CONNECTED VEHICLE AFFILIATED TEST BED PROGRAM

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Agenda

- Vision
- Overview of Test Bed Program
  - Charter & Membership
  - Progression Towards National Deployment
- How To Get Involved
Vision

- Establishes multiple interoperable locations as part of one connected system
- Moves towards a national deployment
- Supports the development & testing of a common architecture & standards
- Promotes shared resources
- Provides for independent operations
Test Bed Charter & Membership

- Developed an organizational structure and charter to make membership “official”

Benefits of Membership
- Designation of Affiliated Test Bed
- Access to USDOT support staff and resources
- Increased access to lessons learned, documentation and other information from peer deploying test beds
- Test beds serve as a model for future permanent deployments
- Provides for opportunities for future testing
Test Bed Membership Distribution

- Total Membership
  - 87 Memorandums of Agreement

- Organization Types
  - Private Enterprise (67)
  - Academic (13)
  - Local Agencies (7)
  - State Agencies (3)

- Membership Information:
Is the Test Bed Right For You?

- **How Can You Use A Connected Vehicle Test Bed**
  - Test beds provide cutting-edge technology for users to conduct a variety of tests, including:
    - Developing and testing applications using Signal Phase and Timing (SPaT) & Geometric Intersection Description (GID) data
    - Vehicle awareness devices (VADs), aftermarket safety devices (ASDs), in-vehicle safety devices (ISDs), radios & RSUs
    - Security System Operations
    - Other CV applications, concepts, and equipment
  - **Test Beds offer:**
    - Pre-existing agreements with local agencies eliminating the need for complex testing arrangements with roadway operators
    - Highly skilled staff who can help users test a variety of complex scenarios in early deployments
Multiple Locations…One Connected System

▪ How to become an Affiliated Test Bed
  □ Have connected vehicle infrastructure deployed
  □ Use (or willingness to use) current standards where appropriate
  □ Willingness to share information and participate in on-going discussion

▪ Developing Common Platform
  □ Common 3rd Generation RSEs (Safety Pilot)
  □ Use of USDOT’s Security Credential Management System for Security
  □ WSMP & IPv6 Connectivity
  □ Common Data Repository
  □ Installation, Operations & Maintenance Guidance
The Evolution Continues…

- Progression towards national deployment
  - Growing Number of Test Beds & Users

- Upgrades & Enhancements Support for:
  - Security Certificate Management System (SCMS)
  - Local Certificate Distribution System (LCDS)
  - Improved IPv6 Functionality & Capabilities
  - RSU data logging
  - New RSUs supporting improved messaging, logging
  - Future upgrades to support mobility applications
  - Upgrades and Enhancements to Support Evolving User Needs
Southeast Michigan Test Bed

- Test Bed Resources
  - 50 locations broadcasting SPaT, MAP, and TIM
  - 3 portable RSUs and trailers that allow for private testing
  - Data Center running 24-7 and on 99% uptime.
  - Test vehicles and drivers, upon request.
  - On-site experts with years of experience in intelligent transportation systems and connected vehicle systems.
Affiliated Test Bed Information Repository

- Affiliated Test Bed
  - Project Documents
  - Meeting Information

- SE Michigan Projects
  - Architecture
  - ConOps
  - Design
  - Certification

- Limited Access
  - Affiliated Test Bed Members
  - USDOT contract and grant recipients

All requests for support come through a single service desk

- Sign-up for an account at: https://cvcs.samanage.com

- Typical requests
  - Equipment loans
  - In-facility testing support
  - RSU/OBU configuration
  - Schedule a facility tour

- Articles / FAQs
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