Broward MPO
Metropolitan Planning Organization

Broward Complete Streets Advisory Committee (CSAC) Meeting

Monday, July 8, 2019

BROWARD COMPLETE STREETS
Safer, Healthier Streets for ALL Users

HOUSEKEEPING

- Please make sure you have signed in and have an agenda.
- This meeting is being recorded.
- Please introduce yourself and the organization(s) you represent.
- SLIDO Event Code: #JulyCSAC

MPO CURRENT EFFORTS

- Let’s Go Biking! 2019
- Walking Audits
- Training Opportunities
- CSAC Survey Questions

LET'S GO BIKING! 2019

Saturday, June 1, 2019

- Took place in the City of Oakland Park
- Family-oriented activities: Escorted bike ride, bike rodeo, complimentary bike rentals, helmet-fittings, food demonstrations, raffle/giveaways
- Total 67 biking participants signed waiver

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BROWARD COMPLETE STREETS
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WALKING AUDITS – Completed

City of Pembroke Pines

- Saturday, June 15, 2019
- Total Number of Participants: **25**
- Route: University Drive from Taft Street to Pines Boulevard

WALKING AUDITS – Update

City of Hallandale Beach

- Walking Audit Report is ready!
- Please take a look at the results after evaluating Dixie Highway/N/S 21st Avenue/NE/SE 1st from County Line Road to Hallandale Beach Blvd.
  - Visit the MPO website to download: http://www.browardmpo.org/index.php/walking-audits

TRAINING OPPORTUNITIES

Safe Routes to School Application Workshop

- August 13, 2019
- 9:00 a.m. – 12:00 p.m.
- District 4 Auditorium
- 3400 West Commercial Boulevard, Fort Lauderdale
- To register: https://www.fdot.gov/safety/2a-programs/srts-workshop
- For more information on Safe Routes to School (SRTS) visit: http://www.srtsfl.org/

This workshop explains the SRTS Program, gives you tips on how to: structure a competitive grant, complete the application, and improve its chances of being selected for SRTS funding this cycle. Local staff will be going over areas that need improvements seen in the previous application cycle. Your local SRTS Educators will be letting you know what is going on. It will be worth your time in attending.

We will be introducing GAP (Grant Application Process). **ALL** applications will have to go through this process. No exceptions. This is your opportunity to see how to log in and navigate the system. We will also be going over the revised application, highlighting new requirements.

FDOT District 4 staff will be on hand to answer your questions as well as local SRTS Trainers.

CSAC SURVEY QUESTIONS

Complete Streets Advisory Committee (CSAC) Survey Questions

1. How often have you attended the bi-monthly Complete Streets Advisory Committee (CSAC) Meeting?
    a. Frequently (5+ times per year)
    b. Occasionally (2 to 4 times per year)
    c. Rarely (fewer than 1 time per year)

2. Do you feel that CSAC has served as a forum for exchanging new ideas and learning from each other about project experience?
    a. If yes, what are some ways that you have received value from CSAC attendance related to your role and responsibilities within your organization?

    b. If no, what are some ways that CSAC attendance can be of more value to you?

3. Do you feel that CSAC provides members an opportunity to showcase their Complete Streets efforts?
    a. About the right amount of member presentations
    b. Too many member presentations, we should focus more on securing outside speakers
    c. Too few member presentations, we should see more member projects showcased

4. Do the presentations at CSAC make an impact to your roles and responsibilities within your organization?
    a. Yes
    b. No

5. Have you been able to participate in any of the webinars related to Complete Streets when emails are distributed through the CSAC listserve?
    a. Yes
    b. No

July 2019

Broward MPO
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BROWARD COMPLETE STREETS
Safer, Healthier Streets for ALL Users

Complete Streets Guidelines 2.0

Presented by:

Stewart Robertson

Kimley-Horn

CSAC Meeting
July 8, 2019

Broward MPO
Metropolitan Planning Organization
Move People & Goods | Create Jobs | Strengthen Communities

BROWARD COMPLETE STREETS MASTER PLAN
Better Streets • Better Communities • Better Broward

Complete Streets
Design Guidelines 2.0

Better Streets | Better Communities | Better Broward

Purpose

The purpose of the Broward MPO Complete Streets Design Guidelines 2.0 is to add facility types, techniques, and information that is new since the 2012 Broward Complete Streets Guidelines. It incorporates changes adopted by partner agency policies and standards, including FDOT Context Classification criteria and includes detailed specifications for preferred recommended facilities and design elements, including typical sections.

The Design Guidelines 2.0 complements the Complete Streets Master Plan because it provides design guidance for implementing Complete Streets projects.

Buffered bike lanes on Nob Hill Road from SR-84 to Broward Boulevard

Contents

Why Complete Streets?

- Safety
- Equity
- Capacity
- Public Health
- Sustainability

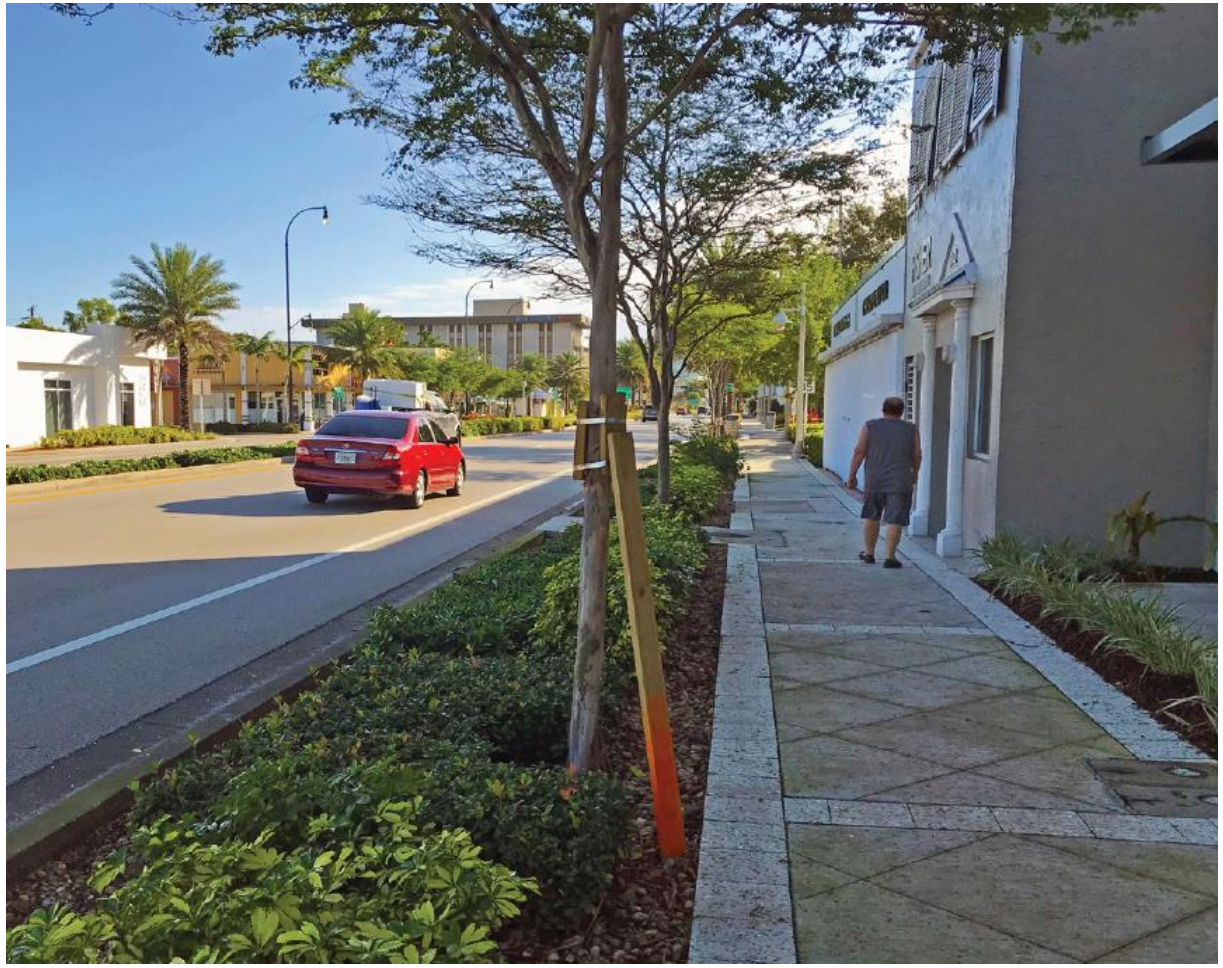
Sidewalk Realm Design

Example of well-designed Sidewalk Realm
Photo by Kimley-Horn

Frontage Zone | Pedestrian Zone | Furnishing Zone

Sidewalk Realm Design

- Transit Boarding Areas
- Lighting
- Shade
- Green Infrastructure
- Access Management
- Bicycle Facilities
- Micromobility
- End-of-Trip Facilities
- Placemaking



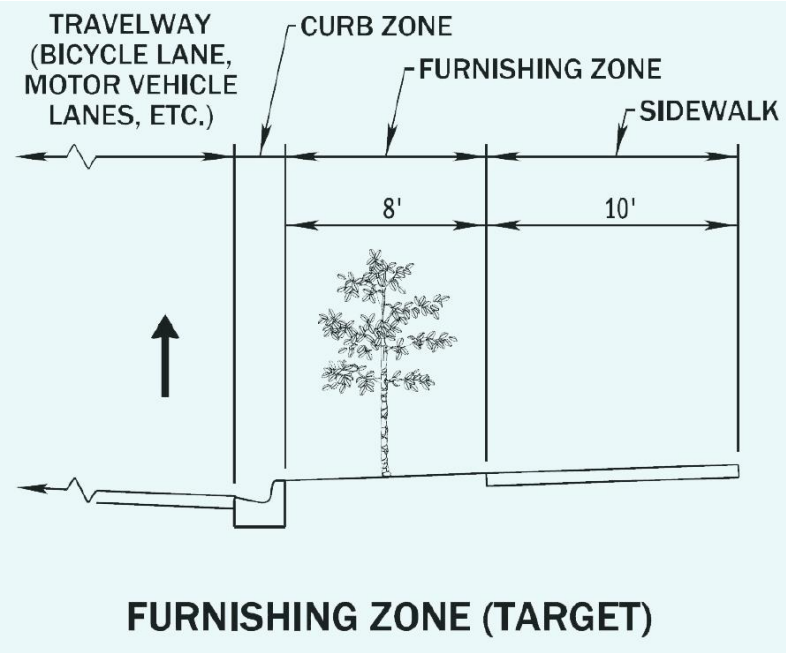
Micromobility

- Micromobility lanes
- Designated parking zones
- Safety messages
- Cap the speed within a reasonable margin
- Focus on requiring permit obligation compliance
- Cooperation and data sharing

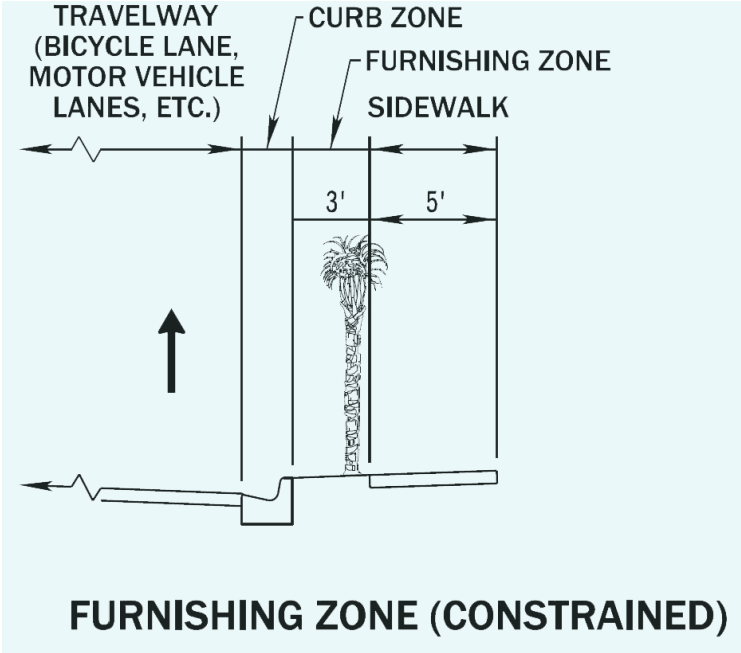
Furnishing Zone

- Street Furniture, Lighting, Signage, Litter and Recycling Bins, Utility Equipment, Stormwater Elements, Hydrants, Bicycle Racks, Bike Share Stations, Public Art, Parking Meters

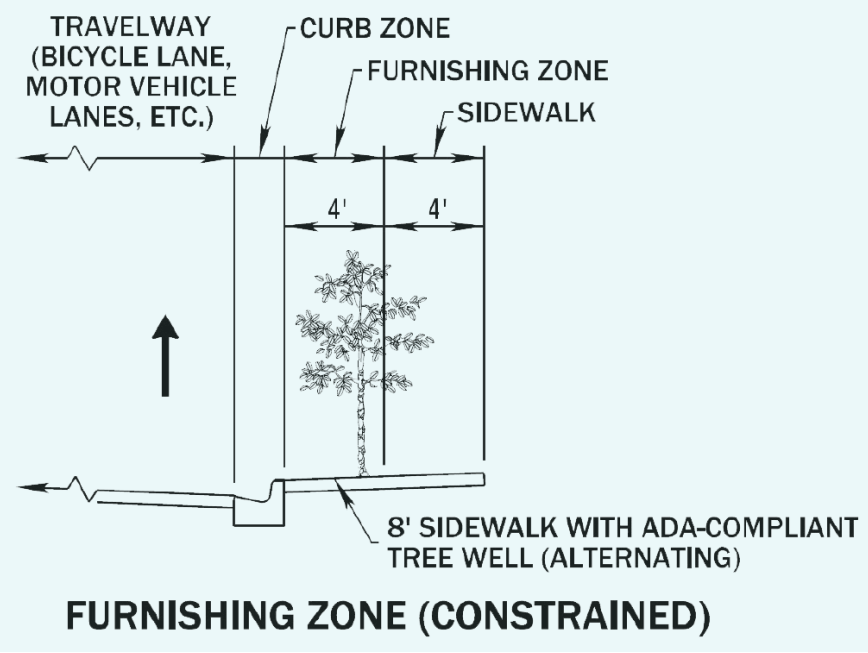
Furnishing Zone Typical Section



FURNISHING ZONE (TARGET)



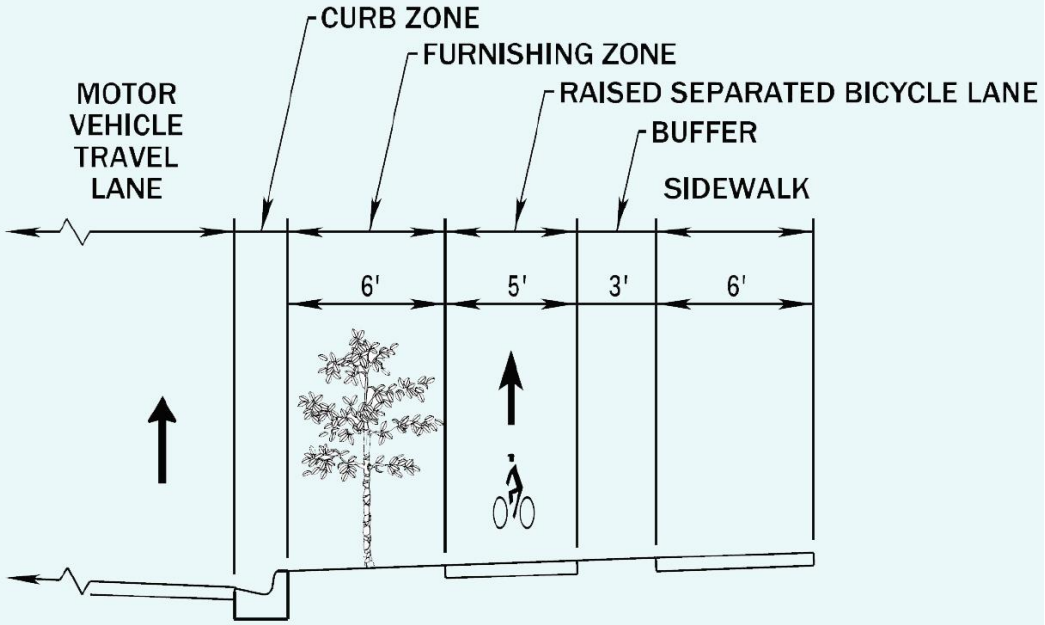
FURNISHING ZONE (CONSTRAINED)



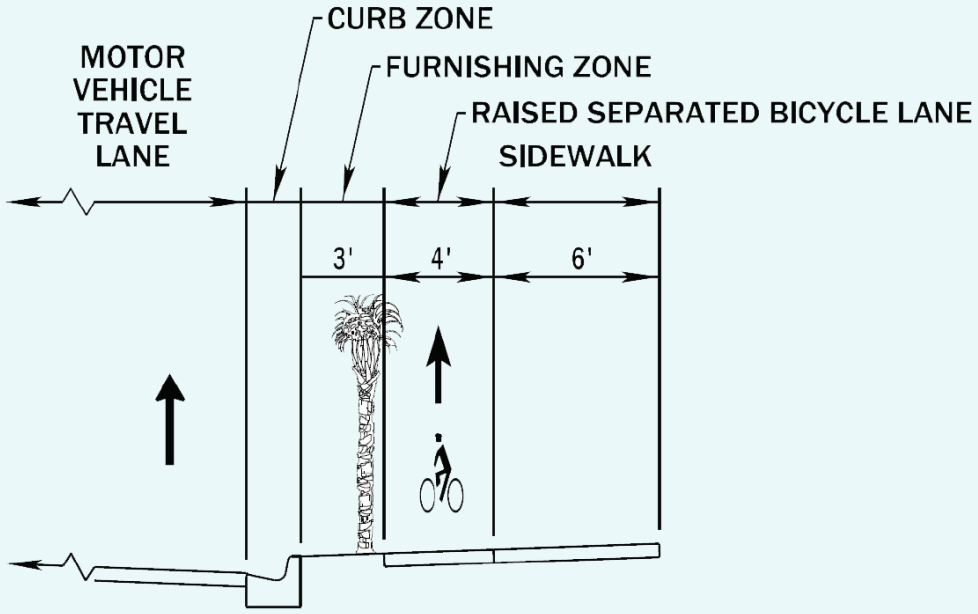
FURNISHING ZONE (CONSTRAINED)

Raised Separated Bicycle Lanes

Raised Separated Bicycle Lanes Typical Sections



RAISED SEPARATED BICYCLE LANE (TARGET)



RAISED SEPARATED BICYCLE LANE (CONSTRAINED)

Two-Way Raised Separated Bicycle Lanes

Roadway Realm Design

Roadway Realm Design

- Safe Speeds
- Vision Zero
- Lane Widths
- Transit Lanes
- Bicycle Facilities
- Traffic Calming
- Curbside Management

Lane Widths

Recommended lane widths based on speed limits

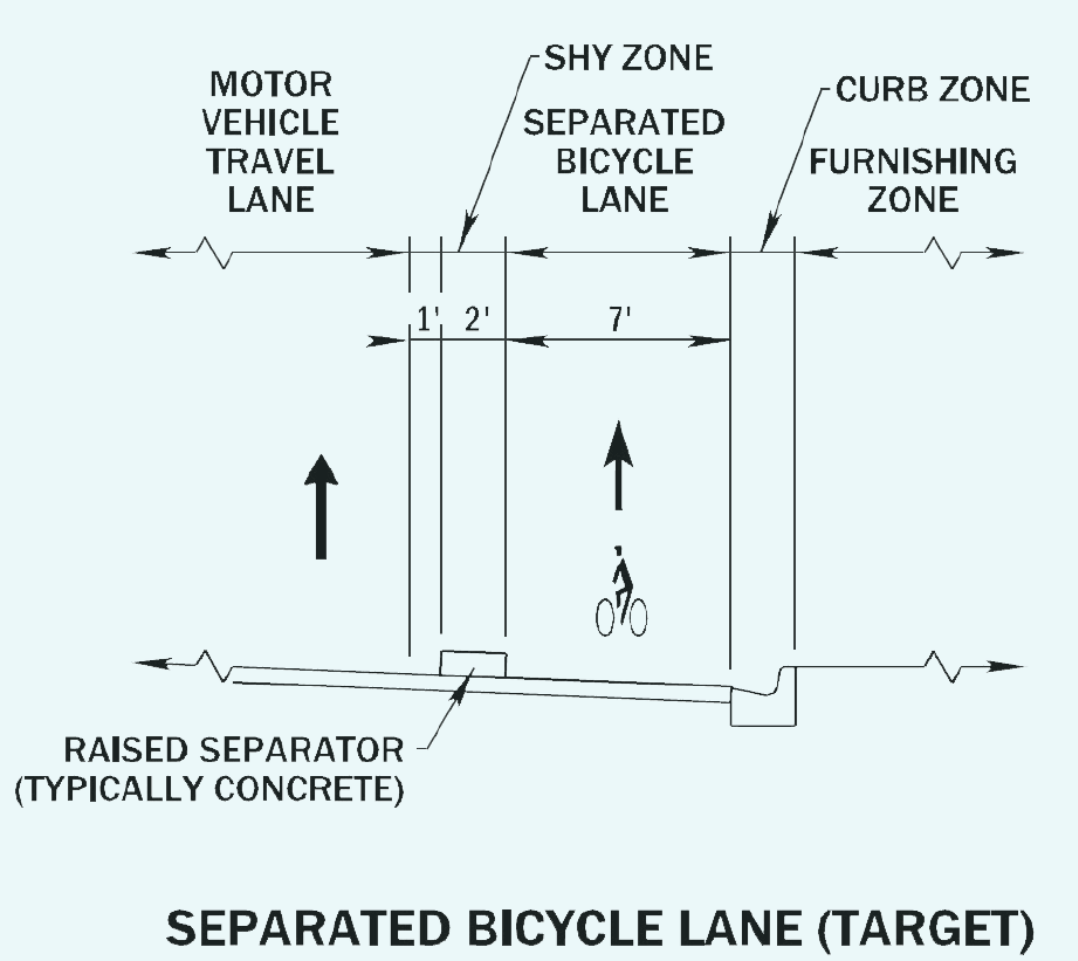
Speed Limit	Lane Width
<=35 mph	10 feet
>40 mph	11 feet
BCT bus routes or designated truck routes in outside lane (regardless of speed limit)	11 feet
Right-turn lane	10 feet (9 feet constrained)
Left-turn lane	10 feet (9 feet constrained)

Traffic Calming

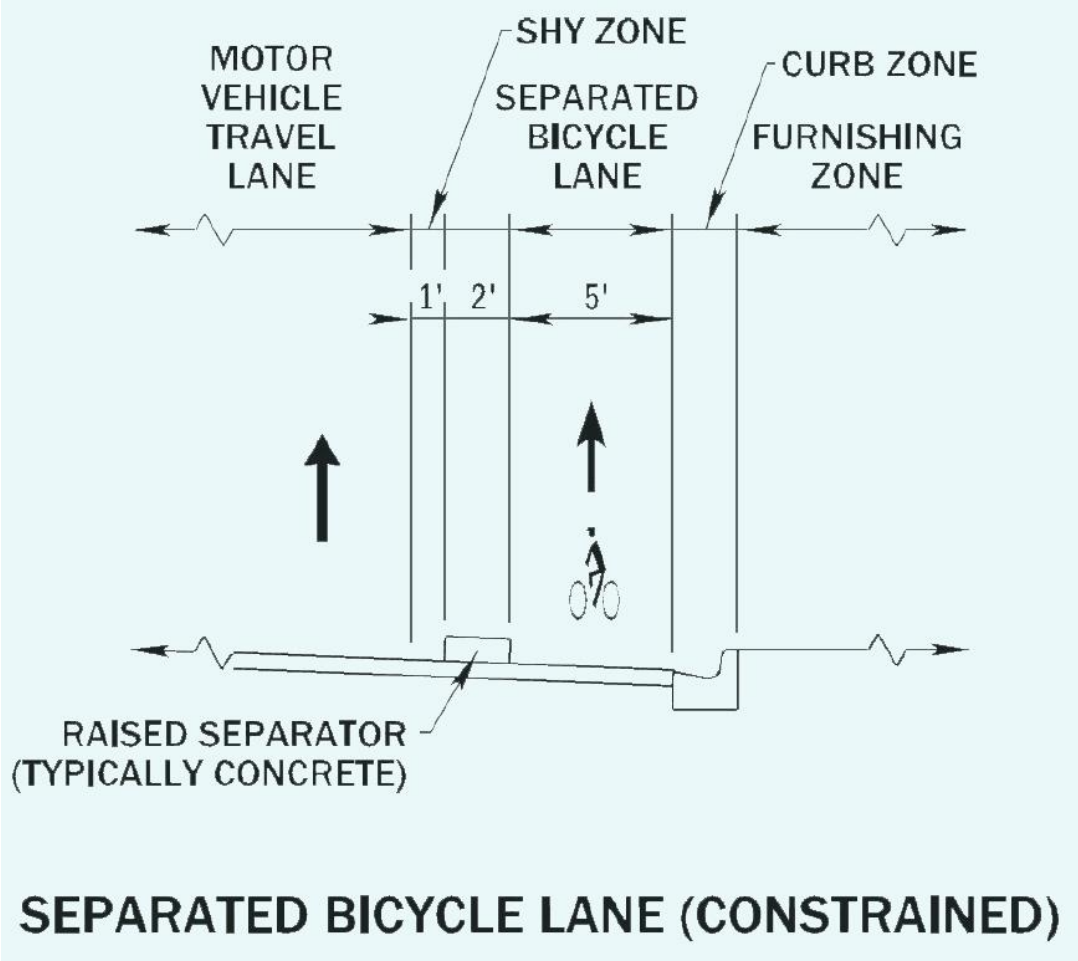
- Shade Trees, Bioswales, Raised Crossings, Medians, Islands, Reduced Curb Radii, Vertical/Horizontal Deflections, Electronic Speed Signs, Lane Width Narrowing


Separated Bicycle Lanes

Separated Bicycle Lanes Typical Sections



SEPARATED BICYCLE LANE (TARGET)

