Recommendations Examples

Signalized Intersection + Median Refuge

Signalized Pedestrian Crosswalk

Painted Curb Extension

Lane Hardening

Protected Bike Lane

High Visibility Crosswalk + Median Refuge

RRFB = **R**ectangular **R**apid **F**lashing **B**eacon

Curb Extension – Quick Build

Raised Bike Lane behind Bus Stop / Shelter

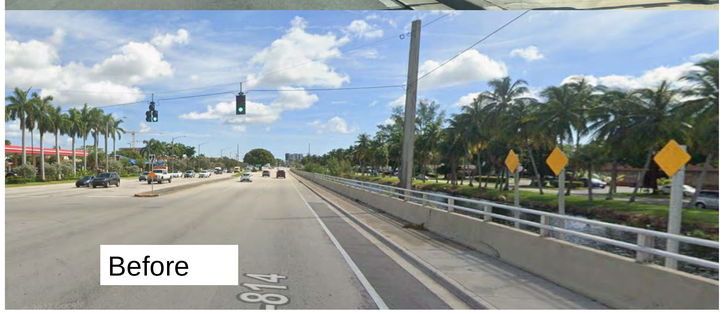
Protected Bike Lane + Landscaped Median

Raised Crosswalk + RRFB

Mid-block Crosswalk at Spot Median + RRFB

LPI = **L**eading **P**edestrian **I**nterval

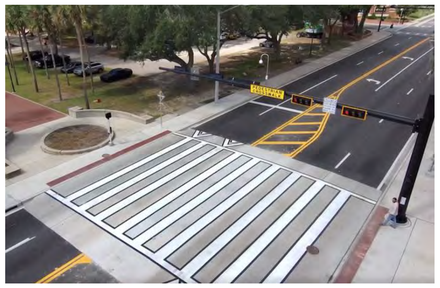
Lane Repurposing / Shared Use Path



Raised Bike Lane

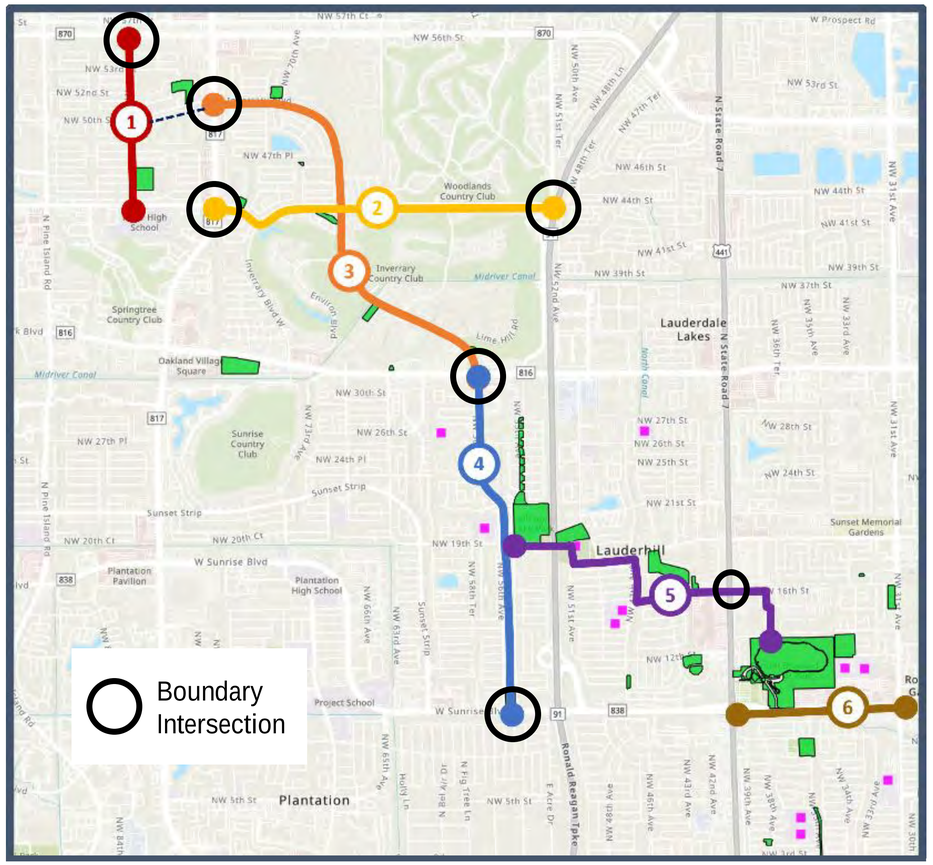
Raised Intersection

Raised Intersection



Shared Use Path

Boundary Intersections Toolkit



A **"Boundary Intersection"** is the end point of a Plan Study Area Roadway which is not owned by the City. This includes intersections on roadways owned by Broward County and Florida Department of Transportation: Commercial Blvd, University Dr, Rock Island Rd, Oakland Park Blvd, Sunrise Blvd, and US-441

The **Boundary Intersections Toolkit** is a set of improvements applicable to all the Boundary Intersections. The improvements or "Toolkit" are general in nature and include proven safety countermeasures to address current conditions, as well as long-term connectivity enhancements. They are intended to be implemented in coordination with Broward County or FDOT

Walking Improvements

- Restripe or stripe crosswalks with **high visibility pavement markings**
- Add **crosswalks at all legs** of the intersection if possible
- Add **leading pedestrian intervals**
- Upgrade to **directional curb ramps** and **tactical striping** where missing
- Construct **median refuge islands** with median noses extended beyond the crosswalk; if refuge islands are not feasible, consider **hardened centerlines**

Biking Improvements

- **Bike boxes or protected intersections** can be added to help permit left-turn movements and increase comfort of people biking
- Add **green pavement markings**

Turning Speeds

- Implement **protected left turn signal** phase
- **Harden the centerline** to guide left turns
- Add **curb extensions** / sharpen turn radii to slow speed for right turns (as space permits)

Toolkit Examples

Median Refuge Island

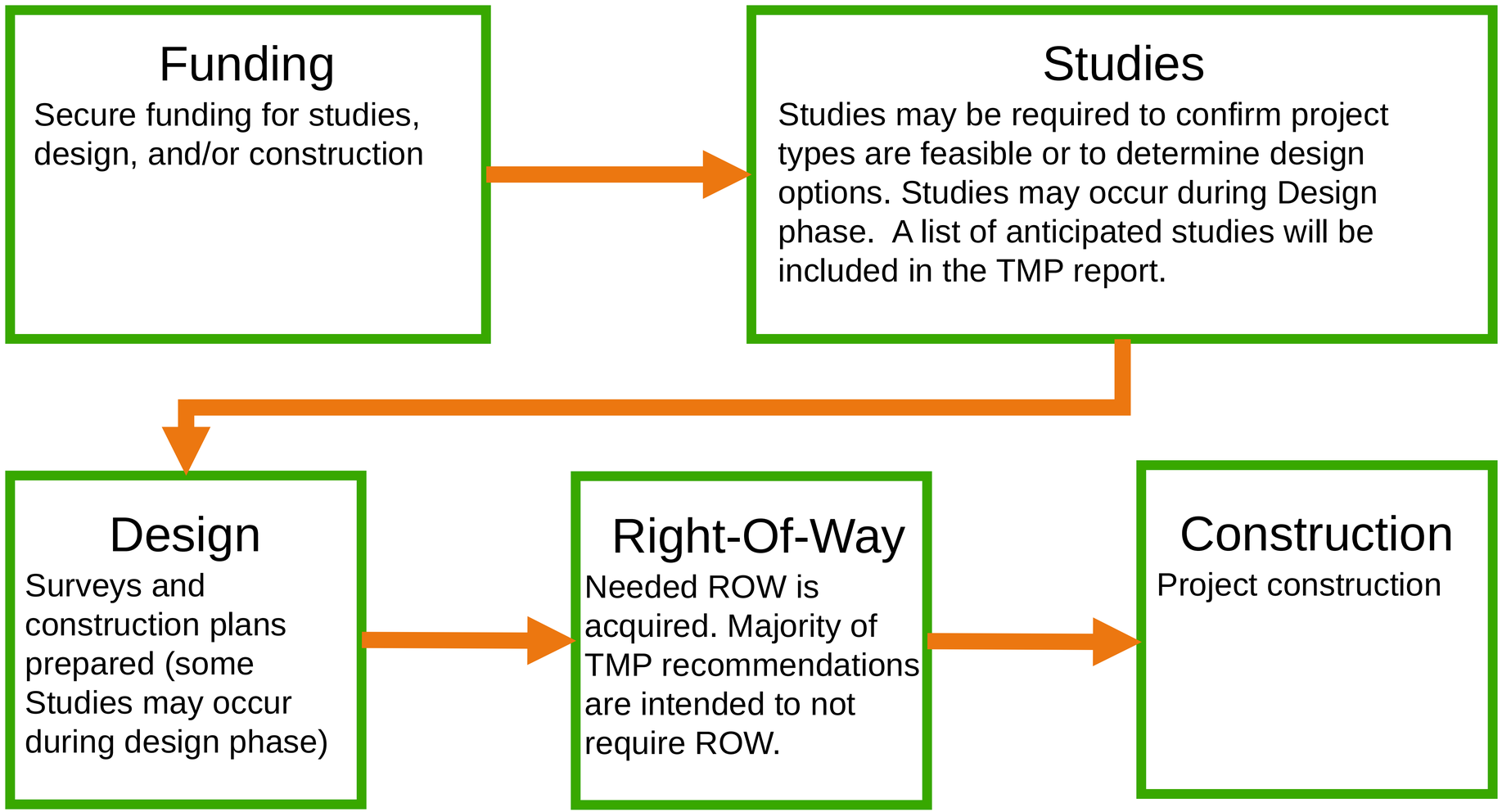
Hardened Centerline

Direction Curb Ramps

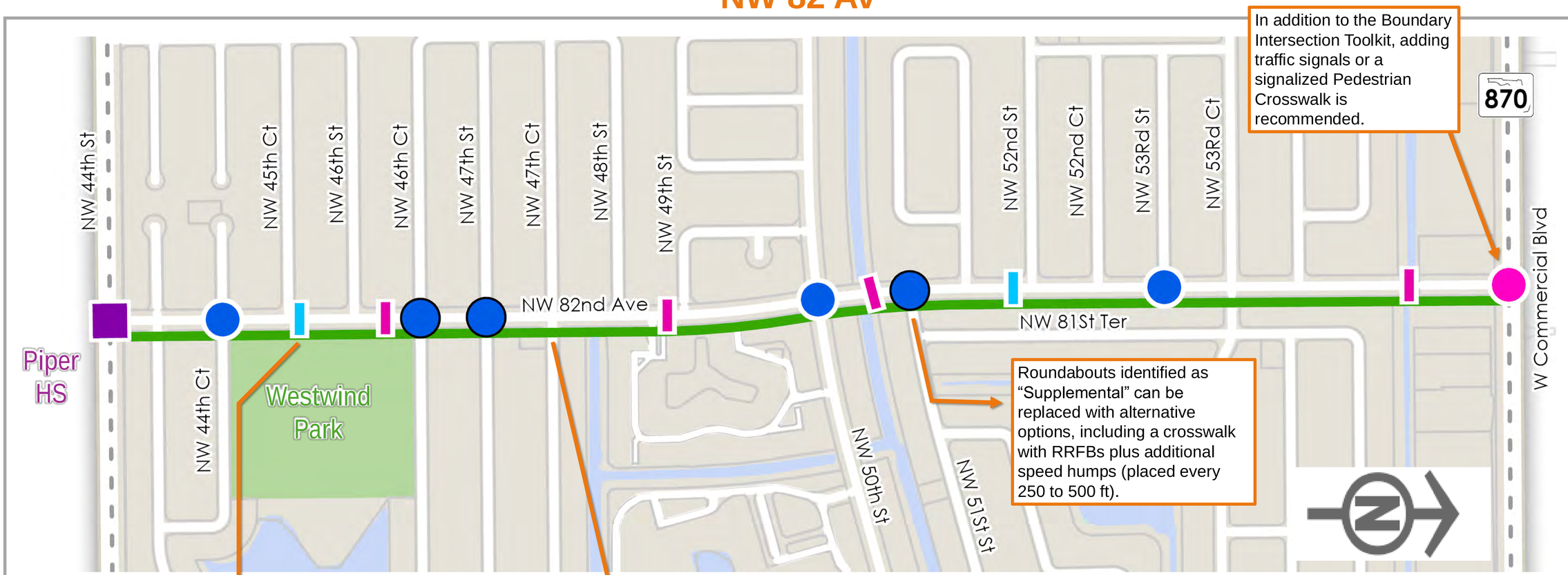
Bike Boxes with Green Pavement Markings

Next Steps

The Transportation Master Plan's Recommendations are considered **"Planning Level Concepts"**
Planning is a vital step in developing transportation projects, the City will need to undertake the following Next Steps to implement the Recommendations.



