TSMO CONSORTIUM MEETING SUMMARY

Meeting Date:	May 2, 2019 (Thursday)	**Time**: 10:00 AM – 12:00 PM
Subject:	TSMO Consortium Meeting	
Meeting Location:	Central Florida Expressway Authority 4974 Orl Tower Rd Orlando, FL 32807 CFX Pelican Room	

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 TSMO Program and ongoing efforts in District Five. David Williams gave a short introduction and outlined the meeting agenda.

II. HB 311 / SB 932 – AUTONOMOUS VEHICLES LEGISLATION UPDATE

David Williams gave an overview of recent updates on Florida House Bill 311 / Senate Bill 932.

- Bill regarding Autonomous Vehicles was "introduced" to the Florida House and Senate separately on March 5, 2019
- The bill is only tentative and will not take effect unless passed through both the Florida House and Senate, and signed into law by Governor
- The tentative effective date is July 1st, 2019
- House staff members of subcommittees offered an analysis following the March 5th introduction:
  - Transportation & Infrastructure Subcommittee – Reported Favorably 3/06 (14Y 0N)
  - Transportation & Tourism Appropriations Subcommittee – Received 3/06
  - State Affairs Committee – TBD
- Bill Details:
  - Replaces the term "Autonomous Vehicle" with "Automated Driving System" and is defined as the hardware and software that performs the dynamic driving task of an autonomous vehicle
  - Authorizes fully autonomous vehicle to operate regardless of presence of human operator
  - Provides that an "automated driving system" is deemed operator of autonomous vehicle operating with system engaged
  - Authorizes Florida Turnpike Enterprise to fund and operate test facilities
  - Provides a definition for "On-Demand Autonomous Vehicle Network": a passenger transportation network that uses a digital means to connect passengers to fully autonomous vehicles for-hire
  - Provides requirements for operation of on-demand autonomous vehicle networks
  - Revises registration requirements for autonomous vehicles

  - Exempting a fully autonomous vehicle being operated with the automated driving system engaged from a prohibition on the active display of television, video, or use of wireless communications devices
  - Requires the automated driving system of a fully autonomous vehicle to be capable of achieving a **minimal risk condition** if a failure of the system occurs. Provides a definition for "minimal risk condition"
- For more information, visit www.myfloridahouse.com
  - Search Bill#: "311" (HB) or "932" (SB)

III. CENTRAL FLORIDA MPO ALLIANCE – PRIORITIZED PROJECTS UPDATE

Eric Hill gave a presentation with updates on the Central Florida MPO Alliance (CFMPOA) Prioritized Projects.

- TSMO Regional Project – CFMPOA Accepted Definition:
  - A regional TSMO project impacts two contiguous ~~cities/~~counties in separate MPO planning areas and is a set of integrated strategies to optimize the performance of operations on existing infrastructure and included within project alternatives for new infrastructure projects, and serves regional transportation needs (such as access to and from the area outside the region; major activity centers in the region; major planned developments such as significant retail development, sports venues, or employment centers; or transportation terminals).
- Discussion:
  - Question: Why has "cities" been struck through? There may be regional projects that occur between a city and a county (e.g. Orlando and Orange County).
    - A: More than being between two contiguous cities/counties, "regional projects" are defined by being in separate MPO areas, which covers instances where regional projects may be between contiguous cities or between a city and a county.
  - Note: Regional TSMO projects will be on MPOs' lists for next year.

IV. CRITICAL ISSUES IN TRANSPORTATION 2019 – TRB EXECUTIVE COMMITTEE REPORT

David Williams gave a presentation on a recently published report from the Transportation Research Board Executive Committee addressing potential critical issues that may arise in the next 10 to 20 years as well as questions regarding research, policy analysis, and debate that can be addressed during the next 5 to 10 years.

- The report is divided into twelve chapters, some of the primary questions from each chapter are listed below:
  1. Transformational Technologies & Services
     - What policies can encourage pooled ride-share service instead of CAV single-occupant vehicle use?
     - Which policy options can and should be exercised to achieve net social benefits from CAV?
     - Which issues need to be addressed to reduce risk in mixed-traffic interactions?

- What should be the highest priorities for publicly funded CV infrastructure improvements?
- How can we ensure consistent/safe performance of AI, software, and sensors in conventional and unanticipated scenarios?
- How will product liability laws need to evolve to serve the public interest?
- How will drivers familiar with conventional vehicles respond to CAVs?

2. Serving a Growing/Shifting Population
   - What are the most cost-effective transportation policies for improving internal megaregion travel?
   - Growth rates are increasing in small metro areas; what are the implications for local and intercity travel demand, infrastructure investments, and operations?
   - What transportation policies/programs are most cost-effective in mitigating the congestion and environmental costs of vehicle trips in suburbs/exurbs? What role will TNCs play in these settings?
   - The largest portion of millennials are moving to the urban periphery, and baby boomers still prefer suburban/rural single-family homes. What are the transportation implications? How can adverse environmental effects from transportation be minimized?
   - How do we ensure access to jobs/services for rural populations?
3. Energy & Sustainability
   - What are the most cost-effective strategies to reduce GHG emissions?
   - How can public policy influence consumer acceptance of electric vehicles? What is the appropriate public role in facilitating recharging stations?
   - With the growing demand for electricity, what will be the impact on the power grid? What is the potential for transportation infrastructure to generate electricity to meet increasing demand?
4. Resilience & Security
   - What kind of decision-making tools can best help transportation agencies make appropriate decisions about climate change and terrorism in a risk-management framework?
   - How can the experiences of communities that are beginning to adapt and change be best evaluated and shared?
   - With CAV imminent, how can cybersecurity for these systems be made as robust as possible? What capabilities will public agencies need in order to verify whether cybersecurity is being managed effectively?
   - What are the best practices in cybersecurity, and what role should agencies play?
5. Safety & Public Health
   - How can Level 2/3 automation be most effectively regulated to address the risks of distraction and inattentiveness?
   - What are the net safety benefits of Level 2/3 automation even if they increase distraction-related crashes?
   - How do we promote healthier modes of transportation?
   - Which strategies would be most effective in reducing the growing number of pedestrian and cyclist deaths and injuries?

6. Equity
    - How can those without bank accounts or smartphones gain access to new transportation services?
    - How can technological innovations be maximized for older and disabled travelers?
    - How does transportation access affect economic opportunities and outcomes for the economically disadvantaged?
    - Which technologies and policy interventions would be most effective and affordable for enhancing access to employment, healthcare, shopping, and education?
    - How do we ensure that minority/low-income communities are not disproportionately affected by new/expanded transportation facilities?
7. Governance
    - In light of the emergence of megaregions, what is the appropriate institutional form for making transportation investments given the many and complex jurisdictions and state interests?
    - What institutional reforms are needed to serve the public more effectively/efficiently, and how can these determinations be made?
    - What is the appropriate public role in Mobility as a Service programs?
    - How can funding institutional and funding barriers be overcome and partnerships built across jurisdictions and sectors?
    - Who should have access to data generated by CV infrastructure, and who should be responsible for analyzing that data?
8. System Performance & Asset Management
    - How can we improve the performance of the existing system of roads, public transit, airports, waterways, and ports? What types of tactics, data, vendor contracts, and tools will help?
    - How much can shared transportation services, personal bicycles, and electric scooters substitute for growth in SOV trips?
    - How can new capacity be added, where justified, while incorporating expected benefits from technology, pricing, and other strategies?
    - How can support be developed at local and state levels to give greater weight to investing in system preservation and maintenance?
    - How can such innovations as advanced materials, construction techniques, and improved maintenance strategies be developed, proven, and implemented more quickly?
9. Funding and Finance
    - What are the most cost-effective and equitable ways to pay for the federal share of transportation?
    - What are some alternative funding mechanisms apart from the fuel tax that can be used to serve interstate travel?
    - How can funding be sustained for modes such as public transportation that cannot rely wholly on user fees?
    - Mileage-based user fees (MBUF) could serve as a replacement for diminishing fuel tax revenues. What version of an MBUF best protects privacy, allocates resources

according to demand, minimizes administrative expenses, and could gain public and political acceptance?

10. Goods Movement
    - How can society provide adequate capacity for the anticipated volume of future freight in the most cost-effective and responsive way?
    - How will freight demand change in the future from such varied influences as fundamental changes in trade policies, manufacturing innovations, etc.?
    - How quickly can automation occur in the long-haul trucking industry?
    - How can public agencies partner with the private sector to use proprietary data to pinpoint critical infrastructure bottlenecks to efficient freight flows that the public sector could address?
    - What are the net effects on traffic and emissions of increased e-commerce? If negative, how can the public sector manage this problem?
11. Institutional & Workforce Capacity
    - Local, regional, and even state agencies are not adequately staffed for complexities such as TNC negotiations, climate change resiliency, or infrastructure maintenance. How can institutional capacity be enhanced to address these challenges?
    - How do we ensure the public sector has the expertise to negotiate contracts and oversee contractors in ways that best serve the public?
    - How can public officials be better prepared and retained to regulate and provide oversight for private providers of transportation services?
    - What are the likely impacts of transformational technologies on transportation-related jobs over time? How will the skills of pre-, post-, and phased- automation workforces be maintained on parallel tracks in the intermediate term?
12. Research & Innovation
    - How can greater priority be placed on data-gathering and studies of travel behavior and to the public's short- and long-term responses to transformational technologies?
    - How can we build and sustain a culture of innovation in public-sector highway and transit infrastructure and operations? Accelerate the pace of research to keep up with technological change? How can we move proven innovations into practices, codes, and standards more quickly?
    - How can we foster the development/retention of teachers and researchers to improve society's understanding of transportation? How do we develop future generations of transportation professionals?

- The Policy Snapshot for this report can be accessed here: https://www.nap.edu/resource/25314/criticalissues/
    - The full report is provided in the top-right corner of this webpage

V. REGIONAL TRANSIT STUDY FINAL REPORT – CENTRAL FLORIDA MPO ALLIANCE

David Williams gave a brief presentation on the MPO Alliance Regional Transit Study Final Report.

- East Central Florida Corridor Task Force established by Executive Order 13-319
    - Charged with developing recommendations on future transportation corridors serving portions of Brevard, Orange, and Osceola Counties

- RTS – 5th recommendation of ECFCTF's Action Plan
    - "to develop a regional transit system plan to identify and set priorities for long-term transit investments in the three study area counties and the broader Central Florida region."
    - Planning horizons of 2040 (interim) and 2060 (long term)
    - Study Area – District Five and Polk County
- Project Advisory Group members:
    - FDOT
    - CFMPO Alliance
    - SCTPO
    - River to Sea TPO
    - Lake-Sumter MPO
    - Metroplan Orlando
    - Ocala-Marion County TPO
    - Polk TPO
- Purpose
    - "The intent of the RTS is to support transit agencies, MPO / TPOs, and FDOT coordinate transit planning efforts and to support long range transportation plan (LRTP) development."
        - Establishing a Base Transit Condition / Identify Cross Jurisdictional Service Gaps
        - Identifying Existing and Future Funding Gaps
        - Identifying Potential Funding Sources
        - Analyzing Existing Local Government Transit Supportive Plans and Policies
        - Estimating Regional Desire Lines
        - Estimating Transit Market Demand-Patronage Forecast Ranges (2040/2060)
        - Identifying Strong Candidate Corridors for Higher Capacity Transit
        - Identifying the Conceptual Regional Transit Vision
        - Identifying Interim and Long-Term High Priority Transit Investments
        - Developing Strategies for Advancing Conceptual Regional Transit Vision
- Existing Conditions
    - Existing Transit Services
    - Existing Premium Transit Services:
        - SunRail, LYMMO
    - Review of planning documentation
        - MPO/TPO LRTP Cost Feasible Plan and Needs Network
        - Transit Development Plans
        - East Central Florida Corridor Evaluation Study
        - Districtwide Multimodal Assessment
        - SIS Needs Plan
        - How Shall we Grow
        - FDOT – intercity bus services
        - Comprehensive Plans
        - North Ranch Master Plan

- Potential Future Transit Projects (via LRTP/CFP/TDP)
  - **Table 2.4: Potential Future Transit Projects (unfunded)**

County *Planning Organization / Transit Operating Agency*	Project Description *Project Costs*
Brevard ***Space Coast TPO / Space Coast Area Transit***	US 1 FEC Commuter Rail - US 1 BRT North, Central, South - SR 520 BRT - Fiske / Stadium BRT - Wickham / Mintor BRT - Babcock BRT - SR A1A BRT - US 192 BRT *$1.9 billion capital costs - $26,907,000 annual operating costs*
Flagler & Volusia ***River to Sea TPO / Votran***	SunRail Phase II North *$70 million*
Lake & Sumter ***Lake~Sumter MPO / LakeXpress, Sumter County Transit***	--
Marion ***Ocala / Marion County TPO / SunTran***	US 301 Commuter Rail - SR / CR 464 Light Rail *No costs outlined*
Orange, Osceola & Seminole ***MetroPlan Orlando / LYNX, SunRail***	Enhancements to existing LYNX system, including Kissimmee Transit Circulator and corridor express service *Kissimmee circulator costs listed as TBD - Express service costs listed as $1.6 million*
Polk ***Polk County TPO / Citrus Connection, Winter Haven Area Transit***	Premium BRT along US 98 & US 92 (Bartow to Lakeland) *$1.6 million for vehicles; $10 million for "infrastructure"* US 17 BRT (Bartow to Winter Haven); US 92 BRT (Lakeland to Winter Haven); SunRail extension to Lakeland *No costs outlined*

- Methodology – Modeling
  - Regional travel patterns and markets were analyzed for base year 2015, and future years 2040 and 2060.
  - Market analysis consisted of summarizing travel flows between activity centers, counties, and urban areas.
    - Emphasis on identifying opportunities for higher capacity transit investments to link regional activity centers.
  - Only travel markets with daily trip volumes over 100,000 were considered to have potential for a major capital investment in Premium Transit.
  - Travel Flows were created using 3 different sets of delineations:
    1. MPO/TPO urbanized/non-urbanized areas
    2. County to County
    3. Major Activity Centers
  - Average weekday trip production for each set of delineations was developed and summarized in tables and illustrated in desire line maps
- Land Use Policy Analysis
  - Examined key land use and economic policy drivers that would perform well in FTA's Capital Improvement Grant submittal application process
    - Transit-supportive plans and policies in Growth Management Plans
    - Transit-supportive corridor policies

        - Transit-support zoning regulations near transit stations
        - Local government documents that have tools in place to implement transit-supportive policies
- Next Steps
    - "One of the primary challenges for Central Florida will be to coordinate land use planning, which takes place for the most part on the local level, with transportation plans that are developed on a statewide and regional basis."
    - MPO/TPOs and transit agencies can work with local agencies to encourage an environment that supports the region's economic competitiveness through provision of higher capacity interregional transit
    - There are two basic types of incentives available to government entities to create transit-friendly communities:
        - Public Investment incentives
        - Public Policy incentives
    - Major transit stops/station areas identified in the Regional Transit Vision should be planned by the local agency and transit agency
    - High quality and detailed Master Plans should be completed that articulate a consensus vision for an area, instilling investment confidence
    - Comprehensive Plans and zoning codes should be used to implement/enable master plans and station area plans
    - Transit-supportive development is starting to be permitted and encouraged in Central Florida
        - MPO/TPOs should continue to encourage Comprehensive Plans and Zoning codes to be tailored to create stronger transit markets along designated corridors
- Regional Transit Vision
    - The Conceptual Regional Transit Vision Framework identifies an initial range of feasible and appropriate alternatives/technologies for the major travel corridors within the study are for target years 2040 and 2060
        - Includes identification of high-priority transit investments that could be implemented in the near-term to support long-term vision
    - Major transit capital investments linking the metropolitan areas within the study area were not warranted, except between:
        - Brevard County and Orlando Metropolitan area
        - Orlando Metropolitan area and Polk County
    - Private sector currently provides longer-distance intercity bus service within region, as well as metropolitan areas outside study area
        - The RTS recommends FDOT partner with these private entities to provide services between various cities/counties within the study area
        - Coordination is key – will need to establish intercity bus stops in or near major public transportation stops; increase funding for capital projects to rehabilitate, upgrade, or expand public transportation terminals, Park & Ride lots, and intermodal facilities