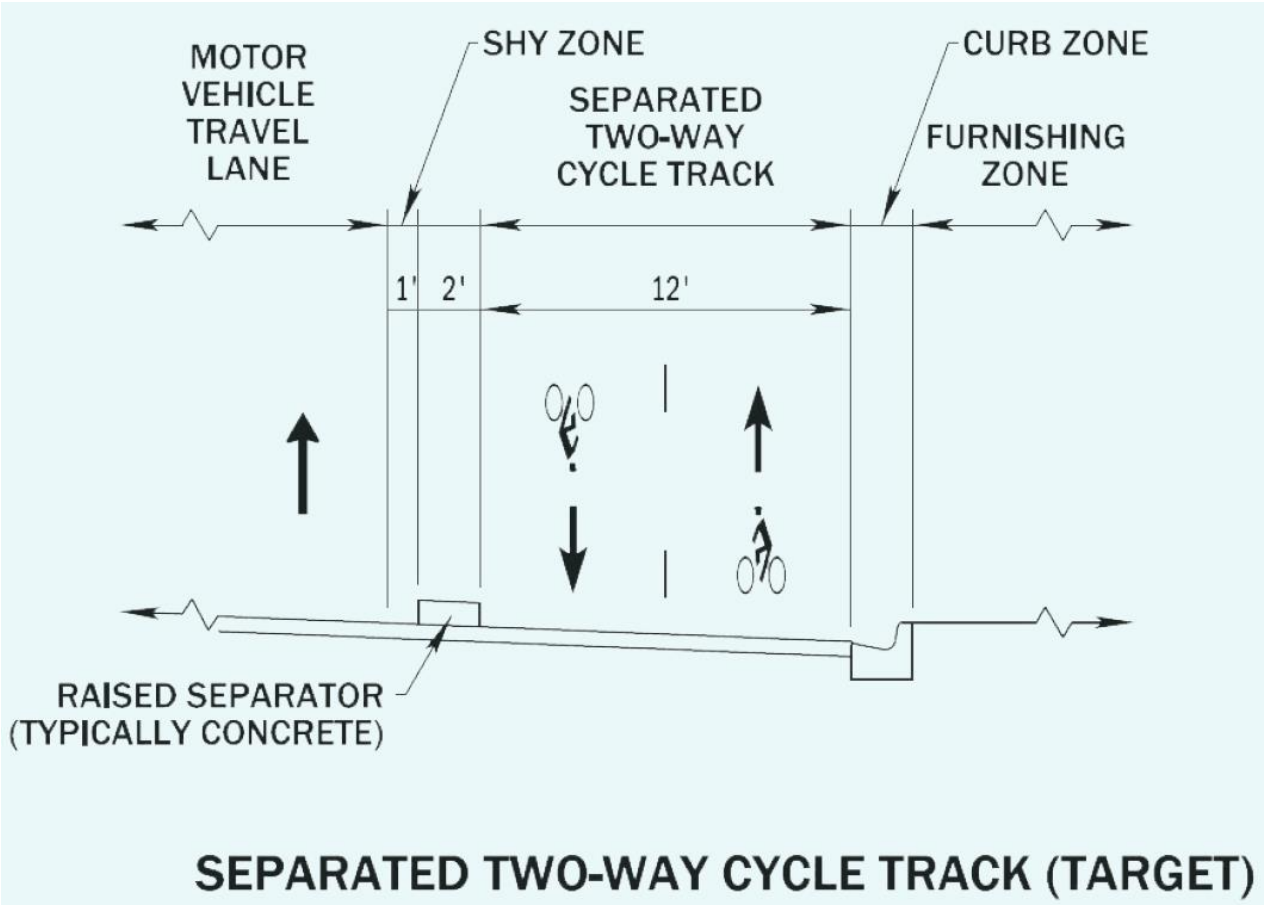


SEPARATED BICYCLE LANE (CONSTRAINED)

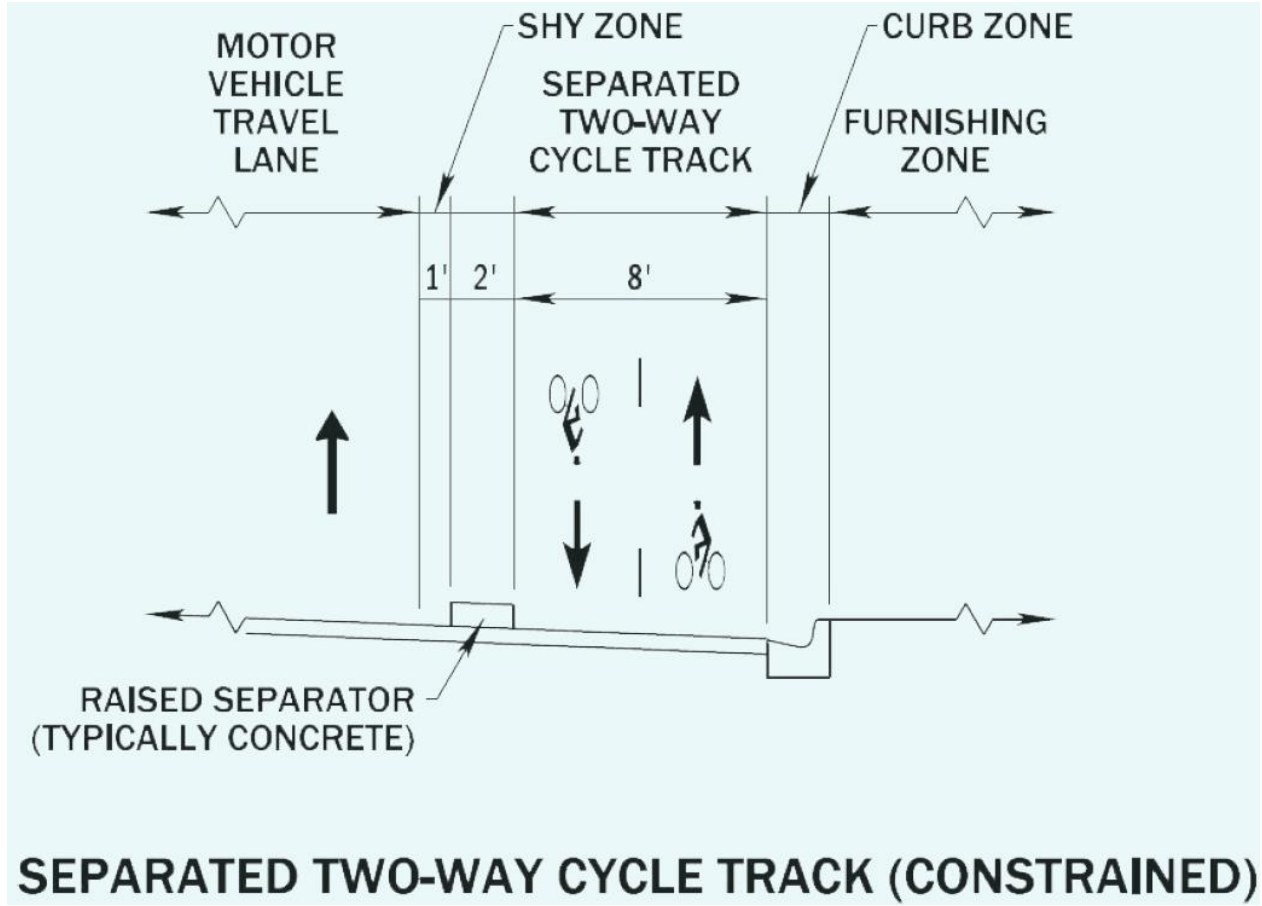
Two-Way Separated Bicycle Lanes

Source: Valerie Neilson, Palm Beach TPA

Two-Way Separated Bicycle Lanes Typical Sections



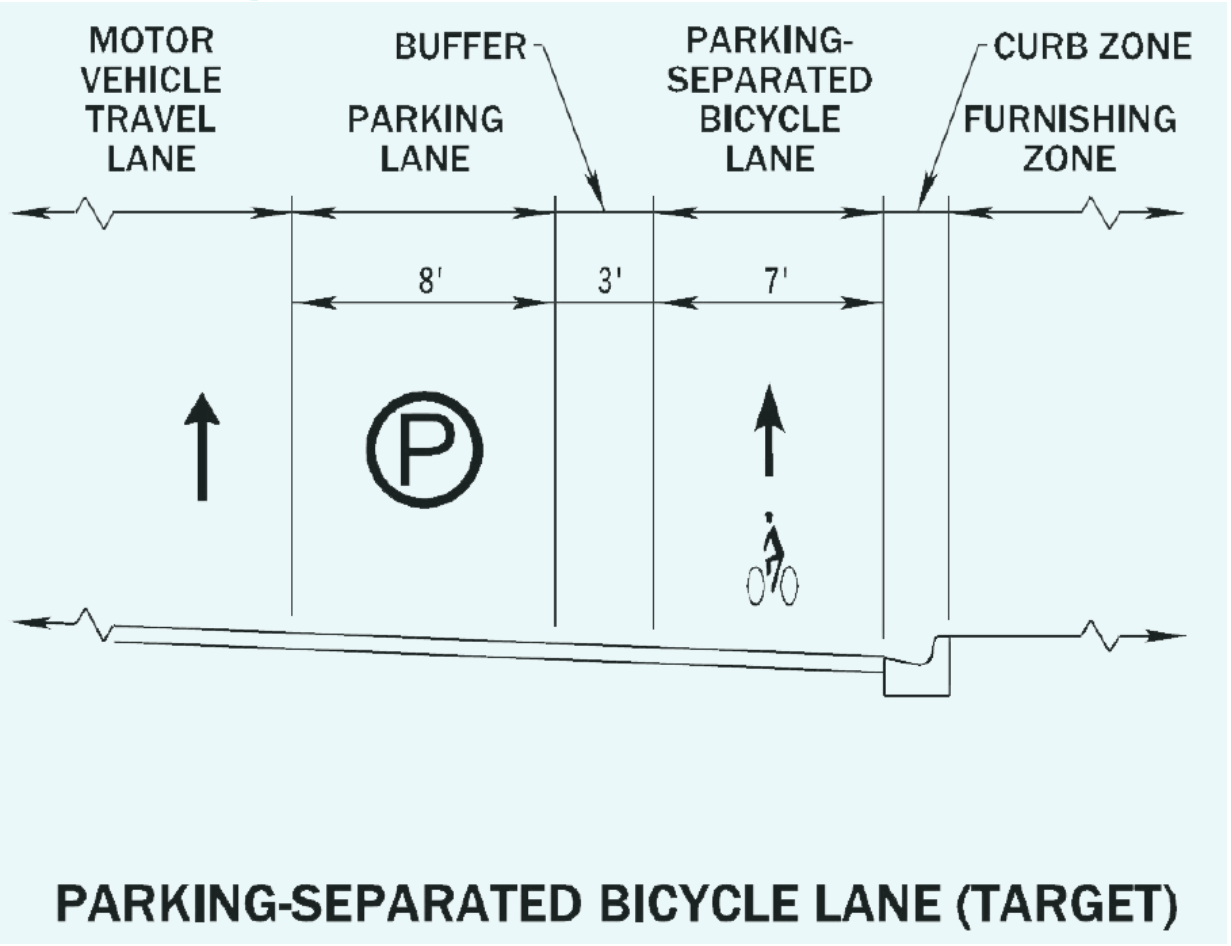
SEPARATED TWO-WAY CYCLE TRACK (TARGET)



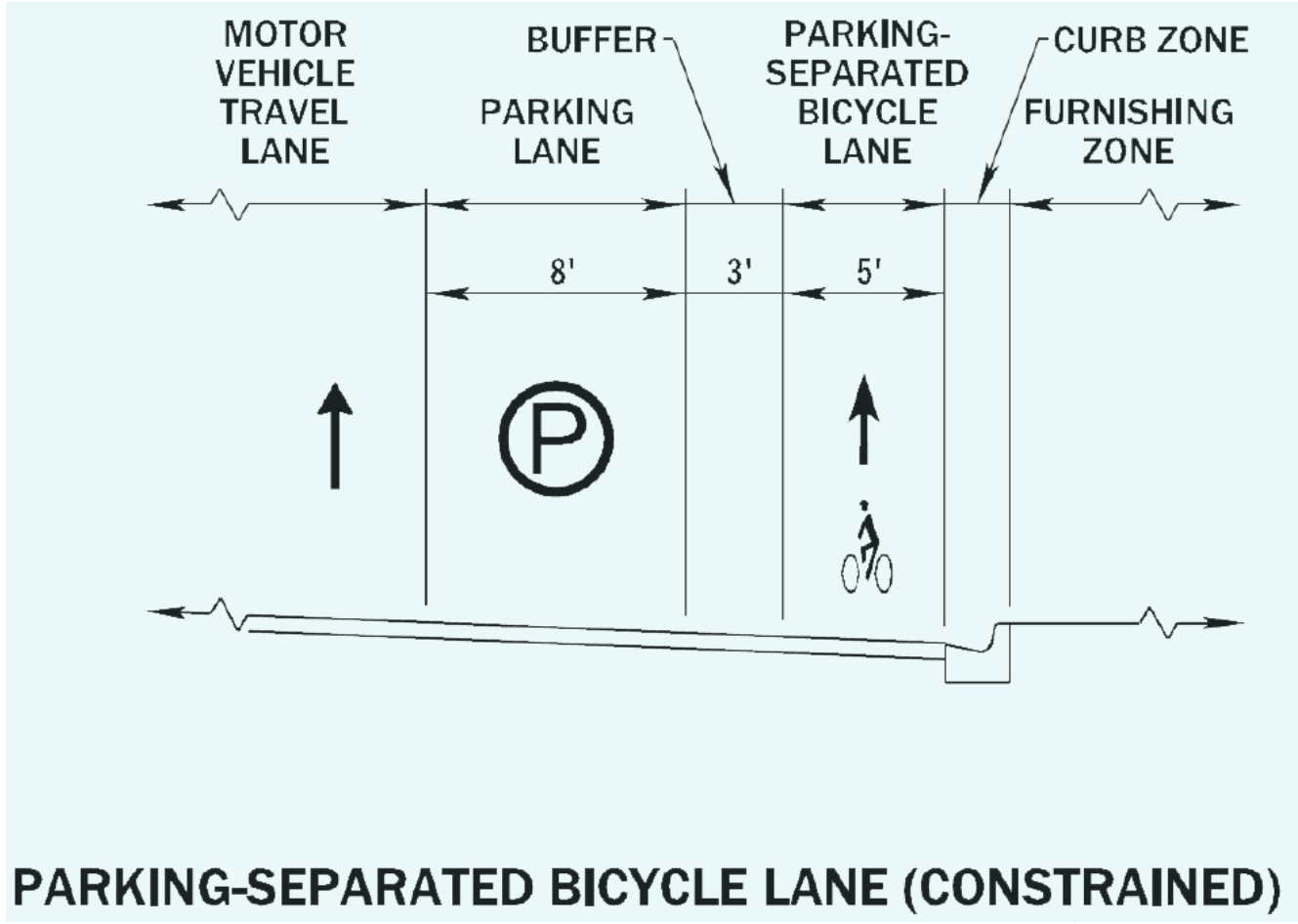
SEPARATED TWO-WAY CYCLE TRACK (CONSTRAINED)

Parking-Separated Bicycle Lanes

Parking-Separated Bicycle Lanes
Typical Sections



PARKING-SEPARATED BICYCLE LANE (TARGET)

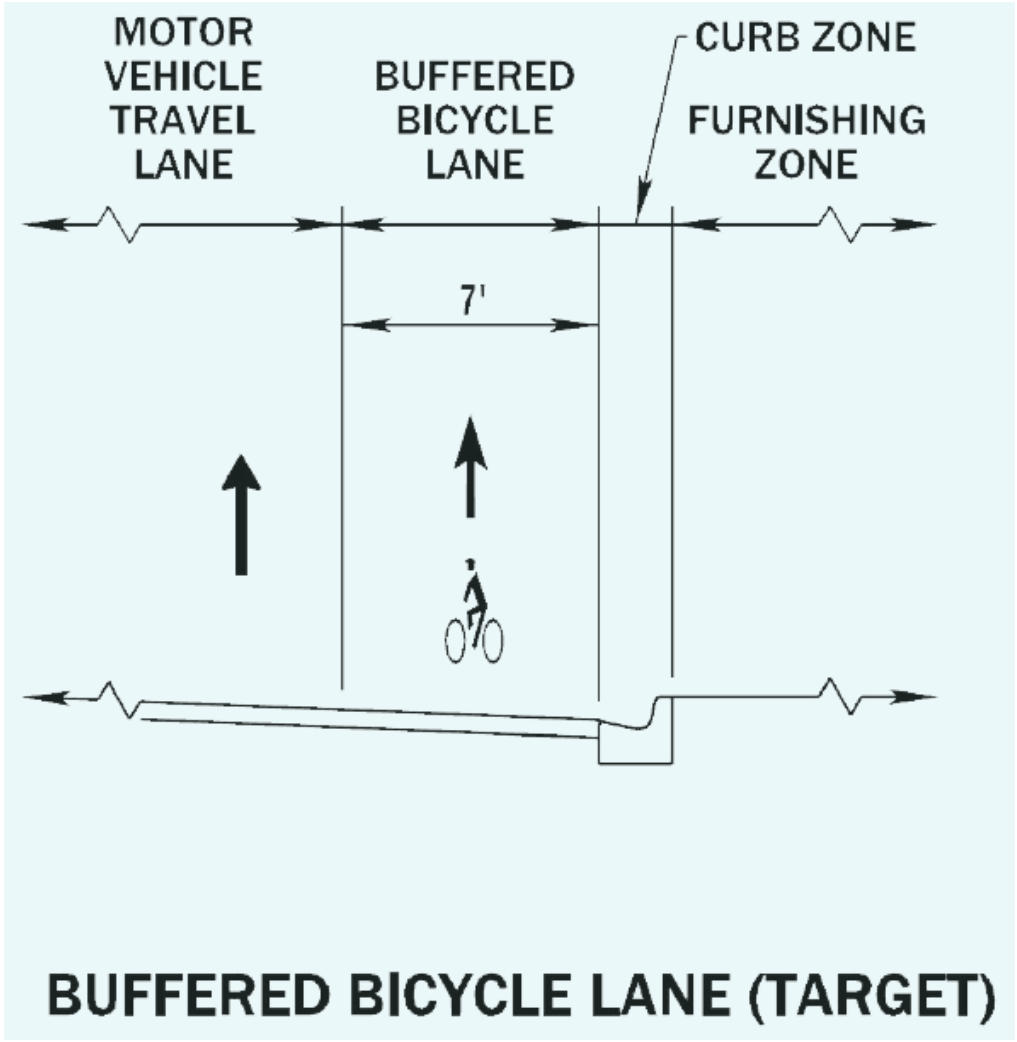


PARKING-SEPARATED BICYCLE LANE (CONSTRAINED)

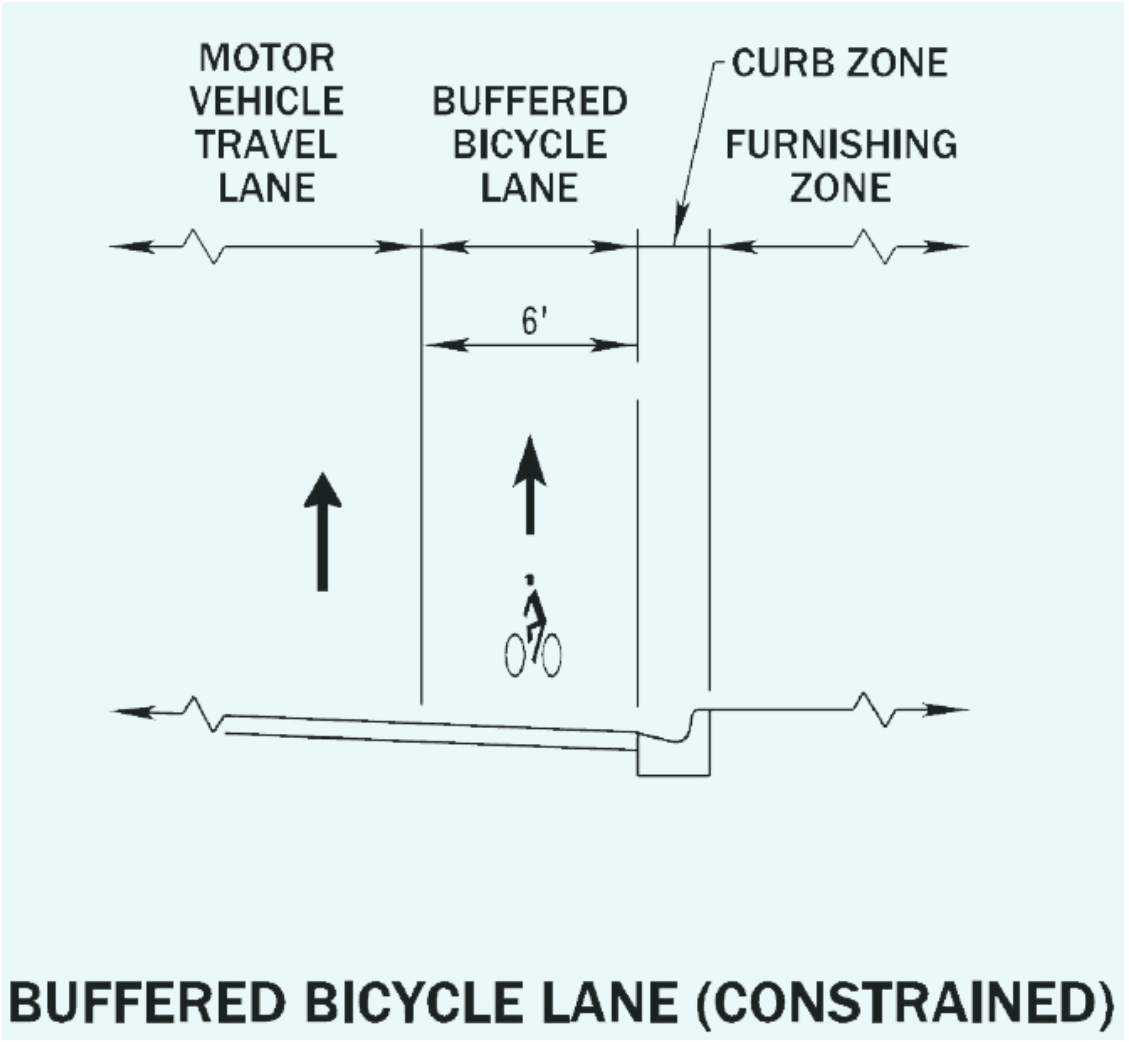
Contra-Flow Bicycle Lanes

Buffered Bicycle Lanes

Buffered Bicycle Lanes Typical Sections



BUFFERED BICYCLE LANE (TARGET)



BUFFERED BICYCLE LANE (CONSTRAINED)

Intersection Design

Intersection Design

- Crosswalk Placement and Design
- Transit Elements
- Pedestrian Signals
- Bicycle Signals
- RRFBs
- PHBs
- Bicycle Pavement Markings
- Protected Intersections

Crosswalk Placement and Design

- Special Emphasis, Conventional, Mid-Block, Raised Crosswalks, Pedestrian Refuge Islands, Medians, Curb Radii, ADA Treatments

- Scope of Work
- Partner Collaboration
- Cost Estimate
- Resolution
- Special Considerations
  - Lane Eliminations
  - Evacuation Routes

Implementation

Thank you!

Broward MPO
Metropolitan Planning Organization

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Pedestrian and Bicycle Treatments at Alternative Intersections and Interchanges

Presented by:

Eric Lindstrom, Kittelson & Associates

In partnership with: Alan El-Urfali, Florida Department of Transportation

Outline

- ✓ Current research on pedestrian and bicycle treatments
- ✓ Restricted crossing U-turn (RCUT) intersection
- ✓ Median U-turn intersection (MUT)
- ✓ Quadrant roadway (QR) intersection
- ✓ Displaced left-turn (DLT) intersection
- ✓ Diverging diamond interchange (DDI)

Current Research on Pedestrian and Bicycle Treatments

NCHRP 07-25: Guide for Pedestrian and Bicycle Safety at Alternative Intersections and Interchanges

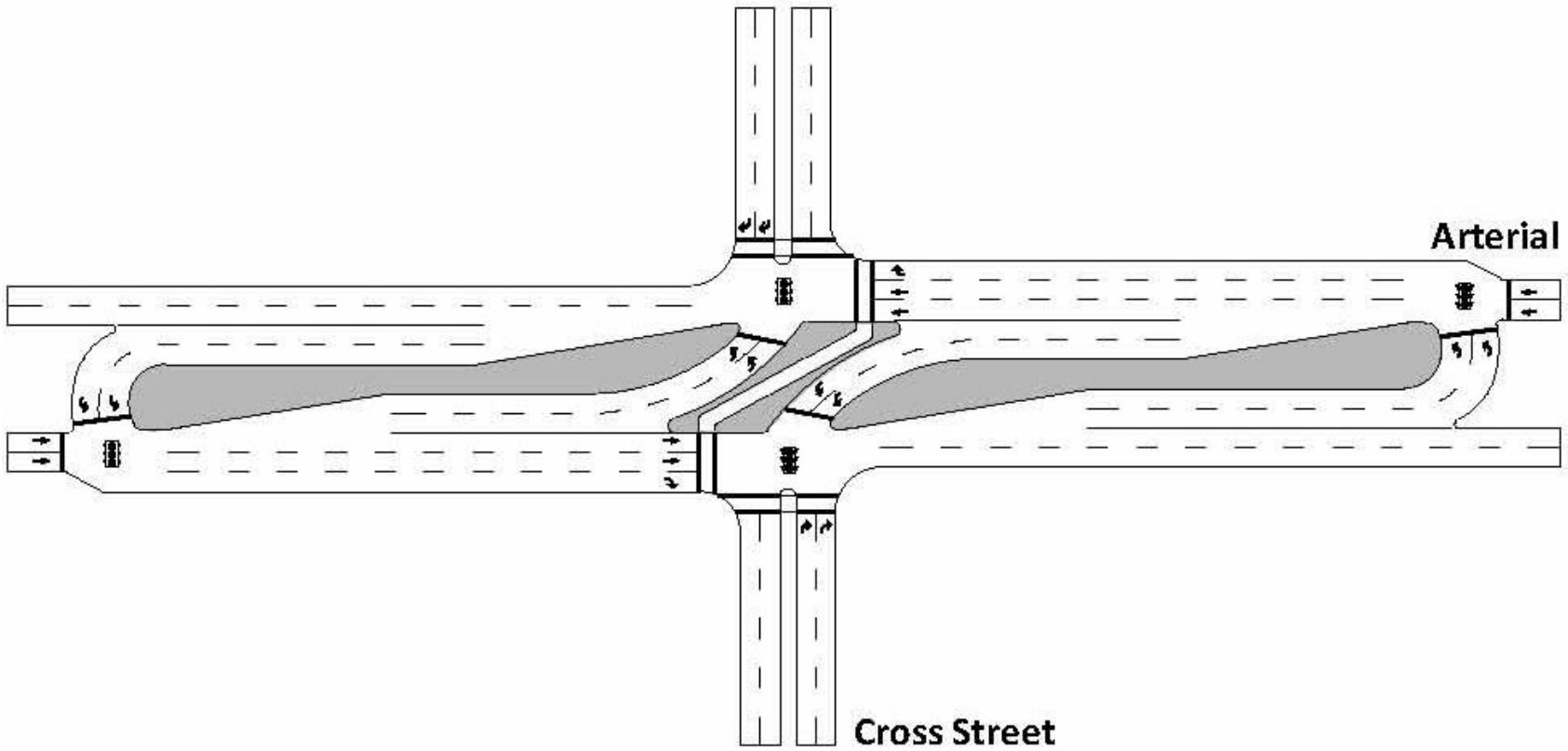
- Completion date: 9/20/2019

Background

- New alternative intersection/interchange designs being built in US
- Safety issues to pedestrian/bicyclists by reversing traffic lanes

Research objectives

- Develop a guide to improve pedestrian/bicycle safety at alternative intersections and interchanges
- Include planning, design, and operational treatments