NW 82 Av



Example: Raised Crosswalk with RRFB

RRFB = **R**ectangular **R**apid **F**lashing **B**eacon

Example: Shared Use Path Crosswalk

Wide, high visibility crosswalks are recommended for the Shared Use Path crossings over side streets.

Lighting Recommendations

- Upgrade existing light poles to LED lights
- Add pedestrian assemblies with LED lights along the Shared Use Path
- Intersection at NW 44 St:
  - Conduct a full lighting analysis to bring the intersection to compliance
  - Add light poles on all four corners with both street lighting and pedestrian lighting
- Intersection at Commercial Blvd:
  - Add new streetlight and LED lighting on the south side of the intersection

LEGEND

- Raised Crosswalk With RRFB
- Speed Humps
- Intersection Improvements
- Supplemental Roundabout
- Roundabout
- Evaluate for Signal
- Shared Use Path

NW 82 Av: NW 44 St to NW 46 Ct

Graphic Location

Frequent speed management features, including roundabouts, raised crosswalks and speed humps, are a proven way to slow down vehicles, protecting pedestrians —especially children — walking or biking to Westwind Park. They also act as gateway features, reminding drivers that they are on a neighborhood road.

Roundabouts include raised crosswalks with median refuge

Intersection at NW 44 St

Recommendations include:

- Marked crosswalk added to west leg of intersection
- Curbs extensions to reduce crossing distance and slow down turning movements
- East crosswalk would be widened to accommodate Shared Use Path
- Hardened centerlines - to slow down left turns and improve intersection safety
- All crosswalks to be restriped with high visibility pavement markings
- Median refuge islands would be added where feasible

Example: Hardened Centerline

Example: Shared Use Path with Wayfinding Signage

A Shared Use Path is recommended for the east side of roadway, providing direct access to Westwind Park. Plus, it would continue through the intersection at NW 44 St, leading to Piper High School. It would be wide enough to accommodate walkers, bicyclists, and scooter riders.

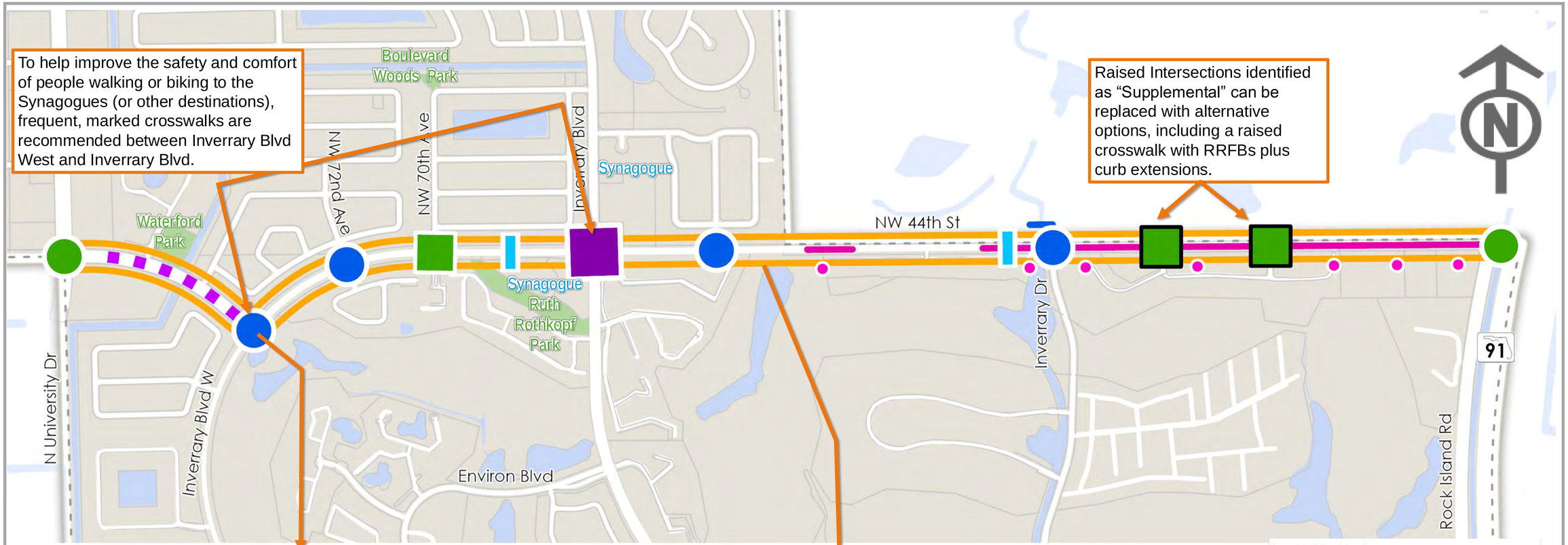
Example: Roundabout with Raised Crosswalks

Raised crosswalks are best practices for speed management.

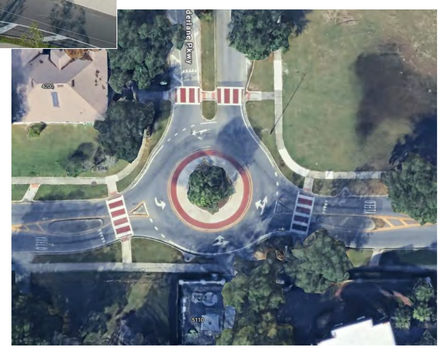
NW 44 St

To help improve the safety and comfort of people walking or biking to the Synagogues (or other destinations), frequent, marked crosswalks are recommended between Inverrary Blvd West and Inverrary Blvd.

Raised Intersections identified as “Supplemental” can be replaced with alternative options, including a raised crosswalk with RRFBs plus curb extensions.



Examples: 3-Legged Roundabout



A roundabout would replace the existing signalized intersection. *It may be feasible without the lane repurposing.*

All of the Roundabouts will have marked crosswalks, and in some cases, raised crosswalks.

Example: Street Level Protected Bike Path

A supplemental curb / landscaped area separates and protects the bicycle lane from vehicular traffic. The goal is to encourage bicyclists and scooter riders to ride in the bike lane (and not the sidewalk).

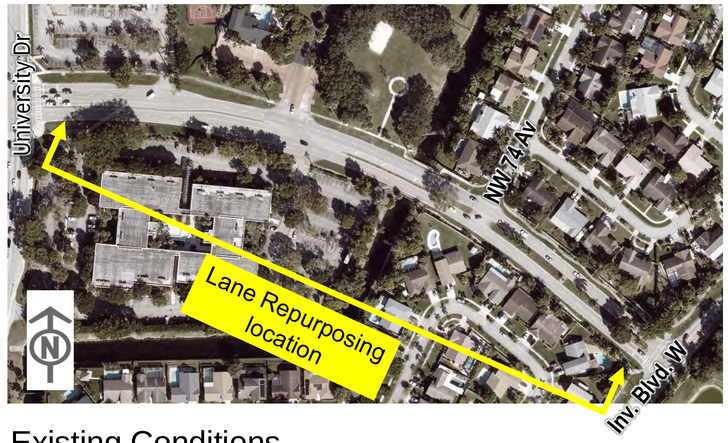
Lighting Recommendations

- Upgrade existing light poles to LED lights
- Add pedestrian assemblies with LED lights along the south side of corridor
- Intersection at Inverrary Blvd West:
  - Add light poles on the NE and SE corners with both street lighting and pedestrian lighting

LEGEND

- Convert to Right in / Right out
- Intersection Improvements
- Raised Crosswalk With RRFB
- Speed Humps
- Raised Intersection
- Supplemental Raised Intersection
- Roundabout
- Boundary Intersection Improvements
- Center Lane Median
- Lane Repurposing
- New Sidewalk
- Protected or Raised Bike Path

NW 44 St: Lane Repurposing - University Dr to Inverrary Blvd West

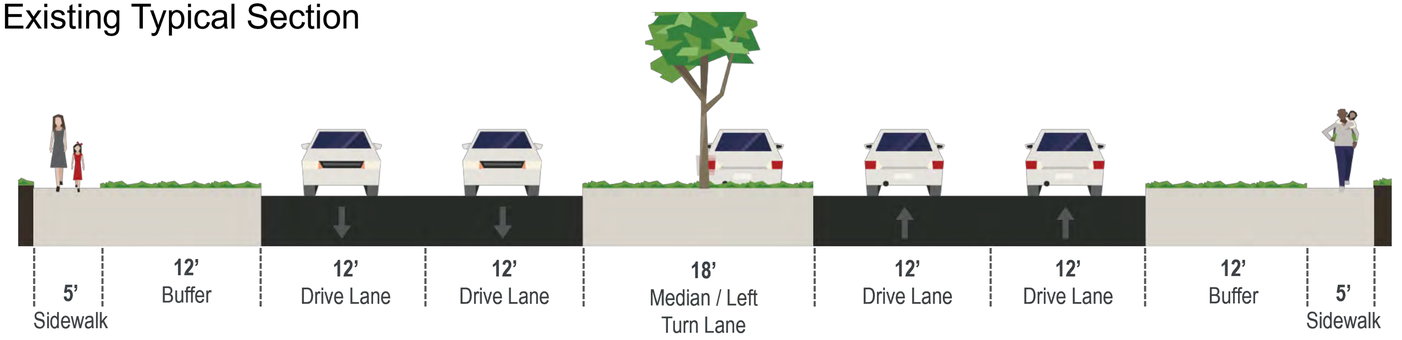


Existing Conditions

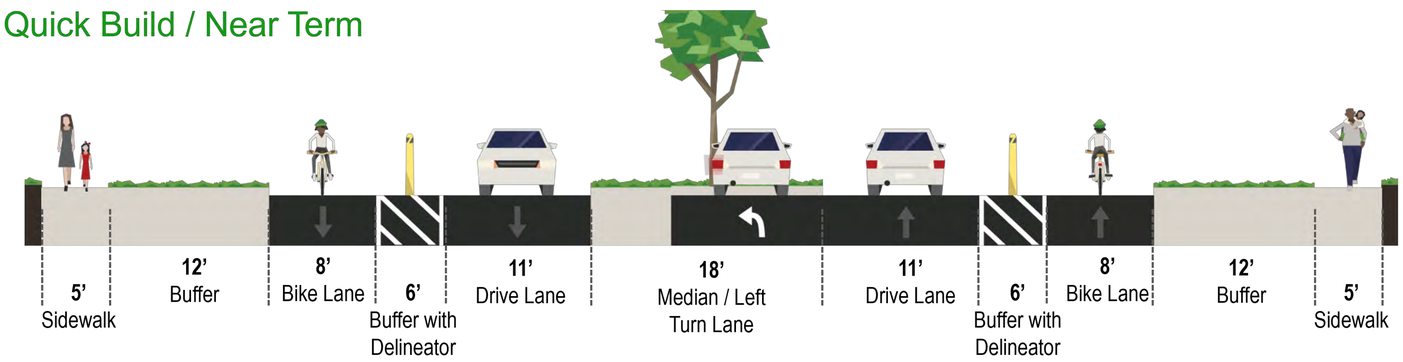
Example: Protected Bike Lane

- ✓ One lane in each direction repurposed
- ✓ Quick Build / Near Term Buffered Bike Lane
- ✓ Buffers between sidewalk, bike lane, and roadway may be landscaped, hardscaped, or a combination
- ✓ Existing landscaped median and left turn lanes maintained
- ✓ Existing sidewalk may be maintained to limit cost
- ✓ **Lane Repurposing limits would be determined in Design phase**

