

**Independent
Transportation Surtax
Oversight Board
Regular Meeting
February 9, 2024**



MAP Broward
Mobility Advancement Program
Brought to you by the
Penny For Transportation

Agenda Overview – Oversight Board Meeting

Welcome & Call to Order – Chair, C. Douglas Coolman

- Roll Call – Administrative Coordinator, Roy Burnett
- Welcome and introduction of Nathaniel Klitsberg, Transportation Surtax General Counsel and Laurette Jean, Assistant to the County Administrator

Presentations

- I. **Low Stress Multimodal Mobility Master Plan Update**
(Josette Severyn, Multimodal Mobility Projects Administrator; Christina Fermin, Marlin Engineering;)
- II. **Near-Miss Traffic Incident Identification System Study Update**
(Dr. Min-Tang Li, Engineer, Traffic Engineering Division; Dr. Sanjay Ranka, University of Florida)
- III. **CBE Goal Attainment Update** *(Sandy-Michael McDonald, Director, Office of Economic & Small Business Development)*

Regular Agenda

1. **Motion to Approve** Minutes of the August 18, 2023 Oversight Board Meeting
2. **Motion to Note for the Record** FY 2024 additional surtax expenditures of \$9.2 million from the Surtax Road Expansion Fund for Port By-Pass Road
3. **Motion to Note for the Record** The correction of scrivener's error in Five-Year Plan relating to construction funding of project HOLL-056; authorizing staff to record the corrected Five-Year Plan in the public records of Broward County
4. **Motion to Approve** the City of Margate's request to convert \$24,000 in recommended FY2020 funding from the design phase to the construction phase for project number MARG-033, a pedestrian bridge connecting from Winfield Blvd to the eastern most portion of Fire Fighters Park

Non-Agenda

>> **Break for Lunch** <<

Workshop for Oversight Board Members (Mandatory Annual Trainings)

Low Stress Multimodal Mobility Network Master Plan Update

Josette Severyn, MAP Administration
Christina Fermin, Marlin Engineering



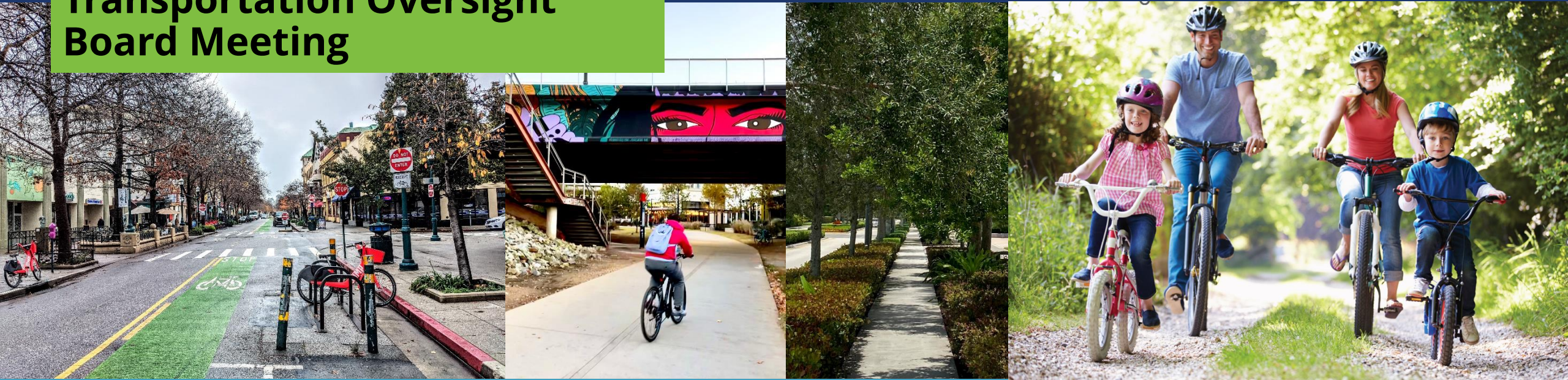
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BROWARD COUNTY

Low Stress Multimodal Mobility Network Master Plan



Transportation Oversight Board Meeting



February 9, 2024

Multimodal Transportation Master Plan

Vision



To create an inclusive low-stress multimodal transportation network for all ages and abilities in Broward County.

Foundational principles



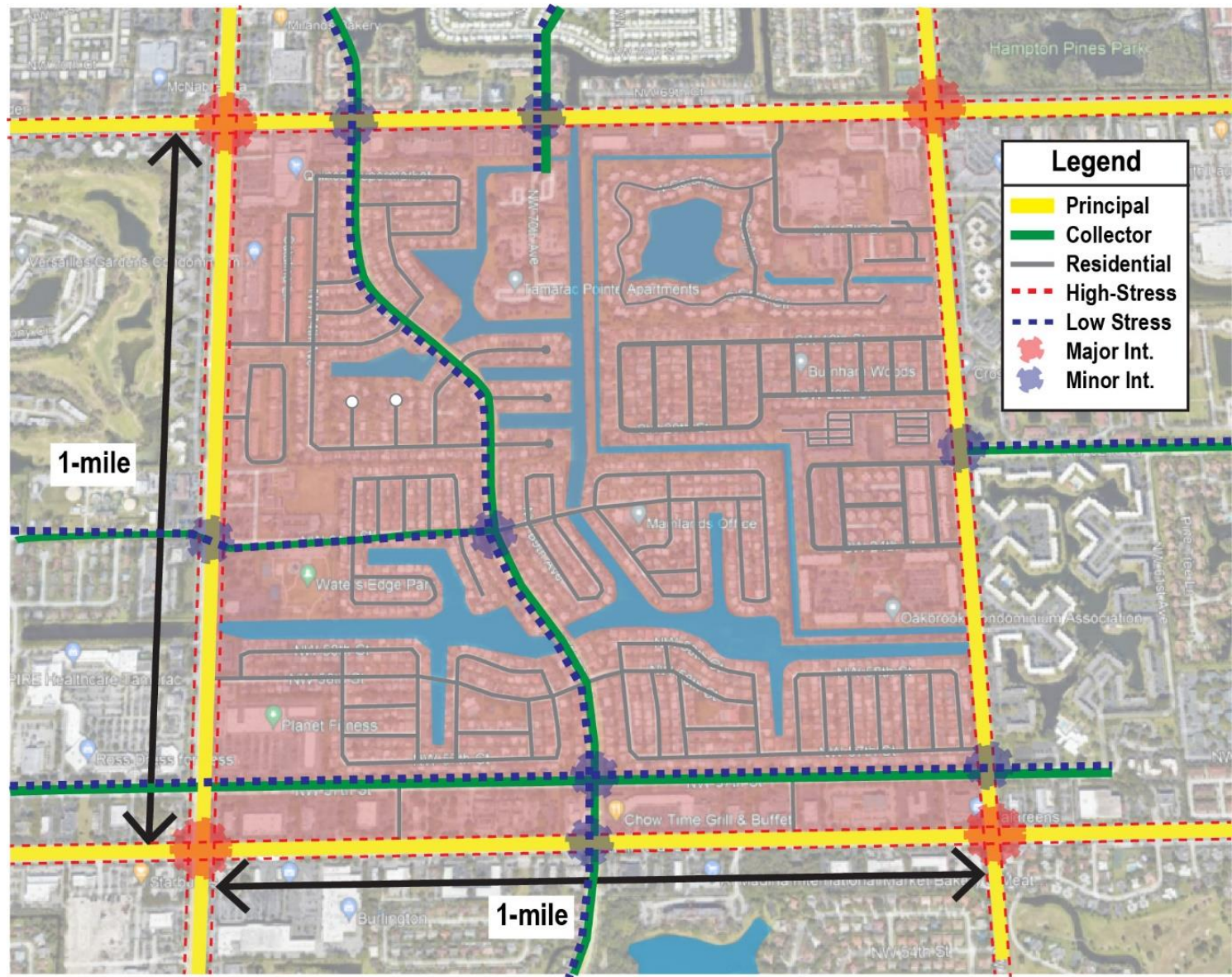
Scope Overview

1. Project Management
2. Public Engagement & Outreach
3. Existing Conditions
4. Needs Assessment
5. Feasibility Analysis
6. Design Manual
7. Final Report