  - Sections 5.2 through 5.7 discusses MPO/TPO areas and how various elements within each jurisdiction contribute to the Regional Transit Vision
    - Individual MPO/TPO Plan
    - Transit services (public and private)
    - Travel Demand Analysis (existing and future)
    - Subarea focus of the Regional Transit Vision framework is examined in terms of interim and long-range elements
      - Subdivided into Local and Regional components
- Implementation Plan
  - Common Themes in Central Florida and across the nation
    - Sustainability
    - Mobility and Connectivity
    - Economic Development
  - Chapter 6 serves as a work plan and presents strategies for advancing the Regional Transit Vision
    - Identifies high-priority transit investments for the short term, supporting the long-term vision
    - Provides processes for advancing the near- and long-term framework elements into state, regional, and local plans
    - Provides investment options for advancing the Regional Transit Vision to the next stage
  - Short Term High Priority Regional Transit Investments based on:
    - Regional Corridor Analysis
    - MPO/TPO and transit agency plans/programs
    - MPO/TPO Board and TAC input
    - MPO Alliance PAG input
    - Field research
  - Estimated Costs for Short Term High Priority Regional Transit Investments
    - Capital and O&M costs provided for the recommended investments
  - Potential Funding Sources for Short Term High Priority Regional Transit Investments
  - Potential Federal Funding Sources were identified based on the following factors:
    - Ease of Application/Implementation
    - Revenue Generation Potential
    - Local Funding Requirement
    - Application Schedule
    - Local Acceptance
  - Potential FDOT funding opportunities were identified based on the following factors:
    - Ease of Application/Implementation
    - Revenue Generation Potential
    - Local Funding Requirement
    - Application Schedule
    - Local Acceptance
  - Local/Private funding sources were also examined

  - Potential Funding Strategies were developed for the Short-Term High Priority Regional Transit Investments
- Next Steps/Challenges
  - Long Range Regional Planning Involvement
  - Local Planning and Development Involvement
  - Private Sector Participation
  - Regional Cooperation
  - Utilization of Technology
  - Commitment to the Environment
  - Development of a Transit Amenity Program
  - Allocation of Available and Potential Financial Resources to Meet Transportation Needs
  - Cooperation in Setting Priorities
- Discussion:
  - Question: Are the tech recommendations given as parameters or as individual projects?
    - A: The recommendations are general in scope; they do not recommend specific projects. Each project has its own complexities and may have its own individual tech recommendations.
  - Question: Is there a list of the prioritized projects?
    - A: Listed projects are the priority, but not within the tables/for each MPO.
  - Question: Did the study consider looking at FDOT limited access roadways, which sometimes lack ROW for projects? Have conversations started looking at existing and needed infrastructure? Additionally, transit facilities will need to be subsidized, are new ventures in transit going to be feasible either with or without subsidy?
    - A: Funding projects will be a challenge, as will subsidizing. The report didn't speak to dedicated funding sources other than what was listed in the presentation. Future projects may identify express bus services as an opportunity for funding.
    - Eric Hill mentioned that the CFMPO would try to help raise capital for transit projects.
  - This report is a grand overview and will be primarily used as a reference document. The next step is for each MPO to look through and determine the needs, abilities, and financial restrictions specific to them, and thereafter determine their own project feasibilities and recommendations.
  - The report is heavily focused on regional transit with little focus on local transit, as the expectation is that local agencies will expand their transit services as needed.
    - The issue of connections/tie-ins between regional and local services will be addressed as it arises for individual MPO/TPOs.

VI. MUTUALINK – INCIDENT RESPONSE COORDINATION

David Williams discussed the development and implementation of the Mutualink incident response coordination program.

- Mutualink is an interoperability platform to use existing communications systems to create talk groups with on-scene responders
  - Will enhance incident management communications to people on scene
- Sharing video feeds, pictures, files, and communication using radio or cellular
- Secure nation-wide network that can bridge multiple secure domains
  - Functional across jurisdictions - Federal, State, Local, Other
- Participation by invitation only
- Very scalable and affordable platform; ties licenses to position, not person
- Screen-scrapes to provide images or video
  - It does not write to your device and create public records.
- Mutualink can be used in a variety of scenarios, including but not limited to:
  - Emergencies
  - Planned Events
  - Traffic Accidents and Detours
  - HazMat
  - School/Campus incidents
- Video instructions on the use of Mutualink can be found on YouTube through searches such as "Mutualink Resource Sharing"
  - https://www.youtube.com/watch?v=Jjdmsj_8MK8&t=154s
- Implementation in D5:
  - Just purchased 12 licenses to test Mutualink
    - FHP, Road Rangers, RTMC has Mutualink in the TIM Group
  - 6 of our 9 Counties have it already in some fashion
    - Sheriff, Fire and Rescue, Dispatch, etc.
  - Very scalable and affordable platform that ties licenses to position, not person.
  - First on scene can also share with us. It screen-scrapes to provide images or video, so it does not write to your device and create public records.
- Discussion:
  - It was noted that local officials are very interested in Mutualink as they want to see more efficient communications with law enforcement and emergency services. This tech allows communication to be passive on the emergency services' end – we are the ones to send them the video feed and information, allowing for clearer and more efficient communication.
  - Jeremy noted that UCF and UF are developing a project concerning incident detection on arterial systems. They are competing with Uber for a federal grant for the project.
  - Question: Does the sharing of video feeds extend to the media?
    - A: Still working out permissions; currently, video feeds can only go to first responders and the nature of the screen scrape means that the video cannot be saved to the recipient's device.
    - Mutualink allows for agency by agency permissions to the public
  - Further, a comment was made that more discretion may be needed as police/emergency services zoom into crashes where FDOT/local agencies do not - in those cases, it would be necessary to block public recipients while sending video feeds through Mutualink.

        - A: Full control of what is being sent and to whom it is being sent lies with the person running Mutualink. They can choose what information to send to whom and can stop sending any portion of the information (e.g. the video feed) in the middle of transmission. Additionally, this is purely a screen scrape - it just captures what's on the user's monitor, thereby reducing the video resolution based on the user's monitor.
    - Question: Is this currently being implemented?
        - A: The software was installed two months ago and is currently being used for major incidents on limited access roads. The goal is to have the fine tuning done in a year.
    - This software can really help in rural areas and when people don't know where they are or what direction they are travelling. It also helps to prevent the deployment of too much equipment per incident.
    - Question: Can this software be applied beyond limited access roads?
        - A: It can, but that will be dealt with later, once everyone's on the same page, we have enough staff to work it, we have set up patterns of handling, and answered other questions (such as: How deep do we dive with smaller incidents? How do we spread across roadway systems? How do we staff for the use of this software? Etc.).
        - Multiple local agencies are already paying for this software, and the system is in place in many local areas. We are still in the process of figuring out the different capabilities of Mutualink and how to use them efficiently.
        - This software is extremely scalable to agencies of all sizes. The smallest startup is $1,000 with a $500 annual fee.
    - Question: Are you expecting to need more manpower for this?
        - A: Yes, eventually, but local agencies will not be asked to provide the necessary staff.
    - The comment was made about the importance of keeping local agencies' logos on cameras for funding purposes.
    - Question: Is this intended for short- or long-term event responses?
        - A: Currently, we don't want to use this for long-term responses due to the cost of transmitting via radio frequencies. Long-term communications are typically cellular network based; EOCs and their commanders in the field use cellular communications.
        - A difficulty with current communications is that incidents get resolved but we don't receive any long-term updates as EOC communications are all internal. Mutualink allows for real time communication across agencies to be made more efficient.
    - Question: Can phone cameras be used with Mutualink?
        - A: Yes, if the phone has been tied into the system beforehand. Enterprise licensing is available through either an Actiview or Mutualink license. Currently in development is the option to send an email link to non-licensed people so that they can receive the communication for a short time (especially in the case of large-scale events).
    - Note: Please let FDOT know if your agency does not want to have video shared through Mutualink or about any other concerns you have; we're not trying to overstep anyone's authority.

VII. STATEWIDE SYSTEMS ENGINEERING UPDATE

Jeremy Dilmore briefly discussed the Statewide Systems Engineering Update.

- In the process of updating Procedure Form for FDOT Guidelines for the Implementation of Rule 940: 750-040-003b → 750-040-003c
    - Simplifies form and clarifies agency roles
- FDOT District TSM&O Engineer(s) and CO TSM&O Program are responsible for maintaining RITSA
- For periodic (every five years) updates to the RITSA, the following process must be followed:
    1. Kickoff Meeting with Key Stakeholders
    2. Key Stakeholder Interviews
    3. Stakeholder Workshop for Presentation of Draft Architecture
    4. Stakeholder Review/Comment Period Before Finalization
- Exception maintenance (interim) will be conducted based on individual maintenance requests (Change Request).
- District TSM&O Engineer will coordinate with requesting agency and any other affected entities.
- District TSM&O Engineer and CO TSM&O Program will evaluate the need for the change and analyze its impact .
- CO ITS Section will track all change requests and record their outcome in a *change control log.*
- Local and Regional Agency Responsibilities:
    - Local Agencies
        - Responsible for working with District TSM&O Engineer to ensure that local systems are consistent with RITSA
        - Should have a working knowledge of SE and ITS architecture
        - Submit change requests (as needed) using the *ITS Architecture Change Request Form*[1]
        - Encouraged to participate in architecture stakeholder workshops to ensure their requested updates are included in periodic RITSA updates
    - MPO / TPOs
        - Responsible for ensuring LRTP and TIP are consistent with the RITSA, in accordance with
          23 CFR, Part 450.306(g)
    - Central Office is developing a Systems Engineering training program
        - Module 1 (Intro) will be tailored toward Local/Regional Agencies; emphasis on non-technical language

VIII. WHAT'S NEXT FOR THE REGION?

Jeremy Dilmore went over upcoming work program activities scheduled for the region.

- It's time to determine funding.
- Get lists from your respective MPOs with all of the projects up for funding, have the lists together by the end of the month.
- Our first commitment is to ongoing projects (such as those which have had the PD&E phase completed, but do not yet have the design, ROW, or construction phase funded).
- If you want something funded make sure it's on the MPO list.

- Discussion:
    - Question: As far as using TSMO on existing corridors to improve travel time, has DOT looked at infrastructure and ICE analyses or the potential to improve pedestrian fatality rates?
    - Question: What does the process of using TSMO to improve corridor safety look like with regards to funding?
        - A: A lot of different safety-based projects have been considered; the key thing is where they get implemented - corridors implementing tech are given higher priority for project selection due to DOT trying to fill in any gaps along corridors.
    - The comment was made that NCDOT is using R-cuts to increase the capacity of 4-lane roads and allow 6-lane capacity.
        - Is there the potential for these to be included in D5?
        - Will there be any policy changes as part of the ICE process?

IX. CURRENT INITIATIVES

Jeremy Dilmore briefly discussed current initiatives around the District.

- CV- and Operations-Readiness: Normalized Operational Equipment Management Initiative
    - Goal: To create a visual interface that will help FDOT identify gaps and areas that are CV- and Operations-ready. This will also support planning for future infrastructure deployments.
    - Application with geospatial data showing equipment:
        - Planned to be deployed
        - Funded to be deployed
        - Deployed
    - Phase 1: Identify "smart signalized intersections"
        - Is the intersection wired for optimal detection?
        - Is Intersection Movement County (IMC) present?
        - Has the signal data from that intersection been collection? If so, what are the characteristics of the assets?
        - Is this an ATC controller?
        - Has the intersection been added to the ATSPM list?
    - Timeline:
        - Preliminary application available June 2019
        - Additional functionality to follow
    - Discussion:
    - Working on installing large enough cabinets for V2I communication
    - Looking for all possible funding sources for the system
    - Developing a GIS layer to show current practice, with a new layer to be created and updated each year as practices change.
        - Looking for gaps where practices are/are not implemented
    - Developing standards for implementation and data collection on arterials.
- FDOT Firewall Update:
    - All agencies connected to the old RTMC will be moved over to the new firewall as FDOT transitions to the new RTMC

        - Anything from the agency's assigned address space/range will be able to access FDOT's D5 space/range.
        - Agencies should allow FDOT's D5 10.32.0.0/16 range if a policy does not already exist.
        - If additional access is needed, agencies will need to request that from FDOT
        - No additional IP, Protocol, or Application filtering yet
            - Next phase, following confirmation everyone has successfully moved to new firewall without loss of service
        - The new connection will allow local agencies to peer directly without negotiating through D5.
            - Agencies wishing to communication should share their assigned firewall address and create policies to allow traffic as needed.
    - Discussion:
    - Let DOT know about any problems that crop up as updates continue so that parameters can be configured properly.
    - Question: How long before we need an active directory?
        - A: Requirements are based more on software than policy. There is no specific date set, the intention is not to cut off any agencies.
        - This is a topic better discussed with more technically minded people.
- Sunstore: Now available at https://sunstore.cflsmartroads.com/
- RTMC: showed pictures taken mid-April
    - All furniture in
    - Video walls need to be filled in
    - CO from Seminole mid-May
    - Moving in all IT equipment
    - Coordinating with Governor's office for opening in mid-late June
    - Anticipating interruptions with news agencies as well as phone number changes during migration process.
    - PM staff (including Jeremy and Tushar) will remain at the District Five District Office.
- UCF Data Visualization
    - During the meeting, Jeremy showed the *Solving for Safety Visualization Challenge* video submission by UCF
    - "Real-Time Crash Risk Visualization Tools for Traffic Safety Management"
    - The Stage I and Stage II video submittals can be found at the following link:
        - https://www.transportation.gov/solve4safety/university-central-florida

X. NEXT MEETING –

- June 27, 2019 – Currently expected to be held at CFX Headquarters
    - Location may change based on progress of the new RTMC

XI. ATTACHMENTS

- A – Sign in sheets
- B – Presentation Slides
- C – Meeting agenda

END OF SUMMARY

This summary was prepared by Amanda Johnson and 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 they can be finalized for the files.*

TSM&O Consortium Meeting

MEETING AGENDA

Central Florida Expressway Authority
4974 Orl Tower Rd
Orlando, FL 32807
CFX Pelican Room

May 2, 2019
10:00 AM-12:00 PM

1) WELCOME

2) HB 311 / SB 932 – AUTONOMOUS VEHICLES LEGISLATION UPDATE
   - David Williams, VHB

3) CENTRAL FLORIDA MPO ALLIANCE – PRIORITIZED PROJECTS UPDATE
   - Eric Hill, MetroPlan Orlando

4) CRITICAL ISSUES IN TRANSPORTATION 2019 – TRB EXECUTIVE COMMITTEE REPORT
   - David Williams, VHB

5) REGIONAL TRANSIT STUDY FINAL REPORT – CENTRAL FLORIDA MPO ALLIANCE
   - David Williams, VHB

6) MUTUALINK – INCIDENT RESPONSE COORDINATION
   - David Williams, VHB

7) STATEWIDE SYSTEMS ENGINEERING UPDATE
   - Jeremy Dilmore, District Five TSM&O

8) WHAT'S NEXT FOR THE REGION?
   - Jeremy Dilmore, District Five TSM&O

9) CURRENT INITIATIVES
   - Jeremy Dilmore, District Five TSM&O

Welcome to the TSM&O Consortium Meeting

May 2, 2019

Wifi: CFX

PW: 38651940

Transportation Systems Management & Operations

Meeting Agenda

1. Welcome
2. HB 311 / SB 932 – *Autonomous Vehicles* Update
3. Central Florida MPO Alliance – TSM&O Prioritized Projects Update
4. Critical Transportation Issues – TRB 2019
5. Regional Transit Study – Central Florida MPO Alliance
6. Mutualink – Incident Response Coordination
7. Statewide Systems Engineering Update
8. Planning Documentation
9. What's Next?
10. Current Initiatives

FL House Bill 311 / Senate Bill 932

David Williams, VHB

Florida House Bill 311 and Senate Bill 932

- Replaces the term “Autonomous Vehicle” with “**Automated Driving System**” and is defined as the hardware and software that performs the dynamic driving task of an autonomous vehicle
- Authorizes fully autonomous vehicle to operate **regardless of presence of human operator**
- Provides that an “automated driving system” is deemed operator of autonomous vehicle operating with system engaged
- Authorizes Florida Turnpike Enterprise to fund & operate test facilities
- Provides a definition for “On-Demand Autonomous Vehicle Network”: a passenger transportation network that uses a digital means to connect passengers to fully autonomous vehicles for-hire

Florida House Bill 311 and Senate Bill 932

- Provides **requirements** for operation of on-demand autonomous vehicle networks
- Revises registration requirements for autonomous vehicles
- Stipulates that a licensed driver is not required to operate a fully autonomous vehicle
- Exempting a fully autonomous vehicle being operated with the automated driving system engaged from a prohibition on the active display of television, video, or use of wireless communications devices
- Requires the automated driving system of a fully autonomous vehicle to be capable of achieving a **minimal risk condition** if a failure of the system occurs. Provides a definition for “minimal risk condition”

Florida House Bill 311 and Senate Bill 932

- Stipulates that vehicles that are **not fully autonomous** must be able to properly **alert** a licensed driver of the situation and must require the driver to take over or achieve a minimal risk condition on its own
- Provides insurance requirements for On-Demand AV networks, including primary liability coverage of at least $1 million for death, bodily injury, and property damage

Florida House Bill 311 and Senate Bill 932

- Passed in House – **110 Yeas**, **0 Nays**
- Passed in Senate – **37 Yeas**, **0 Nays**
- Waiting for Governor's decision
  - Sign or Veto within 15 days of transmittal, or it becomes law by default
  - (7-day period if legislature remains in session)

- For more information:
  - www.MyFloridaHouse.com – Search Bill **#311** (in year 2019)

Questions?

