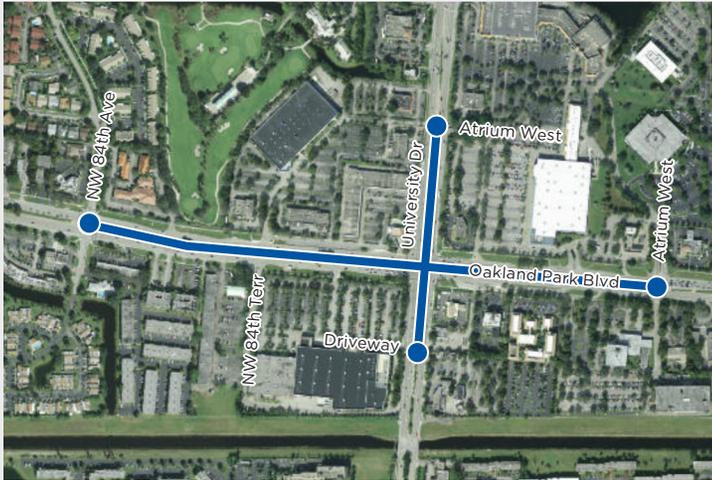


OAKLAND PARK BOULEVARD CORRIDOR SUMMARY

Sunrise, FL

Maintaining Agency: FDOT

FROM NW 84TH AVENUE TO ATRIUM WEST | 1 Mile



ROADWAY CHARACTERISTICS

Looking West



The corridor has a three lanes in each direction. It has intermittent right- and left-turn lanes. There are access roads in some areas as well. It also has median with intermittent landscaping. The corridor has 5' - 6' sidewalks separated from the roadway; and while there are no marked bike lanes, shoulders vary from 3' - 5'. The posted speed is 45 MPH. The land uses generally consist of auto-oriented shopping centers and big box retail set behind large surface parking lots.

CRASH DATA

30 Pedestrian

9 Bicycle

1 Fatal

34 Injury

4 Property Damage Only

49%
 Occurred in Non-Daylight Lighting Conditions

28% Occurred in June or December

46% Occurred on Thursday or Friday

Peak Crash Time Periods



0
 Involved Alcohol and/or Drugs

CALENDAR						
S	M	T	W	T	F	S
				X	X	
				X	X	
				X	X	
				X	X	

FIELD REVIEW OBSERVATIONS

- Illegal Mid-Block Crossings
- Inattentive Drivers (Especially at Driveways and Intersections)
- Vehicles Blocking Crosswalks
- Speeding/Aggressive Driving
- ADA Noncompliant Sidewalks and Ramps
- No Bike Lanes
- Missing/Faded Crosswalks
- Lack of Crossing Opportunities
- Objects Blocking Sidewalks
- Broken/Out of Date Pedestrian Signage and Signals
- Frequent Driveways
- Poorly Marked Driveway Crossings
- Wide Intersection/Excessive Pavement
- Lack of Bicycle Markings at Conflict Areas
- Long Signal Times
- Poor lighting



Excessive Pavement Width



Poor Lighting at Night



Faded Pavement Markings



Illegal Mid-Block Crossing



Out of Date Pedestrian Signage



High Speed Turn Lane to Driveway

OAKLAND PARK BOULEVARD DEMONSTRATION CORRIDOR REVIEW

From NW 84th Avenue to Atrium West | Sunrise



Oakland Park Blvd Looking East



Pedestrian Crossing Mid-Block on Oakland Park Blvd.

Overview

Oakland Park Boulevard from NW 84th Avenue to Atrium West was chosen as a demonstration study site for the Broward MPO Bicycle and Pedestrian Safety Action Plan (BPSAP) based on a review of its pedestrian and bicycle crash history; land uses; propensity for active transportation; transit activity; and the decisions of the BPSAP Advocacy Team. It is generally a six-lane divided arterial with intermittent right- and left-turn lanes. There are access roads in some areas as well. It also has median with intermittent landscaping. The corridor has 5' - 6' sidewalks separated from the roadway; and while there are no marked bike lanes, shoulders vary from 3' - 5'. The posted speed is 45 MPH. The land uses generally consist of auto-oriented shopping centers and big box retail set behind large surface parking lots.

