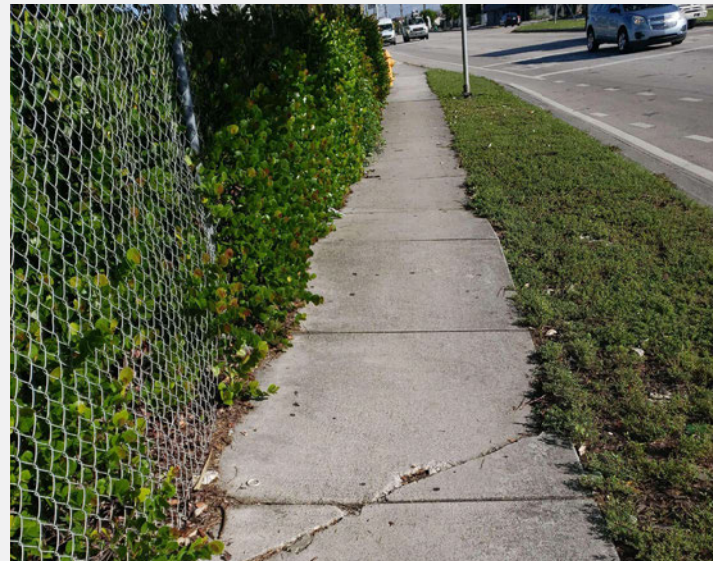
Typical bus stop near NW 7th Ct



# Chapter 3: Planning Analysis



## Field Observations



Narrow and poor condition sidewalk north of Sunrise Blvd



Pedestrians crossing street from bus stop north of Oakland Park Blvd



Bicyclist on sidewalk near NW 8th Pl



Bus stop near NW 44th St



Power pole obstructing sidewalk south of Middle River



Homes with back-out parking



Pedestrian crossing street near Cypress Lake community



Guardrail installed keep speeding vehicles from crashing into properties at NW 68th St



# Chapter 3: Planning Analysis



## What is a “Complete Street”?

A Complete Street is safe, and feels safe for all users.

Transportation agencies plan, implement, and evaluate equitable streets and networks that prioritize safety, comfort, and connectivity to destinations for all people who use the street network. Complete Streets serve pedestrians, bicyclists, public transportation users, children, older individuals, individuals with disabilities, motorists, and freight vehicles.

A Complete Streets implementation strategy combines innovations from multiple disciplines to achieve the creation of safe, connected, and equitable street networks. Complete Streets implementation starts with people, not a transportation mode. The elements of a Complete Street vary based on community context, and the role that a particular street needs to serve in the multimodal network. Not every street requires bicycle lanes, or public transportation stops. Instead, creating a safe, connected, and equitable Complete Streets Network is an iterative strategy that involves:

- Understanding the community and network context;
- Identifying safety, connectivity, and equity concerns;
- Implementing improvements over time; and
- Evaluating impacts by monitoring and measuring success.

### Complete Streets is a Safety Strategy

Progress in reducing traffic deaths in the United States has stalled over the last ten years, and the recent increase in traffic deaths have led to the declaration of a national crisis. An increasing portion of crash fatalities are people outside of vehicles, primarily pedestrians, bicyclists, and motorcyclists. By recognizing that streets and networks should prioritize the needs of all users, not only vehicle throughput, Complete Streets prioritize safety for all users at every part of the transportation process. Complete Streets is an implementation strategy of the Safe System Approach, which sets an ethical imperative that no one should die or be seriously injured while using the street network. Transportation agencies and professionals following this Approach implement proactive, redundant systems of safety to prevent crash fatalities and serious injuries. Complete Streets addresses two of the five elements of a Safe System (Safe Speed and Safe Roads), and advances the proactive implementation of safety infrastructure.

### Complete Streets is a Connectivity Strategy

Along too many roadways, people on foot or bicycles do not have safe sidewalks or bike lanes to help them safely reach their destination or their bus stop. Connectivity across the transportation network for all users is a foundation of creating streets that are safe for all users.

A connected multimodal network allows people to travel safely and comfortably by whatever mode they choose or rely on, including people who do not drive or do not have access to a motor vehicle. High-quality, connected networks play a key role in making bicycling, walking, and public transportation safer, more convenient, and more prevalent. Use of these active, low-emission modes of travel can help with the climate crisis as well as improving individual health.

### Complete Streets is an Equity Strategy

The burdens of our transportation network, including traffic fatalities, air pollution, and absence of connected networks, are disproportionately borne by underserved populations as a result of historic disinvestment and exclusion from transportation decision-making processes. Implementing Complete Streets equitably includes identifying underserved communities, recognizing their varying transportation needs, and prioritizing the creation of safe, connected networks in these communities. The desired outcome is a fair, safe, accessible, and healthy transportation network. Practitioners can address inequity in the transportation system by collecting and considering social and demographic data, disaggregating measures of performance, engaging with communities, and ensuring that project prioritization considers existing disparities.

### Complete Streets is a Climate Strategy

The transportation sector is responsible for 29 percent of greenhouse gas emissions in the United States. Among other actions, the United States can reduce carbon pollution from transportation by encouraging vehicle electrification, including providing charging infrastructure, and by investing in safe infrastructure for low or zero carbon modes such as public transportation, walking, and bicycling. Complete Streets implementation will help to routinely provide the safe infrastructure that is fundamental to encouraging more use of low and zero carbon modes. Communities can reallocate street space to support connected networks and effective curbside management, and to encourage vehicle electrification by providing charging infrastructure.



Source: Federal Highway Administration



# Chapter 4:

## Recommendations





# Chapter 4: Recommendations



This chapter includes illustrations that describe recommended multimodal transportation improvements to accomplish the vision of NW 31st Avenue. In addition, this chapter provides strategies, other examples of improvements for consideration, and a case study of a similar mobility project.

## Case Study – Orange Blossom Trail, Orlando

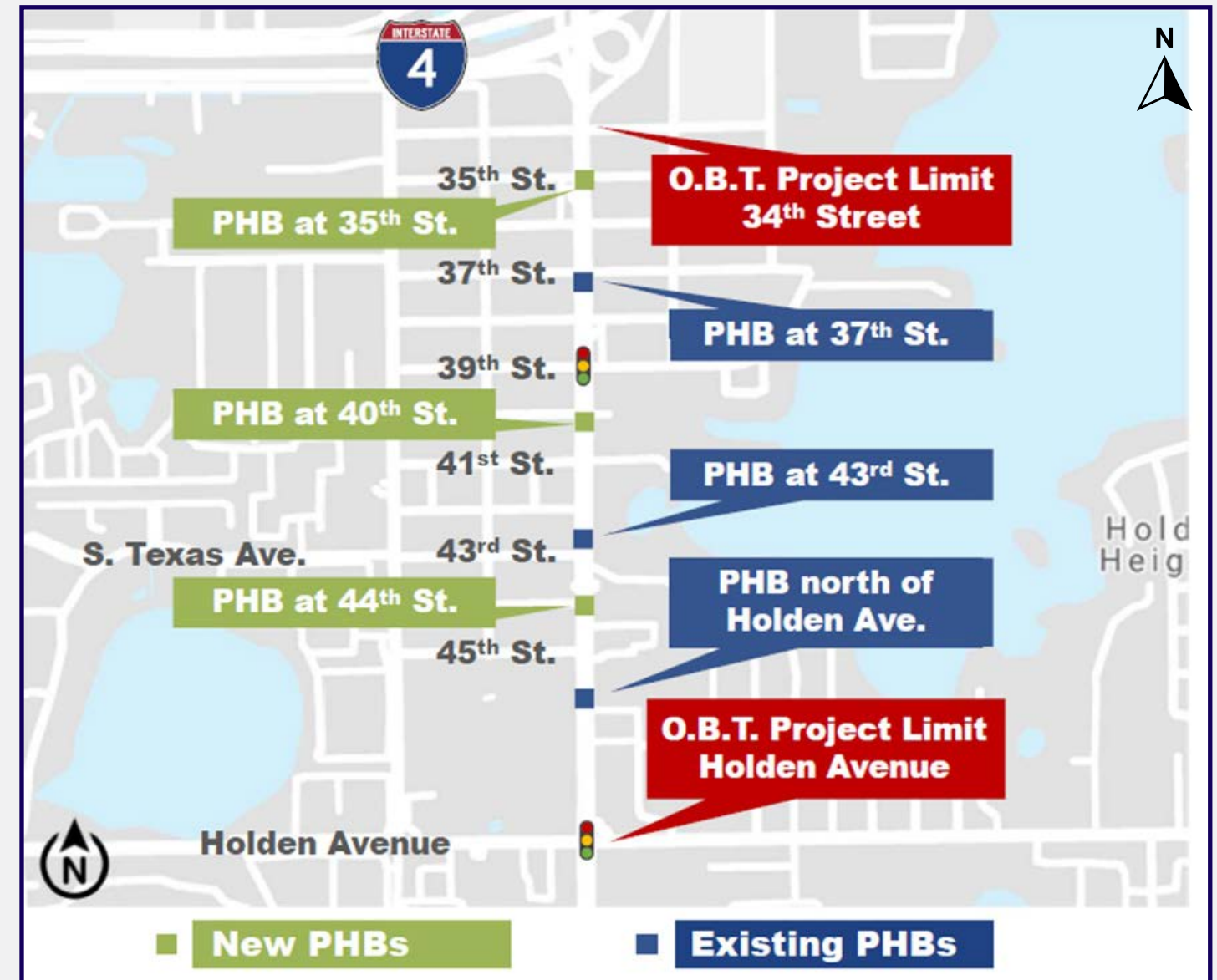
- Orlando has ranked the worst place in the U.S. for pedestrian fatalities by annual reports published by Smart Growth America’s “Dangerous by Design”. The City’s long-held top “deadliest city” ranking for over a decade has weighed heavily on transportation planners and engineers to prioritize safety of all roadway users: bicyclist, pedestrians and automobiles. Orange Blossom Trail (OBT), from Holden Avenue to 34th Street, has experienced pedestrian and bicyclist crashes over the years which prompted FDOT to improve the corridor regularly. Improvement history on the corridor included installing three midblock crossings in 2007, a raised median in 2012, reduced speed limit from 45 MPH to 40 MPH in 2014, and installed three Pedestrian Hybrid Beacons (PHBs) in 2020.