Central Florida MPO Alliance Regional Prioritized Projects

Eric Hill, MetroPlan Orlando

FDOT TSM&O Transportation Systems Management & Operations

Transportation Systems Management & Operations

Central Florida TSM&O Consortium

TSMO Regional Project – CFMPOA Accepted Definition

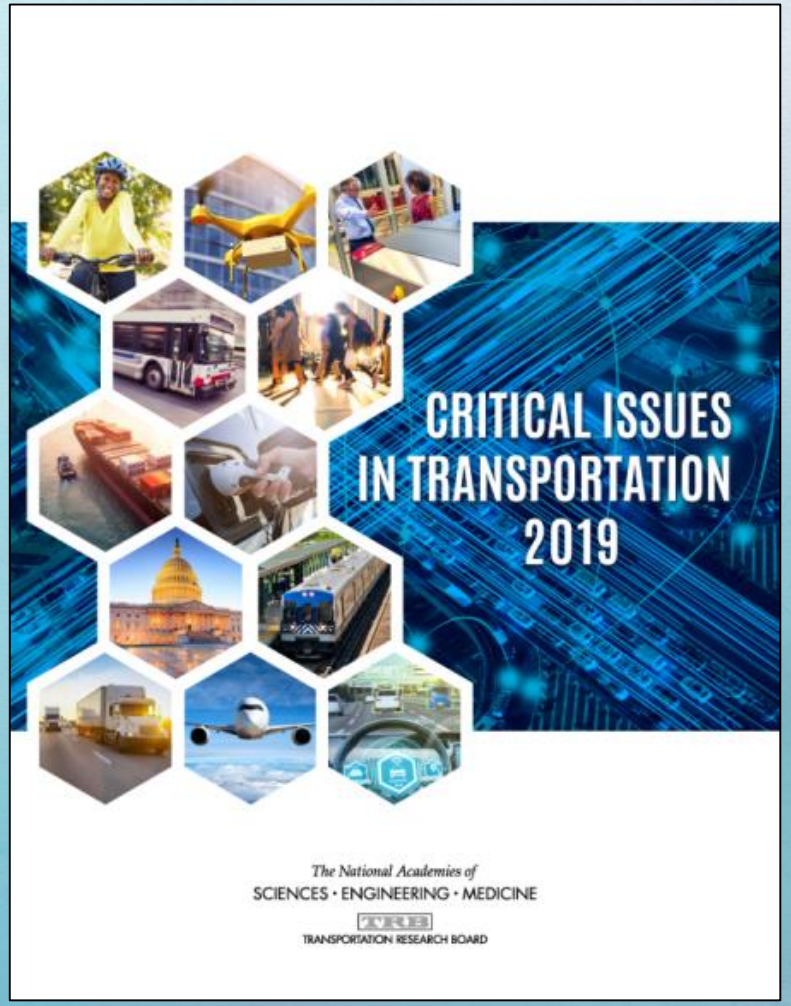
A regional TSMO project impacts two contiguous ~~cities/~~counties in separate MPO planning areas and is a set of integrated strategies to optimize the performance of operations on existing infrastructure and included within project alternatives for new infrastructure projects, and serves regional transportation needs (such as access to and from the area outside the region; major activity centers in the region; major planned developments such as significant retail development, sports venues, or employment centers; or transportation terminals).

Critical Issues in Transportation 2019 (TBR)

David Williams, VHB

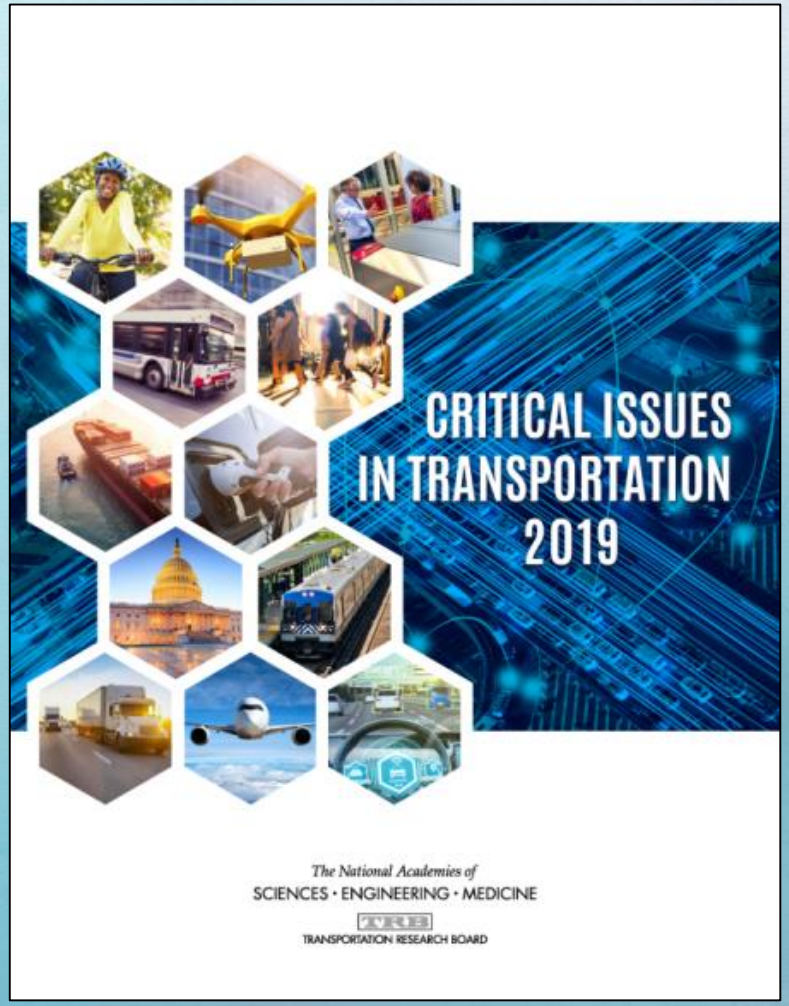
Critical Issues in Transportation

- TRB Executive Committee
- 23 transportation experts reviewed the Executive Committee's initial list
- Identifies potential critical issues that may arise in the next 10 to 20 years
- Provides questions that can be addressed during the next 5 to 10 years
  - Research, policy analysis, debate



Critical Issues in Transportation

1. Transformational Technologies & Services
2. Serving a Growing/Shifting Population
3. Energy & Sustainability
4. Resilience & Security
5. Safety & Public Health
6. Equity
7. Governance
8. System Performance & Asset Management
9. Funding and Finance
10. Goods Movement
11. Institutional & Workforce Capacity
12. Research & Innovation

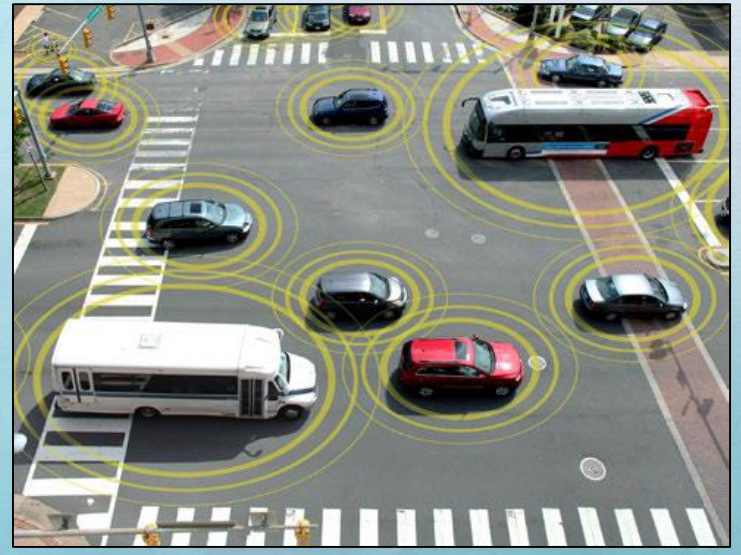


Transformational Technologies & Services

a) **What policies can encourage pooled ride-share service instead of CAV single-occupant vehicle use?**

b) Which policy options can and should be exercised to achieve net social benefits from CAV?

c) Which issues need to be addressed to reduce risk in mixed-traffic interactions?



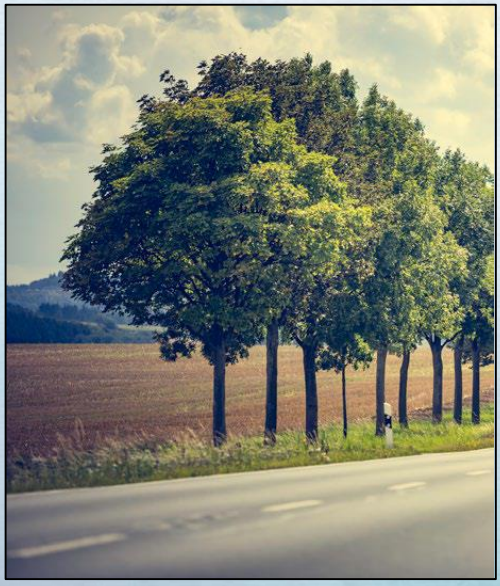
d) **What should be the highest priorities for publicly funded CV infrastructure improvements?**

e) How can we ensure consistent/safe performance of AI, software, and sensors in conventional and unanticipated scenarios?

f) How will product liability laws need to evolve to serve the public interest?

g) **How will drivers familiar with conventional vehicles respond to CAVs?**

Serving a Growing Population



a) What are the most cost-effective transportation policies for improving internal megaregion travel?

b) Growth rates are increasing in small metro areas: what are the implications for local and intercity travel demand, infrastructure investments, and operations?

c) What transportation policies/programs are most cost-effective in mitigating the congestion and environmental costs of vehicle trips in suburbs/exurbs? What role will TNCs play in these settings?

d) The largest portion of millennials are moving to the urban periphery, and baby boomers still prefer suburban/rural single-family homes. What are the transportation implications? How can adverse environmental effects from transportation be minimized?

e) How do we ensure access to jobs/services for rural populations?

Energy & Sustainability

a) What are the most cost-effective strategies to reduce GHG emissions?

b) How can public policy influence consumer acceptance of electric vehicles? What is the appropriate public role in facilitating recharging stations?

c) With the growing demand for electricity, what will be the impact on the power grid? What is the potential for transportation infrastructure to generate electricity to meet increasing demand?

Resilience & Security

a) What kind of decision-making tools can best help transportation agencies make appropriate decisions about climate change and terrorism in a risk-management framework?

b) How can the experiences of communities that are beginning to adapt and change be best evaluated and shared?

c) With CAV imminent, how can cybersecurity for these systems be made as robust as possible? What capabilities will public agencies need in order to verify whether cybersecurity is being managed effectively?

d) What are the best practices in cybersecurity, and what role should agencies play?

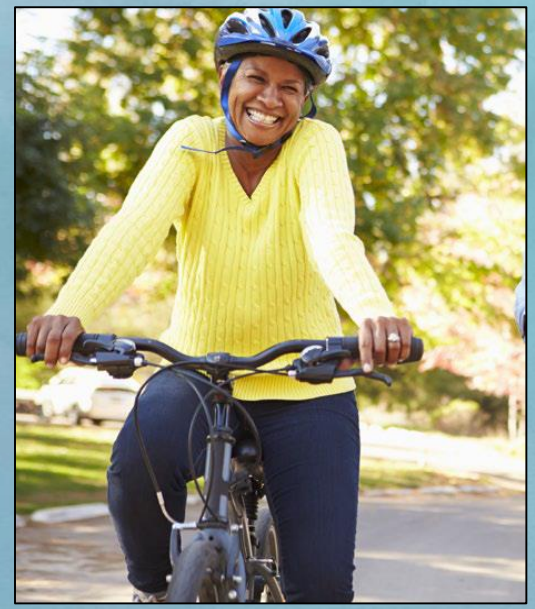
Safety & Public Health

a) **How can Level 2/3 automation be most effectively regulated to address the risks of distraction and inattentiveness?**

b) What are the net safety benefits of Level 2/3 automation even if they increase distraction-related crashes?

c) **How do we promote healthier modes of transportation?**

d) Which strategies would be most effective in reducing the growing number of pedestrian and cyclist deaths and injuries?



Equity

a) How can those without bank accounts or smartphones gain access to new transportation services?

b) How can technological innovations be maximized for older and disabled travelers?

c) How does transportation access affect economic opportunities and outcomes for the economically disadvantaged?

d) Which technologies and policy interventions would be most effective and affordable for enhancing access to employment, healthcare, shopping, and education?

e) How do we ensure that minority/low-income communities are not disproportionately affected by new/expanded transportation facilities?

Governance

a) In light of the emergence of megaregions, what is the appropriate institutional form for making transportation investments given the many and complex jurisdictions and state interests?

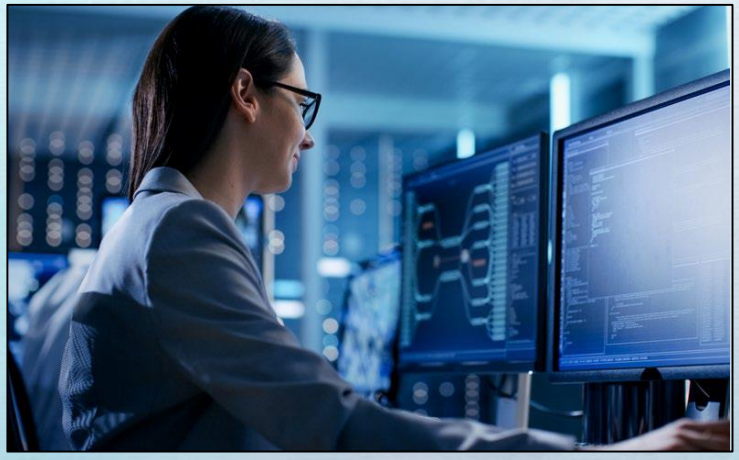
b) What institutional reforms are needed to serve the public more effectively/efficiently, and how can these determinations be made?

c) What is the appropriate public role in Mobility as a Service programs?

d) How can institutional and modal funding barriers be overcome and partnerships built across jurisdictions and sectors?

e) Who should have access to data generated by CV infrastructure, and who should be responsible for analyzing that data?

