



CENTRAL FLORIDA TSM&O CONSORTIUM MEETING SUMMARY

Meeting Date: September 14, 2023 (Thursday) **Time:** 10:00 AM – 12:00 PM

Subject: TSM&O Consortium Meeting

Meeting Location: Teleconference

I. OVERVIEW

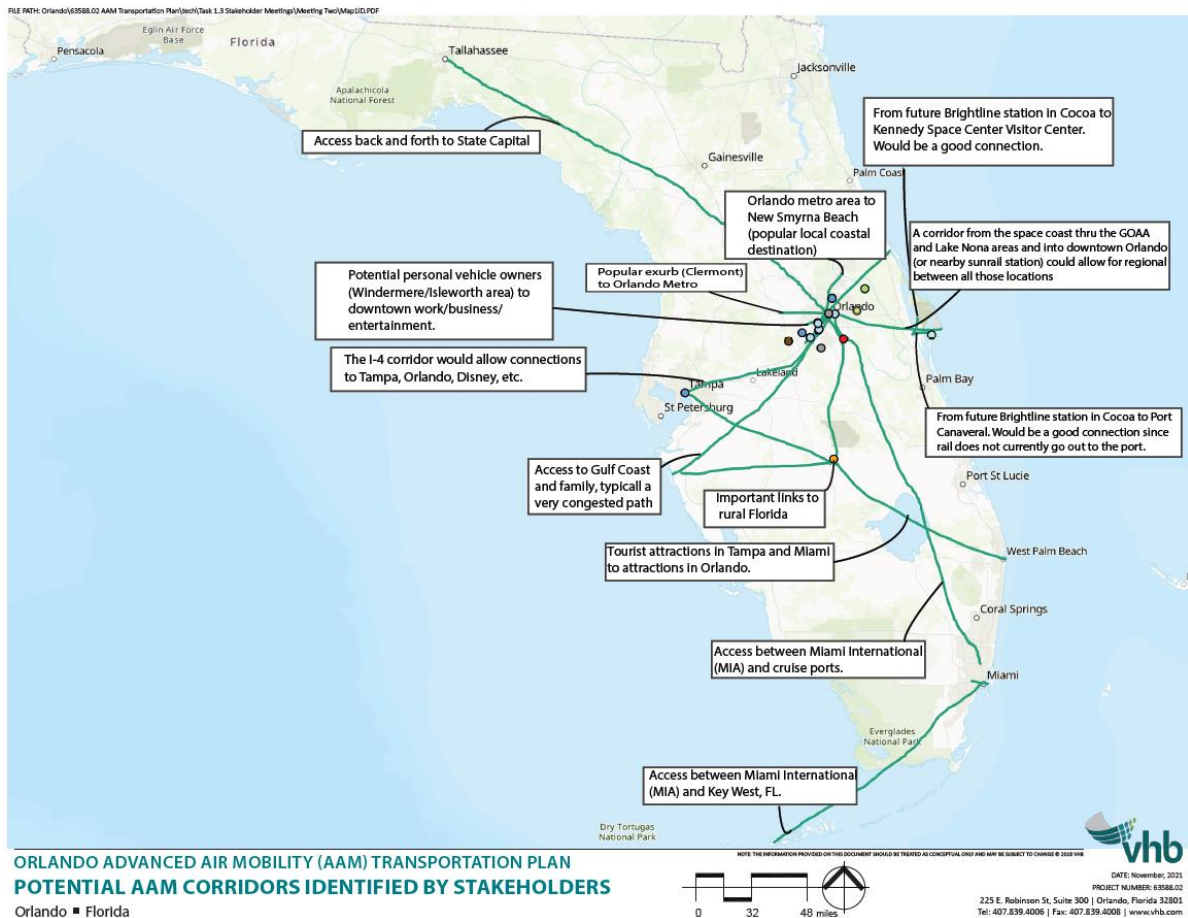
The purpose of this recurring meeting is to provide an opportunity for District Five FDOT staff and local/regional agency partners to collaborate on the state of the TSM&O Program and ongoing efforts in Central Florida. Jeremy Dilmore gave a short introduction and outlined the meeting agenda.

II. ADVANCED AIR MOBILITY

Jacques Coulon, City of Orlando's Mobility Innovation Manager, provided an update on the Orlando Advanced Air Mobility effort.

- Advanced Air Mobility (AAM) is an umbrella term for aircraft that are likely highly automated and electric; these aircraft are often referred to as air taxis or electric Vertical Takeoff and Landing (eVTOL) aircraft
- AAM carries passengers and cargo at low altitudes
- Potential to fly ~150 miles on a single charge, up to 150-200 mph, depending on the vehicle
- A mature AAM network will consist of vertiports located on rooftops or garages in urban settings, hospitals, airports, and other major multimodal transportation hubs throughout the Central Florida region
- Orlando's Mobility Strategy – develop a plan to engage private sector eVTOL takeoff and landing companies to connect activity centers within the Central Florida region and connect Orlando to other cities within the southeast
- Purpose – to plan for the anticipated impacts associated with AAM through a regional connectivity plan
- The AAM Transportation Plan will position the City with additional future-ready mobility options by identifying the vertiport locations
- Cities and Counties must be at the forefront of the conversation on AAM and be active participants in policy formulation; AAM is regional in nature and must be considered with regional partners
- Paying customers expected in 2025
- Orlando has a "vertiport" in its code, but it's a heliport
- Timeline
 - Phase One

- Technical memoranda on Regional Transportation and Environmental Challenges and Opportunities
 - Economic Impact Study of Geico garage
 - NASA Community Planning Annex
 - Stakeholder Outreach and regional visioning
- Phase Two (ongoing)
 - Zoning and regulations review
 - Agency coordination
- Phase Three
 - Travel demand model
 - Vertiport target locations
 - Additional stakeholder outreach



- Economics
 - Positive economic benefits anticipated (employment, taxes, GDP) but it is too early for City to invest in infrastructure without a partner
 - Potential costs - **\$30M capital cost; \$600K to \$1M per year in parking revenue loss**
 - Potential benefits – **\$4.3M tax revenue over 20-year period (estimated by IMPLAN)**
 - To move forward, the City should negotiate an agreement with an AAM operator that outlines

- Cost-sharing responsibilities
 - Revenue sharing (if applicable)
 - Performance measures
 - Ground lease payments back to the City
- This agreement would help City understand the ROI before making capital investments
- FDOT’s Recommended Best Practices regarding AAM
 1. Assign lead staff member for AAM
 2. Review FDOT State of AAM
 3. **Review agency’s zoning ordinances (most important)**
 4. Map out aeronautical use facilities
 5. Identify incompatible land uses
 6. Establish a benchmark for existing ambient noise levels
 7. Establish waste, HazMat, and pollution prevention requirements
 8. Establish AAM policies that put the community first
 9. **Update Zoning ordinances**
- Stakeholder Engagement
 - Master Plan was developed with a lot of stakeholders; City wanted to stay competitive



June 2022



- Key Questions moving forward
 - Where should vertiports be located?
 - Who owns and operates vertiports?
 - How do we ensure safe operations and integrations into existing airspace and ground transportation networks?
 - What happens when we move out of the regulatory phase, what community partners do we need to engage?
 - How do we regulate, measure, and enforce external impacts (noise, visual pollution)?
 - How does approval of a vertiport affect property rights?
 - What type of information/data sharing will be required?
- NASA Partnership
 - Partnership with NASA and other transportation agencies, airport authorities, vehicle manufacturers, and universities
 - Workshops to share ideas, best practices, and lessons learned

- Establish criteria for locating future vertiports
- Use-case scenario planning
- Other partners: OhioDOT, MassDOT, Minnesota DOT, North Central Florida Council of Governments DOT
- Community Integration Considerations Playbook

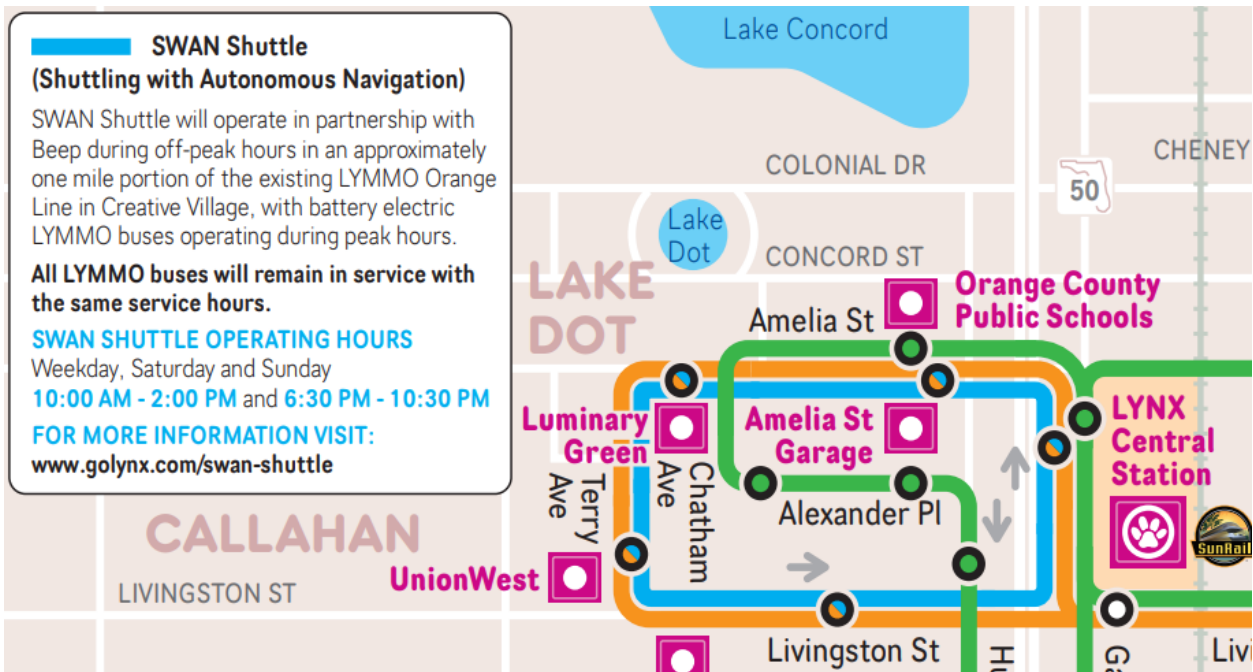
III. SHUTTLING WITH AUTONOMOUS NAVIGATION (SWAN) AV SHUTTLE

Jacques Coulon, City of Orlando’s Mobility Innovation Manager, provided an update on Orlando’s Shuttling with Autonomous Navigation (SWAN) AV shuttle.