PHBs have been shown to significantly reduce pedestrian crashes. A Federal Highway Administration (FHWA) study published in 2010 found that pedestrian hybrid beacons can reduce pedestrian crashes by 69% and total crashes by 29%. (Source: FHWA)

In 2021, FDOT pursued additional safety improvements to coincide with OBT’s roadway resurfacing. The project’s objectives were to improve pedestrian safety and community enhancements. FDOT identified challenges along the corridor including excessive vehicle speeding due to the six lanes and the distance between safe pedestrian crossings. To safely cross OBT, a pedestrian would need to travel nearly three quarters of a mile and over 14 minutes by foot.

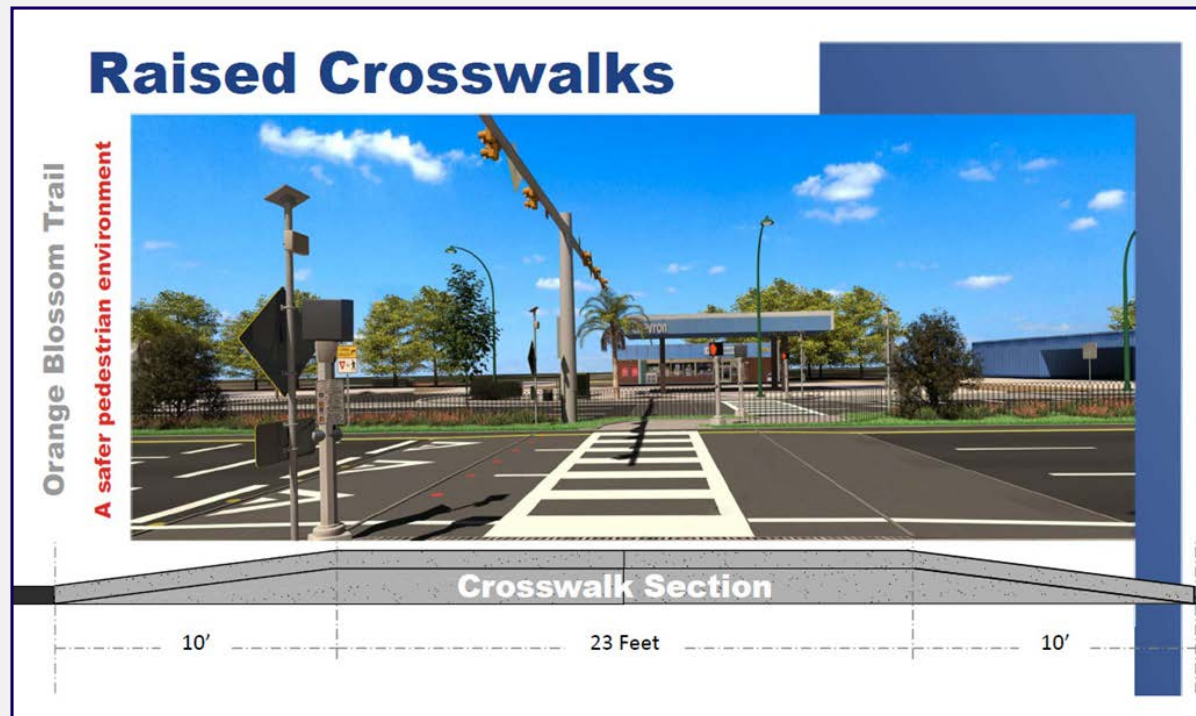
In 2022, FDOT commenced construction on the following improvements as part of OBT’s resurfacing and to achieve the project’s objectives:

- Installation of three PHBs, which will significantly reduce pedestrian crossing time to 3 minutes by foot and less than 2/10ths of a mile.
- Median landscaping, that will narrow drivers’ focus which will reduce vehicle speeds.
- Enhanced pavement markings to communicate road users to slow down and to warn of pedestrian crossings.
- Raised crosswalks to slow vehicle speed, enhance crosswalk visibility, and making it easier for pedestrians that have difficulty stepping up and down on curbs.
- Pedestrian lighting and in-road lighting further enhances visibility of pedestrians during nighttime.
- Reduced speed limit to 30 MPH at raised crossings.





# Chapter 4: Recommendations



NW 31st Avenue and OBT are similar in many ways as described in the table below. All of OBT's improvements are included in the NW 31st Avenue Mobility Plan.

	OBT (segment 1.1 miles)	NW 31 Ave (6 miles)
<b>Transit</b>	Lynx Rts: 08, 107, & 441	BCT Rts: 31 & 40
<b>LOS</b>	C	C (except south of Sistrunk)
<b>Speed Limit</b>	30 (was 45 until 2014, reduced to 40, now 30)	35 (45 north of Commercial)
<b>Crash Data (no buffer) 2016-2021</b>	570	1,857
<b>Fatal</b>	9	10
<b>Injury</b>	203	532
<b>High Injury Network</b>	Yes	Yes
<b>Context Classification</b>	C4-Urban	C4-Urban
<b>Existing Lane</b>	6	6 (except south of Sistrunk, 4)
<b>Functional Classification</b>	State Principal Arterial	County Minor Arterial

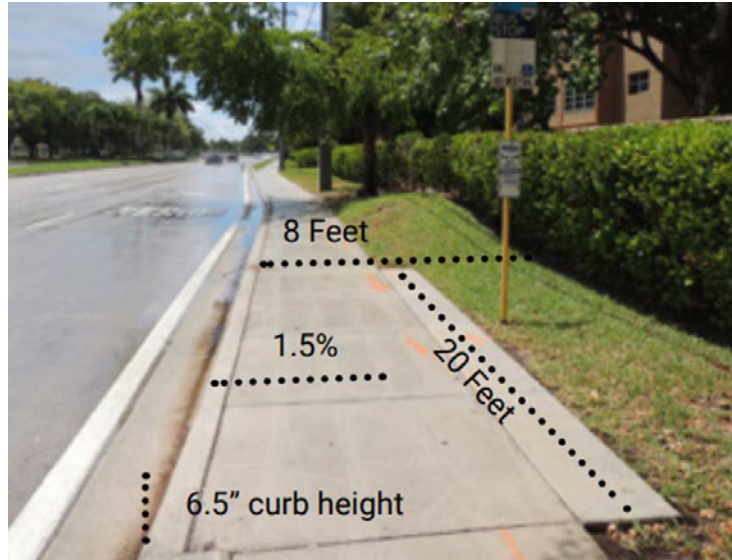


# Chapter 4: Recommendations



## Accessible Bus Landing Pad

A strategy for the Plan is to ensure all bus stops along NW 31st Avenue comply with minimum ADA requirements.



### Minimum ADA requirements:

- Shall measure 5' long (parallel to the roadway), 8' wide (perpendicular to the roadway from back of curb), and be made of concrete 6" thick or 4" thick with the appropriate substrate material or stable, firm and slip resistant surface material.
- Shall be connected to streets, sidewalks, or pedestrian paths by an accessible route.
- Slope shall be the same as the roadway, to the maximum extent practicable, with a Cross Slope between 0.5% and 2% but no steeper than 2%.
- Ramp deployment - accessible landing pad is located where bus ramp will be deployed.
- Commercial area: minimum 30' long (40' preferred) and 8' wide; Residential area: minimum 15' long (20' preferred) and 8' feet.

(Source: ADA – ABA Accessibility Guidelines for Building and Facilities (ADA-ABA AG), Sec. 810.2.2, 810.2.3, 810.2.4, and BCT Design Standards and Guidelines Manual).

The proposed 10' wide multimodal path will allow all bus stops on NW 31st Avenue to be compliant with the minimum ADA requirements.

## Dynamic Speed Feedback Signs

Dynamic speed feedback signs use radar or laser technology to determine the speed of an approaching vehicle and then displays the speed to the driver. These signs are one type of traffic control device that departments of transportation use to reduce vehicle speeds, and therefore crashes, by giving drivers who are traveling over the posted or advisory speed a targeted message such as "YOUR SPEED XX" or "SLOW DOWN." These signs are recommended along NW 31st Avenue.



### Targeted Crash Types

- Right-angle
- Rear-end (major road)
- Rear-end (minor road)
- Pedestrian
- Bicyclist

## Speed Management

Raised crosswalks and intersections are vertical deflection countermeasures in the road that are designed to both slow vehicle speed and enhance safety for pedestrians by physically and visually marking crosswalks. This plan aims to manage speed of vehicles on NW 31st Avenue by strategically placing vertical deflection countermeasures throughout the corridor and at high crash cluster locations as follows:

- NW 4th St\*, raised crosswalk with HAWK signal
- NW 6th St\*, raised intersection and enhanced lighting
- NW 12th Pl, raised crosswalk with HAWK signal
- NW 19th St\*, raised intersection and enhanced lighting
- NW 26 St, raised intersection and enhanced lighting
- NW 39th St\*, raised intersection and enhanced lighting
- NW 41st St\*, raised intersection and enhanced lighting
- NW 44th St\*, raised intersection and enhanced lighting
- NW 68th St\*, raised intersection, signalization, and enhanced lighting
- Prospect Park Apartments, raised crosswalk with HAWK signal
- McNab Rd, raised intersection and enhanced lighting

\*High crash cluster location.