System Performance & Asset Management



a) How can we improve the performance of the existing system of roads, public transit, airports, waterways, and ports? What types of tactics, data, vendor contracts, and tools will help?

c) How much can shared transportation services, personal bicycles, and electric scooters substitute for growth in SOV trips?

d) How can new capacity be added, where justified, while incorporating expected benefits from technology, pricing, and other strategies?

e) How can support be developed at local and state levels to give greater weight to investing in system preservation and maintenance?

f) How can such innovations as advanced materials, construction techniques, and improved maintenance strategies be developed, proven, and implemented more quickly?

Funding & Finance

a) What are the most cost-effective and equitable ways to pay for the federal share of transportation?

b) What are some alternative funding mechanisms apart from the fuel tax that can be used to serve interstate travel?

c) How can funding be sustained for modes such as public transportation that cannot rely wholly on user fees?

d) Mileage-based user fees (MBUF) could serve as a replacement for diminishing fuel tax revenues. What version of an MBUF best protects privacy, allocates resources according to demand, minimizes administrative expenses, and could gain public and political acceptance?

Goods Movement

a) **How can society provide adequate capacity for the anticipated volume of future freight in the most cost-effective and responsive way?**

b) How will freight demand change in the future from such varied influences as fundamental changes in trade policies, manufacturing innovations, etc.?

c) **How quickly will automation occur in the long-haul trucking industry?**

d) How can public agencies partner with the private sector to use proprietary data to pinpoint critical infrastructure bottlenecks to efficient freight flows that the public sector could address?

e) What are the net effects on traffic and emissions of increased e-commerce? If negative, how can the public sector manage this problem?

Institutional & Workforce Capacity

a) Local, regional, and even state agencies are not adequately staffed for complexities such as TNC negotiations, climate change resiliency, or infrastructure maintenance. How can institutional capacity be enhanced to address these challenges?

b) How do we ensure the public sector has the expertise to negotiate contracts and oversee contractors in ways that best serve the public?

c) How can public officials be better prepared and retained to regulate and provide oversight for private providers of transportation services?

d) What are the likely impacts of transformational technologies on transportation-related jobs over time? How will the skills of pre-, post-, and phased-automation workforces be maintained on parallel tracks in the intermediate term?

Research & Innovation

a) How can greater priority be placed on data-gathering and studies of travel behavior and to the public's short- and long-term responses to transformational technologies?

b) How can we build and sustain a culture of innovation in public-sector highway and transit infrastructure and operations? Accelerate the pace of research to keep up with technological change? How can we move proven innovations into practices, codes, and standards more quickly?

c) How can we foster the development/retention of teachers and researchers to improve society's understanding of transportation? How do we develop future generations of transportation professionals?

Questions?

https://www.nap.edu/resource/25314/criticalissues/
(Policy Snapshot)

Regional Transit Study
Central Florida MPO Alliance

David Williams, VHB

FDOT TSM&O
Transportation Systems Management & Operations

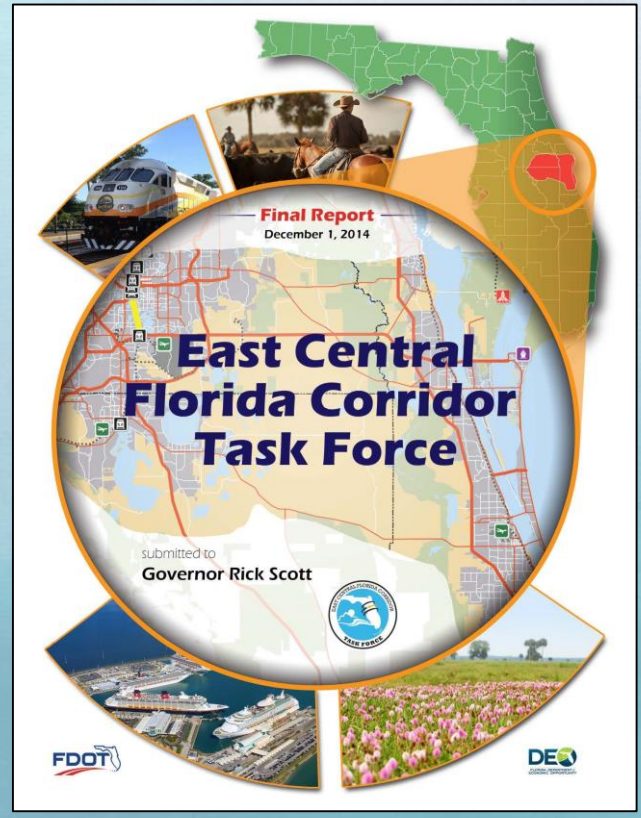
Transportation Systems Management & Operations

CENTRAL FLORIDA TSM&O CONSORTIUM

East Central Florida Corridor Task Force

- ECFCTF established by Executive Order 13-319
  - Charged with developing recommendations on future transportation corridors serving portions of Brevard, Orange, and Osceola Counties

- RTS – 5th recommendation of ECFCTF's Action Plan
  - "to develop a regional transit system plan to identify and set priorities for long-term transit investments in the three study area counties and the broader Central Florida region."
  - Planning horizons of 2040 (interim) and 2060 (long term)
  - Study Area – District Five and Polk County



Project Advisory Group

FDOT

CENTRAL FLORIDA MPO ALLIANCE

SPACE COAST TPO

RIVER TO SEA TPO
Transportation P anning Organization
VISION - PLAN - IMPLEMENT

Lake-Sumter MPO
Metropolitan Planning Organization

metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP

TPO
Ocala · Marion County

Polk Transportation Planning Organization

Purpose

- “The intent of the RTS is to support transit agencies, MPO / TPOs, and FDOT coordinate transit planning efforts and to support long range transportation plan (LRTP) development.”
  - Establishing a Base Transit Condition / Identify Cross Jurisdictional Service Gaps
  - Identifying Existing and Future Funding Gaps
  - Identifying Potential Funding Sources
  - Analyzing Existing Local Government Transit Supportive Plans and Policies
  - Estimating Regional Desire Lines
  - Estimating Transit Market Demand-Patronage Forecast Ranges (2040/2060)
  - Identifying Strong Candidate Corridors for Higher Capacity Transit
  - Identifying the Conceptual Regional Transit Vision
  - Identifying Interim and Long Term High Priority Transit Investments
  - Developing Strategies for Advancing Conceptual Regional Transit Vision

Existing and Future Conditions

- Existing Transit Services
- Existing Premium Transit Services:
  - SunRail, LYMMO
- Review of planning documentation
  - MPO/TPO LRTP Cost Feasible Plan and Needs Network
  - Transit Development Plans
  - East Central Florida Corridor Evaluation Study
  - Districtwide Multimodal Assessment
  - SIS Needs Plan
  - How Shall we Grow
  - FDOT – intercity bus services
  - Comprehensive Plans
  - North Ranch Master Plan

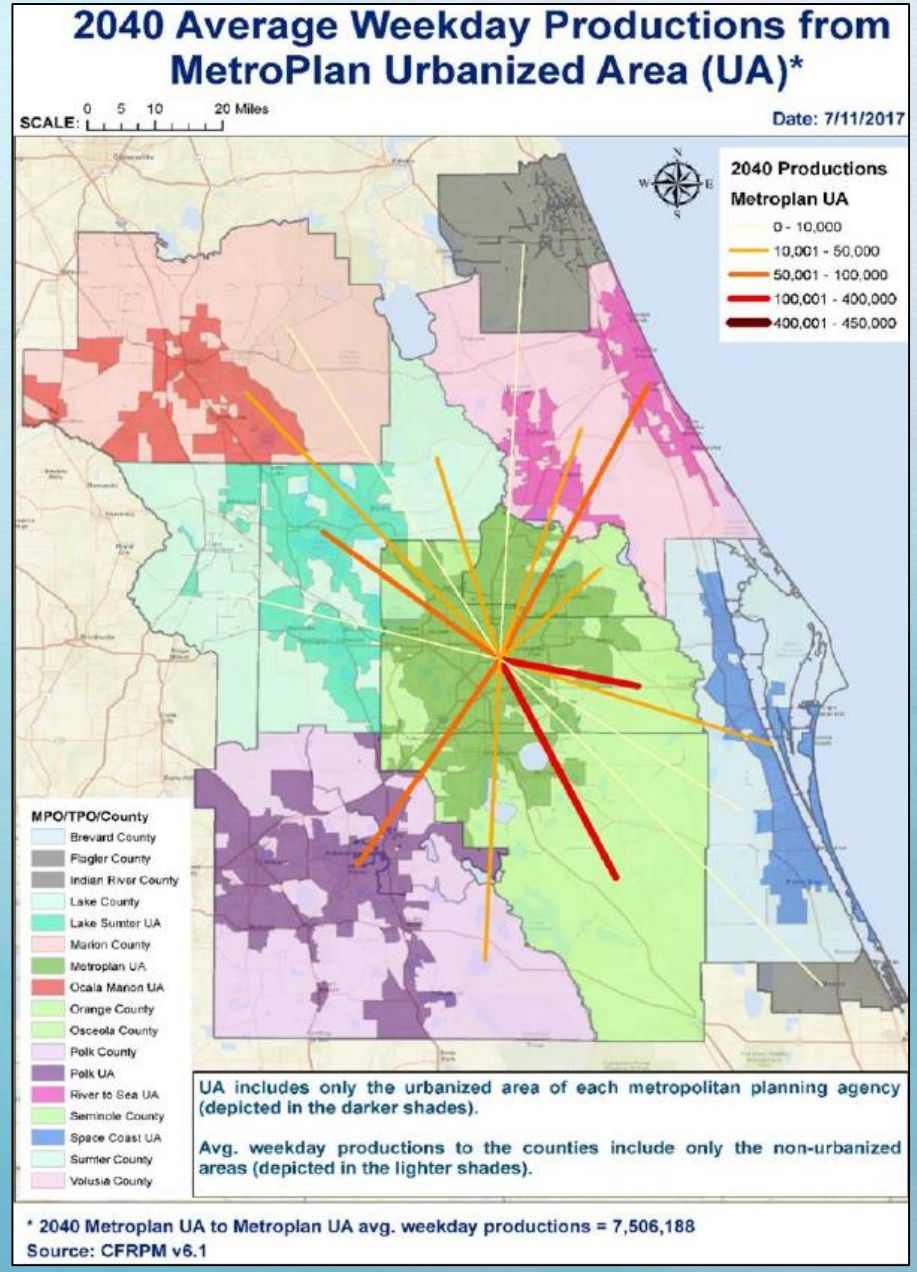
Potential Future Transit Projects (via LRTP/CFP/TDP)

Table 2.4: Potential Future Transit Projects (unfunded)

County *Planning Organization / Transit Operating Agency*	Project Description *Project Costs*
Brevard ***Space Coast TPO / Space Coast Area Transit***	US 1 FEC Commuter Rail - US 1 BRT North, Central, South - SR 520 BRT - Fiske / Stadium BRT - Wickham / Mintor BRT - Babcock BRT - SR A1A BRT - US 192 BRT *$1.9 billion capital costs - $26,907,000 annual operating costs*
Flagler & Volusia ***River to Sea TPO / Votran***	SunRail Phase II North *$70 million*
Lake & Sumter ***Lake~Sumter MPO / LakeXpress, Sumter County Transit***	--
Marion ***Ocala / Marion County TPO / SunTran***	US 301 Commuter Rail - SR / CR 464 Light Rail *No costs outlined*
Orange, Osceola & Seminole ***MetroPlan Orlando / LYNX, SunRail***	Enhancements to existing LYNX system, including Kissimmee Transit Circulator and corridor express service *Kissimmee circulator costs listed as TBD - Express service costs listed as $1.6 million*
Polk ***Polk County TPO / Citrus Connection, Winter Haven Area Transit***	Premium BRT along US 98 & US 92 (Bartow to Lakeland) *$1.6 million for vehicles; $10 million for "infrastructure"* US 17 BRT (Bartow to Winter Haven); US 92 BRT (Lakeland to Winter Haven); SunRail extension to Lakeland *No costs outlined*

Methodology - Modeling

- Regional travel patterns and markets were analyzed for base year 2015, and future years 2040 and 2060.
- Market analysis consisted of summarizing travel flows between activity centers, counties, and urban areas.
  - Emphasis on identifying opportunities for higher capacity transit investments to link regional activity centers
- Only travel markets with daily trip volumes over 100,000 were considered to have potential for a **major capital investment in Premium Transit**

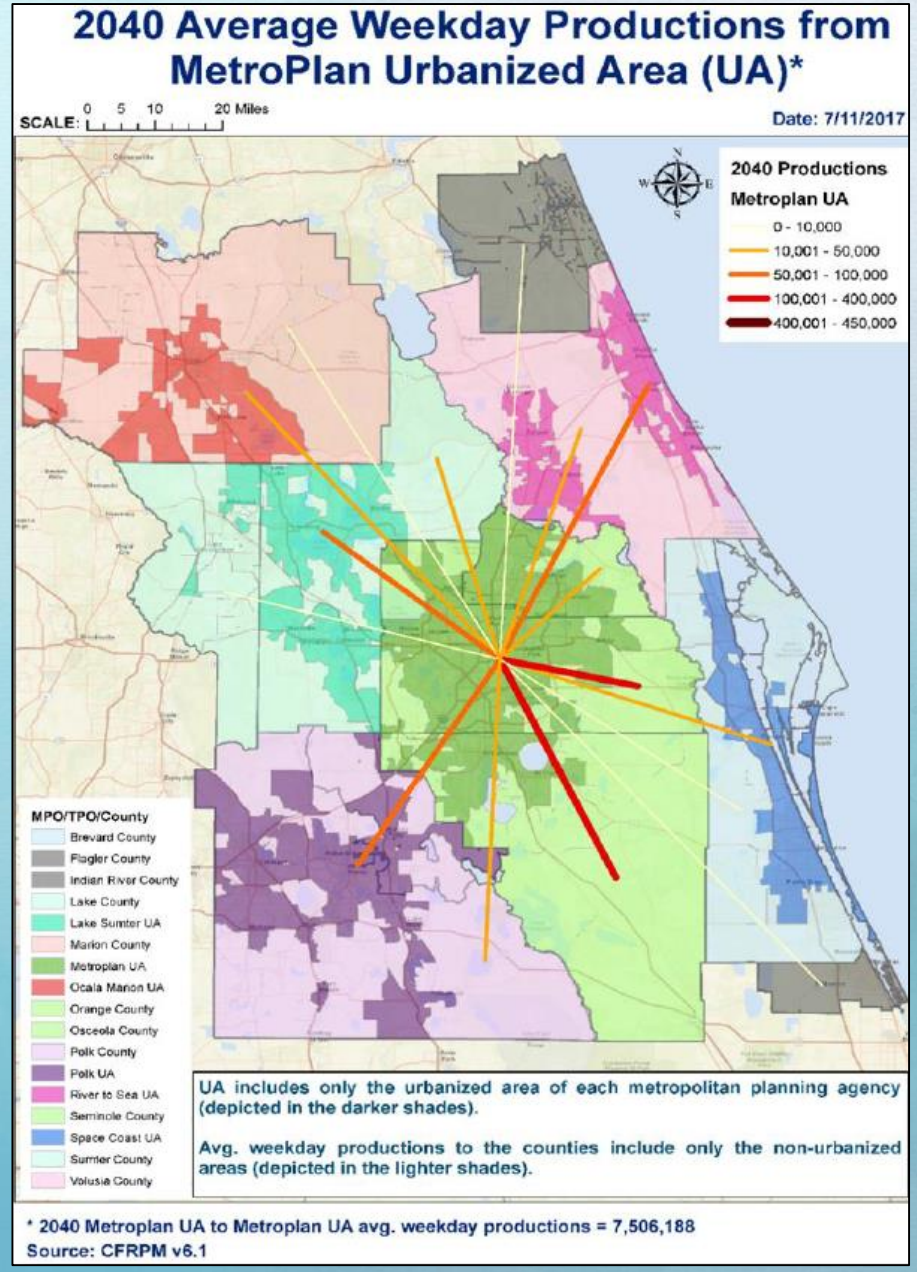


Example MPO/TPA Urbanized / Non-Urbanized Area Travel Movements

Methodology - Modeling

- Travel Flows were created using 3 different sets of delineations:
  1. MPO/TPO urbanized/non-urbanized areas
  2. County to County
  3. Major Activity Centers