- SWAN AV shuttles in operation now
- Project Objectives
 - Implement strategy included in City’s Future-Ready Master Plan and budget
 - Enhance LYMMO service
 - Test how AVs react in dense environment
 - Pursue additional funding
 - Prepare for future integration at scale
 - Explore future of LYMMO with DTO Master Plan
 - Determine if this could be an option for Ivanhoe Village / Advent Health or SoDO / Orlando Health



- Operating in 2 time periods to allow for charging and to make sure not overloading system during peak hours



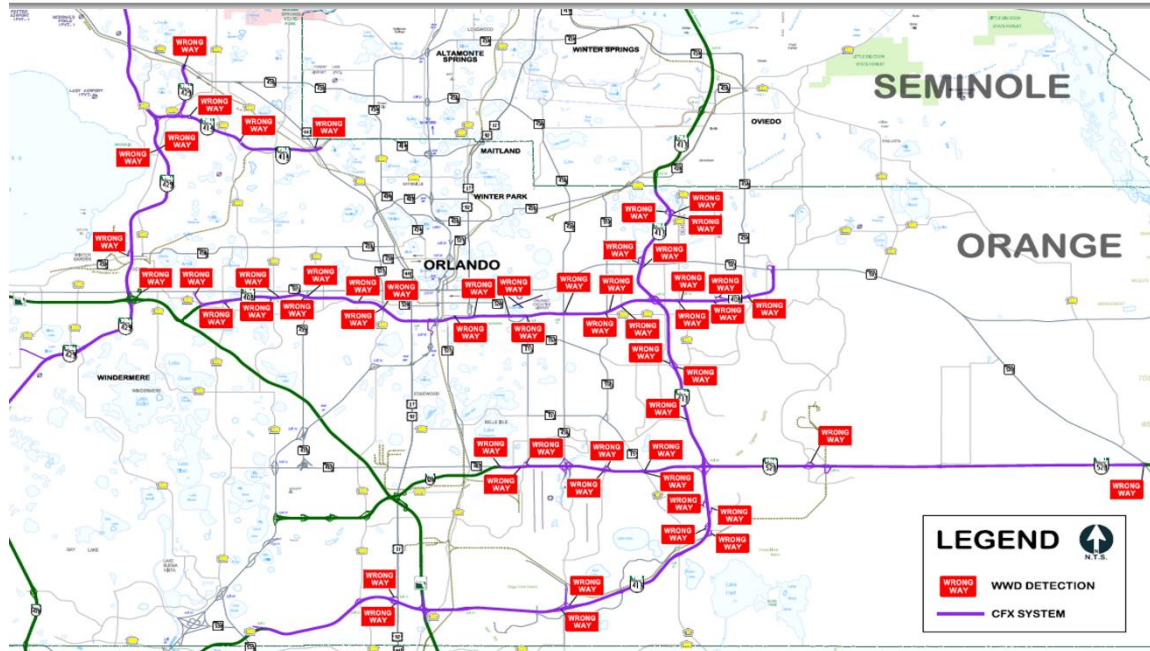
- As part of the pilot, research is being conducted to ascertain performance of vehicles/platforms, ridership preferences, integration with current fleet, integration with existing infrastructure, bike/ped behavior, roadway and landscape design, and interest in integrated mobility applications.
- Early Lessons Learned
 - Ridership has remained steady
 - Landscaping implications
 - Small palm trees get blown in the wind and the vehicle thinks there's an obstruction and stops
 - Vehicle detection
 - Signal timing
 - AV shuttles start much slower than a regular bus; wouldn't navigate a green light in sufficient time
 - Battery levels / heat during summer time is an issue; standard LYMMO buses are made available on standby
- Discussion:
 - Are the AV Shuttles receiving Signal Phase and Timing (SPaT) data? Are they manually driven through signals?
 - Yes, manually driven because it's a short-term deployment



IV. LIDAR FOR WRONG WAY DETECTION

Brent Poole, Central Florida Expressway Authority, gave a short presentation on Wrong-Way Driving (WWD) deployments on the CFX system.

- Total of 65 deployments systemwide
 - 3 phases complete; 4th phase under design
 - Mix of detection technologies include
 - Radar – 20
 - Laser – 8
 - Thermal – 36
 - LiDAR – 1
- Goals and Objectives
 - Investigate patterns of the WWD activity on the system
 - Evaluate methods in alerting wrong-way drivers to self-correct
 - Identify new effective methods in detecting WWD events
- LiDAR Evaluation
 - Is LiDAR a viable detection option for WWD?
 - Allows for edge processing
 - Much higher resolution compared to traditional Laser and Radar
 - Faster performance
 - Longer range detection



- False activation is a problem for laser system
 - True Events
 - LiDAR and Laser identified 5 events
 - LiDAR alone identified 6 more events
- Benefits
 - edge processing
 - sent to SunGuide on the fly
- What's next?
 - Active deployment – SR 408 WB off ramp to Dean Rd (August 2022)
 - Converted existing site from Radar to LiDAR detection
 - Includes 2nd LiDAR sensor for added detection, accuracy, and redundancy
 - Has outperformed previous radar system
 - Radar in 74 months – 60 WWD detections
 - LiDAR in 12 months – 10 WWD detections
 - Considerable reduction is in false alerts
- Discussion:
 - How do costs compare?
 - LiDAR is a bit more expensive
 - Is LiDAR easier to maintain?
 - It depends; the older radar system gets the more common and frequent “drift.” The LiDAR has not needed any readjustments.

V. CUBIC CONTROLLERS AND ATSPM

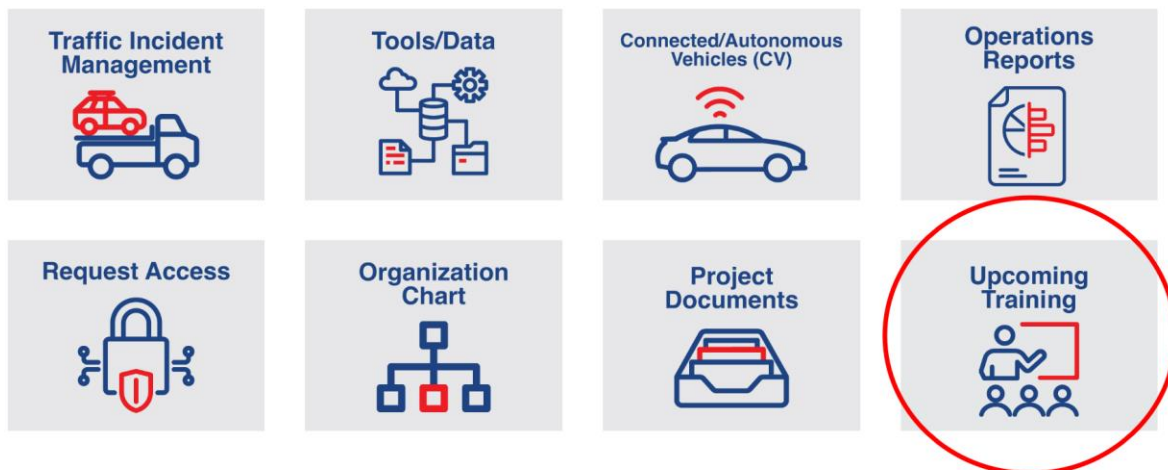
Katie King, Metric Engineering, gave a brief presentation on CUBIC controllers and ATSPM.

- Had training scheduled, but ran into issue – the CUBIC controller decoder is outputting bad data
 - CUBIC indicated they would not provide anything outside of their ATSPM
- FDOT filed deficiency report with TERL
- CUBIC is trying to find a fix, including standing up another ATMS
 - v75's still work, but CV must run on v85
- Discussion:
 - Is CUBIC the only issue?
 - Econolite has been shown to turn off

VI. WORKFORCE DEVELOPMENT TRAINING

David briefly discussed upcoming workforce development trainings.

- The District has added an *Upcoming Training* button to the CFLSmartRoads homepage providing a schedule of upcoming training courses



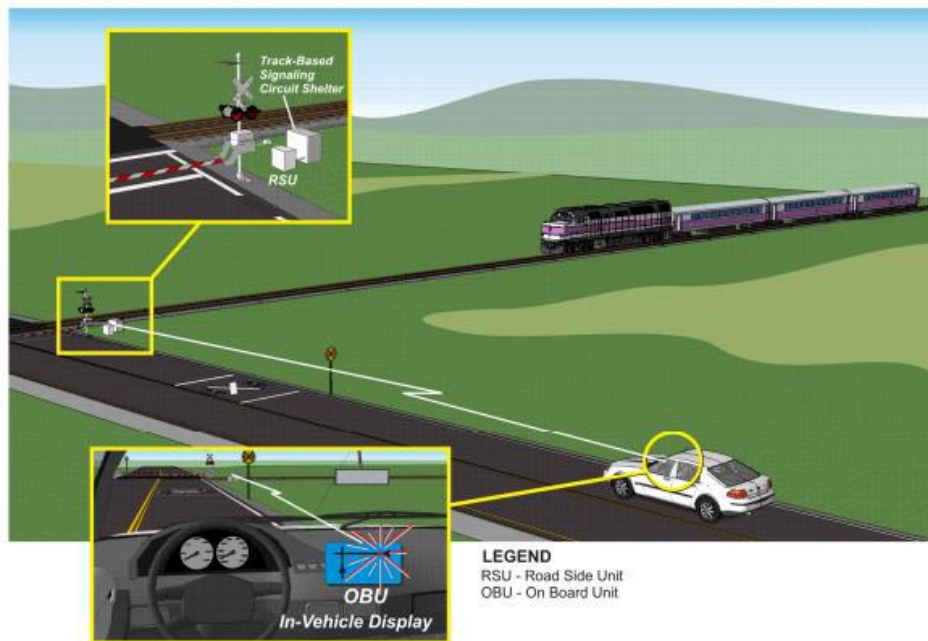
VII. FEDERAL GRANTS

David Williams and Jeremy Dilmore discussed upcoming federal grants and applications in development.