The following roll plot depicts proposed locations of these and other recommendations.



# Chapter 4: Recommendations



Through this planning process, the steering group identified potential areas to improve mobility, with a focus on speed management, connectivity to transit, and safety of vulnerable users. Based on the analysis described previously, a set of strategies and recommendations are presented as a means to improve multimodal conditions and enhance overall mobility on NW 31st Avenue. Chapter 5, Implementation, includes an implementation matrix for recommendations, including timeframes, responsible parties, and potential funding.

## Strategies: Safe – Connected – Sustainable – Innovative – Collaborative

### 1. Safe

- 1.1. Utilizing Vision Zero Fort Lauderdale, establish a Vision Zero Action Plan for NW 31st Avenue to identify and prioritize Vision Zero investments, programs, and activities.
- 1.2. Identify, prioritize, and improve pedestrian safety at intersections and traffic signals, including Leading Pedestrian Intervals (LPI), exclusive pedestrian phase, etc.
- 1.3. Coordinate with BCT to prioritize safety and enhance the physical environment around transit stops, including maintenance of bus shelters, lighting, ADA compliance, transit amenities, shade, etc.
- 1.4. Reduce the posted speed limit from 45 MPH to 35 MPH on NW 31st Avenue, from Commercial Boulevard to McNab Road. This speed reduction will make NW 31st Avenue a 35 MPH facility from Broward Boulevard to McNab Road.
- 1.5. Ensure that signal timing and progression along NW 31st Avenue reflects speed limits and target speeds.
- 1.6. Publish an annual progress report to track and report the results of transportation safety improvement projects or efforts for NW 31st Avenue.
- 1.7. Reduce curb cuts with redevelopment projects that reduce conflicts with sidewalks and bicycles.

### 2. Connected

- 2.1. Develop a design checklist to ensure redevelopment projects along NW 31st Avenue advance placemaking and transit supportive densities and uses. Ensure redevelopment support pedestrian friendly design with buildings oriented to the street (Activating NW 31st Avenue).
- 2.2. Require and incentivize connectivity in redevelopment through cross access, appropriate block length and connectivity standards, and other pedestrian and bicycle connections (including existing and future trail connections, e.g. Middle River Trail).
- 2.3. Support housing and multimodal infrastructure improvements that increase access, and provide safe and affordable high-quality travel options for the communities along NW 31st Avenue.

### 3. Sustainable

- 3.1. Support redevelopment of mix of uses and services to achieve “10-minute walkable neighborhoods”.
- 3.2. Support innovative resilience techniques and improvements, such as filter stormwater runoff and increase natural landscape design (e.g. bioswale, pervious concrete), reduce heat stress (CoolSeal,

white color coating on infrastructure), etc. along NW 31st Avenue.

- 3.3. Increase the tree canopy along NW 31st Avenue for safety, health, and aesthetic value.

### 4. Innovative

- 4.1. Advocate or support BCT efforts for transit signal priority, queue jumps and other operational improvements to enhance transit service on NW 31st Avenue.
- 4.2. Advocate or establish an assessment process using Vehicle Miles Traveled (VMT), in lieu of Level of Service (LOS), to calculate transportation impacts, and prioritize safety and connectivity for lane repurposing studies.
- 4.3. Support and promote Transportation Demand Management (TDM) strategies within communities along NW 31st Avenue.

### 5. Collaborative

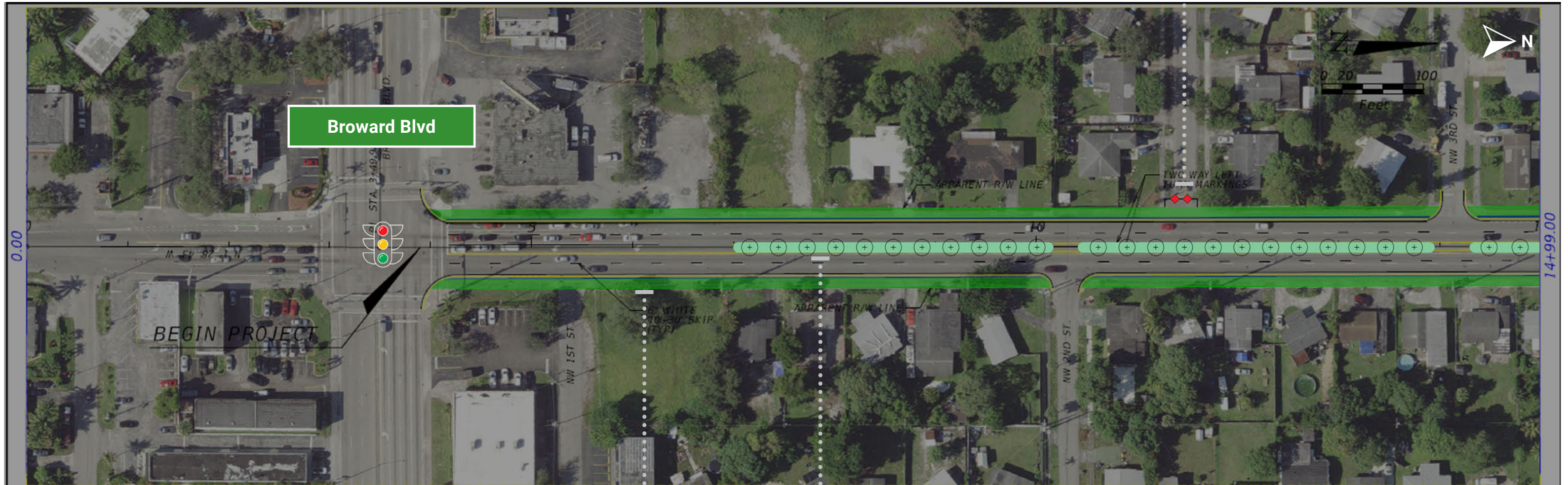
- 5.1. Enhance collaboration and data sharing among municipal departments along NW 31st Avenue that support transportation improvements and decision-making in a clear and consistent direction.
- 5.2. Support and create transportation safety education campaigns, programs, and partnerships with various stakeholders along NW 31st Avenue, including engagement with public schools along the corridor, implementing a community safety ambassador program, developing a Vision Zero curriculum for safety events, etc.
- 5.3. Seek public safety and speed enforcement partnerships, strategies and tools with the various law enforcement along NW 31st Avenue; including quarterly safety meetings to discuss community concerns and solutions, tracking speed citations, and reporting Vision Zero statistics in a collaborative and coordinated manner.
- 5.4. Seek federal, state, and local grants and funding opportunities to implement mobility plan.



# Chapter 4: Recommendations



Proposed Road Closure (NW 2nd St) .....



Proposed Multimodal Path .....

Proposed Landscaping & Median .....

**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



Conceptual – not for construction. Detailed analysis and engineering design required