- Average weekday trip production for each set of delineations was developed and summarized in tables and illustrated in desire line maps



Example MPO/TPA Urbanized / Non-Urbanized Area Travel Movements

Methodology - Modeling

Table 3.1: 2040 Urbanized (UA) / Non-Urbanized Person Trip Pairs > 100,000

TRIPS	From UA / Non-UA	To UA / Non-UA
332,009	MetroPlan Orlando UA	Orange County
261,636	Polk County	Polk UA
249,012	Orange County	MetroPlan Orlando UA
241,206	Osceola County	MetroPlan Orlando UA
219,020	Polk UA	Polk County
212,235	Space Coast UA	Brevard County
187,301	Brevard County	Space Coast UA
181,223	River to Sea UA	Volusia County
164,532	Marion County	Ocala Marion UA
156,162	Volusia County	River to Sea UA
155,075	Ocala Marion UA	Marion County
144,588	MetroPlan Orlando UA	Osceola County
133,203	Lake County	Lake Sumter UA
111,370	Lake Sumter UA	Lake County
104,868	Lake Sumter UA	MetroPlan Orlando UA
103,374	River to Sea UA	MetroPlan Orlando UA

Land Use Policy Analysis

- Examined key **land use** and **economic policy** drivers that would perform well in FTA's Capital Improvement Grant submittal application process
  - Transit-supportive plans and policies in Growth Management Plans
  - Transit-supportive corridor policies
  - Transit-support zoning regulations near transit stations
  - Local government documents that have tools in place to implement transit-supportive policies

Next Steps

- “One of the primary challenges for Central Florida will be to coordinate land use planning, which takes place for the most part on the local level, with transportation plans that are developed on a statewide and regional basis.”
- MPO/TPOs and transit agencies can work with local agencies to encourage an environment that supports the region’s economic competitiveness through provision of higher capacity interregional transit
- There are two basic types of incentives available to government entities to create transit-friendly communities:
  - **Public Investment** incentives
  - **Public Policy** incentives

Next Steps

- Major transit stops/station areas identified in the Regional Transit Vision should be planned by the local agency and transit agency
- High quality and detailed Master Plans should be completed that articulate a consensus vision for an area, instilling investment confidence
- Comprehensive Plans and zoning codes should be used to implement/enable master plans and station area plans
- Transit-supportive development is starting to be permitted and encouraged in Central Florida
  - MPO/TPOs should continue to encourage Comprehensive Plans and Zoning codes to be tailored to create stronger transit markets along designated corridors

Regional Transit Vision

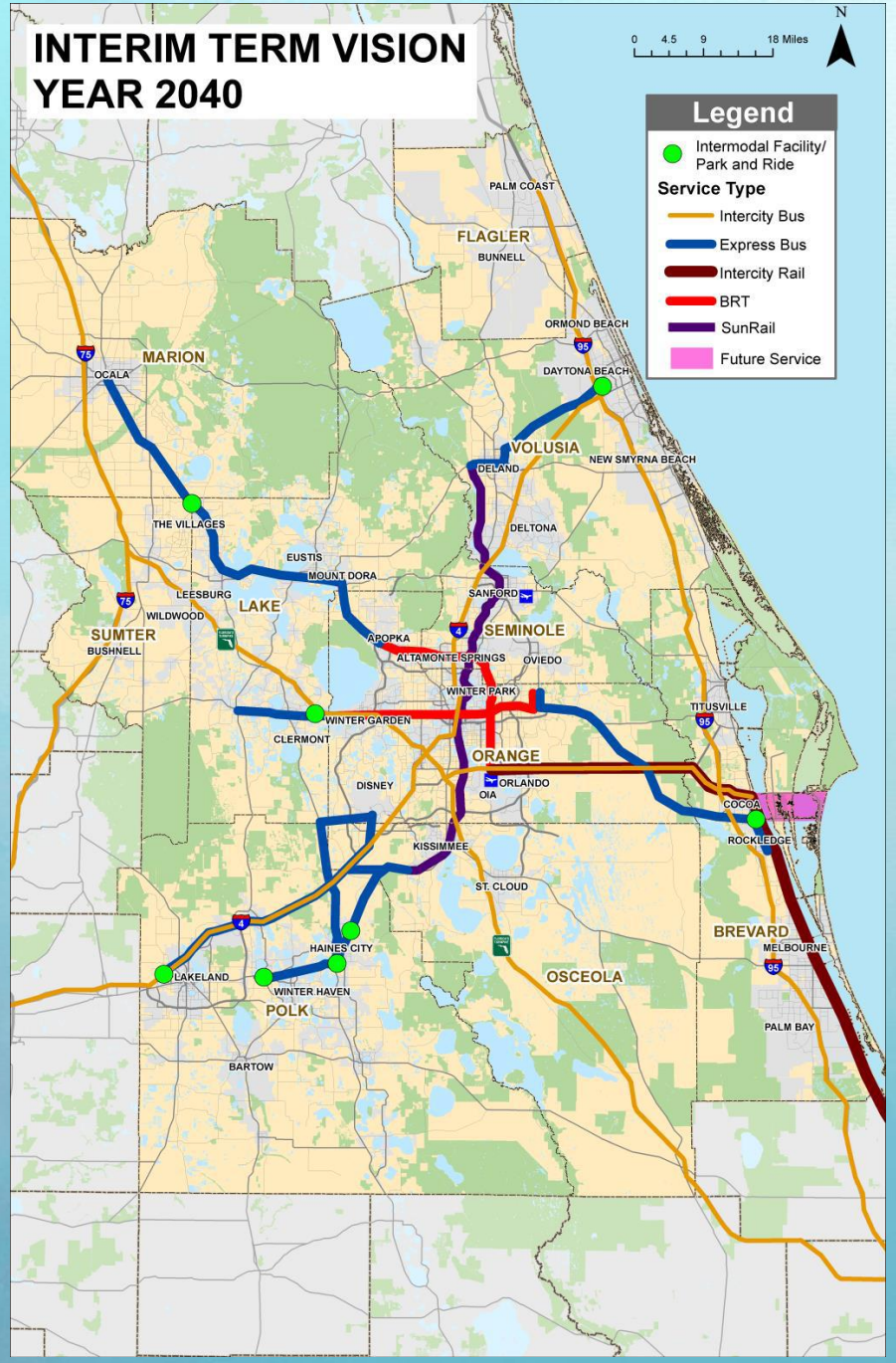
- The Conceptual Regional Transit Vision Framework identifies an initial range of feasible and appropriate alternatives/technologies for the major travel corridors within the study area for target years 2040 and 2060
  - Includes identification of high-priority transit investments that could be implemented in the near-term to support long-term vision
- Major transit capital investments linking the metropolitan areas within the study area **were not warranted, except between**:
  - Brevard County and Orlando Metropolitan area
  - Orlando Metropolitan area and Polk County
- Private sector currently provides longer distance intercity bus service within region, as well as metropolitan areas outside study area
  - The RTS recommends FDOT partner with these private entities to provide services between various cities/counties within the study area
  - Coordination is key – will need to establish intercity bus stops in or near major public transportation stops; increase funding for capital projects to rehabilitate, upgrade, or expand public transportation terminals, Park & Ride lots, and intermodal facilities

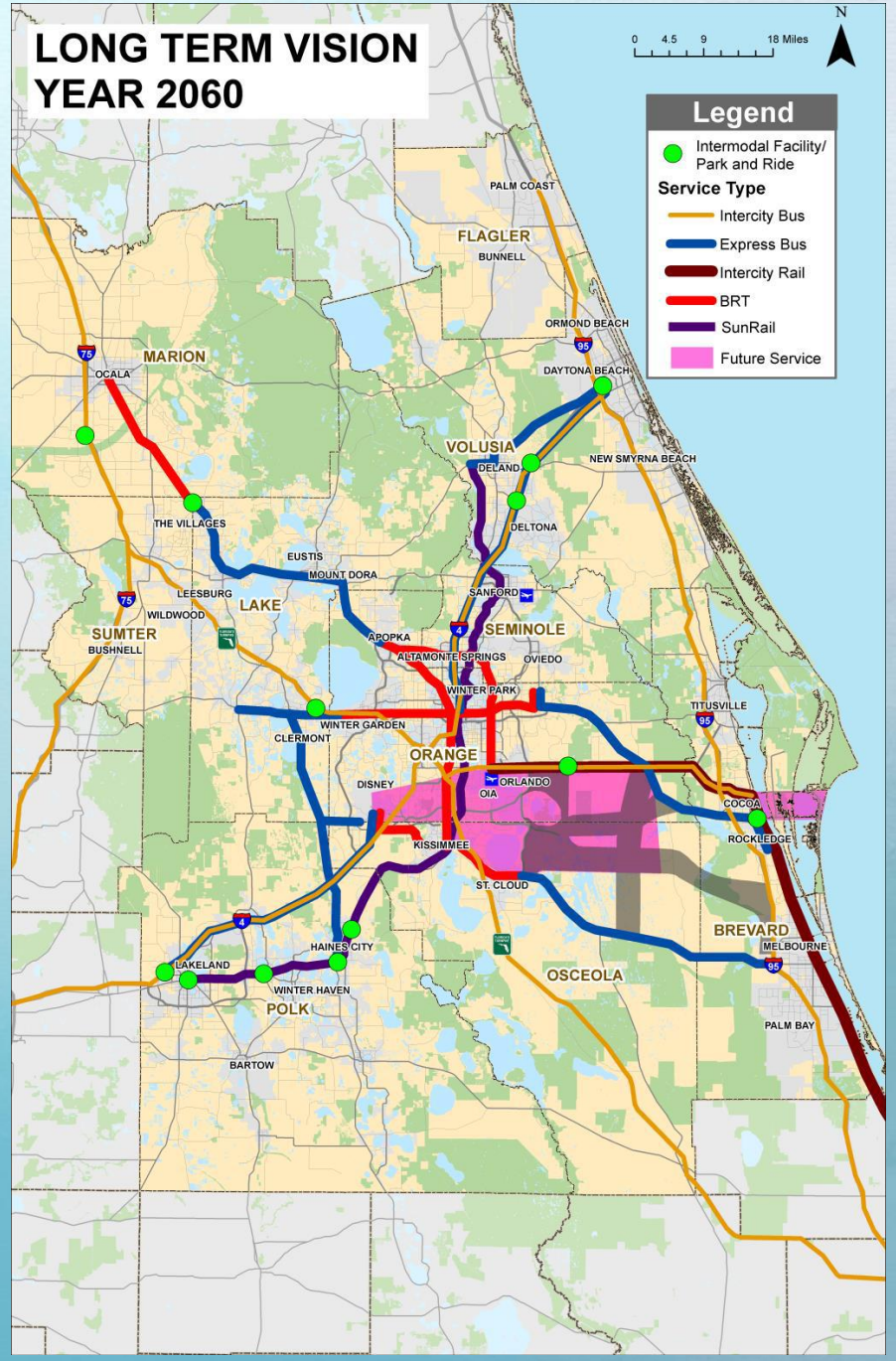
Regional Transit Vision

- Sections 5.2 through 5.7 discusses MPO/TPO areas and how various elements within each jurisdiction contribute to the Regional Transit Vision
  - Individual MPO/TPO Plan
  - Transit services (public and private)
  - Travel Demand Analysis (existing and future)
  - Subarea focus of the Regional Transit Vision framework is examined in terms of interim and long range elements
    - Subdivided into Local and Regional components

- **Interim Term Vision**
  - **Local:** The local element of the shorter-term vision consists of improvements to the local bus system, SunTran, as identified in the LRTP and the TDP. These include improving the headways of the current routes, as well as new routes to locations within the service area.
    - Improved Headways on four (4) of the six (6) existing routes from 60 minutes to 45 minutes.
    - Improve existing services by realigning existing routes beginning in 2018.
    - Add Sunday service on all existing routes.
    - Implement the Ocala West Connector with 60-minute headways, similar to the existing network.
    - Implement the SR 200 Flex to service the SR 200 corridor from I-75 to SW 60th Avenue.
  - **Regional:** The regional element of the shorter term plan includes new cross jurisdictional service.
    - A Belleview / Villages Limited Express service from Ocala to Belleview to Sumter County / The Villages, running along US 301 / US 441 / US 27 with weekday 120-minute headways. This route should terminate at the Lake County Transit Spanish Springs Station.

Example of Subarea Regional Transit Vision Framework – Ocala/Marion TPO *Interim Term*


INTERIM TERM VISION
YEAR 2040
0 4.5 9 18 Miles
N
Legend
Intermodal Facility/ Park and Ride
Service Type
Intercity Bus
Express Bus
Intercity Rail
BRT
SunRail
Future Service
PALM COAST
FLAGLER
BUNNELL
ORMOND BEACH
DAYTONA BEACH
MARION
OCALA
VOLUSIA
DELAND
NEW SMYRNA BEACH
THE VILLAGES
DELTONA
EUSTIS
MOUNT DORA
LEESBURG
LAKE
SANFORD
WILDWOOD
SUMTER
BUSHNELL
APOPKA
SEMINOLE
ALTAMONTE SPRINGS
OVIEDO
WINTER PARK
TITUSVILLE
WINTER GARDEN
CLERMONT
ORANGE
DISNEY
ORLANDO
OIA
COCOA
ROCKLEDGE
KISSIMMEE
ST. CLOUD
BREVARD
MELBOURNE
HAINES CITY
LAKELAND
WINTER HAVEN
OSCEOLA
POLK
PALM BAY
BARTOW


LONG TERM VISION
YEAR 2060
0 4.5 9 18 Miles
N
Legend
Intermodal Facility/ Park and Ride
Service Type
Intercity Bus
Express Bus
Intercity Rail
BRT
SunRail
Future Service
PALM COAST
FLAGLER
BUNNELL
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SUMTER
BUSHNELL
APOPKA
SEMINOLE
ALTAMONTE SPRINGS
OVIEDO
WINTER PARK
TITUSVILLE
WINTER GARDEN
CLERMONT
ORANGE
DISNEY
ORLANDO
OIA
COCOA
ROCKLEDGE
KISSIMMEE
ST. CLOUD
BREVARD
MELBOURNE
HAINES CITY
LAKELAND
WINTER HAVEN
OSCEOLA
POLK
PALM BAY
BARTOW

Implementation Plan

- Common Themes in Central Florida and across the nation
  - Sustainability
  - Mobility and Connectivity
  - Economic Development

- Chapter 6 serves as a work plan and presents strategies for advancing the Regional Transit Vision
  - Identifies high-priority transit investments for the short term, supporting the long-term vision
  - Provides processes for advancing the near and long term framework elements into state, regional, and local plans
  - Provides investment options for advancing the Regional Transit Vision to the next stage

Implementation Plan

- Short Term High Priority Regional Transit Investments, based on:
  - Regional Corridor Analysis
  - MPO/TPO and transit agency plans/programs
  - MPO/TPO Board and TAC input
  - MPO Alliance PAG input
  - Field research

Lake~Sumter MPO
Short Term High Priority Regional Transit Investments

6.2.2 Lake / Sumter County

- **Cross-Jurisdictional Service.** LakeXpress Route 1A current services The Villages Spanish Springs Station with service to Leesburg on 60 minute headways. Currently, there are no available transfer points between SunTran and LakeXpress service. This service should be linked with the proposed Belleview / Villages Limited Express service, and appropriate service adjustments should be made.
- **Cross-Jurisdictional Service.** LakeXpress and LYNX should establish a coordinated service plan to serve the longer distance customer in the US 19 / US 441 corridor, focusing on improving service between Mt. Dora and the Apopka Superstop and coordinating consistent headways between LakeXpress Route 4 and LYNX Link 44.
- **Cross-Jurisdictional Service.** LakeXpress and LYNX should work to establish a coordinated service plan to serve the longer distance customer in the SR 50 corridor, with the focus on improving through service between Clermont and the Downtown Orlando. This includes improvements to LakeXpress Routes 5E and 5W, as well as LYNX Link 105, the LYNX proposed express service on SR 408 and future BRT service on SR 50.
- **Intermodal Facility.** The establishment of a Park & Ride facility and transit center near the Turnpike and SR 50 would facilitate regional travel. This facility could be serviced by LYNX and LakeXpress local routes, as well as by Red Coach USA and GMG Transport.

