



## CENTRAL FLORIDA TSM&O CONSORTIUM MEETING SUMMARY

---

**Meeting Date:** December 10, 2020 (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. I-4 CORRIDOR COALITION

Eric Hill briefly discussed the planned I-4 Corridor Coalition, a partnership between MPOs, TPOs, and FDOT within the I-4 region.

- MetroPlan has been working on this for at least 2 years
- The idea was to build more TSM&O planning at MPO/TPO level in Central Florida, particularly along I-4
- Build more technology into how we operate our transportation networks
- Didn't get much traction until Sarasota-Manatee MPO asked Eric to share some of the things MetroPlan has been doing
- Initial group of participating MPOs and TPOs
  - MetroPlan Orlando
  - Polk TPO
  - Hillsborough MPO
  - Pasco MPO
  - Sarasota/Manatee MPO
- Since June 2020, the MPOs in Central Florida have had discussions around starting this coalition
  - This is when the Corridor Coalition concept started to take hold
  - The annual Florida MPO meeting was in July
    - They leveraged the TSM&O successes and I-4 FRAME project in Central Florida/Tampa to pursue the
  - MPOs entered a MOA making a commitment to pursue this Corridor Coalition
  - have developed a MOU to move it forward
  - have identified a funding opportunity (STIC) State Transportation Innovative Council to support this Corridor Coalition
  - using funds to beef up the UPWP, TIP, LRTP, CMP, etc.

- One of MetroPlan Orlando's successes has been identifying champions on their Board
- The coalition started with just the five MPOs, but have expanded to include R2CTPO and SCTPO
- Name of coalition is still uncertain
- The MOA is not asking anything of MPOs except staff time (no funding obligation)
- Hoping to move forward in earnest in 2021
- Has heard from peers across the country that Florida's MPOs and the FDOT collaborative partnership is impressive
- 2021 expectations
  - creating working group of staff members (monthly/quarterly)
  - peer exchange
  - ironing out future of coalition; can we offer a value proposition for sustaining the coalition beyond 2021
- Center for Urban Transportation Research (CUTR) and Hillsborough is building out a *TSM&O 101* curriculum
- Jon Cheney suggested looking at [Agency Partners – Consortium for Innovative Transportation Education \(citeconsortium.org\)](https://www.citeconsortium.org)

#### Discussion:

- Steven Bostel commended Eric for taking this coalition task on; the SCTPO and Steven has wanted to expand the TPO's TSM&O program.

**Q:** Thinking of working with various organizations along the corridor for the TSM&O curriculum, have you had any conversations with other schools?

**A:** The primary focus has been with USF so far, with CUTR leading the effort. First want to roll it out to MPOs across the state to help staff becoming more versed in TSM&O. Also want to work with the Dean of Engineering at UCF to refine that TSM&O 101 so it can be added to the curriculum. Would start as serving as guest lectures in some of these classes. Some of these students are in very technical engineering courses and may not get exposed to TSM&O practices and programs until internships. Trying to find a way to expose them to TSM&O earlier in their learning process.

### III. CAPABILITY MATURITY MODEL – REGIONAL SELF-ASSESSMENT UPDATE

David Williams presented on the results of the Capability Maturity Model self-assessment sent out to public agency stakeholders prior to the TSM&O Consortium.

- Capability Maturity Model dimensions
  - **Business Processes** – formal scoping, planning, programming, and budgeting
    - Region (2017) – 2.14
    - Region (2020) – 2.80
    - Composite Agency (2020) – 2.20
  - **Systems & Technology** – use of systems engineering, systems architecture standards, interoperability, and standardization for design and implementation of systems
    - Region (2017) – 2.14

- Region (2020) – 2.70
  - Composite Agency (2020) – 2.13
- **Performance Measurement** – measures definition, data acquisition, and utilization for transportation planning/engineering and making a business case for operations
  - Region (2017) – 1.52
  - Region (2020) – 2.57
  - Composite Agency (2020) – 1.97
- **Culture** – combination of values, assumptions, knowledge, and expectations; technical understanding, leadership, outreach, and program authority
  - Region (2017) – 2.44
  - Region (2020) – 2.77
  - Composite Agency (2020) – 2.47
- **Organization & Workforce** – coordinated organizational functions and technical, qualified staff; staff development, recruitment, and retention
  - Region (2017) – 2.28
  - Region (2020) – 2.53
  - Composite Agency (2020) – 2.23
- **Collaboration** – coordinated performance of each partner; regular, effective collaboration across partner organizations
  - Region (2017) – 2.45
  - Region (2020) – 2.97
  - Composite Agency (2020) – 2.46

Dimension	2014* / 2017 Regional Assessment	2020 Regional Assessment	Delta (2017 → 2020) Regional Assessment	Composite Score “Public Agency”
Business Processes	1.50 → 2.14 →	<b>2.80</b>	<b>+0.66, 31%</b>	<b>2.20</b>
Systems & Technology	1.50 → 2.14 →	<b>2.70</b>	<b>+0.56, 26%</b>	<b>2.13</b>
Performance Measurement	1.33 → 1.52 →	<b>2.57</b>	<b>+1.05, 69%</b>	<b>1.97</b>
Culture	1.25 → 2.44 →	<b>2.77</b>	<b>+0.33, 13%</b>	<b>2.47</b>
Organization & Workforce	1.50 → 2.28 →	<b>2.53</b>	<b>+0.25, 11%</b>	<b>2.23</b>
Collaboration	2.00 → 2.45 →	<b>2.97</b>	<b>+0.52, 21%</b>	<b>2.46</b>