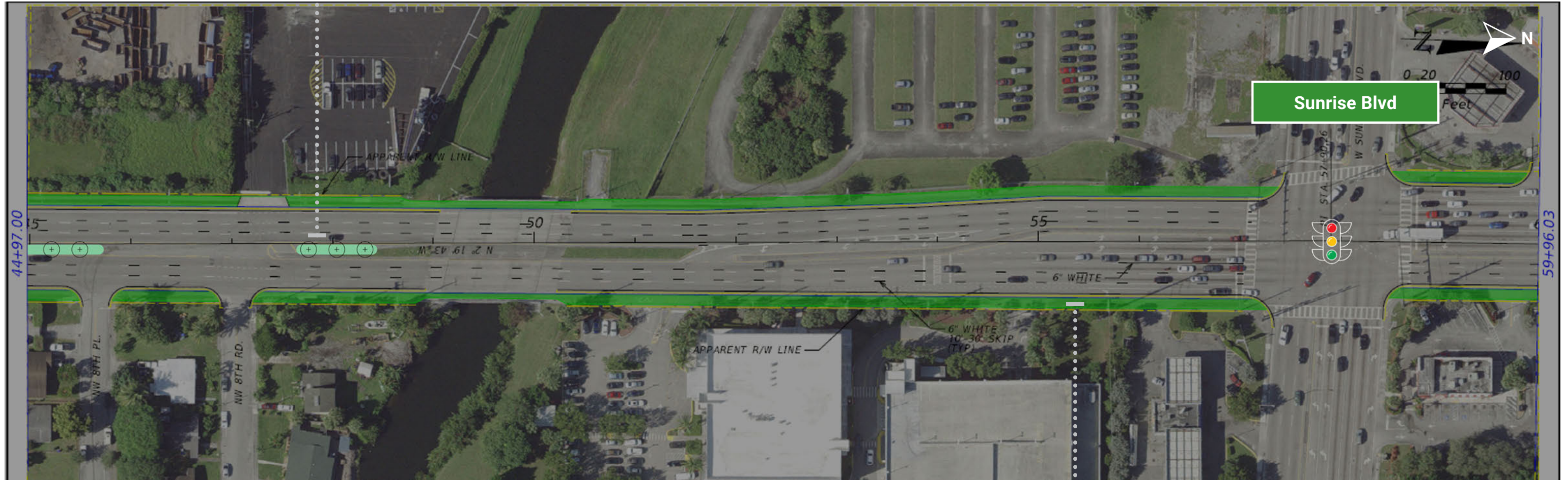




# Chapter 4: Recommendations



..... Proposed Landscaping & Median



..... Proposed Multimodal Path

**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



..... Proposed Multimodal Path



**Conceptual – not for construction. Detailed analysis and engineering design required**



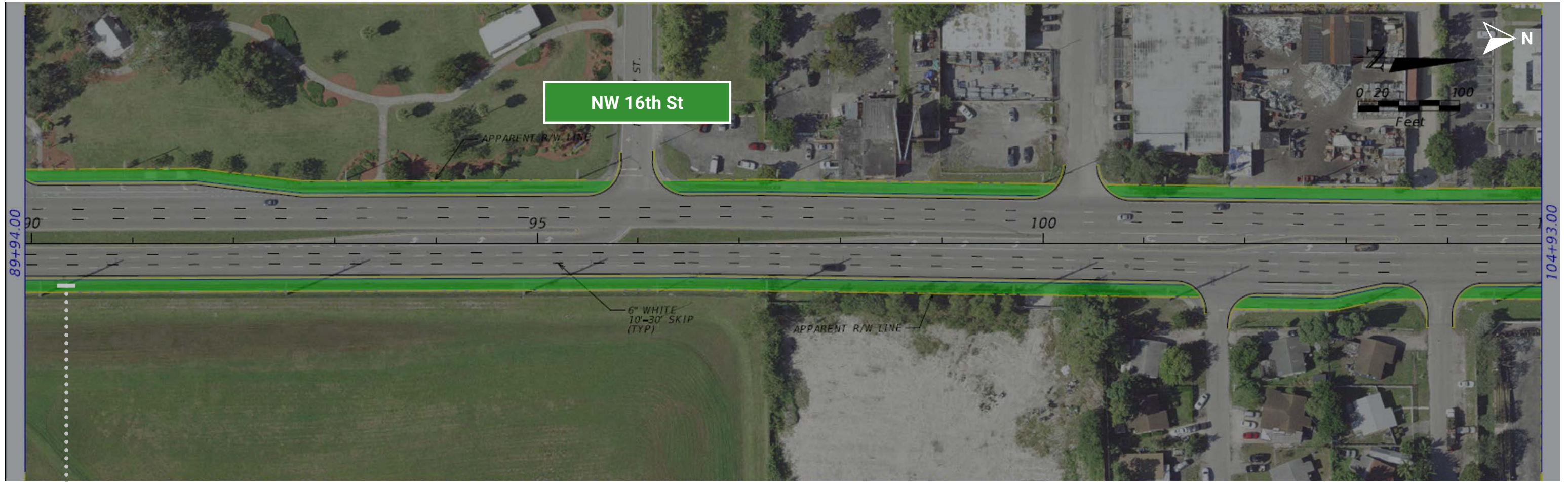
# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations

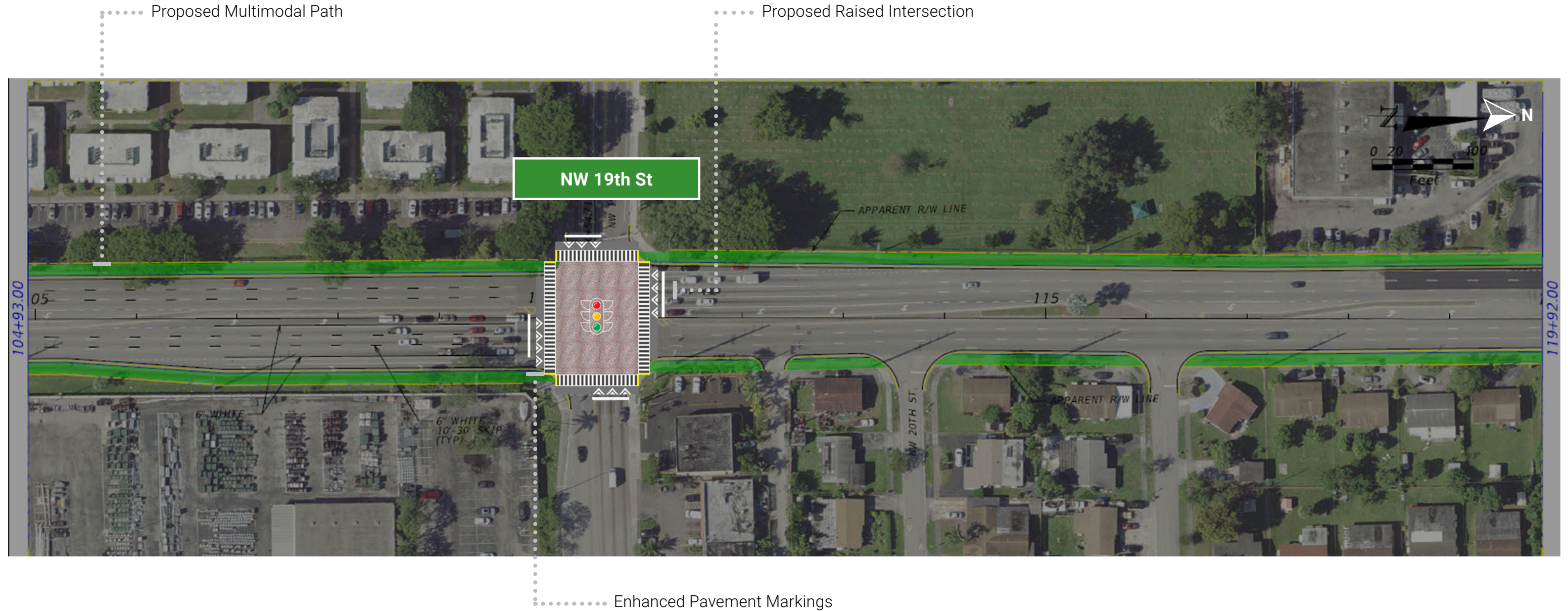


..... Proposed Multimodal Path

**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



..... Proposed Multimodal Path



**Conceptual – not for construction. Detailed analysis and engineering design required**



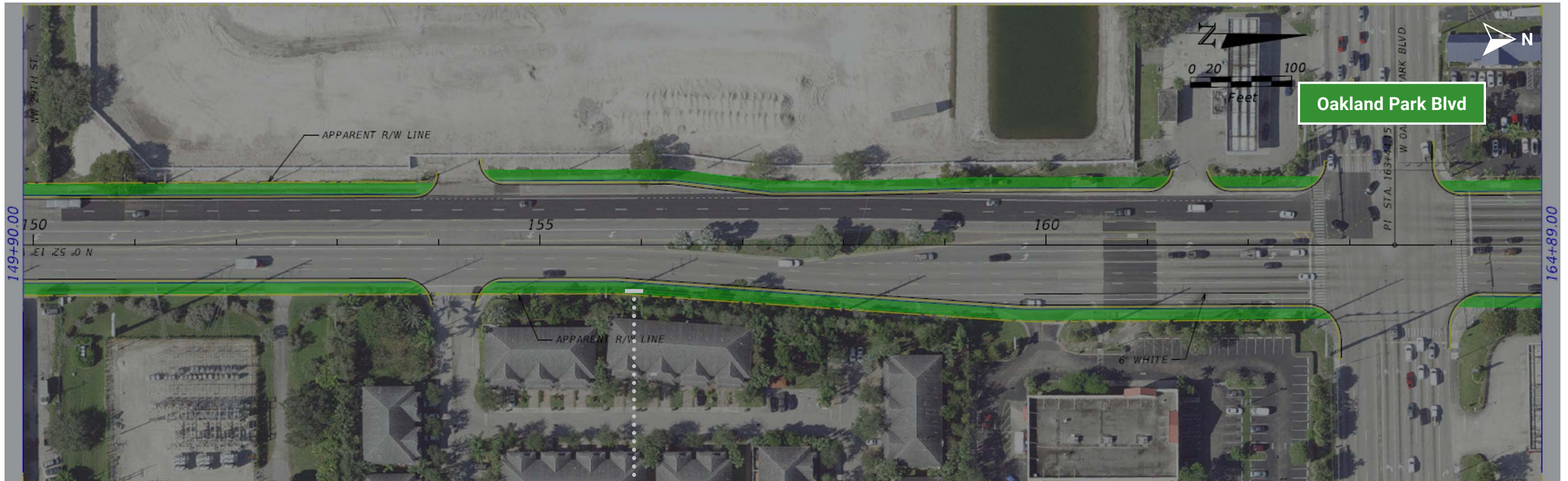
# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



..... Proposed Multimodal Path

**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



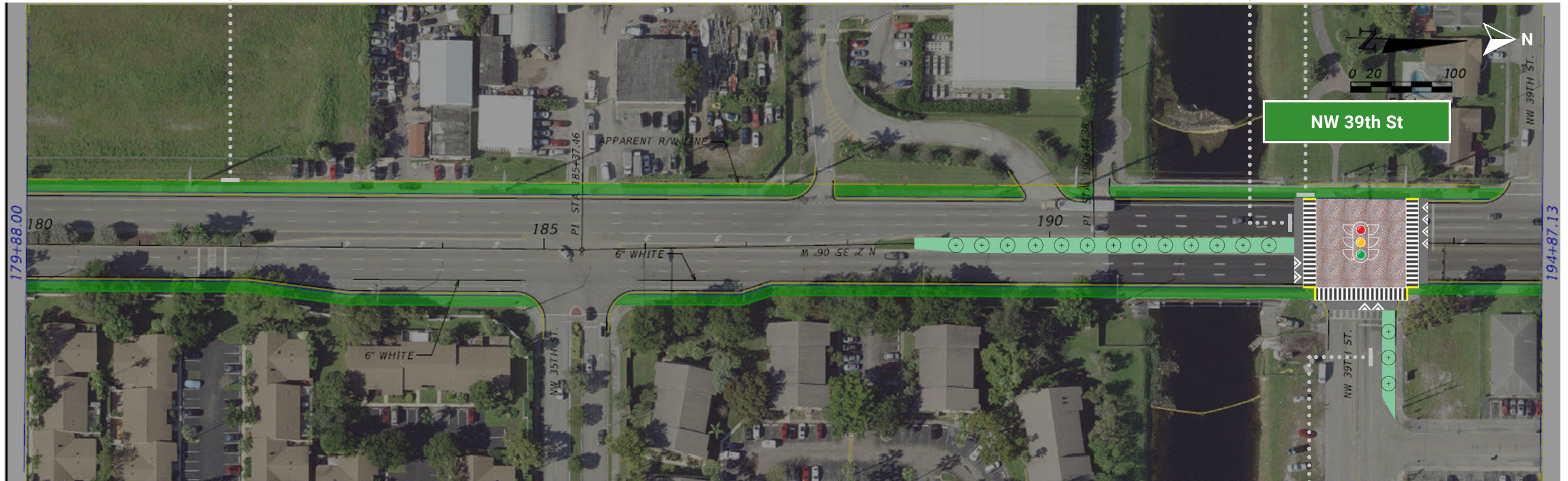
# Chapter 4: Recommendations



Proposed Multimodal Path

Proposed Raised Intersection

Proposed Enhanced Markings



Proposed Landscaping & Median

**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



..... Proposed Multimodal Path



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



Conceptual – not for construction. Detailed analysis and engineering design required



