



Florida Department of
TRANSPORTATION

Converting Challenges to Opportunities

Safety Actions with Success



District Seven
Secretary David Gwynn, P.E.



2020 Crash Data Trends (**Unofficial**) – District 7

220 people lost their lives in traffic crashes January to June 2020

10.2% Decrease in Overall Crashes
Compared to 2019



28%
3.7% decrease



11%
5.2% increase



12%
9.4% decrease



39%
Bicycle Pedestrian



20%
Intersection Related



37%
Lane Departure

33% on Local Roadways, 15% increase

51% related to Vulnerable Road Users

57%
During Nighttime



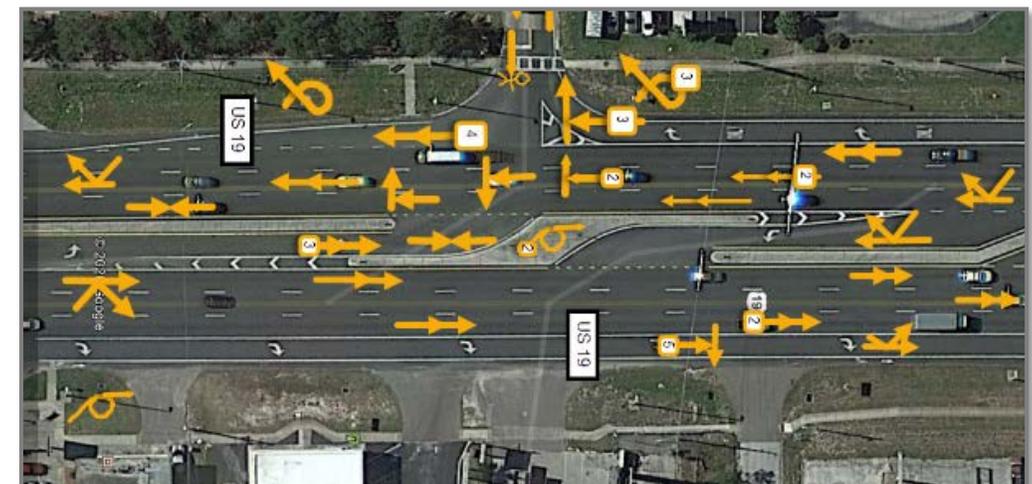
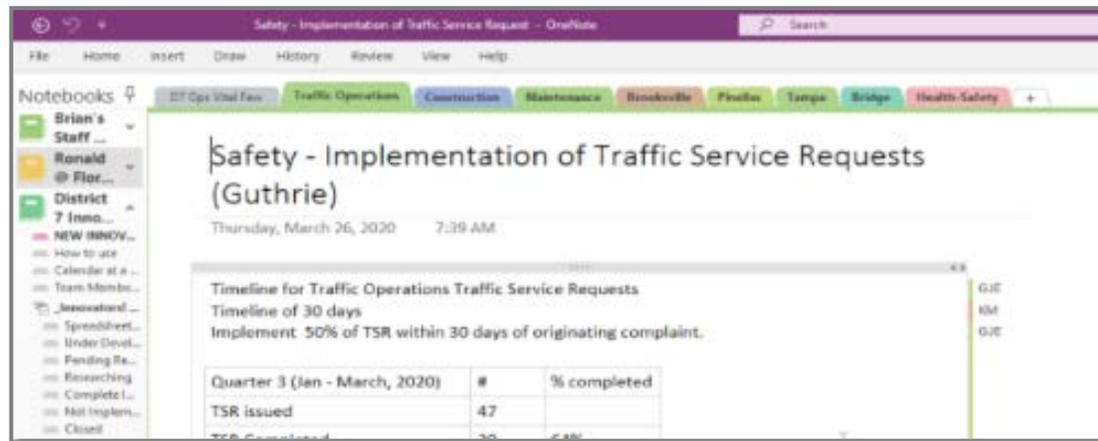
17%
Impaired Driving