- Discussion during previous Consortium meeting (October 2020)
  - Mainstreaming has been a solid process; MPOs have shown understanding of TSM&O with their Master Plans
  - Continuing to build business case
  - A lot of individual project successes
  - Workforce development
    - hasn’t developed as strongly as would like
    - this is an area where we still need a lot of focus
  - **It is likely time to revisit our Capability Maturity<sup>i</sup>**

- expect *Organization & Workforce* to jump out as a priority
  - Many successes, almost entirely because of the coordination and collaboration within the region

## NOTES

- Reviewed major topics and discussions from 2017 to 2020
- There have been a lot of improvements
- What are our biggest areas of need?
- Eric Hill – used CMM with the MPOs; there’s no way for us to really grade ourselves on the Systems & Tech component
  - David – the ITS Master Plans were actually a key component of improving that score
- Eric Hill – workforce development taskforce was just created. Will work with high schools, trade schools, community colleges to work on this effort. Have also received outside interest as well.
- Eric Hill – Strengths → how do we leverage our political assets? We were able to get TSM&O into the MPOAC; that political body will begin supporting TSM&O efforts more often
- Eric Hill – Opportunity → COVID has accelerated the opportunity to advance TSM&O at the local/regional level
- Steven Bostel – weakness? trying to get a broader TSM&O program going, but Steven is just one guy. It has been a challenge to balance his available time to give TSM&O more time. Staff time is a weakness, but the SCTPO is working to provide more time for TSM&O focuses.
  - Jeremy – one thing I was not aware of is how much work had to go into local agency TMCs at the staff level; this was stretching resources thin. Is this a consistent issue at TMCs of taxing staff resources?
    - Steven indicated Brevard would agree
    - Hazem indicated moving in the right direction
- Masood Mirza – would like to see a bit more formal dialogue between agencies
  - Jeremy – agreed. we want to be conscious of serving the public as best we can. We do want to be sure to maintain autonomy for local agencies; it’s a good point that we can have better coordination in the region overall (not specific projects)
- Masood Mirza – can you elaborate on your work to convey these efforts to elected/appointed officials?
  - Jeremy – most of my conversations are based on invitations from various groups/agencies. The Department is starting to move toward more strategic discussions with local and regional agencies.
  - Hazem El Assar – Eric has been doing a great job presenting Before/After studies to the Board to improve TSM&O’s outlook; it would be good to provide similar Before/After analyses for other TSM&O-related projects
    - Jeremy – agreed. I would look at the MPO as the best forum to share this information. Do you all agree?
      - Eric – Agreed. It would be great to stop defending the work we do and start reporting on the great work we do. Maybe every quarter or so we should identify a TSM&O project to be reported on; if positive outcome, great; if negative outcome, see it as an opportunity to improve
    - Steven – In regard to most improved, Road Rangers, the TIM program, RISC implementation, and Event Management has been great here in Brevard!
- Jon Cheney – goals for the region has been what we’ve been talking about; identifying regional TSM&O projects to be reported on at the MPO Alliance; retiming projects to be reported on;

when talking about construction projects, would be a great opportunity to also discuss TSM&O projects such as the retiming projects

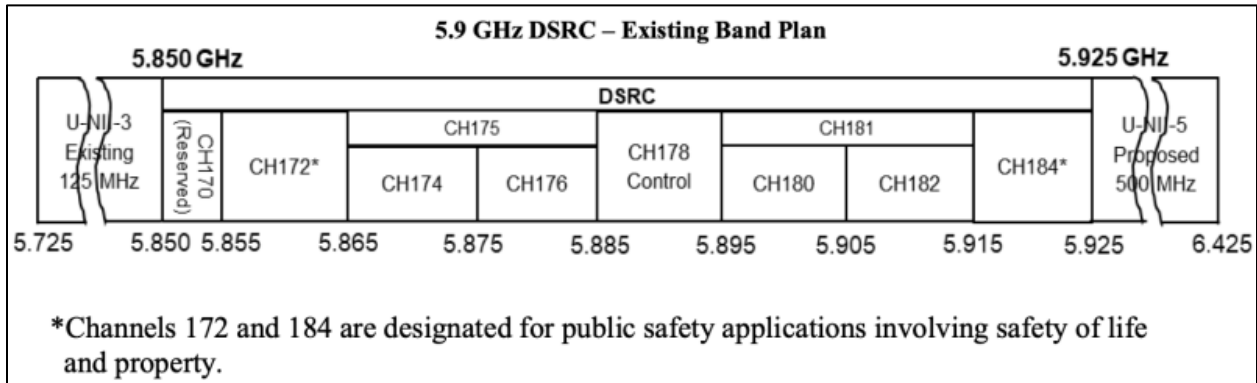
- Eric – MetroPlan Orlando coordinates and sets the agenda for the MPOAC; we can start to include TSM&O projects and their status alongside construction projects. They meet quarterly so it may be worthwhile for one of us to present on these projects during the meetings.
- Jeremy – we have the data; if we can report it to the MPOAC in a digestible format, not too granular and not too ethereal, that would be a great benefit to TSM&O in the region
  - “Here’s the reduction in travel time.”
- Masood – I appreciate the project-level data, but it would be great to present region-wide data, such as reduced congestion overall, reduced emissions, reduced noise pollution, etc.
- Jon – let’s start with the fundamentals... we’re supposed to retime signals every 3 years; need to report how we’re doing on that goal/requirement
  - my concern is that when we’re explaining things to the public and elected officials, we need to focus on providing a baseline for comparison’s sake
  - Colleen reinforced Jon’s discussion points. during meetings the TPO received the FDOT report on projects, but they’re rarely discussing TSM&O-related efforts. When the TPO does discuss TSM&O during its Board/Committee meetings, conversation usually goes into CAV projects. It would be good to provide additional information on the large number of TSM&O-related projects within their jurisdiction.
    - Jeremy – how much is regional and how much is within the TPO area? Would there need to be a separate report for your specific TPO, or would it be helpful to see projects/successes outside the TPO area?
      - Colleen – it would be good to have the TPO-specific, and then another region-wide report in the event some successes/failures pique their interests or inform the TPO’s decision-making
    - Jeremy – on the CAV side,
      - Colleen – there was concern when developing the ITS Master Plan as to how it would affect the bottom line (\$\$); if they were signing on to provide additional services/products/etc
      - Jon – most of the citizens/officials love infographics; lets keep the data as simple as possible so they’re digestible
    - Massoud – when developing dashboard/report, it would be good to include secondary data benefits (Reduced Congestion → Improved emergency response response times)
- Steven – Since there are many different areas of TSM&O it might be a good idea to highlight certain areas at different times rather than try to include them all in one report. Maybe Incident/event management one quarter and signal performance another quarter I think road rangers would be a good start
  - Jeremy – I think that would help make it more manageable and understandable. When you show too many aspects of TSM&O it can get overwhelming
- Brent Poole – how to strengthen ourselves through technology. It involves improving our understanding of technology. We can improve on this by identifying future tech, cutting edge, etc., and conveying that first to the technical group (TSM&O Consortium) and then to the traveling public

