



# DISTRICT 4 SMART WORK ZONE

## A NEW WAY OF THINKING



Daniel Smith D4TSM&O

Florida Department of Transportation



# WHY?



**4,016+  
CONSTRUCTION  
PROJECTS IN  
NEXT 5 YEARS**



**53,000+ WORK  
ZONE-RELATED  
CRASHES FROM  
2017-2021**



**COMMUNITY  
DISRUPTION  
DURING  
CONSTRUCTION**



# HOW IT STARTED



## TC Palm.

### FDOT: Severe corrosion found at Roosevelt Bridge causing support of bridge to be ruptured



**By [Name]**  
[Blurred text describing the article content]



# SWZ DEFINITION



Application of technology used to reduce negative impacts to safety and mobility within a work zone.

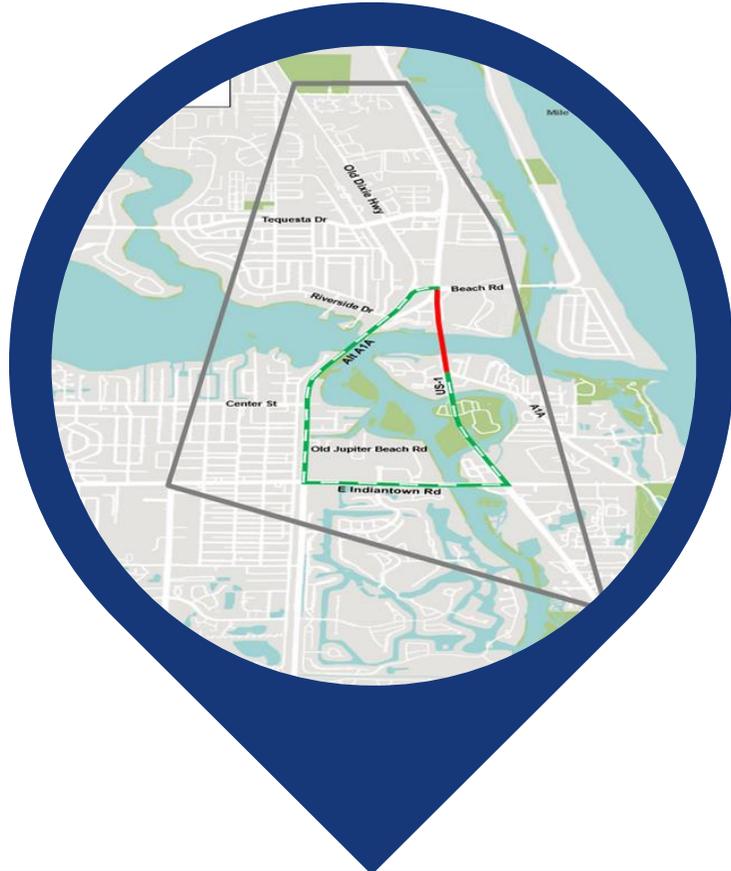


Application of technology used to reduce negative impacts to safety and mobility within **and around** a work zone.



# INNOVATION & FOCUS ON COMMUNITY

## AREA OF INFLUENCE



## SWZ EQUIPMENT – WIRELESS DATA TRANSFER



# SECONDARY BENEFITS

## Rapid ITS Deployment

- ✓ Natural Disaster
- ✓ Unplanned Road Closures
- ✓ Emergency Management Support
- ✓ Special Event Monitoring