Implementation Plan

- **Estimated Costs** for Short Term High Priority Regional Transit Investments
  - Capital and O&M costs provided for the recommended investments

Lake~Sumter MPO
Capital Costs

Lake / Sumter County			
-LakeXpress 1A Service and Spanish Springs Station Improvements	N/A	Enhanced Bus	$2,300,000
-LakeExpress 4 Service and US 19 / US 441 Improvements	N/A	Enhanced Bus	$2,300,000
-LakeXpress 5E / 5W Service Improvements	N/A	Enhanced Bus	$2,300,000
-SR 50 / Turnpike Intermodal Facility	N/A	Facility	$19,300,000

Lake~Sumter MPO
Annual *O&M Costs*

Lake / Sumter County		
-LakeXpress 1A Service and Spanish Springs Station Improvements	Enhanced Bus	$257,556
-LakeExpress 4 Service and US 19 / US 441 Improvements	Enhanced Bus	$686,817
-LakeXpress 5E / 5W Service Improvements	Enhanced Bus	$686,817
-SR 50 / Turnpike Intermodal Facility	Facility	$1,880,000

Implementation Plan

- **Potential Funding Sources** for Short Term High Priority Regional Transit Investments
  - Potential Federal Funding Sources were identified based on the following factors:
    - Ease of Application/Implementation
    - Revenue Generation Potential
    - Local Funding Requirement
    - Application Schedule
    - Local Acceptance
  - FDOT funding opportunities were also examined

Table 6.3: Preliminary Assessment of Federal Funding Sources

FTA Source	Ease of Application	Revenue Generation Potential	Local Funding Requirement	Application Schedule	Local Acceptance	Potential for Use / Issues
5309 New Starts	Medium. Rather long application, competition	High. Up to 50% of required funds	Medium. 50% or more local / state funding	Medium. Fall based rating process	Medium. Has been used in the region	Should be considered for BRT portions
5339 Bus Facilities	Medium. Need policy support	High. Up to 80% for some items	Medium. Depends on item	Medium. Annual appropriation	High. Previously secured	Should be considered for facilities
5307 / 5340 Formula	High. Annual	Low. Based on formula	Medium. For capitalized maintenance	High. Annual program	High. Transit agencies receive	Will support operations
5307 / 5311 Job Access	Low. Very Specific	High. 80% of program	Medium. Depends	Medium. Annual	Medium.	Could be used for express services
Flex Funds Title 23	Low. Somewhat long	High. Can be as much as 80%	High. Could be as low as 20%	Medium. On-going and as-needed	Low. Multiple Approvals	Requires region / DOT approval
STP	Medium. Given to State to allocate	Medium. Based on formula	Medium. Comparable to other programs	Medium. Annual	Low. Multiple approvals	Requires region / DOT approval
TAP	Low. Specific requirements	Medium. Same as other programs	Medium. Same as other programs	Medium. Annual	Low. Local program may not fit	May not be applicable
CMAQ	Medium. State allocations	Low. Typically used for operations	Medium. Comparable to other programs	Medium. Annual	Low. Local program may not fit	May not be applicable
BUILD	Medium. Rather long application, competition	Medium. Could fund smaller projects	Medium. Requires local / state funding	Medium. Fall based rating process	Medium. Has been used in the region	Should be considered for portions of facilities

Implementation Plan

- **Potential Funding Sources** for Short Term High Priority Regional Transit Investments
  - Potential FDOT funding opportunities were identified based on the following factors:
    - Ease of Application/Implementation
    - Revenue Generation Potential
    - Local Funding Requirement
    - Application Schedule
    - Local Acceptance
  - Local/Private funding sources were also examined

Table 6.4: Preliminary Assessment of State Funding Sources

State Source	Ease of Application	Revenue Generation Potential	Local Funding Requirement	Application Schedule	Local Acceptance	Potential for Use / Issues
New Starts Transit Program	Medium. Depends on Federal decision	High. Up to 25% of required funds	Medium. 25% or more local funding	Medium. Federal rating process	Medium. New Starts has been done in region	Should be considered with other funds for BRT
Intermodal Development Program	Medium. Parts of Vision Program applicable	High. Based on program costs	Medium. Depends on item.	Medium. Annual selection of projects	Medium. Case can be made on cross region items	Should be considered
Public Transit Block Grant Program	High. Annual, used for operations	Low. Based on formula	Medium. Supports local funding	High. Annual allocation	High. Transit agencies currently receive	Will support operations
Transit Corridor Program	Medium. Both Central office and District	High. Up to 50% of non Federal share	Medium. Depends on other funding	Medium. Annual discretionary	Medium. Depends on local competition	Should be considered
County Incentive Grant Program	Medium. Distributed to Districts	High. Can be as much as 50%	Low. Could be as high as 50%	Medium. Annual Discretionary	Low. Multiple Approvals	Requires County / DOT approval
Transportation Regional Incentive Program	Low. Based on Districts, based on SIS	High. Up to 50% of Project	Low. Could be as high as 50%	Medium. Annual Discretionary	Low. Multiple approvals	Requires region / DOT approval
Park & Ride Program	Medium. Application easy.	High. Up to 50% of the non-Federal share	Medium. Depends on Federal versus local funding	Medium. Annual allocation and application	Medium. This is an established funding source	Considered where Park & Ride part of program
Transit Corridor Development Program	High. Operations support request easy	High. Could fund operating deficit	Medium. Same as other programs	High. Could fund new route up to 3 years	High. Operations program may fit	Should be considered

Implementation Plan

- **Potential Funding Strategies** were developed for the Short Term High Priority Regional Transit Investments

Table 6.7: Potential Capital Funding Strategy

Project	Mode	Grand Total	Federal Share	Sources	State Share	Sources	Local Share	Sources
Lake/Sumter County								
LakeXpress 1A Service / Spanish Springs Improvements	Enhanced Bus	$2,300,000	$1,150,000	5339	$920,000	Corridor Dev./ Block Grant	$230,000	General Revenue / Gas Tax
LakeExpress 4 and US 19 / US 441 Improvements	Enhanced Bus	$2,300,000	$1,150,000	5339	$920,000	Corridor Dev./ Block Grant	$230,000	General Revenue / Gas Tax
LakeXpress 5E / 5W Service Improvements	Enhanced Bus	$2,300,000	$1,150,000	5339	$920,000	Corridor Dev./ Block Grant	$230,000	General Revenue / Gas Tax
SR 50/ Turnpike Intermodal Facility	Facility	$19,300,000	$9,650,000	5339 / BUILD	$4,825,000	Intermodal Dev./Park & Ride	$4,825,000	Partner Agreements

Next Steps / Challenges

- Long Range Regional Planning Involvement
- Local Planning and Development Involvement
- Private Sector Participation
- Regional Cooperation
- Utilization of Technology
- Commitment to the Environment
- Development of a Transit Amenity Program
- Allocation of Available and Potential Financial Resources to Meet Transportation Needs
- Cooperation in Setting Priorities

Questions?

https://metroplanorlando.org/board-committees/central-florida-mpo-alliance/

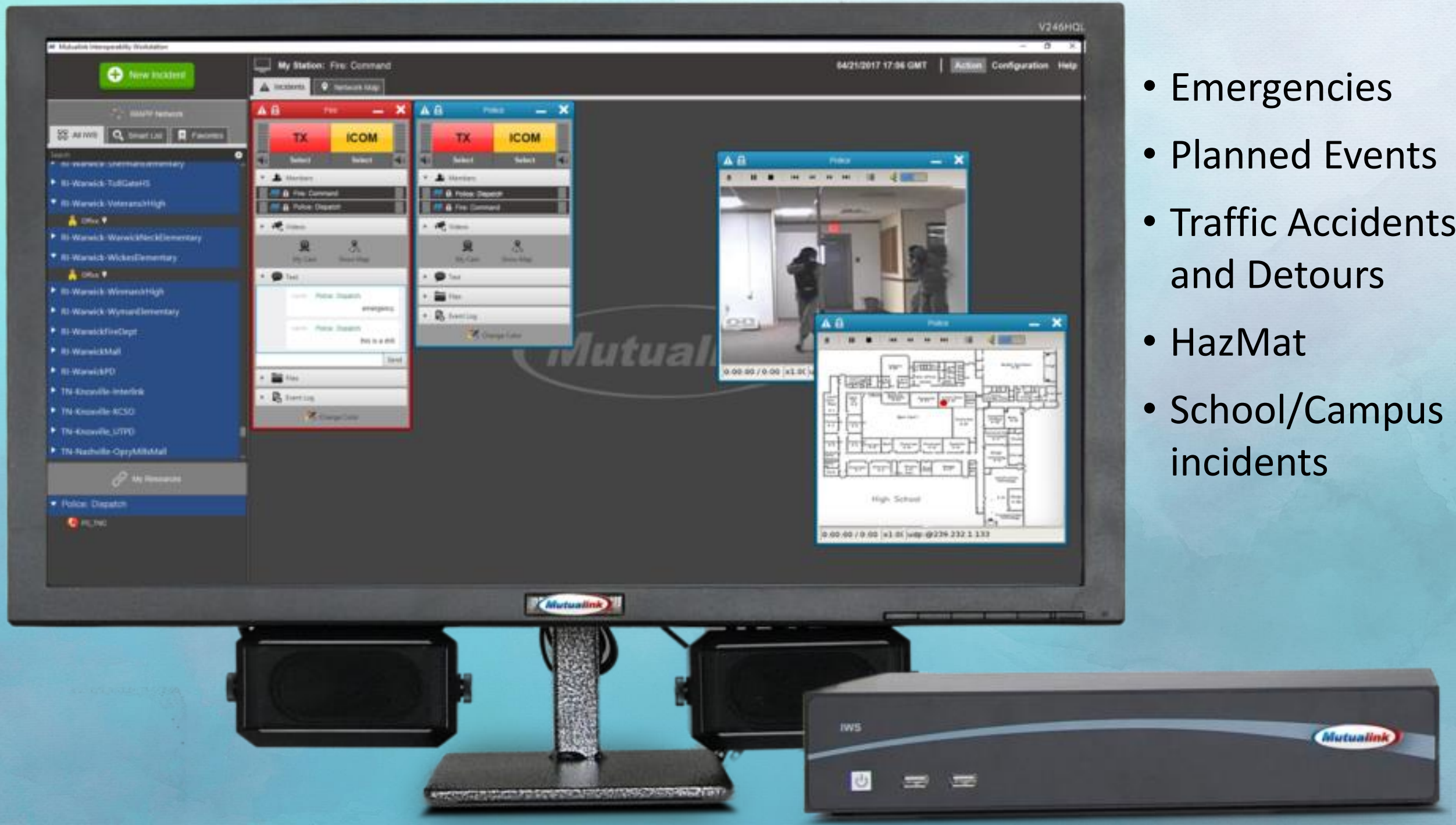
Mutualink
Incident Response Coordination

David Williams, VHB

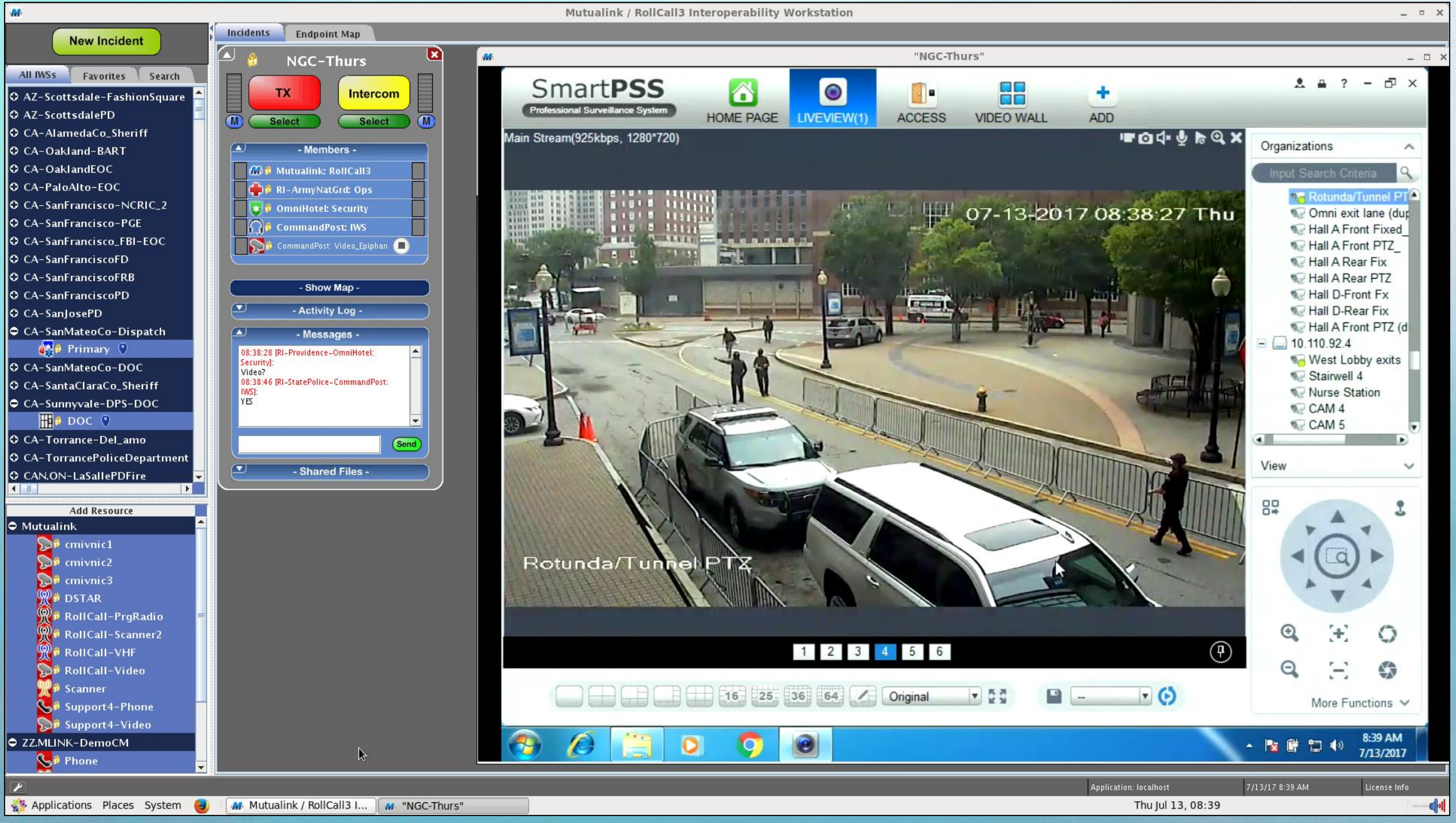
Transportation Systems Management & Operations

Mutualink – Emergency Response Coordination

- An interoperability platform to use existing communications systems to create talk groups with on-scene responders
  - Will enhance incident management communications to people on scene
- **Sharing video feeds, pictures, files, and communication** using radio or cellular
- Secure nation-wide network that can **bridge multiple secure domains**
  - Functional across jurisdictions - Federal, State, Local, Other
- Participation by invitation
- Very scalable and affordable platform; ties licenses to position, not person
- Screen scrapes to provide images or video
  - So it **does not write to your device and create public records**.