- Jeremy – there are more and more conversations about partnerships, particularly bringing in private partners. One thing we saw was some private groups were impressed with the scope of data available in our region. There may be an opportunity to engage these private entities about what we have available for them, encouraging them to potentially deploy pilots and test projects in the region
  - Hazem – have looked into this. Keep in mind this can be time-consuming with limited staff resources.
  - Eric – are you looking for a conduit?
    - Jeremy – CFAVP has been seen as potentially filling at least part of this need. There’s been a variety of talks about this. The Department doesn’t typically fill that role. Aware of individual agency discussions with external partners; do we want to have a regional conduit instead? Or do we not want to do that at the regional level?
    - Steven – Jeff Sheffield at North Florida TPO has the **Smart North Florida** group that’s open to public and private entities
- Eric – would be good to show how TSM&O impacts freight, bike/ped, motorists, EVs, etc.
  - Masood – we have to be careful about tying TSM&O improvements/impacts to non-vehicular modes; at the end of the day, these improvements if they are successful will add more cars to the system
  - Jon – I know LYNX has been working on extending the green for transit service in congested areas
    - Jeremy – we can track the activations of the extended green; as far as the impact, we have seen improvements, just not to the extent that we had hoped in Phase 1. We saw some lessons learned in the hardware and have also seen some long-term costs.
    - Doug Jamison – something else to consider is not just is the bus reliable, but did the improvement keep LYNX from having to deploy another bus into service, which greatly benefits the agency
    - Jeff Weatherford – its about moving people. By improving the reliability of the bus, we can increase travelers using the bus.
      - Jeremy – agreed.
      - Doug – we just completed 100% APC on all buses, which will help us make the case for increased person throughput
- Eric – would it be worthwhile to have David present to our Board/Committees on the self-assessment, as an outcome unto itself?
  - Jeremy – that sounds like a good idea. I just need to get blessing on it.
    - Jon – if we did this, our individual agencies may want to know how their specific agency scored, as opposed to the composite score
- Jeremy – are there any other thoughts regarding other dimensions, focus areas, etc.?
  - please feel free to email Jeremy or David if you have other thoughts

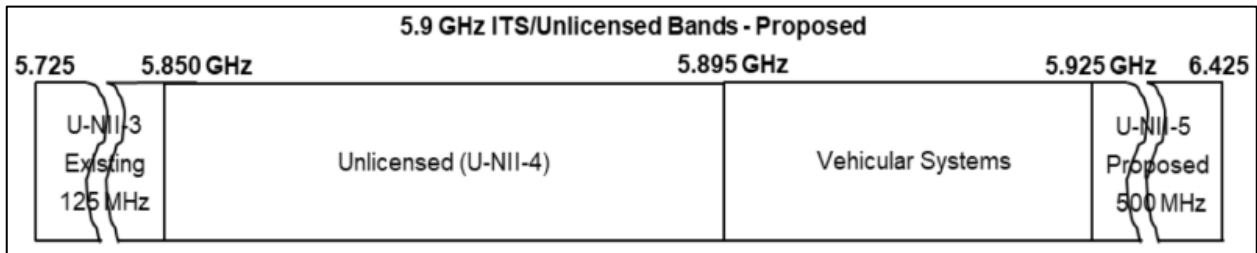
**IV. SAFETY SPECTRUM – UPDATE (DSRC / C-V2X)**

David Williams presented on the latest status of the 5.9 GHz Safety Spectrum.