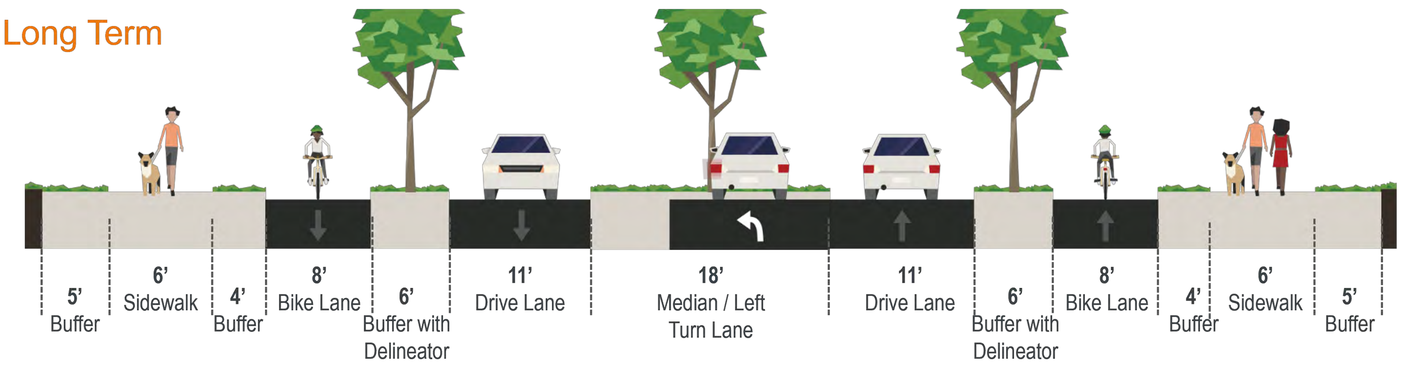
Existing Typical Section



Quick Build / Near Term



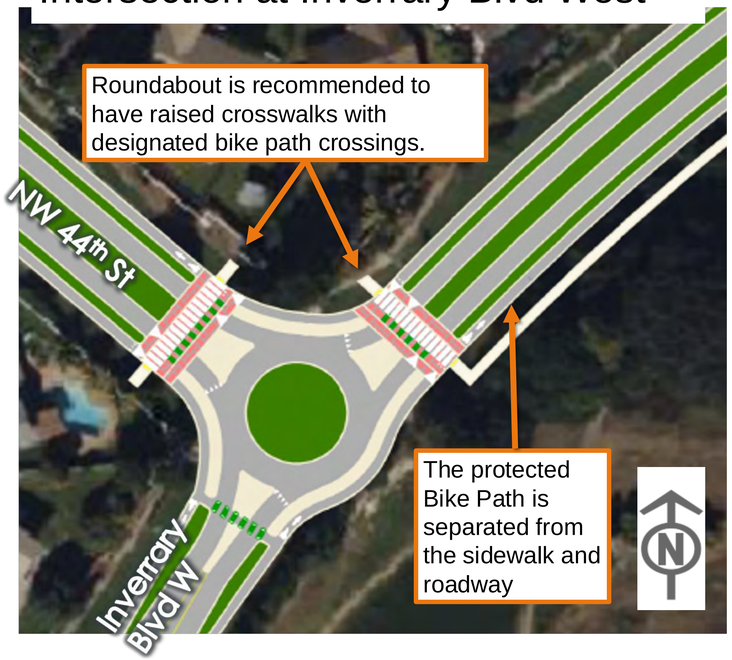
Long Term



NW 44 St: Inverrary Blvd West to Inverrary Blvd

Graphic Locations

Intersection at Inverrary Blvd West

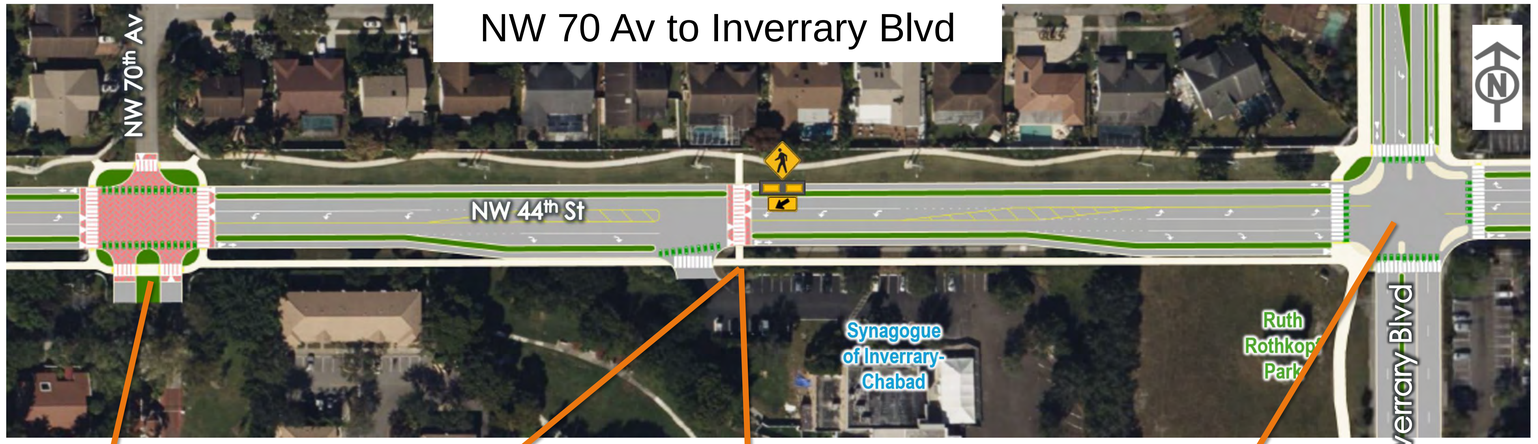


Roundabouts have many proven benefits (especially at intersections with high frequency of turning movements):

- Safety Improvement, particularly a reduction of left turn, angle (aka “T-Bone”) crashes, and head on crashes.
- Lower Speeds, which makes any crashes that do occur much less severe.
- Improved Traffic Flow & Efficiency
- Shorter Crossing distances for pedestrians
- Slower Speeds at Crossings
- Pedestrian Refuge at Crossings

- They are also notable for lower maintenance costs (vs maintenance associated with traffic signal equipment) and functionality During Power Outages.

NW 70 Av to Inverrary Blvd



Pedestrians walking to the Synagogue frequently cross the road at NW 70 Av to.

A raised intersection functions like a very long speed hump, slowing down drivers. It also increases the visibility of pedestrians. Curb extensions reduce the crossing distance for pedestrian and bicyclists and slow down driver’s turning movements.

Example: “Touchless” Crosswalk Signals

Some communities have installed touchless technology, such as infrared heat detection, to activate signals. This allows pedestrians to trigger the walk cycle simply by standing on a specific mat or ramp, without making an electrical connection.

Example: Crosswalk with In-Road Warning System lights

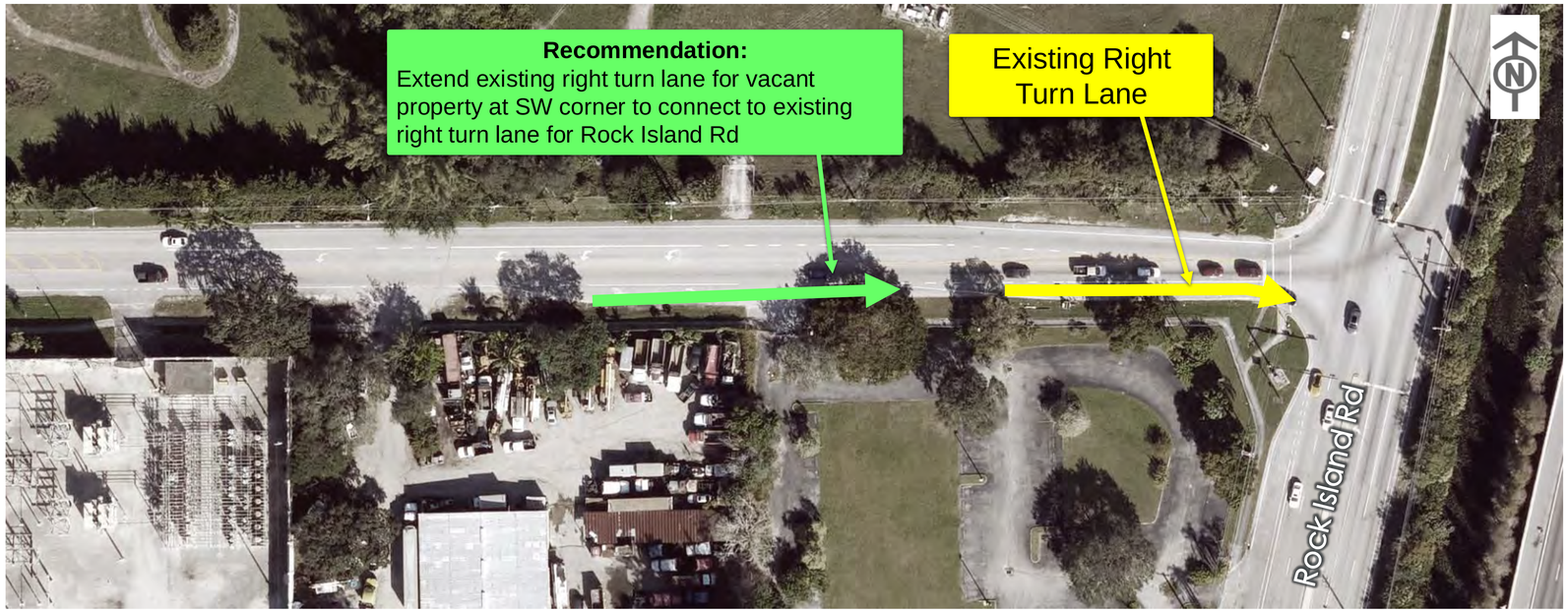
A crosswalk with In-Road Warning System (IRWL) lights up crosswalks as pedestrians cross the street using solar-powered flashing in-pavement LED and Rectangular Rapid Flashing Beacons.