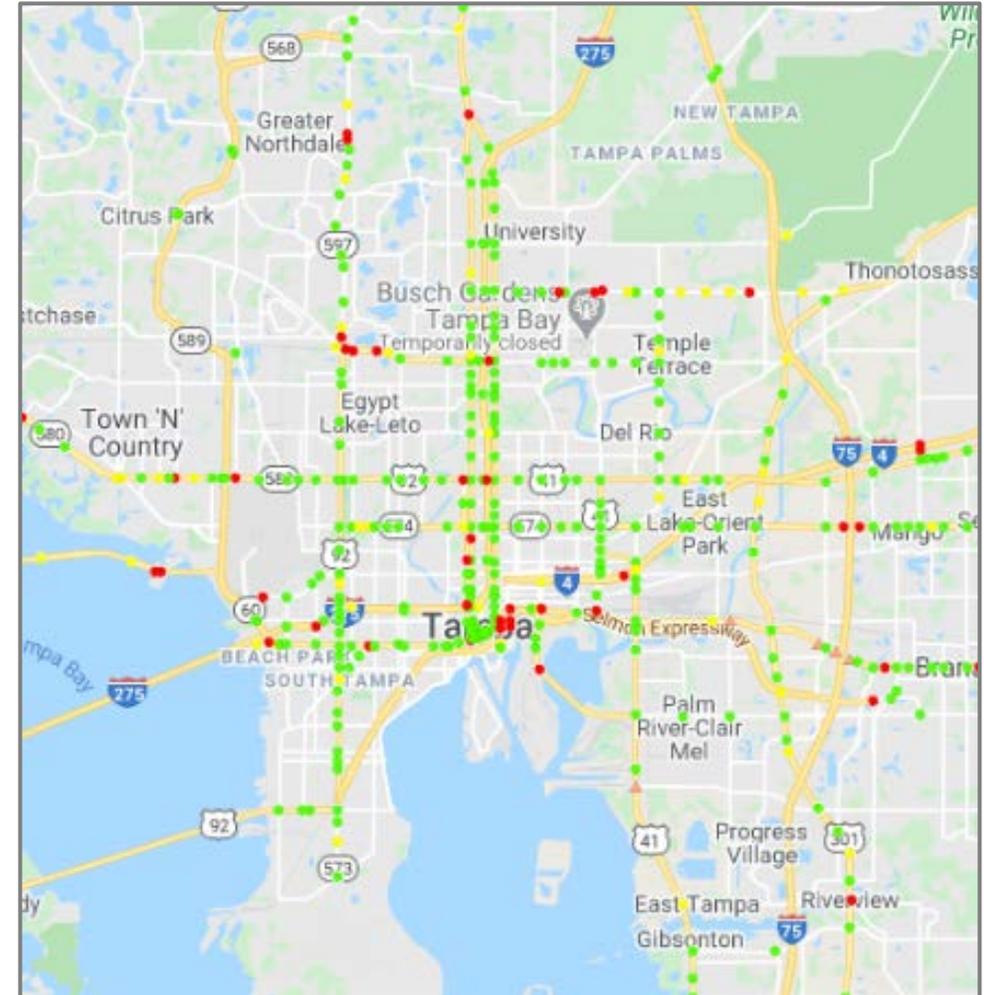
- D7 Vital Few Safety
 - Data driven, systematic approach
 - Prioritize by facility types
 - Signalized intersections
 - Unsignalized intersections
 - Arterial corridors
 - Freeway corridors
 - Interchanges

Location Screening by Crash History

Location	County	City	Fatal_Incap
SR 54 @ LITTLE RD	PASCO	NULL	24
US 19 @ DARLINGTON RD	PASCO	HOLIDAY	24
US 301 @ SUN CITY CENTER BLVD	HILLSBOROUGH	Wimauma	23
SR 54 @ TRINITY BLVD	PASCO	NULL	23
US 19 @ HUDSON AVE	PASCO	HUDSON	22
US 41 @ SR 54	PASCO	LAND O LAKES	21
US 19 @ BONITA RD	PASCO	HOLIDAY	21
US 19 @ MOOG RD	PASCO	ELFERS	20
US 19 @ SUNRAY DR	PASCO	HOLIDAY	20
US 19 @ CURLEW RD	PINELLAS		19
SR 54 @ ROWAN RD	PASCO	NULL	19



- CDMS MiniROADs – Global Information System
 - Focus improvements: Top lighting corridors, Top pedestrian corridors, Top signalized & un-signalized intersections...
 - Studies: Crosswalk studies, Access management studies, Road safety audits (RSAs), Planning studies
 - Projects: Design Build Push Button projects, Traffic Service Requests (TSRs), Resurfacing projects
 - Facilities: Two Way Left Turn Lanes, Missing crosswalks, R10-15 signs, Speed limits
 - Central Office initiatives: Wrong Way Driving improvements, Intersection Lighting
 - Regions: Social-economic regions, political districts





Pedestrian Hybrid Beacons (PHBs)

- Zero before 2015, 13 PHBs by 2021
 - Park Boulevard
 - 60th Street, 55th Way and 63rd Street.
 - East Busch Boulevard
 - Pawnee Avenue, Overlook Drive, 12th Street, and Brooks Street
 - *Construction complete by Sept 2020*
 - Expected reduction of 5 mph in speed and 13 crashes per year
- Total 13 locations

**Historical crash reduction
on Hillsborough Ave**

Year	Crashes
2010	17
2011	20
2012	27
2013	24
2014	14
2015	19
2016	7

Six-year average: 20 crashes per year

PHBs installed Fall 2015



- Pedestrian Hybrid Beacon Education Campaign
 - Billboards
 - Social Media posts
 - Postcard Mailers
 - Online safety quizzes
 - Partnership with Hillsborough County Sheriffs Office & City of Tampa Police Department



Busch Boulevard Safety Quiz

The Florida Hands-Free Act is a state law addressing distracted driving. Choose the best answer for behaviors that are **prohibited (not allowed)** by law in active work zones?

- A. Holding a phone in a handheld manner while driving in work zones
- B. Writing, sending, or reading any text-based communication while driving in work zones
- Both A and B.





Pedestrian Hybrid Beacons Education Campaign

- Billboards on Park Blvd. near beacons generating millions of impressions.
- Geofencing is providing targeted messages to motorists driving by the billboards.
- Public-private partnerships with Park Blvd. businesses
 - Over 60 businesses are distributing educational cards to customers.
- Mailer sent to over 7,000 households near Park Blvd.
- Online quiz providing motorist education
 - In 30 days, over 1,500 motorists have taken the 5-minute quiz.



Motorists:
What should you do when you see a Pedestrian Hybrid Beacon?

Maybe you've noticed these new crosswalks on Park Boulevard?

These crosswalks are equipped with Pedestrian Hybrid Beacons, "HAWKs" for short, to make it easier and safer for pedestrians to cross busy streets.

How should motorists react?