- Safety Spectrum consists of 75 MHz within the 5.9 GHz band (5.850 – 5.925 GHz)
- Currently reserved for Dedicated Short Range Communications (DSRC)
  - intended to allow for “ubiquitous transportation and vehicle-related communications” exclusively, limiting interference



- advocated have argued that reducing transportation/vehicular communications allotment would lead to increased safety hazards
- Due to popularity of WiFi, there are some estimates that up to 1.6 GHz on the communication band would need to be freed up by 2025
- The Federal Communications Commission recently voted 5-0 in favor of opening the lower 45 MHz to unlicensed uses (WiFi)
- Proposed new Safety Spectrum band allocation
  - The upper 30 MHz of the Safety Spectrum are allocated for ITS systems
    - C-V2X has been designated as the technology standard for safety-related transportation and vehicular communications
  - The lower 45 MHz would be opened to unlicensed uses (WiFi)



- FCC Chairman Pai argued that DSRC has not been meaningfully implemented and the safety band has been largely unused as a result
- C-V2X is the route things are heading in; the vote seems to signal the end of DSRC
- There is the potential for the incoming administration changing this vote, but the timeline on that would be 3 years before DSRC makes a comeback... in all likelihood, it is going to be C-V2X moving forward
- If someone is offering you a great deal on DSRC, would strongly encourage you to pass

- The Department has been testing and recently deploying dual-banded radios since they’ve become available
  - most of the region’s investments are still in good shape
- For those DSRC units that are deployed, there’s not many of them, we can have offline conversations

**V. TAPs-LA FY2022**

Jeremy Dilmore briefly discussed the Technology Application Partnerships with Local Agencies (TAPs-LA) FY22 program, which kicked off in December 2020.

- Funded provided by FDOT’s CAV Program (Central Office)
  - \$2,000,000 total – up to \$500,000 per project
- CAV funds can be applied to state roads only; local match is suggested
  - local match funds can be applied to state or local roads
- Projects must be funded and implemented in FY22
- Eligibility – City, County, Public Transit, Port, Airport
- Before/After study is required (led by FDOT District)

*Table 4: Project Selection Criteria and Scoring Matrix*

Categories	Criteria	Maximum Points
Accelerate the CAV Program	Does this project accelerate the deployment and implementation of CAV technologies in Florida?	6
Safety	Does this project directly reduce or have the potential to reduce fatal, serious injury, and/or secondary crashes?	20
Mobility	From a mobility perspective, does this project directly benefit at least one mode, ie, vehicles, pedestrians, bicyclists, disabled, economically disadvantaged, and aging road users?	15
Efficiency and Reliability	Does this project directly benefit (or have the potential to impact) efficiency and/or reliability for travelers, freight, transit riders, aging road users, pedestrians, and/or bicyclists?	5
Feasibility	Do proposed technologies comply with or have the potential to comply with relevant state and federal safety laws?	10
	Is the proposed project interoperable and/or does it have the potential to become interoperable with the existing or programmed CAV Projects?	
Funds	Does this project leverage local funds If the project will involve industry partners, in addition to FDOT and the local agency, will there be a structured memorandum of understanding (MOU) spelling out the roles and responsibilities of all partners?	10
Benefit/Cost	Does this project offer benefits with a high B/C ratio and a good return on investment?	6
Data and Security	Explain how the project will safeguard data privacy and deploy a cybersecurity platform.	10
Operations and Maintenance	Does this project address staffing, funding, and procedures for operations, maintenance, and replacement of CAV infrastructure, technologies, and applications?	8
Project Evaluation	Does this project have pre-defined performance measures? What are the expected outcomes and how are these outcomes measured?	5
	Is there a systems validation and verification process in place? Explain how this will be performed.	
Management Structure	Does the project offer a management structure to deliver the outputs with safety and mobility goals?	5
<b>Maximum Total Points</b>		<b>100</b>



Schedule Item	Due Date
Districts receive TAPs-LA document	December 8, 2020
Districts begin TAPs-LA local agency engagement	December 15, 2020
DTOEs receive proposals	March 1, 2021
DTOEs send recommended proposals to Central Office	March 12, 2021
Brief TSM&O Leadership Team	March/April 2021
Central Office selects project proposals	April 2, 2021
Districts/CO work on getting funds into Work Program for state roads; local agency secures funding for local roads	April 4, 2021 through August 1, 2021
Districts and local agencies begin implementing awarded projects	August 15, 2021

## VI. CURRENT INITIATIVES

Jeremy Dilmore briefly provided an update on the District Five ITS Master Plan IT Standards.

- ATTAIN
  - AV Shuttle (COAST) going on UCF campus. Utility project impacted schedule, but working around this. One pending item before testing begins during winter break.
    - Will begin service in January
  - PedSafe
    - folks from Atkins will be reaching out to ensure Gridsmart devices are working
    - Passive Ped detection and LiDAR units
      - this is using LiDAR, not computer vision
      - integration is in the final stage; delaying it a bit to replace DSRC units with C-V2X
  - R-ICMS Software
    - training in January for different positions; will be recorded and posted on a website as good documentation
      - schedule TBD
    - February launch date has been pushed back
  - TSP Phase 3
    - Phase 2 is being updated still
    - Will work with Doug (LYNX) to improve
- TAPs-LA Osceola County
  - Working with County to coordinate with consultant
  - This has to do with bringing computer vision to recognize vehicle movements and improve safety/congestion; more of a test run and kicking the tires on computer vision
- Wowza – Service to allow you to share video
- Bluetooth Changeout