Example: Protected Intersection

Intersection at Inverrary Blvd is recommended to be redesigned as a “Protected Intersection” with high visibility crosswalks, median refuge islands, and bicycle conflict striping.

NW 44 St: Rock Island Rd

- **Rock Island Rd is owned by Broward County**
- Rock Island Rd is anticipated to be improved in conjunction with the new FL Turnpike Interchange for Oakland Park Blvd (construction date unknown)
- **The TMP recommends the "Boundary Intersection Toolkit" be applied to the intersection**
- The TMP also includes a recommendation to extend the existing right-turn lane that leads to the vacant property at the SW corner, to connect to the right-turn lane for east bound to south bound right turns onto Rock Island Rd.



Boundary Intersections Toolkit

Turning Speeds

- Implement **protected left turn signal** phase
- **Harden the centerline** to guide left turns
- Add **curb extensions** / sharpen turn radii to slow speed for right turns (as space permits)

Walking Improvements

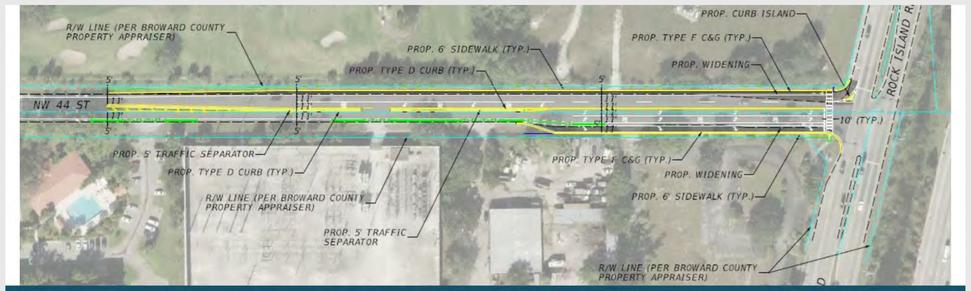
- Restripe crosswalk with **high visibility pavement markings**
- Add **leading pedestrian intervals**
- Upgrade to **directional curb ramps** and **tactical striping** where missing
- Construct **median refuge island** with median noses extended beyond the crosswalk; if refuge islands are not feasible, consider **hardened centerlines**

Biking Improvements

- **Bike boxes or protected intersections** can be added to help permit left-turn movements and increase comfort of people biking
- Add **green pavement markings**

Lauderhill's NW Neighborhood Multimodal Master Plan included a concept for Rock Island Rd intersection:

- Widen NW 44 St into south swale to accommodate a 2nd East Bound to North Bound Left Turn lane
- Lengthen the East Bound to South Bound Right Turn lane
- Widen NW 44 St into the NW corner sidewalk and swale to accommodate an "uncontrolled" South bound to West bound Right Turn lane (channelized with median pork chop)
- **This intersection design is consistent with the TMP recommendations *provided the Toolkit recommendations are included.***
- A separate traffic and queueing analysis would be required and should be requested by the City during the redesign of Rock Island Rd in conjunction with the Turnpike Interchange project.

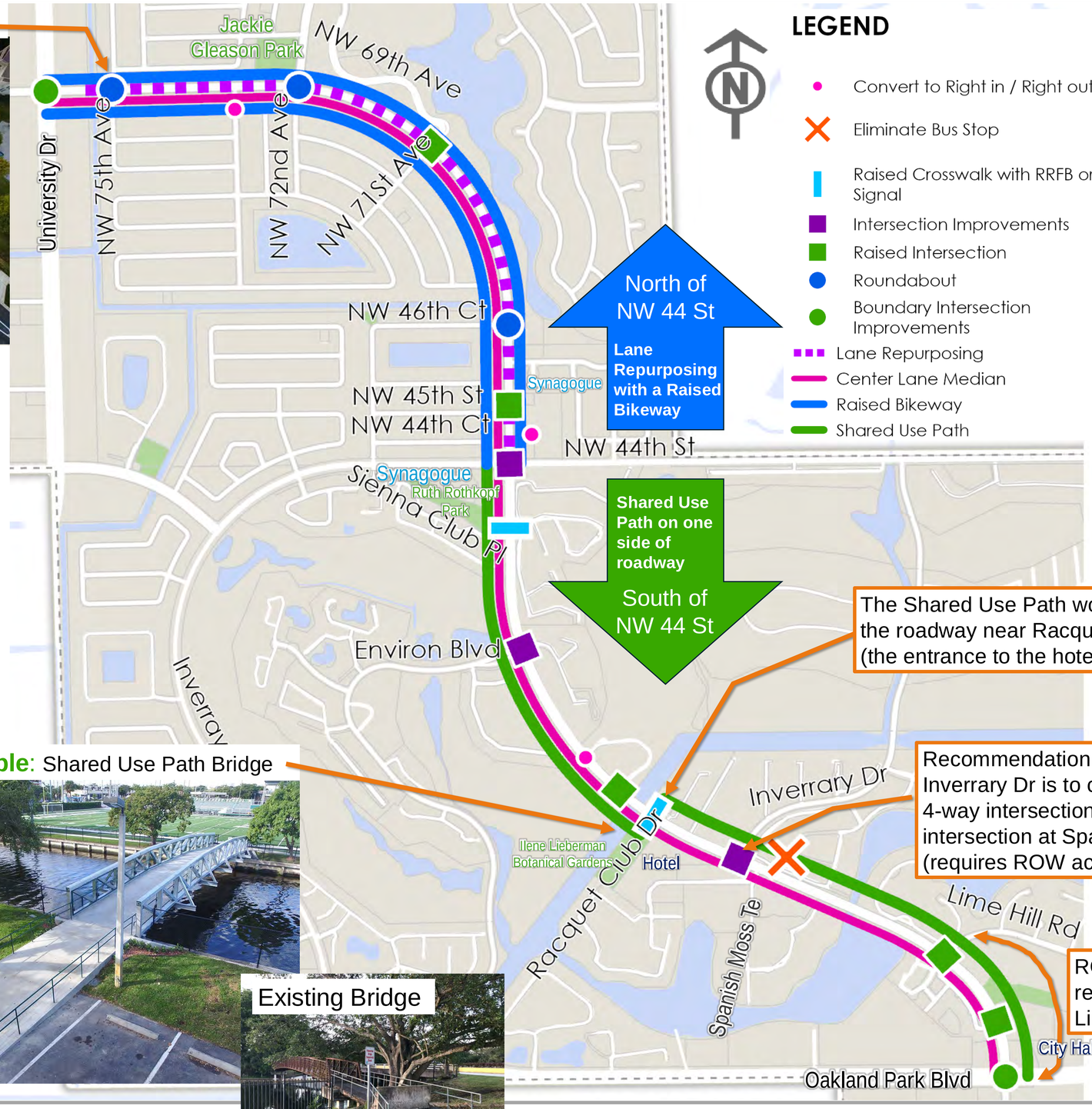


CITY OF LAUDERHILL NW NEIGHBORHOOD MULTIMODAL MASTER PLAN

Inverrary Blvd

Example: Roundabout

North of NW 44 St the recommendations include lane repurposing (from 4 travel lanes to 2 travel lanes), with a series of roundabouts and raised intersections intended to slow down drivers.
A roundabout is recommended at NW 75 Av to act as a gateway feature, reminding drivers they are entering a neighborhood roadway. The roundabouts improve safety and lower speeds, while addressing traffic flow and efficiency. *The roundabouts are only viable with the recommended lane repurposing.*

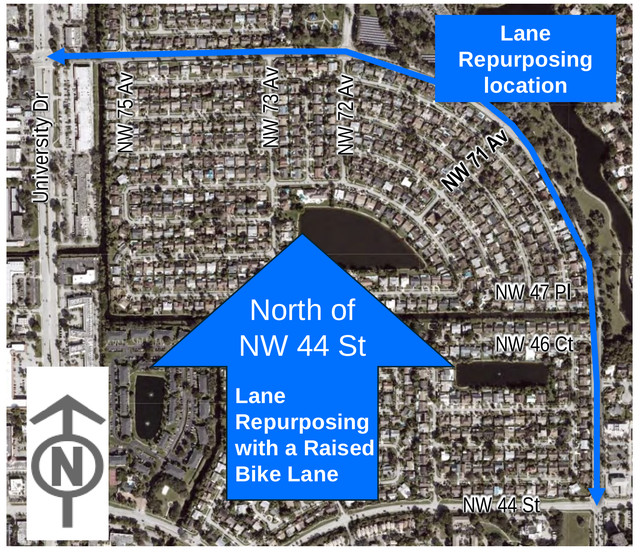


The existing bridge over the Middle River (connecting to the Ilene Lieberman Botanical Gardens) is currently closed. The recommendations include replacing the bridge with a bridge designed for a Shared Use Path.

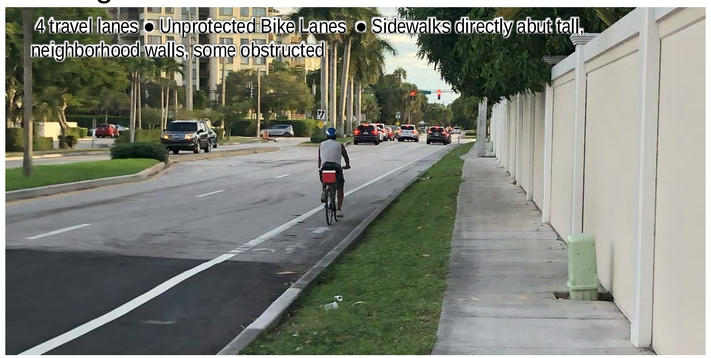
Example: Shared Use Path Bridge

Existing Bridge

Inverrary Blvd: Lane Repurposing - University Dr to NW 44 St



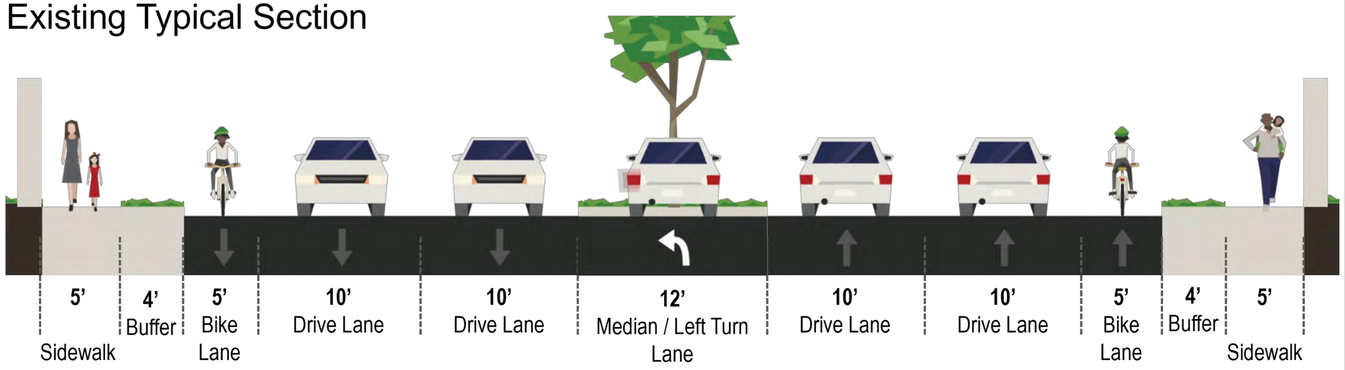
Existing Conditions



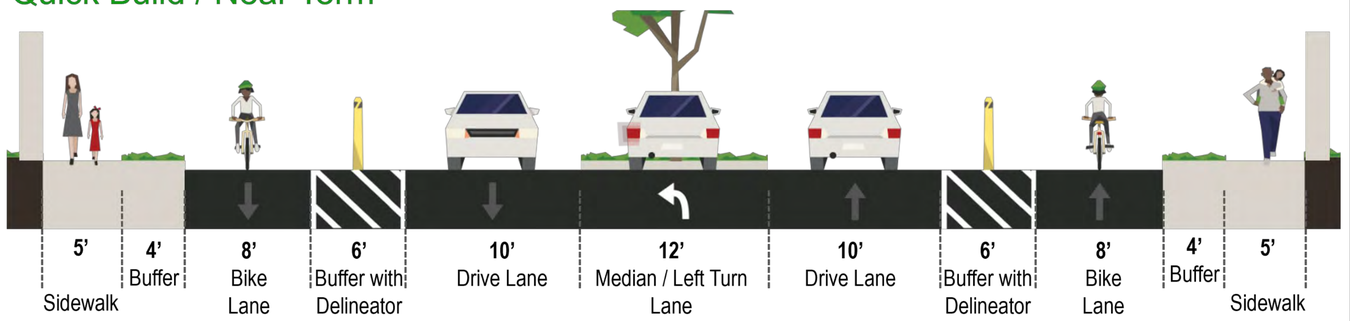
Example: Raised Bike Lane

- ✓ One lane in each direction repurposed
- ✓ Quick Build / Near Term Buffered Bike Lane
- ✓ Buffers between sidewalk, bike lane, and roadway may be landscaped, hardscaped, or a combination
- ✓ Existing landscaped median and left turn lanes maintained
- ✓ Existing sidewalk may be maintained to limit cost
- ✓ **Lane Repurposing limits would be determined in Design phase**