	Proceed with Caution Beacon normally dark
	Slow Down Flashing yellow light – Pedestrian has activated the system
	Prepare to STOP Steady yellow light
	STOP! Steady red light – Pedestrians/bicyclists are in the crosswalk
	STOP! Proceed with caution if crosswalk is clear

WALK BIKE DRIVE
FDOT

walkbikedrive.org



Intersection High Friction Surface Treatment (HFST) Project

Hillsborough Ave. and Central Ave. HFST

- Pilot for high friction surface treatment at signalized intersections
- Fast Response project – Final Accepted 8/12/20
- Before and After driver behavior study underway by USF CUTR
- Miovision cameras used to observe driver dilemma behavior on a yellow light before and after installation

LANE					
FN			MPD (in.)		
R1	R2		R1	R2	
77	79		0.052	0.054	
* CONVERTED TO FN40R					
78	79		0.052	0.054	



- US 98 and Trilby Rd.
 - 22% truck traffic
 - Rural region in Pasco County
 - Angle/left turn crash history
 - Exp. Completion: Sept 2020





FDOT West Central - Tampa Area
 August 7 at 3:36 PM · 🌐

⚠️ Driver Alert! New traffic pattern on US 98 >>>

The new roundabout at the intersection of US 98 and Trilby Road in Pasco County is now in operation.

Please be cautious and alert to workers as operations to complete the project will continue in this area into September.

Project info: <https://www.fdotampabay.com/project/584/442862-1-52-01>



👍 🧡 18 6 Comments 76 Shares





US 98 at Trilby Rd. Roundabout





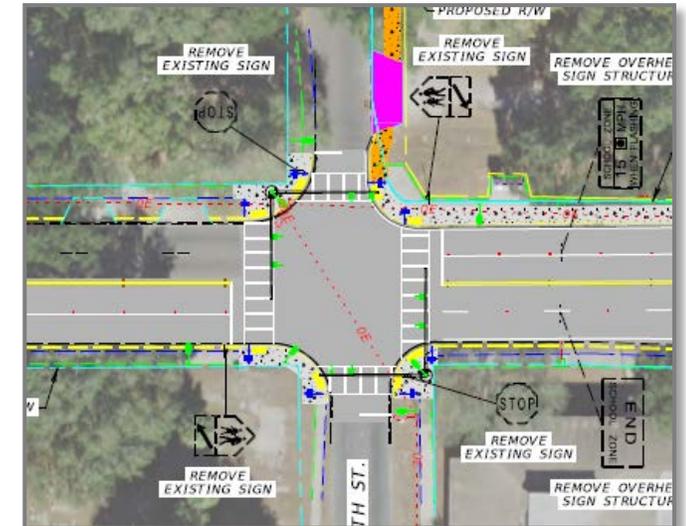
Statewide Work Zone Safety Research Project - managed by D7

- Smart Work Zone research project with USF/CUTR
 - Active Work-zone Awareness device (AWAD)
 - Pilot on 7 Construction projects
 - Initial Results for US 98 at Trilby Rd.
 - 43% speed reduction with AWAD and Law Enforcement
 - 16% speed reduction with AWAD alone

Test Scenarios	Spot Speed (mph)	Data Collection (Day)	Effectiveness (%)	Baseline Comparison
No Device	44	05/14 & 05/19		
AWAD + DSFS	37	06/02		
AWAD	37	06/03	16%	No Device
AWAD + LE	25	06/09	43%	No Device
LE + DSFS	33	06/09		
AWAD + LE + DSFS	27	06/09	18%*	LE + DSFS
LE	28	06/10	36%	No Device



- New signal and existing crosswalks
 - Requested by residents and College Hill Association
 - School crossing/school zone and a new library reconstructed on southeast corner
 - Joint Participation Agreement (JPA) project: construction to be let and managed by the City of Tampa - Fall 2020 to Spring 2021





Tampa St and 7th Ave Signal – Public & Private Partnership

- New Signal for Tampa St. and 7th Ave.
 - Heavy pedestrian crossing volume
 - Armature Works and Tampa Riverwalk
 - Design underway by FDOT
 - Construction to be let and managed by the City of Tampa in FY 2021 using Private & Public funding