Restricted Crossing U-turn Intersection

Restricted Crossing U-Turn (RCUT) Intersections

RCUT intersection in Emmitsburg, MD

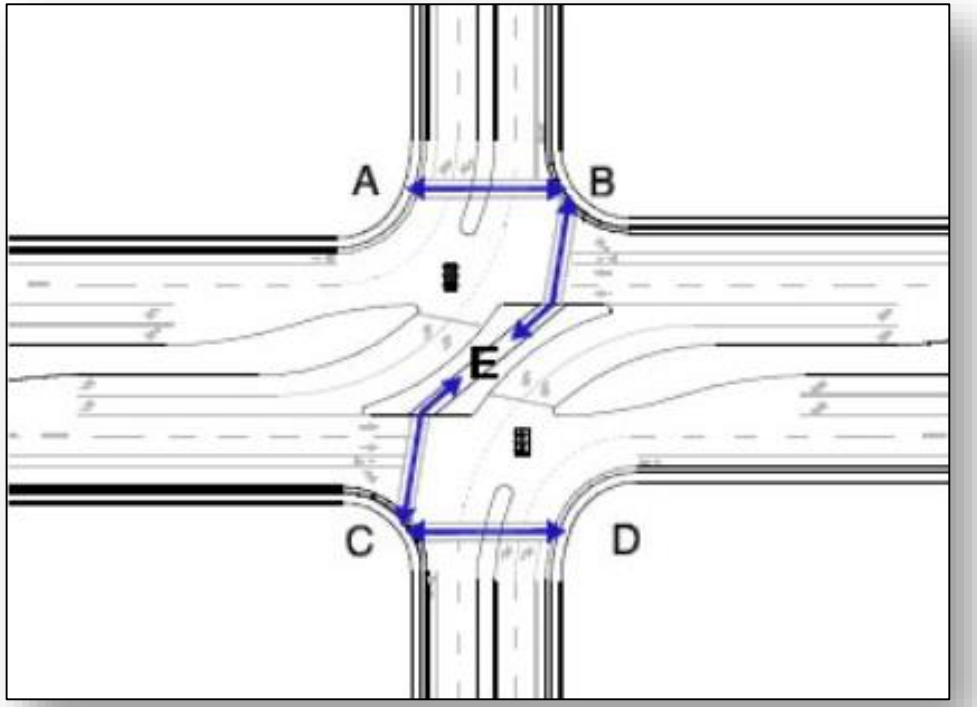
- Redirects left-turn and through movements from side street approaches
  - Right turn followed by U-turn maneuver at median opening
  - Median opening 1,000 feet to 1,500 feet downstream
- Can be signalized, stop, or yield controlled

Suitable Location for RCUTs

- On median divided highways
- Suitable intersections for RCUT
  - Moderate through and/or left-turn volumes on major street
  - Low through and left-turn traffic volumes on side street
  - Three or four legs

RCUT intersection in Troy, MI

Pedestrian Movements at RCUTs

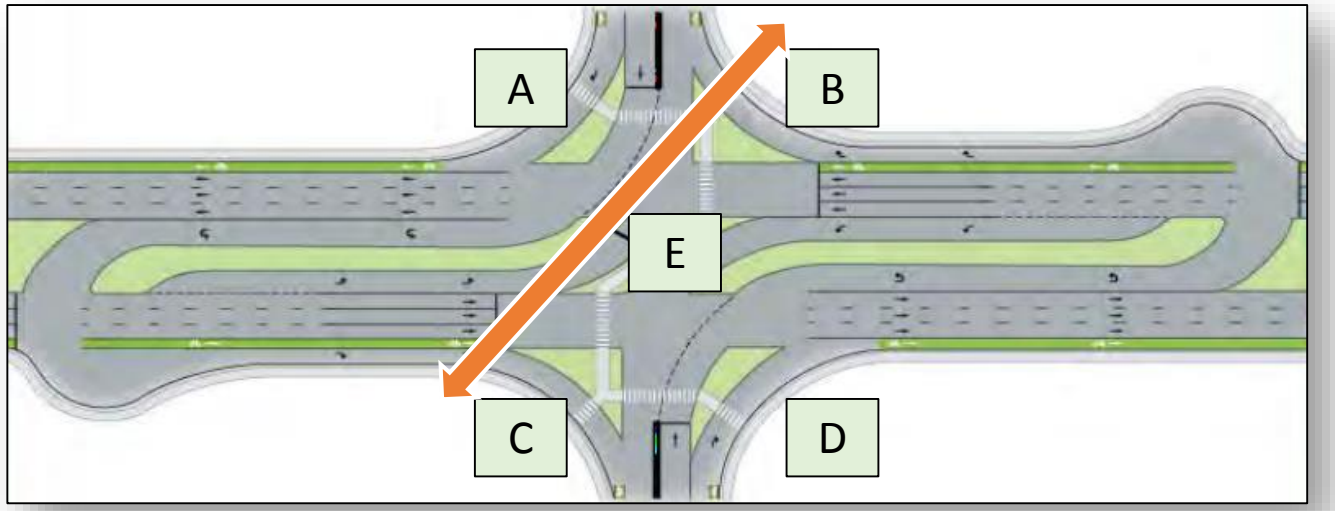


Pedestrian movements in a RCUT intersection

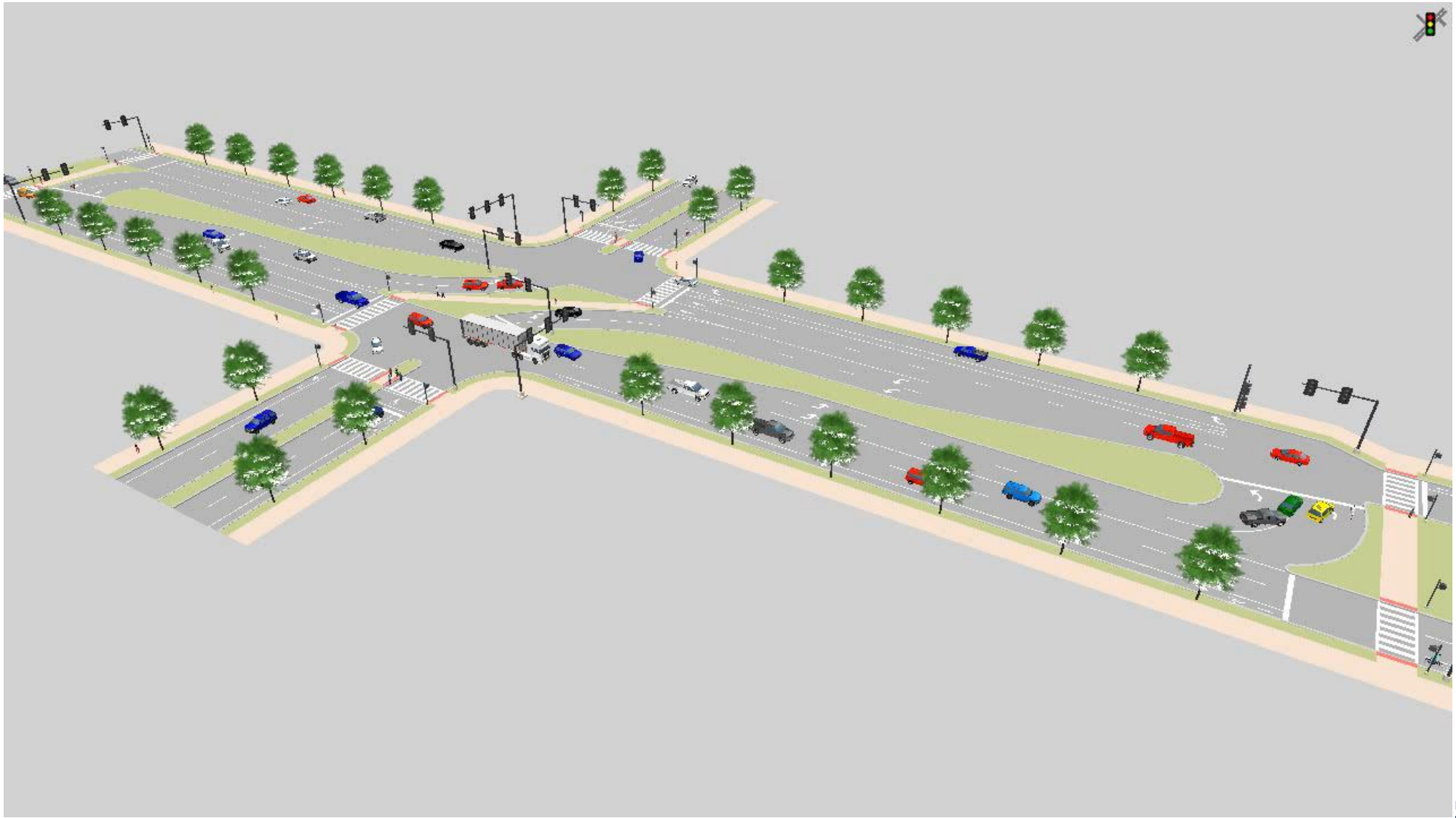
- Major street crossing is generally one diagonal path
  - Longer than conventional intersection
- Allows pedestrians to cross the main street between one (B to C) but not both pairs of opposing corners (not A to D)
- Median islands can provide pedestrian refuge

Accommodation for Pedestrians and Bicyclists at RCUTs

- **Apply RCUT design in areas that favor preferred pedestrian movements (B to C)**
  - Suitable for suburban environment with separated lane use and low pedestrian traffic
- **Provide wayfinding signing for pedestrians**
  - Install barriers to channelize pedestrians
  - Provide accessible devices to assist disabled pedestrians



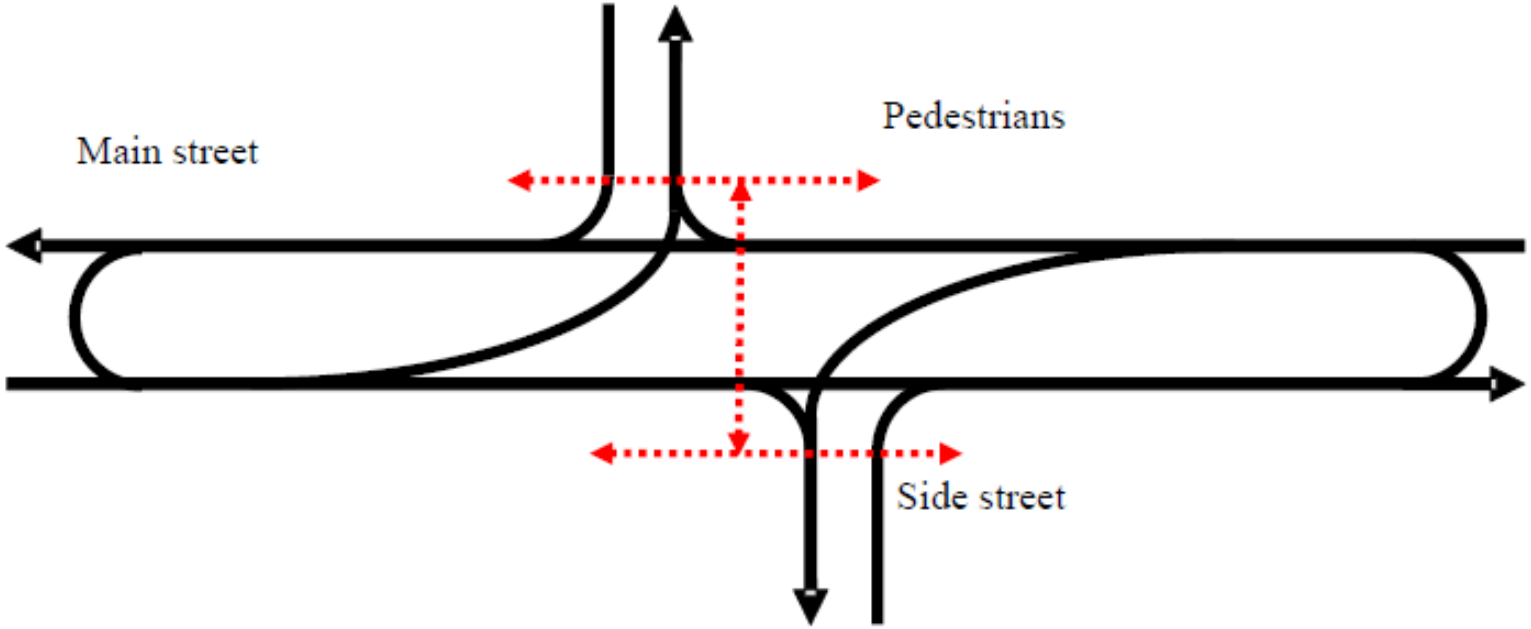
Pedestrian and Bicycle Movements at RCUTs



Ped & Bicycle Movements at RCUTs W/Cycle Track

Alternative Pedestrian Movements at RCUTs

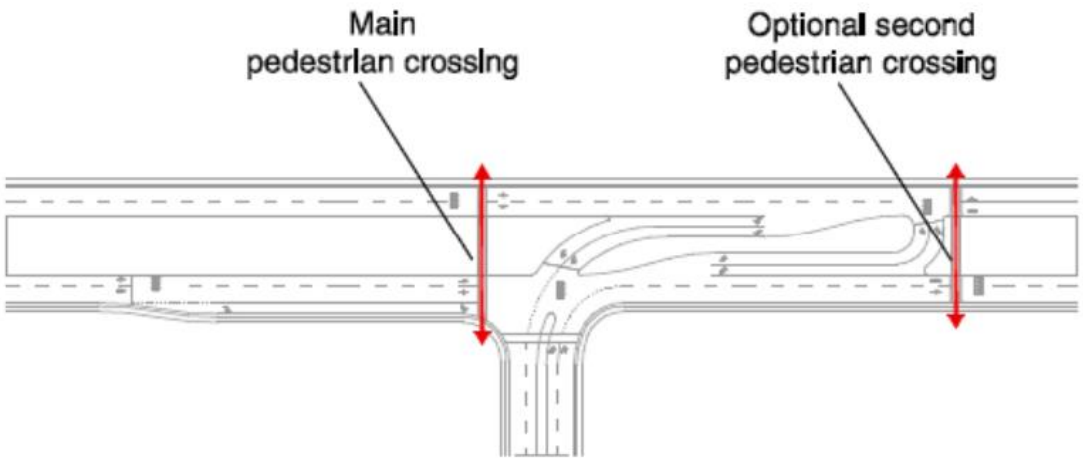
- Shorten the path to cross the arterial
- Decrease pedestrian exposure to moving vehicles on main street



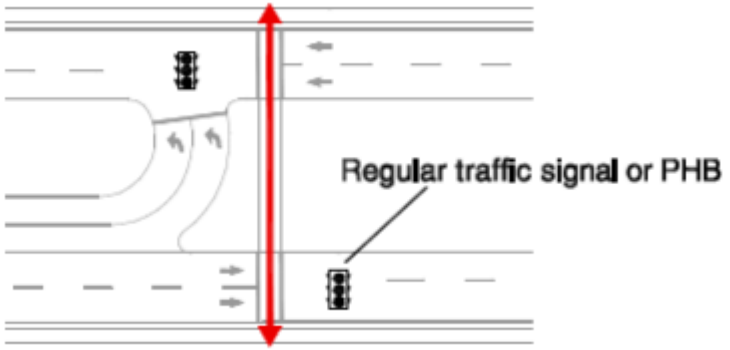
RCUT with minor street approaches offset

Alternative Pedestrian Movements at RCUTs

Pedestrian Movements at Three-leg Intersection



Pedestrian Crossing at U-Turn

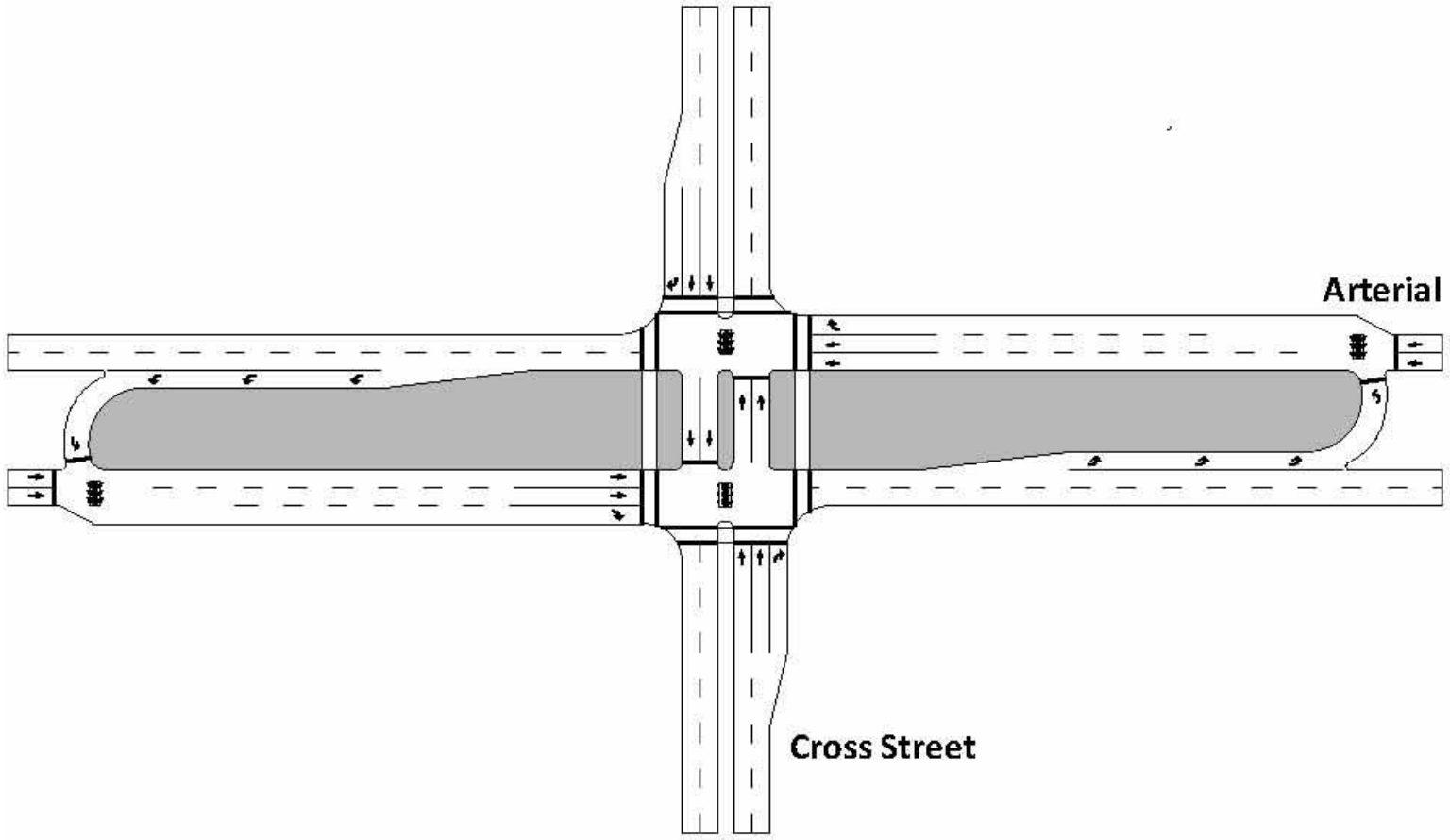


- Require additional signal on mainline to stop through traffic
- Decrease pedestrian exposure
- PHB Can also be used

Bicycle Movements at RCUT Intersections

- **Option 1 (blue line)**
  - Cross the major road with the pedestrians on the sidewalks of the "Z" crossing
  - Preferred option for bicycle movements
- **Option 2 (red line)**
  - Cross the major road near the left-turn lanes if no crosswalk is available
- **Option 3 (green line)**
  - Cross by moving with the vehicle traffic
  - Makes a right turn, a U-turn, and then a right turn onto the minor road

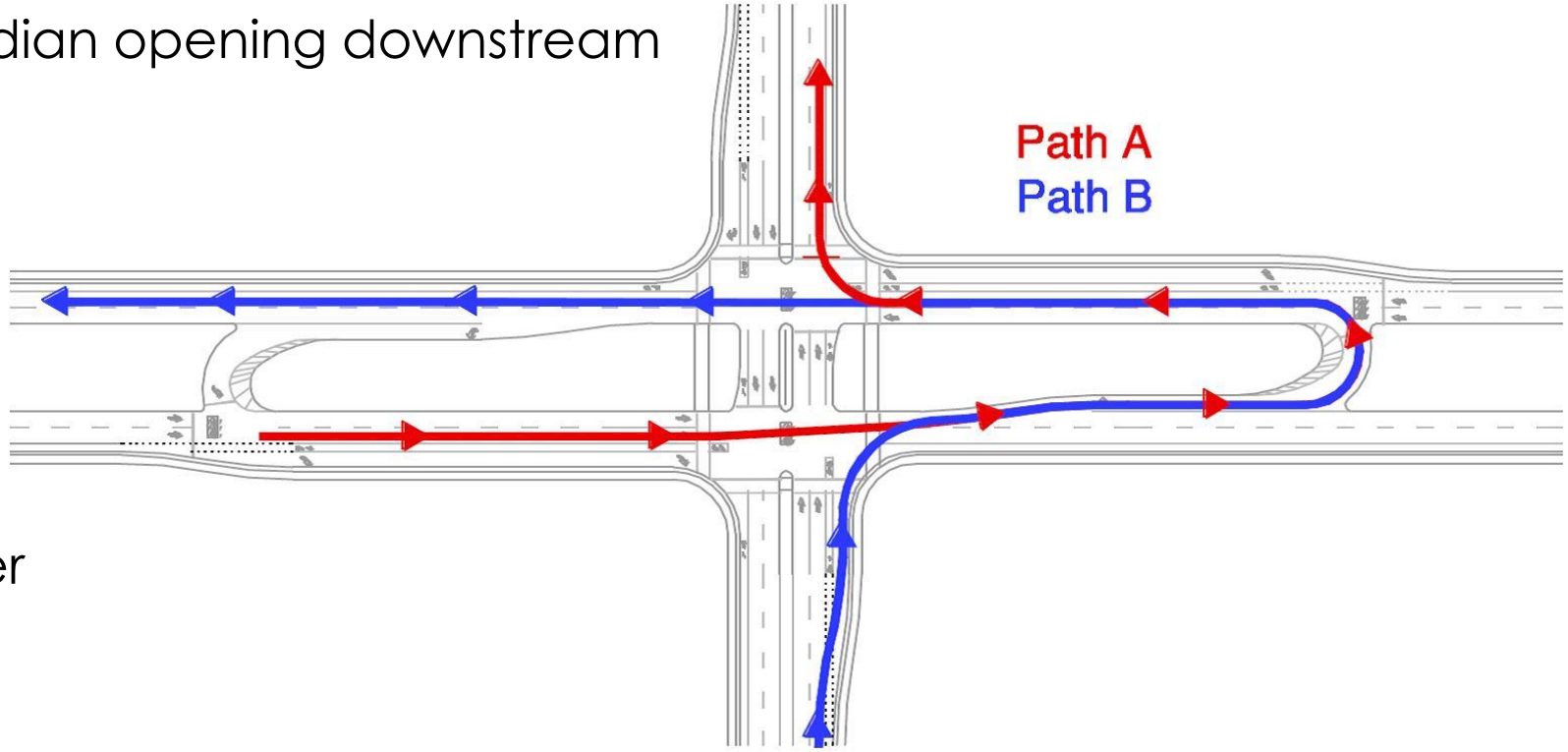
Bicycle Route Options for Minor Road



Median U-turn Intersection

Median U-Turn (MUT) Intersections

- Eliminate direct left-turns from major and minor approaches
- Two-step for left-turn maneuver
  - Turn right onto the main road
  - Make a U-turn at a median opening downstream
- Traffic control for MUT
  - Signalized
  - Stop controlled
  - Yield controlled
- Other name for MUT
  - Michigan left-turn
  - Median U-turn crossover
  - Boulevard turnaround
  - Michigan loon



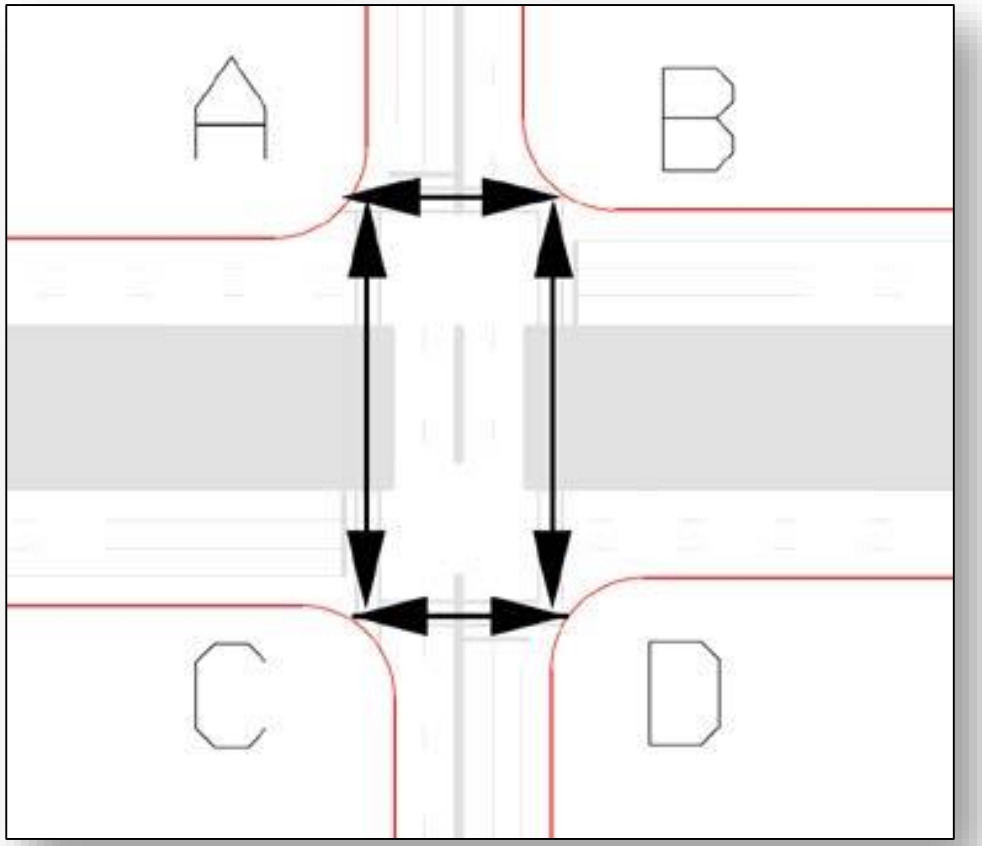
Suitable Location for MUTs

MUT intersection in a corridor in Michigan

- On median divided highways
- Intersections suitable for MUT
  - Moderate to heavy through traffic volumes
  - Low to moderate left-turn traffic volumes
  - Three or four legs
  - Minor road volume to total intersection volume less than or equal to 1/4
- Typically a corridor treatment is applied at signalized intersections
- Also used at isolated intersections to alleviate specific traffic operational and safety problems