- Emergencies
- Planned Events
- Traffic Accidents and Detours
- HazMat
- School/Campus incidents


Mutualink / RollCall3 Interoperability Workstation
New Incident
All IWSs
Favorites
Search
AZ-Scottsdale-FashionSquare
AZ-ScottsdalePD
CA-AlamedaCo_Sheriff
CA-Oakland-BART
CA-OaklandEOC
CA-PaloAlto-EOC
CA-SanFrancisco-NCRIC_2
CA-SanFrancisco-PGE
CA-SanFrancisco_FBI-EOC
CA-SanFranciscoFD
CA-SanFranciscoFRB
CA-SanFranciscoPD
CA-SanJosePD
CA-SanMateoCo-Dispatch
Primary
CA-SanMateoCo-DOC
CA-SantaClaraCo_Sheriff
CA-Sunnyvale-DPS-DOC
DOC
CA-Torrance-Del_amo
CA-TorrancePoliceDepartment
CAN.ON-LaSallePDFire
Add Resource
Mutualink
cmivnic1
cmivnic2
cmivnic3
DSTAR
RollCall-PrgRadio
RollCall-Scanner2
RollCall-VHF
RollCall-Video
Scanner
Support4-Phone
Support4-Video
ZZ.MLINK-DemoCM
Phone
Incidents
Endpoint Map
NGC-Thurs
TX
Intercom
Select
Select
- Members -
Mutualink: RollCall3
RI-ArmyNatGrd: Ops
OmniHotel: Security
CommandPost: IWS
CommandPost: Video_Epiphan
- Show Map -
- Activity Log -
- Messages -
08:38:28 [RI-Providence-OmniHotel: Security]:
Video?
08:38:46 [RI-StatePolice-CommandPost: IWS]:
YES
Send
- Shared Files -
"NGC-Thurs"
SmartPSS
Professional Surveillance System
HOME PAGE
LIVEVIEW(1)
ACCESS
VIDEO WALL
ADD
Main Stream(925kbps, 1280*720)
07-13-2017 08:38:27 Thu
Rotunda/Tunnel PTZ
Organizations
Input Search Criteria
Rotunda/Tunnel PT
Omni exit lane (dup
Hall A Front Fixed_
Hall A Front PTZ_
Hall A Rear Fix
Hall A Rear PTZ
Hall D-Front Fx
Hall D-Rear Fix
Hall A Front PTZ (d
10.110.92.4
West Lobby exits
Stairwell 4
Nurse Station
CAM 4
CAM 5
View
1 2 3 4 5 6
16 25 36 64
Original
More Functions
8:39 AM
7/13/2017
Application: localhost
7/13/17 8:39 AM
License Info
Applications Places System
Mutualink / RollCall3 I...
"NGC-Thurs"
Thu Jul 13, 08:39

The ability to connect to other Organizations and Departments (i.e., other agencies, smartphones, tablets or departments).

Incident or day-to-day operation you agreed to be part of

Video Share

Activity Log

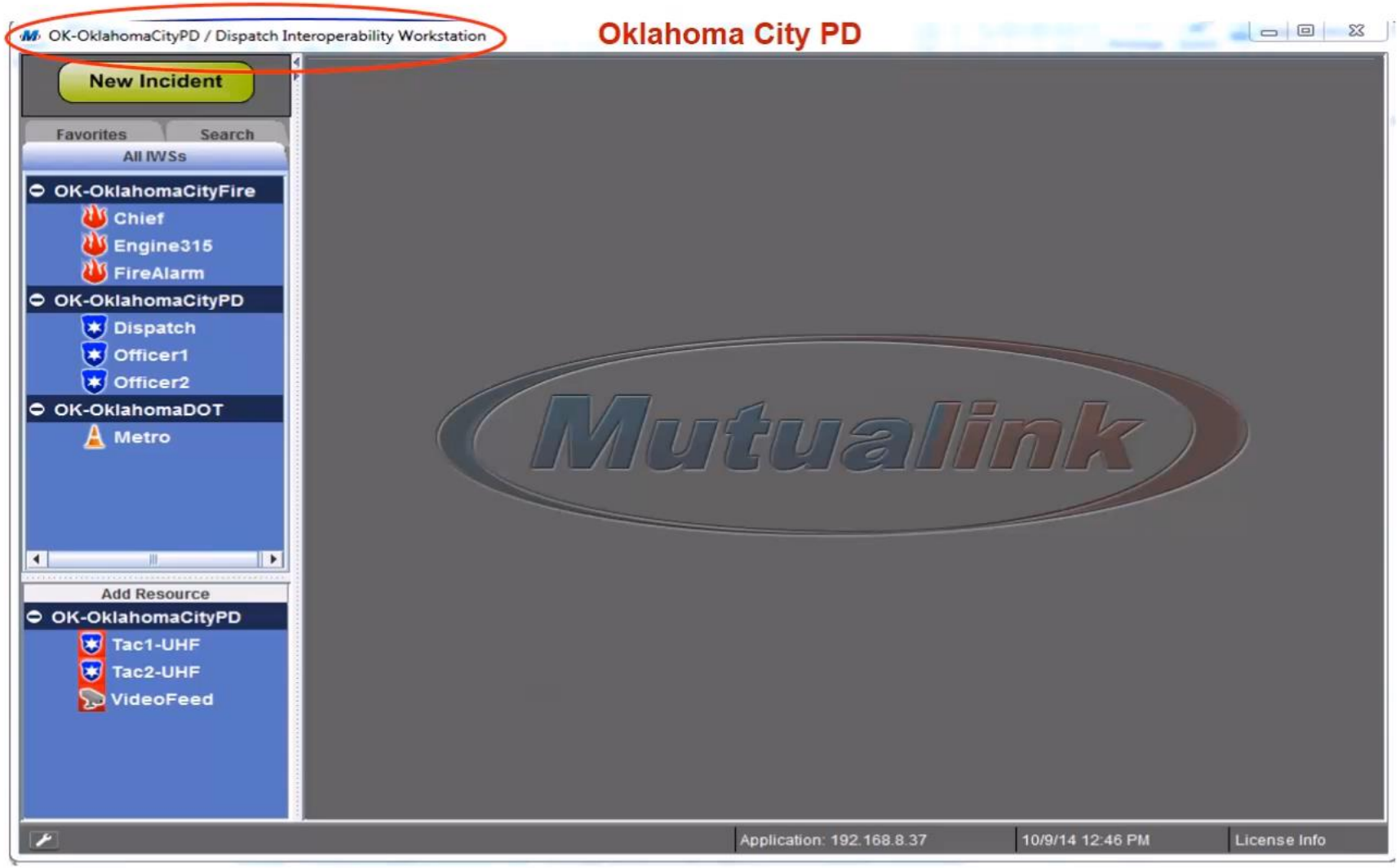
Chat

File Share

Your resources:
Radio channels
Video Feeds

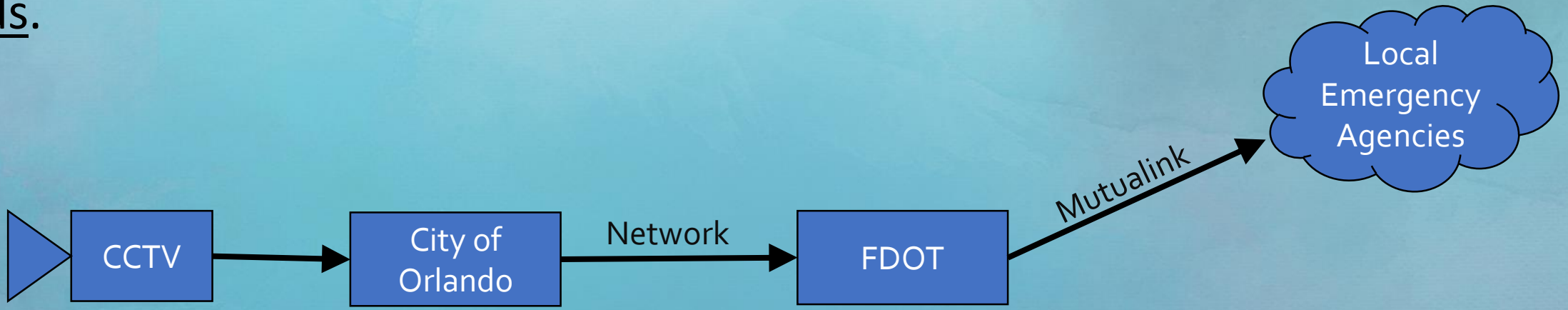
YouTube: “Mutualink Resource Sharing”

Creating NEW INCIDENT



Mutualink – Emergency Response Coordination

- Just purchased 12 licenses to test Mutualink
  - FHP, Road Rangers, RTMC has Mutualink in the TIM Group
- 6 of our 9 Counties already have it in some fashion
  - Sheriff, Fire and Rescue, Dispatch, etc.
- Very scalable and affordable platform that ties licenses to position, not person
- First on scene can also share with us. It screen scrapes to provide images or video, so it does not write to your device and create public records.



Questions?

For more information, visit:
www.Mutualink.net

Systems Engineering Update

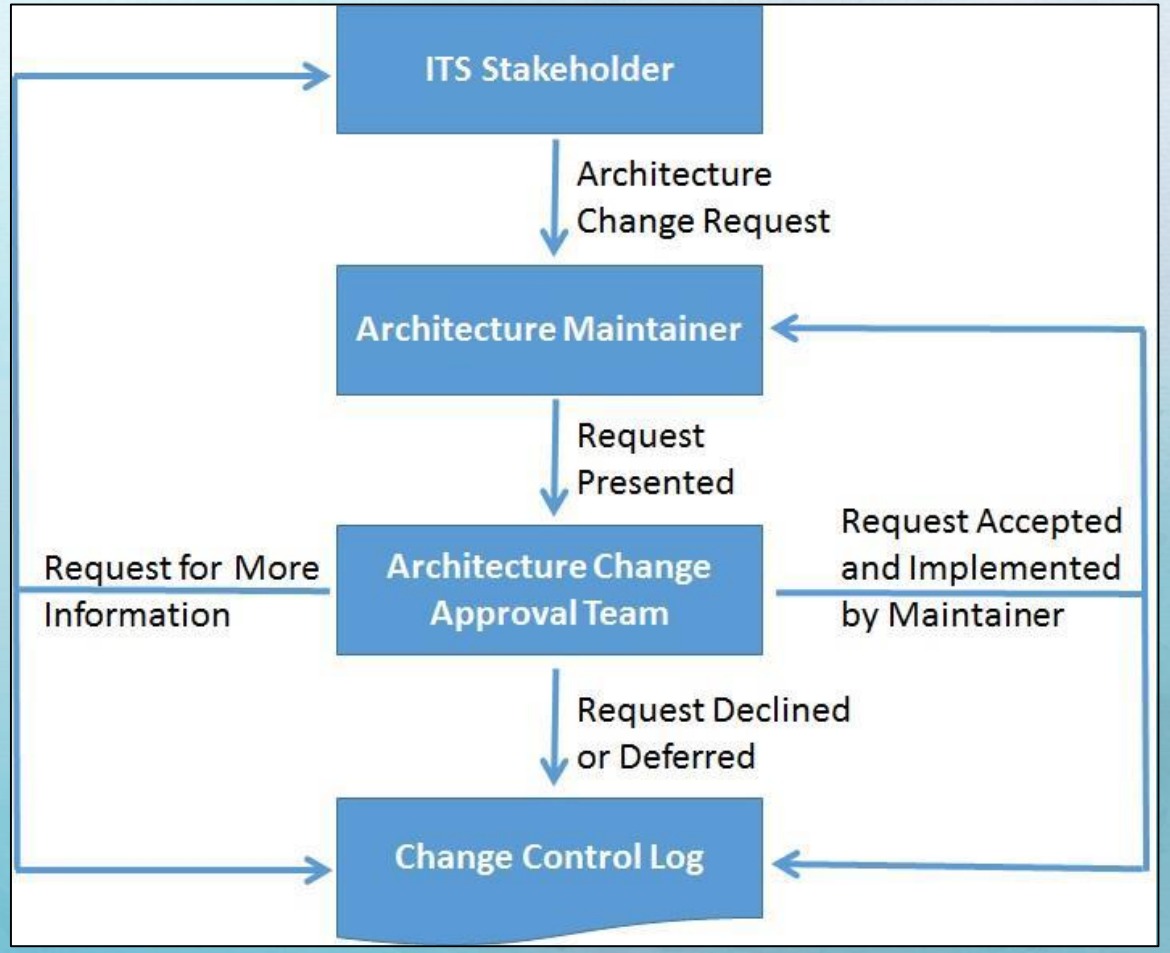
Jeremy Dilmore, District 5 TSM&O

Statewide Systems Engineering Update

- **In the process** of updating Procedure Form for FDOT Guidelines for the Implementation of Rule 940 **750-040-003b → 750-040-003c**
  - Simplifies form and clarifies agency roles
- FDOT District TSM&O Engineer(s) and CO TSM&O Program are responsible for maintaining RITSA
- For periodic (every five years) updates to the RITSA, the following process must be followed:
  1. Kickoff Meeting with Key Stakeholders
  2. Key Stakeholder Interviews
  3. Stakeholder Workshop for Presentation of Draft Architecture
  4. Stakeholder Review/Comment Period Before Finalization

Statewide Systems Engineering Update

- Exception maintenance (interim) will be conducted based on individual maintenance requests (Change Request)
- District TSM&O Engineer will coordinate with requesting agency and any other affected entities
- District TSM&O Engineer and CO TSM&O Program will evaluate the need for the change and analyze its impact
- CO ITS Section will track all change requests and record their outcome in a *change control log*



Process Utilized for Exception Maintenance of RITSA/SITSA

Local and Regional Agency Responsibilities

- Local Agencies
  - Responsible for working with District TSM&O Engineer to ensure that local systems are consistent with RITSA
  - Should have a working knowledge of SE and ITS architecture
  - Submit change requests (as needed) using the *ITS Architecture Change Request Form*[1]
  - Encouraged to participate in architecture stakeholder workshops to ensure their requested updates are included in periodic RITSA updates
- MPO / TPOs
  - Responsible for ensuring LRTP and TIP are consistent with the RITSA, in accordance with 23 CFR, Part 450.306(g)
- Central Office is developing a Systems Engineering training program
  - Module 1 (Intro) will be tailored to Local/Regional Agencies; emphasis on non-technical language

[1] http://www.cflsmartroads.com/projects/systems_engineering.html

Questions?

What's Next for the Central Florida Region?

Jeremy Dilmore, District 5 TSM&O

FDOT TSM&O
Transportation Systems Management & Operations

Transportation Systems Management & Operations

CENTRAL FLORIDA TSM&O CONSORTIUM

Work Program Timeline

Timeline	Work Program Activity
July 1st	Adopt TWP
July – January	Tentative Work Program (TWP) Gaming Cycle
July – September	Executive Team Policy and Funding Decisions
October 1st	Deadline for MPO Project Priority Lists
November – December	- 1st Year TWP due - CO Review of 1st Year TWP - Submittal of 1st Year TWP to Governor's Office - Five-Year TWP Public Hearings Held
January	- Close Gaming (within 14 days after comment period) - Districts submit TWP
February	- Executive Review; CO/Districts respond to comments received - Preliminary TWP submitted to Executive Office of the Governor and the Legislature at least 14 days prior to the legislative session convening
March – April	- Florida Transportation Commission Review & Public Hearing - TWP provided to Legislature within 14 days of Legislative Session convening
May – June	- Approve Budget - Regular Legislative Session ends (early May) - MPO / TPOs Establish Priorities for next TWP

Current Initiatives

Jeremy Dilmore, District 5 TSM&O

CV- and Operations-Readiness

Normalized Operational Equipment Management Initiative

- Goal: To create a visual interface that will help FDOT identify gaps and areas that are CV- and Operations-ready. This will also support planning for future infrastructure deployments.

- Application with geospatial data (GIS) showing equipment that is…
  - Planned to be deployed
  - Funded to be deployed
  - Deployed

Normalized Operational Equipment Management Initiative

- Phase 1: Identify “smart signalized intersections”
  - Is the intersection wired for optimal detection?
  - Is Intersection Movement Count (IMC) present?
  - Has the signal data from that intersection been collected?
    - If so, what are the characteristics of the assets?
  - Is this an ATC controller?
  - Has the intersection been added to the ATSPM list?