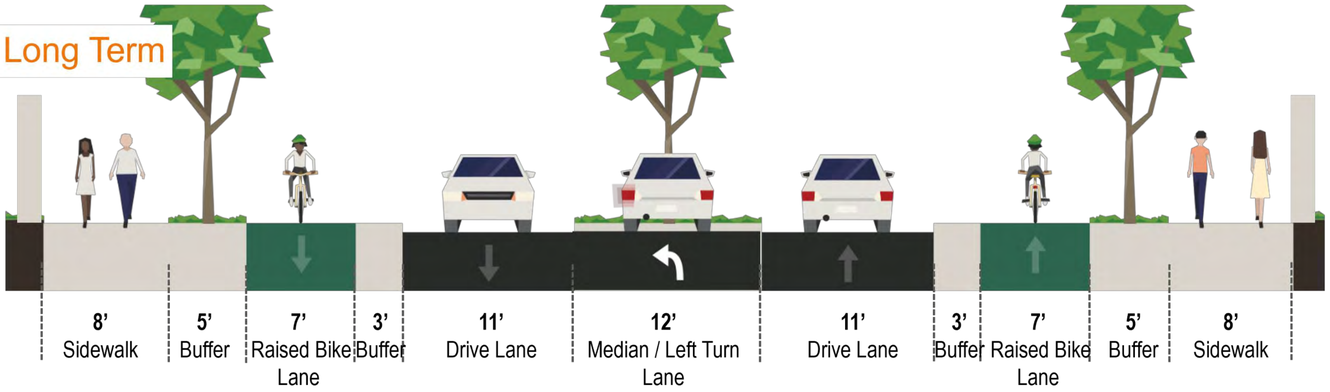
Existing Typical Section



Quick Build / Near Term

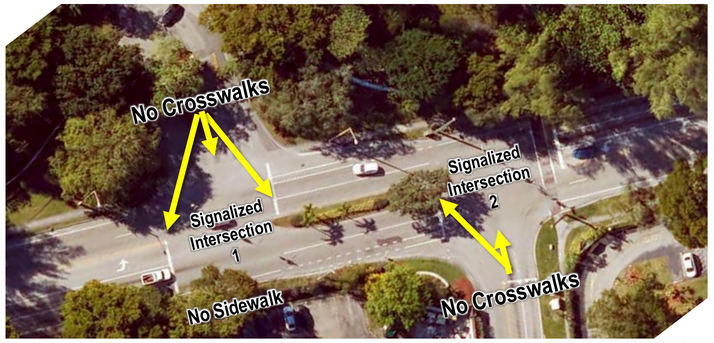


Long Term



Inverrary Blvd: Spanish Moss Te to Middle River Bridge

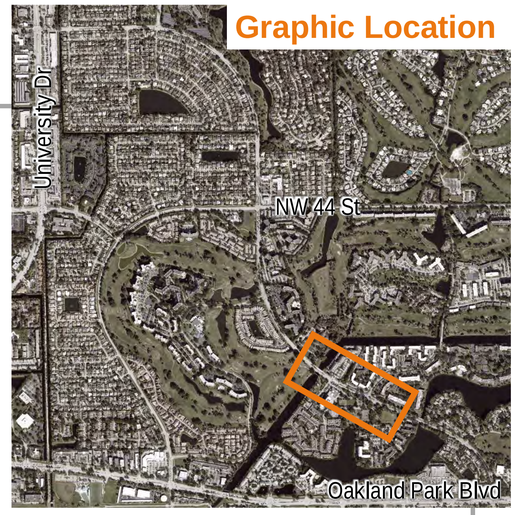
Existing Condition: Spanish Moss Te to Inverrary Dr

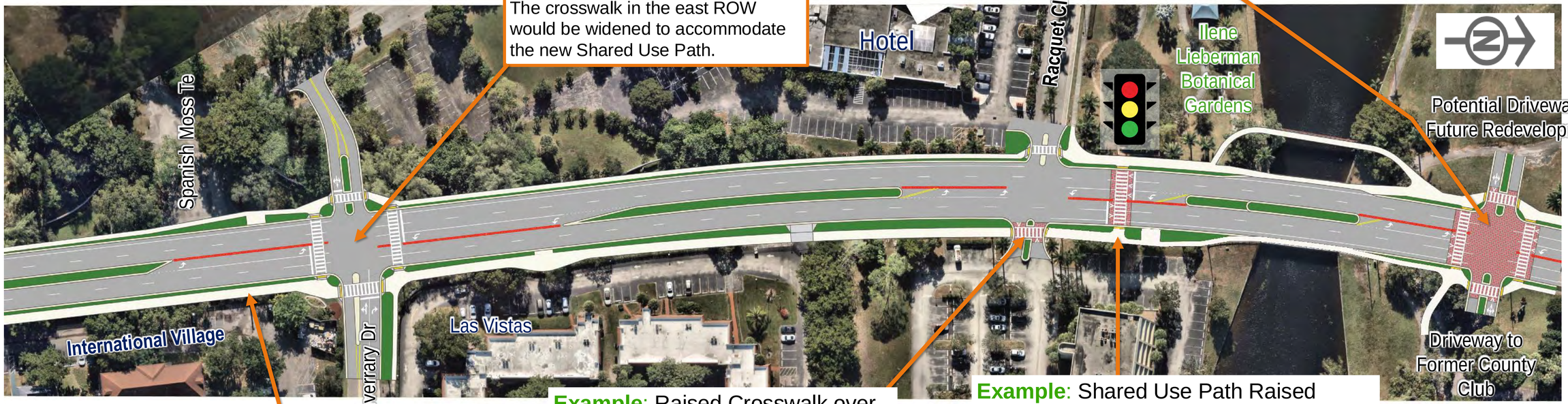


Inverrary Dr: The recommendation is to replace the side-by-side traffic lights (Inverrary Dr + Spanish Moss Te) with one single, standard four-way intersection. This new intersection would connect Inverrary Dr to Racquet Club Rd. ***Right-Of-Way (ROW) acquisition would be required***.
The redesigned intersection is recommended to have high visibility crosswalks on all 4 legs, median refuge islands and lane hardening. The crosswalk in the east ROW would be widened to accommodate the new Shared Use Path.

The former golf course is anticipated to be redeveloped which may include new residential developments on both sides of Inverrary Blvd. A new four-way signalized intersection is depicted to demonstrate a recommended design and integration with the Shared Use Path

Graphic Location



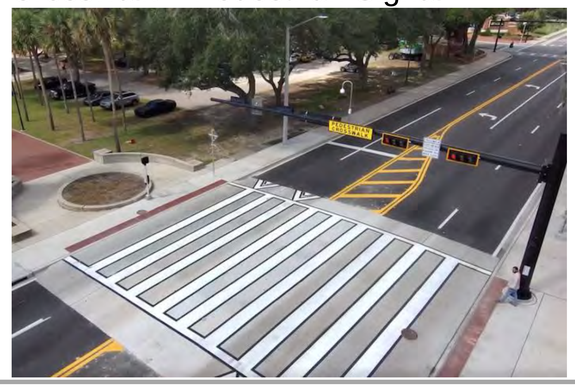


Example: Shared Use Path

Example: Raised Crosswalk over Side Street

Raised crosswalks are recommended at side streets intersecting the shared use path

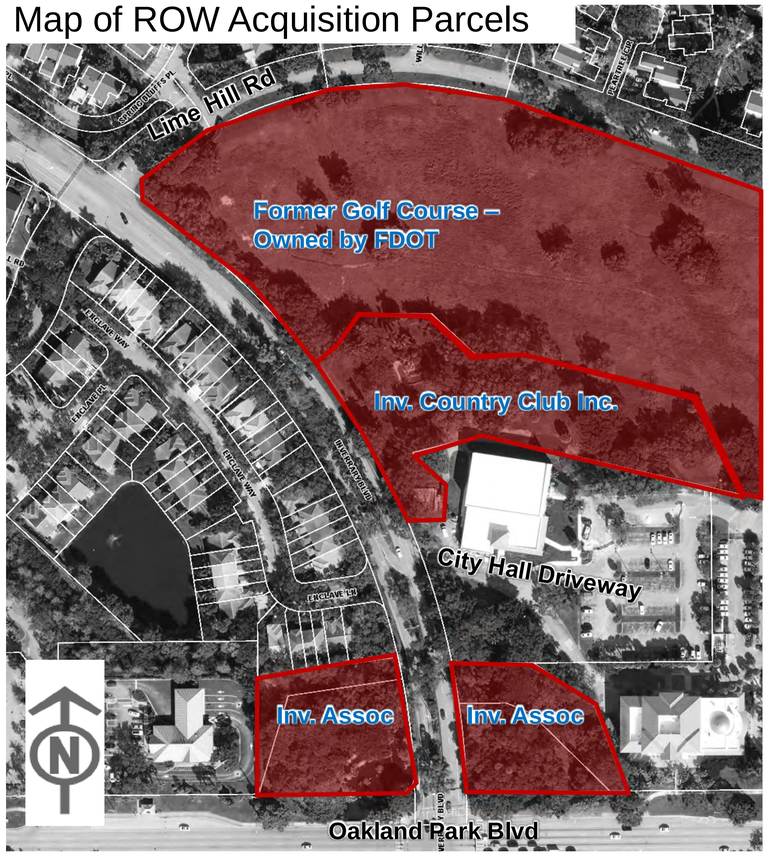
Example: Shared Use Path Raised Crosswalk + Pedestrian Signal



Just north of Racquet Club Dr, the **Shared Use Path would cross the roadway**. A raised crossing with a Pedestrian Signal is recommended.