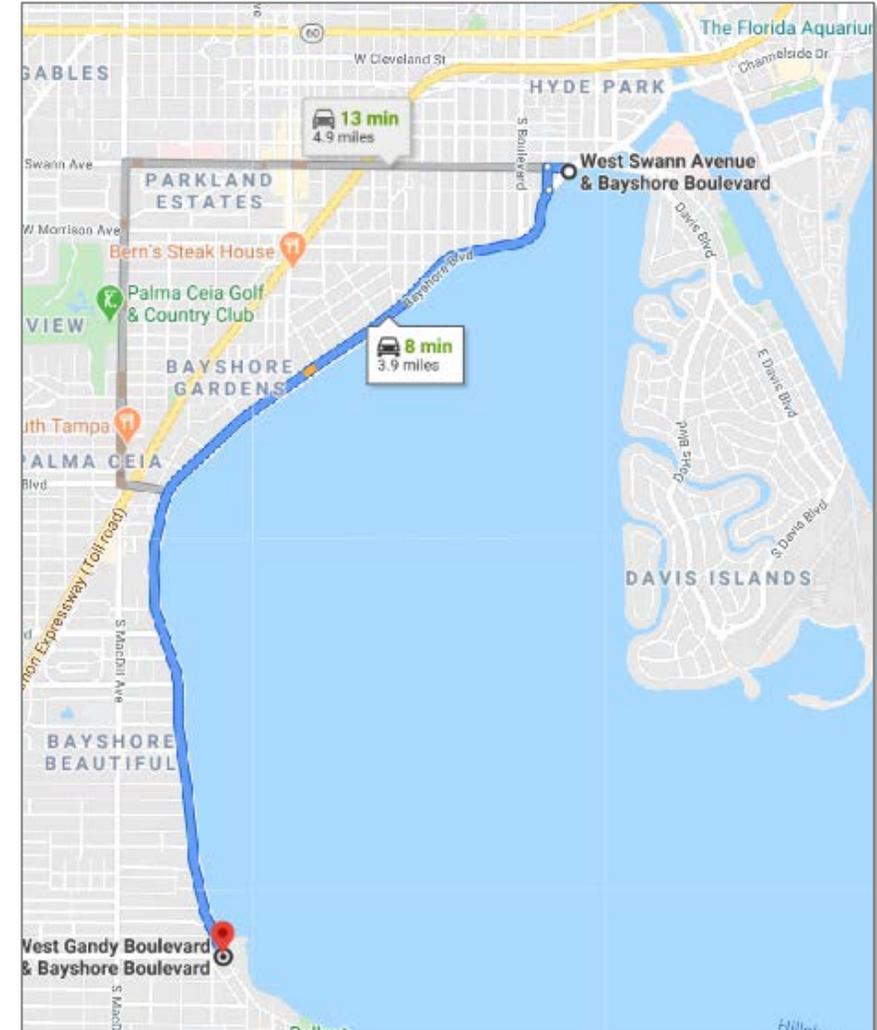


- Bayshore Boulevard – ongoing safety study
 - 4-mile, 4 lane divided waterfront City roadway
 - Speed related fatal crash history – high media attention
 - FDOT sponsored study to evaluate alternatives for lane elimination and associated capacity

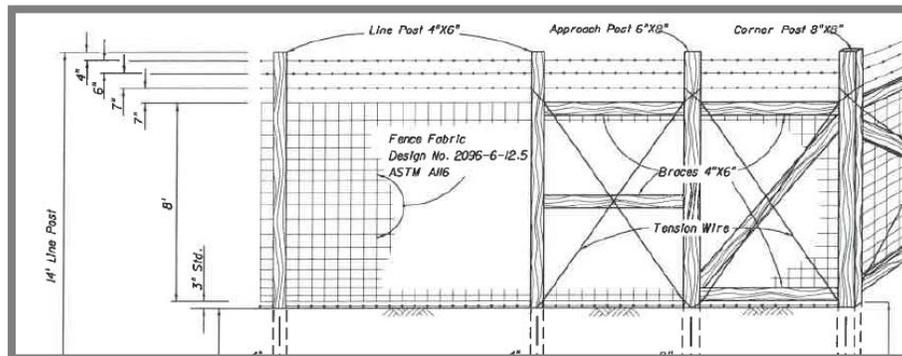
Deadly crash sparks renewed calls for safety changes along Bayshore Boulevard



There are renewed calls for safety improvements along Bayshore Boulevard after a bicyclist was killed trying to cross the scenic and popular stretch.



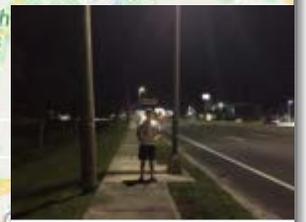
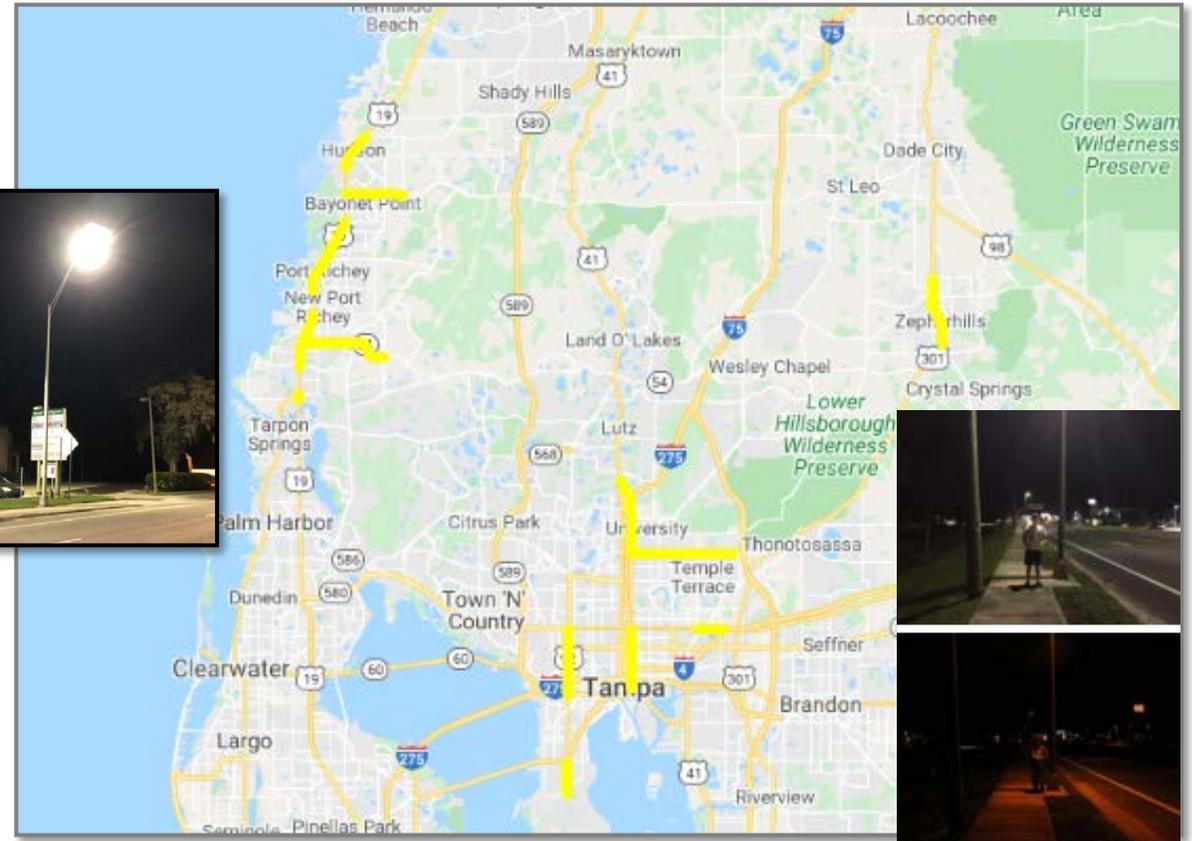
- I-275: Fletcher Ave. to State Road 50
 - History of crashes involving animals (deer)
 - Passes through two nature reserves
 - Completed survey of locations with fence heights less than 10'
 - Evaluating feasibility of adding 10' fence in coordination with Maintenance Office