- Timeline:
  - Preliminary application available June 2019
  - Additional functionality to follow

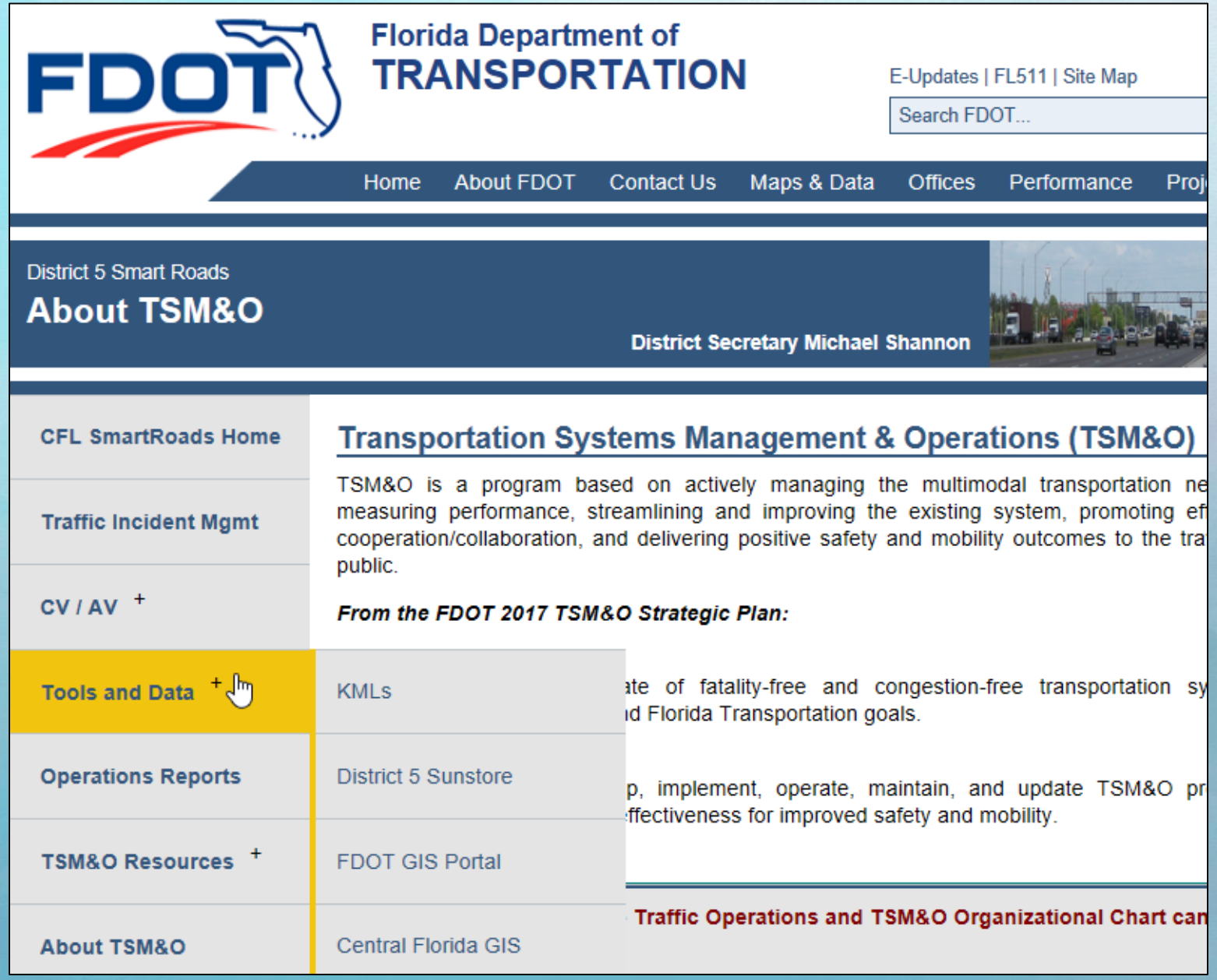
FDOT Firewall Update

FDOT Firewall Update

- All agencies connected to the old RTMC will be moved over to the new firewall as FDOT transitions to the new RTMC
  - Anything from the agency's assigned address space/range will be able to access FDOT's D5 space/range.
  - Agencies should allow FDOT's D5 10.32.0.0/16 range if a policy does not already exist.
  - If additional access is needed, agencies will need to request that from FDOT
  - No additional IP, Protocol, or Application filtering yet
    - Next phase, following confirmation everyone has successfully moved to new firewall without loss of service
  - The new connection will allow local agencies to peer directly without negotiating through D5.
    - Agencies wishing to communication should share their assigned firewall address and create policies to allow traffic as needed.

SunStore – Available Now

https://sunstore.cflsmartroads.com/

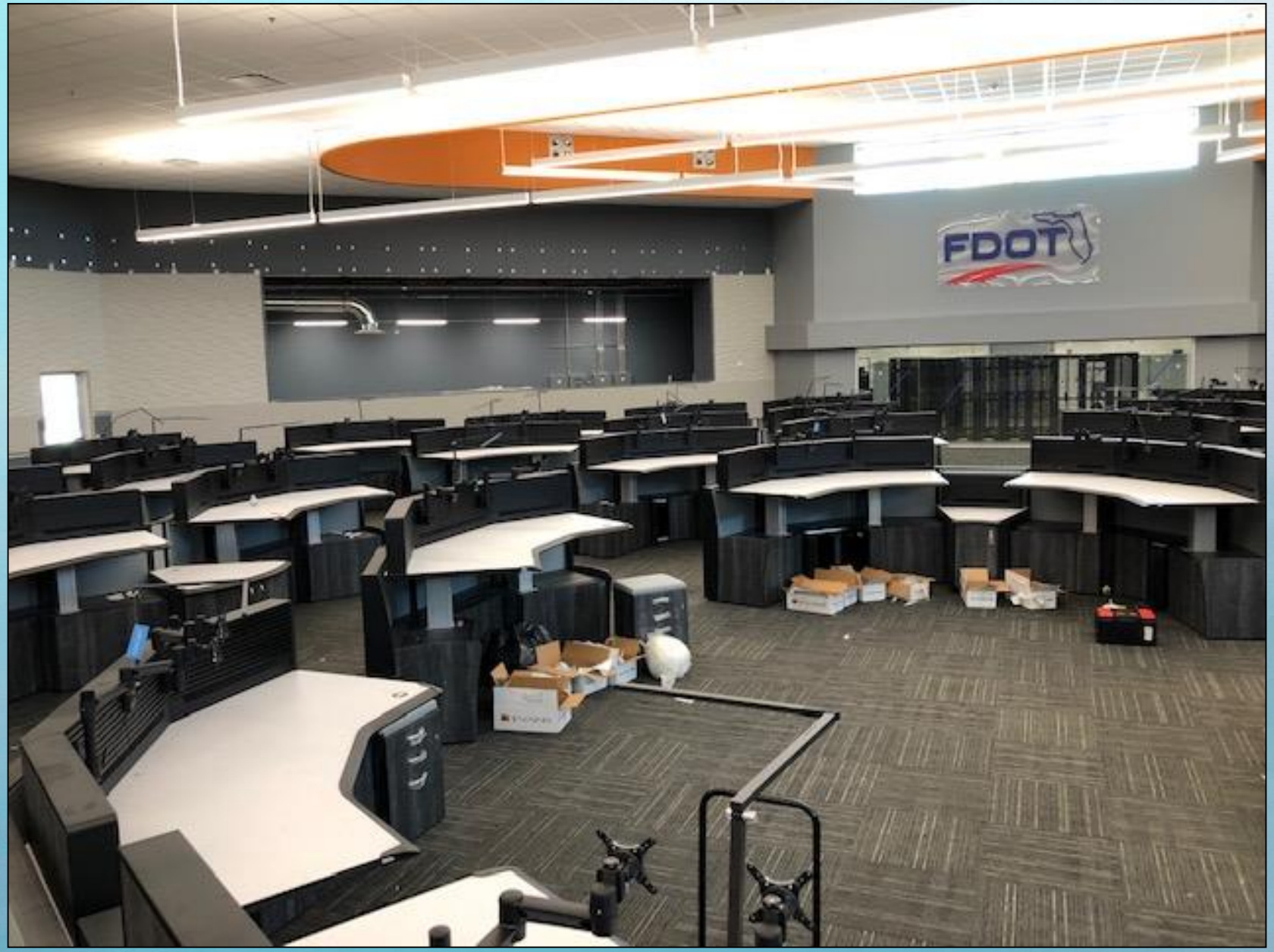


RTMC Pictures

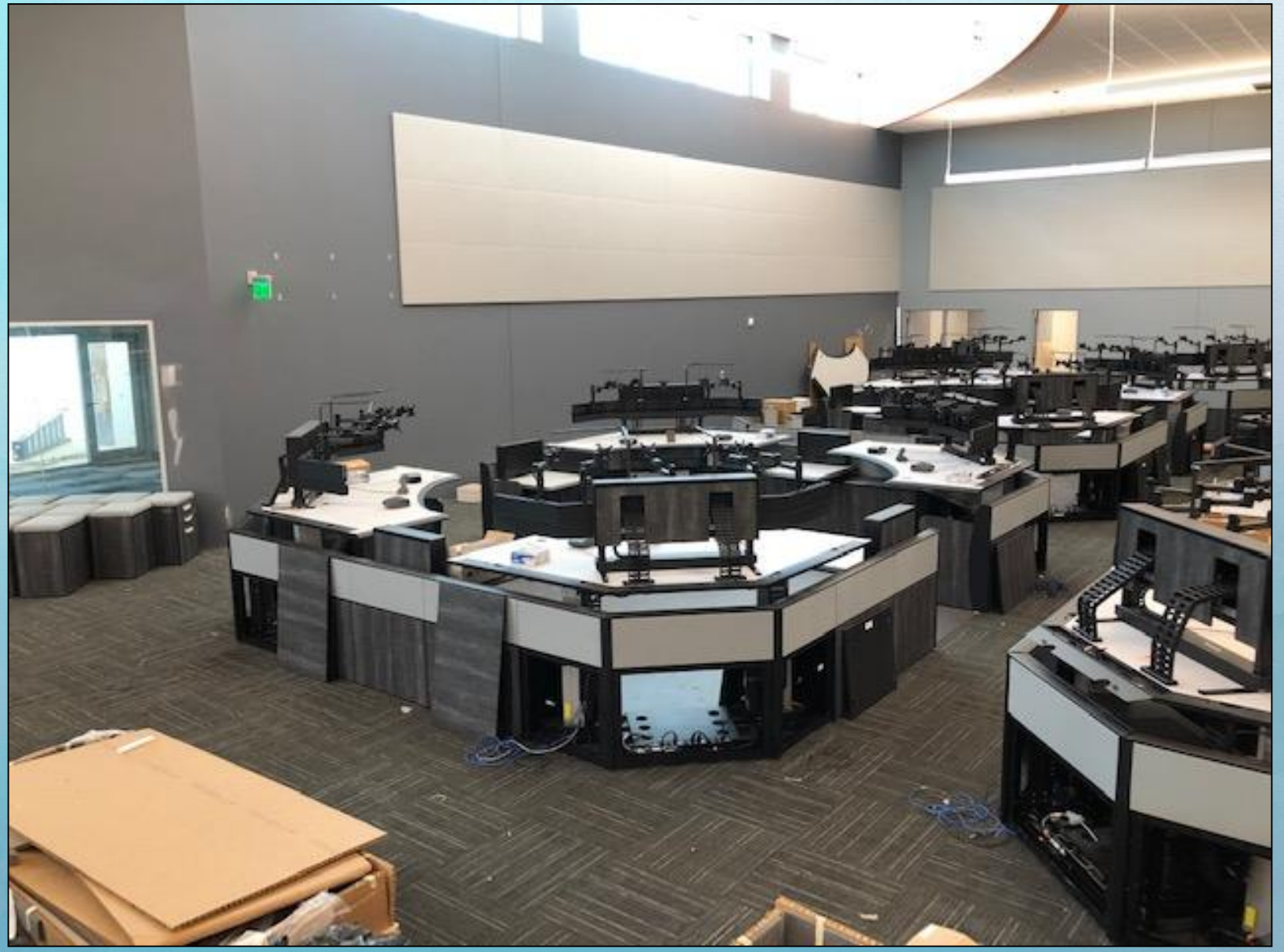
(taken mid-April)

Operations Floor

Operations Floor



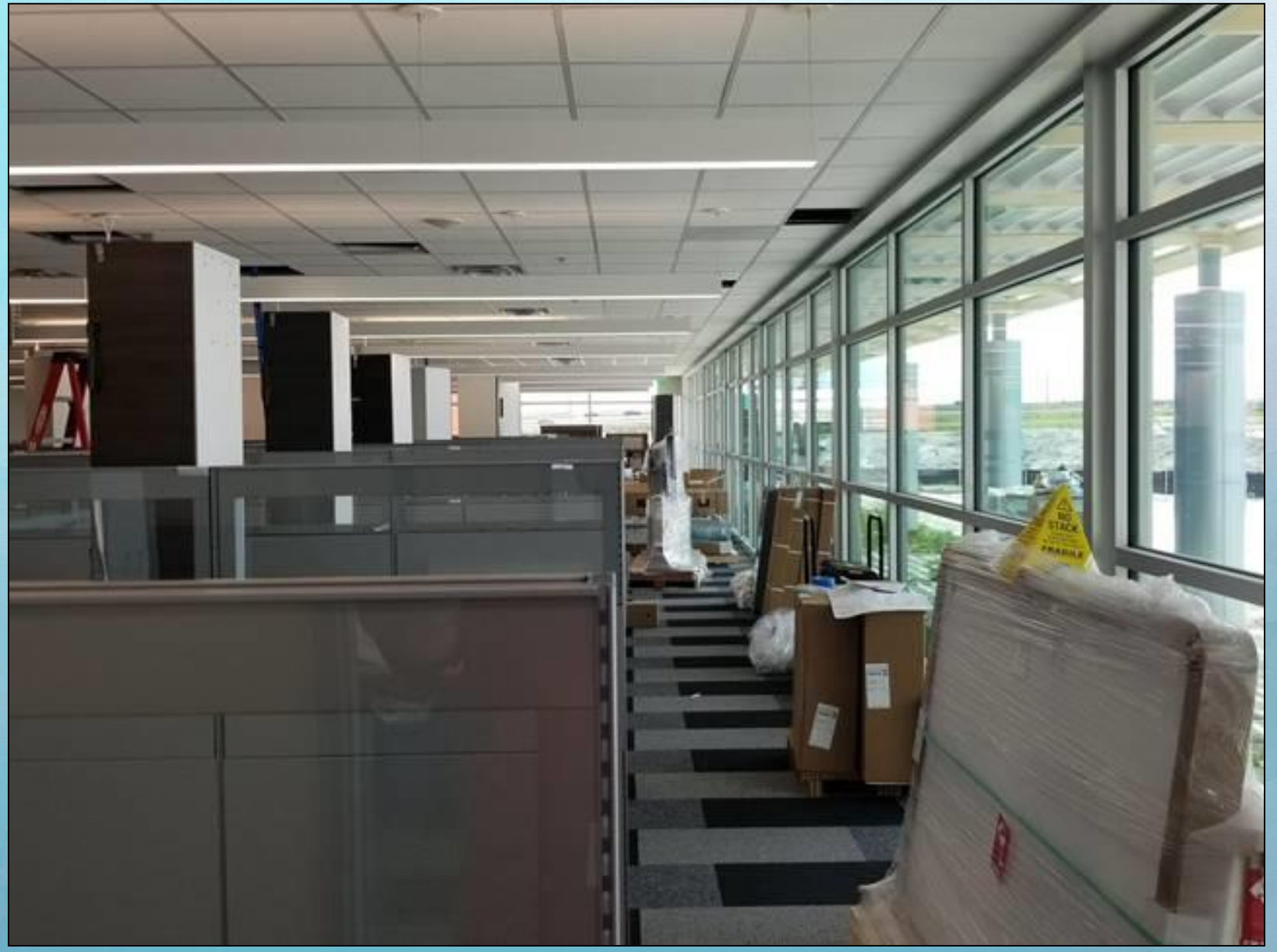
Operations Floor



Operations Floor

Breakroom

Cube City



Cube City

THANK YOU!

Next Consortium – June 27, 2019