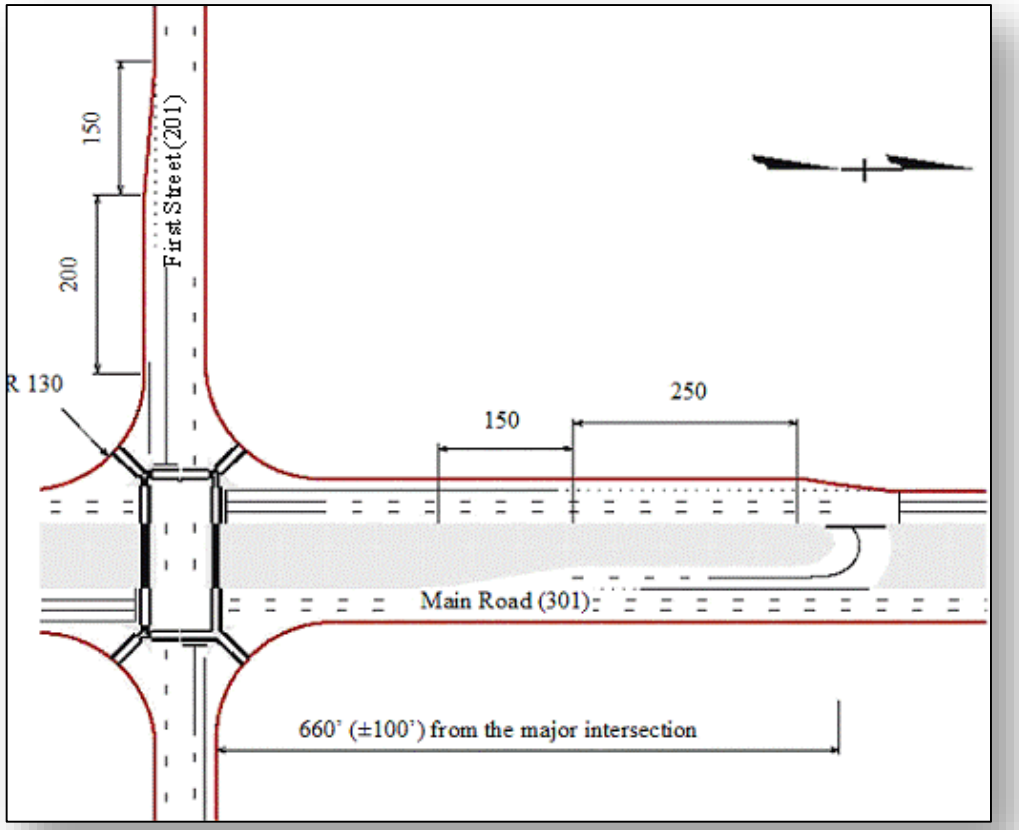
Pedestrian Movements at MUT Intersections

- Two-phase pedestrian crossing
  - Pedestrian crosses one direction of the major street during the first signal phase
  - Pedestrian crosses the other direction during a second signal phase
  - Usually some delay between the phases
- Median islands can provide pedestrian refuge
- Small delay to pedestrians because of only two signal phase and short cycle length

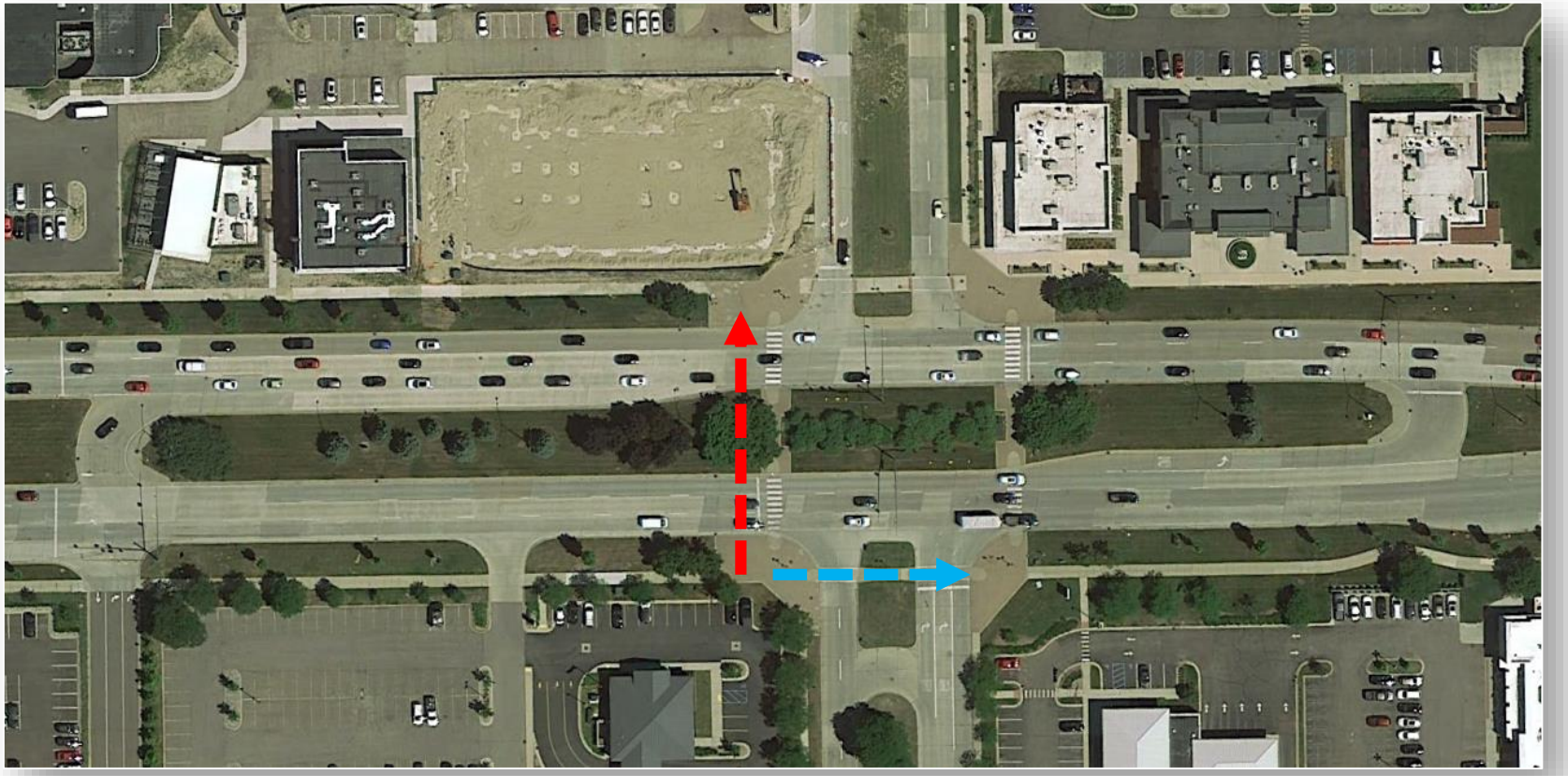


Accommodation for Pedestrians and Bicyclists at MUTs

- Allows pedestrians to cross major street during minor street through and right-turn signal phase
- Pedestrians encounter fewer conflicting traffic streams than at a conventional intersection
- Two-phase signal create a shorter signal cycle length
  - Allow more pedestrian phases per hour
  - Allow less wait times between walk signals
- Through and right-turning bicyclists navigate the same as a conventional intersection



Alternative Pedestrian Movements at MUTs

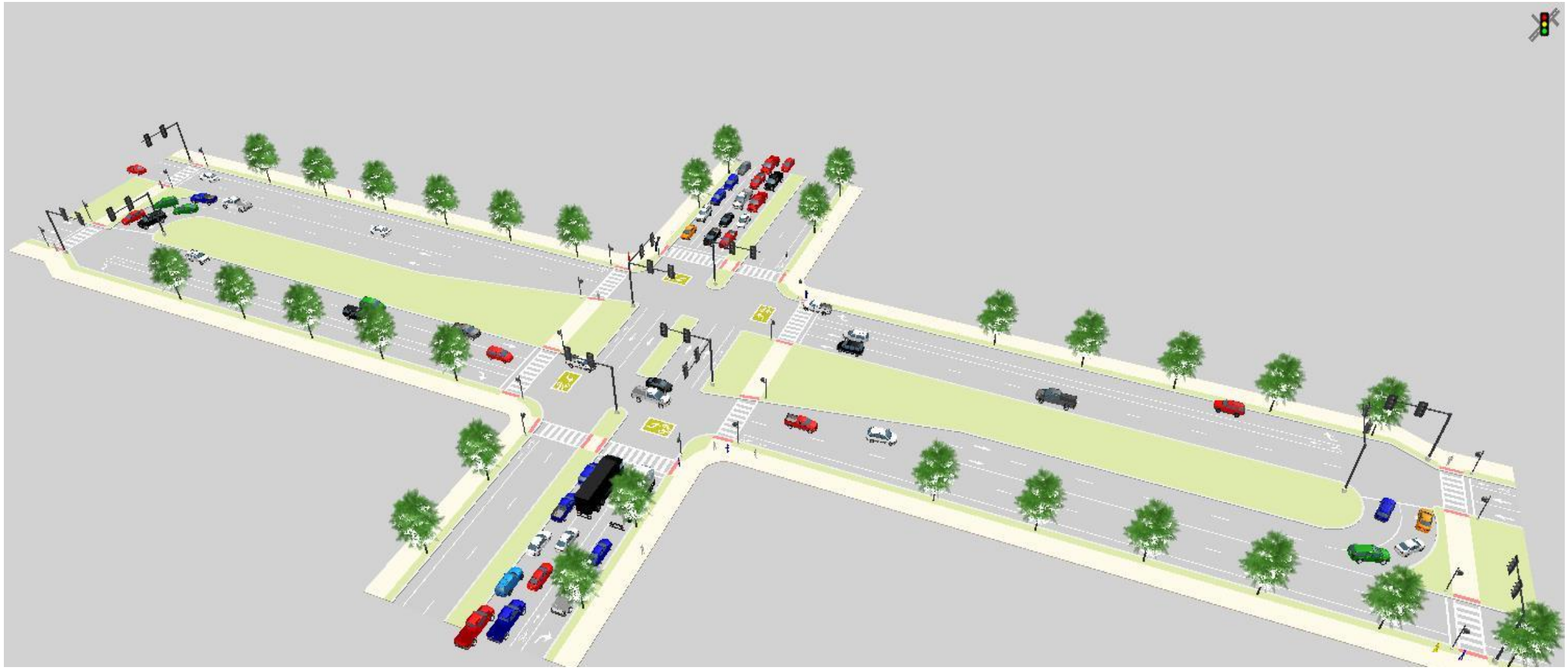


Median U-Turn with No Through Movement

Pedestrian and Bicycle Treatments at MUTs

Pedestrian and Bicycle Treatments at MUTs W/Cycle Track

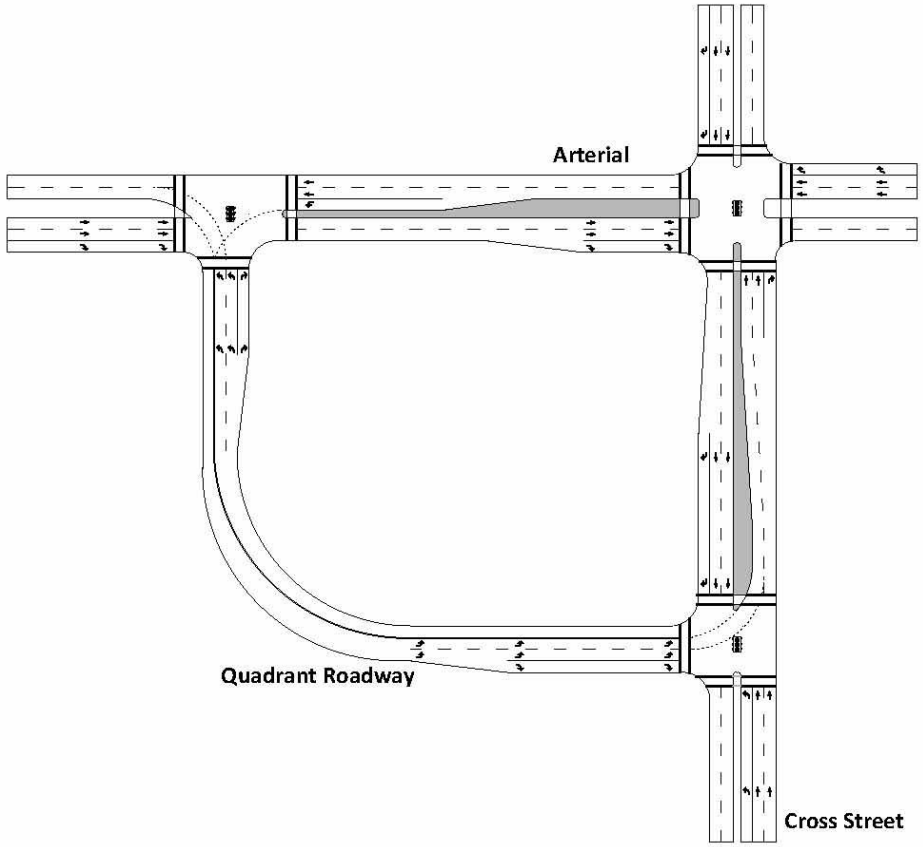
Pedestrian and Bicycle Treatments at MUTs W/Left-turn Boxes



Bicycle Movements at MUT Intersections

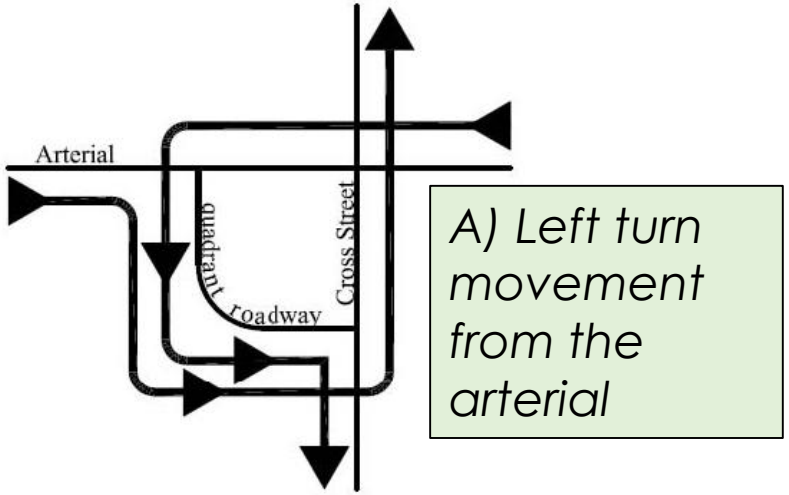
- Through and right-turning bicyclists from a side street
  - Encounter high green time percentages for their movements
- Left-turning bicyclists from the side street
  - Can use pedestrian crosswalks to cross the major street and then cross the far side street
  - Use the U-turn crossovers
- Cyclists wanting to turn left from the main street
  - Can use pedestrian crosswalks to cross side street leg and then the far major street leg
  - Continue down to U-turn crossover

MUT intersection in Draper, Utah

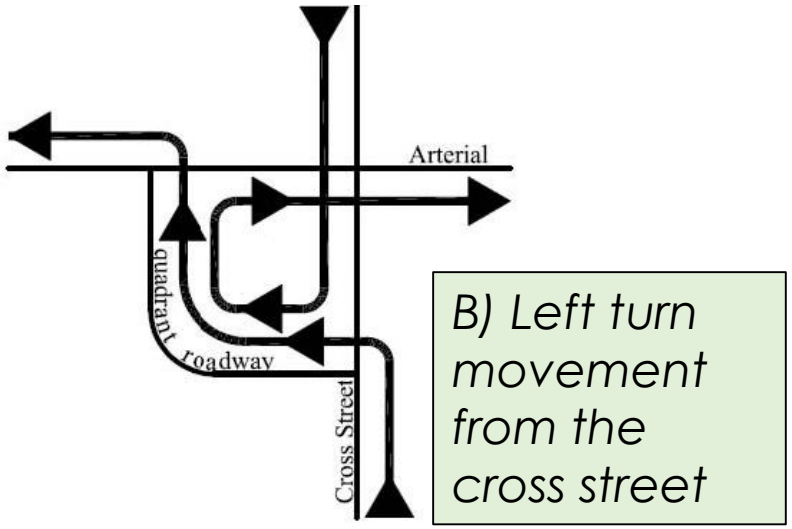


Quadrant Roadway Intersection

Quadrant Roadway (QR) Intersections



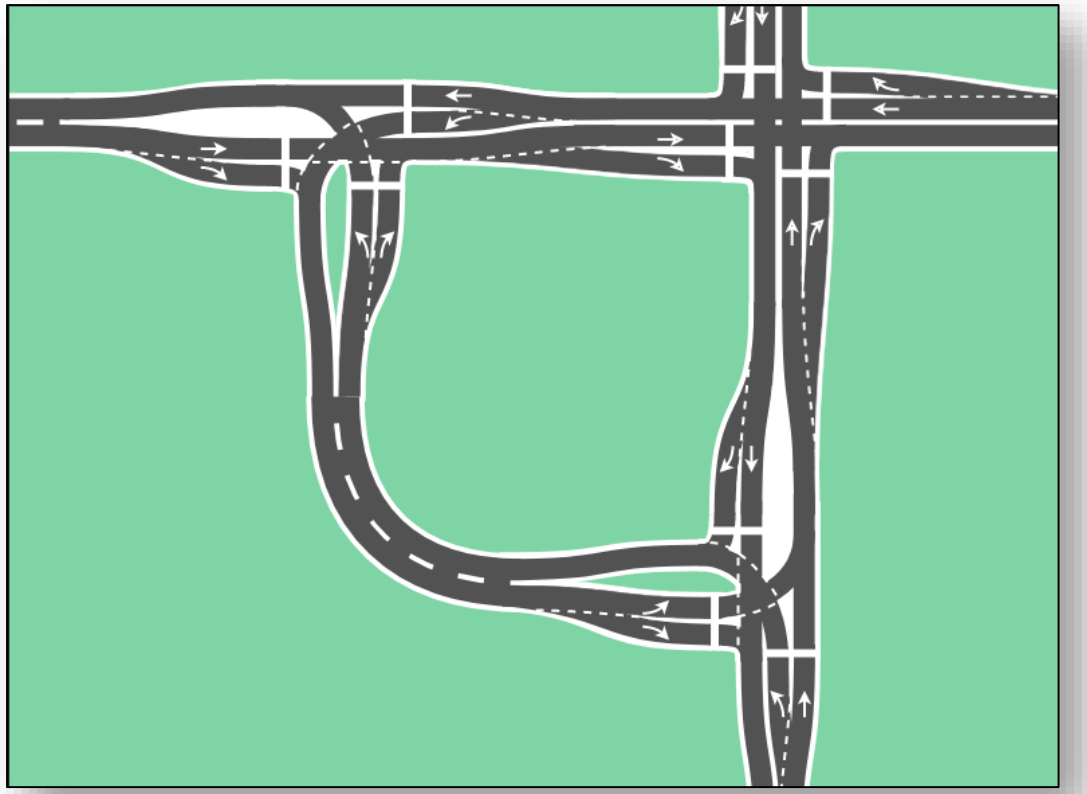
A) Left turn movement from the arterial



B) Left turn movement from the cross street

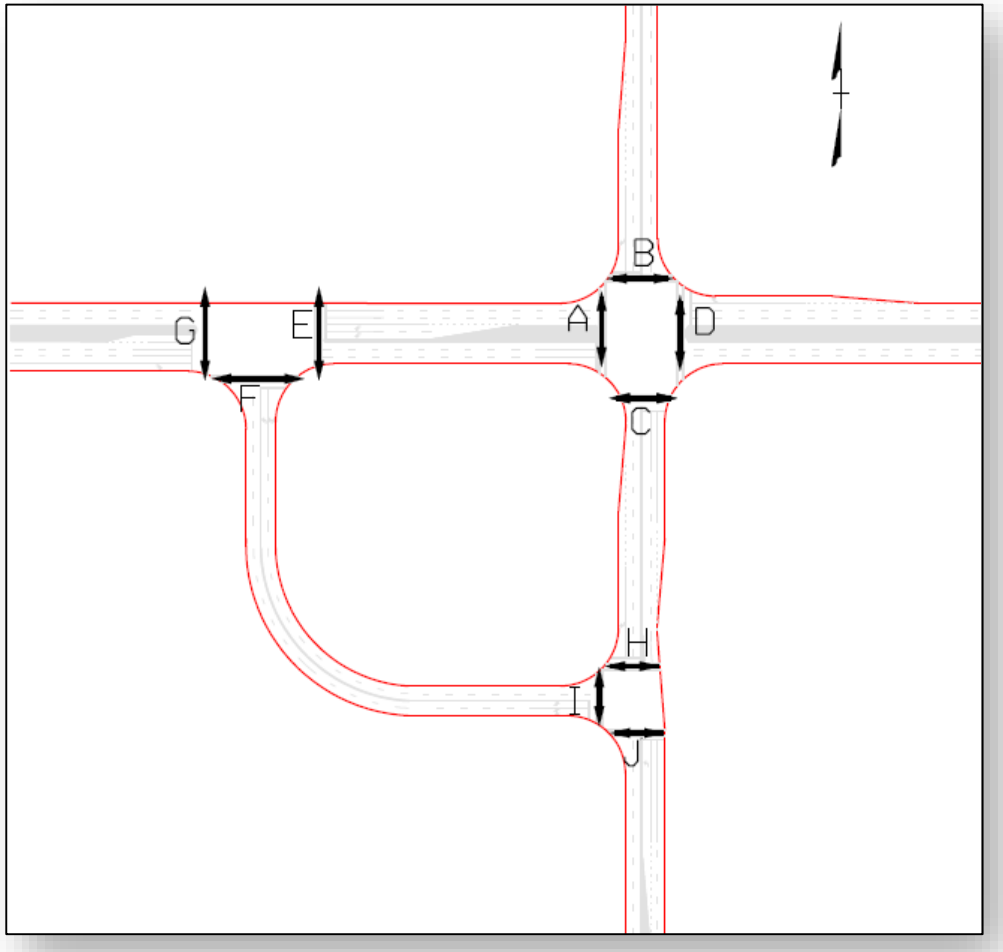
- One main intersection and two secondary intersections linked by a connector street in any quadrant of the intersection
- Reroutes all four left-turn movements onto a street that connects the two intersecting streets
- Secondary intersections are typically signalized, but can also be unsignalized

Location for Quadrant Roadway (QR) Intersections



- At locations with an existing roadway that can be used as the connector roadway
- Intersections suitable for QR
  - Heavy through and left-turn volumes on the major and minor streets
  - Four-leg intersection

Pedestrian Movements at QRs



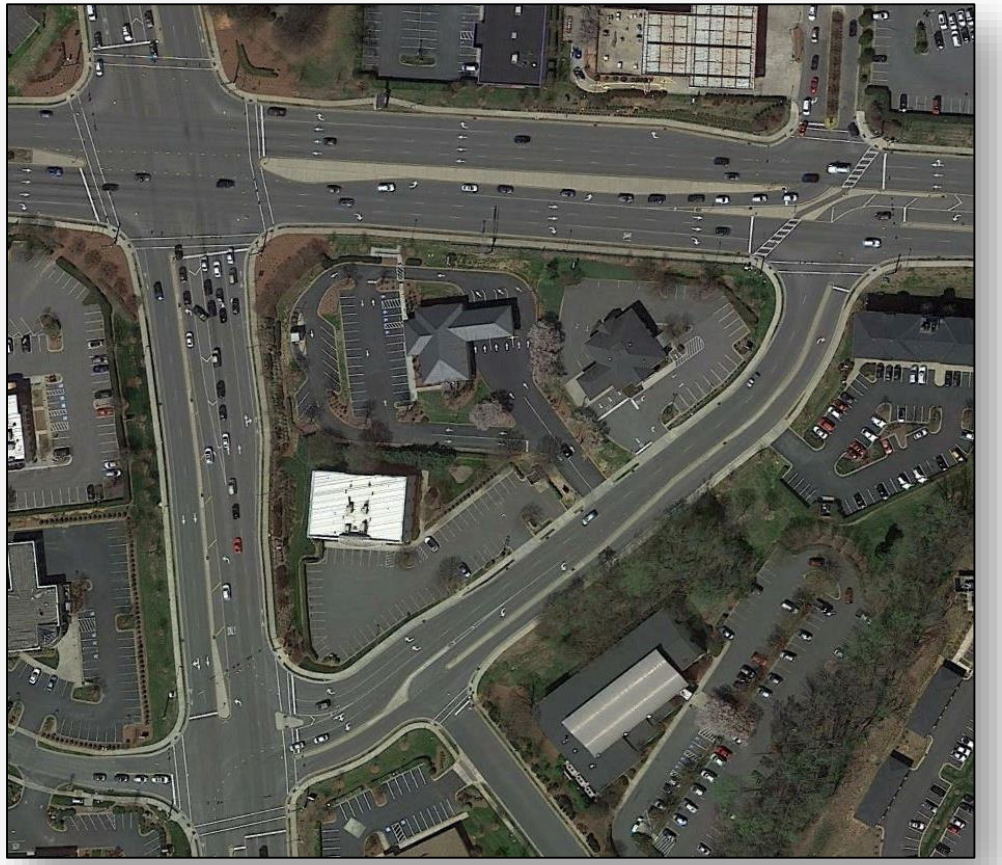
- Extra crossings for pedestrians
  - East and westbound pedestrians crossing at crossing F
  - North and southbound pedestrians crossing at crossing I
- Pedestrians conflict with right-turn vehicle
  - Similar to the conflicts at conventional intersections

Bicycle Movements at QRs

- Through bicyclists on both intersecting streets
  - Relatively longer green times
  - Favorable progression
- Right-turning movements
  - Three not affected
  - The fourth has a shorter travel distance
- Choices for left-turning cyclists
  - Follow the vehicular paths
  - Follow the crossing paths of pedestrians at the main intersection

