

SCOWCT Future and Emerging Technology - Overview

STSMO/SCOWCT Annual Meeting
September 13, 2017

SCOWCT Current Technical Working Groups – Met over the past year

TWG1: Legacy Programs

- Frequency coordination
- Land mobile radio
- FCC regulations and procedures

TWG2: Spectrum Management

- Transportation's rights to public airwaves
- Adequate spectrum availability

TWG3: Cybersecurity

- Cybersecurity for legacy systems and new systems
- Integrate cybersecurity into NTCIP protocols

TWG4: Future and Emerging Technology

- Infrastructure to support connected & autonomous vehicles
- Backhaul, integration with emerging systems

- **Bi-monthly Meetings**
- **Member education and outreach**
- **Work to advance strategic objectives**

TWG1: Legacy Programs

Focus Areas and Related Efforts

- Frequency Coordination
- Land Mobile Radio
- FCC and NTIA developments and procedures
- Public Safety/Business Land Mobile Radio (LMR) Committees and Councils

TWG2: Spectrum Management

Focus Areas and Related Efforts

- Transportation's rights to public airwaves
- Availability of adequate spectrum for future growth
- Member education on spectrum issues

TWG3: Cybersecurity

Focus Areas and Related Efforts

- Best practices for cybersecurity in transportation
- Cybersecurity guidelines for legacy ITS equipment and new systems
- Integrate cybersecurity into NTCIP standards
- Physical security of ITS systems (as needed)

TWG4: Future and Emerging Technology

Focus Areas and Related Efforts

- Legacy ITS and New Technologies
- Communications to Support Connected and Autonomous Vehicles including Backhaul
- CV Footprint Analyses and Near Term CV Tools
- Coordination with V2I Deployment Coalition

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Strategic Objectives

1. DSRC Licensing and other pertinent license application and approval procedures (e.g. FCC)
2. Coordinate with backhaul initiatives related to the above listed CV/AV and other emerging technologies.

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TWG4 Year in Review

- **Meet approximately quarterly**
- **Four webinar meetings in 2017**
 - December 2016
 - February 2017
 - May 2017
 - August 2017

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TWG 4 Initiatives

- Education and outreach about DSRC, CV, and AV implementation status
 - ❖ Identified need to understand existing resources – what's out there?
 - ❖ Presentation of Current Published Resources – May TWG4 meeting
 - ❖ Developed compilation document: “Select Published Resources: CV and DSRC Deployment”
 - ❖ Consider next steps for defining needs and requirements for DSRC

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TWG 4 Initiatives

“Select Published Resources: CV and DSRC Deployment” document contains:

- ❖ **USDOT Web Pages:** Publications, CV Pilot Deployments, and Research
- ❖ **Deployment Guidance Publications:** DSRC Licensing Guidance, SPaT Challenge Resources, etc.
- ❖ **Prioritizing Connected Vehicle Application and Deployment -** Footprint Analysis, Reference Implementation Architecture (CVRIA),
- ❖ **Connected Vehicle Standards**
- ❖ **Systems Engineering Resources –** ConOps and Requirements

USDOT ITS Joint Program Office web pages:

- Vehicle-to-Infrastructure (V2I Resources): <https://www.its.dot.gov/v2i>
- CV Pilots Deployment Project: <https://www.its.dot.gov/pilots/index.htm>
- Research Archive: https://www.its.dot.gov/research_archive.htm

Deployment Guidance

- [Vehicle to Infrastructure Deployment Guidance and Products](#) (FHWA, Sept 2014)
 - DSRC licensing is addressed on pages 16-17. Page 17: “Although safety communication has precedence, identification and removal of interfering non-safety signals could be problematic, particularly if the interfering deployment was licensed and sited first. FHWA recommends that once an application deployment is identified in the planning process, site licensing should be undertaken.”
- [Recommended Practices for DSRC Licensing and Spectrum Management](#) (FHWA, Dec 2015)
 - Carefully read entire document
 - Flowcharts for obtaining a license begin on p. 27
- [V2I Deployment Coalition Resources](#)
 - Resources include a Final Report, Webinars, and Technical Memorandums on various issues related to deployment guidance, standards, and initiatives.
- [SPaT Challenge Resource: Implementation Guide](#) (AASHTO, 2016)
 - A high-level summary of the deployment process for Signal Phase and Timing (SPaT) messages and supporting messages and applications.

Prioritizing Connected Vehicle Application and Deployment

- [National Connected Vehicle Field Infrastructure Footprint Analysis](#) (FHWA, June 2014)
 - Pages 24-26 provide a list of applications identified from a greater analysis of potential CV applications. The remainder of this section of the document talks in greater detail about the communications process and assumptions.

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Other Committee Highlights – prior to 2017

- Webinar featuring overview of FHWA “DSRC Licensing Guidelines” document
- Worked with TWG2 Spectrum Management on Notice of Proposed Rulemaking on 5.9 GHz Spectrum Sharing
- Webinar with TWG3 Cybersecurity: Security Credential Management System for Connected Vehicles

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Other Committee Highlights

- U.S. Government Accountability Office (GAO)- Input from AASHTO on FirstNet Implementation
 - Created position document – noting how DOT has been involved, opportunities, and concerns
 - Meeting with GAO staff to provide input
- Updates on Wireless Communications Policy
 - Mobile Now Bill
 - FCC Public Notice on Cellular Tower Siting