# KEYS TO SUCCESS



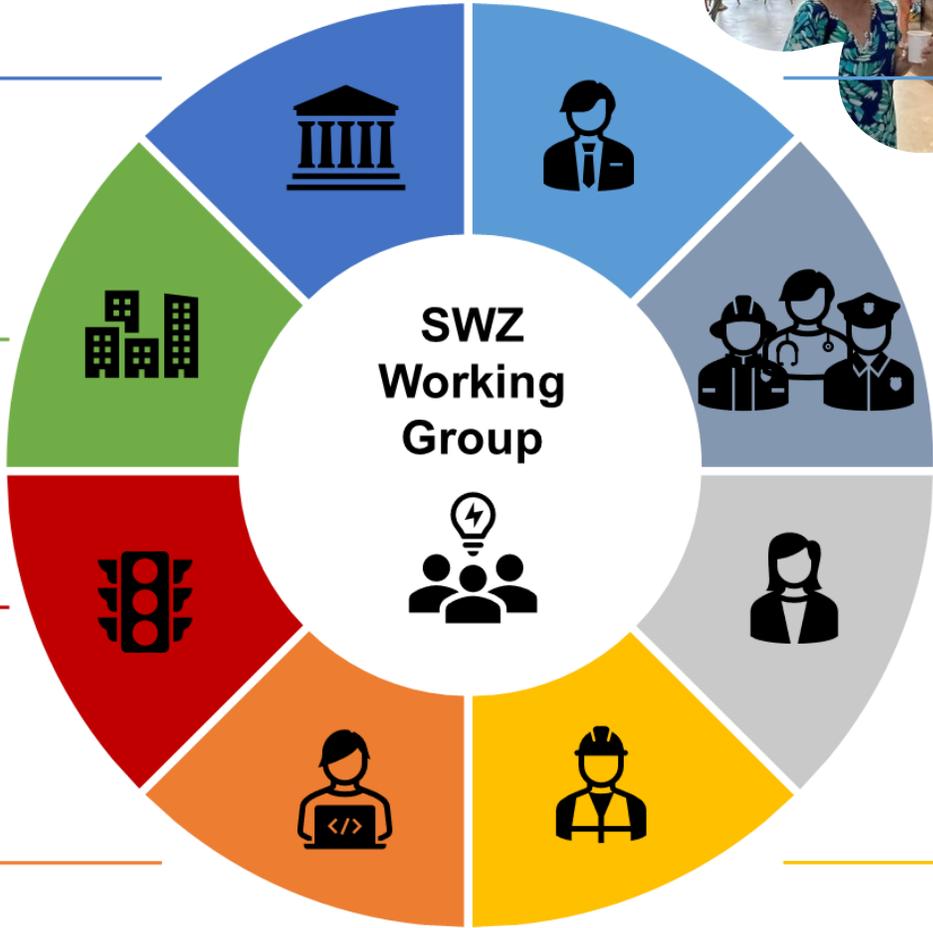
Coffee with the Contractor!

City Manager's Office

Local Municipalities

Signal Maintaining Agencies

SWZ Consultant



FDOT

Fire, Police & Hospital

PIO

Contractor and CEI

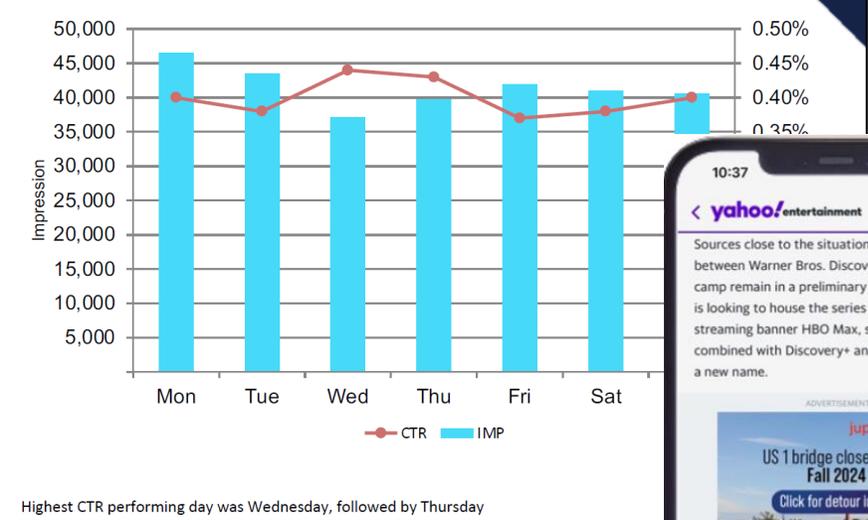


# Geofencing Media Campaign

## Campaign Delivery



## Day of Week Performance



The screenshot shows the NBC Sports website interface. The top navigation bar includes 'WATCH', 'NFL', 'NBA', 'SOCCER', 'NASCAR', 'MOTORS', 'GOLF', 'OLY', 'USFL', 'MLB', 'HORSES', and 'MORE'. The main content area features 'TOP STORIES' with articles like 'Premier League fixtures for 2022-23 season' and 'Frank Lampard takes over as Chelsea caretaker boss'. A geofencing advertisement for 'Jupiter US 1 bridge' is overlaid on the right side of the page, with the text 'US 1 bridge closed until Fall 2024' and a 'Click for detour info' button.

The screenshot shows a mobile phone screen displaying a Yahoo! Entertainment article titled 'Sources close to the situation suggest that talks between Warner Bros. Discovery and Rowling's camp remain in a preliminary state...'. Below the article is a geofencing advertisement for 'Jupiter US 1 bridge' with the text 'US 1 bridge closed until Fall 2024' and a 'Click for detour info' button. The phone's status bar shows the time as 10:37 and the browser as yahoo.com.