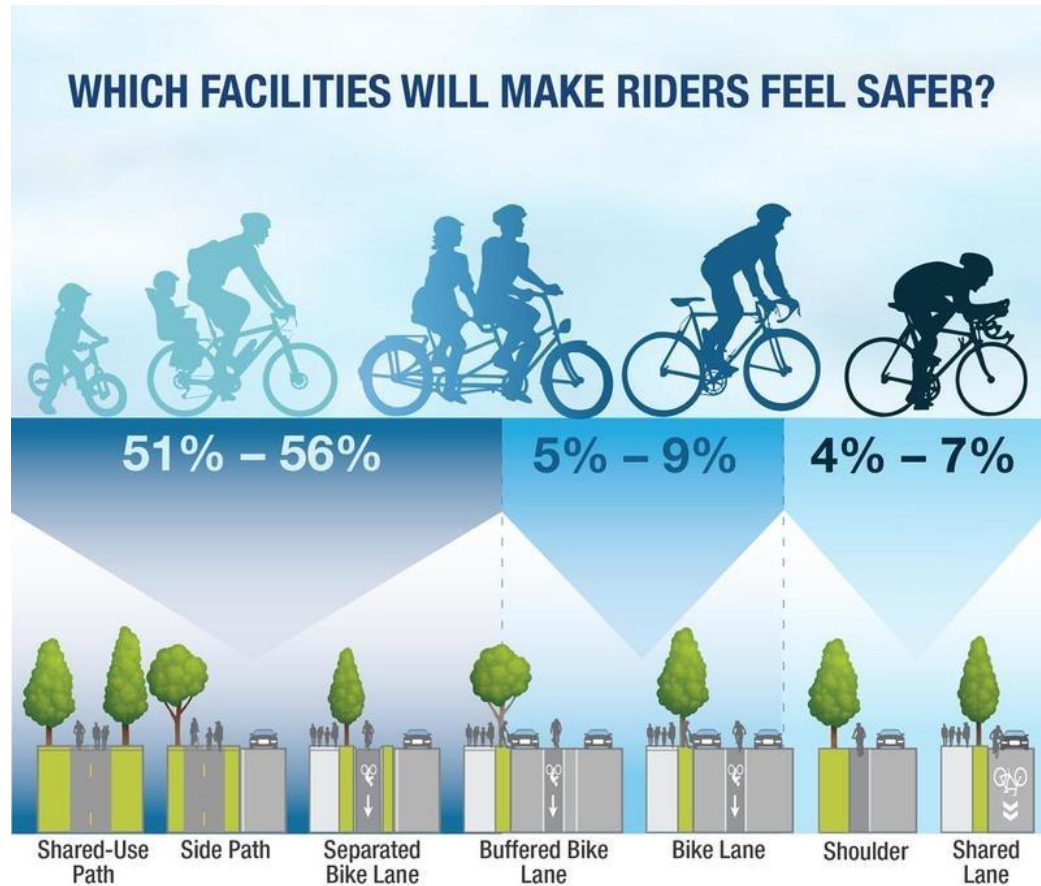


Purpose/Goal

Enhancing accessibility and mobility for all through educational, economic, and social opportunities.



Low-Stress Networks



Level of Traffic Stress

Bicycle Level of Traffic Stress



Pedestrian Level of Traffic Stress



Source: FDOT



Key Findings for Broward County

Less than 5% of the county population travel to work by walking, biking or transit (ACS, 2017).

Almost **30%** of county residents are not physically active (County Health Rankings, 2020).

Residents are cost burdened, the average resident spends **66% of their income on housing and transportation** (Broward County Affordable Housing Needs Assessment, 2022).

The transportation network is **not designed for people walking and biking**, rather it was designed to accommodate vehicular peak hour conditions (Bicycle & Pedestrian Safety Action Plan, 2018).

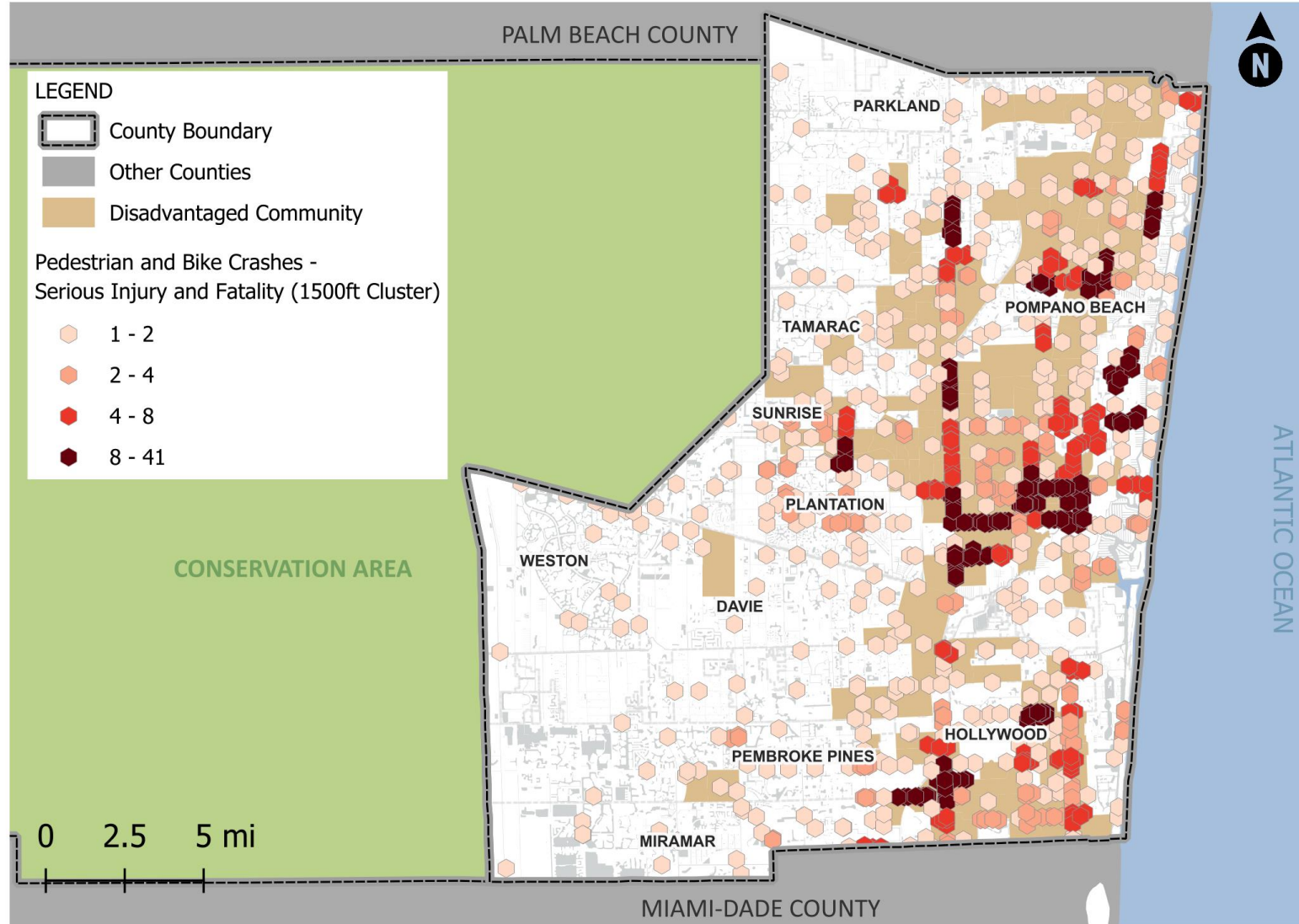
Broward ranks 14th nationally as the most dangerous metropolitan area in the nation and is one of the top 3 counties in Florida leading the state in **serious injuries and death for people walking and biking** (Dangerous by Design, 2022 & Florida Pedestrian & Bicycle Strategic Safety Plan, 2021).

Over 60% of bike/ped crashes occurred on roadways with a speed limit of **40 + MPH** (Bicycle & Pedestrian Safety Action Plan, 2018).

Fort Lauderdale, Plantation, Hollywood, and Pompano had the most people killed or seriously injured while walking or biking over a 5-year period (Signal Four Analytics, 2018 - 2022)

Existing Conditions: Disadvantaged Communities & Crashes

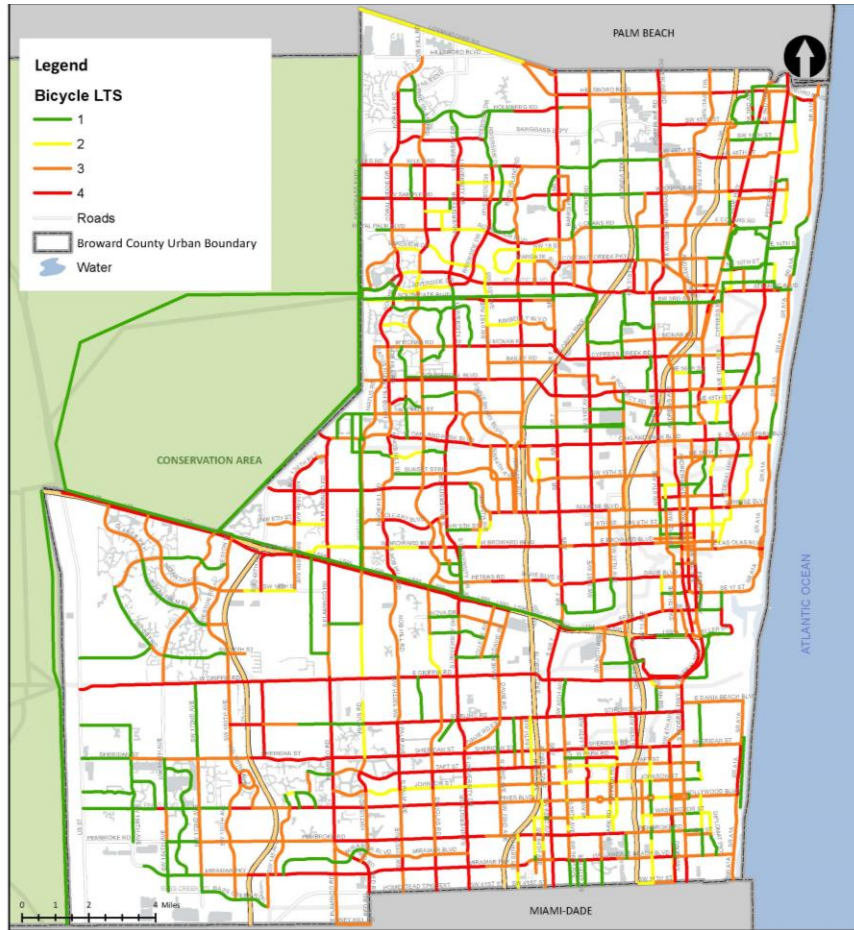
- Nationally, Native Americans and Black or African Americans are **3 to 4x** more likely to be killed while walking (*Dangerous By Design*, 2022).
- Communities identified as disadvantaged are being disproportionately affected by bicycle and pedestrian crashes.