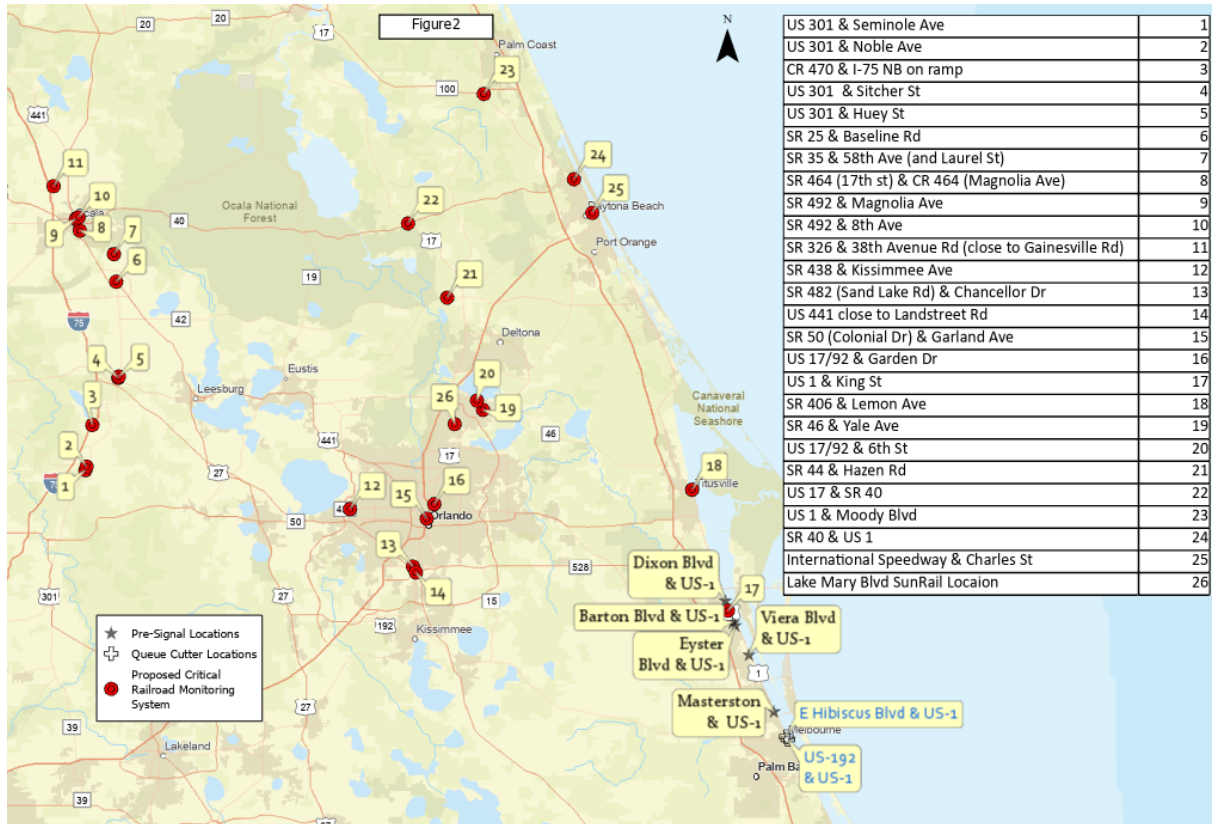
- Electric Vehicle Charger Reliability and Accessibility Accelerator NOFO
 - NOFO sponsored by National EV Infrastructure (NEVI) program under Bipartisan Infrastructure Law
 - Eligible projects – repair/replacement of existing, publicly accessible Level 2 or Direct Current Fast Charging (DCFC) EV chargers that are temporarily unavailable¹
 - Eligible applicants – state and local agencies

¹ https://afdc.energy.gov/stations/#/analyze?country=US&fuel=ELEC&status=T&show_map=true®ion=US-FL

- Total NOFO Amount - \$100M
- Number of Awards – due to the limited number of “Temporarily Unavailable” EV chargers, all applications with eligible projects are expected to receive award
- Period of Performance – all funded chargers must be operational with 12 months
- NOFO opened on September 13, 2023; NOFO closed after November 13, 2023
- Consolidated Rail Infrastructure and Safety Improvements (CRISI) program
 - Sponsored by Federal Railroad Administration
 - NOFO expected in January-March 2024
 - District to submit application for the Critical Railroad Smart Monitoring Project



- Reviewed every RR crossing on a state road in the District
- Crossings were scored based on total amount of failures, average time to repair, and traffic congestion history when crossing failed
- 26 crossings with the lowest grade were selected
- When the crossing breaks, it takes about an hour to notify maintainer, then another 2-4 hours to get it fixed
- The proposed system will notify maintainer in minutes and send out alert to 3rd parties so people can get rerouted



VIII. LICENSE PLATE READERS

David Williams and Tricia Ballard discussed the recent Florida Statute changes related to License Plate Readers (LPR).

- What has changed?
 - Florida Statute 316.0777 was amended and signed into law
 - Fs 316.0777(2)(b) was created to authorize LPRs within the R/W of a road on the State Highway System on standalone poles, at the discretion of the Department
 - Went into effect on July 1, 2023
- LPR installations must be authorized through a General Use Permit in accordance with FAC 14-20.010
 - The permit applicant must be a law enforcement agency
 - <https://osp.fdot.gov/>
- Other required permit information
 - Maintenance of traffic – provide index number(s) that will be followed during installation of LPR cameras
 - OSP/General Use Permit – letter of authorization, detailed location map, plans, manufacturer’s info, other relevant documentation
- No new cameras are permitted on FDOT infrastructure
- Existing cameras can be grandfathered in, but expectation is they will be “upgraded” to adhere to Florida Statutes relatively soon

- Location and Coordinate information is essential

IX. TRAFFIC SIGNAL MAINTENANCE AND COMPENSATION AGREEMENT (TSMCA)

Tricia Ballard discussed the recent Central Office amendment to the TSMCA.

- Adds 6 new devices
 - Traffic Monitoring Cameras (TrMC)
 - Pedestrian Hybrid Beacon (PHB)
 - Arterial Dynamic Message Sign (ADMS)
 - Passive Pedestrian Detection (PPD)
 - In-Roadway Warning Lights (IRWL)
 - Illuminated Street Name Signs (ISNS)
 - Need list in October to get it added to Exhibit A for FY25
- Discussion:
 - Will IMC camera be considered for compensation?
 - Not currently a consideration at the state level

X. CURRENT INITIATIVES

Jeremy Dilmore briefly provided an update on the current work efforts throughout District Five.

- **I-4 Express Lanes** – getting close to dynamic tolling
- **Smart Work Zone** – youtube video now available
 - Industry wants to know location of work zone
 - Smart barrels research is ongoing at UCF
 - Holding peer exchange with PennDOT
 - Possible improvement via LiDAR
- **I-4 FRAME** – under construction; CEI reporting through D7
- **OBU** – coordinating MOUs with several Fire Departments for EVP
 - looking at how to use cell modem to act on surrogate OBUs
 - Have gotten to where EVP works reliably; TSP low priority works reliably
- **Smart Signals**
 - Internal guidance document created to train our signal staff on Smart Signal design, now available on CFLSmartRoads
 - Removed IMC cameras
 - Reduced upgrade
- Looking at mast arm/strain pole structural problems during RRR
- **Signal Design** – D5 established new internal process for Signal Operating Plans
 - Seen a fair amount of issues with SOPs
 - After 60% plans, will hold internal meeting to review SOPs
 - Designers (FDOT or consultant staff)
 - Traffic Ops staff
 - Do locals want us to discuss anything else during these meetings?
- **AV Shuttle** – electrical charging upgrades underway; installation largely complete

- **Kiosks at UCF** – wooden prototype developed for more accessible kiosk
- **PedSafe II** – construction wrapping up; ongoing testing of controller parameters

XI. NEXT MEETING

- December 14, 2022

XII. ATTACHMENTS

- A – Presentation Slides
- B – Meeting agenda



END OF SUMMARY

This summary was prepared by David Williams and is provided as a summary (not verbatim) for use by the Consortium Members. The comments do not reflect FDOT's concurrence. Please review and send comments via e-mail to dwilliams@vhb.com so the meeting summary can be finalized.

Welcome to the TSM&O Consortium Meeting September 14, 2023



Meeting Agenda

1. Advanced Air Mobility – City of Orlando
2. AV Shuttle – City of Orlando
3. Wrong Way Driving and LiDAR – CFX
4. CUBIC Controller and ATSPM
5. Workforce Development Training Update
6. Federal Grants (Open Discussion)
7. License Plate Readers
8. Current Initiatives



ORLANDO
**ADVANCED
AIR MOBILITY**



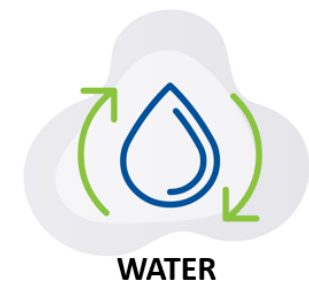
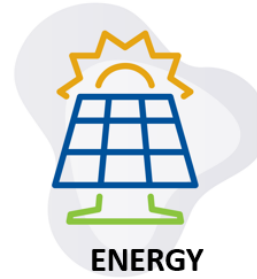
September 14, 2023

What is Advanced Air Mobility (AAM)?



- Electric Vertical Takeoff and Landing (eVTOL) vehicles
- Passengers and cargo at low altitudes
- Potential to fly +/-150 miles on a single charge
- 150-200 mph
- Mature AAM network will consist of vertiports located on rooftops or garages in urban settings, hospitals, airports, and other major multimodal transportation hubs throughout the CFL region.





- Mobility Strategy: Develop a plan to engage private sector eVTOL takeoff and landing companies to connect activity centers within the Central Florida region (city taxi model) and connect Orlando to other cities within the southeast.





ORLANDO ADVANCED AIR MOBILITY

- **Purpose:** for the City of Orlando to plan for the anticipated impacts associated with AAM through a regional connectivity plan
- This AAM Transportation Plan will position the City with additional future-ready mobility options by identifying the vertiport locations to support the movement of residents, businesses and visitors.



Why is it important for the City?

