



Source: FHWA.



Accelerate Cooperative Driving Automation (CDA) Deployment with Open Source Software for ITS (OSS4ITS)



Agenda

- OSS4ITS Overview
- Four Projects under OSS4ITS umbrella
- Benefits of OSS4ITS
- Available Resources
- Additional Links



OSS4ITS Overview



The Open Source Software Suite for Intelligent Transportation Systems (OSS4ITS) is an ecosystem that promotes the deployment of interoperable transportation systems.

The software provides Infrastructure Owners and Operators (IOOs), software companies and device manufacturers a clear picture of the available open source software tools for both technical and business audiences.

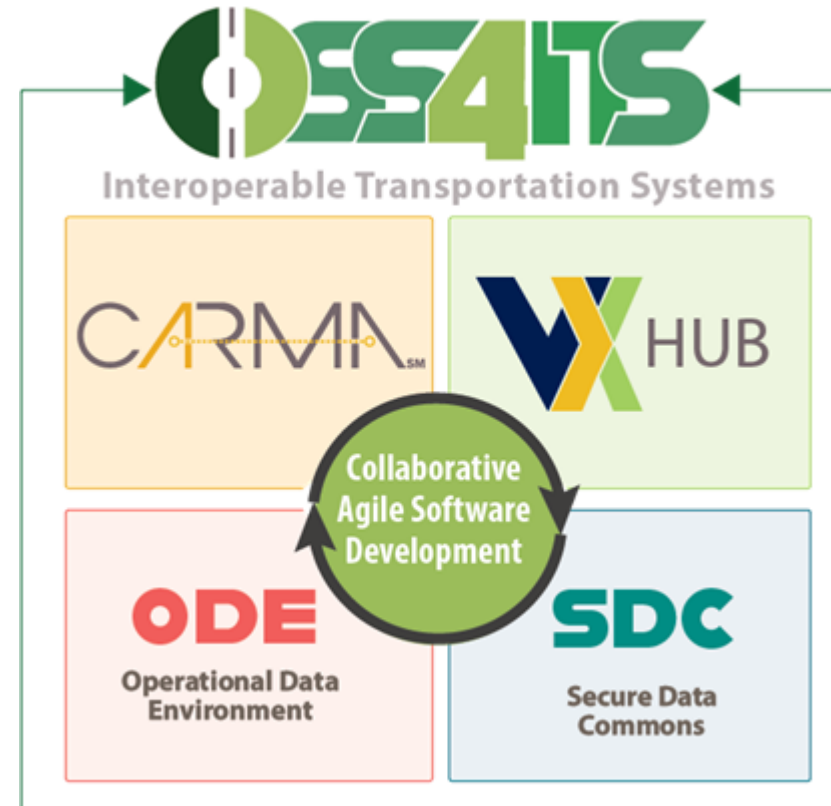


The four projects under OSS4ITS



Products include:

1. Vehicle to Everything Hub (V2X Hub).
2. Operational Data Environment (ODE).
3. Secure Data Commons (SDC).
4. CARMASM



Source: FHWA





- Multimodal OSS that enables networked, wireless communications among vehicles, infrastructure, and personal communications devices.
- Seeks to build on existing OSS applications for communication among all parts of a connected deployment including vehicles, infrastructure, pedestrians, cyclists, and emergency services to create an interoperable software environment for Vehicle-to-Everything (V2X) research and deployment.



Operational Data Environment (ODE)



The Operational Data Environment (ODE) is a real-time data acquisition and distribution software system that processes and routes data from Connected-X devices to subscribing applications to support the operation, maintenance, and use of the transportation system, as well as related research and development efforts.



Secure Data Commons (SDC)



- A cloud-based analytics platform that enables traffic engineers, researchers, and data scientists to access transportation-related datasets.
- Three types of data transfer updates supported:
 - Real-time (streaming).
 - Batch (daily, weekly).
 - Ad-hoc (occasional)
- Offers authorized and controlled access to individual datasets - as well as the metadata - associated with those datasets.





- A suite of open source software (OSS) products initiated by Federal Highway Administration (FHWA) to enable the testing and evaluation of cooperative automation concepts to improve safety and increase infrastructure efficiency.
- Provides vehicles with the functions needed for automation and facilitates the development of new TSMO strategies while identifying TSMO scenarios that would benefit from CDA.
- Multimodal effort between FHWA, Federal Motor Carrier Safety Administration (FMCSA), Intelligent Transportation Systems Joint Program Office (ITS-JPO), Maritime Administration (MARAD) and Volpe National Transportation Systems Center.