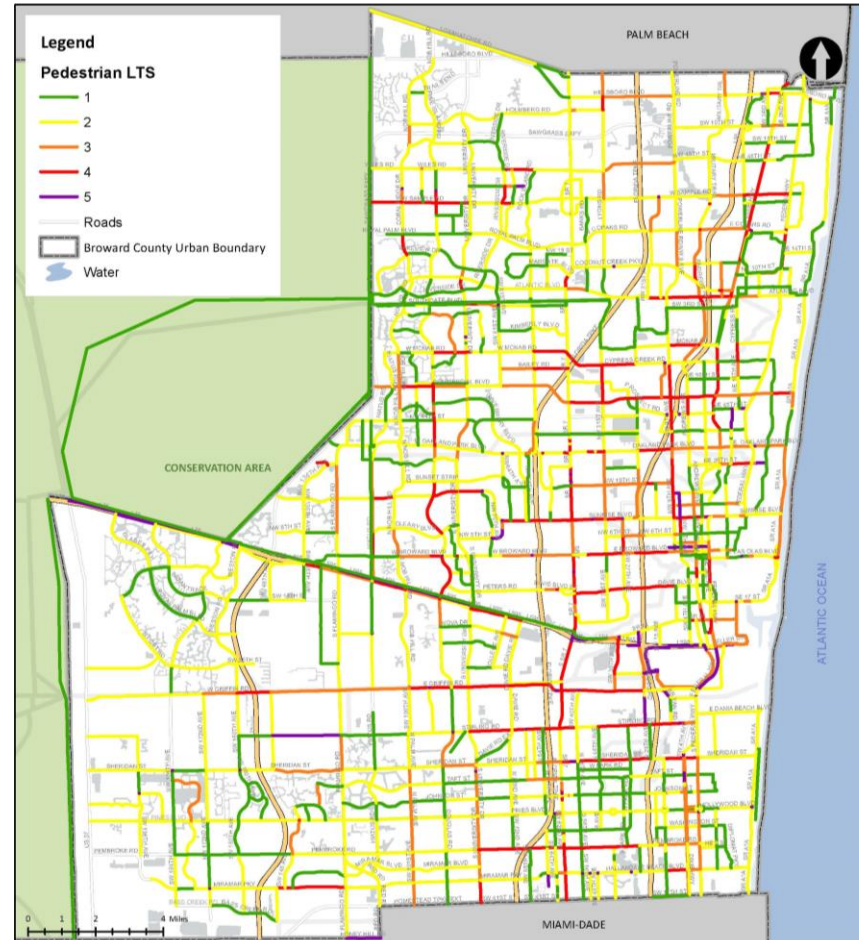
Disadvantaged communities: defines a community as either: (1) Geographic: a group of individuals living in geographic proximity (such as census tract), or (2) Common condition: a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions. [Justice 40 Initiative](#)

Level of Traffic Stress

Bicycle LTS



Pedestrian LTS



Bicycle Criteria for Analysis:

1. Type of facility present
2. Posted Speed Limit
3. Number of traffic lanes
4. Average Annual Daily Traffic (AADT)

Pedestrian Criteria for Analysis:

1. Sidewalk Coverage (one or both sides)
2. Sidewalk separation
3. Posted Speed Limit
4. Number of traffic lanes
5. Average Annual Daily Traffic (AADT)



Accessibility Analysis & LTS

- **Low BLTS/PLTS and High Access**

- Many destinations, route is comfortable (LTS 1 or 2)

- **Low BLTS/PLTS and Low Access**

- Not many destinations, route is comfortable (LTS 1 or 2)

- **High BLTS/PLTS and Low Access**

- Not many destinations, route is uncomfortable (LTS 3 or 4)

- **High BLTS/PLTS and High Access**

- Many destinations, route is uncomfortable (LTS 3 or 4)

Legend

Bike Destination Accessibility vs. LTS Network

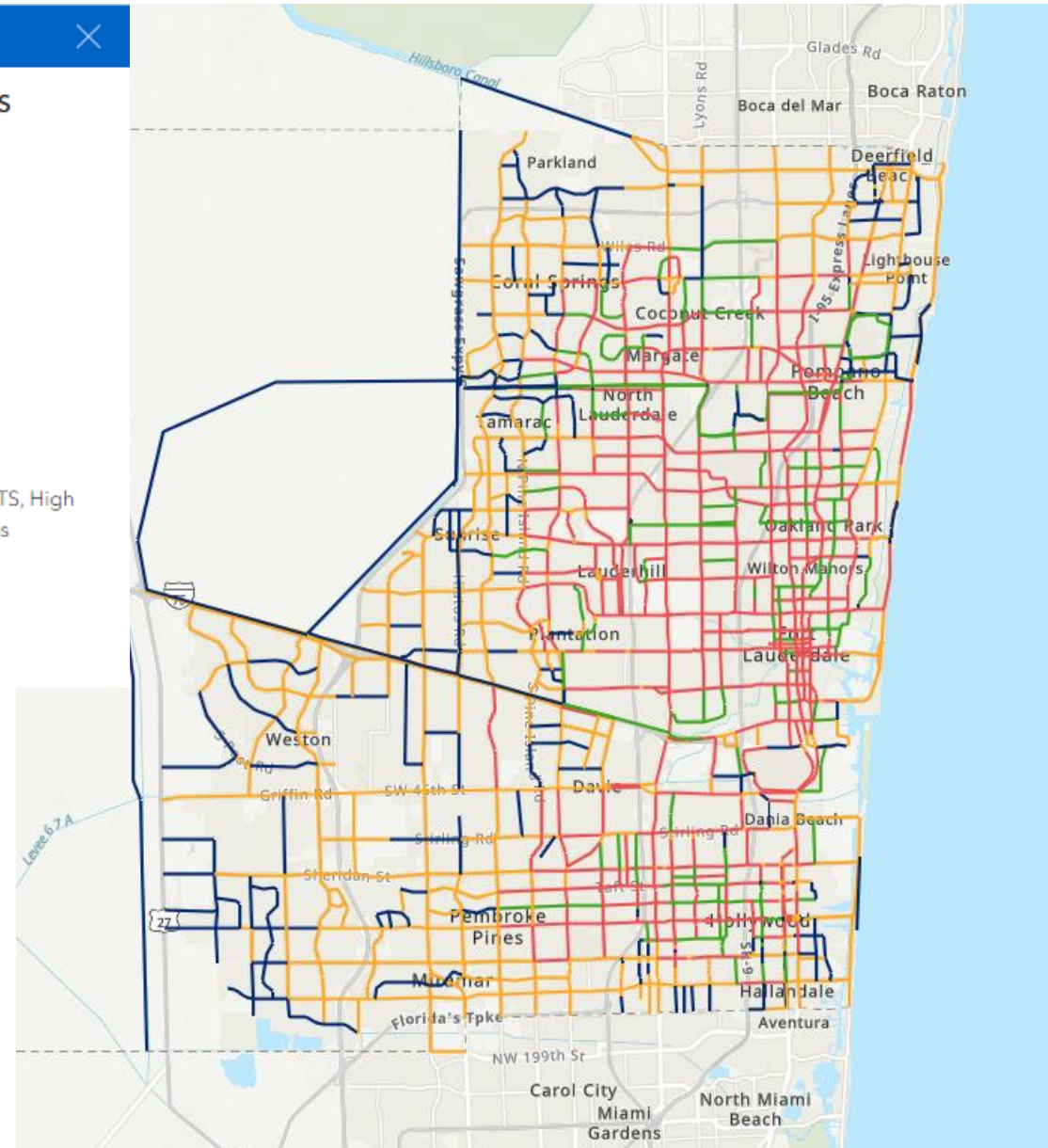
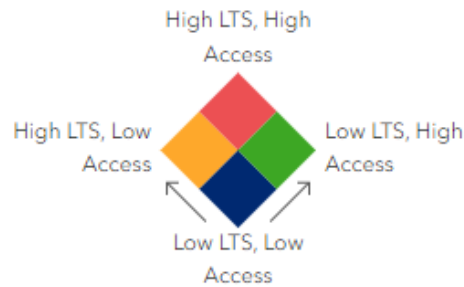
Relationship



Bike LTS



Total Accessibility



[Destination Accessibility Analysis Web Map](#)