- Cities and counties must be at the forefront of the conversation on AAM and be active participants in policy formulation
- No one knows the City better than ourselves, and no one is better positioned to understand the potential impacts of AAM
- Enhanced mobility and transportation alternatives
- Continued innovation with our regional partners
- Equity considerations
- AAM/UAM is regional in nature and must be considered with regional partners

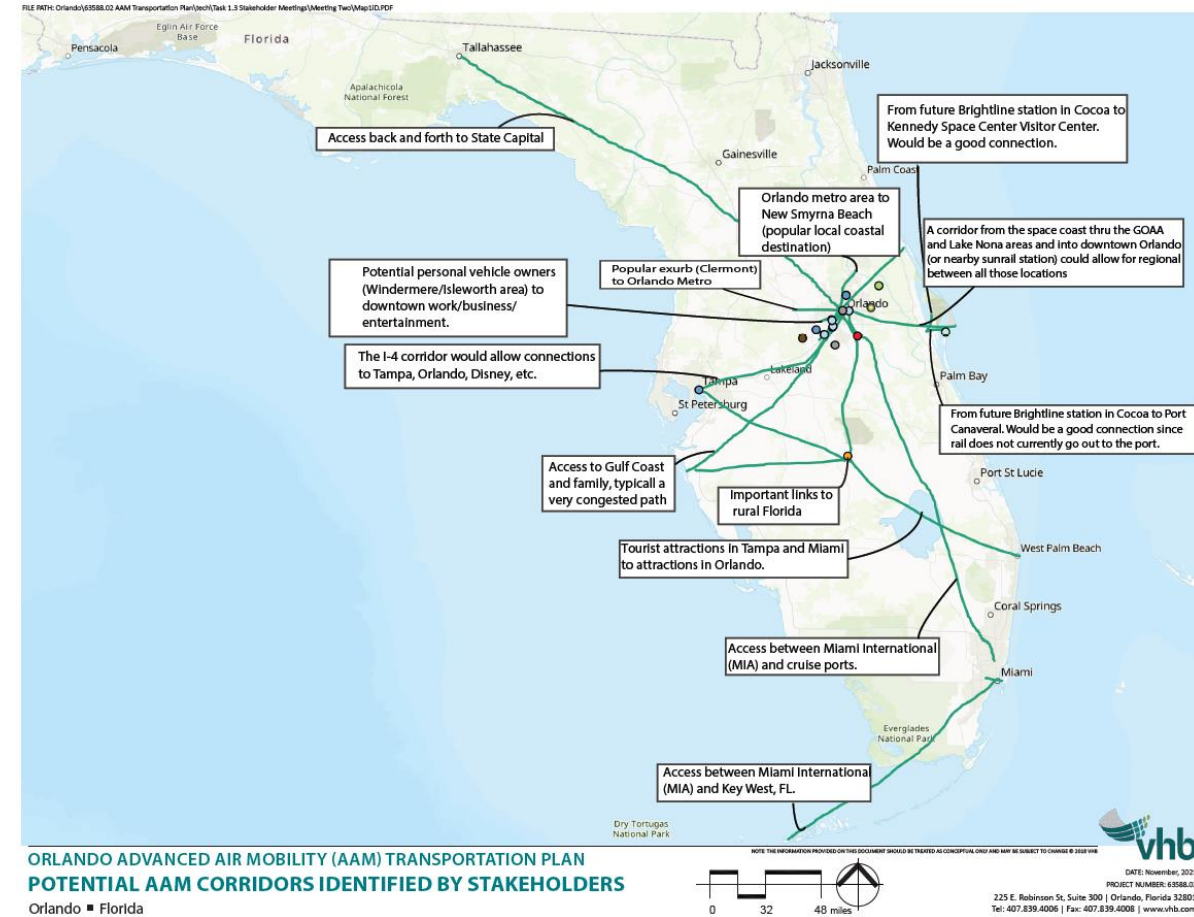
¹ Source: Community Air Mobility Initiative (CAMI) Advanced & Urban Air Mobility Impact and Training





ORLANDO ADVANCED AIR MOBILITY

- Phase One
 - Technical Memorandums on Regional Transportation and Environmental Challenges and Opportunities
 - Economic Impact Study of Geico Garage
 - NASA Community Planning Annex
 - Stakeholder outreach and regional visioning
- Phase Two
 - Zoning and regulations review
 - Agency coordination
- Phase Three
 - Travel Demand Model
 - Vertiport target locations
 - Additional stakeholder outreach



Economic

- There will be positive economic benefits (employment, taxes, GDP), but it is too early for the City to invest in infrastructure without a partner
- The potential costs (**\$30M capital cost, \$0.6-\$1M/year parking revenue loss**,) outweigh the direct fiscal impacts back to the City (**\$4.3M tax revenue over a 20 year period**, as estimated by IMPLAN).
- To move forward, the City should negotiate an agreement with an AAM operator, detailing
 - Cost-sharing responsibilities
 - Revenue sharing (if applicable)
 - Performance measures
 - Ground lease payments back to the City.
- The Agreement will help the City understand the return on investment (ROI) before making capital investments.





ORLANDO ADVANCED AIR MOBILITY

- Phase One
 - Technical Memorandums on Regional Transportation and Environmental Challenges and Opportunities
 - Economic Impact Study of Geico Garage
 - NASA Community Planning Annex
 - Stakeholder outreach and regional visioning
- Phase Two
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 - Travel Demand Model
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FDOT Recommended Best Practices

1. Assign a lead staff member for AAM
2. Review FDOT State of AAM
3. Review zoning ordinances
4. Map out aeronautical use facilities
5. Identify incompatible land uses
6. Establish a benchmark for existing ambient noise levels
7. Establish waste, hazardous materials, and pollution prevention requirements
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9. Update Zoning ordinances



Advanced Air Mobility Roadmap



June, 2022



City of Orlando Vertiport Approval Process

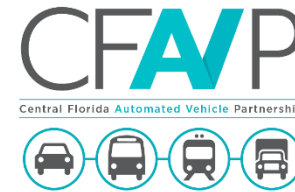
1. Chapter 58, Part 4P Vertiports City of Orlando Land Development Code
2. Zoning Districts
3. Conditional Use Permit



Image from: Air Force Fun Helicopter Tours North



Stakeholder Engagement



Key Questions

- Where should vertiports be located
- Who owns and operates vertiports
- How do we ensure safe operations and integrations into existing airspace and ground transportation networks
- What happens when we move out of the regulatory phase, what community partners do we need to engage
- How do we regulate, measure and enforce external impacts (noise, visual pollution...)
- How does approval of a Vertiport affect property rights
- What type of information/data sharing will be required



NASA Partnership

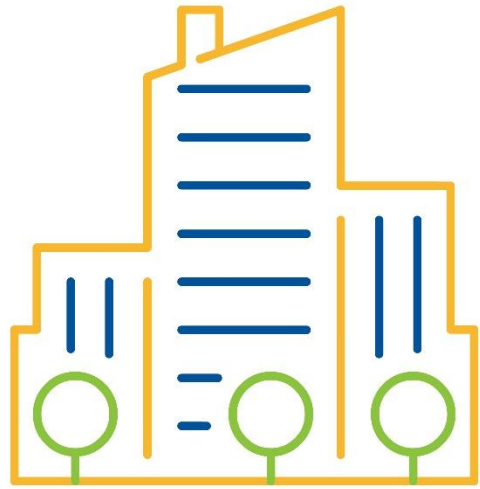
- Partnership with NASA and other transportation agencies, airport authorities, vehicle manufacturers, and universities
- Workshops to share ideas, best practices, and lessons learned
- Establish criteria for locating future vertiports
- Use case scenario planning
- Other partners: Ohio DOT, Massachusetts DOT, Minnesota DOT, and North Central Florida Council of Governments DOT
- Community Integration Considerations Playbook



Resources

- NASA – Community Integration Considerations Playbook
- FDOT – AAM Working Group – Policy Report and Recommendations
- American Planning Association – Planning for AAM Guidebook
- NAS Transportation Research Board (TRB) - New Users of Shared Airspace
- Conferences – APA National Conference, NASAO National Conference, International Civil Aviation Organization, Berkley Future of Aviation, Smart Cities Connect





O R L A N D O
**FUTURE-
READY
CITY**
M A S T E R P L A N



Shuttling with Autonomous Navigation

Project Objectives

- ✓ Implement the strategy included in our Future-Ready Master Plan and budget
- ✓ Enhance LYMMO service
- ✓ Test how Autonomous Vehicles (AV's) react in a dense urban environment
- ✓ Pursue additional funding
- ✓ Prepare for future integration at scale
- ✓ Explore the future of LYMMO with DTO Master Plan
- ✓ Understand if this could be an option for Ivanhoe Village / Advent Health or SoDO / Orlando Health



Pilot Details

SWAN Shuttle
(Shuttling with Autonomous Navigation)

SWAN Shuttle will operate in partnership with Beep during off-peak hours in an approximately one mile portion of the existing LYMMO Orange Line in Creative Village, with battery electric LYMMO buses operating during peak hours.

All LYMMO buses will remain in service with the same service hours.

SWAN SHUTTLE OPERATING HOURS
Weekday, Saturday and Sunday
10:00 AM - 2:00 PM and 6:30 PM - 10:30 PM

FOR MORE INFORMATION VISIT:
www.golynx.com/swan-shuttle



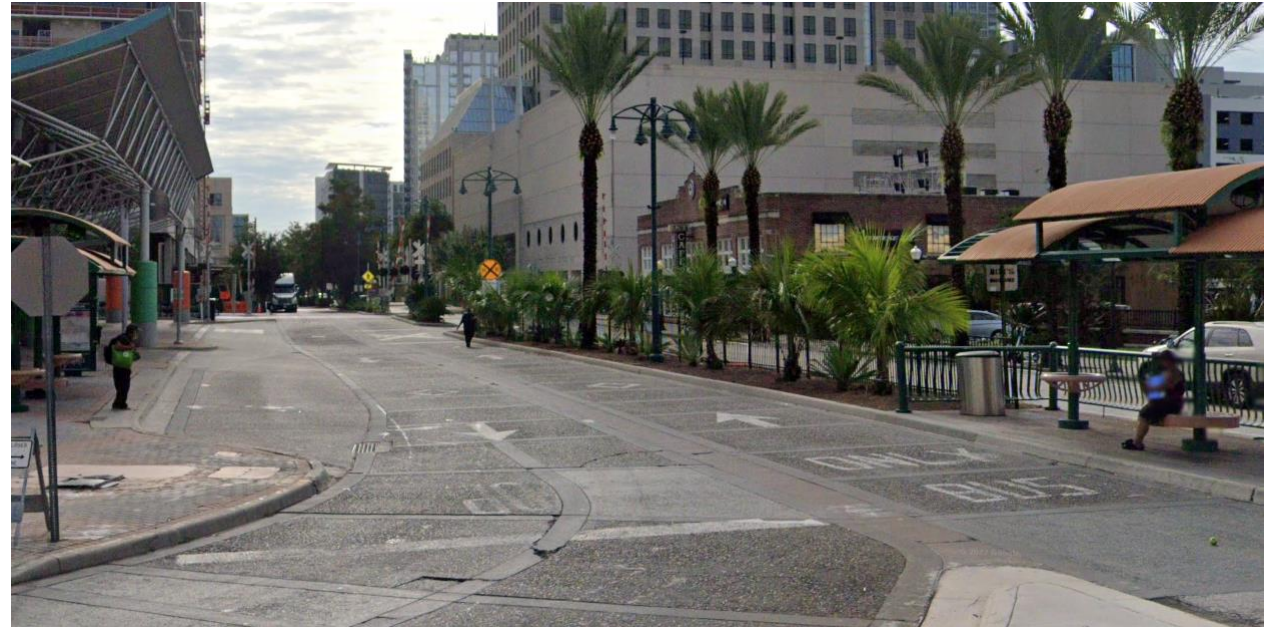
Research During the Pilot

- ✓ Performance of vehicles / platforms
- ✓ Ridership preferences
- ✓ Integration with current fleet
- ✓ Integration with existing infrastructure
- ✓ Bike / pedestrian behavior
- ✓ Roadway and landscape design
- ✓ Interest in integrated mobility apps



