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# **Connected Intersections (CI) Committee Information Session**

January 28, 2021 (4:30 PM – 5:30 PM EST)

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# Agenda

1. Background
2. Introduction of CI Committee participants
3. Goals/Objectives
4. Scope of Work
5. Letters of Interest
6. Dates
7. Questions

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# Background

## – Committee Scope

- The scope of the Connected Intersections (CI) Committee is to develop and publish document(s) that defines the minimum requirements a connected intersection must support to ensure national interoperability among road users, equipped devices/vehicles and connected intersections.

## – Project Scope

- The project purpose is to develop and publish a CI implementation guide that standardizes the key capabilities and interfaces for a connected intersection. ...the [guide] should address the ambiguities and gaps identified by early deployers and provide enough guidance to generate messages and develop applications for signalized intersections that are truly interoperable across the United States, especially for automated transportation systems.

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# Background

## – Progress to Date

- Concept of Operations
  - Describes the scope, the current problem and the needs
  - Completed October 2020
- Requirements Document
  - Describes what a conformant connected intersection has to do to satisfy the needs
  - Complete January 2021

## – Next Steps

- Design Details Document
  - Guidance on how to fulfill the requirements
  - Complete first week of April 2021

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# Introductions

## – CI Committee Co-Chairs

- Roy Goudy

## – CI Committee Members

- Raj Ponnaluri, Florida DOT
- Christina Spindler, Wyoming DOT
- Ray Starr, Minnesota DOT
- Ed Seymour, Texas A&M Transportation
- Faisal Saleem, AZ Maricopa County DOT
- Whitney Nottage, Q-Free/Intelight
- Steve Bowles, 360 Network Solutions
- Mike Schagrín, McCain

- John Thai

- Mike Shulman, Ford Motors
- Vivek Vijayakumar, General Motors
- Michael Stelts, Panasonic
- Jim Misener, Qualcomm
- Doug Schmidt, Aptiv
- Jay Parikh, CAMP/IOO-OEM Forum
- Justin McNew, JMC Rota
- Steve Sprouffske, Kapsch

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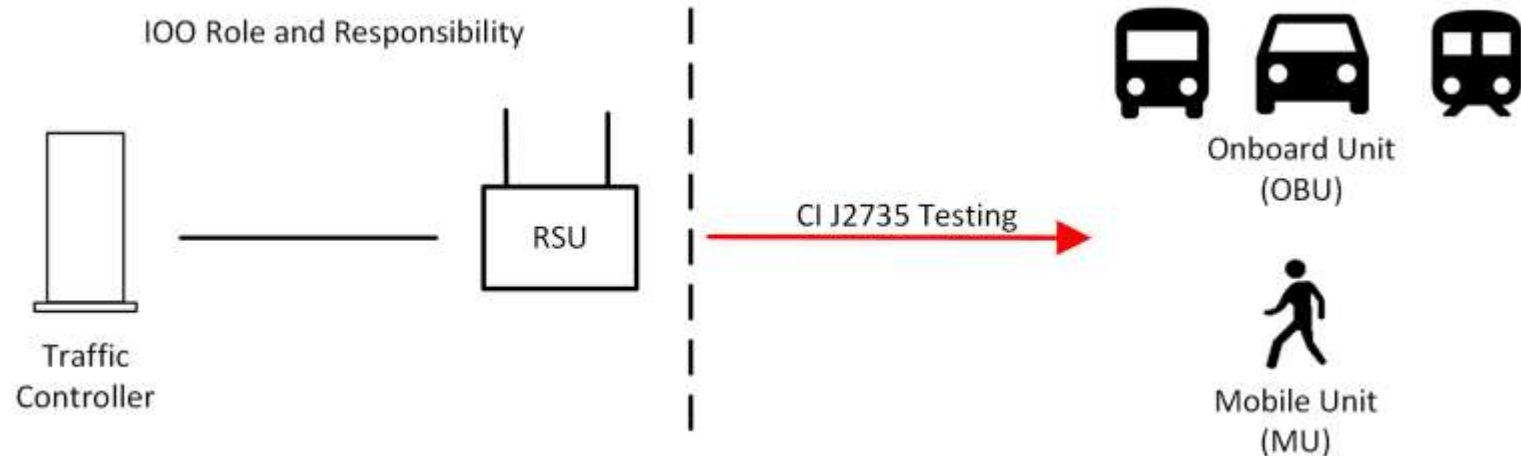
# Introductions