Lighting Retrofit Projects – Corridors and Intersections

- Lighting retrofit projects planned throughout D7 -- \$30+M investment
 - Retrofit high pressure sodium (HPS) to light emitting diode (LED)
 - Corridors and Intersections
 - Multiple Delivery Methods
 - 1 intersection and 1 corridor: DBPB IV
 - 7 intersections and 3 corridors: DBPB V
 - 4 segments/40 miles: New Design-Build (Low Bid) contract
 - 7 segments: Partnering with Local Agencies through LAP and JPA (Pasco County) to work with power companies





Missing Crosswalk Studies and Projects – DW approach

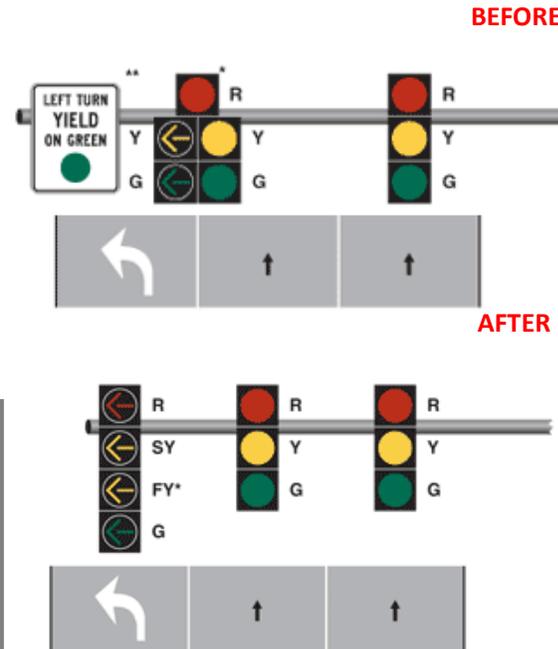
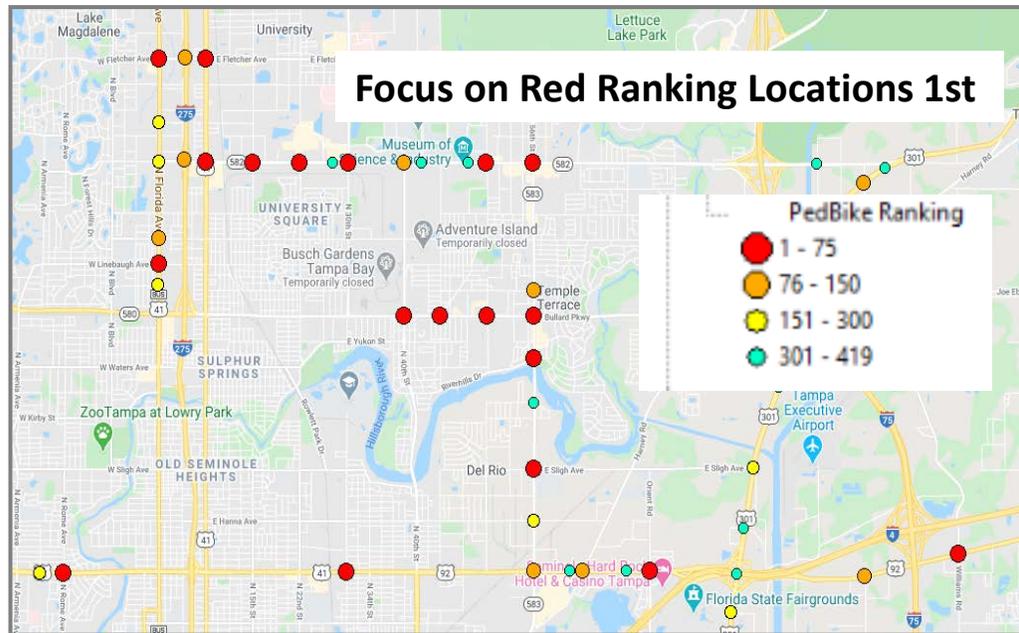
- Missing crosswalks: 1,024 signalized intersections evaluated for feasibility to install.
- 23 locations identified for implementation (Pasco/Pinellas)
 - DBPB IV: 4 locations
 - DBPB V (1st year): 5 locations
 - Work program: 4 locations
 - Vital Few arterials: 5 locations
 - WP Projects: ongoing coordination





Leading Pedestrian Interval (LPI) & Flashing Yellow Arrow (FYA) – District Action Plans

- D7 is currently finalizing actions plans for LPI and FYA districtwide implementation on all state highways using systemic approach.