Early Lessons Learned

- Ridership has Remained Steady
- Landscaping Implications
- Vehicle Detection
- Signal Timing
- Battery Levels/Heat



Thank You!



orlando.gov/futureready



CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY

LiDAR for Wrong Way Detection

Brent Poole – ITS Systems Analyst, CFX

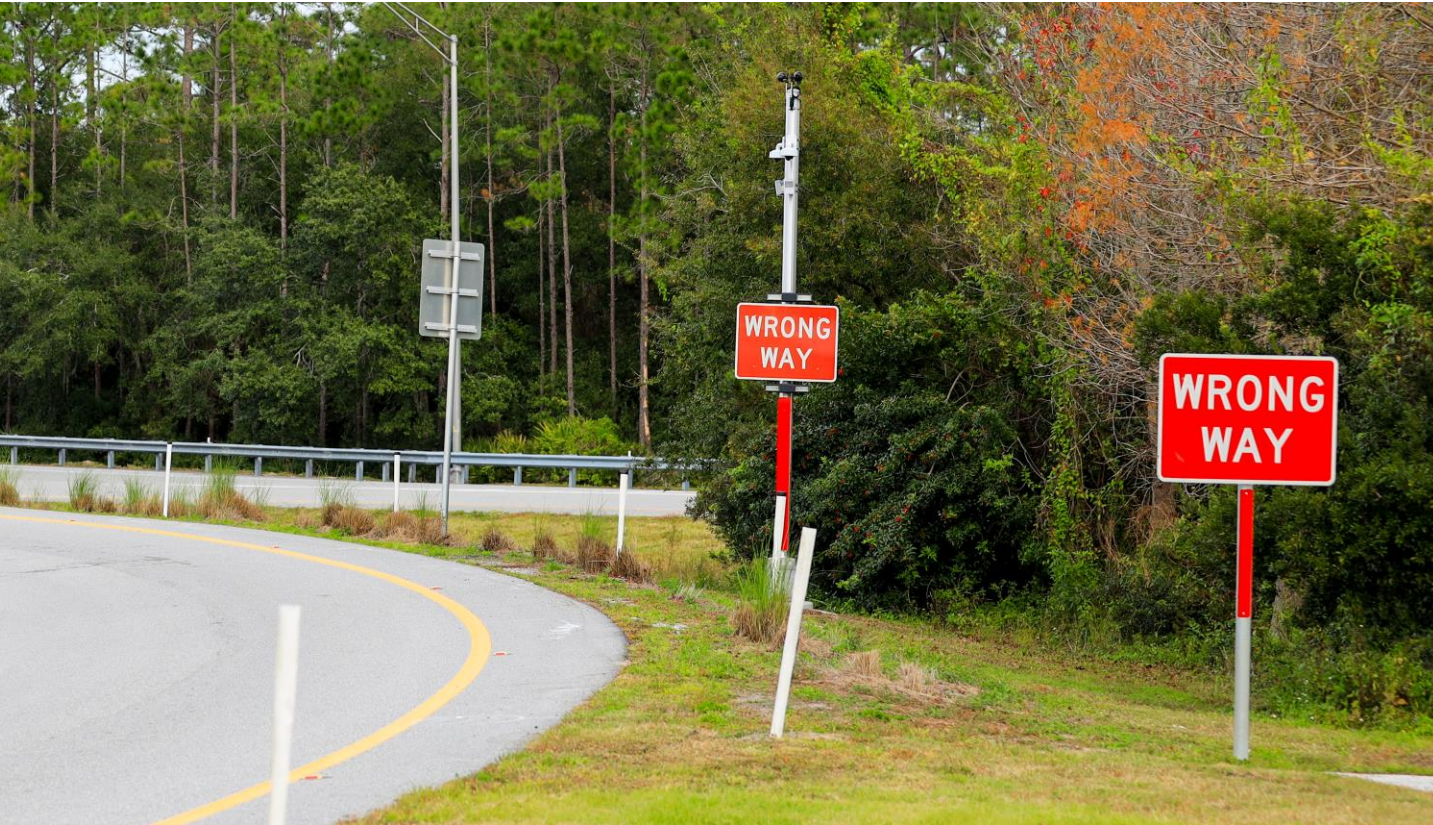
— September 14, 2023 —

WWD at CFX

- Total of 65 Deployments Systemwide
- 3 Phases Completed
- 4th Phase Under Design
- Mix of Detection Technologies
 - Radar - 20
 - Laser - 8
 - Thermal - 36
 - LiDAR - 1



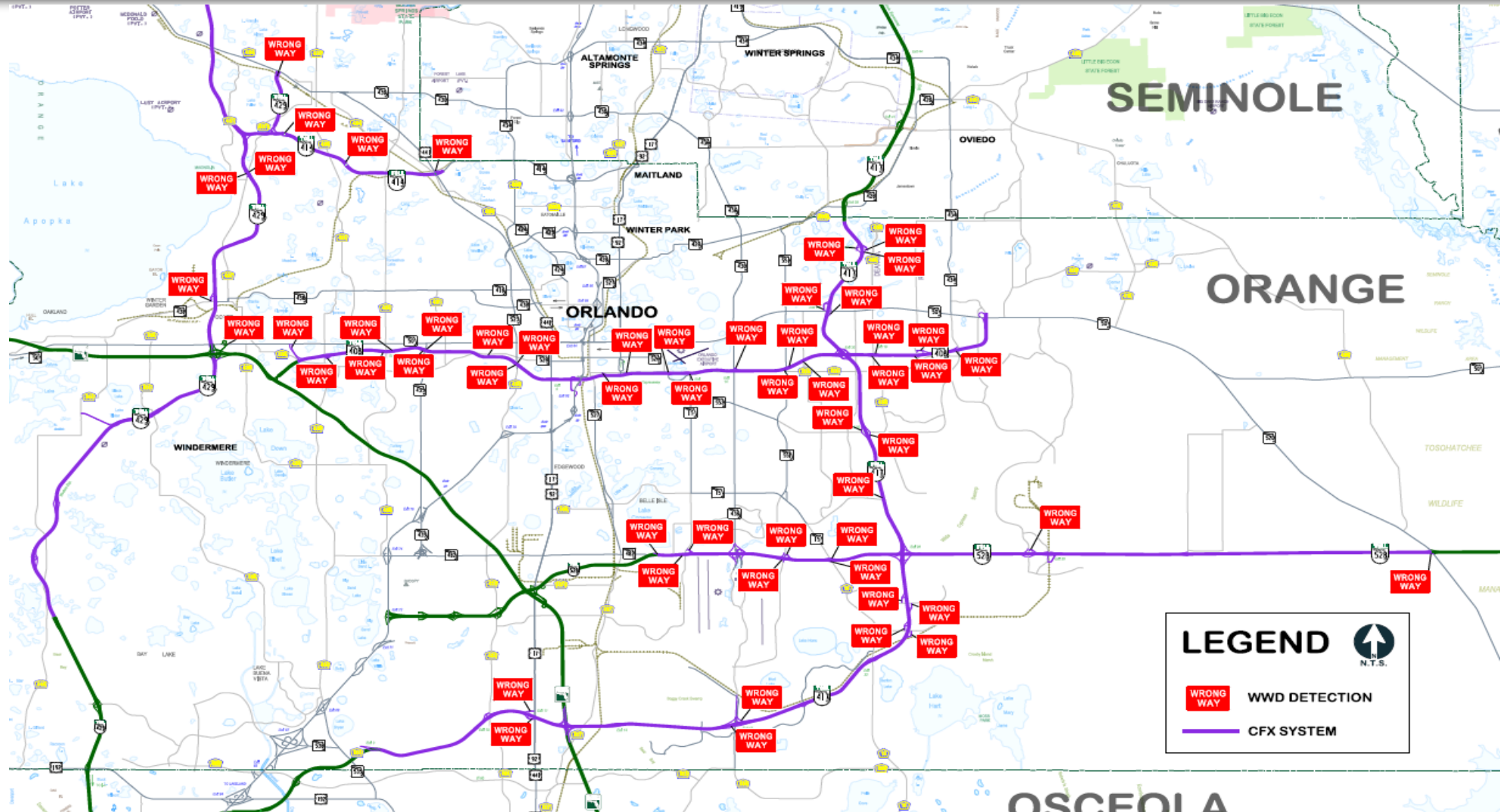
WWD at CFX



WWD Program Goals and Objectives

- Investigate the patterns of the WWD activity on the system
- Evaluate methods in alerting wrong way drivers to self-correct
- Identify new effective methods in detecting WWD events

