

ACES Subcommittee Meeting #6

February 3, 2020

1:30 p.m. – 4:30 p.m. Florida Department of Transportation Suwannee Conference Room 412, Teleconference 605 Suwannee St, Tallahassee, FL 32399

MEETING OBJECTIVES

The objectives of this meeting included:

- Receive status reports from partners on ACES activities
- Review proposed ACES strategies
- Discuss ACES strategies related to funding, planning and project development, and partnerships

For meeting information, please contact Dana Reiding at (850) 414-4719, Dana.Reiding@dot.state.fl.us.

MEETING ATTENDEES

Subcommittee Members and Alternates	
Alix Miller, Florida Trucking Association	Beth Medina, Florida Defense Alliance
Casey Grigsby, Florida Ports Council	Jennifer Ray, Florida Department of Health
Eric Frey, Florida Council of 100	James Hightower, Florida Highway Patrol
Mark Bontrager, Space Florida	Pete Petree, Florida Rail Association
Sally Patrenos, Floridians for Better Transportation	Pat Steed, FRCA
Janet Bowman, The Nature Conservancy	Laura Cantwell, AARP
Carl Mikyska, MPOAC	Brad Thoburn, FPTA
FDOT and Consultant Staff	
Jennifer Carver, Office of Policy Planning	Gabe Matthews, Transit Office
Romero Dill, Office of Policy Planning	Mark Reichert, Office of Policy Planning
John Kaliski, Cambridge Systematics	Dana Reiding, Office of Policy Planning
Jim Halley, Office of Policy Planning	Huiwei Shen, Chief Planner's Office
Jennifer King, Systems Implementation Office	Danny Shopf, Cambridge Systematics
Becky Marsey, Office of Policy Planning	Alison Stettner, Office of Policy Planning
Tanner Martin, HDR	Steven Gayle, RSG



In addition to those listed above, 43 Friends of the subcommittee were in attendance.

MEETING SUMMARY

Welcome and Introductions

Jim Halley, FDOT Office of Policy Planning, introduced himself and thanked everyone for attending the webinar. ACES Subcommittee members and friends indicated their presence on the call.

Jim reviewed ACES Subcommittee activities to date, including the five previous meetings where attendees reviewed potential trends and disruptors related to ACES and emerging technologies. They also heard from subject matter experts; identified opportunities and challenges related to the FTP goals; and began developing potential strategies and actions to support the FTP goals.

The ACES Subcommittee identified the following as high-level policy guidance to the FTP Steering Committee:

- Broaden definition of infrastructure (including technology/broadband, utilities, charging stations, sensors, etc.)
- Define public sector role, recognizing most technologies are market-driven
- Consider objective/strategies related to cybersecurity and data privacy
- Address implications of technology on equity
- Address implications of innovation on transportation funding sources and needs

The ACES Subcommittee defined the following framework to organize potential FTP strategies:

- Economic and Workforce Development
- Customers
- Infrastructure and Design
- Technology and Data
- Partnerships
- Planning and Project Development
- Funding

The Subcommittee drafted strategies in the first four categories during prior meetings.

Jim reminded the subcommittee that a survey is available on the FTP website and is being used to gather additional input on the key technology trends that will shape Florida's transportation future. He asked attendees to take a few minutes to complete the survey, if they have not already, and to share it with their partners. The survey has produced multiple suggestions on how technology will change Florida's transportation future, how it could improve the transportation future, and what potential challenges could be experienced due to the adoption of these technologies.

Preparing the Strategic Intermodal System (SIS) for AV/CV - Update



Jennifer King, FDOT, and Tanner Martin, HDR, presented on the recently completed study, Preparing the SIS for AV/CV. Jennifer reminded participants that this project was statutorily mandated in 2017, requiring FDOT to assess technology trends and how they could impact SIS facilities as well as complete a safety and mobility analysis. She indicated that changing demographics, improved technology, shifting user preferences, and expanded travel options were all considered as emerging trends to support this project. The project identified potential project types related to automated, connected, electric, and shared technologies that could eventually be incorporated/prioritized on the SIS.

Tanner reviewed the three different scenarios evaluated for this project – conservative, moderate, and aggressive– all considering factors such as VMT, systemwide capacity, and lane miles needed. A safety analysis was also performed indicating that even at the most conservative ACES adoption rates, there is an expected safety benefit on SIS facilities that increases substantially with higher adoption rates.