LPIs can reduce pedestrian crashes by **13%**

FLASHING YELLOW ARROW

WHAT IS A FLASHING YELLOW ARROW?
It is a new type of signal placed over a left turn lane at a signalized intersection where one of the signal indications is a flashing yellow arrow. The flashing yellow arrow indicates when motorist should yield to oncoming traffic and pedestrians before turning.

WHY IS IT A BETTER TURN SIGNAL?
Flashing yellow arrows are the result of a national study conducted by the Federal Highway Administration, which demonstrated that the new signal indication:

- Provides a clear distinction between when motorists who are turning are protected from conflicting traffic and when they must yield.
- It has been shown to improve safety and reduce delay through intersections.

HOW DO THEY WORK?
Flashing yellow arrow - means turns are allowed after you yield to pedestrians and oncoming traffic.

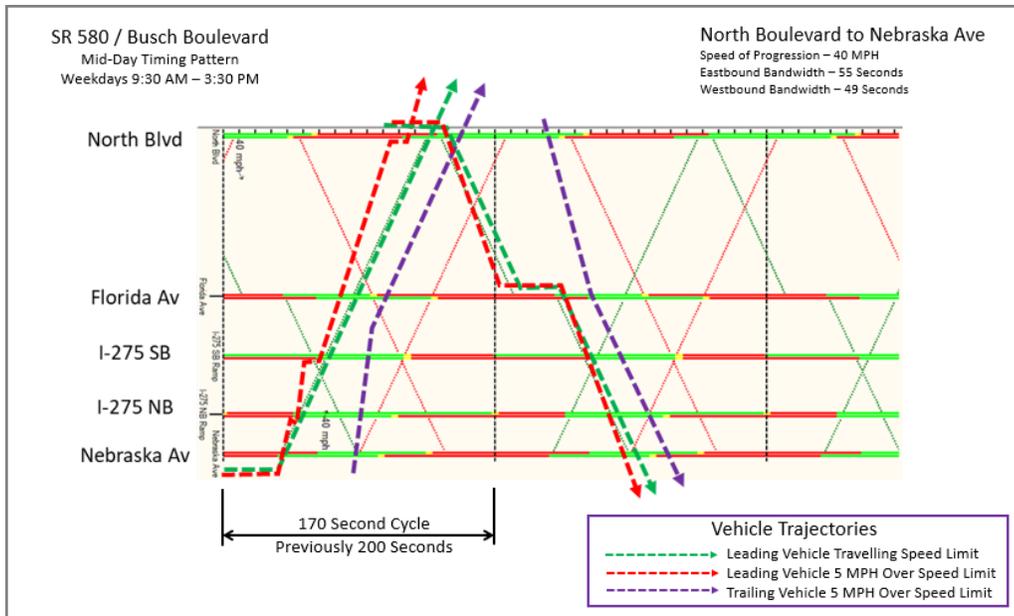
- STEADY RED ARROW**
Drivers turning left must stop and wait. No left turns allowed.
- STEADY YELLOW ARROW**
Drivers turning left should be prepare to stop.
- FLASHING YELLOW ARROW**
Drivers turning left may proceed after yielding to oncoming traffic and pedestrians.
- STEADY GREEN ARROW**
Drivers turning left have the right-of-way. Proceed with left turn.

WHERE WILL THESE SIGNALS BE USED?
FDOT has installed flashing yellow arrow signals at various locations throughout the state.

For more information, visit our Web Site at: www.dot.state.fl.us/trafficoperations/

Brought to you by
Your Local Community Traffic Safety Team (CTST)
www.fdot.org

- Two corridors implemented context sensitive signal timing
 - Busch Blvd. from Dale Mabry Ramp to 50th St. – Jan 2020
 - SR 583 (56th St.) – Netpark Entrance/Driveway to Whiteway Dr. - May 16, 2020
- Before and after evaluation pending



Number of Intersections Where:	Plan				
	Morning Peak	Midday Peak	Afternoon Peak	Evening Peak	Weekend
Delay Same/Decreased	4	6	5	4	3
Delay Increased ≤ 5 sec/veh	2	3	4	4	4
Delay Increased > 5 sec/veh	4	1	1	2	3



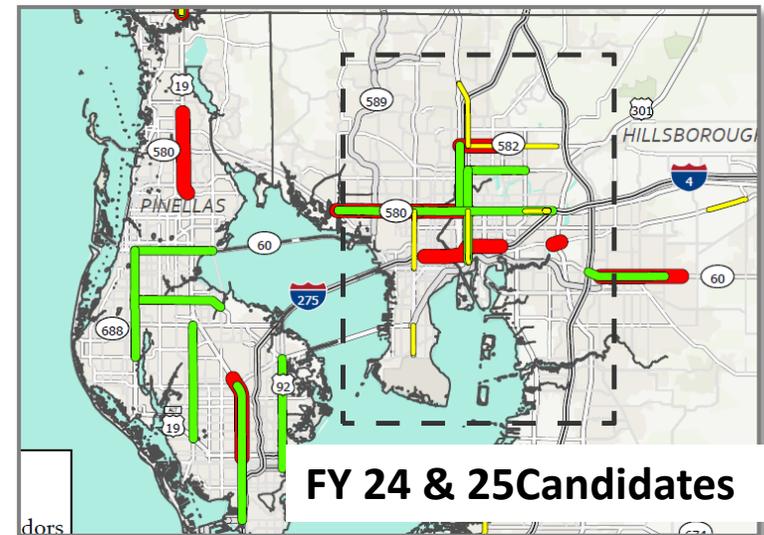
RRR Projects with Enhanced Safety Improvements