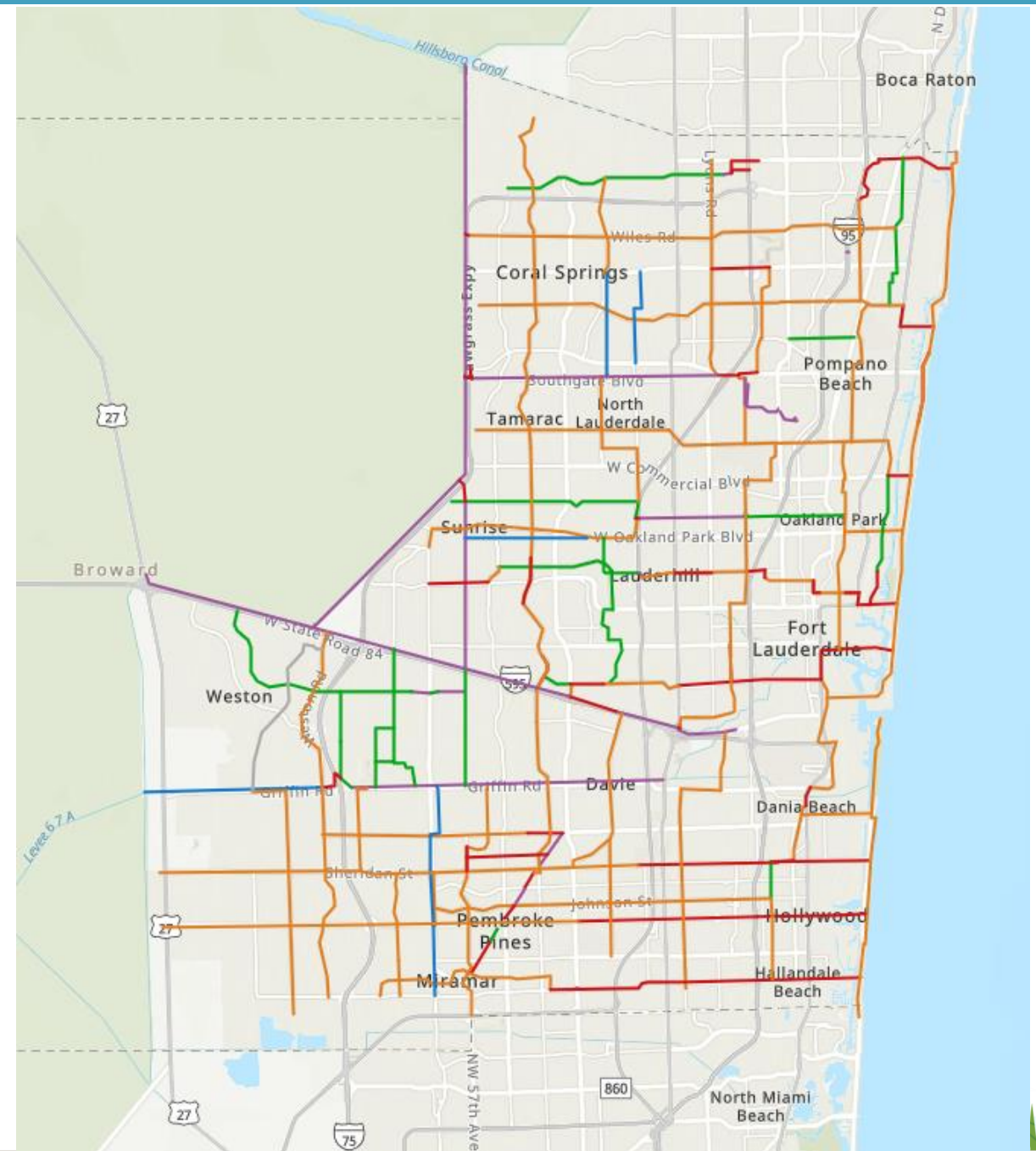


Gaps & Opportunities

Proposed Base Low Stress Network

Legend

- **Purple** – Existing Trails
- **Green** – Easy to Implement
- **Orange** – Moderate to Implement
- **Red** – Difficult to Implement/On High Injury Network
- **Blue** – Canal Opportunities



Low Stress Network Design Manual



• Best Practices • Branding • Placemaking toolkit for municipalities

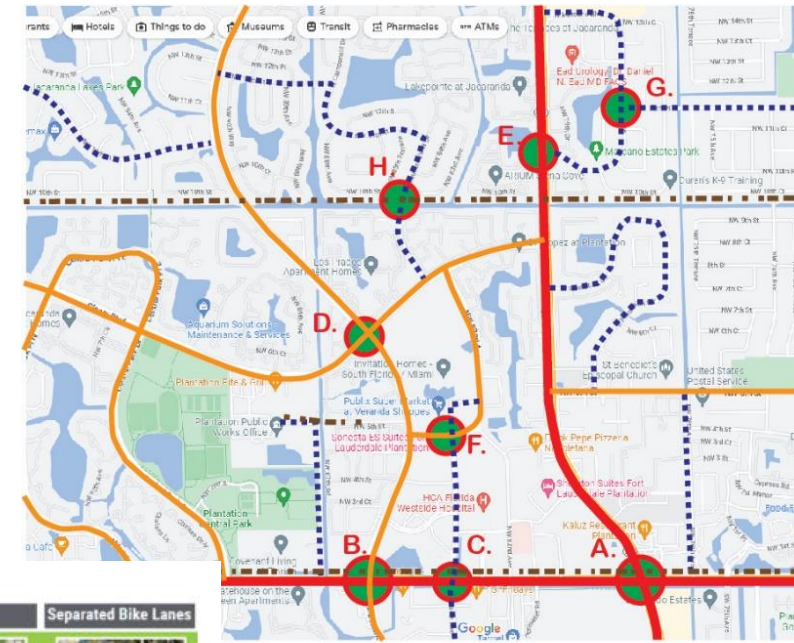


Design Manual

- Process
- Performance Criteria
 - Levels of Stress Definitions
- Network Planning
- Typical Sections
 - Trail/Sidewalk/Bike Lane Widths
 - Buffers
- Junction Designs
 - Protected Intersections
 - Grade Separations

• PLACE MAKING TOOLKIT

Network Typologies and Junction Types



Legend

- Major Arterial
- Minor Arterial
- - - Low Stress
- - - Off System
- Key Junctions

Levels of Traffic Stress

Level of Traffic Stress	Shared Lanes	Bike Lanes	Intersections	Trails	Separated Bike Lanes
1	Low Traffic, < 25 mph	Medium/High Traffic < 25 mph, 2-3 Lanes	Medium/High Traffic Dutch Style	Trail	Low/High Traffic Separated Bike Lane
2	Low Traffic, 30 mph	Low/Medium Traffic 30 mph, 2-3 Lanes	Low/Medium Traffic Short Right Turn Lane	Sidepath (Low Ped Volume)	
3	Low Traffic, 35 mph	Medium/High Traffic 35 mph, 3-4 Lanes	Medium/High Traffic Long Right Turn lane	Sidepath (High Ped Volume)	
4	Low/Medium Traffic, < 40 mph	Medium/High Traffic, > 4 Lanes	Medium/High Traffic Bike Lane Drop		



PLACEMAKING TOOLKIT

Companion document to the Low-Stress Multimodal Mobility Transportation System Design Manual:

- **UNDERSTANDING THE ESSENCE OF PLACEMAKING**
 - **DEFINING THE CONCEPT**
 - **PRINCIPLES OF PLACEMAKING**
 - **STEP BY STEP GUIDE**
- and**
- **CASE STUDIES**



“Place”... goes beyond the physical characteristics and involves the infusion of meaning, identity, and experiences into a space. It is the result of intentional efforts of those that reside there to create environments that resonate with people, fostering a sense of attachment and shared identity. Places are characterized by the history, activity, and interactions that occur within them.