The following review describes the results of the corridor safety review and general observations of the corridor. A field review was conducted on Tuesday, July 12th, 2016 from 2:00 PM to 6:00 PM and a night time field review was completed on Tuesday, July 12th, 2016 from 8:30 to 9:30 PM.

Crash Summary

Over the six-year period from 2010 through 2015, 39 pedestrian or bicyclist crashes occurred along the Oakland Park Boulevard study corridor. Of those crashes, 77 percent (30) involved a pedestrian and 23 percent (9) involved a bicyclist. Almost all of the crashes occurred around the intersection of Oakland Park Boulevard and University Drive.

One of the crashes resulted in a fatality (3 percent) and 32 resulted in injury (82 percent). Most crashes occurred in dry conditions (33 crashes, 85 percent). However, almost half of the crashes (49 percent) occurred in non-daylight lighting conditions. Three crashes occurred in an area that was dark without street lighting, and all three of those resulted in injuries. No crashes involved alcohol or drugs.

10 percent of the crashes involved someone aged 20-24 and another 10 percent involved people aged 85 and over. Additionally, 13 percent of the crashes involved people aged 60-64. In total, 31 percent of crashes, or almost one in three, involved someone over the age of 60, suggesting that special attention should be paid to this age group in planning and education efforts.

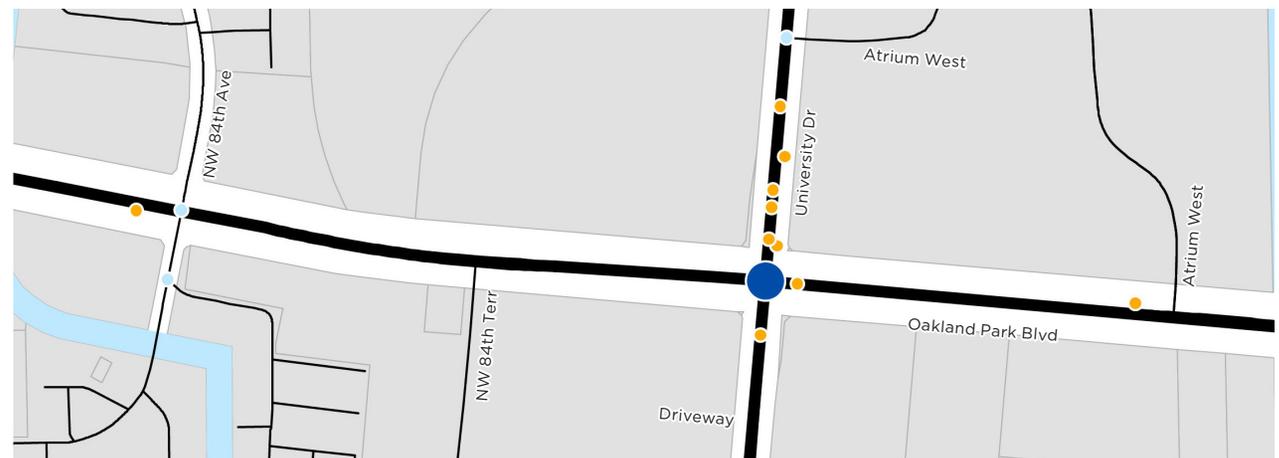
FIGURE 1 | Study Area Crashes

Legend

- 1 Segment Crash
- Intersection Crash

 - 1 - 5
 - 6 - 10
 - 11 - 15

Source: CARS 2010-2014 crash data; Signal Four Analytics 2010-2016 crash data



Transit Ridership & Land Use

Transit ridership is high in the corridor, especially around the intersection of Oakland Park Boulevard and University Drive. Ridership exceeds 250 riders per day at all of the bus stops around the intersection. Both Oakland Park Boulevard and University Drive are designated for premium transit service in the future, and the intersection is intended to become a transit hub. People were regularly observed waiting at the stops during the field review, and some of the bus stops include shelters to provide shade and comfortable waiting areas for riders. Some of the stops are located far from signalized crossings and many people were observed crossing illegally mid-block at those locations.

The land uses along the corridor are auto-oriented. Most of the development is in the form of big box stores set far back from the road behind parking lots. The land use pattern includes large superblocks with little internal roadway connectivity. The land uses are mostly commercial in nature. Conceptual plans suggest that the area is intended to eventually be developed in a high density and mixed use manner to support its designation as an Anchor Hub. According to demographic data, residents in the study area have a low propensity for traveling on foot, by bike, or on transit in comparison to the rest of the county.