- D7 is working to incorporate safety improvements into RRR projects
 - Early preparation of Desktop Reviews and cost estimates (in candidate phase)
 - Implement broad scale safety improvements (LPI, FYA, raised medians, missing crosswalks, corridor/intersection/rural curve lighting, geometric improvements)
 - Safety improvements: 2-20% of total project LRE

62 Candidates in review for FY 24+

DESKTOP REVIEW ACTION SUMMARY
441654-1 – SR-688 FROM SR-699/GULF BLVD TO EAST OF INDIAN ROCKS RD/OAKHURST RD (MP 0.000 TO MP 1.212)

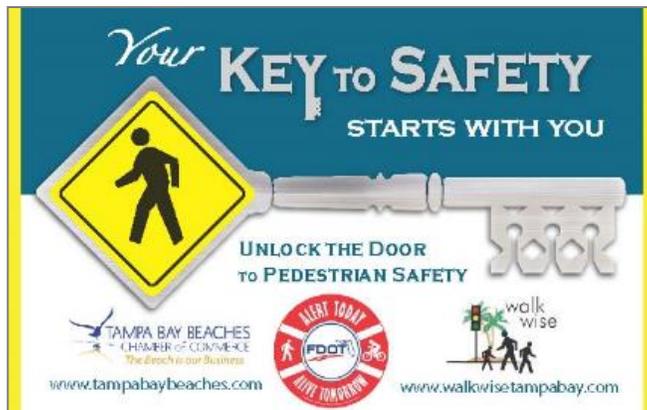
Corridor Statistics		Review Recommendations						Aerial/Existing Typical Section
		15 120 000 at MP	Location Description	Data/Observations	Recommendation	Implementation Timetable & Method	Preliminary Cost	Comments & Completion Date
Lighting & Top 10 Action List Segments & Intersections Location Type 0.0 to 4.5 Top Severe Corridor On-System 2014-2018 SR 699 to Seminole Blvd 0.693 Ranked #39 for Ped/Bike Crashes for C3C Context SR 688 at 146th Street Class Signalized Intersections 1.192 Ranked #11 for Ped/Bike Crashes for C3C Context SR 688 at Oakhurst Road/Indian Rocks Road Class Signalized Intersections				31% nighttime crashes; street lights from SR 699 to west of the draw bridge (MP 0.370) have Light Emitting Diode (LED) fixtures. Existing corridor lighting east of draw bridge consist of High Pressure Sodium (HPS) fixtures. 65% of nighttime crashes, occurred within corridor segment with HPS lights.	Replace high pressure sodium fixtures with LED.	Mid-Term; Resurfacing	\$84,740	
Mile Post Limits AADT Data MP 0.000 - 1.212 16,400				4-foot bike lanes exist along corridor; 3 bike crashes in 5 years; 0 fatal & 0 incapacitating bike crashes. 3 bicycle related crashes have occurred from 2019-2020 with one 1 fatal bicycle crash, bicycle	Reduce width of travel lanes to 11 feet & widen bicycle lane to 6 feet.	Short-Term; Resurfacing	Funded by 3R	





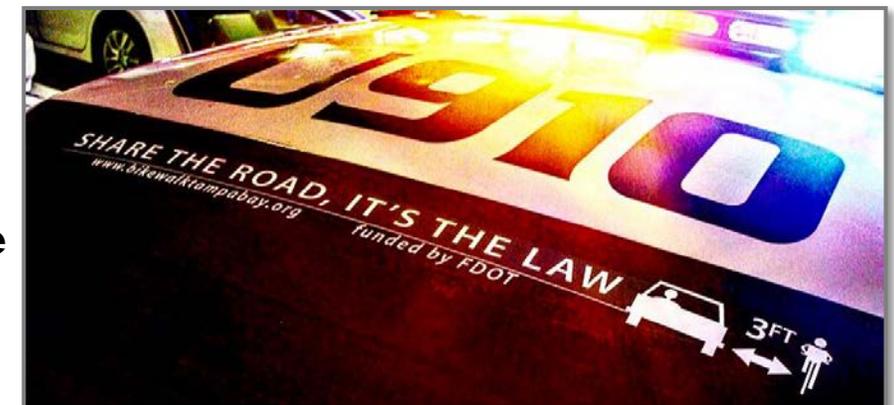
Safety Educational & Enforcement Outreach – 7+ years success

- Education Campaigns through Bike Walk Tampa Bay
 - Pop-Up On-The-Street Education for Bicyclists and Pedestrians
 - Bicycle Friendly Business Program
 - Annual Bike/Walk Tampa Bay Summit
 - Key to Safety Cards
 - Three-Foot Clings for Local Law Enforcement



Safety Tips for
guests at hotels
along Gulf Blvd

To date, 541
Clings have been
distributed to five
law enforcement
agencies





Bike Walk Tampa Bay Educational Outreach

- Education Campaigns: Bike Walk Tampa Bay
 - WalkWise and BikeSmart interactive safety presentations at homeless shelters, businesses, civic associations, etc.
 - Teen Traffic Safety Education to High Schools