Inverrary Blvd: Right-Of-Way (ROW) Acquisition – Lime Hill Rd to Oakland Park Blvd

Map of ROW Acquisition Parcels

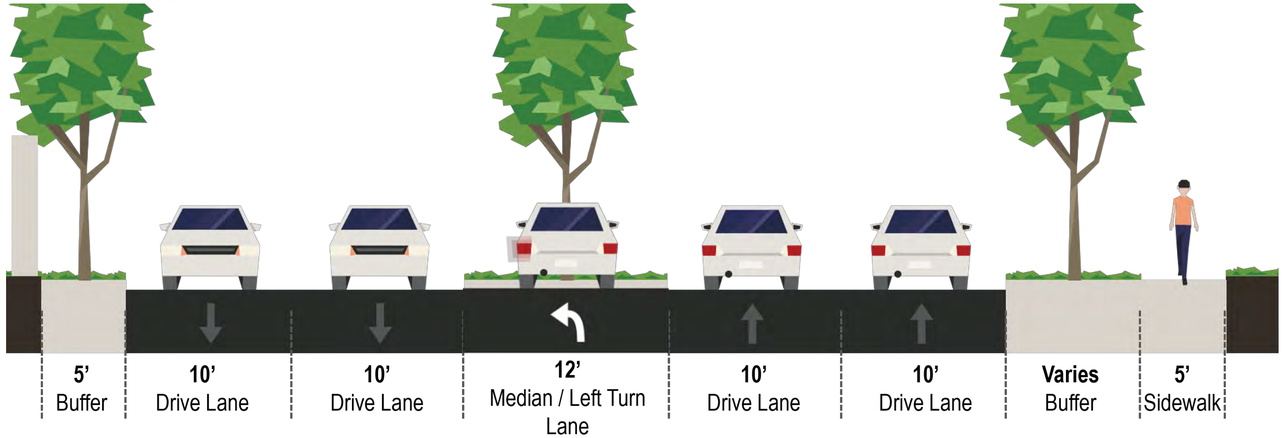


Existing Conditions: West ROW

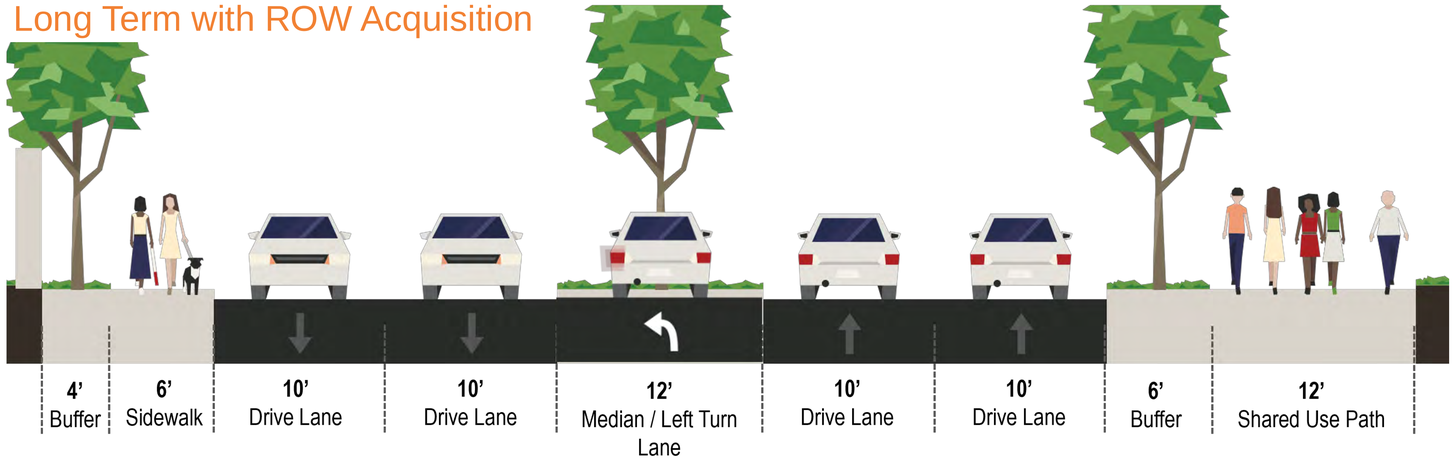
No Bike Lanes ● No sidewalk ● Constrained ROW

- ✓ To accommodate a sidewalk in the west ROW from Lime Hill Rd to Oakland Park Blvd, ROW acquisition is necessary. The additional ROW will also accommodate the recommended Shared Use Path in the east ROW.
- ✓ The impacted BCPA folios and property owners are:
  - 494123010120 – FDOT
  - 494123010130 – Inverrary Association
  - 494123010060 – Inverrary Association
  - 494123010080 – Inverrary Country Club Inc.
- ✓ The additional ROW may also accommodate additional travel / turn lanes onto Oakland Park Blvd.
- ✓ **The specific limits of the Right-of-way acquisition would be determined in future project phase**

Existing Typical Section: Lime Hill Rd to Oakland Park Blvd



Long Term with ROW Acquisition

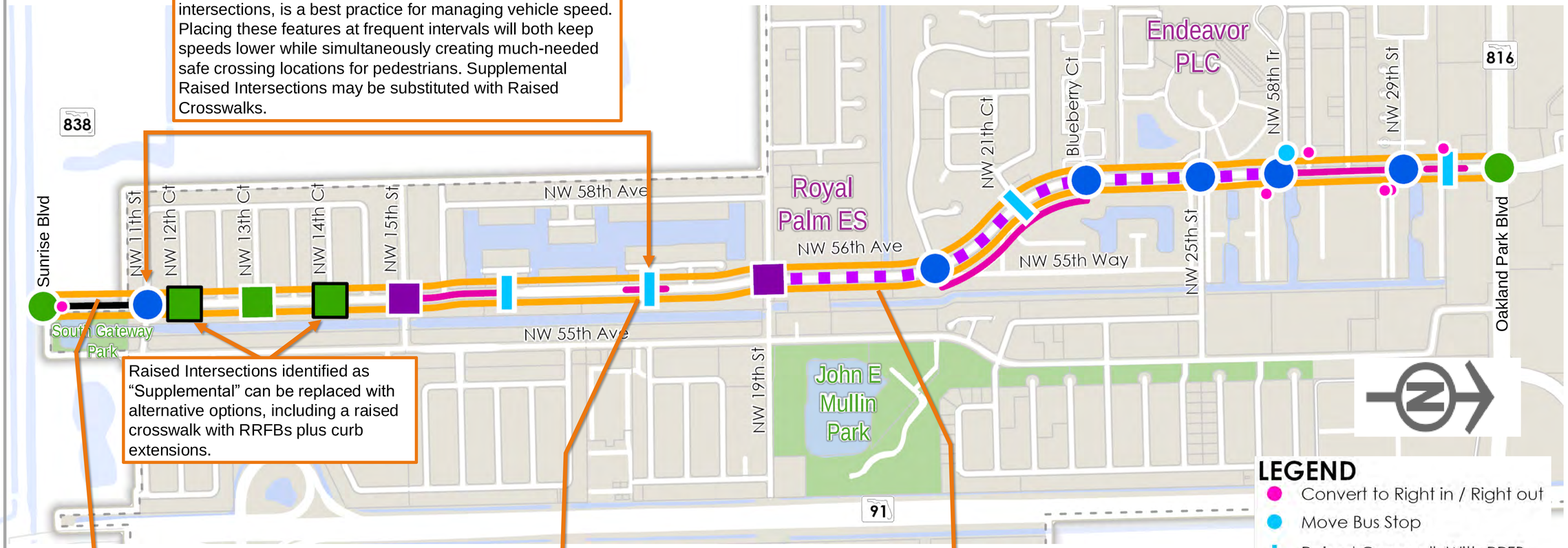


Notes for Center Landscaped Median:

- North of the City Hall driveway, the roadway would be shifted approximately 5 ft to the east resulting in removing and rebuilding the center landscaped median.
- **Between the City Hall driveway and Oakland Park Blvd, the center landscaped median is intended to remain.**

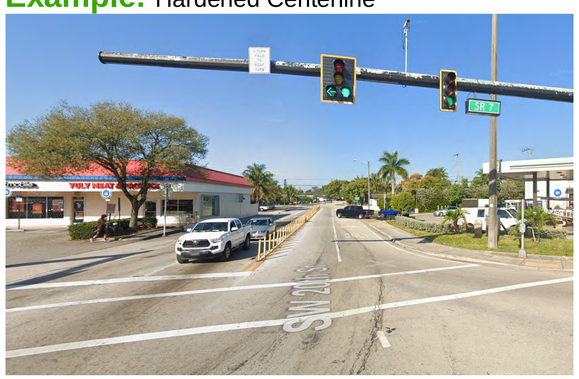
NW 56 Av

Using raised features, including crosswalks and intersections, is a best practice for managing vehicle speed. Placing these features at frequent intervals will both keep speeds lower while simultaneously creating much-needed safe crossing locations for pedestrians. Supplemental Raised Intersections may be substituted with Raised Crosswalks.



Raised Intersections identified as “Supplemental” can be replaced with alternative options, including a raised crosswalk with RRFBs plus curb extensions.

Example: Hardened Centerline



Hardening the roadway centerline with a raised median or plastic bollards is recommended to eliminate illegal left turns into business driveways

Example: Raised Crosswalk at Spot Median

Combining a raised crosswalk with a median strip in the middle gives pedestrians a safe place to wait if they need to pause while crossing the street.

Example: Raised Bike Path

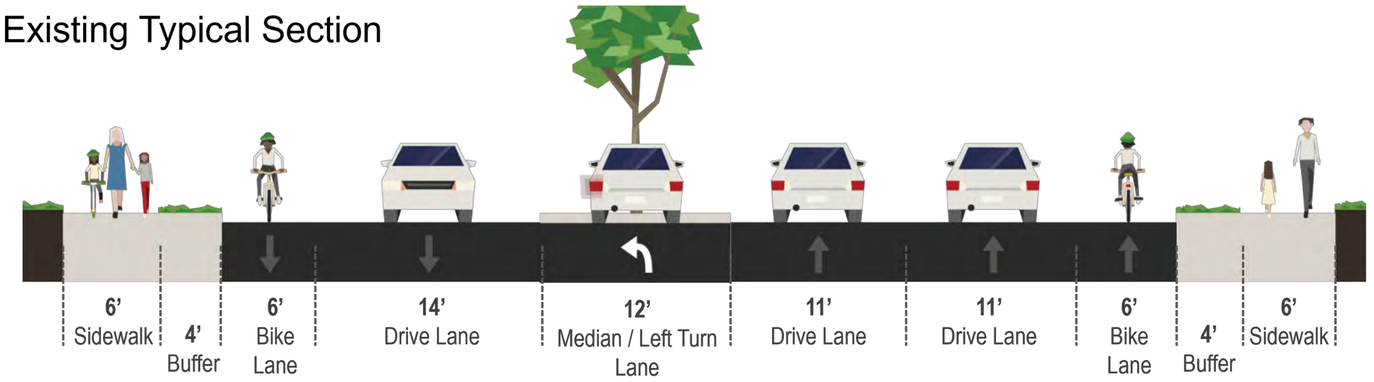
The bike path is raised up to be level with the sidewalk. By using distinct materials and landscaping, the bike path is clearly recognizable and separate from the walking space.