General Observations:

Throughout the corridor, pedestrians tend to cross outside of marked crossings. Many bus stops and popular destinations are not located near crosswalks. There are long distances between signalized crossings and concrete medians are perceived as safe places to take refuge while crossing mid-block, even with signage discouraging their use. Long signal cycle lengths cause long wait times for pedestrians when they do reach signals. In general, the pedestrian facilities do not comply with ADA requirements throughout the corridor. Other pedestrian issues observed include: fixed objects mounted in sidewalks, missing or worn truncated domes at ramps, outdated signage at crosswalks, and pedestrian signals that do not function.

Because there are no bike lanes in the corridor, bicyclists often ride on the sidewalk causing conflicts with pedestrian users and vehicles at driveways. Bicyclists were also observed in the corridor riding in shoulders against the direction of vehicular travel. Intersection corners with large radii encourage speeding and encourage drivers to block crosswalks at red lights. Excessive, and in some cases inappropriate, signage leads to potential vehicular confusion. Lighting is poor throughout the corridor, except at intersections.

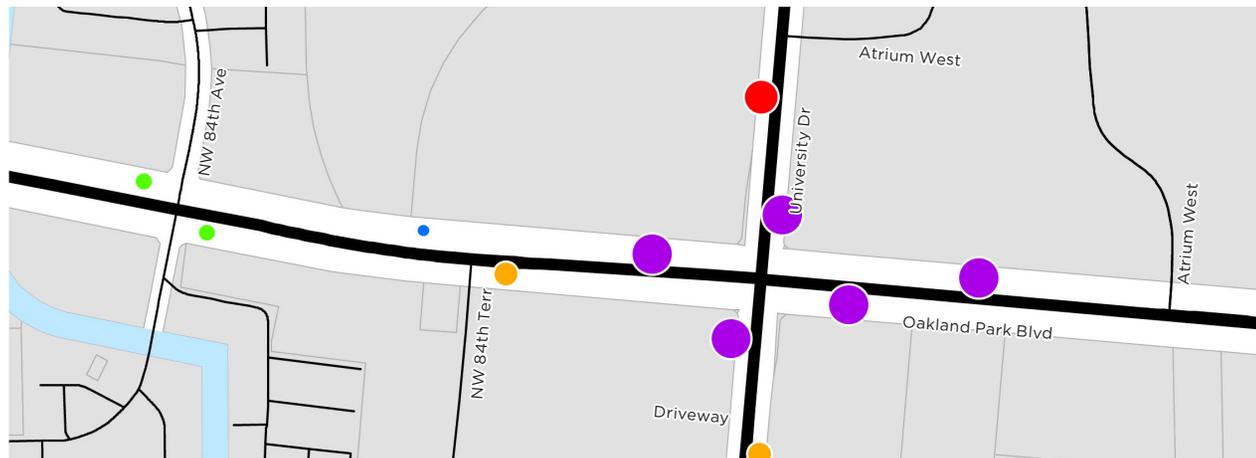


FIGURE 2 | Study Area Transit Ridership

Legend

Daily Boardings + Alightings

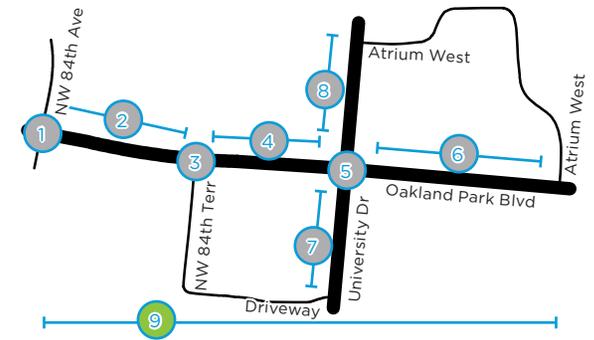
- 1 - 25
- 26 - 50
- 51 - 100
- 101 - 250
- 250 +

Source: Broward County Transit, 2015



Issue: Mid-Block Crossings

Location: 9 (Whole Area)



General Observations:

- Mid-block crossings observed at bus stops and where there are destinations on either side of the street.
- The distances between signalized crossings is very long in most locations.
- The signal times are long, which can discourage people from waiting for the signal to cross.
- In some locations, “Do Not Cross” signs have been installed, however they do not seem to have much of an impact based on field observations.
- The City of Sunrise Police Department has been implementing a High Visibility Enforcement campaign focused on pedestrian and bicyclist issues over the past year. This strategy utilizes a progressive enforcement approach, where officers educate, warn, and finally ticket pedestrians, bicyclists, and drivers. The focus is heavy on pedestrian interaction, with police officers making contact with over 1,000 pedestrians, 50 motorists, and 27 bicyclists.