# FORMALIZING PROGRAM

## D4 SAFETY TEAM



## D4 MOBILITY TEAM



# SCALABLE PROGRAM

Florida Department of Transportation (FDOT) District 4 Transportation System Management and Operation (TSM&O) Scoping Checklist

The purpose of this checklist is to assist FDOT project managers and TSM&O staff with identifying key TSM&O improvements, deliverables, and milestones to include in projects and project schedules. This includes, but is not limited to, activities and deliverables associated with the systems engineering process, ITS and signal system design, and documentation related to preserving the existing TSM&O network components and infrastructure.

General Project Information	
Project Manager:	FM#:
Project Description:	Project Limits (Project Length):
County:	Production Date: Letting Date:
Preservation of Existing Infrastructure managed by FDOT	
Is this project within the existing TSM&O Network?	<input type="checkbox"/> Yes <input type="checkbox"/> No
What are the existing devices or infrastructure in place? (Is there an ITS hub site within the project limits?)	
Will the existing infrastructure require additional coordination? (e.g. conduit run conflicts, ITS device relocation or upgrade, etc.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Incorporate new FDOT managed ITS Infrastructure or TSM&O Strategies	
Are the project limits on the TSM&O Strategic Network?	<input type="checkbox"/> Yes <input type="checkbox"/> No
What type of implementation strategies are recommended from the District 4 TSM&O Master Plan? (Check all that apply)	<input type="checkbox"/> Traffic Management <input type="checkbox"/> Transit Management <input type="checkbox"/> Safety & Emergency Management
	No recommendations, FDOT doesn't maintain
Additional Comments:	
Date TSM&O Scoping Form was uploaded to PSEE:	
TSM&O Contact Information	
Scoping Lead	TSM&O Program Engineer <a href="mailto:Alexandra.Lopez@dot.state.fl.us">Alexandra.Lopez@dot.state.fl.us</a> (954) 777-4376



**The FDOT District Four Smart Work Zone Program**

The Florida Department of Transportation (FDOT), District Four annually screens construction projects for Smart Work Zone (SWZ) selection. A SWZ is an overlay on an existing construction project, that uses technology and experts to better manage the impacts of construction on the surrounding area. Once in operation, a SWZ gathers data to aid in decision-making, traffic management, performance reporting, and coordination with the goal of **improving safety** and **enhancing mobility** during construction. The equation to a successful SWZ is:

Area of Influence (Work Zones, Detour Routes) + Smart Devices (People, Relationships, A Plan) + Monitoring (Maintenance, Plan Implementation) = Improved Safety and Mobility

**Smart Work Zone Activities**

- Main Areas of Focus:**
  - Coordination:** Collaborate with all project stakeholders to ensure traffic and safety within the surrounding area is maintained.
  - Area of Influence Selection:** Select the larger area surrounding the work zone that will be impacted by the construction project.
  - Traffic Management:** The application of technology to respond to shifting traffic demands in a construction zone.
- Monitor Traffic Conditions:** The use of technology to surveil a construction zone and the surrounding area for real-time traffic conditions.
- Analyze Data:** The use of data to make educated traffic management decisions.
- Signal Timing Changes:** Adjustments to the signal timing system based on real-time traffic conditions.
- Emergency Response:** Quick action in a state of an emergency, including coordination and rapid response.

**Smart Work Zone Benefits**

- Reduced work zone crashes
- Minimize congestion and reducing traffic delay through work zones
- Providing effective construction-related information to the public
- Providing performance metrics for future work zone design improvements

**What Can You Do to Help?**

- Drive the Speed Limit
- Follow Assigned Detour Routes
- Observe Construction Signage
- Use Google or FL511 to Safety Navigate