# Chapter 4: Recommendations



Proposed Pedestrian & Hybrid Beacon

Proposed Raised Crosswalks

Proposed Multimodal Path

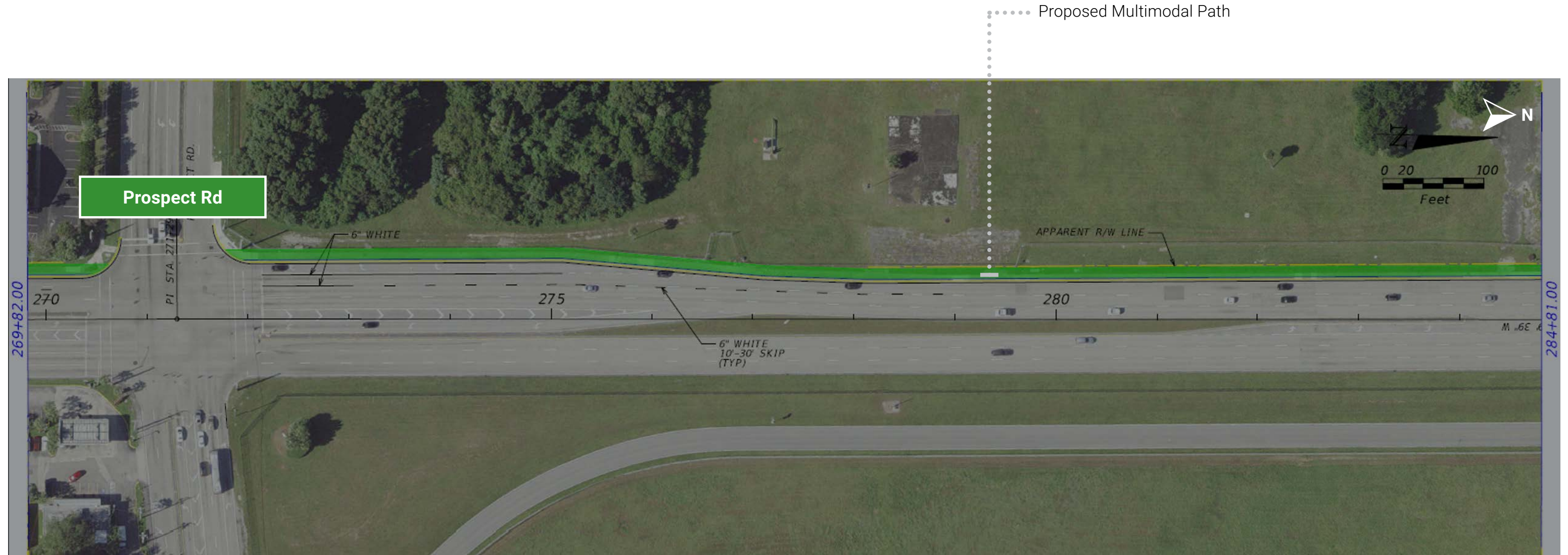


Enhanced Pavement Markings

**Conceptual – not for construction. Detailed analysis and engineering design required**



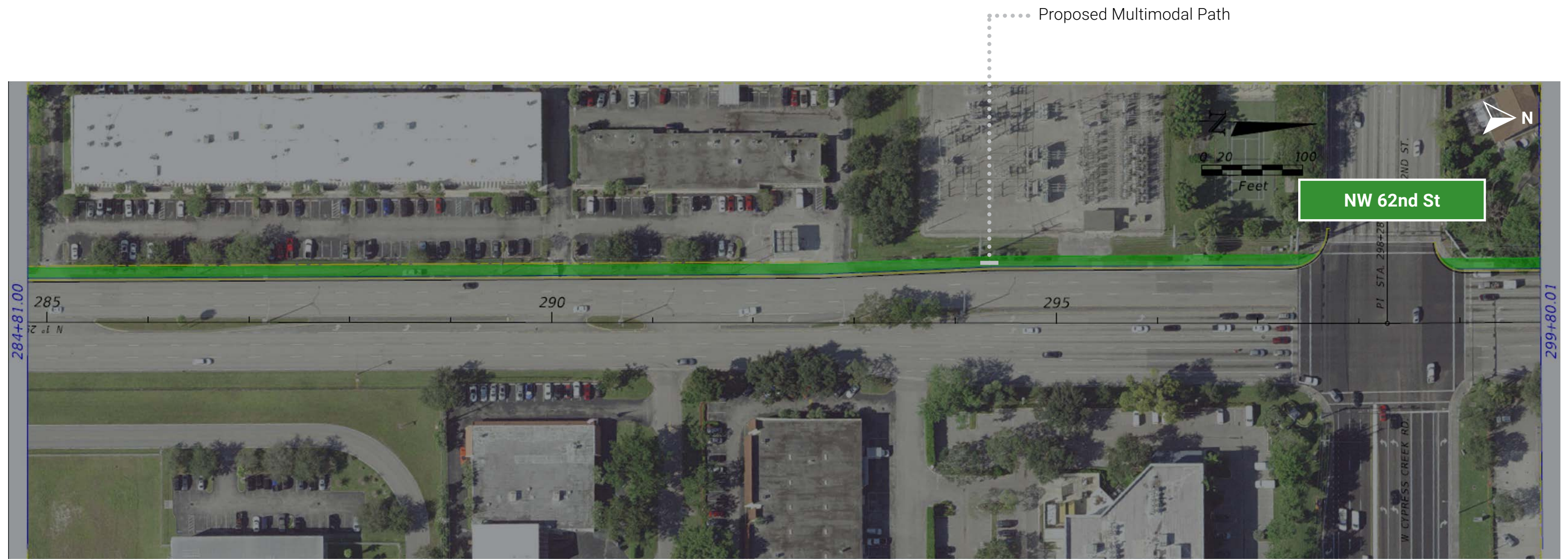
# Chapter 4: Recommendations



Conceptual – not for construction. Detailed analysis and engineering design required



# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



# Chapter 4: Recommendations



**Conceptual – not for construction. Detailed analysis and engineering design required**



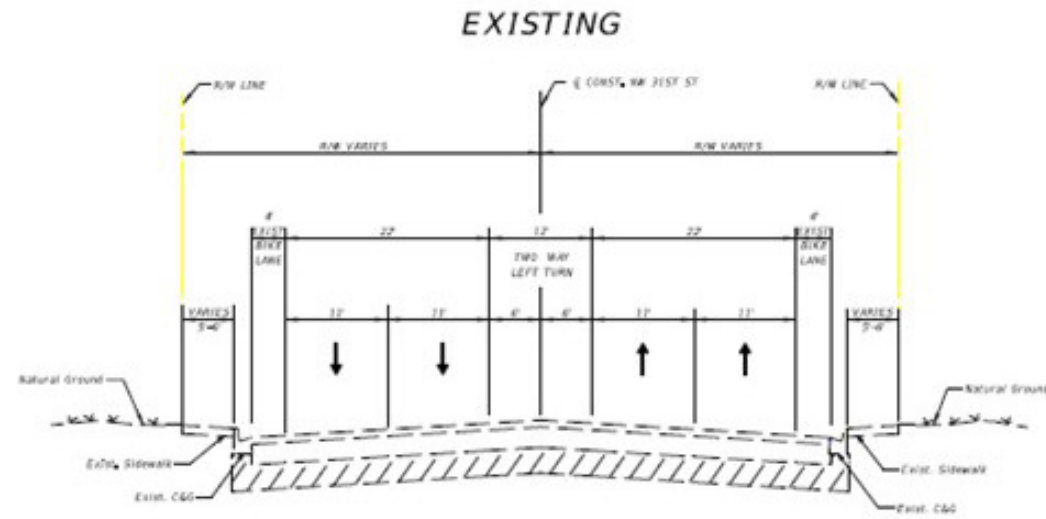
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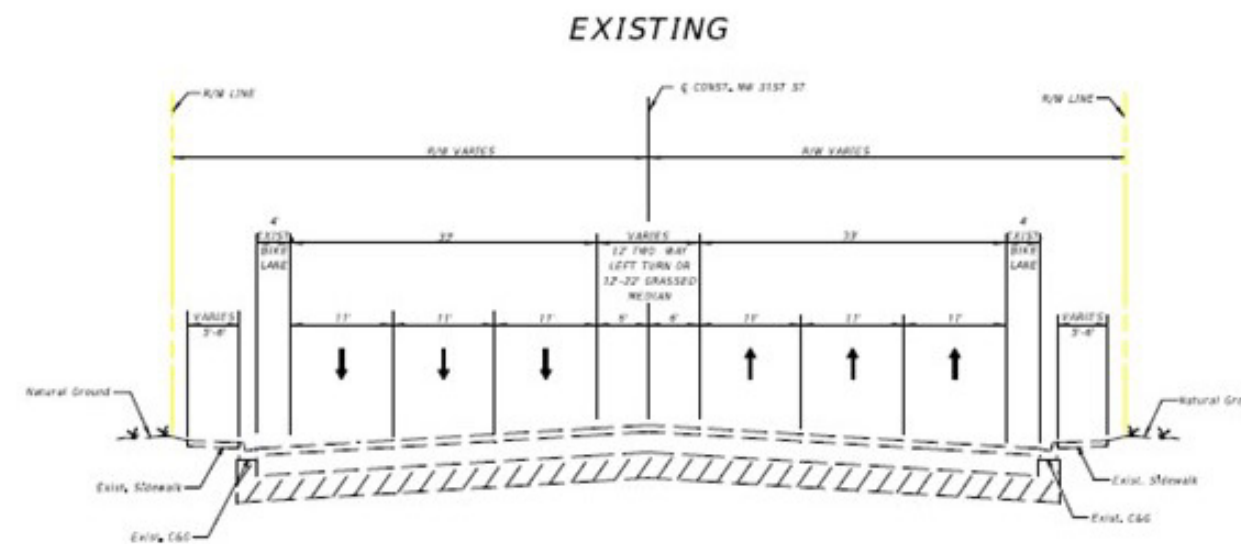
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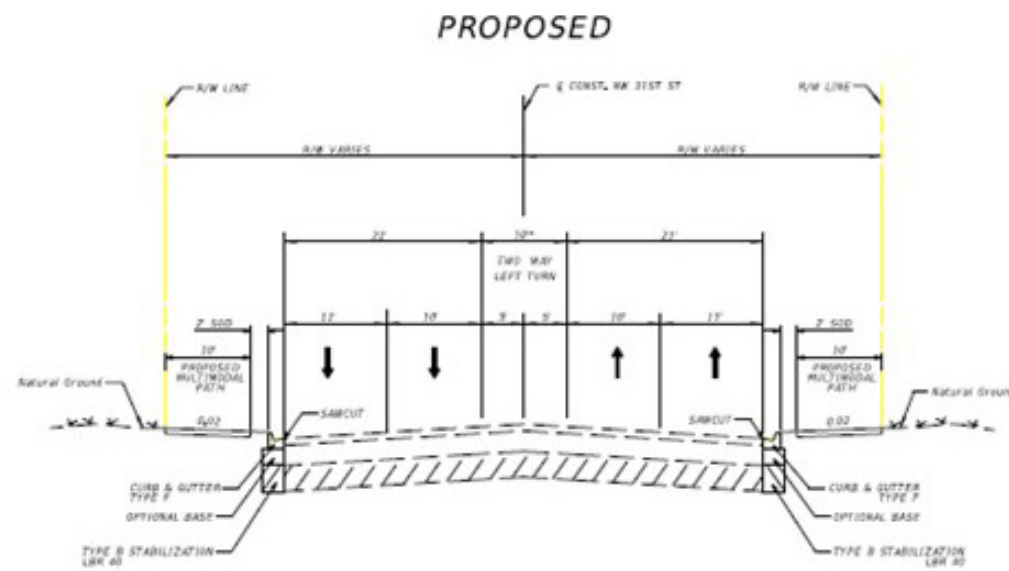
# Chapter 4: Recommendations



TYPICAL SECTION  
Broward Blvd to Sistrunk Blvd

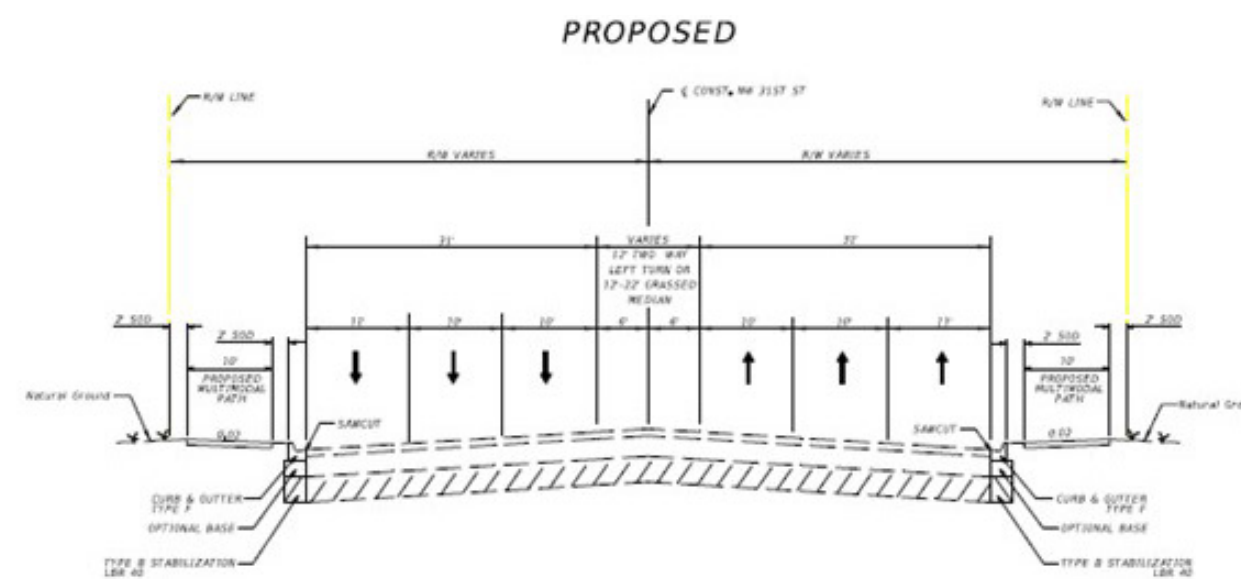


TYPICAL SECTION  
Sistrunk Blvd to NW 39th St



TYPICAL SECTION  
Broward Blvd to Sistrunk Blvd

\* Reference:  
FDM Table 210.21 - Minimum Travel  
and Auxiliary Lane Widths



TYPICAL SECTION  
Sistrunk Blvd to NW 39th St

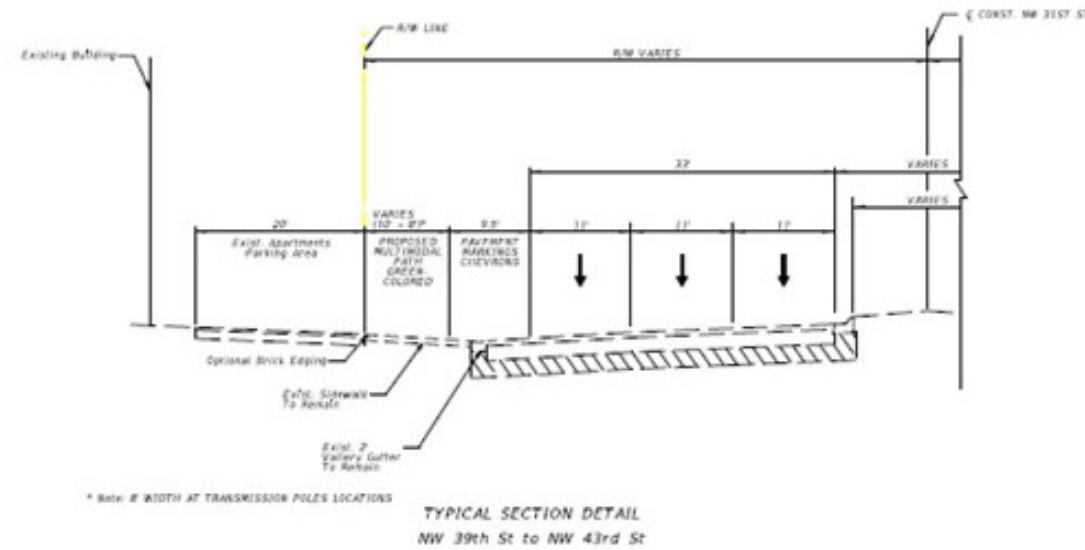
Typical section detail sheets are included in the Appendix