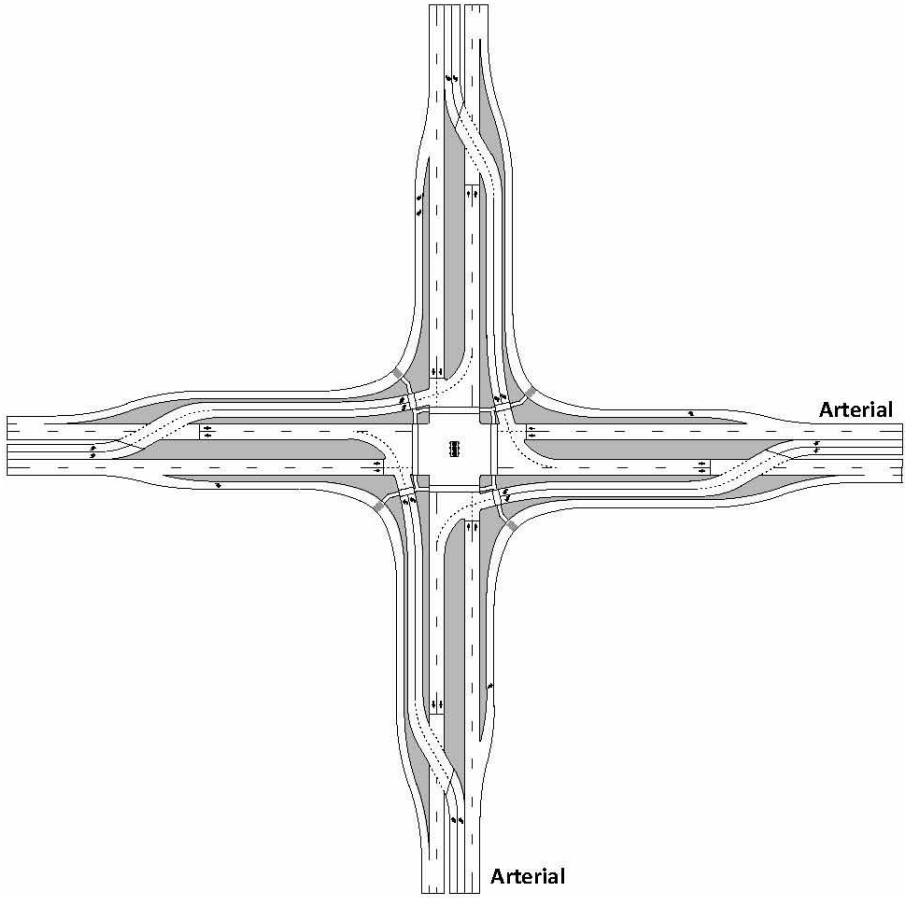
QR intersection in Huntersville, NC

Accommodation for Pedestrians and Bicyclists at QRs



QR intersection in Huntersville, NC

- No left-turn pedestrian/vehicle conflicts at the main intersection
- Only two or three signal phases at the intersection
  - Shorter cycle length reduce pedestrian delay
- Potentially shorter walking distance due to curved connecting roadway



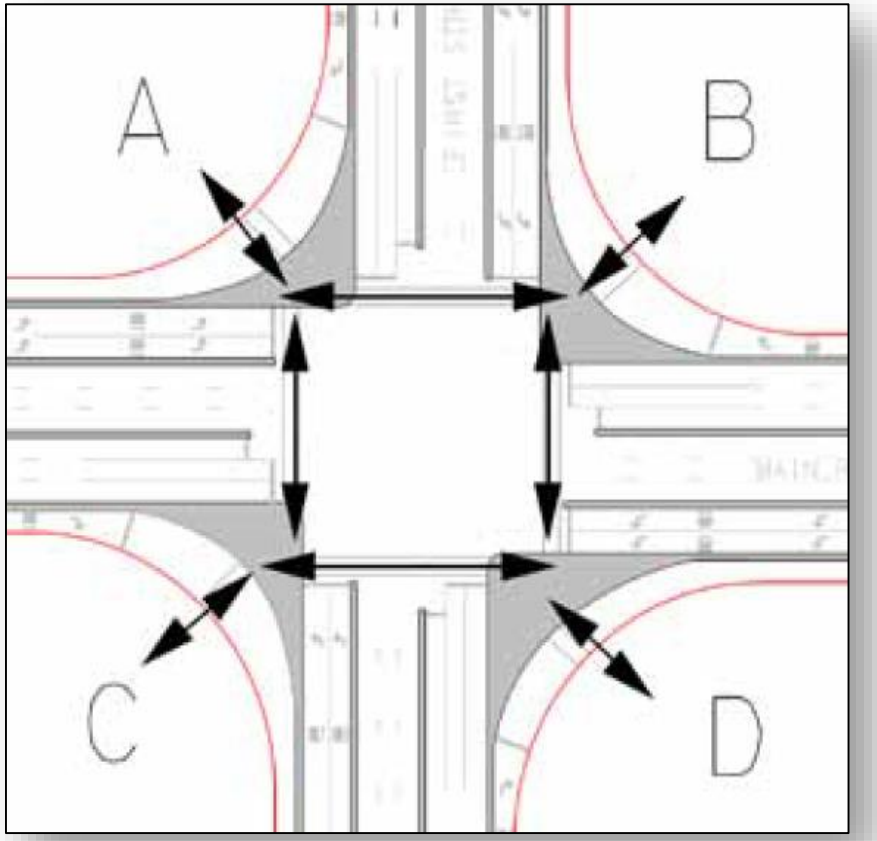
Displaced Left-turn Intersection

Displaced Left-turn Intersections

Displaced left-turn intersection in Shirley, NY

- DLT Features
  - Relocate the left-turn movement to the other side of the opposing roadway
  - Eliminate the left-turn phase for this approach
  - Reduce numbers of traffic signal phases and conflict points
  - Improve traffic operations and safety

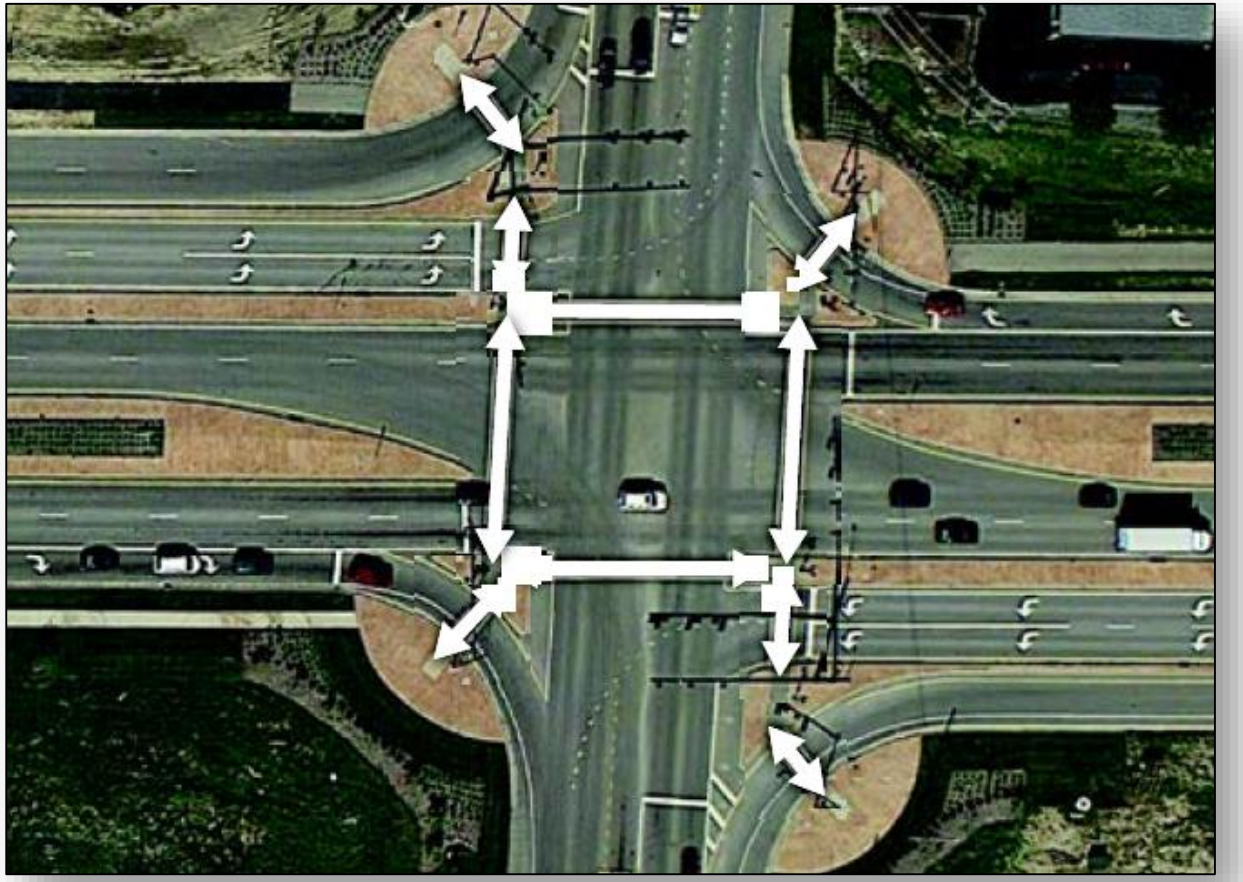
Pedestrian Movements at DLT Intersections



Possible Pedestrian Movements at DLT

- Left-turn lanes at DLT
  - between opposing through lanes and right-turn lanes
  - Counterintuitive to pedestrians
- DLT design to accommodate pedestrian crossing
  - Wide geometric footprint
  - Short signal cycle length
- Median islands provide pedestrian refuge

Accommodation for Pedestrians and Bicyclists at DLTs



Displaced left-turn intersection in Dayton, OH

- Provide pedestrian refuges between opposing through lanes
  - Increase pedestrian safety
  - minimize vehicular delay
- Design right-turn channelized islands to accommodate pedestrians

Accommodation for Pedestrians and Bicyclists at DLTs (cont'd)

Displaced left-turn intersection in Shirley, NY

Provide wayfinding signing for pedestrians

- Direct pedestrians through the intersection to desired destinations
- Reduce pedestrian confusion
- Encourage pedestrians to use designated travel paths through the intersection

Accommodation for Pedestrians and Bicyclists at DLTs (cont'd)

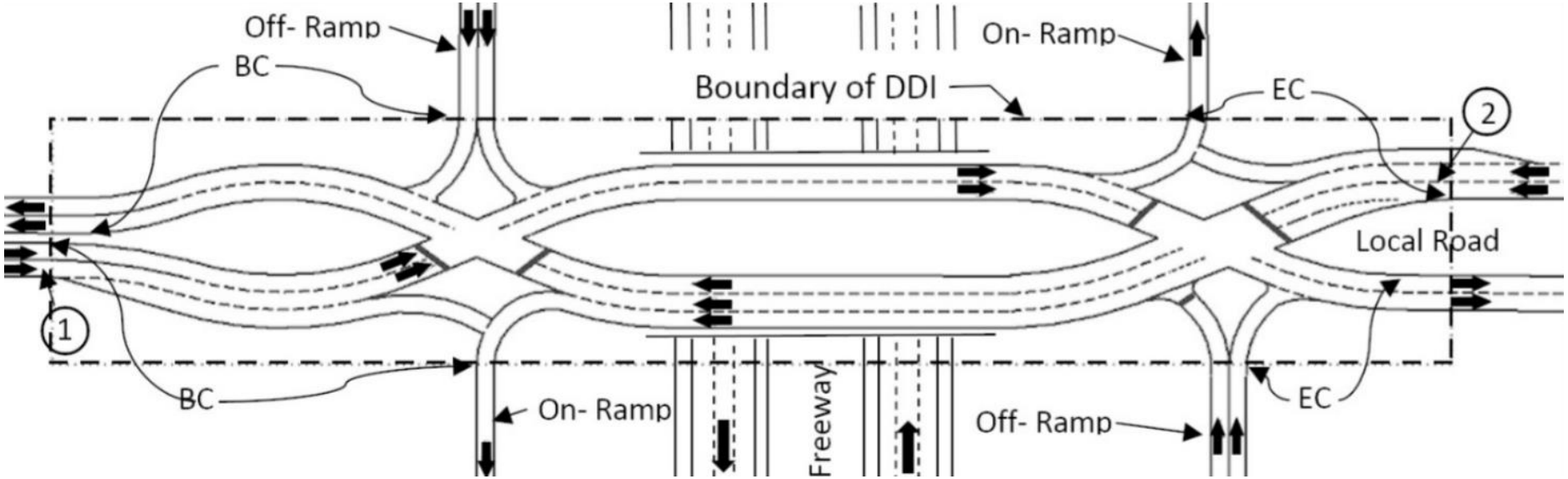
Provide accessible devices to assist pedestrians with disabilities

- Use locator tones at the pedestrian signals
- Install specialized surface treatments at the quadrants and median refuges
- Accessible Pedestrian Signals (APS) recommended

DLT intersection in West Valley City, Utah

Pedestrian and Bicycle Treatments at DLT

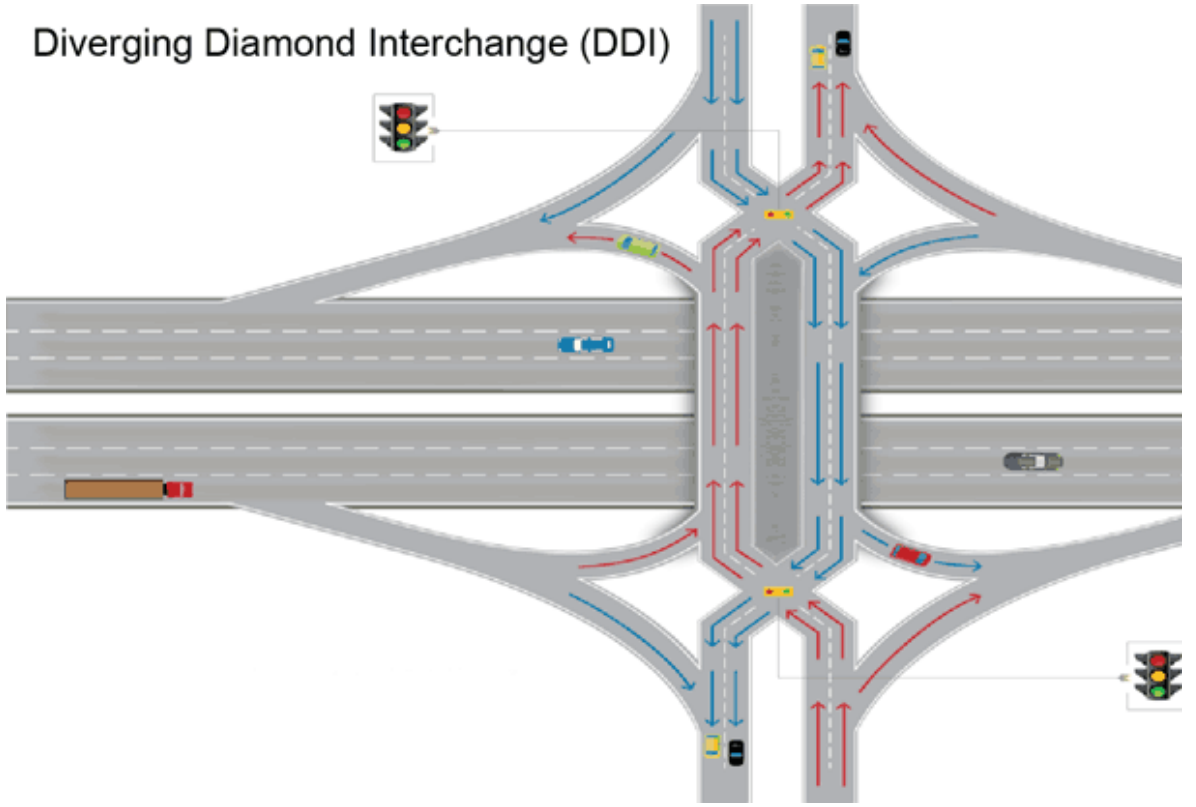
Pedestrian and Bicycle Treatments at DLT W/Cycle Track



Diverging Diamond Interchange

Diverging Diamond Interchanges (DDI)

- Arterial traffic crosses to the other side of the roadway between the freeway ramps
- Vehicles can turn left onto/off freeway ramps without stopping or crossing opposing lanes of traffic
- Can be designed as an overpass or underpass
- Also known as a Double Crossover Diamond

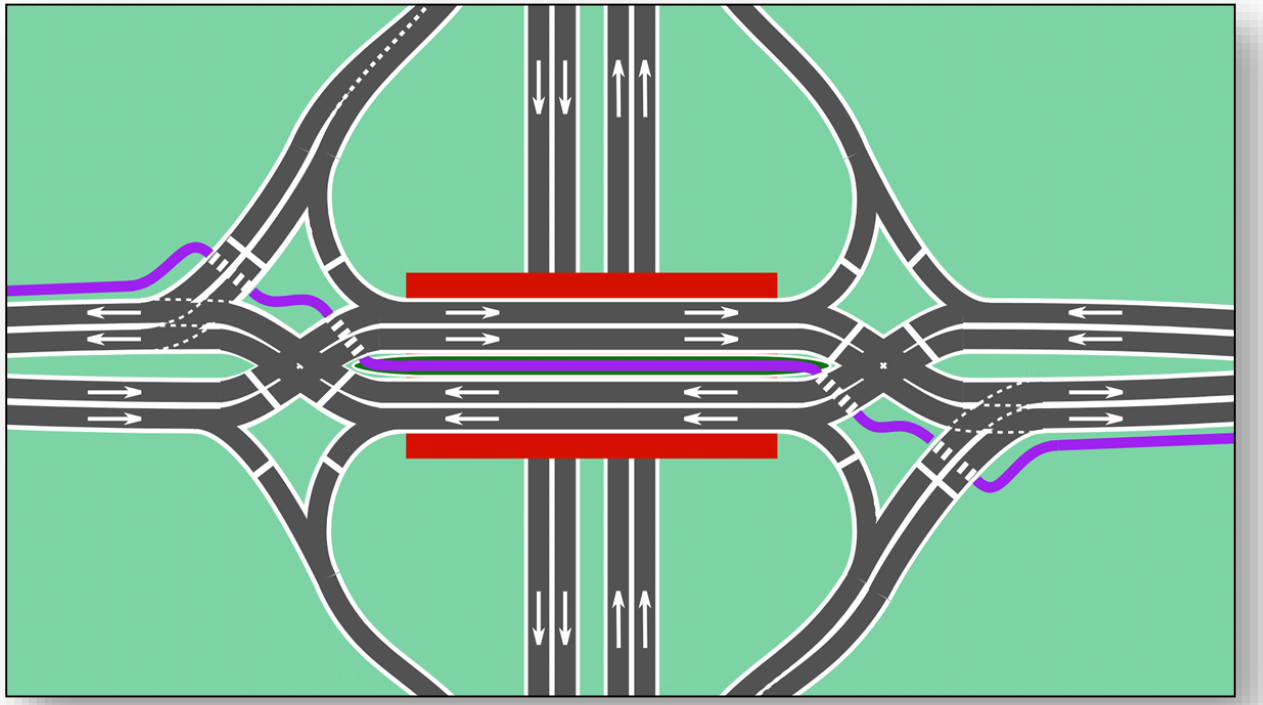


Location Suitable for DDIs

- Heavy left-turn traffic volumes onto/off freeway ramps
- Limited roadway width for left-turn lanes between ramp intersections
- Limited right-of-way area to expand
- Without adjacent traffic signals or nearby driveways

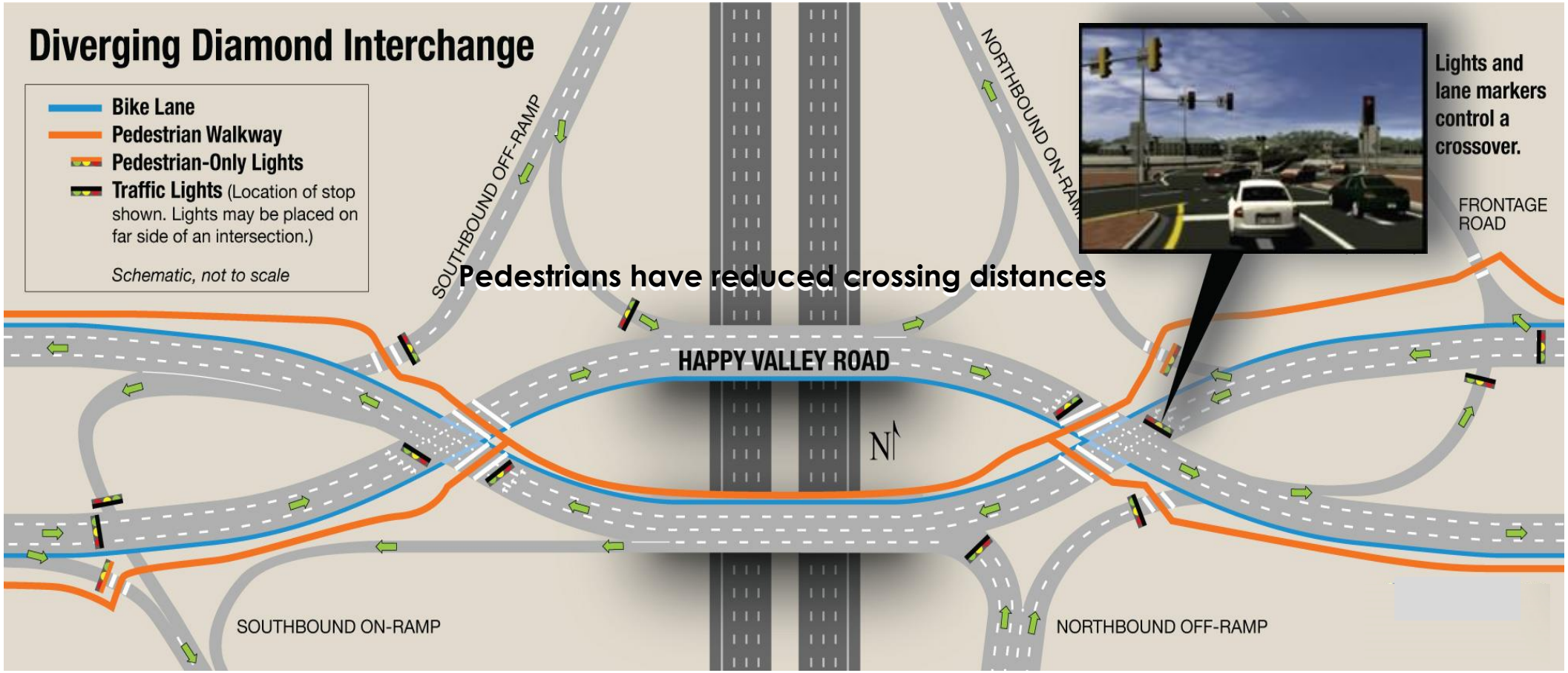
DDI on I-75 in Sarasota, FL

Accommodation for Pedestrians and Bicyclists at DDIs

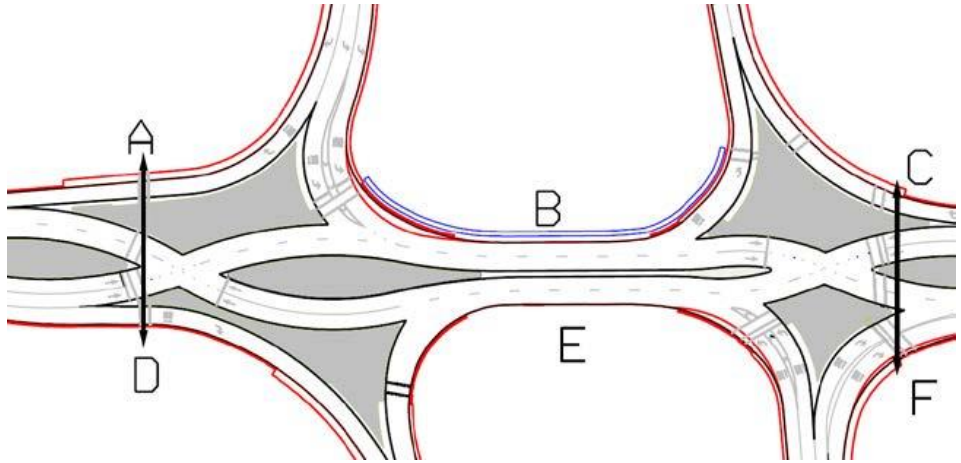


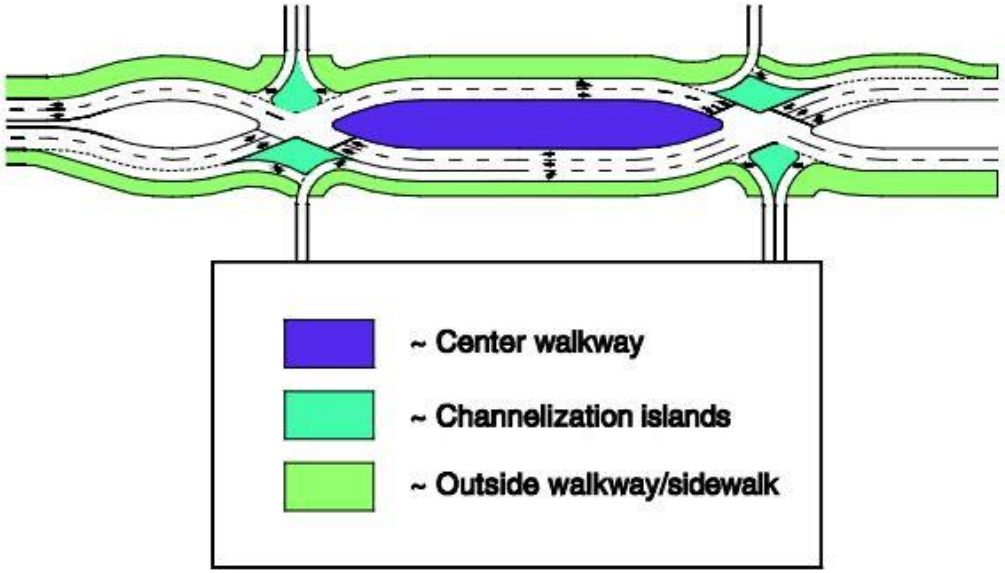
- Fewer conflicting traffic streams
- Central island serves as refuge between each stage or signal phase
- Bicycles can utilize pedestrian paths or vehicle paths with bike lanes

Accommodation for Pedestrians and Bicyclists at DDIs



Pedestrian Movements at DDIs

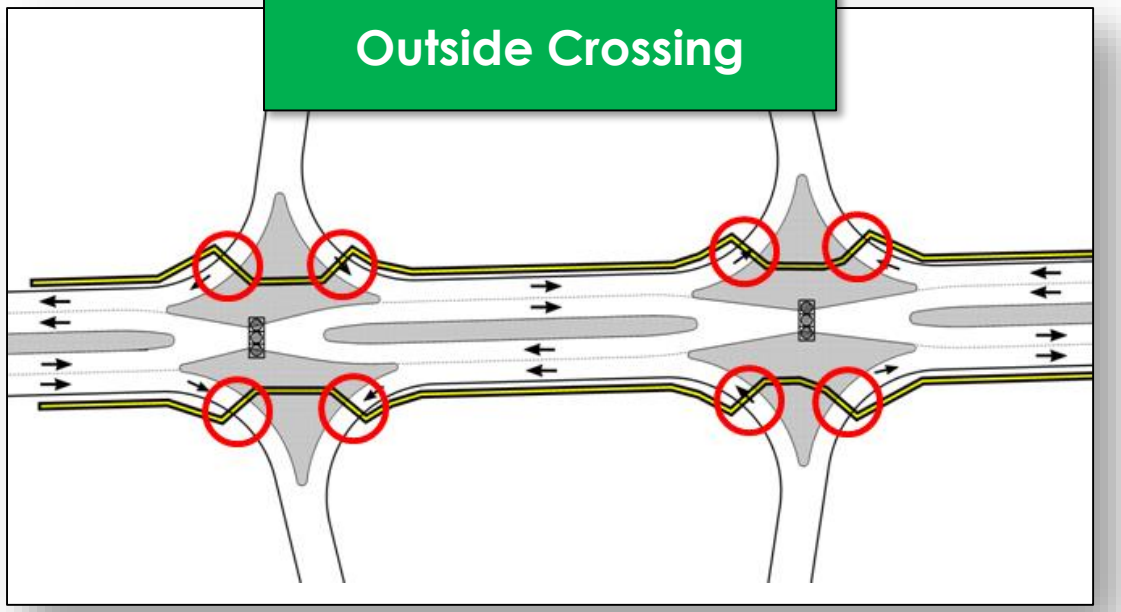




- Can cross freeway ramps and/or main street
- Cross on outside or through interchange
- Only cross one direction of traffic is allowed at a time
- Pedestrians have reduced crossing distances

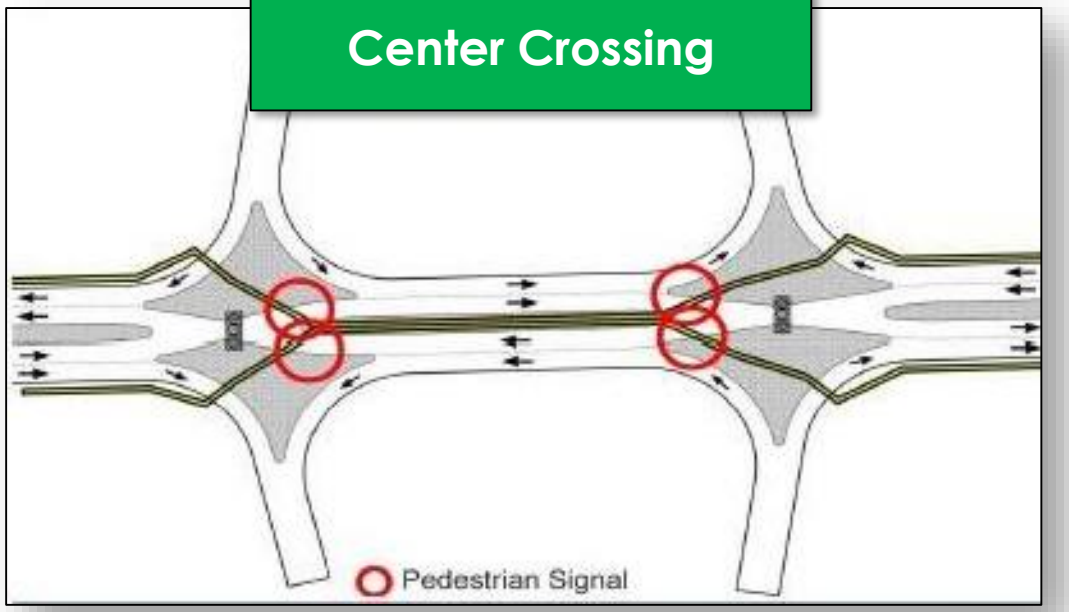
Alternative Pedestrian Movements at DDIs

Outside Crossing



- Pedestrians have shorter conflict times
- More traditional and familiar path

Center Crossing



- Crossing at signalized locations
- Crossing movement is controlled by signals

Questions?