Recommendations:

- Explore locations for safe mid-block crossings and consider bi-directional median opening crosswalks and TWLTL median refuge islands.
- Install thick shrubs in the median to physically prevent pedestrians from crossing medians mid-block.
- Consider relocating bus stops closer to crossings to create incentive for crossing at signals.
- Evaluate the effects of the High Visibility Enforcement campaign to determine if this kind of specialized focus worked in the study area. If so, continue the a progressive enforcement campaign where officers educate, warn, and finally ticket pedestrians who cross mid-block.



Pedestrian crossing against the signal.



Pedestrians crossing mid-block at a gap in the shrubs.



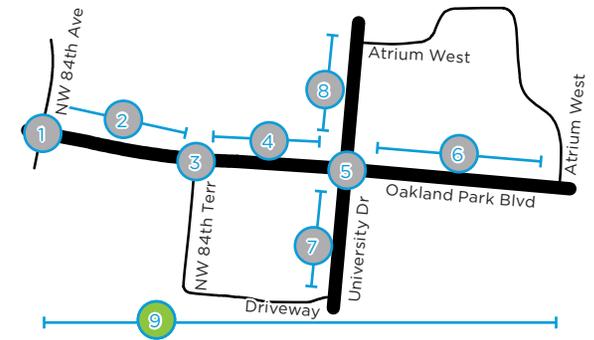
Pedestrian crossing mid-block.



Pedestrians using the median as a refuge.

Issue: Noncompliant ADA Sidewalks and Ramps

Location: 9 (Corridor Wide)



General Observations:

- Fixed objects are mounted within the sidewalks,
- Sidewalk ramps do not comply with ADA requirements at every intersection along the corridor.
- In general, the truncated domes are missing, worn, or misaligned.
- In several areas, accessible sidewalk connections are not present between the sidewalk and driveways or private parking lots.
- In several locations, the pedestrian signal push buttons are located far from the crosswalk ramps or too close to each other.
- Some worn paths have been made where sidewalks do not exist.

Recommendations:

- Update all ADA ramps along corridor to meet requirements.
- Relocate pedestrian signal push buttons to achieve proper separation and proximity to crosswalks.
- Expand sidewalk network to connect sidewalks with safe driveway crossings.



Improperly placed detectable warning surfaces and unnecessary ramp.



Improperly secured detectable warning surfaces.



Ramp to nowhere.



Cracked sidewalk.

Issue: Crosswalk Deficiencies

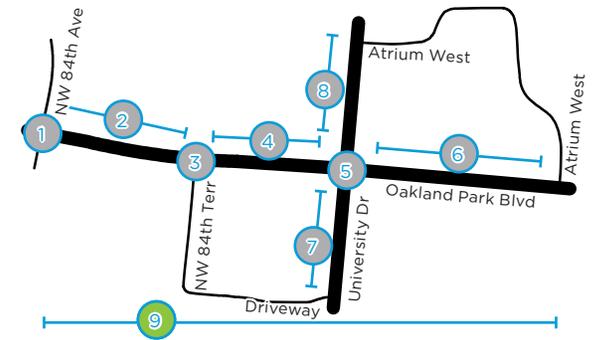
Location: 9 (Corridor Wide)

General Observations:

- Many of the crosswalks are faded, worn, uneven, or difficult to discern from other pavement markings.
- Crosswalks are not present for all legs of all intersections.
- The pedestrian crossing signal time is too short for slower pedestrians in some locations and crossing distances are long at some intersections.

Recommendations:

- Due to the high transit ridership along the corridor, add crosswalks across all intersection legs where possible.
- Review signal timing plans for corridor and extend pedestrian crossing times to meet minimum recommendations of 3.5 feet per second.
- Consider creating pedestrian bump outs and refuge islands to reduce pedestrian crossing distances.



Faded crosswalk.



Missing crosswalk on west leg of NW 48th Terr.