Next Steps: Current & Future

Task 2: Outreach & Engagement

Current Efforts

- **Public Meeting #2 – Feb. 22, 2024 @ 6:30 PM**
- [Public Survey](#)
- Crowdsourcing Map

Public Outreach

- ✓ Public Meeting 1
- ✓ Focus Groups (3)
- ✓ Outreach Events (3)
- ✓ Stakeholder Interviews (7)

Committee & Board Presentations

- ✓ Complete Streets Advisory Committee
- ✓ Complete Streets Team
- ✓ Bicycle & Pedestrian Advisory Committee
- ✓ Technical Advisory Committee



About

The Broward County Multimodal Mobility Transportation Master Plan is the blueprint for a countywide low stress mobility network designed for people of all ages and abilities, emphasizing safety, comfort, convenience and

Take the Multimodal Mobility Master Plan Survey

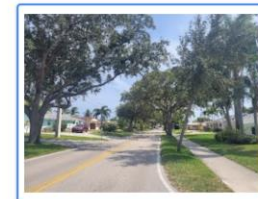
Think of your typical neighborhood or local street (2 lanes) with a posted speed limit of 25 to 30 MPH. Please select which facility or facilities are comfortable to walk? (Select all that apply)



No sidewalk



Sidewalk with no physical separation

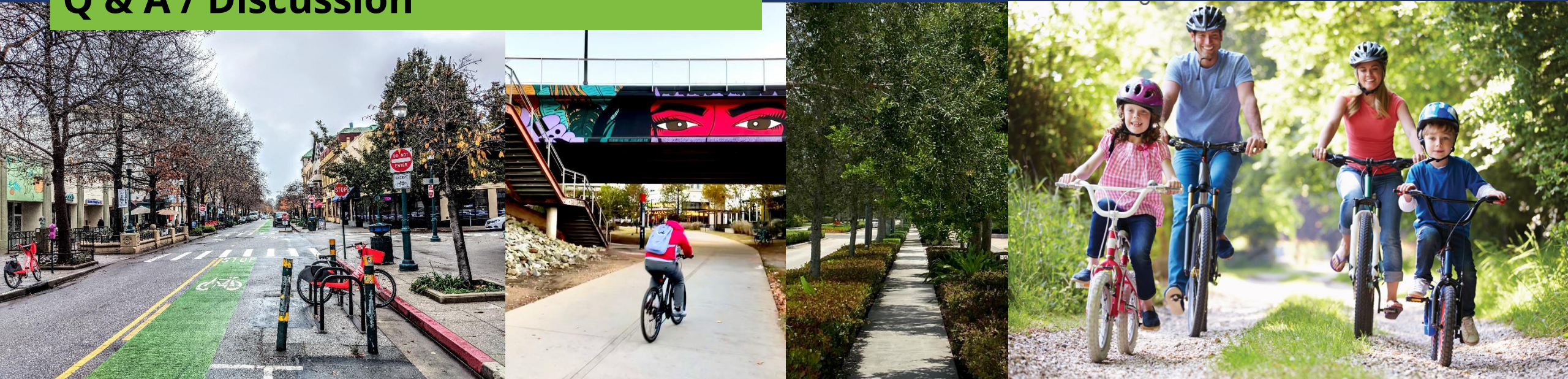


BROWARD COUNTY

Low Stress Multimodal Mobility Network Master Plan



Q & A / Discussion



Christina Fermin, AICP
Cfermin@marlinengineering.com
(954) 870 - 5064

Near-Miss Traffic Incident Identification System Pilot Study Update

Dr. Min-Tang Li, Traffic Engineering Division
Dr. Sanjay Ranka, University of Florida



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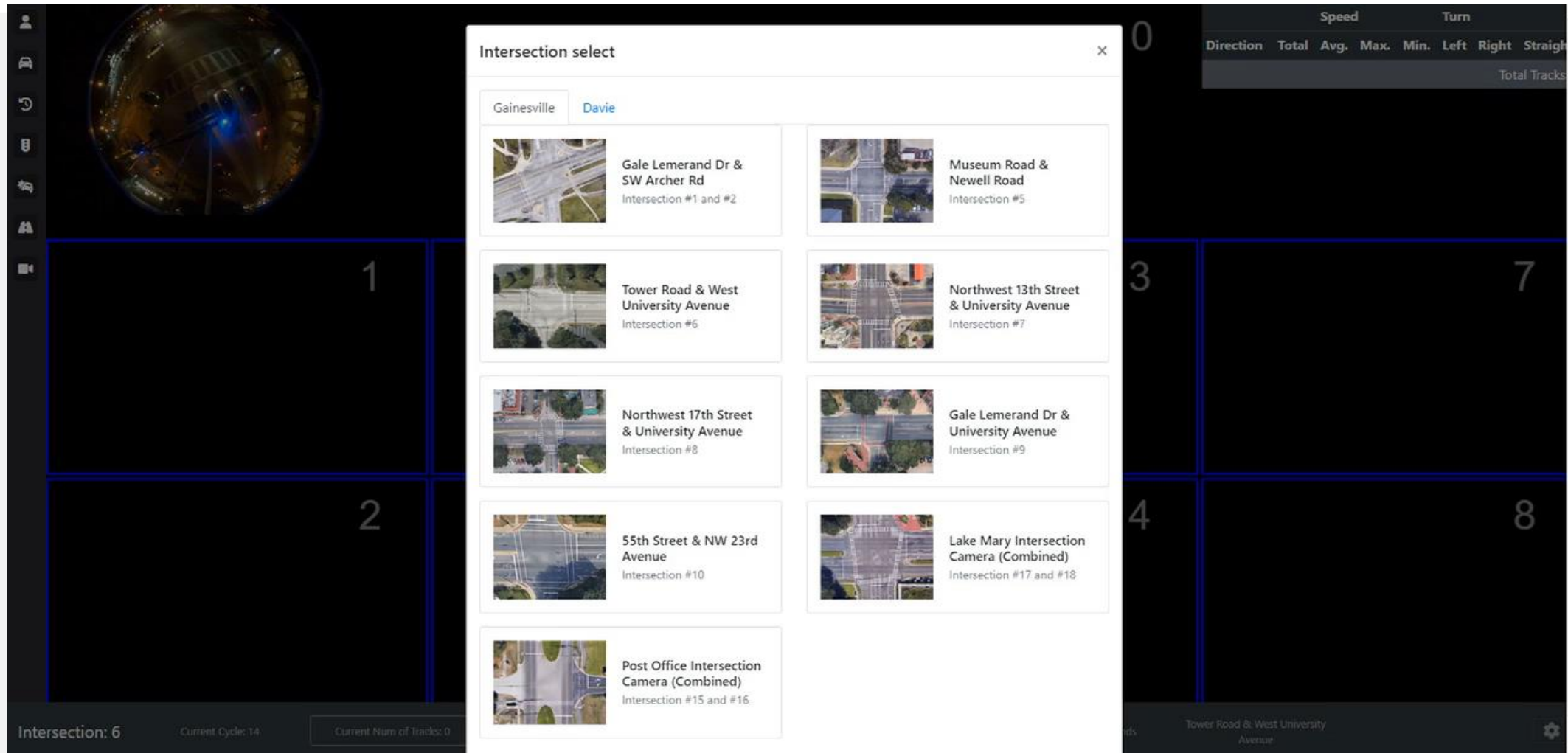
Presentation Outline

- Introduction
- UF Video Analytics System
- Video based Traffic Analysis of Broward County Intersections
- Key Findings
- Phase 2 Objectives
- Q&A

Video: Stirling Road and SR7



Real Time Fusion and Visualization



The interface displays a real-time traffic visualization. On the left, a satellite map shows a grid of intersections. A central panel titled "Intersection select" allows users to choose between "Gainesville" and "Davie" locations. The selected "Davie" location shows a list of 10 intersections, each with a small aerial view and text description:

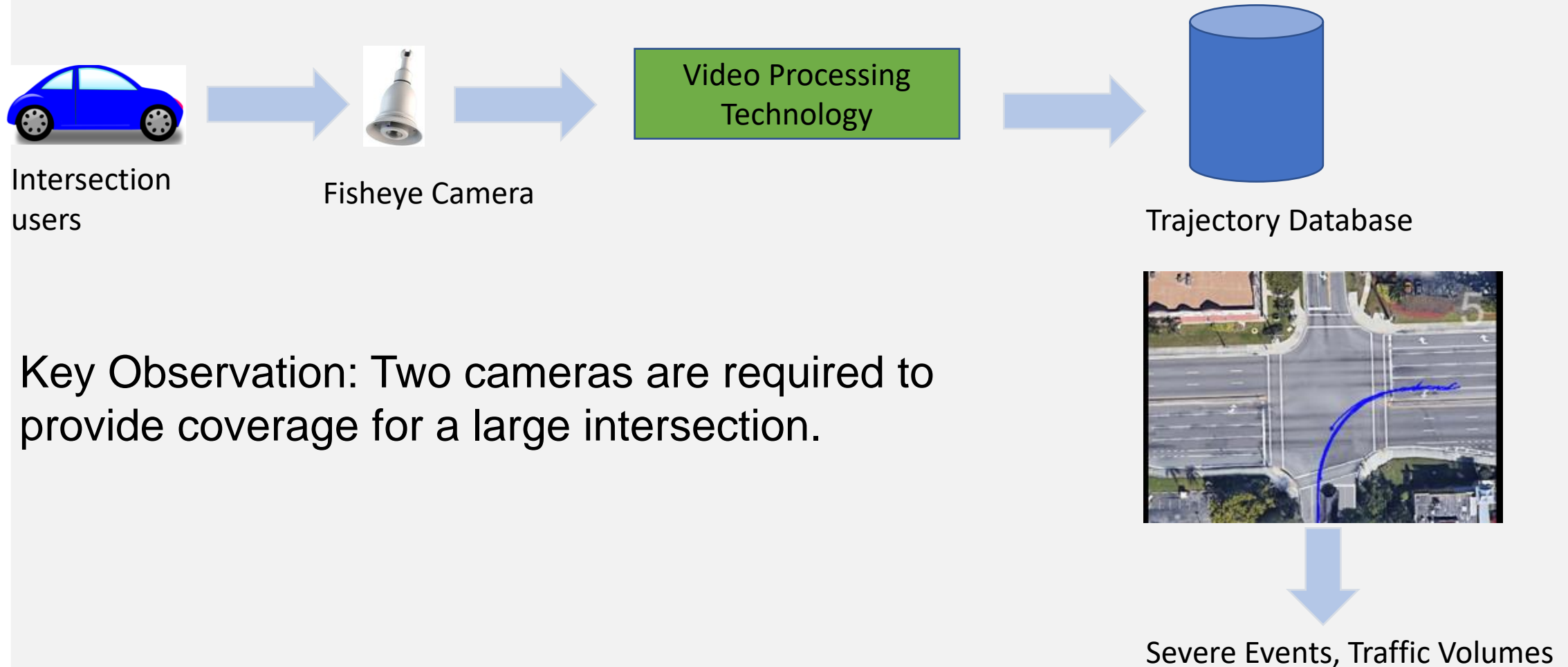
- Gale Lemerand Dr & SW Archer Rd (Intersection #1 and #2)
- Museum Road & Newell Road (Intersection #5)
- Tower Road & West University Avenue (Intersection #6)
- Northwest 13th Street & University Avenue (Intersection #7)
- Northwest 17th Street & University Avenue (Intersection #8)
- Gale Lemerand Dr & University Avenue (Intersection #9)
- 55th Street & NW 23rd Avenue (Intersection #10)
- Lake Mary Intersection Camera (Combined) (Intersection #17 and #18)
- Post Office Intersection Camera (Combined) (Intersection #15 and #16)