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Transit Oriented Development Planning on the FEC Corridor

Presented by:

Christina Miskis, Regional Planner

South Florida Regional Planning Council

TRI-RAIL COASTAL LINK

Walking + Biking Station Access Study

SFRPC
South Florida Regional Planning Council
Proudly serving South Florida since 1974

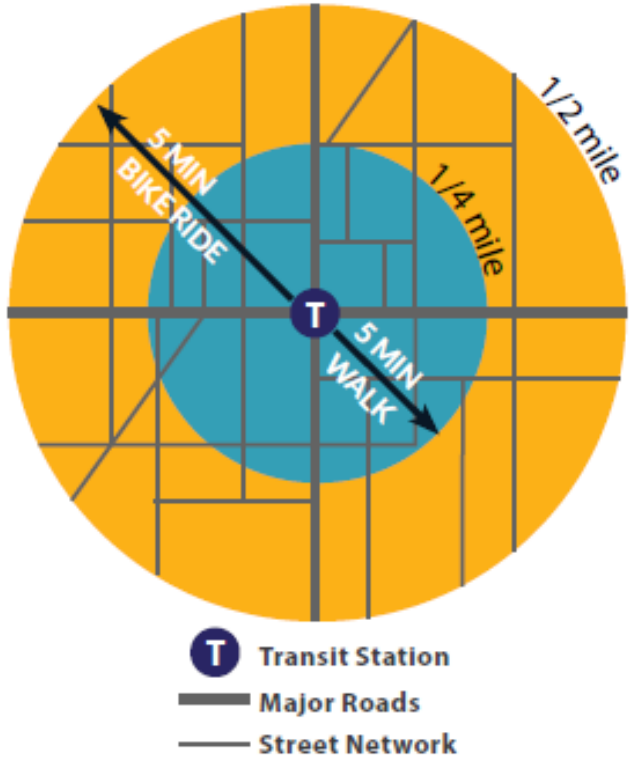
TREASURE COAST
TCRPC
REGIONAL PLANNING COUNCIL
"Bringing Communities Together" · Est. 1976

alta
PLANNING + DESIGN

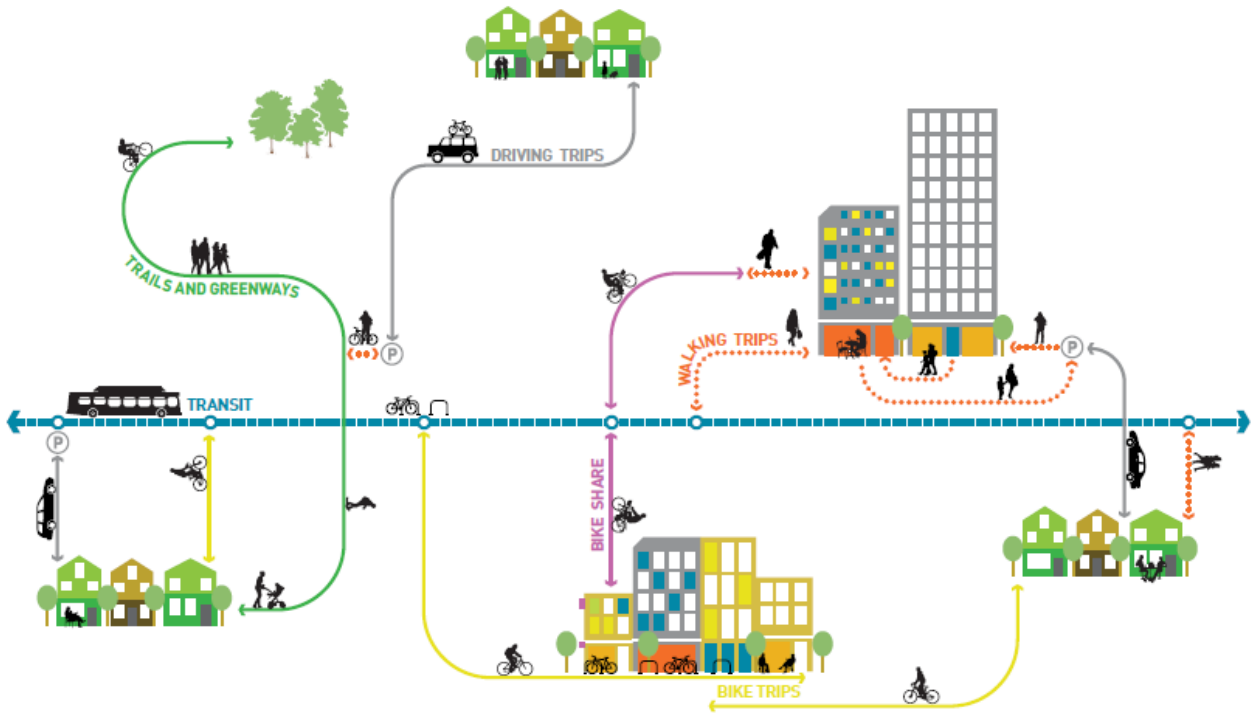
Study Outline

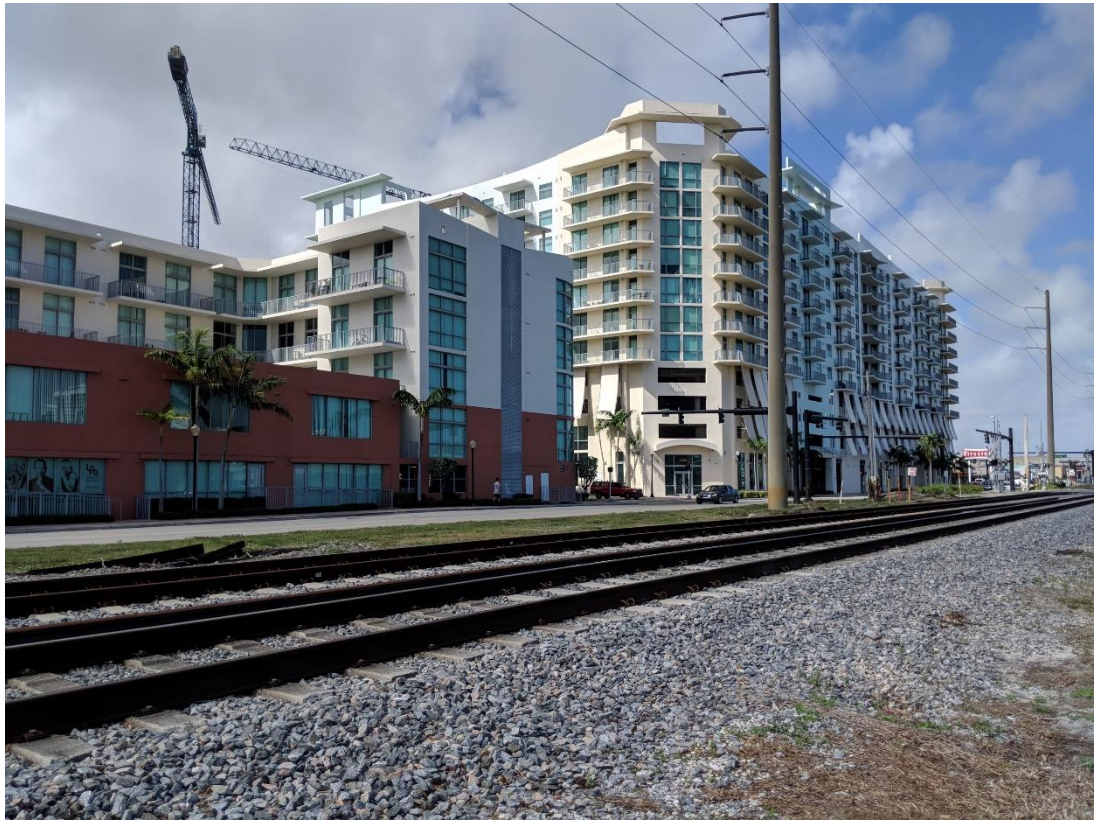
Part I: Access to Transit Best Practices

Part II: Station Area Case Studies



Transit Oriented Development

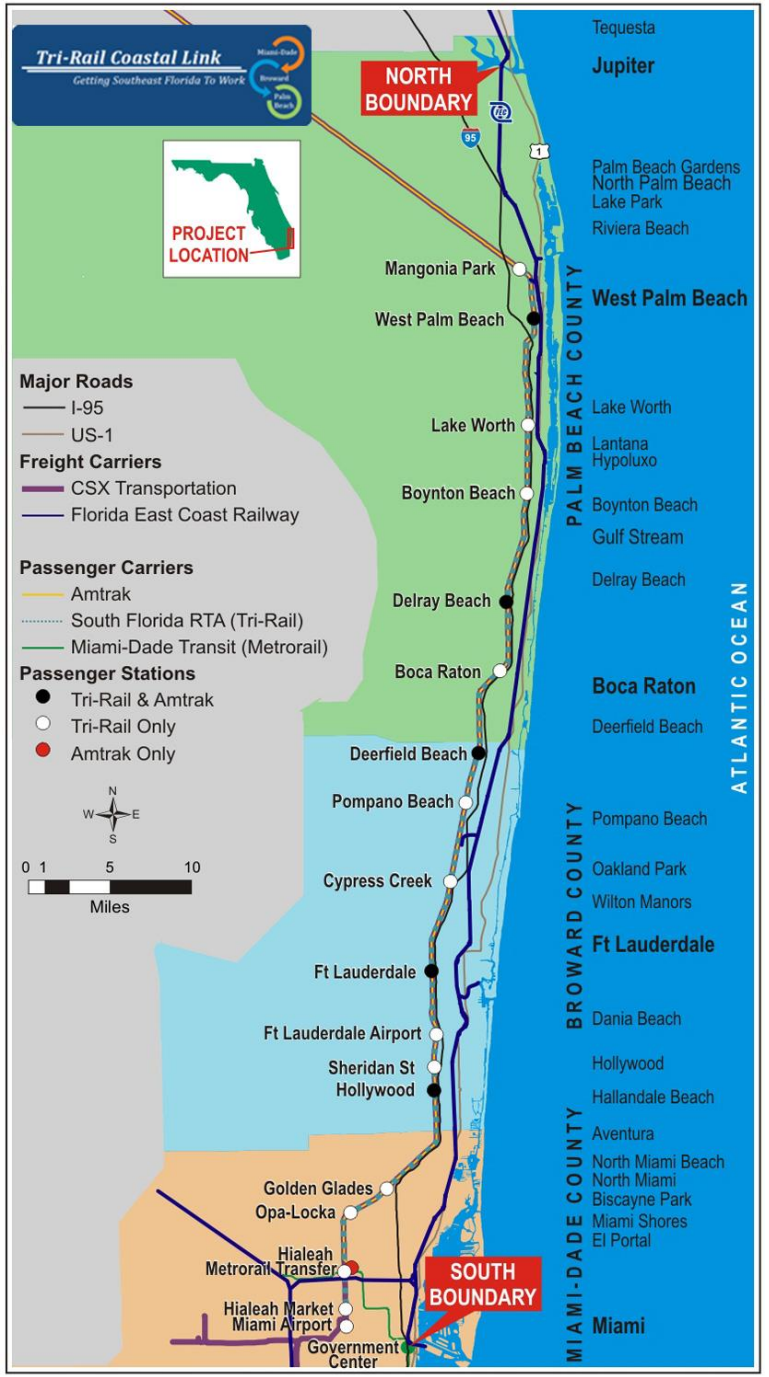




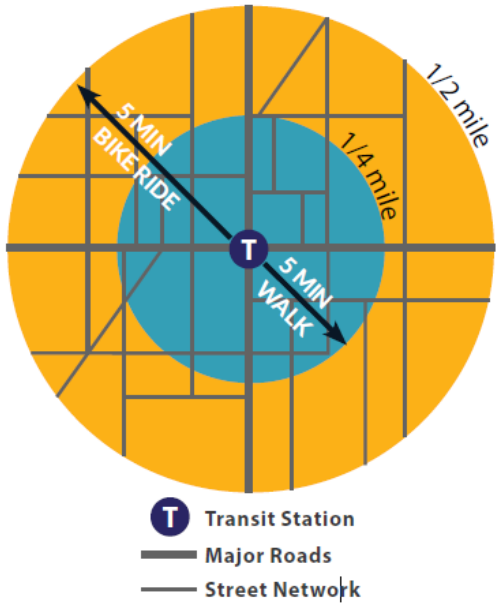
Hollywood Station, a TOD in Hollywood, FL

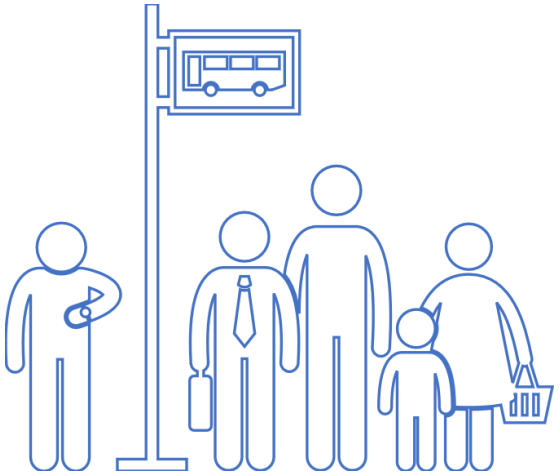
TRI-Rail Coastal Link

Tri-Rail Coastal Link is a ***regional passenger rail service planned along the FEC railway***… The project will create opportunities for economic development around stations, create jobs, and improve regional access and mobility



Station Areas + Design Users





People Walking

People Biking

Station Area

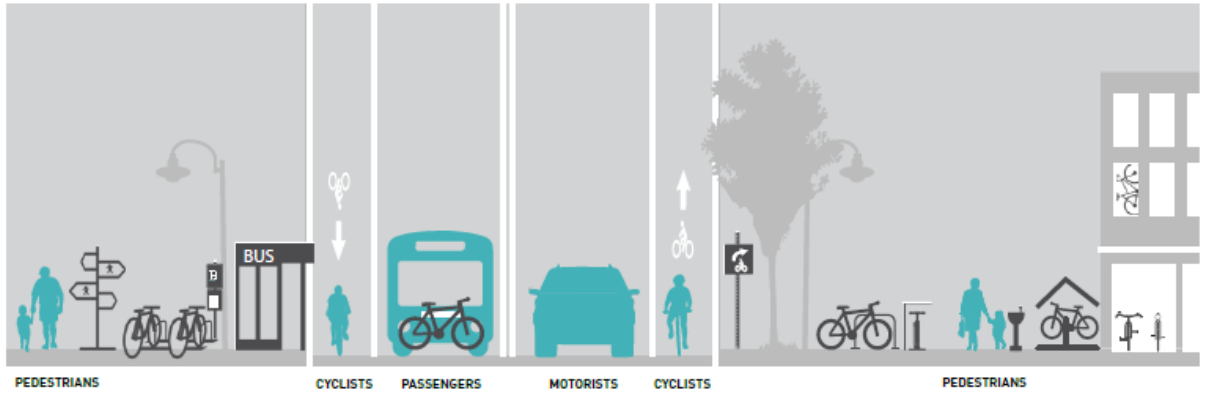
- Five minute walk/Two minute bike ride
- High density of uses and activity
- Short distances between destinations with frequent intersections and crossings

Transit-Friendly Area

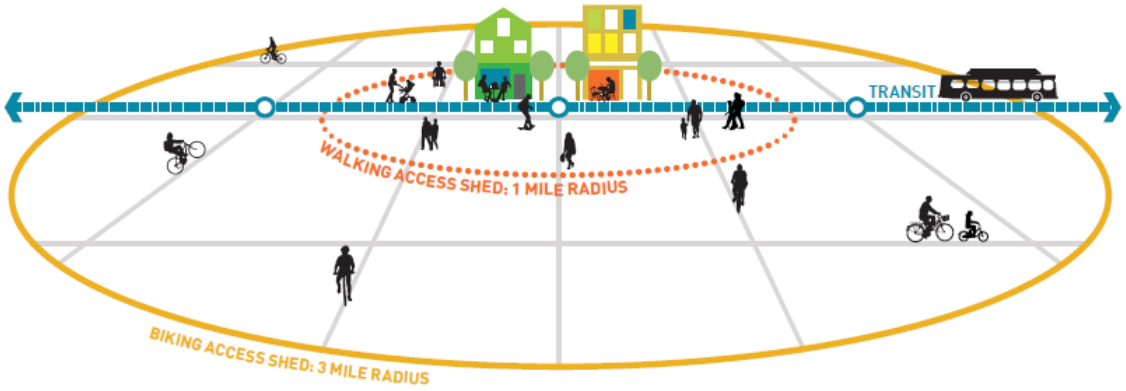
- Ten minute walk/Five minute bike ride
- Moderate density of uses and activity
- Moderate distances between destinations with frequent intersections and crossings

All ages and abilities

Complete Streets + Complete Networks



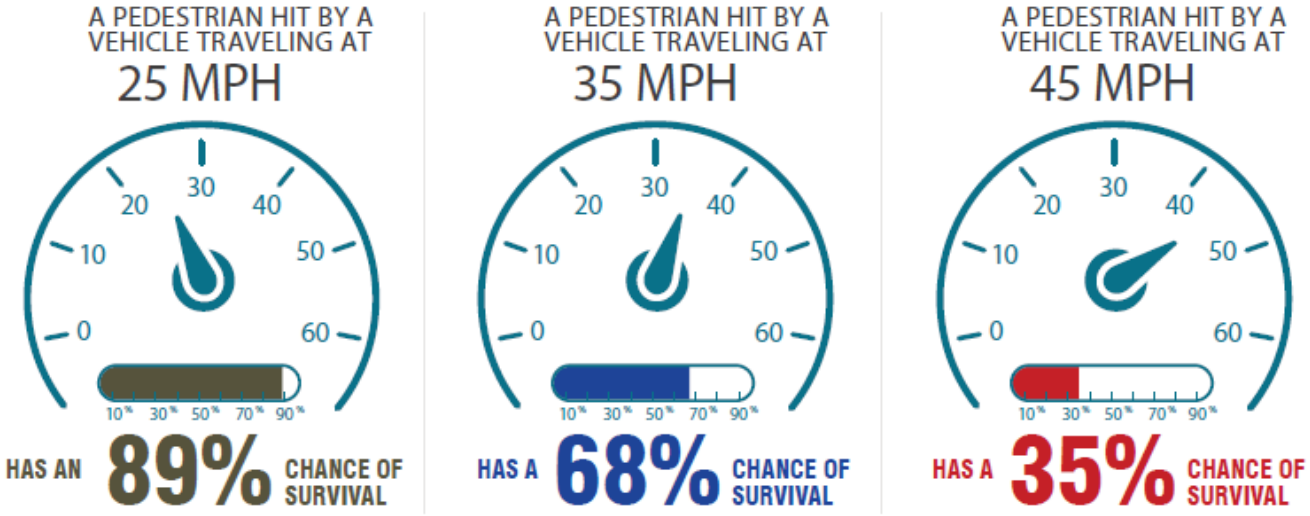
Complete Streets provide comfortable transportation options for all ages and abilities



Complete networks ensure trips are safe, meaningful, and direct for everyone

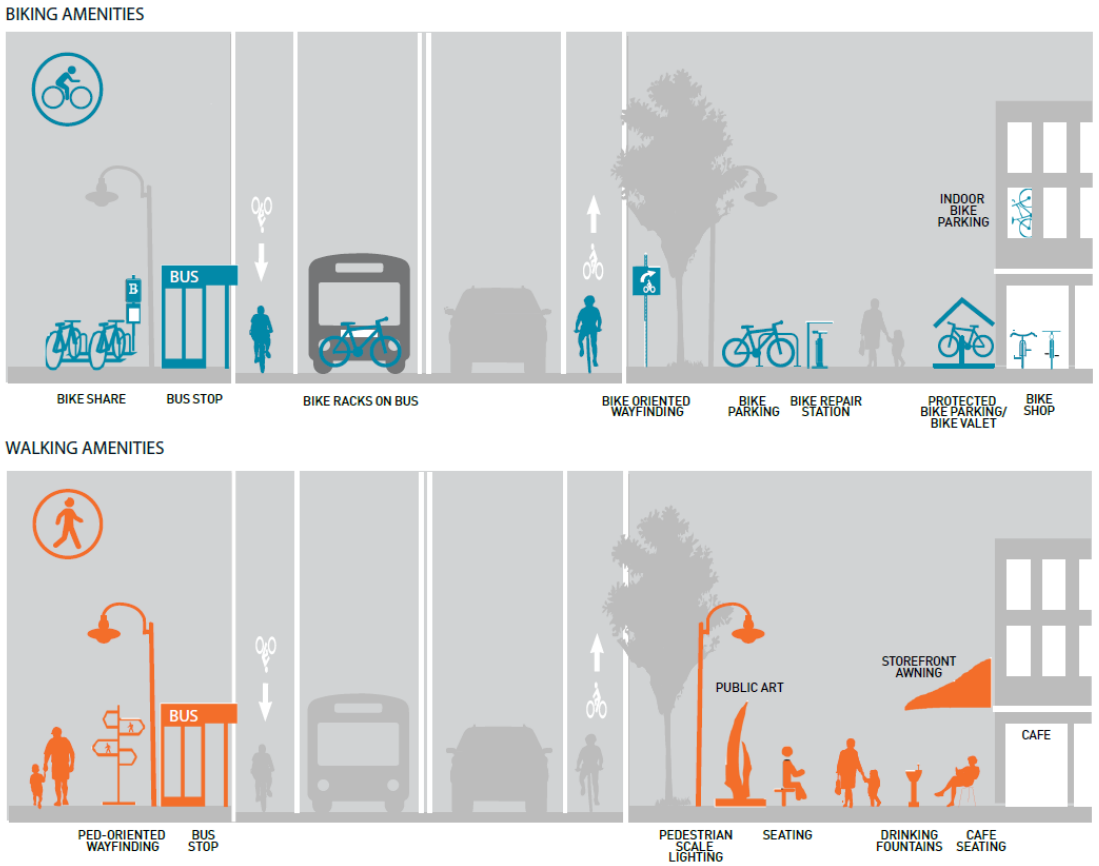
Safety + Comfort

Speed matters for people walking



Impact speed and a pedestrian's risk of severe injury or death (Tefft 2011).

Comfortable facilities and enhancements



Connections + Crossings

"…connected street network emphasizes accessibility by accommodating more direct travel dispersed over more streets."

The goal is to make intersections and other street crossings connectors rather than barriers, particularly along major streets.