Faded crosswalk.



Pedestrian crossing against the signal.

Issue: No Bike Lanes

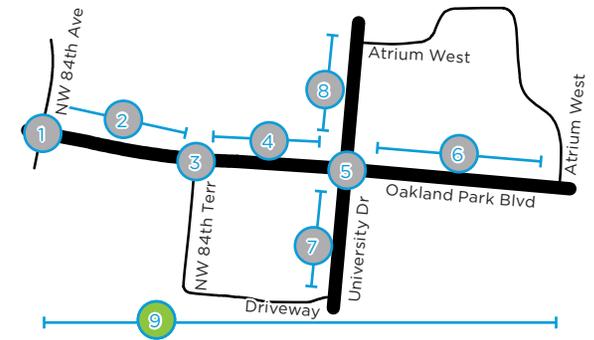
Location: 9 (Corridor Wide)

General Observations:

- There are no bike lanes in the study area.
- Bicyclists ride on the narrow sidewalks, creating conflicts between bicyclists and pedestrians.
- Bicyclists were also observed riding on the sidewalk in the opposite direction of vehicles.
- These conditions create safety issues for bicyclists, especially at intersection and driveway crossings.
- The City of Sunrise Police Department has been implementing a High Visibility Enforcement campaign focused on pedestrian and bicyclist issues over the past year. This strategy utilizes a progressive enforcement approach, where officers educate, warn, and finally ticket pedestrians, bicyclists, and drivers. The focus is heavy on pedestrian interaction, with police officers making contact with over 1,000 pedestrians, 50 motorists, and 27 bicyclists.

Recommendations:

- Evaluate the addition of bike lanes throughout the corridor. Ensure that the bike lanes are designed to have sufficient width to safely separate bikes from the high-speed and high-volume vehicular traffic in the study area in order to promote use of the bike lanes rather than the sidewalks. The high volumes and speeds suggest the need for protected or separated bike lanes to accommodate the needs of riders. This could potentially be done through restriping.
- Provide additional visual separation of bike lanes through buffers.
- Use green paint at intersections, driveways, or other conflict points to highlight to drivers that bicyclists may be crossing.
- Evaluate the effects of the High Visibility Enforcement campaign to determine if this kind of specialized focus worked in the study area. If so, continue to alert bicyclists of the dangers of riding on the sidewalks and to alert drivers of the need to look for bicyclists when turning in to and out of driveways. This progressive enforcement campaign where officers educate, warn, and finally ticket should extend to drivers who drive in bike lanes and bike riders who cross the street against the signal.



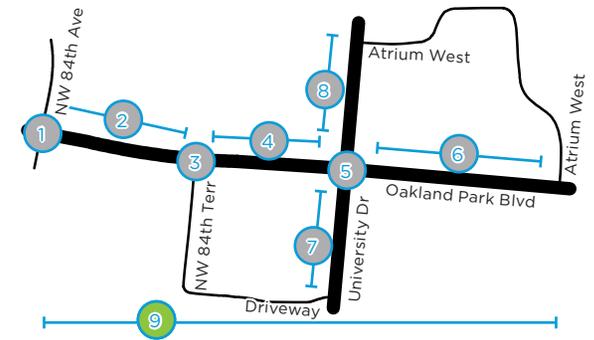
The lanes are wide enough in most places to fit buffered bike lanes with restriping.



There are no bike lanes, however there is a shoulder.

Issue: Driveway Frequency & Design

Location: 9 (Corridor Wide)



General Observations:

- There are a number of driveways between intersections in the study area. Many of these driveways have poorly marked crosswalks.
- Many driveways along the corridor are very wide and allow drivers to turn in and out without slowing down. Some also have right turn lanes that allow for this.
- Many drivers were observed turning out of driveways without looking for or yielding to pedestrians.
- The stop bar at some driveways is set back far from the street. Drivers pull past the stop bar and in to the crosswalk for a better view of traffic, which causes conflicts with bicyclists and pedestrians.