- expected to receive devices last month; delayed into this month. Pinged vendor again. May be January or February before we receive the devices.
- SunStore
  - adding CV data into SunStore
  - TMDD data has been made available as well
- Equipment Deployment
  - continuing to rollout hardware to get folks over the ATC controllers
- I-4 Ultimate
  - GUL completion end of this year
  - onboarding our R-ICMS software soon, and then jumping into Managed Lane software
- Jon Cheney
  - Any agency's using drones for traffic studies, incident management, accident investigations, etc.?
  - We're starting our FY 21-22 budget; staff want to purchase a drone.
  - Jeremy – we have worked on getting approval for using drones at the Department. We do not have approval yet.
    - Sheryl has also been looking at it for incident clearance; still no approval
    - There is currently proposed legislation in the Florida Senate (SB 44) that would expand the authorized use of drones by law enforcement agencies, including to facilitate a law enforcement agency's collection of evidence at a crime scene or traffic crash scene
      - <https://myfloridahouse.gov/Sections/Bills/billsdetail.aspx?BillId=70104>
- Steven Bostel – Has anyone been contacted by a company to put digital advertisement signs on signal cabinets? If so, what were your experiences?
  - Jon indicated the County's ordinance prohibits these within their jurisdiction
  - Jeremy will investigate this more
    - Cabinet at 532 and 434 has an ad on it

## VII. NEXT MEETING

- February 4, 2021

## VIII. 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](mailto:dwilliams@vhb.com) so the meeting summary can be finalized.*

---

<sup>i</sup> Capability Maturity Framework for TSM&O Program Areas (FHWA).  
<https://ops.fhwa.dot.gov/publications/fhwahop16031/index.htm>

# Welcome to the TSM&O Consortium Meeting December 10, 2020



# Meeting Agenda

1. Welcome
2. I-4 Corridor Coalition
3. Capability Maturity Model – Regional Self-Assessment Update
4. Communication Spectrum (DSRC / C-V2X) – Update
5. Current Initiatives

# I-4 Corridor Coalition

Eric Hill, MetroPlan Orlando

# Capability Maturity Model Regional Self-Assessment Update

David Williams, VHB

Jeremy Dilmore, FDOT District Five TSM&O

# Capability Maturity Model

- “The Capability Maturity Model (CMM) is a management tool designed to guide improvement in the effectiveness of TSM&O as a program on a continuous, evolutionary basis.”
  - It combines key features of quality management, organizational development, and business process concepts; longstanding tools in transportation agencies
- Intended to guide continual improvement from level to level in six different dimensions of capability

**Business Processes**

**Systems & Technology**

**Performance Measurement**

**Culture**

**Organization & Workforce**

**Collaboration**



# Business Processes

- Activities such as planning, programming, agency project development, human resource management, contracting and procurement, agreements
- Business process elements go beyond day-to-day operational activities and require broader institutional support and involvement

# Business Processes

- **Level 1** – TSM&O processes ad hoc and un-integrated
- **Level 2** – Multiyear TSM&O plan/program exists with deficiencies, evaluation, strategies
- **Level 3** – TSM&O programming, budgeting, project development processes standardized and documented
- **Level 4** – TSM&O processes streamlined and subject to continuous improvement

# Business Processes

- **Level 1** – TSM&O processes ad hoc and un-integrated
- **Level 2** – Multiyear TSM&O plan/program exists with deficiencies, evaluation, strategies
  - Region (2017)  
2.14
  - Region (2020)  
2.80
  - Agency (2020)  
2.20
- **Level 3** – TSM&O programming, budgeting, project development processes standardized and documented
- **Level 4** – TSM&O processes streamlined and subject to continuous improvement

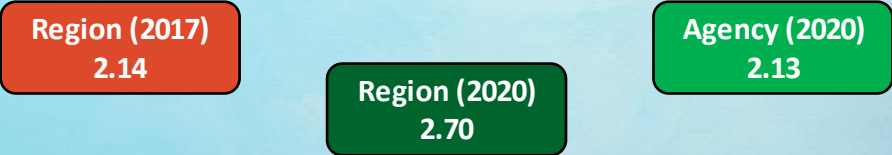
# Systems & Technology

- Use of **appropriate processes for design and implementation of systems** to ensure the needs are appropriately addressed, that **systems are standardized** and implemented in an efficient manner, and interoperability with other systems is achieved

# Systems & Technology

- **Level 1 – Ad hoc** approaches independent of systems engineering process
- **Level 2** – SE employed and consistently used for ConOps, architecture, and systems development
- **Level 3** – Systems and technology **standardized, documented, and trained**, and new technology is incorporated
- **Level 4** – Systems and technology routinely upgraded and utilized to improve efficiency performance

# Systems & Technology

- **Level 1 – Ad hoc** approaches independent of systems engineering process
- **Level 2 – SE** employed and consistently used for ConOps, architecture, and systems development 

Category	Year	Score
Region	2017	2.14
Region	2020	2.70
Agency	2020	2.13
- **Level 3 – Systems and technology standardized, documented, and trained,** and new technology is incorporated
- **Level 4 – Systems and technology** routinely upgraded and utilized to improve efficiency performance

# Performance Measurement

- Means of determining program effectiveness, determining how changes affect performance, and guiding decision-making
- PMs can be used to **demonstrate the extent of transportation problems** and can be **used to make the business case** for operations within an agency, and for decision-makers and public
- PMs can be used to further demonstrate accomplishments of investments on the transportation network

# Performance Measurement

- **Level 1** – No regular performance measurement related to TSM&O
- **Level 2** – TSM&O strategies measured largely via outputs, with limited post-deployment analyses
- **Level 3** – Outcome measures identified and consistently used for TSM&O strategies improvement
- **Level 4** – Mission-related outputs/outcomes data is **routinely utilized for management, reported internally and externally**, and archive for later use



# Performance Measurement

- **Level 1** – No regular performance measurement related to TSM&O

Region (2017)  
1.52

- **Level 2** – TSM&O strategies measured largely via outputs, with limited post-deployment analyses