The SWOT analysis conducted with the ACES subcommittee in June of last year helped staff identify four overarching themes to focus on – safety, public perception, infrastructure, and equity.

Jennifer and Tanner reviewed the guiding principles and supporting strategies identified in this project:

- Guiding Principle 1 Sustainable Funding for SIS Program
 - Strategy: Set aside funding annually for ACES upgrades
- Guiding Principle 2 Identify specific eligible expenditures
 - Strategy: Redefine capacity in SIS Policy Plan to focus more on total throughput of people and goods, rather than additional lane-miles
 - Strategy: Expand eligible SIS projects to allow for additional ACES infrastructure
- Guiding Principle 3 Coordinate with internal FDOT offices and external partners
 - Strategy: Review and update all FDOT policies and procedures to develop, design, and maintain CAV ready infrastructure
 - Strategy: Work with Districts to assess their needs, develop a roadmap, and protect their infrastructure
 - Strategy: Form partnerships with different organizations to develop innovative strategies to implement the emerging technology
- Guiding Principle 4 Incorporate technology into planning documents
 - Strategy Monitor technology adoption rates
 - Strategy Include ACES components in updates to SIS planning documents

Attendees had the following questions and comments:

- Where did the data on market adoption percentage come from?
 - It came from a variety of sources and they are listed in the final report. The final report will be made public within the next few weeks. In addition, Auto Alliance has records of electric vehicle sales over the last decade. Based on that data and the vehicle registration data in Florida, a linear projection indicates about a four percent adoption rate.



- There are two bills in the legislature related to electric vehicle infrastructure that have different proposals for who leads this process. What is FDOT's position on this?
 - FDOT is supportive to whichever agency is authorized to lead this process. Staff will integrate recommended strategies into the current list of strategies moving forward.

Electric Vehicle Impact on Revenue

Sisinnio Concas, CUTR, presented on the potential impacts of electric vehicles (EV) on transportation infrastructure revenue. This presentation was based on the CUTR study completed in October 2019 entitled, "Autonomous Vehicle (AV) and Alternative Fuel Vehicle (AFV) Florida Market Penetration Rate and VMT Assessment Study." The study identified the following conclusions and recommendations:

- Identify policy-feasible alternatives that are revenue loss neutral and focused on infrastructure preservation
- Conduct sensitivity analysis of selected policy options
- Continued monitoring of key trends affecting market adoption and VMT generation
- Update forecasts to include recent AFV-AV market developments and changes in regulation

Attendees had the following questions and comments:

- How do you know how many electric vehicles are in Florida since we cannot tell from their registration?
 - FDOT has estimates based on vehicle sales and publishes those numbers in the FDOT Sourcebook.
- Will an increase in shared vehicle fleets result in shorter useful life of vehicles and quicker fleet turnover/adoption of new technology including EVs (especially once it is cost effective compared to internal combustion engines)?
 - This is accounted for in the study.
- When will the research report be released?
 - It is available on FDOT's research website. We will post a link on the FTP website on the resources page.
- Have local governments been incorporated into the discussion about electric vehicles? Have firefighters, for example, been trained on how to put out vehicle fires in electric vehicles that involve very large batteries?
 - This is a process that has been started and will continue to grow as alternatively fueled vehicles become more prominent.

Smart North Florida

Jeff Sheffield, North Florida TPO, presented on Smart North Florida. The North Florida TPO identified an outline of what a smart community would look like, indicating that open data sharing would be key to Smart North Florida. A framework for Smart North Florida was developed and focuses on:





There are numerous examples of how this framework is being implemented:

- Flood sensors are being deployed across the area to provide a better response to flooding issues in the community. A rail notification system is being implemented to communicate with ambulance drivers to indicate if a train is blocking the intersection and whether the ambulance should divert. Enhanced, automatic pedestrian and bicycle lighting accommodations are being installed to make these facilities safer for pedestrians and bicyclists.
- A pilot project for a system to evaluate pavement conditions on local roadways is in the process of being deployed. This process could potentially fill a large data gap and help the region make more strategic decisions about resource allocation. North Florida is also considering smart solutions for basic residential complaints like trash pickup and parking management to more efficiently and effectively manage these common challenges in the local communities.
- An innovation corridor is being prioritized that will incorporate a variety of technology solutions to better test the benefits and challenges of a fully integrated smart corridor. It is focused on developing a common data model that can be shared across public agencies, universities, federal agencies, and the private sector to eliminate silos and better achieve community goals. The North Florida data exchange was developed, with substantial contributions from the private sector, and is publicly available with a wide variety of data elements available.