Sense of Place

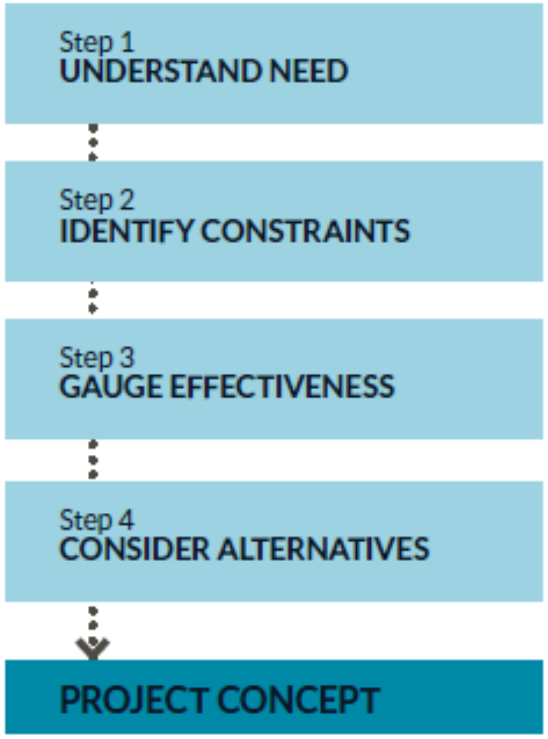
Natural Elements + Landscaping

People

Destinations

Implementation + Funding

Process



Funding Strategies

	Short term Project < 2 years	Long term Project > 2 years
Small budget	Neighborhood associations Community Redevelopment Agencies Crowdsourcing Non-profit grants Impact fees Infrastructure bonds Governor's Office of Highway Safety Local taxes Local health departments Foundation grants	Federal Transportation Funds Capital improvement budget funds State programs: *Florida Department of Transportation (FDOT)* *Recreational Trails Program (Dept. of Environmental Protection)* *Community Development Block Grant (CDBG)*
Big budget	Foundation grants Individual donors Community Redevelopment Agencies Public-private partnerships Infrastructure bonds Local taxes	Federal transportation funds Congressional earmarks

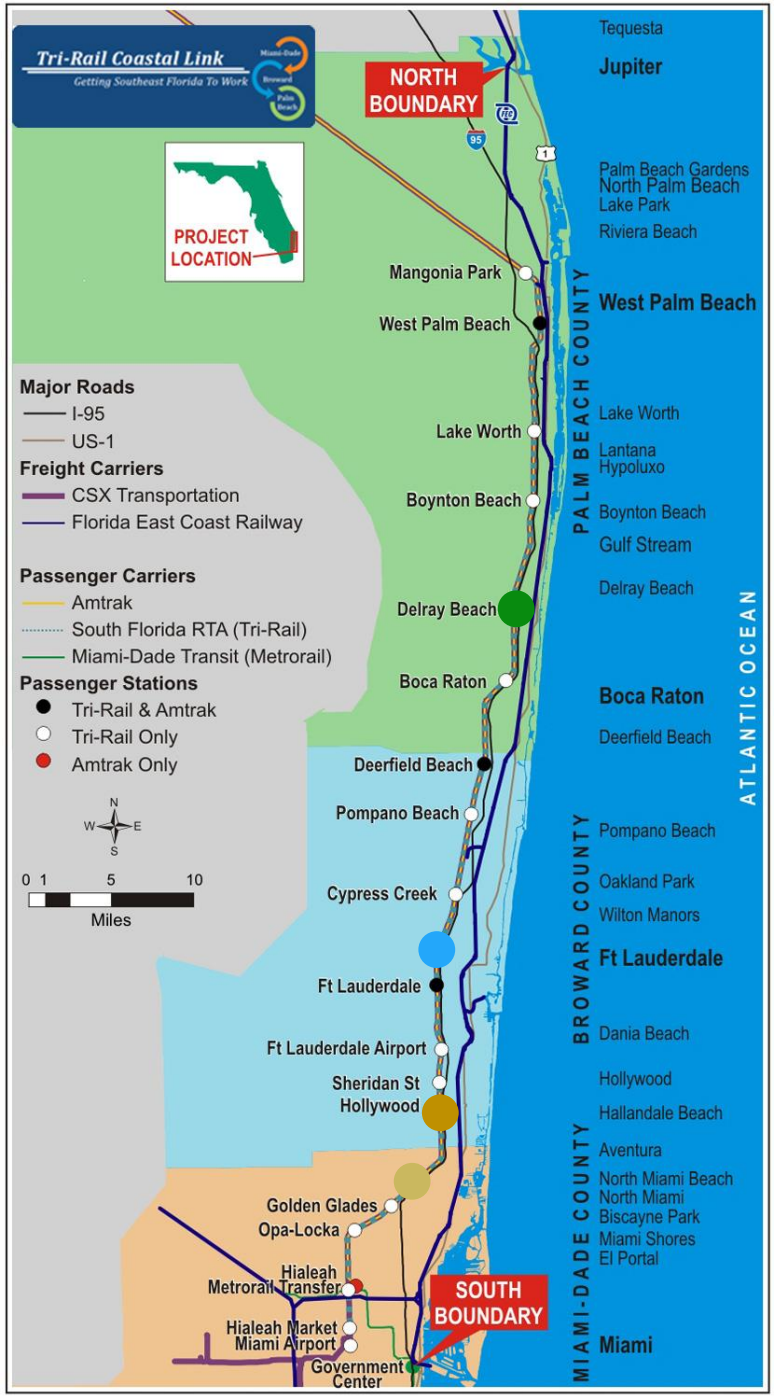
Station Area Case Studies

Delray Beach

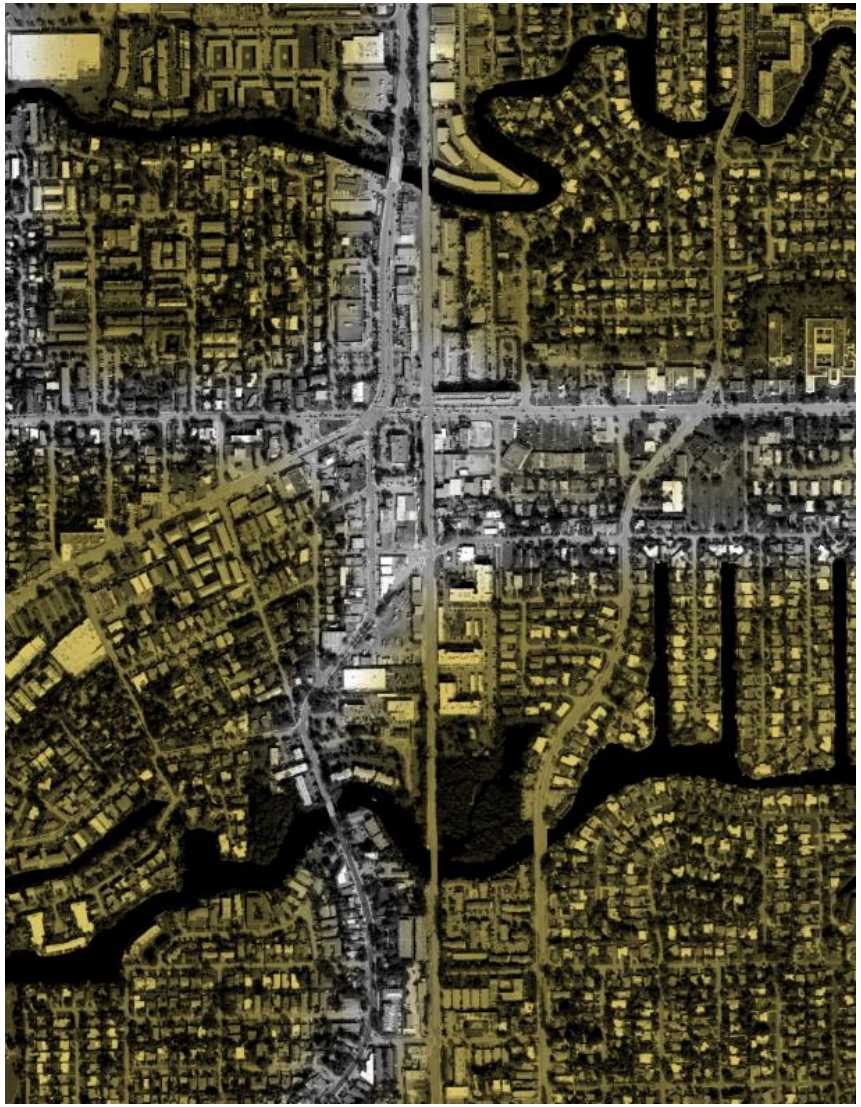
Wilton Manors

Hollywood

North Miami Beach



Wilton Manors



Wilton Manors
Existing Conditions

STREET GRID

DESTINATIONS

PEDESTRIAN + BICYCLE COLLISIONS

HIGH VEHICLE SPEEDS

KEY TRANSIT ACCESS CORRIDORS

BICYCLE CONNECTIONS

Wilton Manors
Needs and Opportunities

Safety + Comfort

Walking and biking in station area has improved with recent street projects, but gaps and substandard facilities still define the walkway and bikeway network

Connections + Crossings

Connectivity between neighborhoods and community destinations along major corridors is good, but routes often lack character and comfort

Sense of Place

Wilton Manors has a strong character, but it is often not reflected in the street infrastructure

Wilton Manors
Proposed Concepts

Complete Streets + Complete Networks

- This study area has many opportunities to improve walking and biking connections to the proposed station. **Five street concepts and one intersection concept illustrate how a complete network of walkways and bikeways can be created** around the proposed station.

1. N Dixie HWY / SR 811 (North of 26th)
2. NE 6th Ave
3. Five Points
4. NE 26th Ave (East of RR Xing)
5. NE 24th St
6. N Dixie HWY / SR 811 (South of 26th)

Hollywood

Hollywood
Needs and Opportunities

Safety + Comfort

With the exception of a few blocks in Downtown Hollywood, most of the streets in the station area are uncomfortable to walk and bike along

The high traffic stress is the result of long block lengths (infrequent opportunities to cross streets), high vehicle speeds and volumes, and narrow or missing walkways and bikeways

Connections + Crossings

Enhanced intersections, especially along major streets, should be improved with wider walkways and dedicated space for bikeways through intersections

Enhanced railway crossings will improve safety and convenience for people walking and biking

Sense of Place

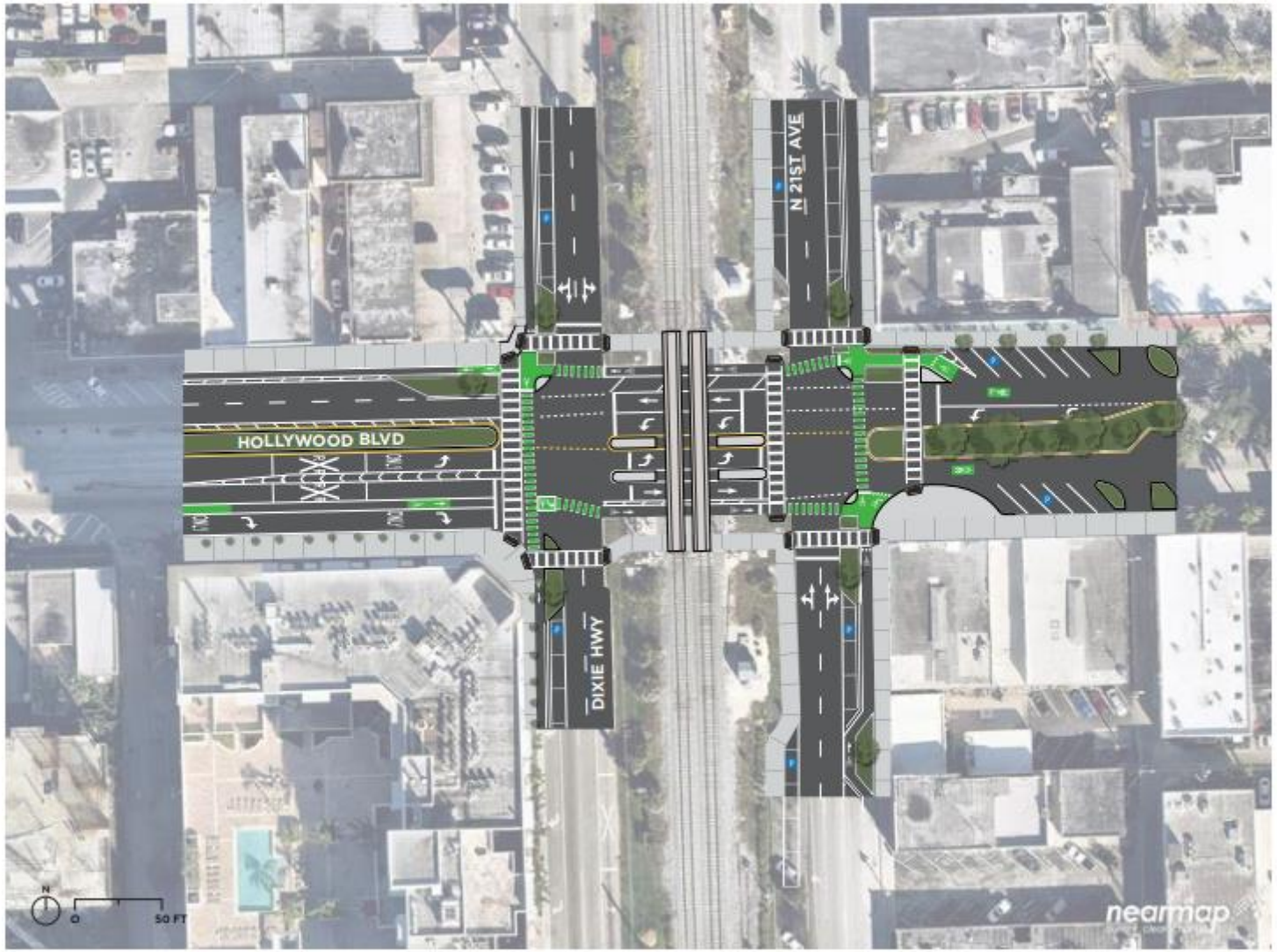
Hollywood has a strong public art and mural scene, creating a unique identity that is visually attractive

Wayfinding can direct people to major destinations and also be used to create a branded identity around the proposed transit station

Hollywood
Proposed Concept

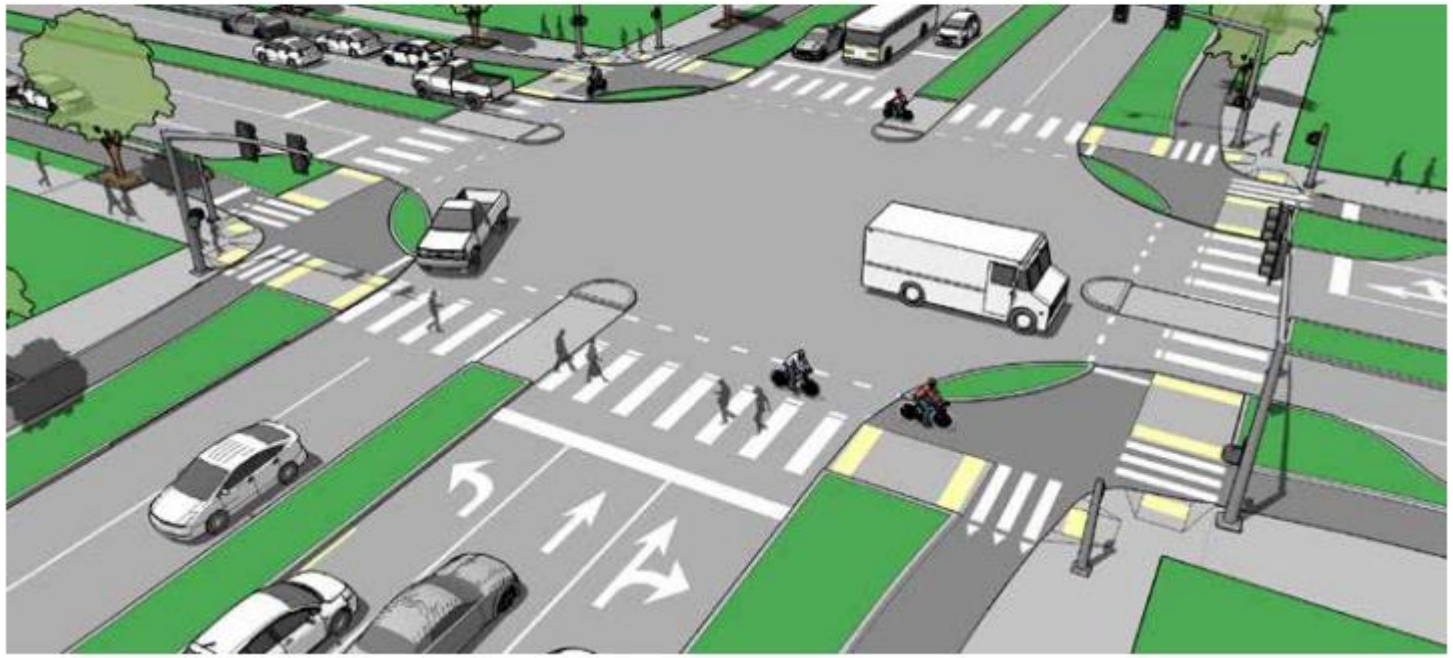
Protected Intersection

Enhanced Railroad Crossing

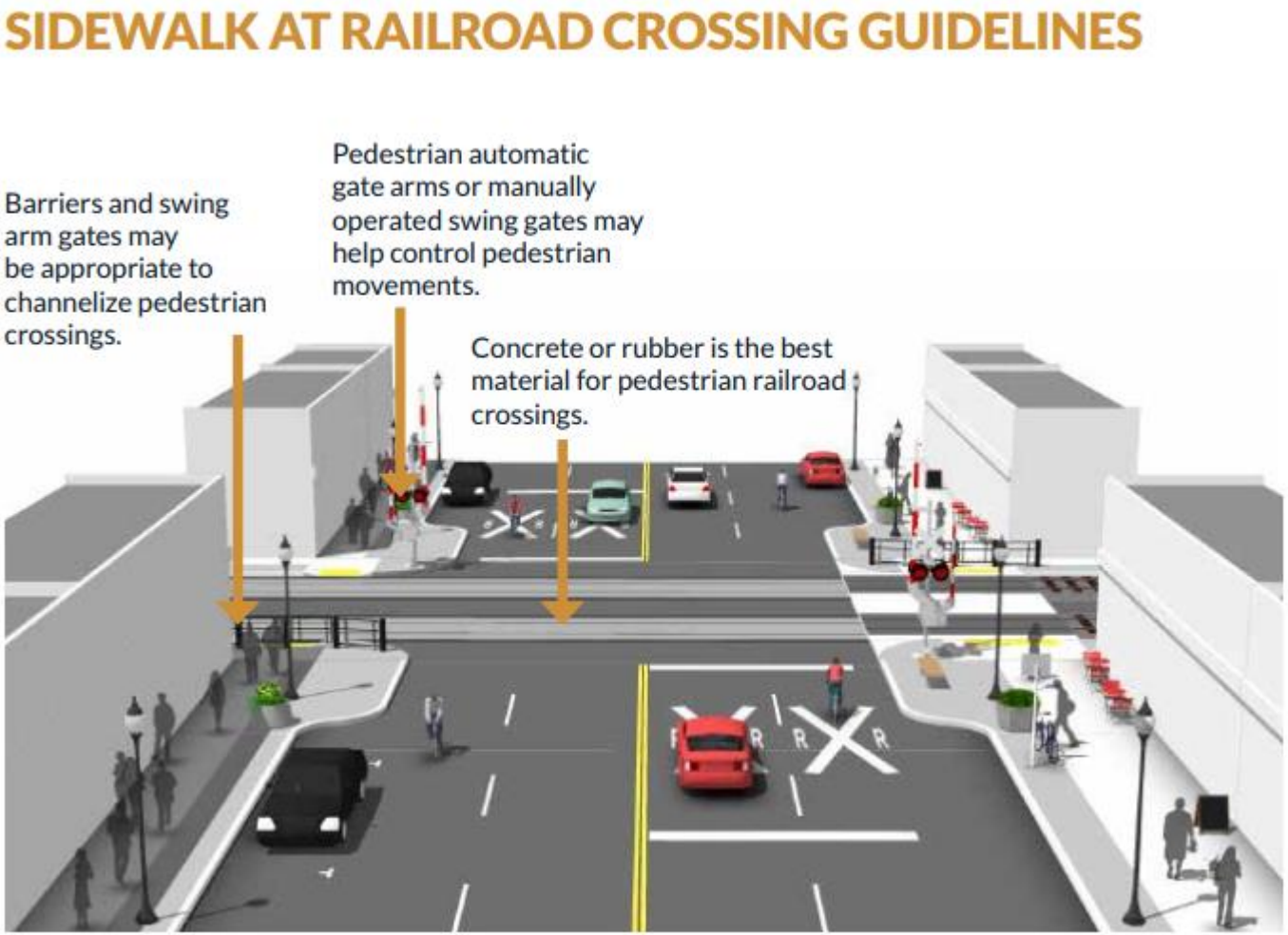


Hollywood
Proposed Concept

PROTECTED INTERSECTION GUIDELINES



Hollywood
Proposed Concepts

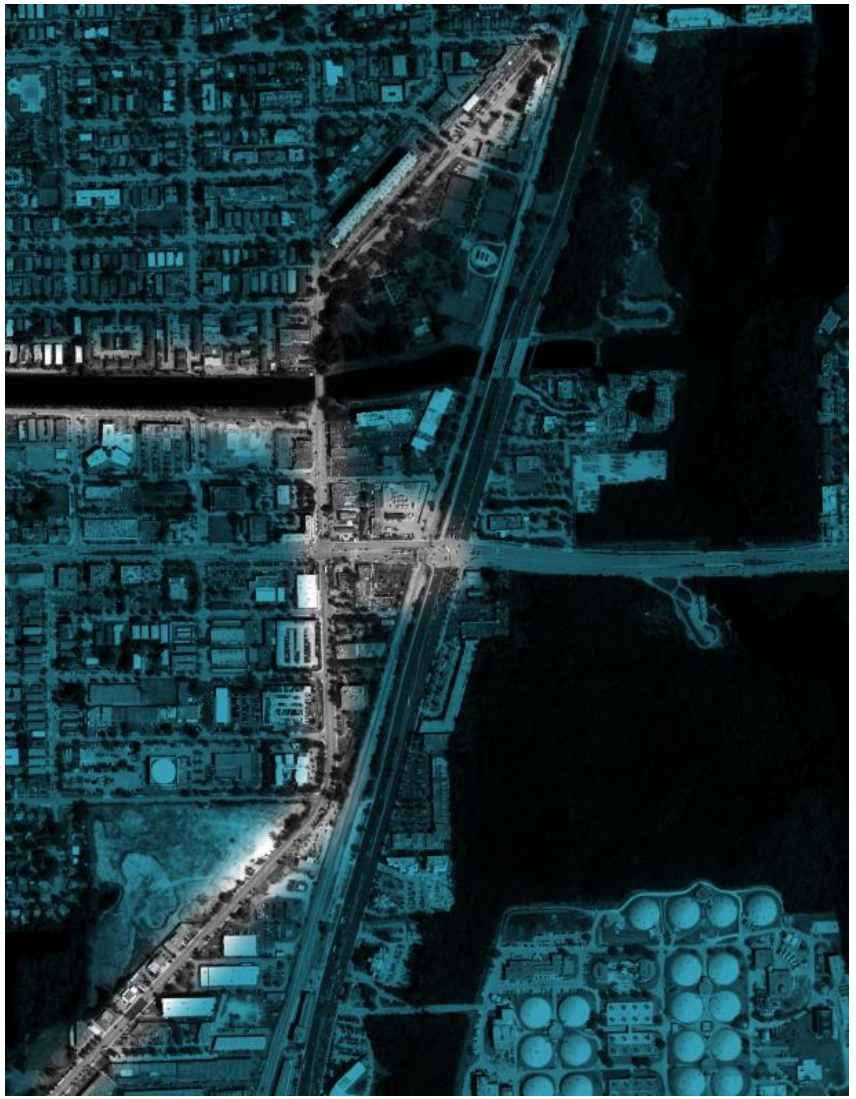


Hollywood
Proposed Concepts

Existing Conditio

Proposed Conditions

North Miami Beach



North Miami Beach
Existing Conditions

STREET GRID

DESTINATIONS

PEDESTRIAN + BICYCLE COLLISIONS

HIGH VEHICLE SPEEDS

KEY TRANSIT ACCESS CORRIDORS

BICYCLE CONNECTIONS

North Miami Beach
Needs and Opportunities

Safety + Comfort

Neighborhood streets near the station are more comfortable to walk, but biking is still a challenge no matter what type of street you are in the station area

Connections + Crossings

Crossings along major corridors are infrequent and have minimal treatments for people walking when they are present

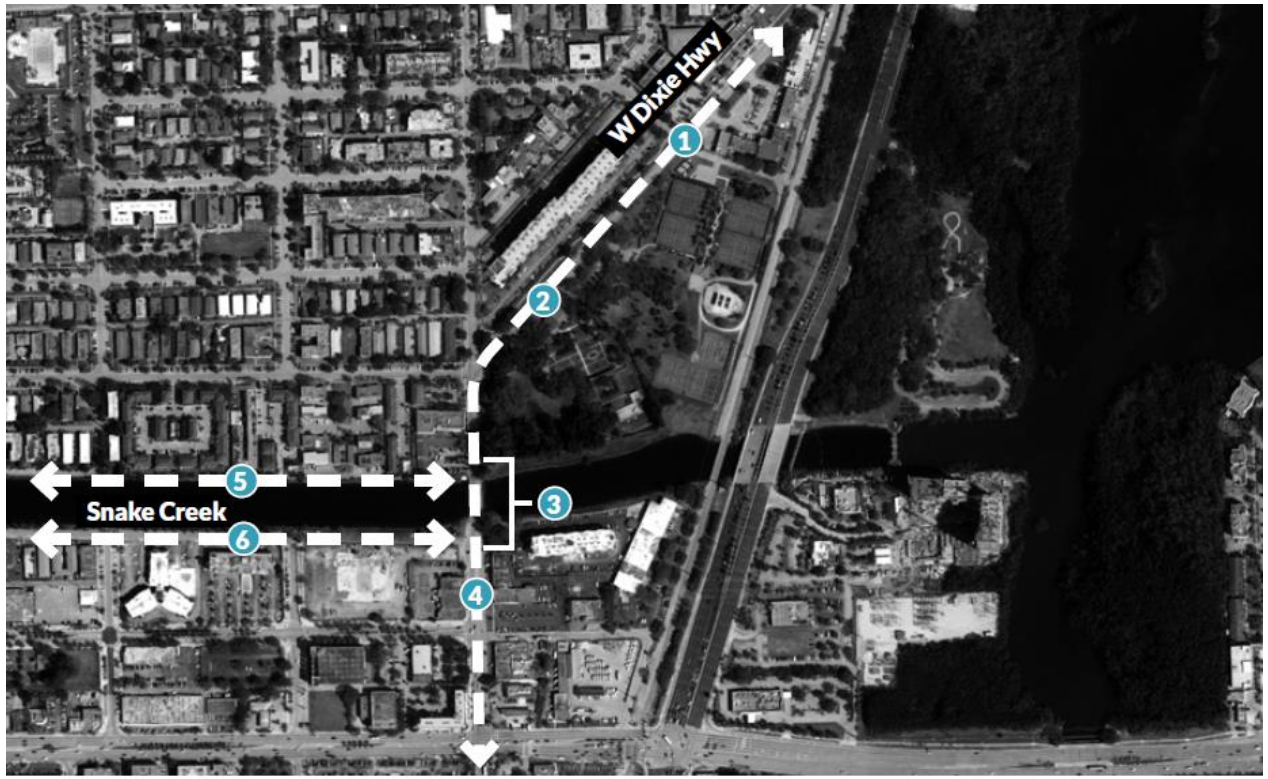
Sense of Place

Cultural destinations, like the Ancient Spanish Monastery, are historic and within walking distance of the proposed station

North Miami Beach
Proposed Concepts

Trails and Complete Streets to Transit and Parks

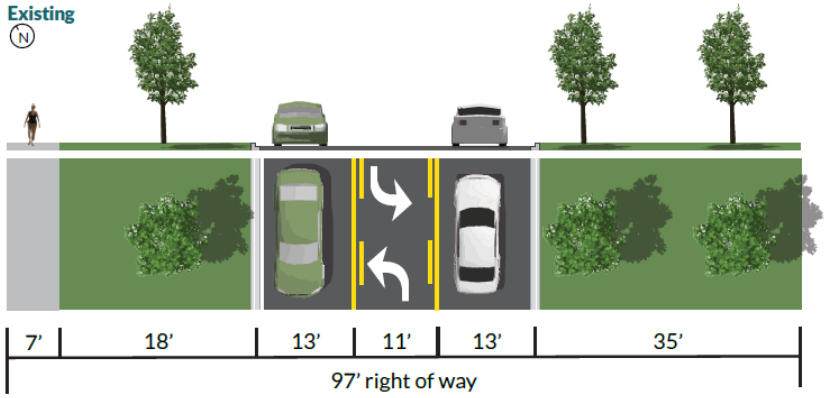
The proposed recommendations illustrate how new multi-modal connections can be made to areas north, south, and west of the proposed station using trails, walkways and bikeways.