- USDOT
- Standards Development Organizations
  - AASHTO
  - Institute of Transportation Engineers
  - NEMA
  - SAE International
- Subject Matter Experts

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## Goals/Objectives of the Project

- Facilitate interoperability and consistent implementation of trustworthy SPaT, MAP, and RTCMcorrections messages (the red arrow is the focus of this phase of the project)



- Document technical/institutional challenges/lessons learned in preparing interoperable SPaT, MAP, and RTCMcorrection messages for a CI deployment based on the validation phase

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## Goals/Objectives of the Validation Phase

- Verify requirements and design details for SPaT, MAP, and RTCMcorrections messages are unambiguous and complete
- Document test site readiness and lessons learned regarding the Agency's experience in the design, implementation, operation and maintenance of its CI
- Document the expected date of readiness and the technical and institutional challenges/lessons learned in preparing for CI deployment
  - Vehicle side of the RSU (the “red arrow” from the previous diagram)
  - Infrastructure side of the RSU, including pathways between a controller to and including the RSU



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## CI Validation Expectations

1. The CI Committee is expecting to use a test tool that is a modified OBU that will:
  - a) capture the Agency's over-the-air SPaT and MAP messages;
  - b) Log the over-the-air SPaT/MAP data in a format conformant with SAE J2735 using JSON encoding rules
2. The CI Committee will verify the logged SPaT/MAP data.
3. The CI Committee will inform the Agency whether the SPaT/MAP messages conform with the CI Specification.
4. The Agency is expected to manage all aspects of the infrastructure-side, including the RSU.
5. As an alternative, the Agency may collect their own SPaT/MAP JSON and send it to the CI Committee. The CI Committee will run the JSON through its validator and provide the results.

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# Scope of Work

## 1. Needs and Requirement

- Focus is on the requirements for the SAE J2735 SPaT, MAP and RTCM corrections messages
- 2020 version of SAE J2735 preferred, but 2016 version acceptable

## 2. Infrastructure-side Hardware/Software

- Make changes to the infrastructure side if necessary and as mutually agreed.
- The Field Test Site Request Form identifies existing conditions
- Indicate in the letter of interest what changes might be made.

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## Scope of Work

### 3. Security Policies

- Not expected to be completely conformant
- Transmitted messages shall be digitally signed with an appropriate security certificate

### 4. Support Meetings

- “Kickoff” Meeting week of February 22
- Bi-weekly status meetings
- Close-out meeting

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# Scope of Work

## 5. Conduct Tests

- Log SAE J2735 SPaT, MAP and RTCMcorrections Messages (if available) for validation purposes
- Test tools discussion

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# Scope of Work

## 6. Final Report

- A sample report template will be provided
- A description of the initial setup of the test site (prior to the validation and verification phase). The description should include a list of the hardware used, the roadway geometry of the test site, the data elements of the V2I messages broadcasted.
- A description of the changes made to the test site
- Comments and suggestions for improvements on the draft CI Implementation Guide
- Identify ambiguities and gaps in the CI Implementation Guide along with recommendations
- Submit final report by July 2021

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## Letters of Interest

- Letters of Interest
  - No more than 2 pages
  - Indicate what changes will be made for the validation phase
  - Indicate if the test site is CI-ready
- Field Test Site Request Form
  - Complete the Form and include with letters of interest
  - Excel spreadsheet is available on the Teams and website
- Field Test Site Ranking Form
  - For information only
  - Used to evaluate sites

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## Dates

- Solicitation Letter distributed January 19, 2021
- Information Session Meeting (today)
- Letters of Interest requested by February 5 3:00 PM EST
  - Letters received after this date and time may still be considered
- Selection and announcements by February 19
- “Kickoff” meeting week of February 22

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## Questions

- Questions and answers received by e-mail will be posted at:
  - <https://www.ite.org/technical-resources/standards/connected-intersections/>



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# Adjourn

– Thank you!