NW 56 Av: Lane Repurposing – NW 19 St to Oakland Park Blvd

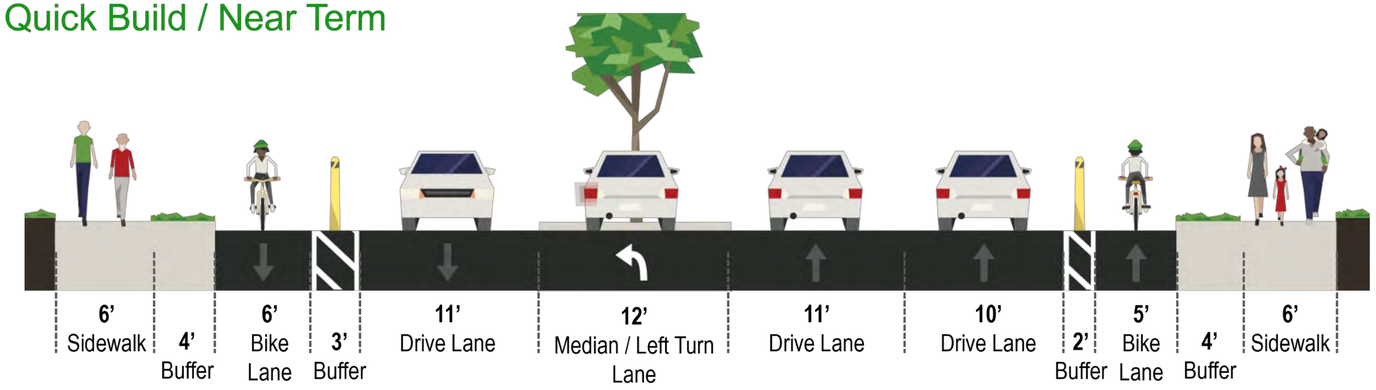
- ✓ One North Bound lane repurposed
- ✓ South Bound lane narrowed
- ✓ Quick Build / Near Term Buffered Bike Lane
- ✓ Buffers between sidewalk, bike lane, and roadway may be landscaped, hardscaped, or a combination
- ✓ Existing landscaped median maintained during Quick Build; Rebuilt during Long Term project
- ✓ **Lane Repurposing limits would be determined in Design phase**

Existing Conditions

Existing Typical Section

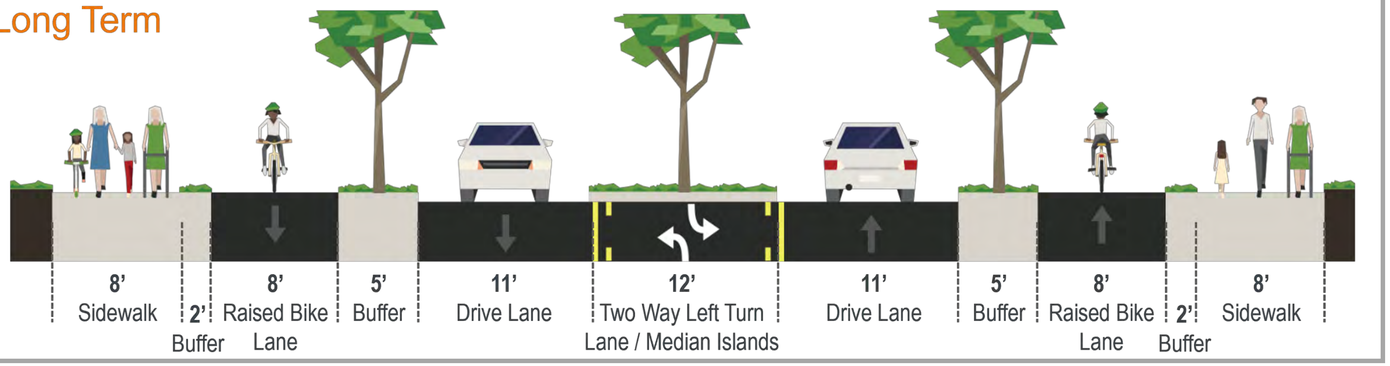


Quick Build / Near Term



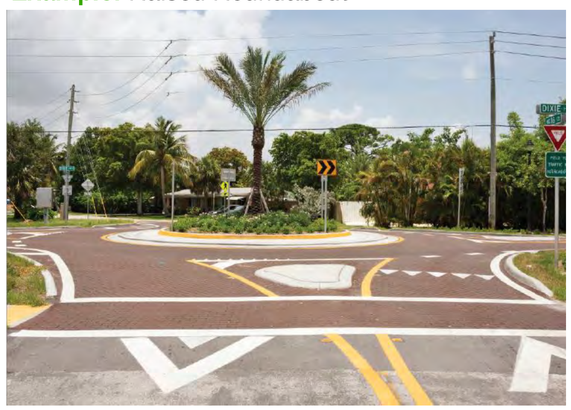
Example: Quick Build Buffered Bike Lane

Long Term



NW 56 Av: NW 11 St to NW 14 St

Example: Raised Roundabout



A raised roundabout is recommended at NW 11 St to handle frequent left turns safely and efficiently. The roundabout will also act as a visible "gateway" that alerts drivers to slow down as they enter the neighborhood. Due to its adjacency to Sunrise Blvd, RRFBs are recommended for the northern and southern crosswalks

Example: Crosswalk with Median Refuge and RRFBs

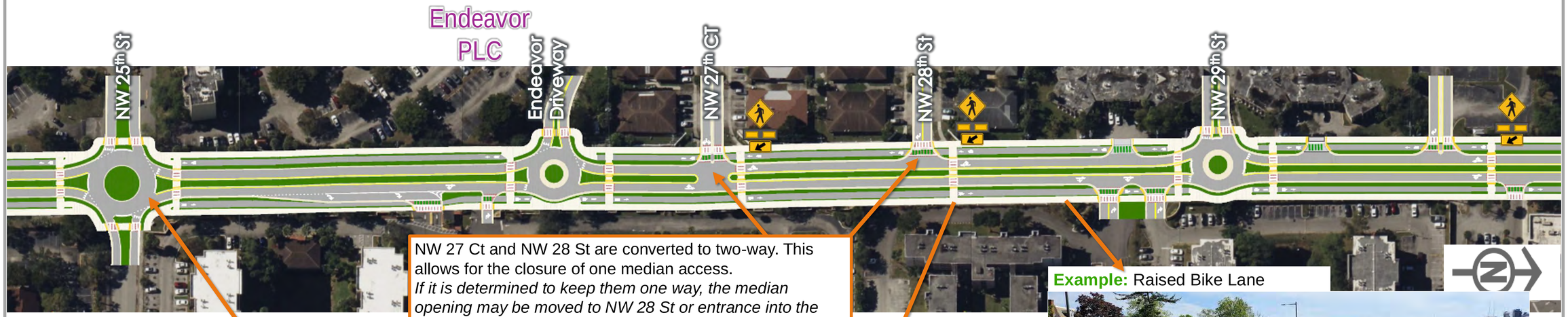
This example shows a Quick Build crosswalk, that utilizes a “spot” median. This type of crosswalk can be installed at a lower cost and (typically) a shorter timeframe.

Example: Bike lane Raised to sidewalk level

This example shows a painted bike lane converted into a bike lane (at sidewalk height). The sidewalk and bike lane are designed so that the elevations does not drop at each driveway.

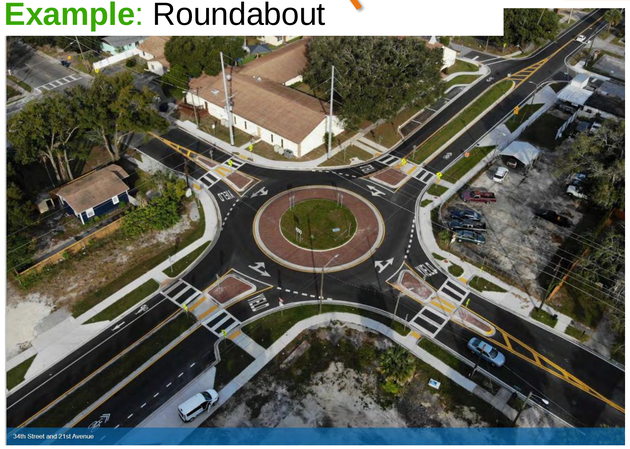
NW 56 Av: NW 25 St to Oakland Park Blvd

Graphic Location



NW 27 Ct and NW 28 St are converted to two-way. This allows for the closure of one median access.
If it is determined to keep them one way, the median opening may be moved to NW 28 St or entrance into the neighborhood may be accommodated via u-turns at the roundabouts

Example: Roundabout

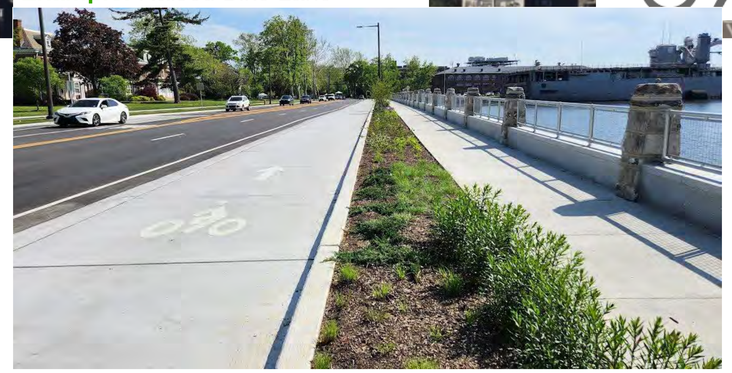


A series of roundabouts are recommended. Roundabouts are proven to greatly reduce injury crashes and improve safety and convenience for people walking and biking. They also can provide improved efficiency vs signalized intersections.

Example: Raised Crosswalk

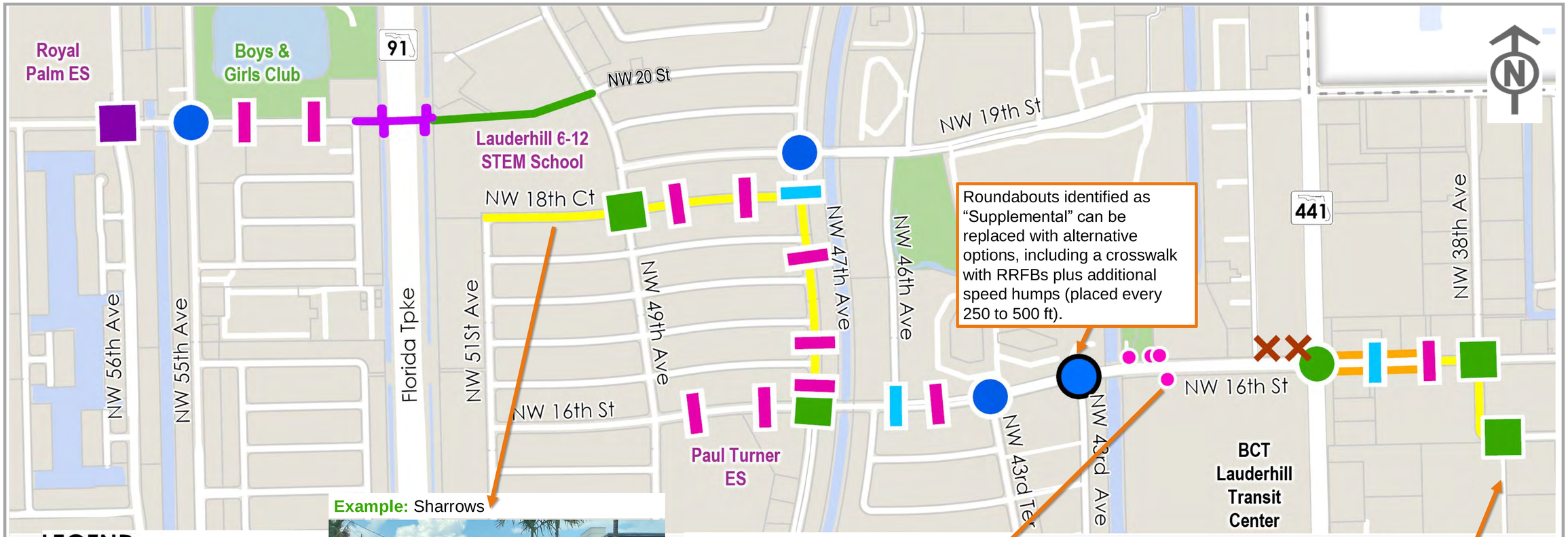
Raised mid-block crosswalks not only increase safety and convenience to pedestrians but are a critical feature to slow down traffic. The crosswalks may have RRFBs or be signalized.