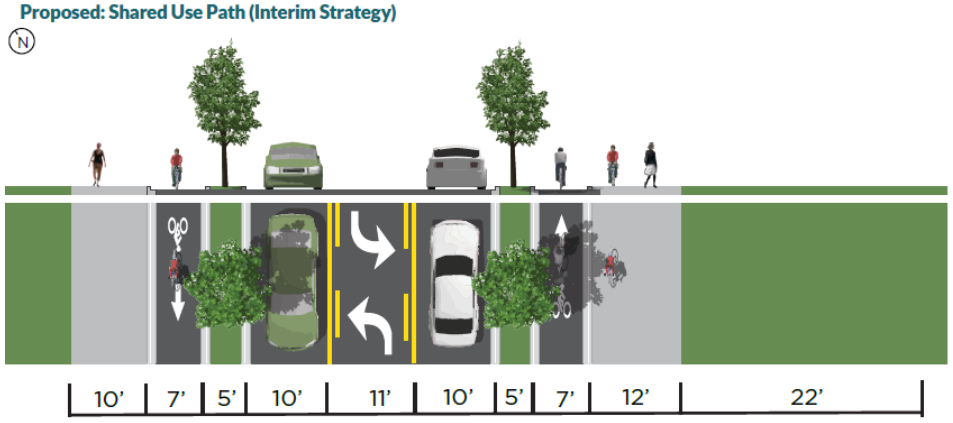


1. W Dixie Hwy at NE 170th St
2. W Dixie Hwy at St Bernard De Clairvaux
3. W Dixie Hwy (Snake Creek Bridge)
4. W Dixie Hwy (South of Snake Creek Bridge)
5. Northside of Snake Creek
6. Southside of Snake Creek

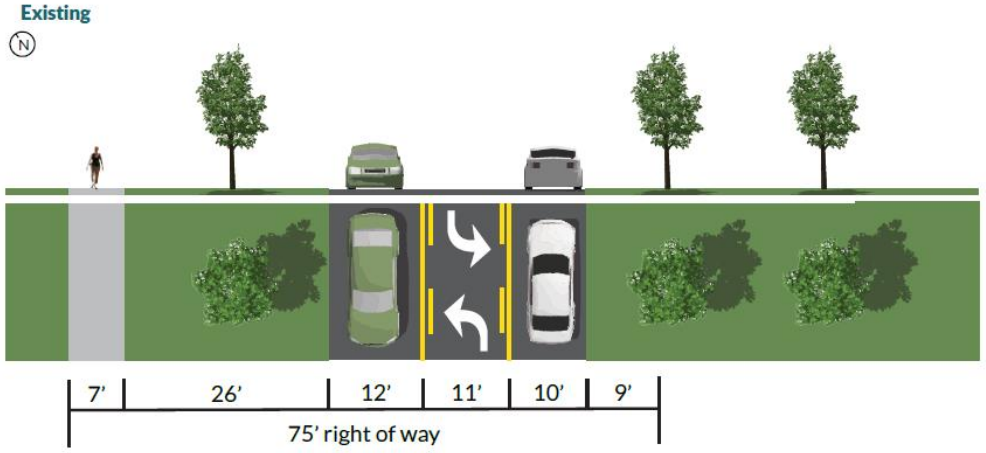
North Miami Beach
Proposed Concepts

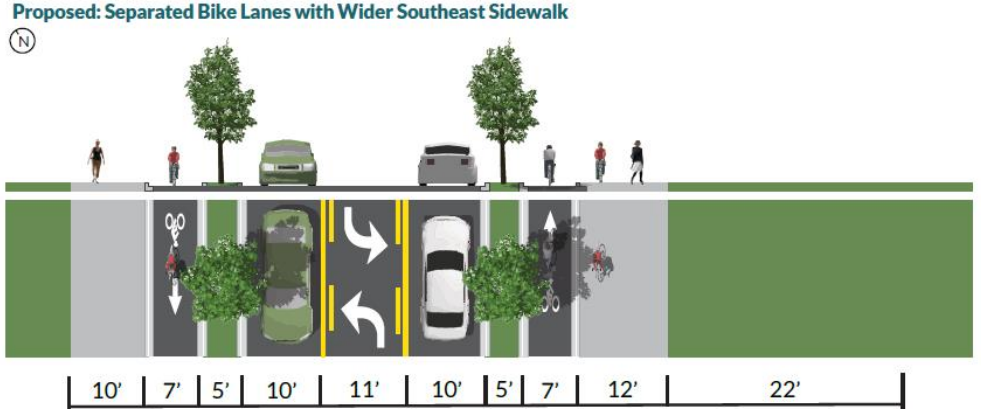
W Dixie Highway at NE 170th Street





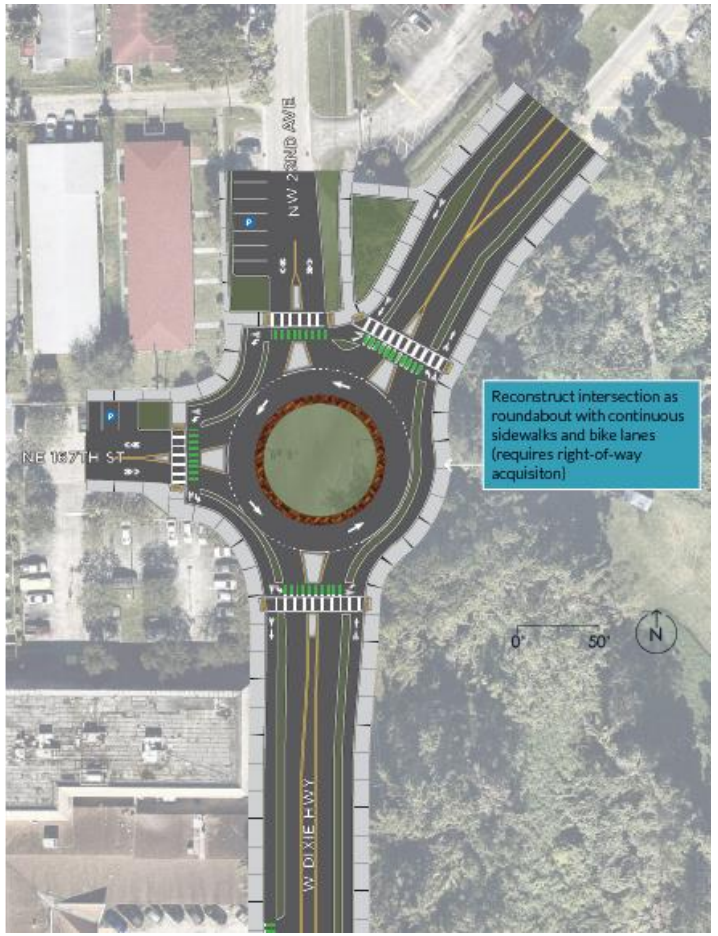
W Dixie Highway at St Bernard De Clairvaux

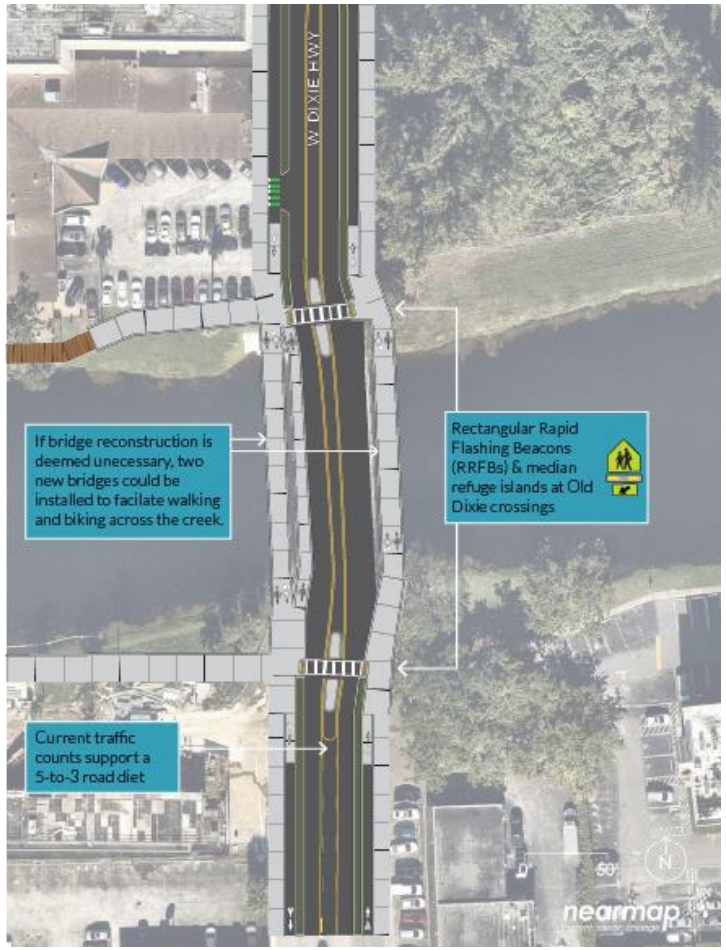




North Miami Beach
Proposed Concepts

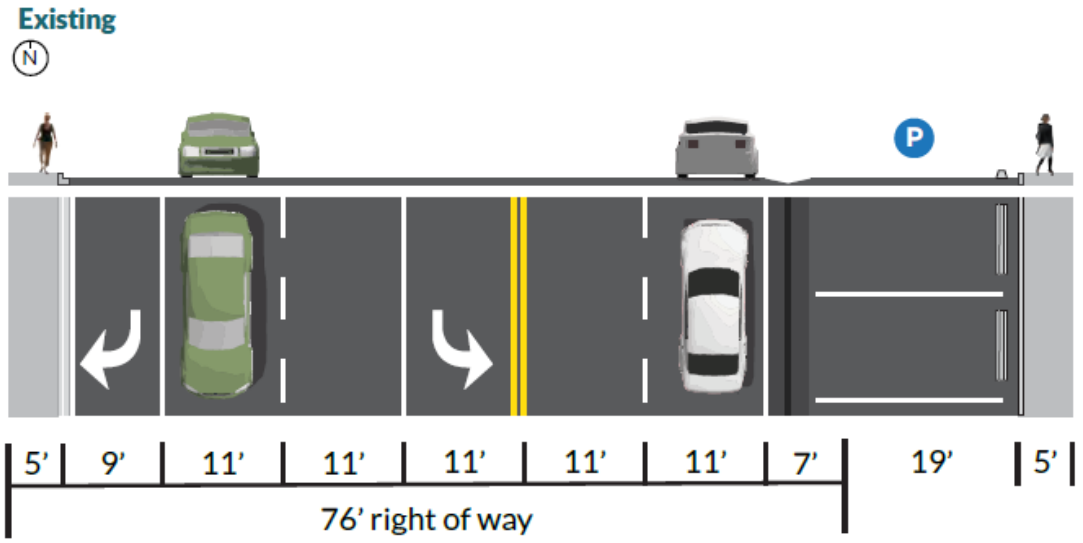
W Dixie Hwy from 167th St to 164th St (including Snake Creek Canal and Snake Creek Bridge)

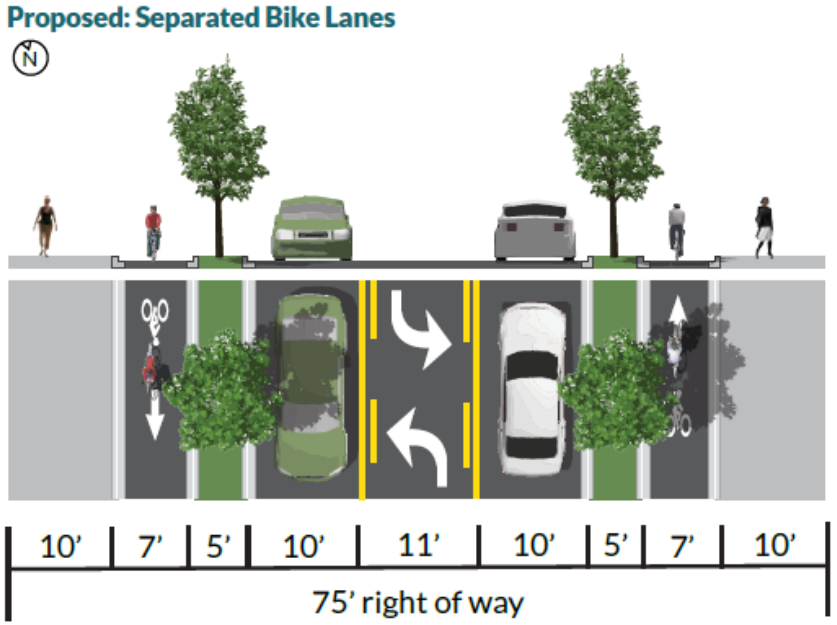




North Miami Beach
Proposed Concepts

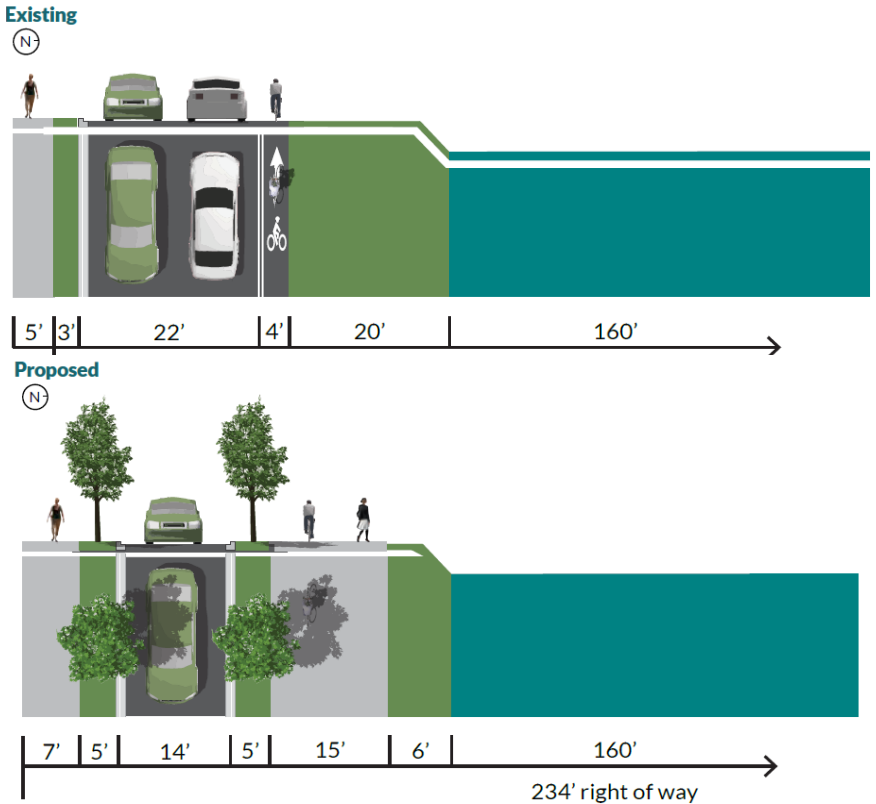
W Dixie Highway
at NE 170th Street



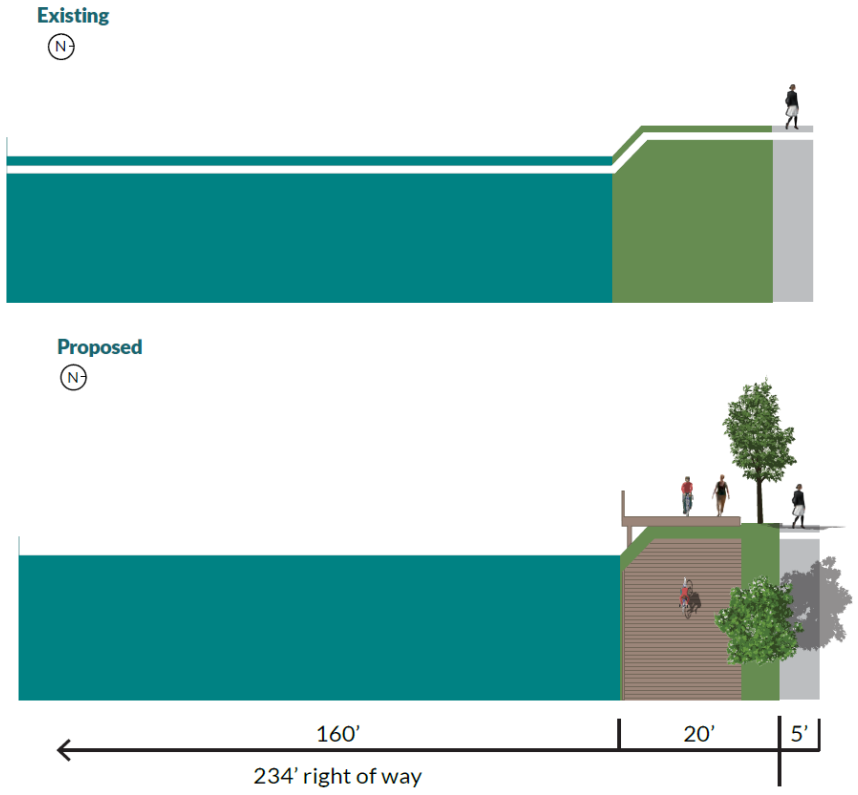


North Miami Beach
Proposed Concepts

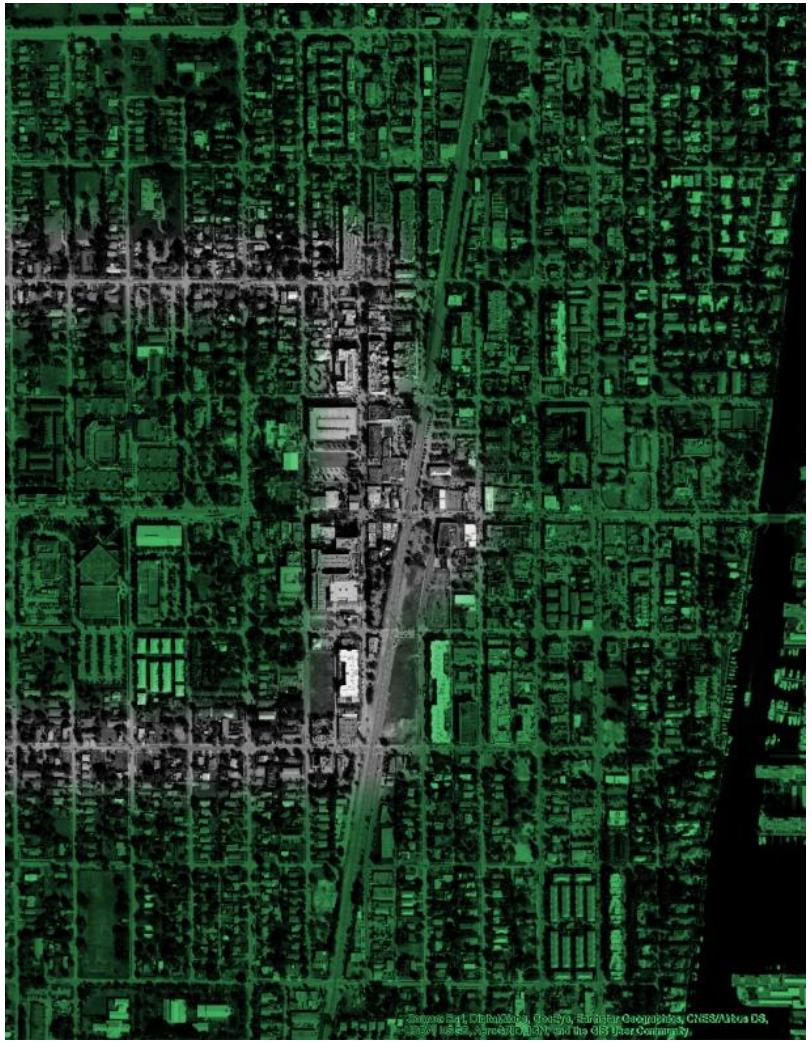
(5) Northside of Snake Creek Trail between 20th and 21st Ave



(6) Southside of Snake Creek Trail between 20th and 21st Ave

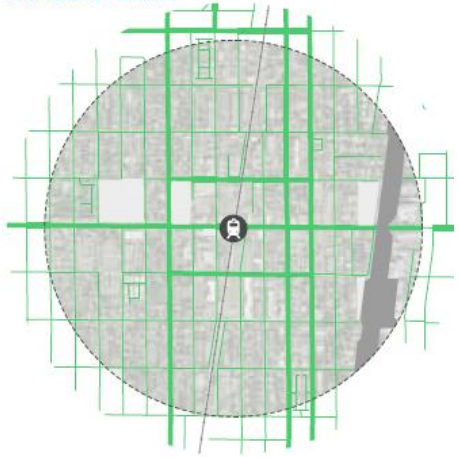


Delray Beach



Delray Beach
Existing Conditions

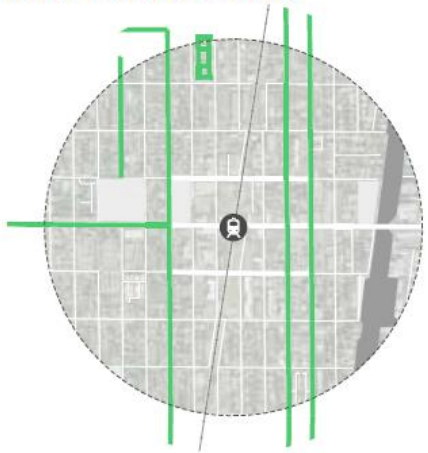
STREET GRID



DESTINATIONS

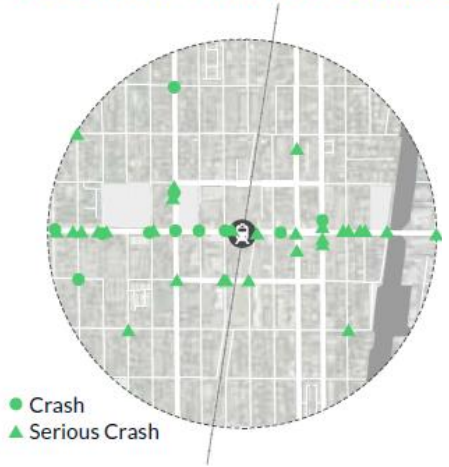
BICYCLE CONNECTIONS

HIGH VEHICLE SPEEDS



KEY TRANSIT ACCESS CORRIDORS

PEDESTRIAN + BICYCLE COLLISIONS



Delray Beach
Needs and Opportunities

Safety + Comfort

Walking and biking in the station area is generally uncomfortable

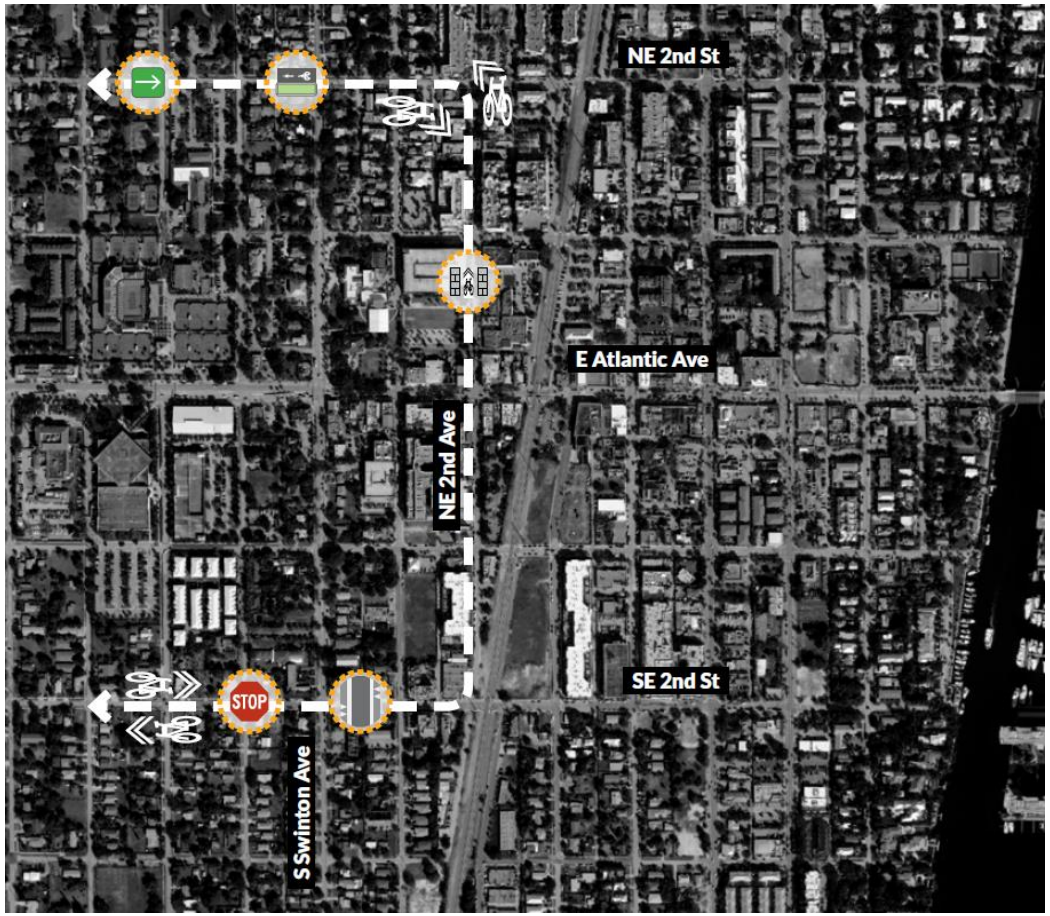
Connections + Crossings

Mid-block crossings and signalized intersection enhancements in the station area will improve the walking and biking experience in the station area

Sense of Place

A strong sense of place is found in the station area
and in the adjacent historic neighborhoods

Delray Beach
Proposed Concepts



Neighborhood greenway

Commercial greenway

Converting NE and SE 2nd Streets (west of NE 2nd Avenue) to neighborhood greenways will allow people biking to utilize residential, lower volume streets to access the major destinations west of the station area as well as popular destinations along Atlantic Avenue.

Delray Beach
Proposed Concepts

Existing Conditions

Proposed Condition

Creating an all ages and abilities network of walkways and bikeways *that provides adequate width and separation from vehicles* ***will improve comfort, safety, and convenience for people walking and biking*** *in the area*

Delray Beach
Design Guidance

Neighborhood and Commercial Greenway Design

Signage

Shared Lane Markings

Turn Markings

Stop signs on cross streets

Traffic Calming

Volume Management

Textured paving with Green-backed shared lane markings

All Images Sourced from: NACTO Urban Bikeway Design Guide

Any Questions?

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PLANNING + DESIGN

MEMBER UPDATES

THANK YOU!

- Any Final Questions?
- Next Meeting: September 9, 2019
- Don’t Forget to Visit the Complete Streets webpage at:
  - http://www.browardmpo.org/index.php/major-functions/complete-streets-initiative
- If you have any questions or comments, please contact
  Ricardo Gutierrez at 954.876.0044