Jeff emphasized that this framework does not work if the partnerships do not exist. He highlighted the JAXUSA Partnership as an example of how the North Florida TPO is coordinating with the private sector. He said by revealing a data exchange, the North Florida TPO found a robust technology community in the region, opening up a new avenue for partnerships.



Jeff said that the impacts of the Smart North Florida project have extended well beyond transportation. He said that the connections built through this process have been leveraged to solve challenges related to homelessness, education, and healthcare.

Attendees had the following questions and comments:

- Who owns this "data lake" for Smart North Florida? Who manages the hardware and software?
 - Smart North Florida is a non-profit separate from the TPO. When it transitions from the management of the North Florida TPO, it will be the responsibility of a board of directors and ultimately will be a community-owned initiative.
- Jennifer Ray, Florida Department of Health, indicated the inclusion of hospitals, homelessness, and other society concerns is important. The American Hospital Association states that 3.6 million people in the U.S. do not obtain medical care due to transportation issues. Reasons cited for this include lack of vehicle access, inadequate infrastructure, long distances and lengthy times to reach needed services, transportation costs, and adverse policies that affect travel ¹ In addition, Jennifer recommended inviting the Florida Hospital Association as partner to help guide review of the system in Florida and recommendations on transportation policies.
- Jennifer provided a list of potential partners that would be supportive of Smart North Florida and beneficial to incorporate.
 - Florida Local Health Councils: <u>http://www.floridahealth.gov/provider-and-partner-resources/health-councils/index.html</u>
 - Rural Health program: <u>http://www.floridahealth.gov/programs-and-services/community-health/rural-health/index.html</u>
 - List of Rural Hospital Directory <u>http://www.floridahealth.gov/programs-and-</u> <u>services/community-health/rural-</u> <u>health/_documents/Rural%20Health%20Networks%20Directory%20Jan%202015.pdf</u>
 - Emergency Management System Advisory Council: <u>http://www.floridahealth.gov/provider-and-partner-resources/advisory-councils-stakeholder-groups/ems-advisory-council/index.html</u>
 - Florida Trauma System Advisory Council: <u>http://www.floridahealth.gov/licensing-and-regulation/trauma-system/florida-trauma-system-advisory-council.html</u>

Identify and Prioritize Additional Strategies

Jim asked attendees a series of questions related to partnerships, planning and project development, and funding in an effort to identify strategies for these last three topics.

All comments received during the meeting are included below. Staff will work internally to synthesize comments and incorporate them into potential strategies.

¹ <u>https://www.aha.org//ahahret-guides/2017-11-15-social-determinants-health-series-transportation-and-role-hospitals</u>



How should <u>partnership</u> strategies evolve to support ACES in the future?

- Finding ways to eliminate Federal and State limitations on how and why we collect & share data
- Deployment of Broadband statewide is essential or this only works in urban areas
- Need framework and guidance for public agencies to partner with private and mitigate risk to public in innovation space.
- Including total partnerships such as rural hospitals worth considering
- Leverage cost of about access with local partners such hospitals
- Continuous stream on new initiatives
- More funding 🔕
- Understand evolving business models and how best to leverage P3s
- Florida's Sunshine Law ...
- Define roles and responsibilities shared ownership.
- Tap into the Florida Technology Council meetups and discussion groups to evolve the technology workforce
- Reduce the duplication of common tasks where possible
- Pilot projects to learn how to implement on a bigger scale
- Increased time and effort into strengthening existing partnerships, pursuing partners beyond the traditional and expected (e.g. data partners as opposed to transportation partners), establishing and encouraging partnership opportunities. FDOT as a statewide "connector" between local, regional, statewide, regional, national partners.
- Reduce budgeting and procurement limitations on data services
- Reduce silos within FDOT.
- Incorporate social media and mass media to better understand partners and potential partners
- Limit opportunities to participate, time is a commodity and partners only have so much as well....
- Data sharing can be key
- Local government often have the best sense of their constituents' needs
- But also recognize limitations of partners' ability to participate
- Start with dismantling silos within the department.
- use crowd sourcing to create innovative solutions
- The Florida Clean Cites Coalitions have initiatives along many of the lines you've discussed, such as First Responder Train for alternatively fueled vehicles.
- streamline data
- Regional partnerships would make more sense, leverage existing partnerships
- data sharing
- Evolution of MPOs to become active in community solutions
- Workforce development
- Higher level of involvement by private sector
- Include public utilities in EV planning.
- Include peripheral partners such as real estate development, airports and seaports, software developers, etc.
- Invite developers of AVs, CVs, batteries, and components.
- Possibly include a few "fiction writers" and other particularly creative individuals and groups.
- Expand the Clean Cities First Responder AFV Safety Training for First Responders offered by NFPA