WWD at CFX



LiDAR Evaluation

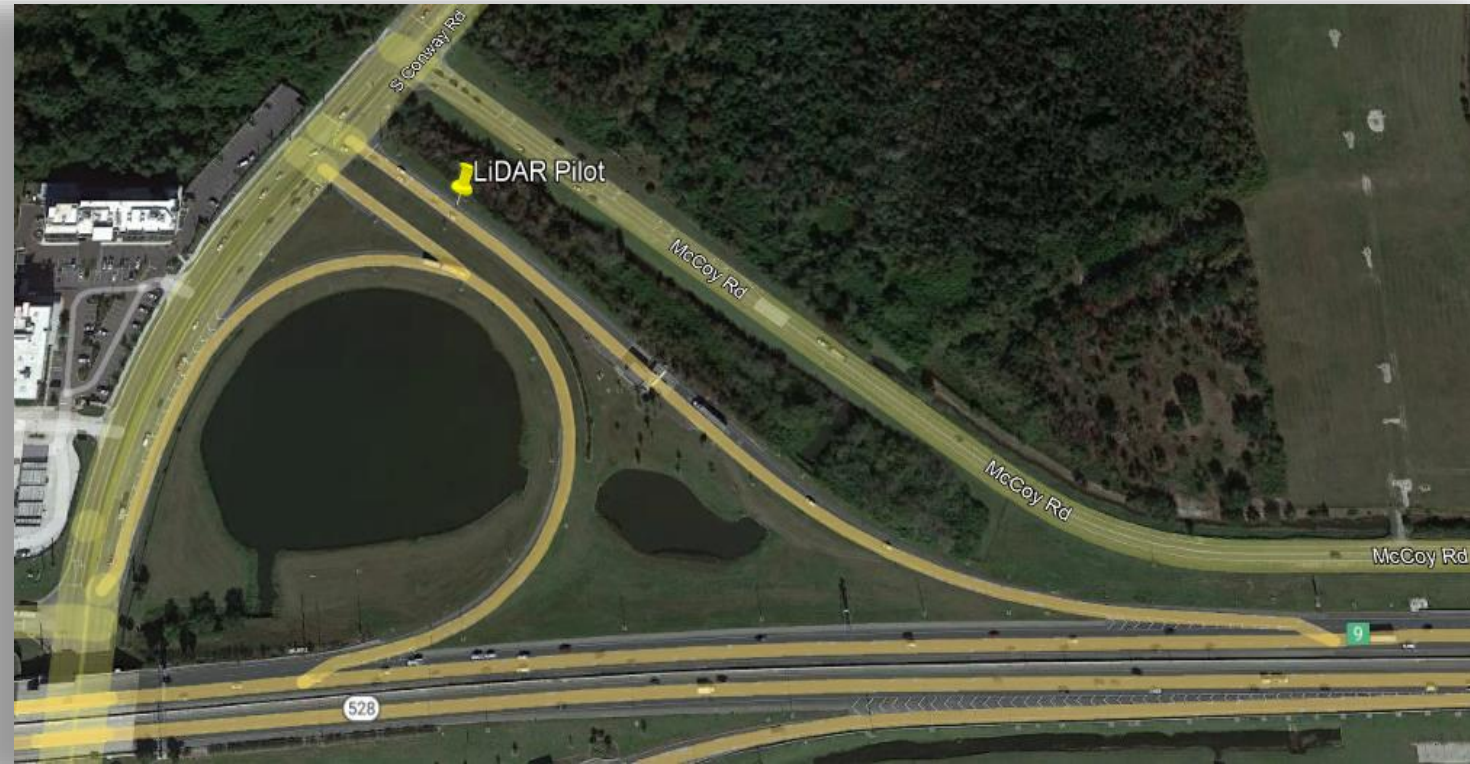
- Is LiDAR a viable detection option for Wrong Way Events?
 - Edge Processing
 - Much higher resolution compared to traditional Laser and Radar
 - Faster Performance
 - Longer Range Detection
- Pilot Study - Aug. 2021 to Jan. 2022 through Partnership with UCF



LiDAR Evaluation

- Evaluation Site – SR528 WB off-ramp to Tradeport Dr
- Single LiDAR Sensor
- 143 Day Study Duration
- LiDAR - 32 Unique Detections
 - Included logic to filter out Peds, Bikes, Mowers
- Laser – 168 Unique Detections
 - No filter logic

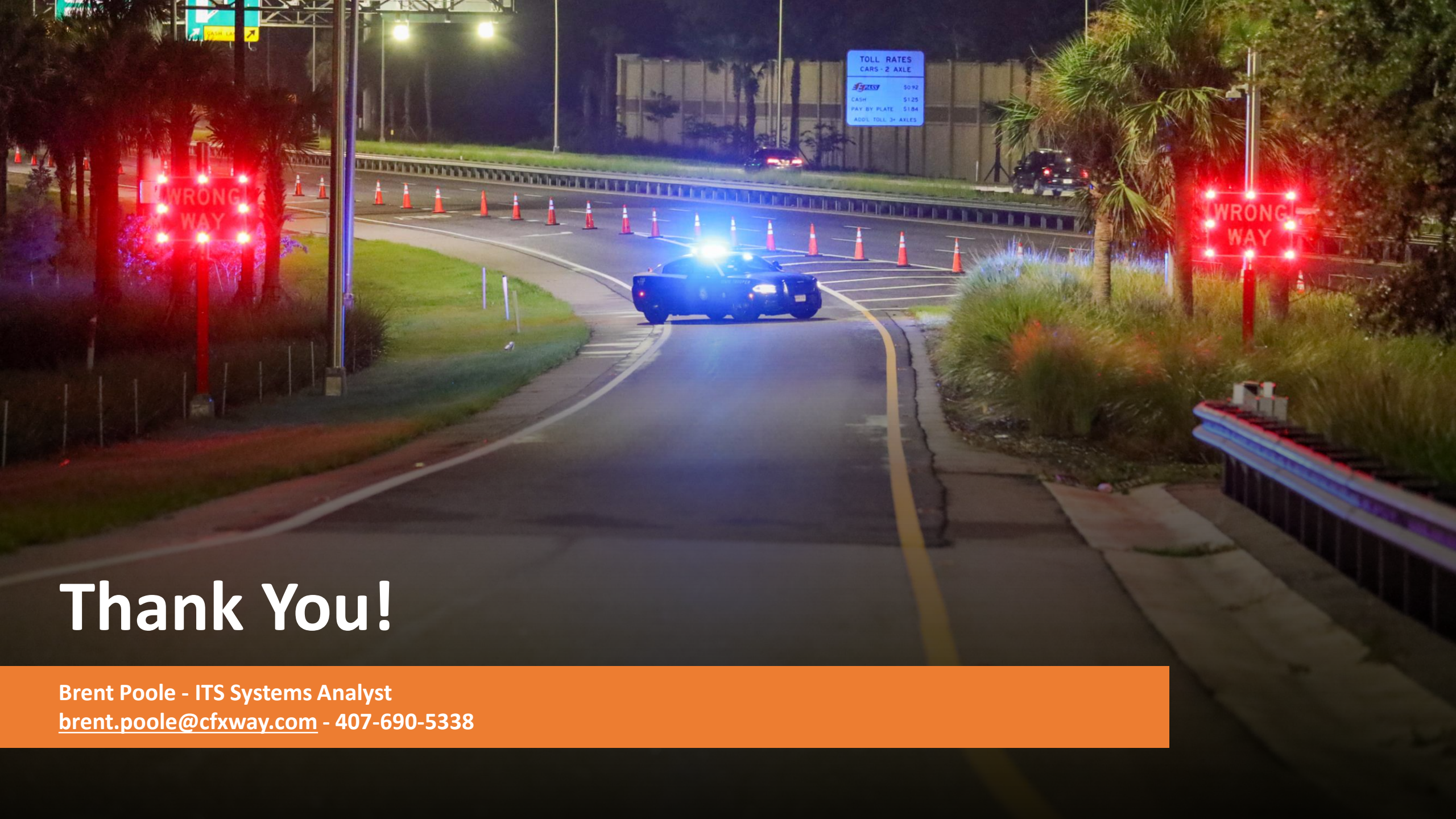
Detection Type	Laser Only	LiDAR Only	Both Laser and LiDAR
WWD Act/Event	0	6	5
False Alert	14	6	0
Median U-Turn	3	0	0
Reversing Vehicle	20	9	5
False Positive	19	0	0
Emergency Vehicle	0	1	0
False Activation	102	N/A*	N/A
Total	158	22	10



What's Next?

- Active deployment - SR408 WB off ramp to Dean Rd. 08/2022
- Converted existing site from Radar to LiDAR detection.
- Includes 2nd LiDAR Sensor for added detection, accuracy, and redundancy.
- Has outperformed previous Radar system.
 - Radar - 74 months - 60 Wrong Way Detections
 - LiDAR – 12 months – 10 Wrong Way Detections
- Considerable reduction in False Alerting.





TOLL RATES	
CARS - 2 AXLE	
<i>FLORIDA</i>	\$0.92
CASH	\$1.25
PAY BY PLATE	\$1.84
ADDITIONAL TOLL 3+ AXLES	

Thank You!

Brent Poole - ITS Systems Analyst
brent.poole@cfxway.com - 407-690-5338



CUBIC Controllers and ATSPM

Katie King, Metric Engineering

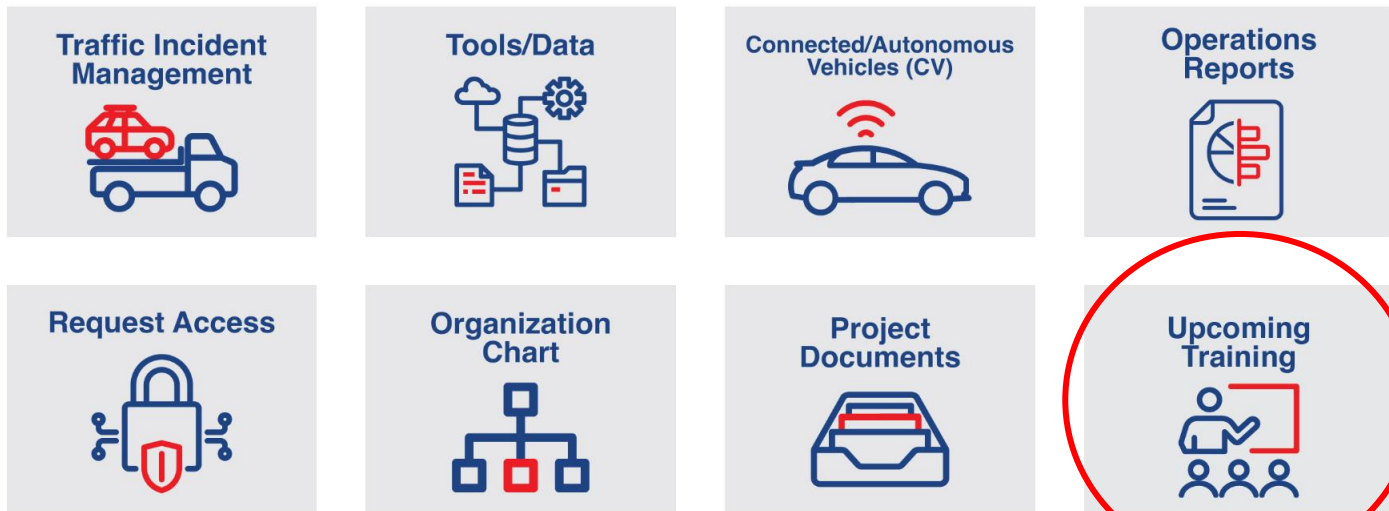


Workforce Development Training

David Williams, VHB

Workforce Development Training

- CFLSmartRoads now has a page for upcoming workforce development trainings
- www.CFLSmartRoads.com





FEDERAL GRANTS

David Williams, VHB

Jeremy Dilmore, District Five TSM&O

Open Discussion



Electric Vehicle Charger Reliability and Accessibility Accelerator NOFO

David Williams, VHB

EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- NOFO sponsored by the National EV Infrastructure (NEVI) program under the Bipartisan Infrastructure Law
- **Eligible Projects** – Repair or replacement of existing, publicly accessible Level 2 and Direct Current Fast Charging (DCFC) EV Chargers that are “temporarily unavailable”
- **Eligible Applicants** – State and Local Government Agencies
- **Total NOFO amount** – \$100M

EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- **Number of Awards** – Due to the limited number of “temporarily unavailable” EV chargers, all applications with eligible projects are expected to be awarded
- **Type of Award** – Cost-reimbursal grant
- **NOFO Opening** – September 13, 2023
- **Application Deadline** – November 13, 2023 at 11:59pm
- **Period of Performance** – All funded chargers should be operational within 12 months

EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- REPAIR

- Can include hardware/labor costs up to, but not including, full replacement of EV chargers and related equipment
- Must ensure broken or non-operational chargers resume fully operational status for at least 5 years

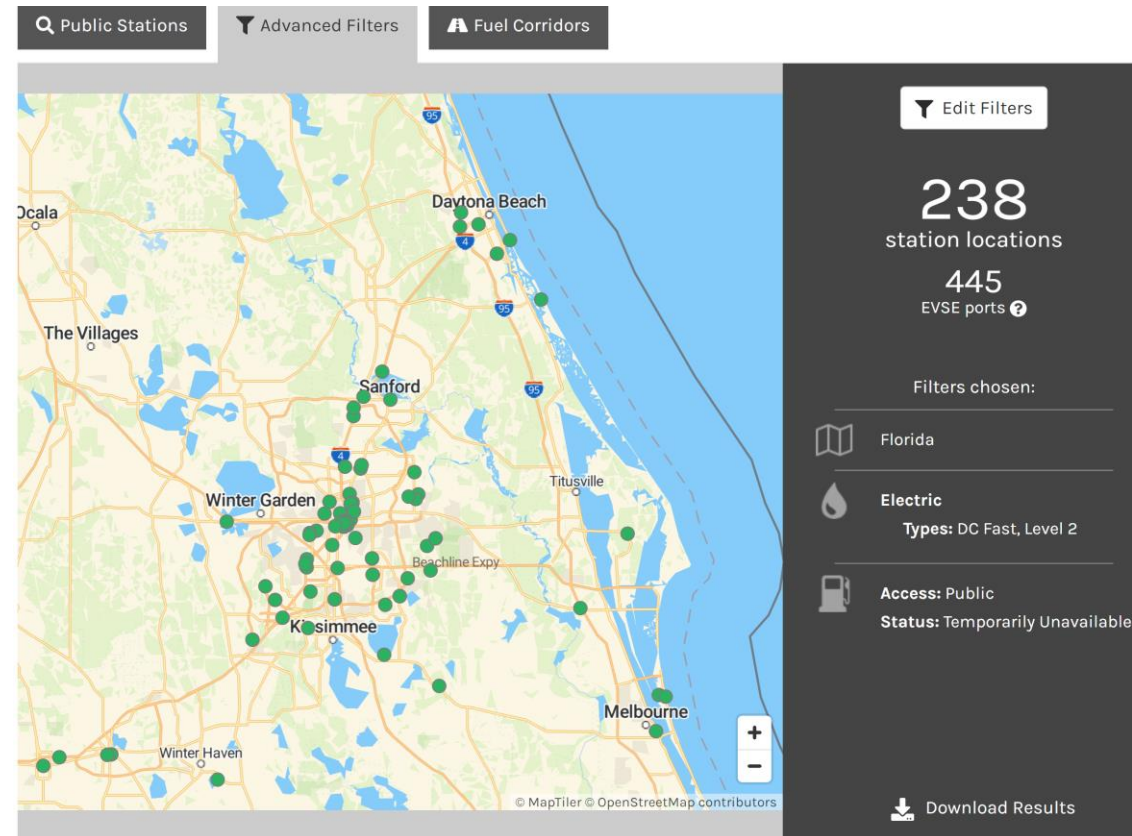
- REPLACE

- Can include hardware, labor, permitting, and service upgrade costs necessary to remove broken/non-operational chargers or related equipment and install new chargers/equipment
- New chargers must remain operational for at least 5 years

EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- Temporarily Unavailable EV chargers identified in Alternative Fuels Station Locator

- Must be DCFC or Level 2 charger
- Must be publicly accessible
- Must be temporarily unavailable



EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- Project Narrative Requirements
 - Describe project, including location of repairs/replacements, project costs, plan for ownership/maintenance, etc.
 - Describe repair/replacement being made
 - Describe of how project will meet relevant standards (23 CFR Part 680)
 - Describe how eligible entity will ensure approvals/requirements will be achieved in timely manner
 - Identify owner/operator
 - Identify funding requested
 - Identify source of matching funds
 - Risk and Project Readiness information

EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- Other Information Required
 - Funding Description – complete list of activities to be funded by request
 - Timeline for completion of tasks (within 12 months)
 - Organizational Information
- Selection Criteria
 - Does EV infrastructure require repair/replacement? Are proposed activities eligible?
 - Does application include adequate plan for ongoing ownership/stewardship?
 - Ability to meet 12-month timeline
 - Available of 20% match

EV Charger Reliability and Accessibility Accelerator Notice of Funding Opportunity

- Applications should not exceed 5 pages total
- Review and Selection
 - Projects graded on “Recommended” or “Not Recommended” scale
 - Recommended projects meet all eligibility criteria



Questions?

For more information, visit [Grants.Gov](https://www.Grants.Gov)
or Search: "EV Charger NOFO"