Region (2020)  
2.57

Agency (2020)  
1.97

- **Level 3** – Outcome measures identified and consistently used for TSM&O strategies improvement
- **Level 4** – Mission-related outputs/outcomes data is **routinely utilized for management, reported internally and externally**, and archive for later use

# Culture

- Combination of values, assumptions, knowledge, and expectations of agency considering its institutional and operational context
- Technical understanding, leadership, outreach, and program authority

# Culture

- **Level 1** – Value of TSM&O not widely understood beyond champions
- **Level 2** – Agency-wide appreciation of the value and role of TSM&O
- **Level 3** – TSM&O accepted as a formal core program
- **Level 4** – Explicit agency commitment to TSM&O as key strategy to achieve full range of mobility, safety, and livability/sustainability objectives

# Culture

- **Level 1** – Value of TSM&O not widely understood beyond champions
- **Level 2** – Agency-wide appreciation of the value and role of TSM&O
  - Region (2017) 2.44
  - Region (2020) 2.77
  - Agency (2020) 2.47
- **Level 3** – TSM&O accepted as a formal core program
- **Level 4** – Explicit agency commitment to TSM&O as key strategy to achieve full range of mobility, safety, and livability/sustainability objectives

# Organization & Workforce

- Processes supporting effective programs requiring the appropriate combination of **coordinated organizational functions and technical, qualified staff**
- Clear management **authority and accountability**
- Staff development, recruitment, and retention

# Organization & Workforce

- **Level 1** – Fragmented roles based on legacy organization and available skills
- **Level 2** – Relationship among roles and units rationalized and **core staff capacities identified**
- **Level 3** – Top-level management position and core staff for TSM&O processes are established
- **Level 4** – **Professionalization and certification** of operations core capacity positions, including performance incentives

# Organization & Workforce

- **Level 1** – Fragmented roles based on legacy organization and available skills
- **Level 2** – Relationship among roles and units rationalized and **core staff capacities identified**
  - Region (2017)  
2.28
  - Region (2020)  
2.53
  - Agency (2020)  
2.23
- **Level 3** – Top-level management position and core staff for TSM&O processes are established
- **Level 4** – **Professionalization and certification** of operations core capacity positions, including performance incentives

# Collaboration

- Development and implementation of TSM&O requires a collaborative approach; the effectiveness of most strategies is dependent on improving the coordinated performance of each partner



# Collaboration

- **Level 1** – Relationships on informal, infrequent, and personal basis
- **Level 2** – Regular collaboration at regional level
- **Level 3** – Collaborative interagency adjustment of roles and responsibilities by formal interagency agreements
- **Level 4** – High level of operations coordination institutionalized among key players (public and private)

# Collaboration

- **Level 1** – Relationships on informal, infrequent, and personal basis
- **Level 2** – Regular collaboration at regional level
  - Region (2017)  
2.45
  - Agency (2020)  
2.46
- **Level 3** – Collaborative interagency adjustment of roles and responsibilities by formal interagency agreements
  - Region (2020)  
2.97
- **Level 4** – High level of operations coordination institutionalized among key players (public and private)

# Self-Assessment Results

Dimension	<u>2014*</u> / <u>2017</u> Regional Assessment	<u>2020</u> Regional Assessment	<u>Delta</u> (2017 → 2020) Regional Assessment	Composite Score “Public Agency”
Business Processes	1.50 → 2.14 →	<b>2.80</b>	<b>+0.66, 31%</b>	<b>2.20</b>
Systems & Technology	1.50 → 2.14 →	<b>2.70</b>	<b>+0.56, 26%</b>	<b>2.13</b>
Performance Measurement	1.33 → 1.52 →	<b>2.57</b>	<b>+1.05, 69%</b>	<b>1.97</b>
Culture	1.25 → 2.44 →	<b>2.77</b>	<b>+0.33, 13%</b>	<b>2.47</b>
Organization & Workforce	1.50 → 2.28 →	<b>2.53</b>	<b>+0.25, 11%</b>	<b>2.23</b>
Collaboration	2.00 → 2.45 →	<b>2.97</b>	<b>+0.52, 21%</b>	<b>2.46</b>

\*Note – 2014 scores are an approximation and were not calculated in the same manner as 2017 and 2020 scores.

# Discussion during October Meeting

- Mainstreaming TSM&O has been a solid process
  - MPOs have shown greater understanding of TSM&O through Master Plans
  - Continuing to build business case at agency and regional levels
  - Significant successes at the project level
  - Regional collaboration and coordination played integral role in many programmatic and project successes
- 
- Workforce Development has not progressed as strongly as other elements