On the right, a data table provides performance metrics for the selected intersection (Tower Road & West University Avenue):

Direction	Speed			Turn			
	Total	Avg.	Max.	Min.	Left	Right	Straight
							Total Tracks

At the bottom left, the interface shows "Intersection: 6", "Current Cycle: 14", and "Current Num of Tracks: 0".

UFL VIDEO ANALYTICS SYSTEM



Key Observation: Two cameras are required to provide coverage for a large intersection.

Safety Analysis Using Trajectory Compatibility

Conflicting



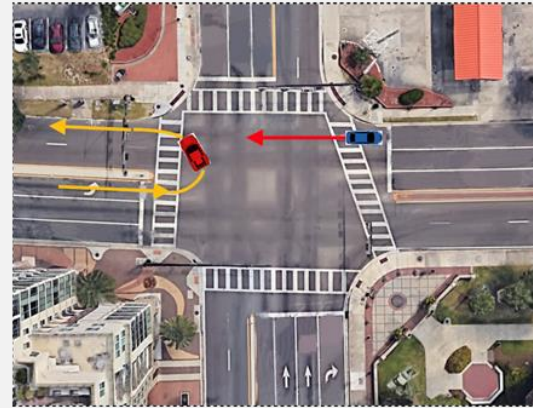
Left vs Through

Diverging



Left turn vs U-turn

Merging



U-turn vs Through



Right turn vs Through

Differential Severity
Based on Trajectory
Types



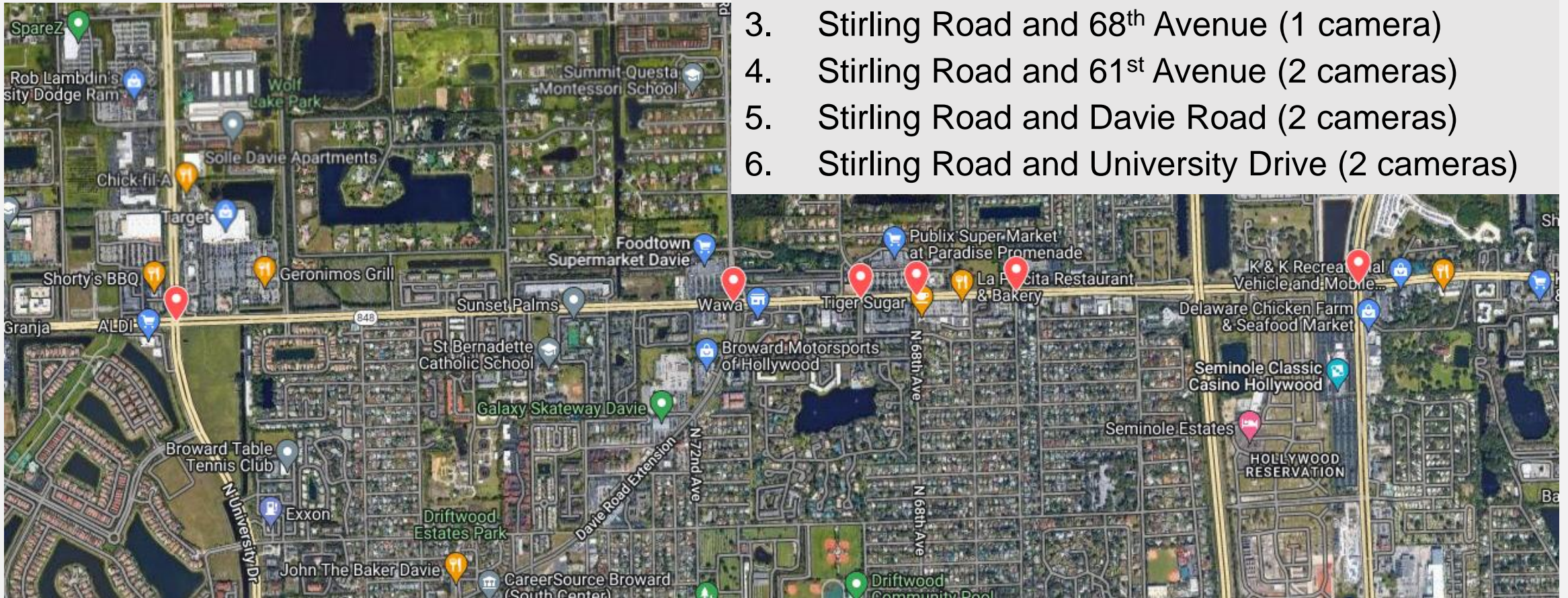
Right turn vs Through



Through vs Lane change

Project Intersections

1. Stirling Road and State Road 7 (2 cameras)
2. Stirling Road and 66th Avenue (2 cameras)
3. Stirling Road and 68th Avenue (1 camera)
4. Stirling Road and 61st Avenue (2 cameras)
5. Stirling Road and Davie Road (2 cameras)
6. Stirling Road and University Drive (2 cameras)



Project Phase 1

Task 1: Gathering Infrastructure Information

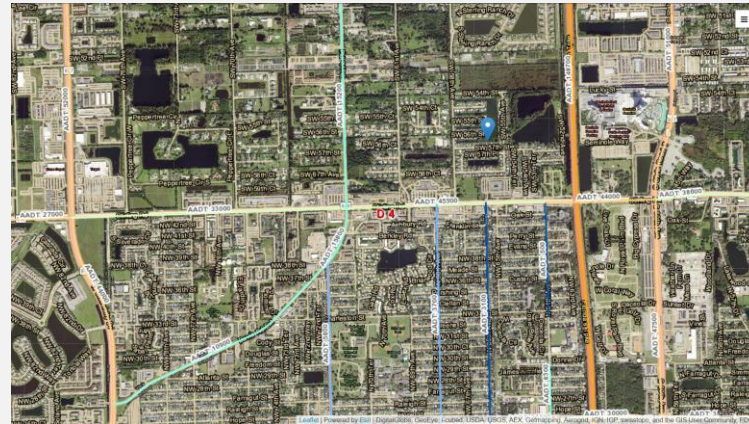
Objective: Develop a workflow capable of processing video captured from intersections on Stirling Road using UF near miss identification software

Broward County Timing Sheet 5/8/2023 8:59:33 AM
Station : 3265 - University Dr & Stirling Rd (Standard File)

Phase	1 (SL)	2 (NT)	3 (VL)	4 (EL)	5 (ST)	6 (ET)	7 (VT)	8 (VT)	9	10	11	12	13	14	15	16
Wait	5															
Red Clearance	5	13	3	4	3	12	5	6								
Min Green	1.5	3	1.5	2	1.5	3	1.5	2								
Min	18	55	18	43	18	55	18	43								
Max																
Yellow Cn	5	5	5	5	5	5	5	5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Cn	2	2	2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Report																
Address																
Min Green																
Time Before Redout																
Can Before Redout																
Time To Redout																
Locks By																
Min Green																
Downout Min Green																
Downout Min Green																
Bank																
Ann. Flash Entry	ON	ON	ON	ON	ON	ON	ON	ON								
Ann. Flash Exit	ON				ON											
Stop-Around 1																
Stop-Around 2									ON	ON	ON	ON	ON	ON	ON	ON
Lock Cn																
Min Green	ON					ON										
Red Cn																
Sub Report																
Down Report																
Ann. Qry. Enable									ON	ON	ON	ON	ON	ON	ON	ON
Qry. Enable																
Ann. In. Walk	ON					ON										
Coord. Enable																
Address Cn																