Example: Raised Bike Lane



The space from the repurposed travel lane will be converted into a raised bike lane. Bicyclists and scooter riders would no longer feel the need to ride on the sidewalk.

NW 19 St to Central Broward Park



Example: Sharrows

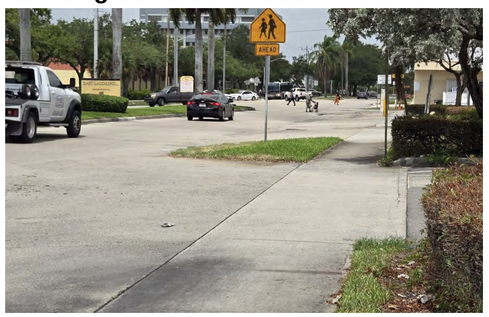
LEGEND

- Convert to Right in / Right out
- Remove Access Point
- Raised Crosswalk With RRFB
- Speed Humps
- Raised Intersection
- Intersection Improvements
- Roundabout
- Boundary Intersection Improvements
- Optional Roundabout
- Add Sharrows & Wayfinding
- Improvments to Pedestrian Bridge
- Protected or Raised Bike Path
- Shared Use Path

Lighting Recommendations

- Upgrade existing light poles to LED lights
- Repair broken light fixtures

Existing Conditions: East of NW 43 Av



East of NW 43 Av, NW 16 St widens to a 4-lane roadway. The recommendations include converting driveways into right in / right out only plus closing redundant driveway locations. This is intended to reducing conflicts between pedestrians, bicyclists, and cars.

City is in the process of acquiring Right-of-way to create a roadway directly connecting NW 38 Av to the Central Broward Park. This is a great opportunity to create a low-stress, pedestrian and bicycle route to the park.

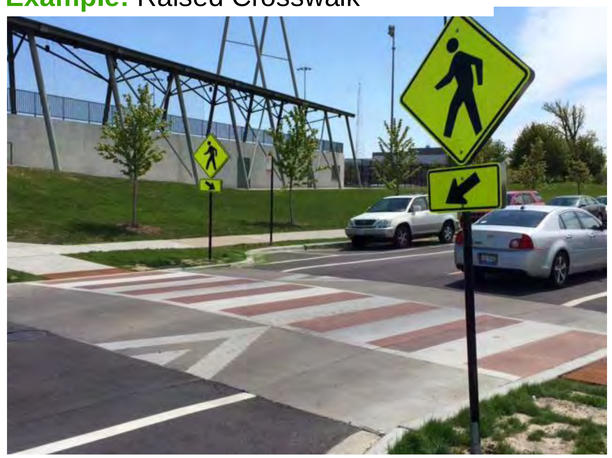
Example: Bicycle Route Signage

NW 19 St to Central Broward Park: NW 16 St - NW 47 Av to NW 43 Te

Example: Median Refuge

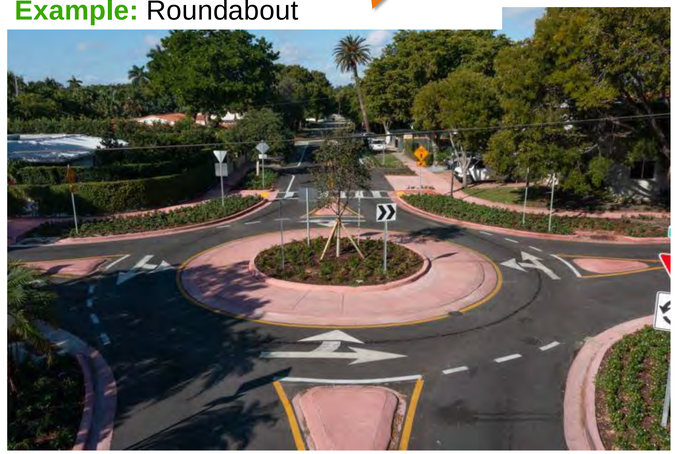
This intersection includes walk to school for Paul Turner Elementary and BCT Bus Stops for routes 36 and 81.
The recommendations include raising the intersection, curb extensions, and a median refuge island on the southern leg.

Example: Raised Crosswalk



A raised midblock crosswalk, with RRFB, is intended to provide a safe and convenient crossing location for transit riders, while also slowing down the roadway.

Example: Roundabout



A 3-legged roundabout is planned for NW 16 Street at NW 43 Te to act as a visible "gateway" that forces drivers to slow down as they enter the neighborhood. The roundabout includes raised crosswalks and a mountable center apron that allows large BCT (bus) vehicles to easily navigate the turn.

NW 19 St to Central Broward Park: Pedestrian Bridge

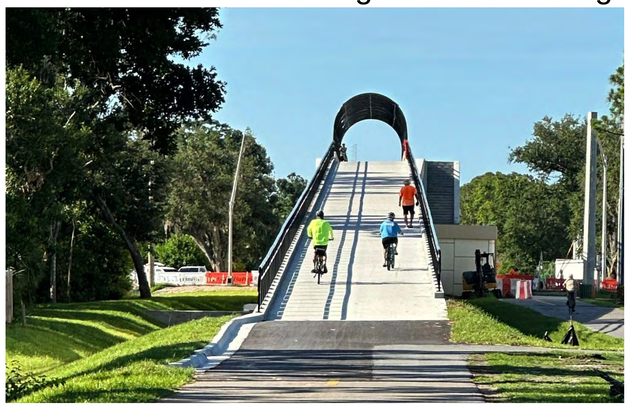
Bridge Entrance Ramps

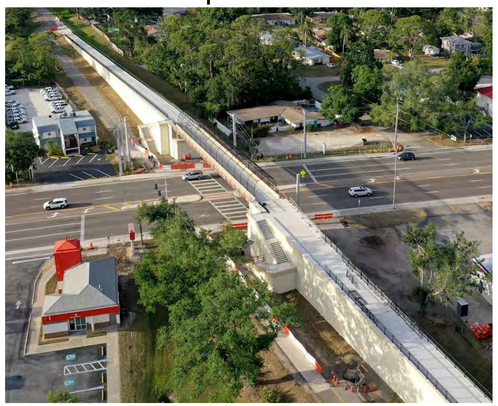
Existing Conditions


Eastern Entrance


Western Entrance

Recommendation: Straightened Out Bridge Entrance Ramps





- **Example shown is recently completed Shared Use Path Bridge over Bee Ridge Rd (part of FL Legacy Trail) – construction complete in 2025.**
- Entrance ramps are approximately 700 ft in length
- Ramps are wide enough for people biking to comfortably pass people walking
- A direct staircase is provided in addition to a rolling option to cross (staircase under construction at time of bridge opening)


Bollards can be added to ramps entrance to prevent small vehicles from using the bridge

Approach Areas / Access

- Activate approach areas -Add amenities that **increase visibility of access points**
- Existing eastern access path: **Remove vegetation that blocks sightlines**
- **Relocate eastern access** to visible location *(northern end of STEM 6-12 building to existing gate at NW 49 Av and NW 20 St)*

Bridge Design

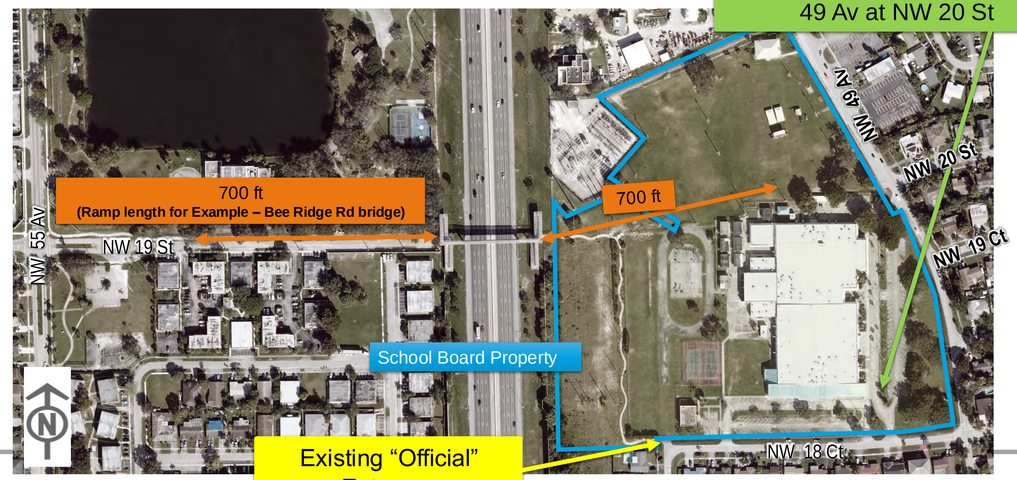
Existing Conditions

Recommendation: Widened Bridge to Shared-Use Path

- **Example shown is recently completed Shared Use Path Bridge over Bee Ridge Rd (part of FL Legacy Trail) – construction complete in 2025.**
- Bridge meets Shared Use Path standards + Bridge is enclosed

Recommendation: Relocate "Official" entrance to gate at NW 49 Av at NW 20 St

Recommendation: Relocate Eastern Entrance



Sunrise Blvd

Existing Conditions

Example: Signalized Midblock Crosswalk with Center Lane Median

Signalized crosswalk leading to a median strip in the middle gives pedestrians a safe place to wait. Utilizing the existing SFWMD bridge, the goal is to connect the new Shared Use Path to the Swap Shop’s western entrance.

LEGEND

- Convert to Right in / Right out
- Add Shared Use Path Access Point
- SFWMD Bridge Improvements
- New Pedestrian Bridge
- Raised Crosswalk With RRFB
- Signalized Midblock Crossing
- Intersection Improvements
- Evaluate Installing a Signal
- Separate Project
- Center Lane Median
- Shared Use Path
- SUP (In Construction)
- Lauderhill Study Area

Sunrise Blvd

Swap Shop West Entrance to NW 34 Av

Example: Shared Use Path Bridge over Canal

The recommendations include establishing a pedestrian bridge at the location of the existing SFWMD canal maintenance bridge. The bridge should accommodate both pedestrians and bicyclists.

Example: Hardened Centerline

Recommended improvements to the intersection at NW 34 Av are intended to safely accommodate both existing bicyclist activity ***and the increase in bicycle traffic expected from the new Shared Use Path.***

Other recommended safety improvements include:
- Median refuge islands where feasible
- Hardened centerlines, both to slow down turning movements but also to provide a place for pedestrians to wait, if a refuge island is not feasible.

Swap Shop East Entrance

BCT Bus Stops are located at the SE and NW corners of the intersection at the eastern driveway. In addition to managing left turns to / from the Swap Shop and the southern parking lot, signalizing the intersection will provide a designated crosswalk for transit riders.

Swap Shop pedestrian bridge is currently non-operational. It is also located behind fence for southern parking lot.