



Florida Department of  
**TRANSPORTATION**

## Autonomous/Connected Vehicle Guidance

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*Metropolitan Planning Organization Advisory Council*  
*Staff Directors Meeting*  
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# Outline

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

# Purpose

Provide guidance to Metropolitan Planning Organizations (MPOs), Transportation Planning Organizations (TPOs) and local governments within the State regarding the potential effects Automated Vehicles (AV) and Connected Vehicles (CV) may have on Long Range Transportation Plans (LRTPs).

## Goal

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

# Objective

Development of an MPO Planning Guide to assist MPOs/TPOs and local governments during LRTP updates on potential considerations of AV and CV in the future years.

## Scope Tasks

- Task 1: Literature Search & Industry Coordination
- Task 2: MPOAC & MTF Coordination & Guidance
- Task 3: Development of an FDOT MPO AV Planning Guide

# Task 1: Literature Search & Industry Coordination

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

## Task 2: MPOAC/MTF Coordination & Guidance

- 2.1 MPOAC & MTF Kick-Off Presentations
  - District Model Coordinators
  - Florida Model Task Force Tri Chairs
    - Model Advancement Committee

## Task 2: MPOAC/MTF Coordination & Guidance

- 2.2 Model Component Analysis
  - Process to integrate AV/CV into the modeling stream.
  - 2 Scenarios
    - Activity Based Model (ABM) - First Coast MPO
    - Traditional 4-Step model - Gainesville MPO
  - Identify the types of facilities most affected by AV/CV
  - Task report

## Task 2: MPOAC/MTF Coordination & Guidance

- 2.2 Model Component Analysis (cont.)
  - % Penetration by Facility Type
    - Consumers, Freight
  - Implications to Fixed Route Transit
  - Ownership of AVs/Market Sectors
    - Consumer, Freight
    - On Demand
    - Dense Urban Clusters
    - Other
  - Age Groups

## Task 2: MPOAC/MTF Coordination & Guidance

- 2.3 Infrastructure Needs
  - Supporting infrastructure depending 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
    - Workshop
    - Utilized to help accomplish different AV/CV integration scenarios
    - Best realize the potential efficiencies and safety improvements possible through these technologies
    - Results included in the Planning Guide described in Task 3

## Task 3: Development of an FDOT MPO AV Planning Guide

Development of an MPO Planning Guide to assist MPO/TPOs and local governments during LRTP updates on potential considerations of AV and CV in the future years

## Task 3: Development of an FDOT MPO AV Planning Guide

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

# Task 3: Development of an FDOT MPO AV Planning Guide

- 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
  - On-Street 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: Development of an FDOT MPO AV Planning Guide

- Strategies for Addressing AVs
  - 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
    - Long-Range Transportation Plans

# Schedule

- May 2017 - Notice to Proceed
- May/June 2017 – Initial discussions/literature review/issues identification
- June 2017 – Kick-off presentation, Task 2 Report Development
- June 2017 – Presentation to MTF (Model Advancement?)

# Schedule

- October 2017 – MPOAC workshop, Full MTF presentation
- November 2017 – Submit Task 1 Draft Report
- November 2017 – Presentation to Florida Automated Vehicle Summit, Submit Task 1 Final Report
- December 2017 – Submit Task 3 Draft Report
- January 2018 – Submit Task 3 Final Report



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## Discussion/Questions?

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