Channel	1	2	3	4	5	6
Lock Report	ON	ON	ON	ON	ON	ON
Outside Auto Flash						
Outside Flash Preempt						
Flash in Drive						
Lock in Preempt						
Delay						
Max Distance	6	6	6	6	6	6
Min Green						
Min Green						
Min Green						
Max Provision	180	180	180	180	180	180
Truck Veb 1						
Truck Veb 2						
Truck Veb 3						
Truck Veb 4						
Truck Veb 5						
Truck Veb 6						
Truck Veb 7						
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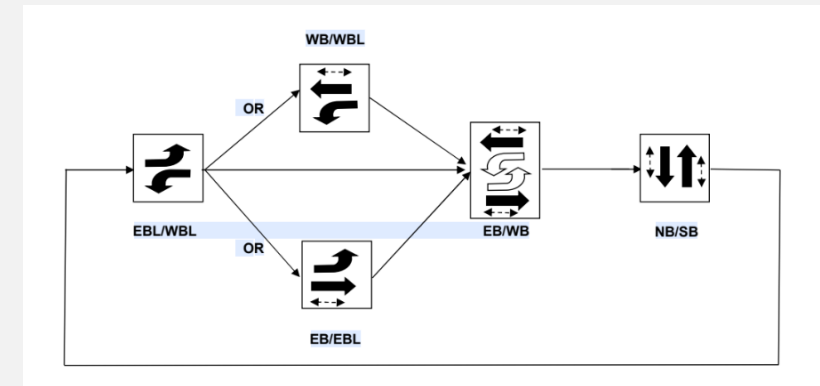
Timing Sheets



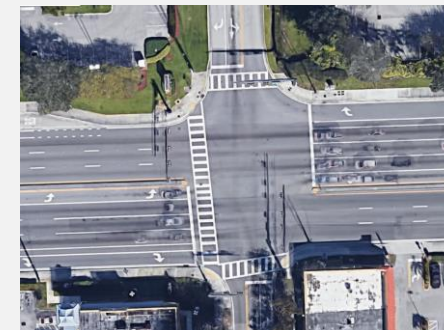
AADT



Fisheye video

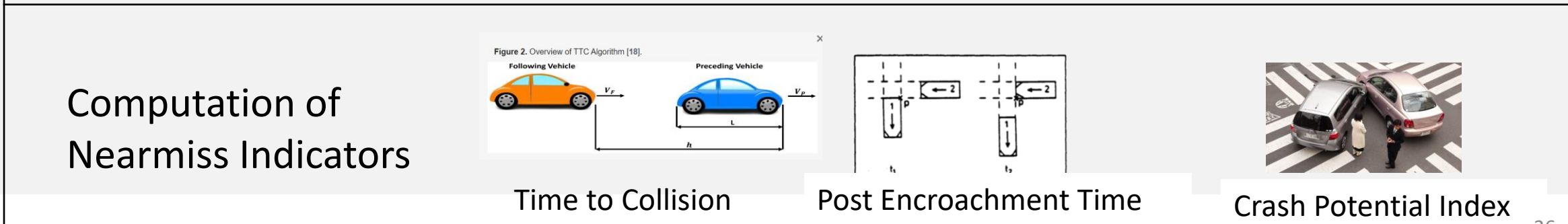
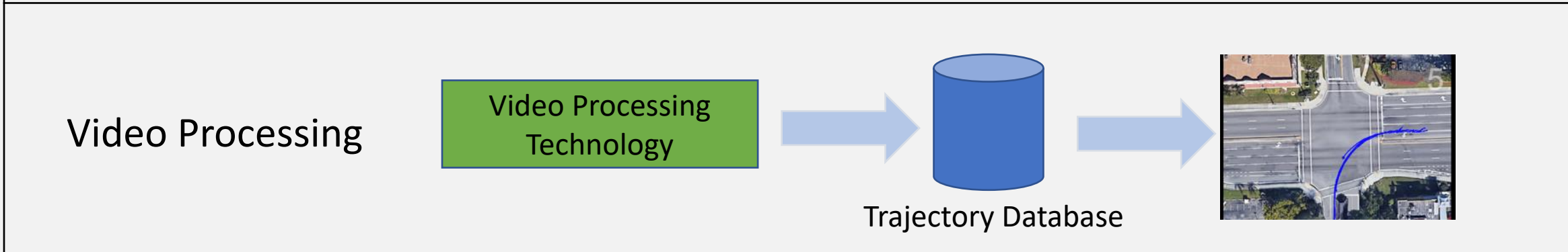
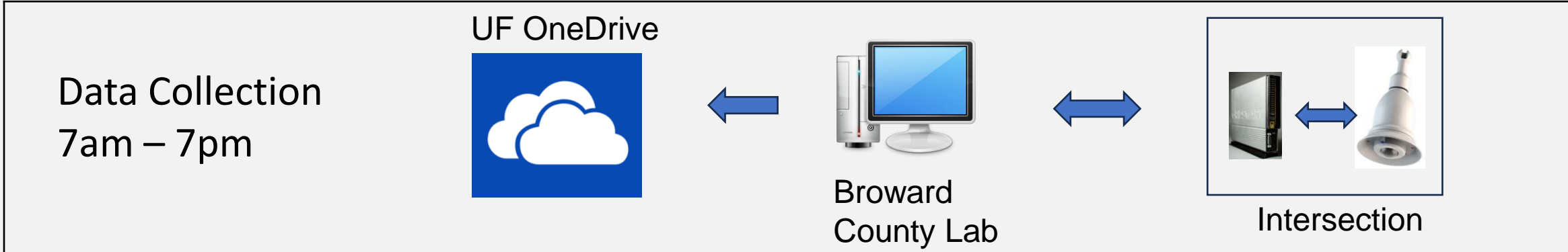


Signal Sequencing



Google Maps

Project Phase 1 Task 2: Offline Video Analytics



Project Phase 1 Task 3: Video Processing in Streaming Mode

Latency Determination



BCTED

Ping response:
Avg Time: 39 ms

Ping response:
Avg Time: 1 ms

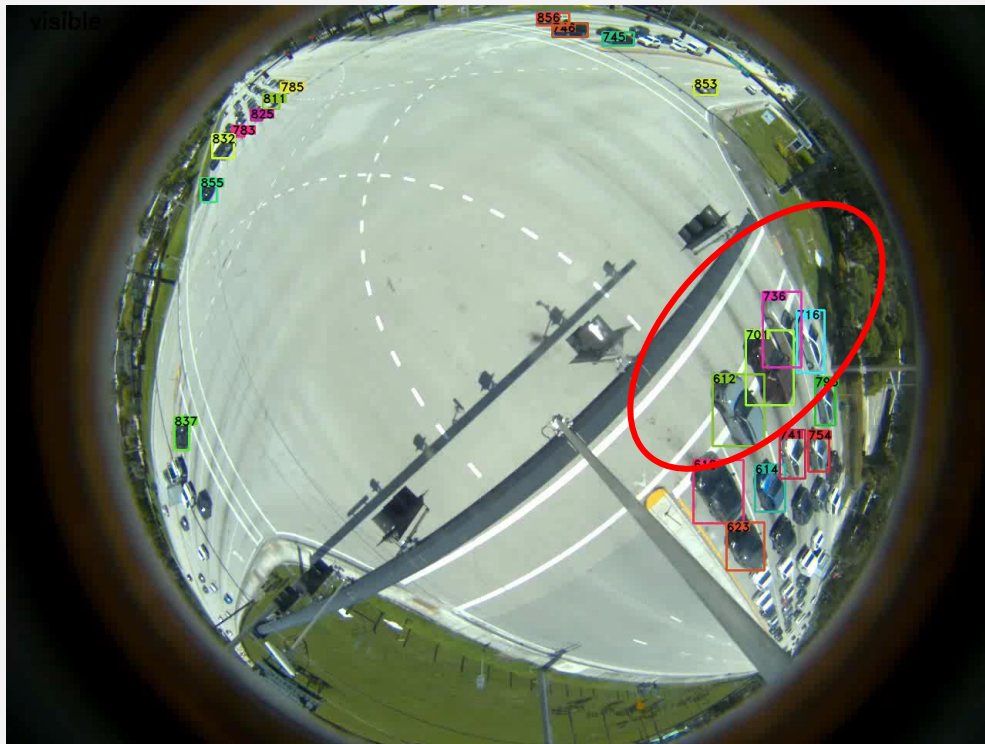


Fisheye camera on
Stirling Road

Latency impacts time for detection
and potentially relaying this
information to vehicles and
pedestrians

Stirling Road and University Drive (P2V examples)

Pedestrian in the **near**-side crosswalk with a left-turning vehicle!



Conflict snapshot

Timestamp: 2023-08-23 12:52:31.000

Distance: 3 meters

Deceleration: 11 feet per second per second applied by the closest white car



Challenges Overcome

- Analysis of camera views and frame rates led to the repositioning of four cameras, optimizing views, especially at the Stirling Road and University Drive and Stirling Road and 66th Avenue intersections.
- Large number of lanes on several intersections (our video analytics system scaled well).
 - Distortion issues
 - Coverage issues
 - Other issues

Summary of Phase 1 Findings

- Vehicles and pedestrians detected for different times of day and week. Used for
 - Optimizing signal timing for reducing congestion.
 - Finding time periods when more pedestrians are present (part of phase 2)
- Severe events (near accidents) detected
 - Most of these events are pedestrian to vehicle events
 - Severe events are a good proxy for accidents.
 - Suitable interventions to improve safety (part of phase 2)
- Streaming mode analytics achieved with low latency
 - Useful for “Smart infrastructure” to “Connected Vehicles” and “Connected Pedestrians”
 - Building a system to support multiple intersections (part of phase 2)
- All of the above lay a solid foundation for Phase 2

Phase 2 Tasks

- **Requirements Analysis:** Assess the required resources for countywide deployment, including edge computing and other distributed computing technologies.
- **Hardware Solution:** Build a solution for processing data from multiple intersections on a corridor. (May need additional budget for purchasing hardware)
- **Safety Analysis:** Conduct before-and-after-analysis to compare pre-deployment and post deployment crash conditions on improvement designs and strategies adopted to address near misses.