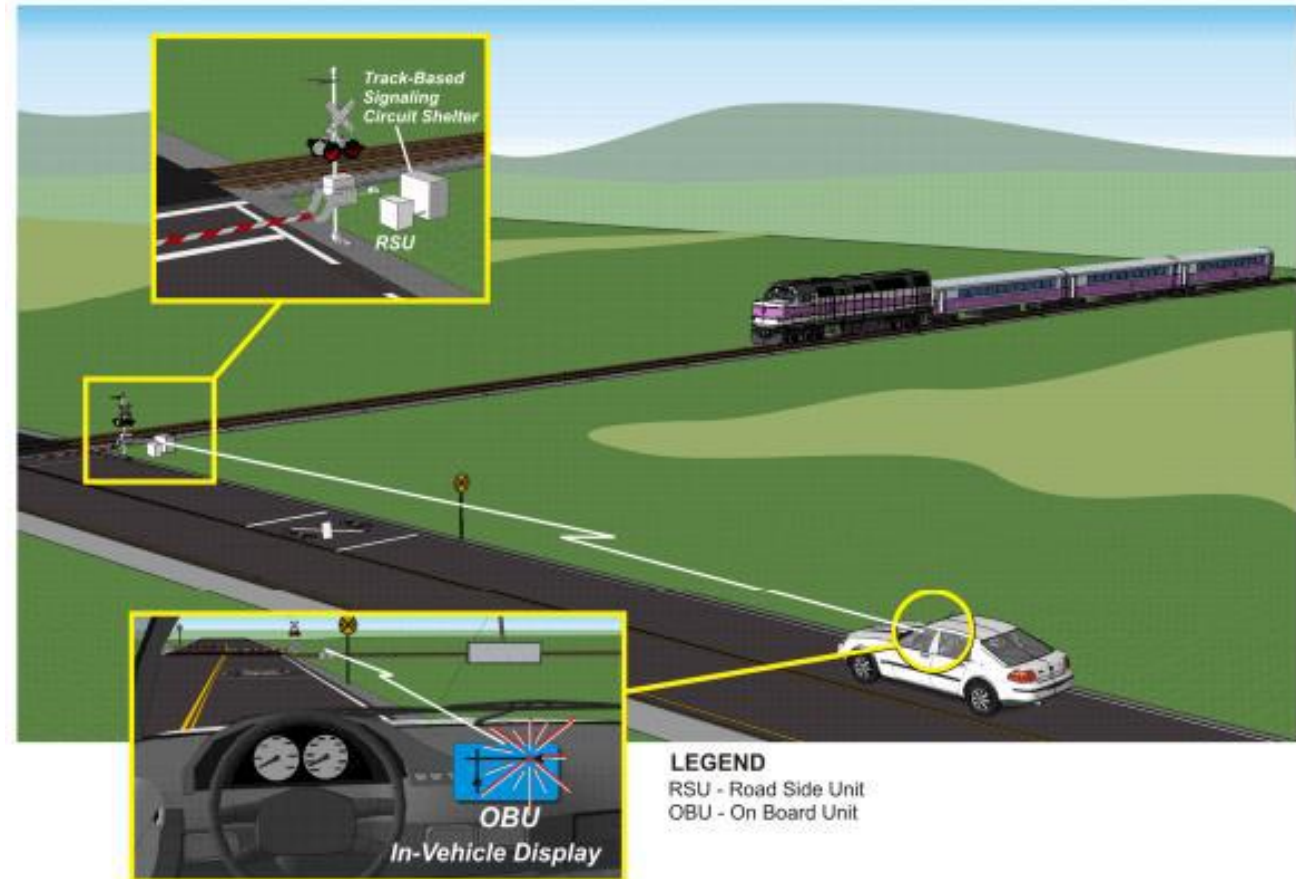


Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program

Jeremy Dilmore, District Five TSM&O

CRISI Grant

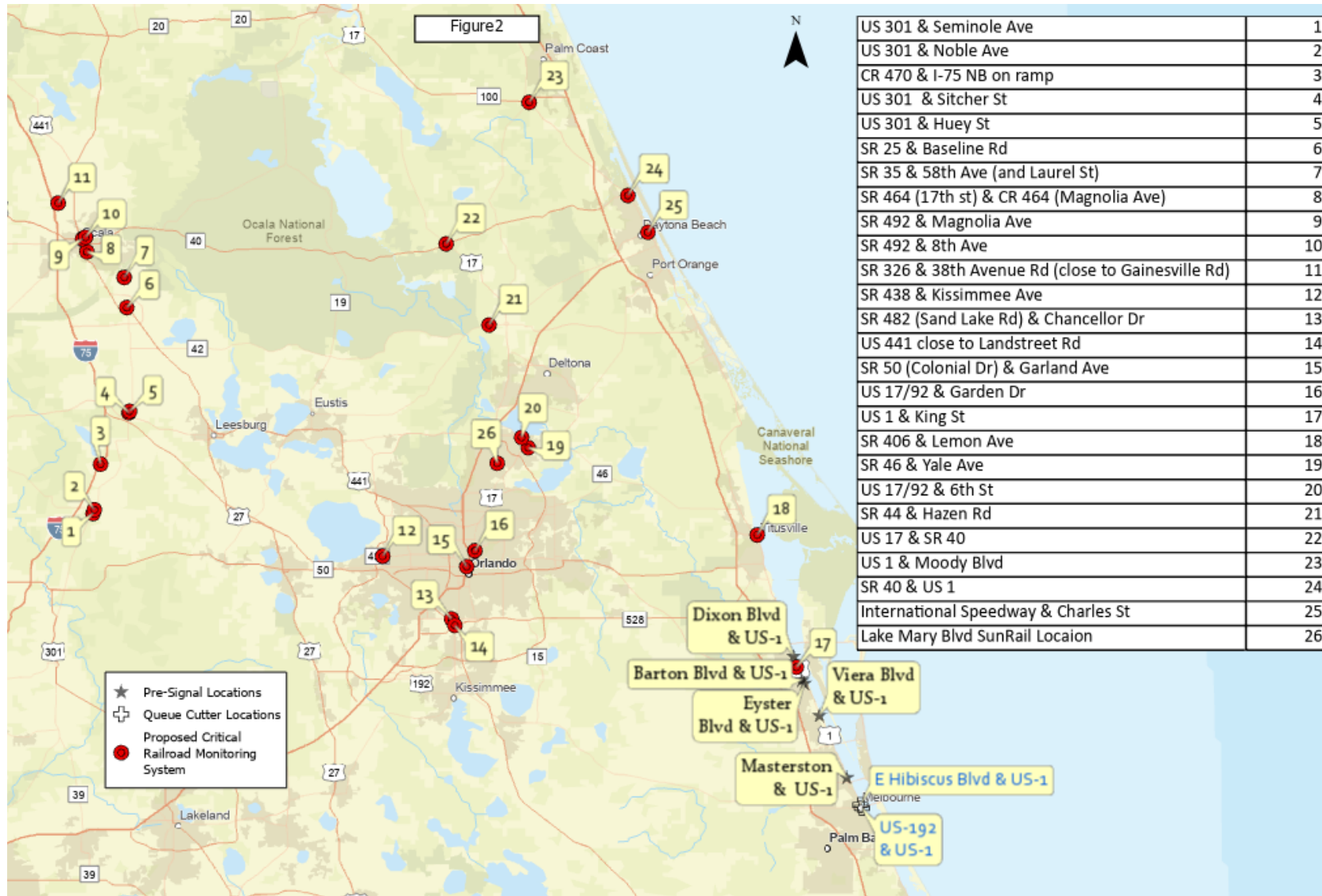
- Sponsored by Federal Railroad Administration
- FY2023 NOFO expected shortly
- District to submit application for the **Critical Railroad Smart Monitoring Project**



Critical Railroad Smart Monitoring Project

- Reviewed every RR crossing on a state road in the District
- Crossings scored based on
 - Total amount of failures
 - Average time to repair
 - Traffic congestion history when crossing failed
- 26 crossings with the lowest grade were selected

Critical Railroad Smart Monitoring Project





Local Agencies Pursuing Federal Grants

Open Discussion



Permitting for License Plate Recognition (LPR) Camera Systems

Tricia Ballard, FDOT District Five

License Plate Readers

- What has changed?
 - Florida Statute 316.0777 was amended and signed into law
 - FS 316.0777 (2)(b) was created to authorize License Plate Readers (LPR) within the right-of-way of a road on the State Highway System on standalone poles
 - At the discretion of FDOT
- Went into effect on July 1, 2023



License Plate Readers

- LPR installations must be authorized through a **General Use Permit** in accordance with Florida Administrative Code 14-20.010
- The permit applicant must be a Law Enforcement Agency



- Applications
 - Submitted by authorized agency representative
 - Agency letterhead, signed by Chief Executive
 - Requesting installation of an LPR
 - Authorizing individual to submit permit application on agency's behalf
- <https://osp.fdot.gov/>

What about Existing LPR cameras on the R/W

- No new cameras are permitted on FDOT infrastructure
- Existing cameras can be grandfathered in, but expectation is they will be “upgraded” to adhere to statutes.
 - Permit must still be submitted
- Other unauthorized existing locations may be permitted if they meet Placement and Installation guidelines
 - If devices don’t meet guidelines, they should be removed or relocated by Agency
- Location and Coordinate Information is essential



Questions?

<https://osp.fdot.gov/>



TSMCA

Tricia Ballard, FDOT District Five

TSMCA Amendment

- TSMCA Amendment
- 6 new devices
 - Traffic Monitoring Cameras (TrMC)
 - Pedestrian Hybrid Beacon (PHB)
 - Arterial Dynamic Message Sign (ADMS)
 - Passive Pedestrian Detection (PPD)
 - In-Roadway Warning Lights (IRWL)
 - Illuminated Street Name Signs (ISNS)
 - Need list in October to get it added to Exhibit A for FY25

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
AMENDMENT TO TRAFFIC SIGNAL
MAINTENANCE AND COMPENSATION AGREEMENT

1. The Maintaining Agency shall be responsible for the "Project," defined as the maintenance and continuous operation of the following, located on the State Highway System:
 - a. Traffic signals ("TS"),
 - b. Interconnected and monitored traffic signals ("IMTS") - defined as signals that are interconnected with telecommunications and are monitored at a central location,
 - c. Traffic signal systems - defined as central computer, traffic monitoring cameras ("TrMC"; must fulfill District purpose and need and be accessible from Department's Video Aggregation System); arterial dynamic message signs ("ADMS"); communications devices; interconnect / network; vehicle, bicycle & pedestrian detection devices (including passive pedestrian detection ("PPD") and accessible pedestrian detection); traffic signal hardware and software; preemption devices; probe data detection system ("PDDS"); and uninterruptible power supplies ("UPS"),
 - d. Control devices - defined as intersection control beacons ("ICB"), traffic warning beacons ("TWB"; including LED highlighted signs), illuminated street name signs ("ISNS"), and pedestrian flashing beacons ("PFB"; i.e., school zone flashing beacons, pedestrian crossing beacons, and Rectangular Rapid Flashing Beacons),
 - e. Emergency/fire department signals ("FDS"),
 - f. Speed activated warning displays ("SAWD"; including curve warning feedback signs),
 - g. Blank out signs ("BOS"; including Lane Control Signs),
 - h. Pedestrian hybrid beacons ("PHB"),
 - i. Connected Automated Vehicle Devices ("CAVD"; i.e., roadside units and roadside equipment), and
 - j. In-roadway warning lights ("IRWL") system (specific to mid-block crossing and unsignalized intersection applications, as defined in the FDOT Traffic Engineering Manual)
3. If Traffic Signals and Devices are damaged and the Maintaining Agency or its contractors did not cause the damage, then the Department shall reimburse the Maintaining Agency for the actual costs incurred by the Maintaining Agency for repairs and/or replacement of Traffic Signals and Devices, once the following occurs:
 - a. The Department has approved a properly completed invoice for reimbursement that was provided to the Department outlining the details of the requested reimbursements; and
 - b. Evidence of the costs incurred were included as an attachment to the invoice.

Exhibit C sets forth additional conditions that apply when the Maintaining Agency seeks to obtain reimbursement for costs incurred for repair and/or replacement and associated contract documentation of damaged Traffic Signals and Devices. Exhibit C also serves as a form invoice that can be used by the Maintaining Agency. The Maintaining Agency shall obtain written approval from the Department regarding the appropriate method of repair and/or replacement of damaged Traffic Signals and Devices prior to performing the emergency and/or permanent repair and/or replacement work. If there is an immediate risk to public safety due to damaged Traffic Signals and Devices and the Maintaining Agency is unable to immediately obtain the Department's written approval regarding the method of repair and/or replacement, then the Maintaining Agency shall immediately repair and/or replace the Traffic Signals and Devices. The Maintaining Agency shall notify the Department within thirty (30) calendar days of becoming aware of any damage to Traffic Signals and Devices caused by third parties or force majeure event. The Department shall be responsible for pursuing reimbursement from individuals and/or the third parties who cause damages and are liable for replacement and/or repair costs to Traffic Signals and Devices. If the Maintaining Agency or its contractors causes damages to the Traffic Signals and Devices, then the Maintaining Agency shall repair and/or replace the Traffic Signals and Devices, and the Maintaining Agency shall be fully responsible for the cost of repair and/or replacement to the extent the damages were caused by the Maintaining Agency. Governor declared emergencies (i.e., hurricanes) are handled outside the framework of this Agreement through a combination of Federal and State Emergency Management mechanisms. An emergency contract may be used after a Governor's declaration of emergency has been signed to cover for reimbursement for storm recovery efforts.





Questions?



Current Initiatives

Jeremy Dilmore, FDOT District Five

Current Initiatives

- I-4 Express Lanes
- I-4 FRAME
 - D5 Project section has been let
 - Coordination with local agencies and device configuration underway
- OBU Deployment
 - Coordinating MOUs with several Fire Departments for EVP

Current Initiatives

- Smart Signals
 - Internal guidance document created to train our signal staff on Smart Signal design
 - Now available on CFLSmartRoads
 - If you are seeing gaps with your technicians being able to maintain the signals, please let us know
- PedSafe II
 - Construction wrapping up
 - Ongoing testing of controller parameters



Current Initiatives

- AV Shuttle
 - Electrical charging upgrades are underway; installation largely complete
 - Hoping to commence operations in October
- Kiosks at UCF
 - Wooden prototype developed for more accessible kiosk

Current Initiatives

- Network Support
- Smart Work Zone
 - Coordinating pickup and deployment
 - Possible improvement via LiDAR
 - Holding peer-to-peer exchange with PennDOT to discuss SWZ trailer





THANK YOU!

Next Consortium – November 16, 2023



TSM&O Consortium Meeting

MEETING AGENDA

Teleconference or
FDOT District 5 RTMC (4975 Wilson Rd, Sanford, FL 32771)

September 14, 2023
10:00 AM-12:00 PM

- 1) WELCOME
- 2) ADVANCED AIR MOBILITY – CITY OF ORLANDO
 - Jacques Coulon, City of Orlando
- 3) AV SHUTTLE – CITY OF ORLANDO
 - Jacques Coulon, City of Orlando
- 4) WRONG WAY DRIVING AND LIDAR – CENTRAL FLORIDA EXPRESSWAY AUTHORITY
 - Brent Poole, CFX
- 5) CUBIC CONTROLLER AND ATSPM PROCESS CHANGE
 - Katie King, Metric Engineering
- 6) WORKFORCE DEVELOPMENT TRAINING UPDATE
 - David Williams, VHB
- 7) LICENSE PLATE READERS
 - Tricia Ballard, District Five TSM&O
- 8) CURRENT INITIATIVES
 - Jeremy Dilmore, District Five TSM&O