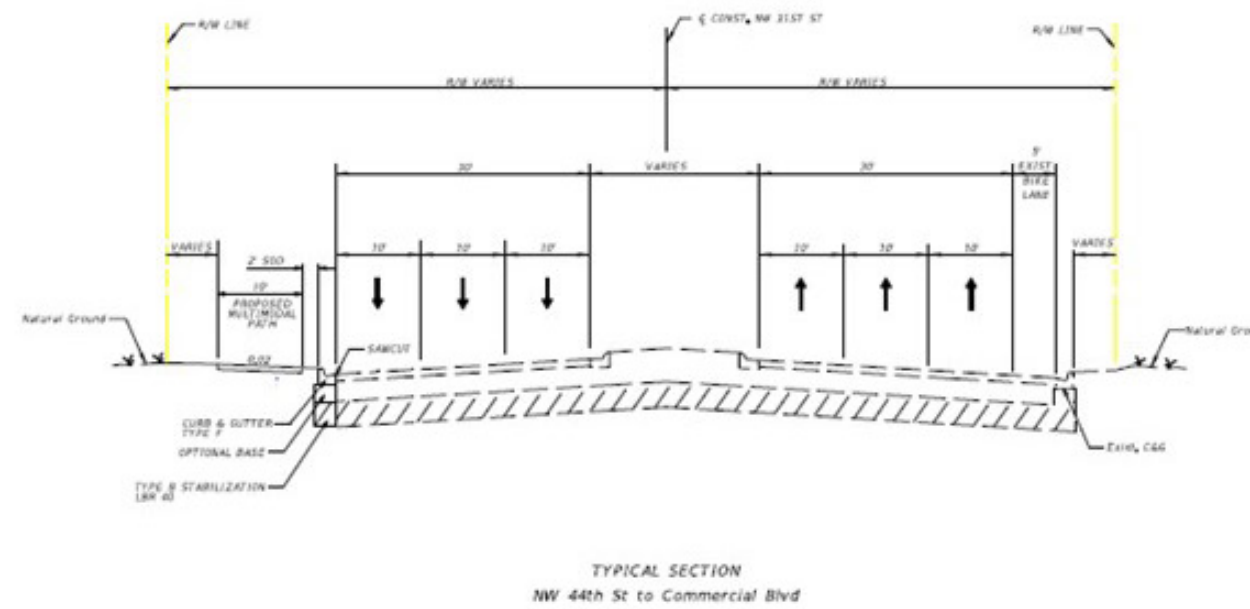
# Chapter 4: Recommendations



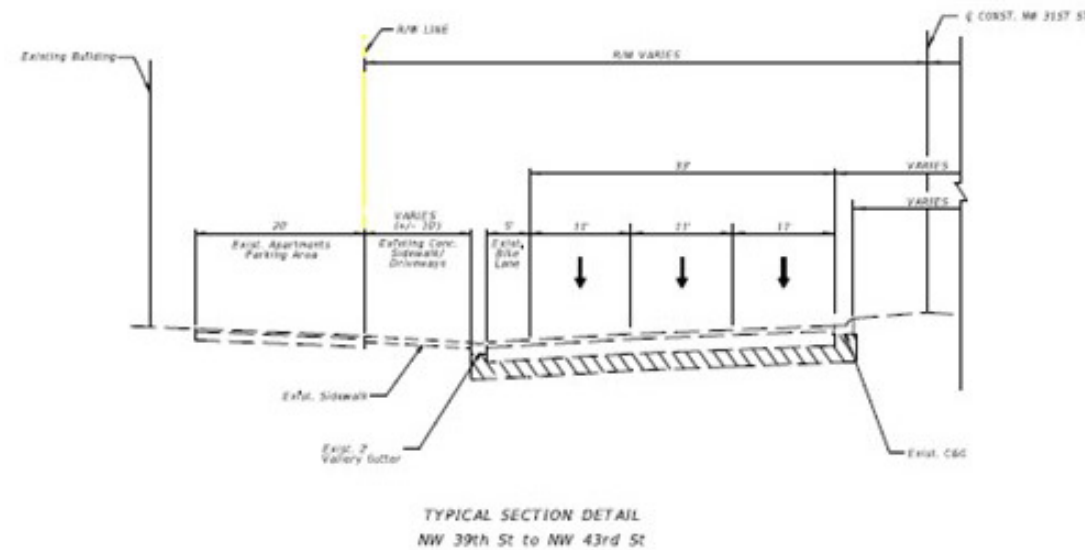
## PROPOSED



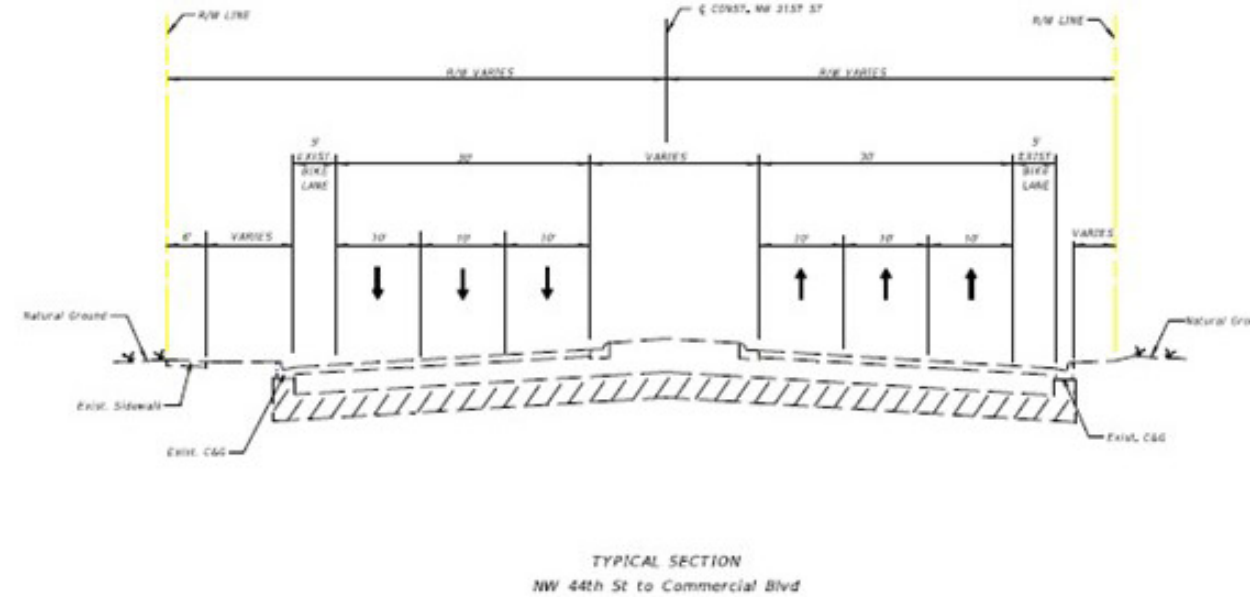
## PROPOSED



## EXISTING

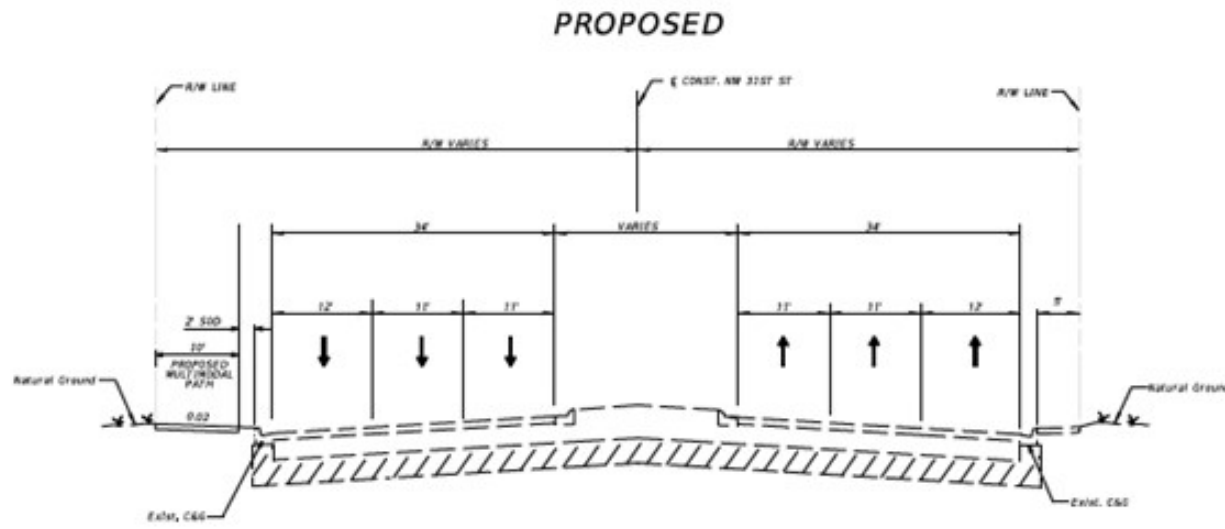


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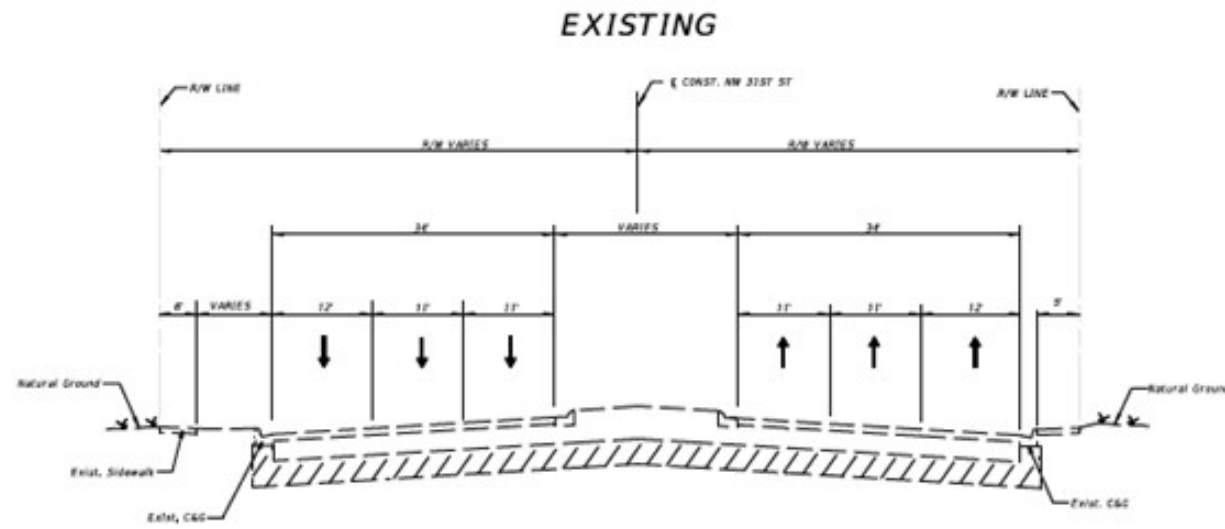