# Questions to Consider

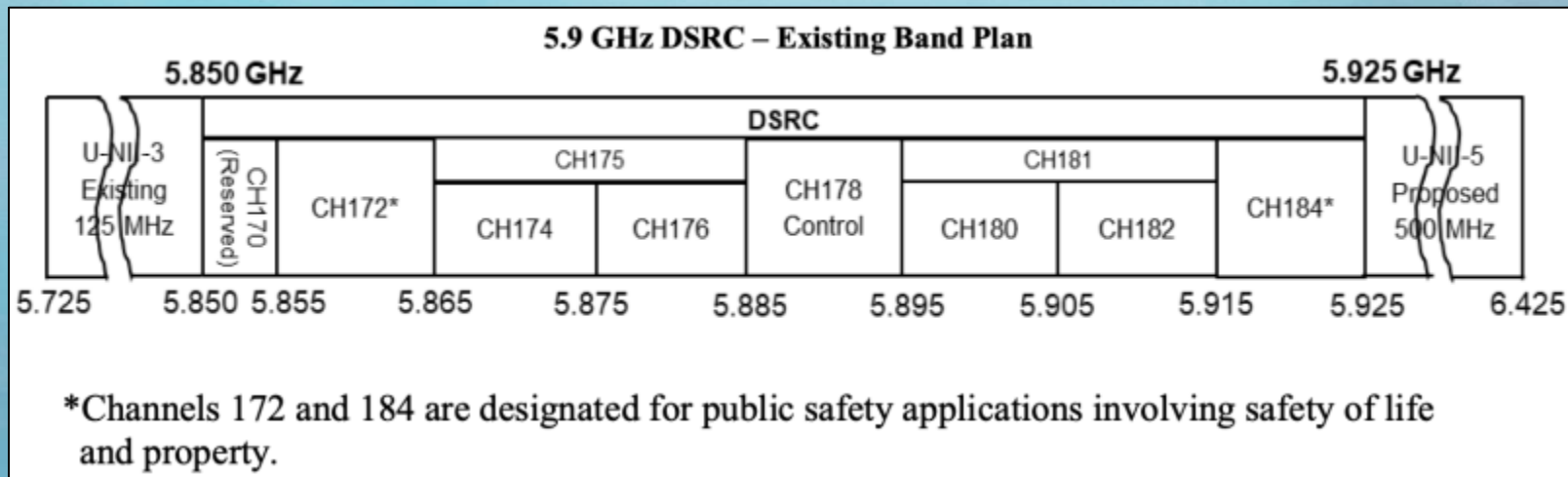
- What are our strengths?
- What are our weaknesses?
- Where are we seeing the most improvement?
- Where are we seeing the least improvement?
- What are the barriers we need to address?
- What are our goals for the region?

# Safety Spectrum – Update (DSRC / C-V2X)

Jeremy Dilmore, FDOT District Five

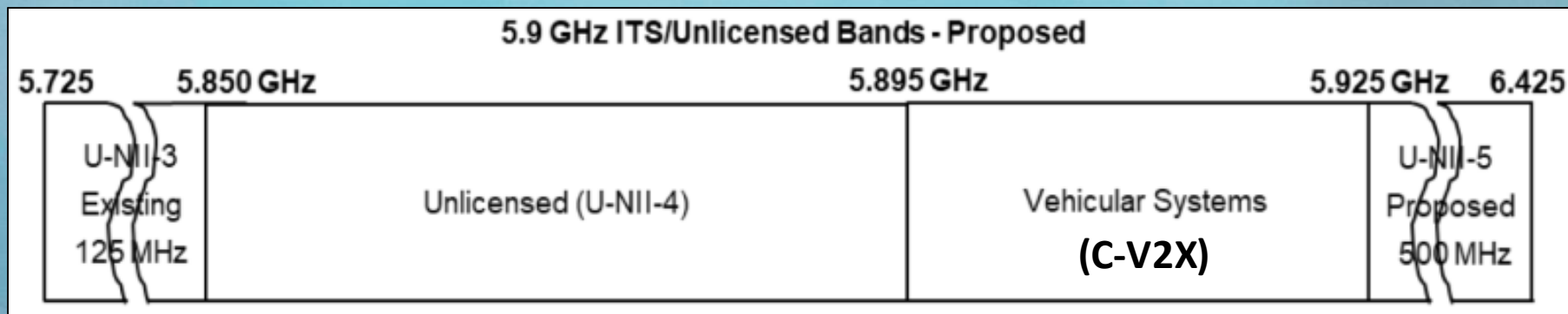
# Existing 5.9 GHz Safety Spectrum

- Safety Spectrum consists of 75 MHz within the 5.9 GHz band (5.850 – 5.925 GHz)
- Reserved for Dedicated Short-Range Communications (DSRC)
  - Intended to allow for “ubiquitous transportation and vehicle-related communications” exclusively, limiting interference
- Advocates argue that reducing transportation/vehicular communications allotment would lead to increased safety hazards



# Changes to the 5.9 GHz Safety Spectrum

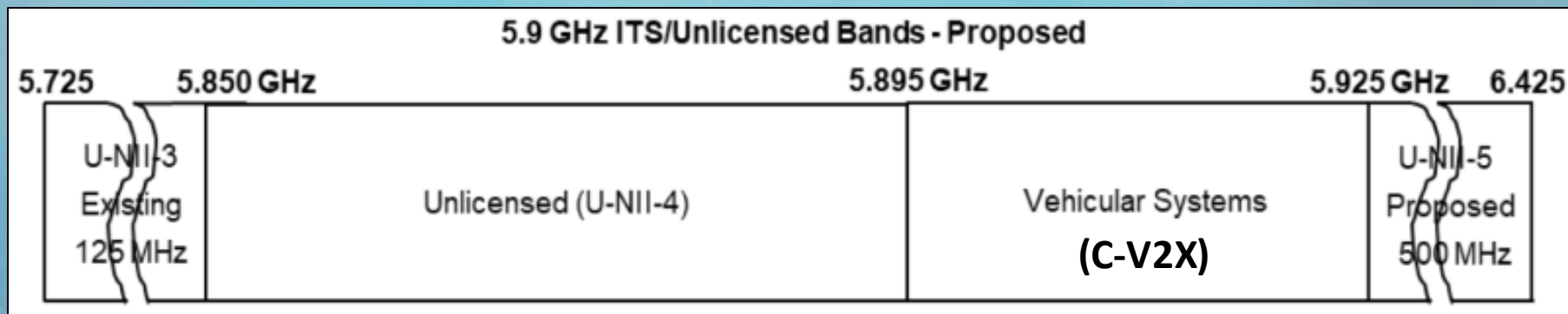
- Due to popularity of WiFi, there are some estimates that up to 1.6 GHz on the communication band would need to be freed up by 2025
- FCC vote (5-0) opens the lower 45 MHz to unlicensed uses (WiFi)
- The upper 30 MHz are allocated for ITS systems
  - The FCC ruling designated C-V2X as the technology standard for safety-related transportation and vehicular communications
- FCC Chairman Pai argued that DSRC had not been meaningfully deployed, and the safety band had been largely unused for decades