# PAST, PRESENT & FUTURE

**Roosevelt Bridge  
Emergency  
Construction**

**SR-84 Bridge Impact**

**Henry E. Kinney Tunnel  
Reconstruction**

**Glades Road Diverging  
Diamond Interchange  
(DDI)**

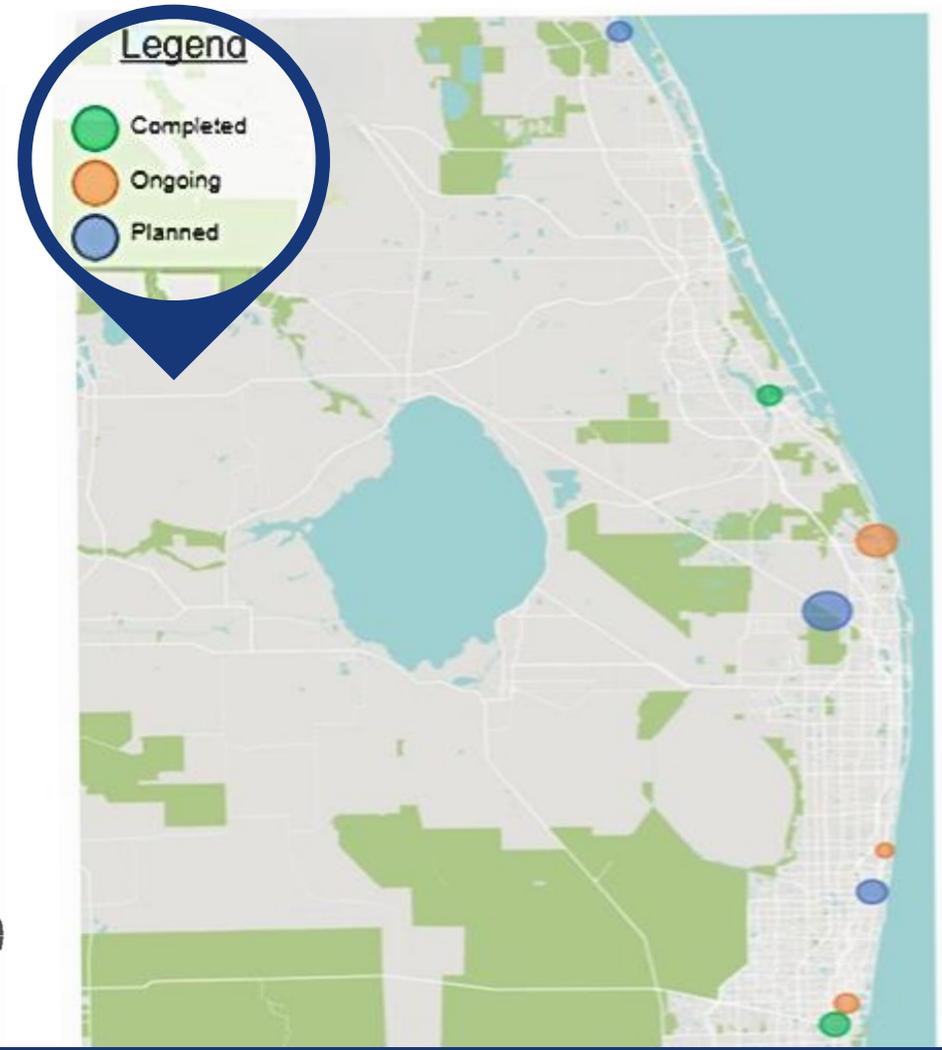
**Jupiter Bridge  
Replacement Project**

**Beeline Highway**

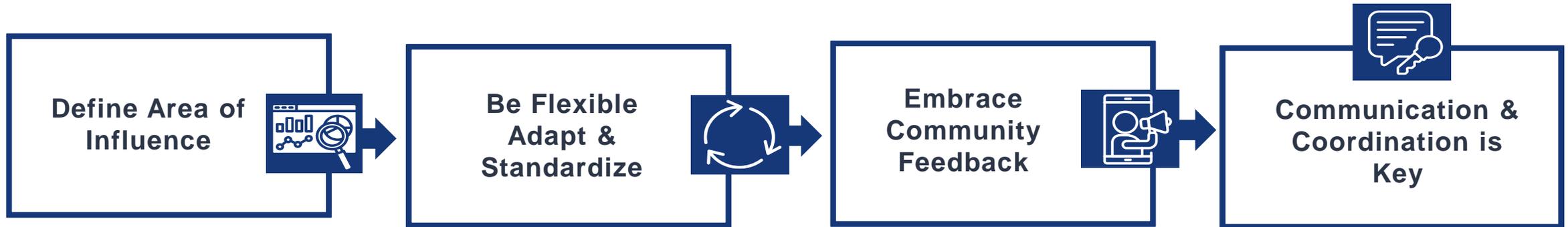
**SW 10th Street**

**Sebastian Inlet  
Bridge**

**AT LEAST 15 ADDITIONAL PROJECTS UNDER CONSIDERATION**



# OUTCOMES & LESSONS LEARNED



**FORMULA FOR SUCCESS**  
**TECHNOLOGY + PEOPLE + RELATIONSHIPS + A PLAN**

[daniel.smith@dot.state.fl.us](mailto:daniel.smith@dot.state.fl.us)

954-847-2633