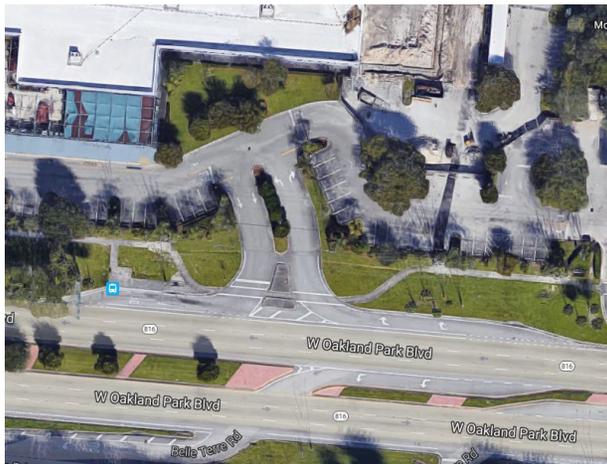
There are frequent driveways along the corridor.



High speed turn lanes into driveways are common.

Recommendations:

- Refresh pavement markings to emphasize crosswalks across driveways.
- Create an outreach campaign to alert bicyclists of the dangers of riding on the sidewalks and to alert drivers of the need to look for bicyclists when turning in to and out of driveways.
- Encourage cross access agreements between developments to limit the number of driveways approved along the corridor.
- Consider narrowing driveways where possible and ensure that driveway width is considered in development review for new developments.
- Consider whether right turn lanes are needed at every development. If not, consider where they might be able to be removed.
- Install warning signs at intersections and driveways, such as "Stop Here on Red".
- Consider redesigning the location of the stop bar and crosswalk.



Wide, channelized driveways allow cars to turn into parking lots without slowing down.



Stop bar is set far back from the road and cars pull through it for a better view of traffic.

Issue: Wide Intersections and Excessive Pavement

Location: 2, 3, 4, 6

General Observations:

- Many intersections have excessive pavement widths. This is confusing to vehicles operating the intersection - especially with poorly maintained pavement markings - and yields long crossing distances for pedestrians.

Recommendations:

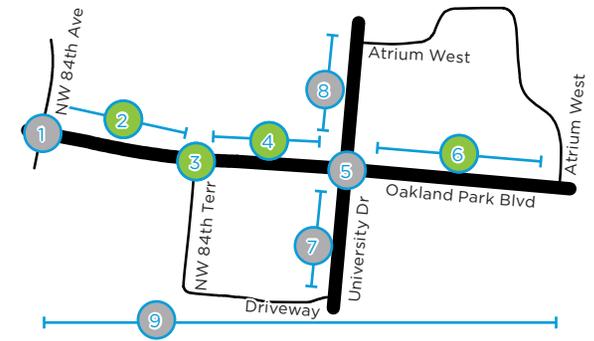
- Evaluate the need for separate turn lanes and consider road diets where possible.
- Utilize excess space to incorporate bump outs, bike lanes, and other improvements to the bicycle and pedestrian realm.



Frontage road with markings that cause motorist confusion.



Excess pavement.



Issue: Driver Behavior

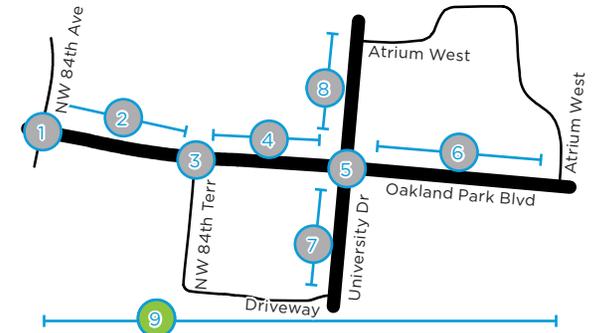
Location: 9 (Corridor Wide)

General Observations:

- Drivers turning right on red do not always look for pedestrians in crosswalks before turning.
- During field observations, several drivers almost hit pedestrians or bicyclists in the crosswalks and at driveways.
- Drivers exiting driveways do not always yield or look for pedestrians or bicyclists.
- Drivers stop in the crosswalk and block access to the sidewalks. This is sometimes due vehicles pulling through the stop bars in order to see oncoming traffic because the stop bar is set back.

Recommendations:

- Install warning signs at intersections and driveways, such as "Stop Here on Red".
- Consider implementing "No Right Turn on Red."
- Educate drivers on safe driving behavior through programs such as best foot forward, alert today, alive tomorrow and by working with Google and Waze.
- Create a progressive enforcement campaign where officers educate, warn, and finally ticket drivers who block crosswalks.
- Consider redesigning the location of the stop bar and crosswalk.