# What's this mean for the region?

- This vote seems to signal the end of DSRC
- Prior to this announcement, there was uncertainty RE: DSRC vs C-V2X
- The Department has been testing and recently deploying dual-banded radios since they've become available
  - Most of the region's investments are still in good shape



# Current Initiatives

Jeremy Dilmore, District Five TSM&O



Transportation Systems Management & Operations



# Current Initiatives

- Grants
  - AID – City of Orlando
  - TAPS-LA – Osceola County
  - Speaking of TAPS-LA

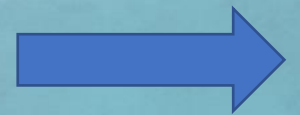
# Technology Application Partnerships with Local Agencies (TAPs-LA)

- TAPs-LA FY22 Program is kicking off next week
- Goal – foster transportation innovation with local agencies
- Funds provided by FDOT’s CAV Program (CO)
  - \$2,000,000 program total – up to \$500,000 per project
- CAV funds can be applied to state roads
  - Local match is suggested; local funds can be applied to state or local roads
- Projects must be funded and implemented in FY22
- Eligible Agencies – City, County, Public Transit, Port, Airport
- Before/After Study required – to be led by FDOT
- Selection Criteria – see next slide

Table 4: Project Selection Criteria and Scoring Matrix

Categories	Criteria	Maximum Points
Accelerate the CAV Program	Does this project accelerate the deployment and implementation of CAV technologies in Florida?	6
Safety	Does this project directly reduce or have the potential to reduce fatal, serious injury, and/or secondary crashes?	20
Mobility	From a mobility perspective, does this project directly benefit at least one mode, ie, vehicles, pedestrians, bicyclists, disabled, economically disadvantaged, and aging road users?	15
Efficiency and Reliability	Does this project directly benefit (or have the potential to impact) efficiency and/or reliability for travelers, freight, transit riders, aging road users, pedestrians, and/or bicyclists?	5
Feasibility	Do proposed technologies comply with or have the potential to comply with relevant state and federal safety laws?	10
	Is the proposed project interoperable and/or does it have the potential to become interoperable with the existing or programmed CAV Projects?	
Funds	Does this project leverage local funds If the project will involve industry partners, in addition to FDOT and the local agency, will there be a structured memorandum of understanding (MOU) spelling out the roles and responsibilities of all partners?	10
Benefit/Cost	Does this project offer benefits with a high B/C ratio and a good return on investment?	6
Data and Security	Explain how the project will safeguard data privacy and deploy a cybersecurity platform.	10
Operations and Maintenance	Does this project address staffing, funding, and procedures for operations, maintenance, and replacement of CAV infrastructure, technologies, and applications?	8
Project Evaluation	Does this project have pre-defined performance measures? What are the expected outcomes and how are these outcomes measured?	5
	Is there a systems validation and verification process in place? Explain how this will be performed.	
Management Structure	Does the project offer a management structure to deliver the outputs with safety and mobility goals?	5
<b>Maximum Total Points</b>		<b>100</b>

Schedule



# TAPs-LA Schedule

Schedule Item	Due Date
Districts receive TAPs-LA document	December 8, 2020
Districts begin TAPs-LA local agency engagement	December 15, 2020
DTOEs receive proposals	March 1, 2021
DTOEs send recommended proposals to Central Office	March 12, 2021
Brief TSM&O Leadership Team	March/April 2021
Central Office selects project proposals	April 2, 2021
Districts/CO work on getting funds into Work Program for state roads; local agency secures funding for local roads	April 4, 2021 through August 1, 2021
Districts and local agencies begin implementing awarded projects	August 15, 2021

# Current Initiatives

- **ATTAIN**
  - AV Shuttle
  - PedSafe Construction
    - Gridsmart
    - Passive Ped/LiDAR/etc
  - PedSafe Software
    - Route and Mode Choice
    - Regional Applications Just on your Phone
  - R-ICMS Software
    - Training

# Current Initiatives

- ATTAIN
  - TSP Phase 3
- Wowza – Video Service
- Bluetooth Change County
- SunStore
  - Adding CV/TMDD
- Equipment Deployment
- I-4 Ultimate
- Others?



# THANK YOU!

Next Consortium – February 4, 2020



# TSM&O Consortium Meeting

---

## MEETING AGENDA

Teleconference

*December 10, 2020*

*10:00 AM-12:00 PM*

- 1) WELCOME
- 2) CORRIDOR COALITION
  - Eric Hill, MetroPlan Orlando
- 3) CAPABILITY MATURITY MODEL – REGIONAL SELF-ASSESSMENT UPDATE
  - Jeremy Dilmore, District Five TSM&O
- 4) COMMUNICATION SPECTRUM (DSRC / C-V2X) – UPDATE
  - Jeremy Dilmore, District Five TSM&O
- 5) CURRENT INITIATIVES
  - Jeremy Dilmore, District Five TSM&O