How should <u>planning and project development</u> processes and strategies evolve to support ACES in the future?

- Eliminate the endless publishing and republishing of static data, Vision and adaptability linked to long range planning
- Need flexibility and scenario planning



- Earlier inclusion, More funding (), Multi-disciplinary teams, Recognition of market-driven forces, Understanding that market moves faster than public sector, Focus on tech flexibility NOT choosing solutions, Nothing wrong with profit it finances the future
- Don't try to incorporate technology for the sake of trying to be the first to "pioneer", make sure tech is being applied to solve a societal issue., The market does not always react or fill in the gaps for transportation issues. Sometimes, public agencies are well positioned to fill in some gaps.
- Master/visioning of a corridor for future growth considers technology strategies first before project concept is developed.
- Dedicated funding for innovative projects
- Length of review process, Increased appetite for risk
- higher priority
- Planning processes should be fluid and able to accommodate and adapt at the speed of opportunity instead of the speed of bureaucratic processes, Plans are dreams not concrete ...the private sector isn't going to wait on you
- Address equity issues
- Need a strategic approach that is more responsive to ACES than the LRTP, Remember that planning core directions are still about safety, reliability, accessibility
- Dynamically
- openly share technology projects, success and failures so that we can learn from early attempts
- For the CAV NETWORK environment,, For the CAV NETWORK environment, you'll need the telecom carriers for resiliency and capacity reasons.
- normalize ACES as a priority
- Make capital expansion truly the last alternative, Use a 5-10 vision, not 20 years.., Choose early winners, low hanging fruit to prove the technology use., Identify a need to apply the technology, Reframe the conversation with policy makers at the local level.
- Planning should identify alternative technology deployment "futures" in choosing alternatives.
- Aim to collect and include more real time data. The lag time is giving the impression that the trajectory toward adoption is far less than it is., Remember that the private sector is geared toward profit and not toward the public good.
- Dynamic planning with timely validation.
- technology should be a consideration in every project and not considered "ACES Projects", consider adaptive projects where new or different designs/alternatives are considered if certain parameters or conditions occur, shift mindset to moving people and consider alternatives beyond traditional transportation, Don't try to be the end all the market will drive tech, we don't need specific infrastructure necessarily the market will likely adapt it has so far (within reason)
- Find ways to do less, Let the market dictate what is needed.
- Identify challenge to solve and allow technology innovators to bring solutions. Avoid picking winners and losers.

How should funding strategies evolve to support ACES in the future?

- Should also consider our existing utility infrastructure and identify how that can be retrofitted to support transportation.
- Link safety funding with NEW solutions
- Incentivize investments that optimize existing infrastructure, Can we monetize data generated from the public facilities?, Is traditional opposition to VMT still issue? Privacy issue has "left the barn"
- Leverage stakeholder interest and non traditional funds from private/ NGO, Tax credit for investing in infrastructure, Example Florida new market tax credit program vis DEO
- Recreational MJ tax
- VMT tax will be required and it will NOT be popular!, Higher franchise fees for ROW users, Higher franchise fees for ROW users, There are more issues to VMT tax than privacy
- Make infrastructure investments towards tech that is already operating on the infrastructure. Plan for what tech will be on the roadways in the near future.
- Return on investment analysis for economic and social benefit