Acknowledgements

The UF project team would like to express their gratitude to:

- Mobility Advancement Program (MAP) Administration for initiating the execution of the project.
- Cubic/GRIDSMART for sponsoring Performance Plus licenses needed to stream images in real time from fisheye cameras.
- Florida Department of Transportation, District 4 (FDOT-D4), for granting access to the traffic signals located on SR-848/Stirling Road.
- Broward County Traffic Engineering Division (BCTED) for their assistance in measuring network latencies, repositioning fisheye cameras, and other aspects of project development.

CBE Goal Attainment Update

Sandy-Michael McDonald,
Office of Economic & Small Business
Development



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FY 2023 Outreach/Marketing Accomplishments



MAP Broward Small Business Highlights

CBE Projects REVIEWED thru 01/05/24

COUNTY Projects Reviewed*	MUNICIPAL Projects Reviewed*
91 Projects	123 Projects
\$664,744,216 Total Estimate of Projects	\$140,875,364 Total Estimate of Projects
29% Average CBE Project Goal	32% Average CBE Project Goal
Over \$343 M – Total CBE Projected Amount	

MAP Broward Small Business Highlights Cont'd

CBE Projects AWARDED thru October 2023

Project Highlights	COUNTY	MUNICIPAL
Projected Amount to CBE Firms	\$84,003,382	\$24,696,472
Awarded to Contractors	34	44
Total Amount Awarded	\$198,764,457	\$69,533,814
Average CBE Commitment	33%	39%
Total Number of CBEs	92	

Light Rail Transit – Meet and Greet

Broward County Commission Chambers
January 24, 2024



Testimonial
Mindy Figueroa
Latin2Latin Marketing



101 Attendees



Broward County OESBD



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Thank You

Office of Economic and Small Business Development
115 S. Andrews Avenue, Room A-680
Fort Lauderdale, FL 33301
954-357-6400 | Broward.org/EconDev



@BCOESBD



BrowardCountyOESBD

Action Agenda



MAP Broward
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Action Item 1

Motion to Approve Minutes of the August 18, 2023 Oversight Board Meeting

Action Item 2 Port By-Pass Road Expenditures



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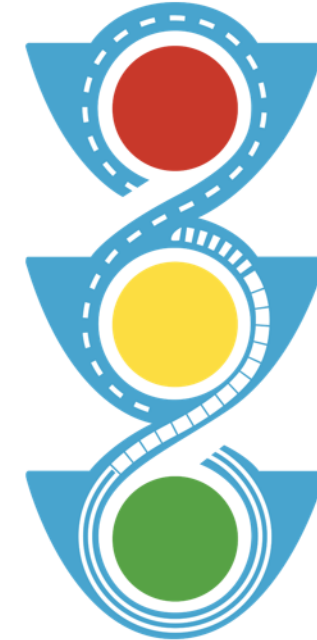
Action Item 2 – Port By-Pass Road Expenditures

Motion to Note for the Record FY 2024 surtax expenditures of \$9.2 million from the Surtax Road Expansion Fund for Port By-Pass Road (R105)

R105 By-Pass Road – Status Update

- Bid Opened – December 20, 2023
 - 4 bids received
 - Lowest Bid - \$47.8 million
 - Engineer's Estimate - \$41.5 million
- Additional \$9.2 million needed from surtax
 - \$6.3 million due to higher bid amount
 - \$2 million for incentive bonus
 - \$0.9 million to reach 5% contingency
- Planned award and first Notice-To-Proceed in February 2024
- Road open to traffic in November 2025 - Prior to Final Completion of Convention Center Hotel

Action Item 3
Correction of scrivener's
error in Five-Year Plan
(HOLL-056)



MAP Broward
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Action Item 3

Motion to Note for the Record the correction of scrivener's error in Five-Year Plan relating to construction funding of project HOLL-056; authorizing staff to record the corrected Five-Year Plan in the public records of Broward County

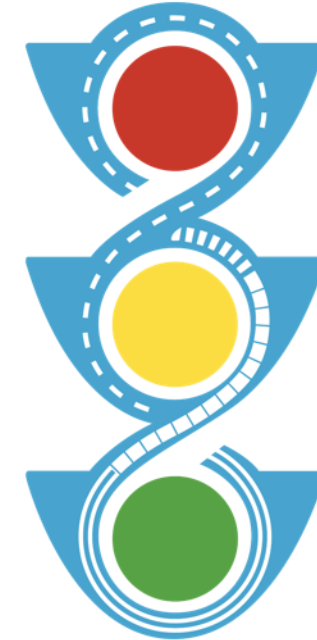
FY2024-2028 Five-Year Plan Approval – HOLL-056

RANK	MUNICIPALITY	PROJECT ID	5YP PHASE(S)	FY 2024
69 & 91	Sunrise	SUNR-075 (-061)	Construction	
71	Davie	DAVI-012	Construction	\$ 1,760,000
74	West Park	WPRK-003	Construction	\$ 3,644,366
75 & 98	Weston	WEST-192 (-193)	Construction	\$ 3,091,549
81&103	Cooper City	COOP-024 (-042 + R&M-001)	Construction	\$ 2,112,000
83	Margate	MARG-047	Construction	
89	Coral Springs	CORA-102	Construction	
90	Miramar	MIRA-025	Construction	\$ 1,848,000
93	Lauderdale Lakes	LLAK-018	Construction	
94	Hallandale Beach	HALL-019	Construction	
95	Davie	DAVI-014	Construction	
96	Coconut Creek	COCO-016	Construction	
97	West Park	WPRK-008	Construction	\$ 1,760,000
99	Pompano Beach	POMP-013	Construction	\$ 5,217,316
106	Parkland	PARK-007	Construction	
107	Margate	MARG-033	Construction	
109	Hollywood	HOLL-056	Construction	\$ 1,856,697

Programmed in an earlier year due to readiness review

- During each annual Five-Year Planning process, the programming of the next plan can be adjusted based on municipal requests (permitted by the 2nd Amendment Sections V.C.2 & V.C.4)
- HOLL-056 was under agreement for its design phase [the FY23-27 Five-Year Plan programmed construction funding for HOLL-056 in FY26 in the amount of \$733,333]. The City of Hollywood requested to move up funding at an earlier year (FY24) during the development of the FY24-28 plan
- MPO conducted a readiness review and recommended accelerating construction funding for HOLL-056; also noted updated construction cost estimate for the project of \$1,856,697
- The updated cost estimate was moved up to FY24 erroneously, rather than the surtax award amount of \$733,333; the error was presented to the Oversight Board and published to the MAP Broward website
- This action is to advise the Oversight Board of the scrivener’s error and the correction being made on the Five-Year Plan to restore the accurate funding information

Action Item 4 MCP Phase Conversion Request - Margate



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Action Item 4 – Approval of Conversion Request

Motion to Approve the City of Margate’s request to convert the \$24,000 in recommended FY2020 funding from the design phase to the construction phase for project number MARG-033, a pedestrian bridge connecting from Winfield Blvd to the eastern most portion of Fire Fighters Park.

MCP Phase Conversion Request - Margate

- 2nd Amendment to the Global ILA includes process for Cycle 1 (FY2020) phase conversion requests
- The City of Margate is requesting to *convert their design phase funding approved in FY2020 (\$24,000) into construction funding* for their MARG-033 project
 - The City has already utilized non-surtax funds to complete the design for this project

Ranking	Project ID	Project Description	FY2020 Approved Phase	FY2020 Approved Amount	Programmed Construction in 5YP	Programmed Construction Amount
#107	MARG-033	Firefighters Pk-Winfield Blvd. Pedestrian Bridge	Design	\$24,000	FY2026	\$176,000

Discussion?

Q&A?

Non-Agenda

- Reports
 - Chair
 - Members
 - Surtax General Counsel
 - Board Coordinator

Adjourn February 9, 2024 Oversight Board Meeting

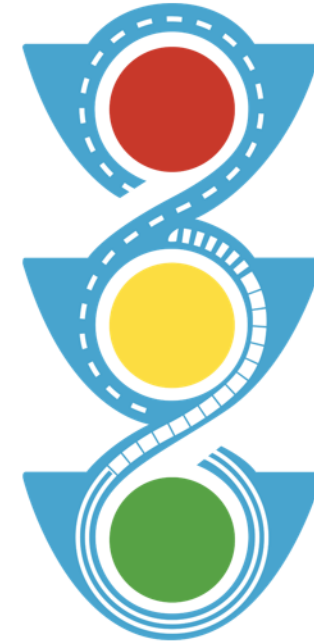
LUNCH BREAK



Workshop for Oversight Board Members

Cyber Security Awareness Training –
Broward County Enterprise Technology Services

Annual Ethics Training –
Nathaniel Klitsberg, Surtax General Counsel



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