Issue: Pedestrian Signage Deficiencies

Location: 9 (Corridor Wide)

General Observations:

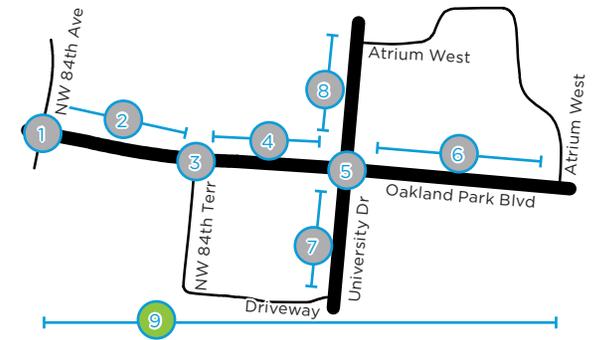
- Pedestrian signals are not functioning or the countdown signal is not working at multiple intersections.
- Many of the pedestrian signal push button signs do not provide the street names or signs with directions on how to properly use pedestrian signal heads.

Recommendations:

- Replace or fix pedestrian signals/controllers.
- Update pedestrian signal push button signs as necessary to meet standards.



Signs are out of date and either do not state which street they are referring to do not have instructions.



9

Issue: Signal Timing

Location: 9 (Corridor Wide)

General Observations:

- Signal times are long, which causes long wait times for pedestrians when crossing the street at intersections.
- It was observed that pedestrians cross the street against the signal even in crosswalks instead of waiting for the Walk signals.

Recommendations:

- Consider retiming signals with a focus on pedestrian and bicycle mobility.



Pedestrian crossing against the signal.



Issue: Bus Stop Locations

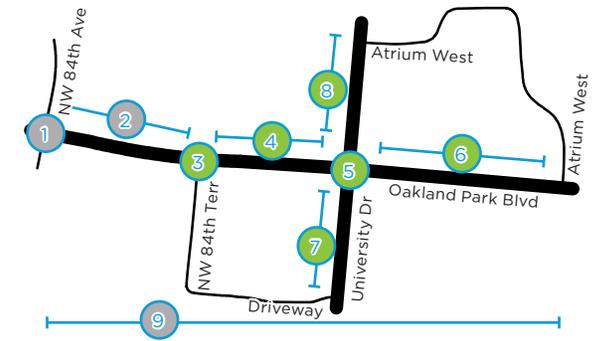
Location: 3, 4, 5, 6, 7, 8

General Observations:

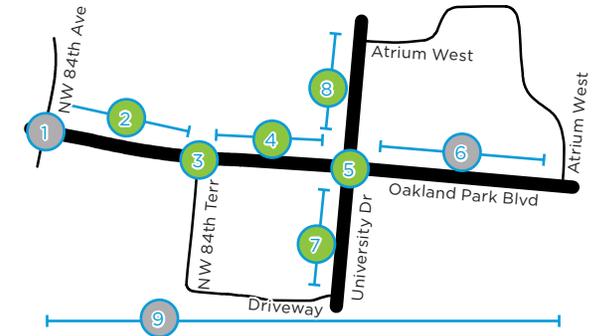
- Mid-block pedestrian crossing is a critical safety concern throughout the corridor. Many, but not all, of the observed illegal mid-block crossings result from bus stops that are not conveniently located near existing crosswalks. Alternatively, crosswalks are not conveniently located near the bus stops.

Recommendations:

- Evaluate the bus stop locations and potential mid-block crosswalk locations.
- Design mid-block crosswalks with enhanced visibility features, such as Rectangular Rapid Flash Beacons (RRFBs), to encourage use and to improve safety.



There is no crosswalk on the side of the intersection where the bus stop is located on the west leg of NW 48th Terr.



Issue: Lighting

Location: 2, 3, 4, 5, 7, 8

General Observations:

- Lighting is poor outside of the intersection of Oakland Park Boulevard and University Drive. That intersection was updated recently. The transition between lower and higher lighting levels is difficult at night.
- Lighting is present on only one side of the roadway between intersections.

Recommendations:

- Complete a lighting study with a focus on pedestrian lighting.
- Create an outreach campaign to alert pedestrians and bicyclists of the need to wear bright clothing at night and to use lighting.



Lighting is poor outside of signalized intersections and present only on one side of the street.



Lighting is poor outside of signalized intersections and present only on one side of the street.