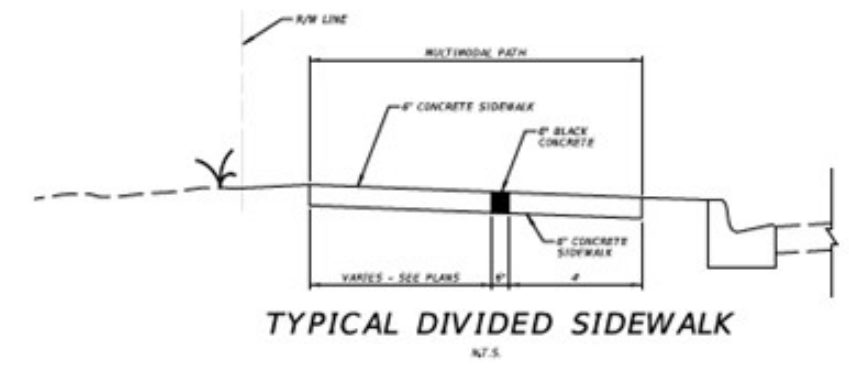
# Chapter 4: Recommendations



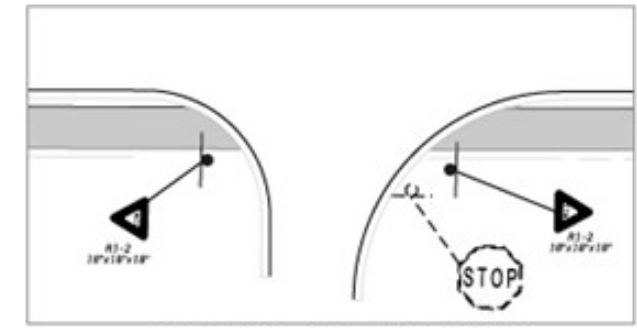
TYPICAL SECTION  
Commercial Blvd to W McNab Rd



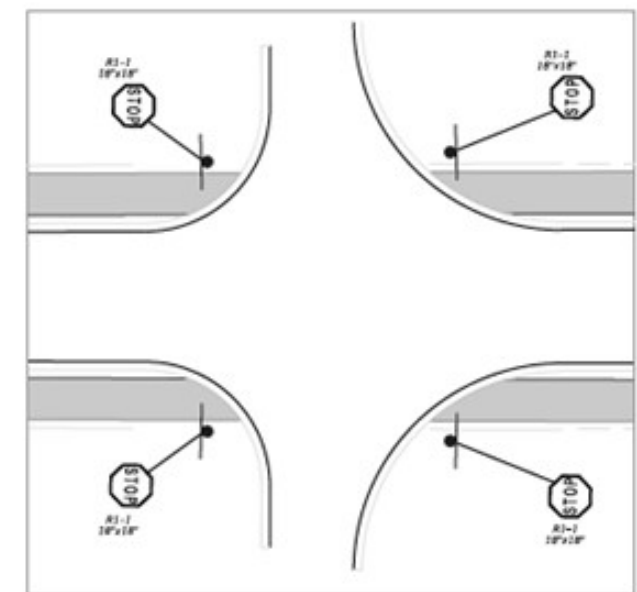
TYPICAL SECTION  
Commercial Blvd to W McNab Rd



TYPICAL DIVIDED SIDEWALK  
N.T.S.



TYPICAL SIGNING PLAN  
AT STOP CONTROLLED INTERSECTIONS  
N.T.S.



TYPICAL SIGNING PLAN  
AT SIGNALIZED INTERSECTIONS  
N.T.S.



# Chapter 5:

## Implementation





# Chapter 5: Implementation



This chapter provides planning-level cost estimates and potential funding sources for recommended improvements. All of the information is provided in a consolidated “Cost Estimates and Potential Funding” Matrix.

## Planning-Level Cost Estimates

Planning-level cost estimates were prepared using a bottom-up approach, which considered unit cost for key construction components required to construct recommended improvements based upon FDOT Historical Item Average Unit Cost History for Broward County (Area 12), March 2021 to March 2022. The costs were then adjusted for quantities as well as rounded up for planning purposes.

The cost estimates include construction costs as well as mobilization, maintenance of traffic, preliminary engineering/design and construction engineering and inspection, and additional overhead costs.

The cost estimates are based on the planning-level analysis and represent typical improvements. It is anticipated that the costs will be further refined during future project development.

## Potential Funding Sources

For the implementation of the recommended improvements, this plan identified potential sources of federal, state, and local funding as summarized below.

### Capital Improvement Plan (CIP)

The CIP is designed to balance the need for public facilities necessary for implementation of the comprehensive plan and to ensure that the adopted level of service standards for public facilities are achieved and maintained.

### Surtax

The 30-year surtax to fund transportation improvements includes goals to enhance transit service, improve connectivity and enhance multimodal options. County and municipalities are eligible recipients of surtax funding for transportation projects that meet the surtax goals.

### Metropolitan Transportation Plan (MTP)

The MTP identifies how the metropolitan area will manage and operate a multimodal transportation network to meet the region’s economic, transportation, development and sustainability goals, among others, for a 20-year planning horizon while remaining fiscally constrained. County and local governments work with the Broward MPO through its MTP process to recommend projects so that they

can be included in the MTP and eventually the Transportation Improvement Program (TIP) for funding.

### County Incentive Grant Program (CIGP)

The purpose of CIGP is to provide grants to counties to improve a transportation facilities that are located on the State Highway System or that relieves traffic congestion on the State Highway System. Municipalities are eligible to apply and can do so by submitting their application through the County. CIGP funds are distributed to each FDOT district office by statutory formula.

### Federal Grant (Discretionary) – Reconnecting Communities Pilot (RCP)

The RCP Grant Program is to reconnect communities by removing, retrofitting, or mitigating transportation facilities that create barriers to community connectivity, including to mobility, access, or economic development. The program funds planning and capital construction to address infrastructure barriers, reconnect communities, and improve peoples’ lives.

### HSIP (Highway Safety Improvement Program)

The HSIP funds are for those locations which has a historically high crash record. The program aims to achieve a significant reduction in traffic fatalities and serious injuries. HSIP funds can be allocated to non-state owned roads.

## Cost Estimates and Funding Matrix

The “Cost Estimates and Potential Funding Matrix” is a consolidated table providing the costs and funding opportunities for each location. Specific recommendations, such as intersection lighting, are individually listed due to their cost and/or separate utility. The individual costs sheets are included in the Appendix.



# Chapter 5: Implementation



**Cost Estimates and Potential Funding Matrix**

Project Location	Description	Time-frame	Agency	Funding Programs							Cost Estimates		
				Short-term (0-5 Years)	Long-term (5+ Years)	Broward County	Municipalities	Local Government CIP	Broward County Surtax / MCP	BMO - MTP	State Grant (Discretionary) / e.g. CIGP	Federal Grant (Discretionary) / e.g. RCP	Construction Costs (2021 \$)
NW 31st Avenue	NW 4th St	TABLE CROSSWALK WITH HAWK SIGNALS	★	☑	+	\$	\$	\$M	\$	\$	\$377,324	\$264,127	\$641,451
	NW 6th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$274,229	\$191,960	\$466,190
	NW 12th Pl	TABLE CROSSWALK WITH HAWK SIGNALS	★	☑	+	\$	\$	\$M	\$	\$	\$393,040	\$275,128	\$668,169
	NW 14th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$147,776	\$103,443	\$251,219
	NW 19th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$173,768	\$121,637	\$295,405
	NW 19th St	MAST ARM SIGNALIZATION	★	☑	+	\$	\$	\$M	\$	\$	\$640,827	\$448,579	\$1,089,406
	NW 26th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$134,418	\$94,092	\$228,510
	NW 39th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$226,607	\$158,625	\$385,232
	NW 41st St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$151,886	\$106,320	\$258,205
	NW 44th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$197,176	\$138,023	\$335,199
	NW 68th St	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$130,172	\$91,120	\$221,292
	NW 68th St	MAST ARM SIGNALIZATION	★	☑	+	\$	\$	\$M	\$	\$	\$555,825	\$389,077	\$944,902
	Prospect Park Apartments	TABLE CROSSWALK WITH HAWK SIGNALS	★	☑	+	\$	\$	\$M	\$	\$	\$397,722	\$278,405	\$676,127
	McNab Rd	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$199,449	\$139,614	\$339,063
	McNab Rd	RAISED INTERSECTION	★	☑	+	\$	\$	\$M	\$	\$	\$576,403	\$403,482	\$979,885
	NW 31st Ave	SPEED RADAR FEEDBACK SIGNS (8)	★	☑	+	\$	\$	\$M	\$	\$	\$116,685	\$81,679	\$198,364
	NW 31st Ave	LANDSCAPE MEDIANS	★	☑	+	\$	\$	\$M	\$	\$	\$488,076	\$341,653	\$829,730
	From Broward Blvd to McNab Rd	MULTIMODAL PATH	★	☑	+	\$	\$	\$M	\$	\$	\$5,510,626	\$3,857,438	\$9,368,064
From Broward Blvd to McNab Rd	INTERSECTION LIGHTING (UNIT COST)	★	☑	+	\$	\$	\$M	\$	\$	\$297,283	\$208,098	\$505,381	
<b>Total Costs</b>											<b>\$10,989,290</b>	<b>\$7,692,503</b>	<b>\$18,681,793</b>

- ★ = Short-term project
- ★ = Long-term project
- ☑ = Primary Agency
- ⊕ = Secondary / Support Agency
- \$ = Funding Opportunity
- \$M = MPO Funding Opportunity



**Broward** MPO  
Metropolitan Planning Organization

This Plan received federal funding from the Broward Metropolitan Planning Organization as part of its federally mandated planning activities within the metropolitan planning area.

