

Autonomous/Connected Electric/Shared (ACES) Vehicle Guidance

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Outline



- Purpose
- Goal
- Objective
- Scope Tasks
- Schedule
- Discussion/Questions

Purpose



Offer guidance regarding potential Automated, Connected, Electric and Shared-use Vehicles (ACES) impacts on long-range transportation planning to:

- Metropolitan Planning Organizations (MPOs)
- Transportation Planning Organizations (TPOs)
- Local governments

Goal



To develop a common understanding and approach for Florida MPOs/TPOS and local governments in regards to ACES for their upcoming LRTP updates.

Objective



Development of MPO Planning Guidance to assist MPOs/TPOs and local governments during LRTP updates on potential considerations of ACES in the future years.

Scope Tasks



- Task 1: Conduct Literature Search & Industry Coordination
- Task 2: Provide MPOAC & MTF Coordination & Guidance
- Task 3: Develop FDOT MPO ACES Planning Guidance

Task 1: Literature Search & Industry Coordination



- 1.1 Literature Search
 - Methods currently employed by regional transportation planning organizations with regards to ACES activities
 - US
 - International
 - Results presented in Task Report
- 1.2 Industry Coordination
 - Identify/coordinate with leading ACES technology providers (Lyft, Uber, MegaBus, Zip Car, etc.) on identifying transportation service trends

Task 2: MPOAC/MTF Coordination & Guidance



- 2.1 MPOAC & MTF Kick-Off Presentations
 - MPOAC (June 1, 2017)
 - Florida Model Task Force
 - Model Advancement Committee (June 27, 2017)

Task 2: MPOAC/MTF Coordination & Guidance



- 2.2 Model Component Analysis
 - Process for integrating ACES into modeling stream
 - 2 Scenarios
 - Activity Based Model (ABM) – North Florida TPO
 - Traditional 4-Step model - Gainesville MPO
 - Identify facility types most affected by ACES
 - Task report

Task 2: MPOAC/MTF Coordination & Guidance



- 2.2 Model Component Analysis (cont.)
 - % Penetration by Facility Type
 - Implications to Fixed Route Transit
 - Ownership of ACES/Market Sectors
 - On Demand
 - Land Use Changes
 - Age Groups

Task 2: MPOAC/MTF Coordination & Guidance



- 2.3 Infrastructure Needs
 - Supporting infrastructure based on penetration rates
 - VMT
 - Electric charging demand
 - Infrastructure utilization
 - Task report

Task 2: MPOAC/MTF Coordination & Guidance



- 2.4 LRTP Goals & Objectives Development
 - Develop sample LRTP goals and objectives
 - Used for different ACES integration scenarios
 - Best realize potential efficiencies, safety improvements
 - Results included in Planning Guidance described in Task 3

Task 3: FDOT MPO AV Planning Guidance



Develop planning guidance to assist MPO/TPOs and local governments in considering potential future ACES impacts as part of LRTP updates

Task 3: FDOT MPO AV Planning Guidance



- Introduction and Purpose
- Legislative Reference
- Study Goals and Objectives
- Literature Review
- Executive Summary
- Methodology
- ACES Vehicle Technology Overview
 - Levels of Automation
 - Implementation Timeframe
 - Regulatory Framework
- ACES Vehicle Operating Characteristics
 - Personal Vehicles
 - On Demand and Shared Taxi
 - Transit
 - Freight
 - Local Delivery
- Safety Impacts
 - Crash Rates
 - Crash Costs
 - Enforcement Costs

Task 3: FDOT MPO AV Planning Guidance



- Potential Travel Demand Impacts
 - Trip Generation
 - Cost of Travel
 - Mobility
 - Suburban and Exurban Development
 - Urban and Suburban Activity Centers
 - Multimodal Corridors
 - Mode Choice
- Highway System Impacts
 - Freeway Lane Capacity
 - Dedicated Freeway Lanes
 - Arterial Intersection Capacity
 - Dedicated Arterial Lanes
 - Parking
- Transit System Impacts
 - Fixed Route Service Competitiveness
 - First-Mile / Last-Mile Connections
 - Night and Weekend Service
 - Underserved Areas
 - Paratransit
 - Integrated Payment
 - Transit Priority Corridors
 - Intercity Rail and Bus
- Funding Impacts
 - Motor Fuel Taxes
 - Vehicle Sales Taxes
 - Vehicle Registration Fees
 - Parking Revenues
 - Traffic Fines

Task 3: FDOT MPO AV Planning Guidance



- Strategies for Addressing ACES
 - Transportation System Planning Process
 - Travel Demand Modeling
 - Performance Measures
 - Project Prioritization
 - Scenario Analysis
 - Policies
 - Stakeholder Involvement
 - Public Education
 - Best Practices in Planning Products
 - Transportation Improvement Programs
 - LRTPs

2017 Schedule - Completed



- May Notice to Proceed
- May/June Initial discussions
Literature review
Issues identification
- June Kick-off presentation
Task 2 Report Development
- June Presentation to MTF Model
Advancement Committee

2017 Schedule - Future



- October Full MTF presentation
- Nov. 14 Presentation to Florida Automated Vehicle Summit
- November Submit Task 1 Final Report
Submit Task 3 Draft Report
- December Submit Task 3 Final Report

Discussion/Questions?

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FDOT Statewide Managed Lanes



FDOT Central Office – Managed Lanes Group

- Looking for agencies and consultants to respond to questions relating to Managed Lanes use of:
- Origin/Destination Analysis -
<https://www.surveymonkey.com/r/QJQBFNZ>
- Traffic Analysis -
<https://www.surveymonkey.com/r/QVCL5ND>
- Reply due by November 20, 2017

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