- Leverage Public/Private Partnerships
- Will need to reduce or eliminate requirements on how we use transportation funds. Need flexibility, Will need revenue generation from multiple sources and fees for various types of mobility
- Roadside infrastructure first, laying the necessary infrastructure to support CAV implementation, Applied research and development - solving existing or implementing private sector innovations, Data funding considerations in the work program development process
- Funding at the state level is going to have to become more open minded for multimodal projects to
 accommodate changes needed for rideshare programs needed at air/seaports, State to allow inkind matching for construction, planning projects.
- ACES enables mileage based user fee, Use technology to improve equity, Fund mobility not modes
- MBUF seems the most logical solution.
- Should it really be separated? Why not BAU...which is what it is.
- VMT; VHT, Congestion pricing: corridor; cordon; roadway functional class, Behavior economics, Use license plates for allowance to drive similar to use in the 70s for gas rationing.
- Employ proceeds of federal/state carbon or cap and trade for transportation infrastructure.
- Embed as much technology as possible into the infrastructure when designing and building.
- Distinguish what should be funded from public sector and what should be left for private sector.
- consider tech that adds capacity in lieu of more pavement
- Allow CMAQ funds to be used to support AV and EV deployment
- FDOTPLANNING, Tax to trip generators.
- The common proposal is a VMT tax. We are already creeping toward that through additional tolling and congestion pricing. We are slowly making progress toward that solution without directly charging for VMT.

What other innovations should the FTP explore beyond innovation?

- Will privacy be a concern or not in total mobility connections?
- Public engagement innovations
- Promotion of better work from home/remote work opportunities, Don't forget that you can't fix transportation w/o fixing land use
- Blockchain, Advanced remote sensing for transportation data collection, assets, travel behavior
- Tap into Florida Technology Council
- Fund security & technology in the future
- Micromanufacturing
- Hyperloop!, Teleportation
- drones, geo-fencing
- Sustainability
- Removing road segments as part of urban redevelopment.
- VTOL vehicles and convertible mobility.
- Innovations in remote working environment setting.
- Consider how wearable tech will affect/change travel behavior or continued advancements in smartphones and how these may improve safety and mobility, public involvement using new technologies, Ways technology can improve partner collaboration, space travel
- Big data analytics

Review of ACES Strategies

Following review and discussion of partnerships, planning and project development, and funding, Jim asked attendees to provide comment on previously drafted strategies for the topics of customers, economic and workforce development, infrastructure and design, and technology and data. Members and friends provided the following comments.



Customers

• No comments were offered.

Economic and workforce development

• No comments were offered.

Infrastructure and design

- Be sure freight, ports, transit, and rail are adequately addressed in the example actions for this topic.
- Specifically regarding the action of "Manage Florida's airspace and aviation infrastructure to accommodate unmanned aerial vehicles and urban air mobility solutions" under the "Integrate air and surface mobility technologies" strategy, it was suggested that the surface portion of the concept be included in the language for the action.

Technology and data

- The data security concept should be captured in this topic.
- Consider using technology and data as a predictive factor to better support transportation improvements
- Determine how projects are funded and with what source. Consider how the public sector might take the lead on setting the standards for technology integration while letting the private sector develop and implement the technologies to those standards
- Consider using better data (and more data) to inform the public and use it to create safer systems.
- Address the plan for rural communities. Consider how they will access these technologies.
- Consider the costs of hardening and creating resilience to the data environment.
- It is hard to plan for mobility when we have different offices/funding sources with different priorities. Breaking down silos should be addressed.
- Specifically regarding the "Focus public sector role on providing access and adapting to marketdriven technologies" strategy, consider adding "Opportunity to identify the data stewards (5G) which has implications to cybersecurity" as an action.



Wrap Up and Next Steps

Jim told participants that the feedback gathered during the meeting would be used to develop draft strategies to be presented to the FTP Steering Committee. He said that a survey would be developed for ACES Subcommittee Members to review draft strategies and provide their comments before the strategies are finalized and presented to the FTP Steering Committee.

Jim reviewed the calendar of upcoming events, highlighting TransPlex. He said TransPlex is scheduled for April 20-22, 2020 in Orlando and encouraged participants to register online for the free conference. Before closing the meeting, he reminded participants to visit <u>www.floridatransportationplan.com</u> to complete input surveys related to ACES and other topics supporting the FTP update.