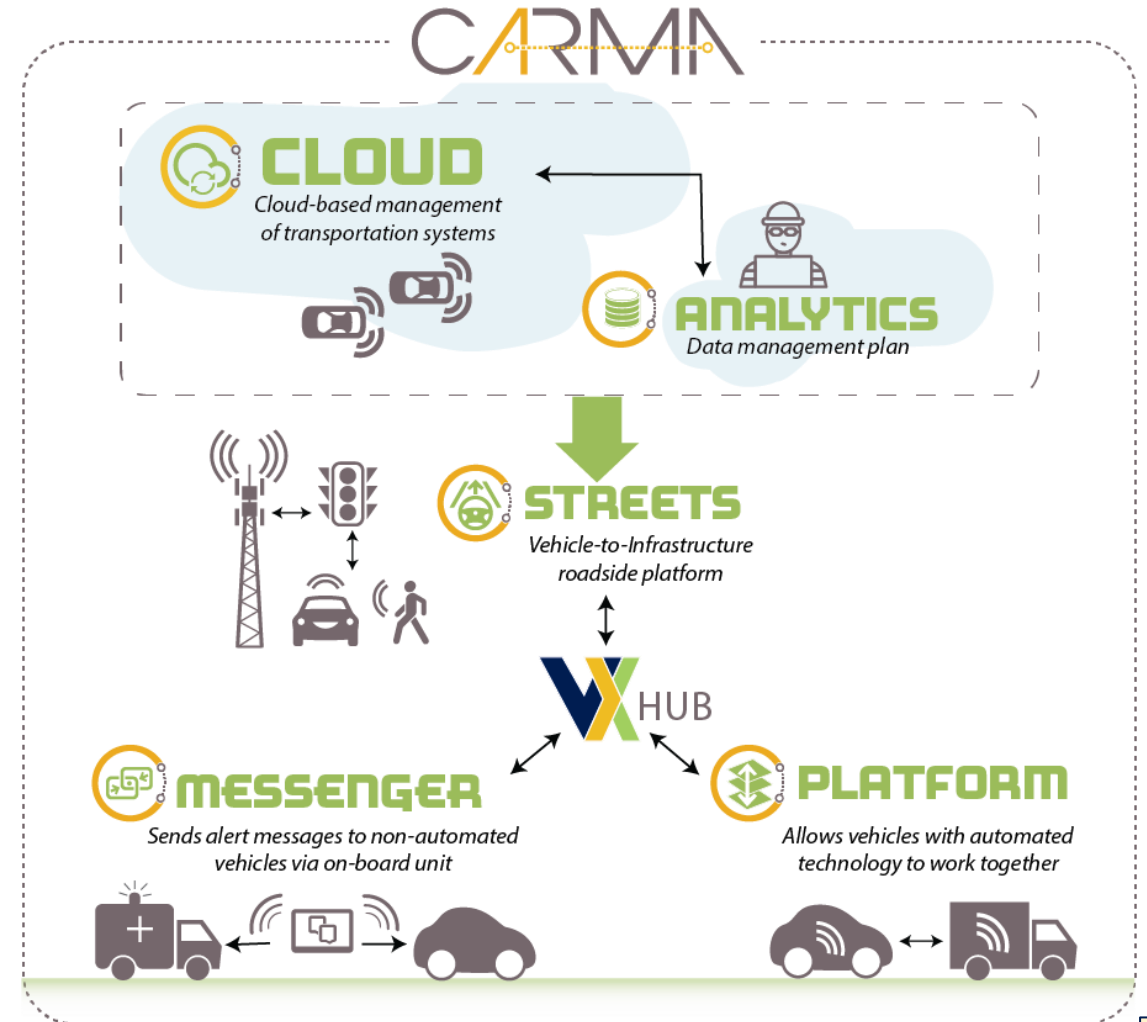


Product Suite

A suite of open source software to enable automated vehicles to improve transportation mobility, efficiency, and safety.

Tools:

- Cloud.
- Streets.
- Platform.
- Messenger.
- Analytics.



Benefits of OSS4ITS



- Ensure collaboration between SDC, ODE, CARMA and V2X Hub to develop a unified software suite.
- Provide a single point of entry to ask questions and get technical assistance.
- Identify the overlapping software to reduce any redundancies in the architecture and documentation for the individual projects to encourage reuse.
- Identify overlaps, interfaces and gaps in architecture and data flows.
- Deployers can accelerate their programs by utilizing, reusing and augmenting the OSS4ITS tools.





Resources available at ITS Professional Capacity Building Program page:
https://www.pcb.its.dot.gov/CV_deployer_resources.aspx

- Connected and Automated Vehicle Support Services
- CAV Equipment Loan and Help Desk.
- OSS4ITS Resources.
- ITS Standards and Architecture.
- ITS DataHub and CodeHub.
- Technical Reports and Primers from USDOT CV Pilots.



To learn more visit:



- OSS4ITS Confluence homepage:
 - <https://usdot-oss4its.atlassian.net/wiki/spaces/OSSFITS/overview>
- OSS4ITS Confluence email: OSS4ITS@dot.gov
- Key links for each OSS4ITS project:
 - <https://usdot-oss4its.atlassian.net/wiki/spaces/OSSFITS/pages/23494676/Links+to+Project+Documentation>
- CAV Support Services overview:
 - https://www.pcb.its.dot.gov/CV_deployer_resources.aspx
- CAV Support Services email:
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Contact Us!



Deb Curtis
Technical Manager
FHWA Office of Operations R&D



Email
Deborah.Curtis@dot.gov



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