WalkWise and BikeSmart

- Total presentations: 2,637
- Total attendance: 44,692

Teen Safety Education

- Participating schools in D7: 40
- Total students reached: 7,321
- Total presentations: 426



- Bicycle Friendly Businesses and USF Transportation Day



Allegedly Design and Brew Bus Brewing in Tampa Heights



UPC in Uptown Tampa



Outspokin Bikes in South Tampa



Ribbon cutting to open Holly Drive to pedestrians



BWTB Board Member, USF President and CUTR Director

- Partnership on Road Safety Audits (RSAs)
 - RRR, Work Zone, School, Safety Focus areas
 - CR-35A (Old Lakeland Highway) at Clinton Ave./Enterprise Road
- Motorcycle/street racing and general speeding
 - Gandy Bridge, Howard Frankland Bridge, and Courtney Campbell Causeway
- Sunshine Skyway Bridge operation during high wind conditions
- On street education for motorists, pedestrians, and bicyclists
 - Tip cards, bike lights, and other safety material

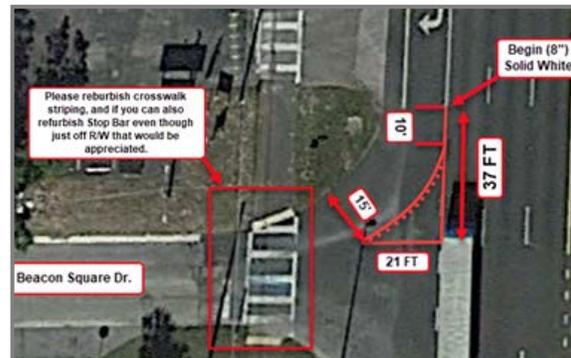
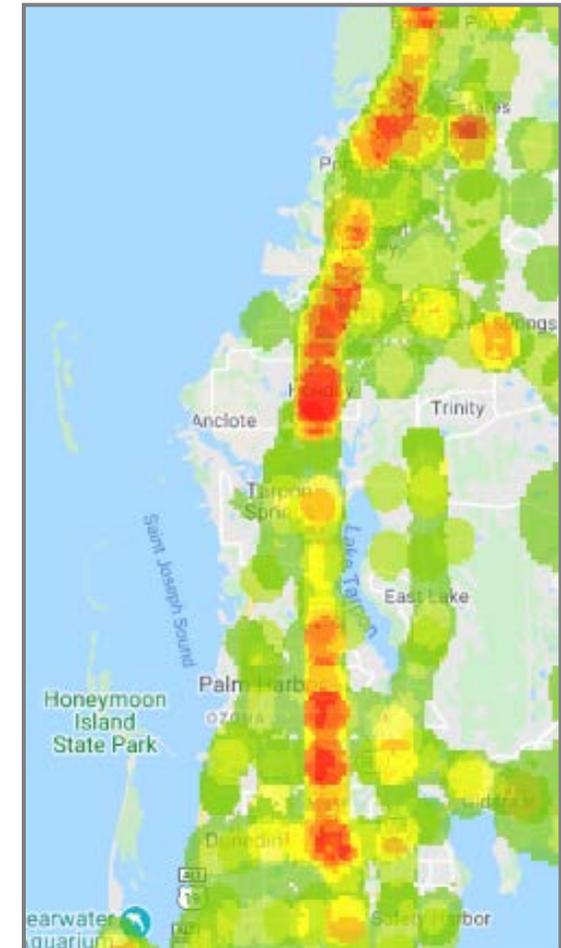


- US 19 - #1 Safety Corridor in D7
 - 3+ new Pedestrian Signals
 - 2 new Traffic Signals
 - 4 Right Turn Channelization projects
 - 2 Lighting Retrofit projects – 1 completed
 - 5+ Missing Crosswalk projects
 - Nighttime educational outreach to pedestrians – bike lights, reflective gear

Arrive Alive Road Safety Audit 11/16/18



Fatal Crash Heat Map



D7 Before & After Safety Evaluation Program

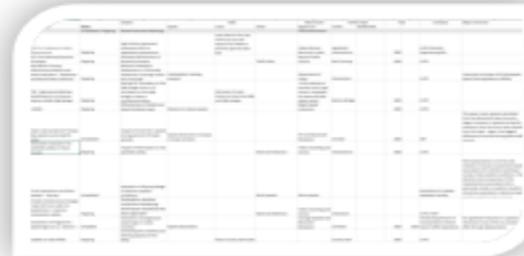
- **CUTR/USF assists D7 to conduct Before-After Safety Performance Evaluation**

- Intersection HFST Safety Behavior Study
- Railway dynamic envelope pavement marking behavior study
- Mid-block crossing effectiveness before-after evaluation
- Signing and pavement marking modifications to enhance narrow bridges
- D7 LED lighting evaluation – before-after study
- Smart work zone device evaluation (e.g. AWAD)
- Update on solar RPMs
- RRFB + in-road lighting project
- 56th signal retiming for speed management



- **CUTR/USF is developing a B/A project database**

- Store and query D7 B/A safety evaluation projects
- Document detailed project information and findings
- Help FDOT staff to develop B/A evaluation projects






Converting Challenges to Opportunities with Success

A photograph of a dense forest of tall, thin trees with vibrant autumn foliage in shades of yellow, orange, and green. The trees are set against a clear blue sky. The text is overlaid on the center of the image.

**Everything negative - pressure,
challenges - is all an opportunity
for me to rise.**

Kobe Bryant