



Connected Vehicle (CV) Technology Overview



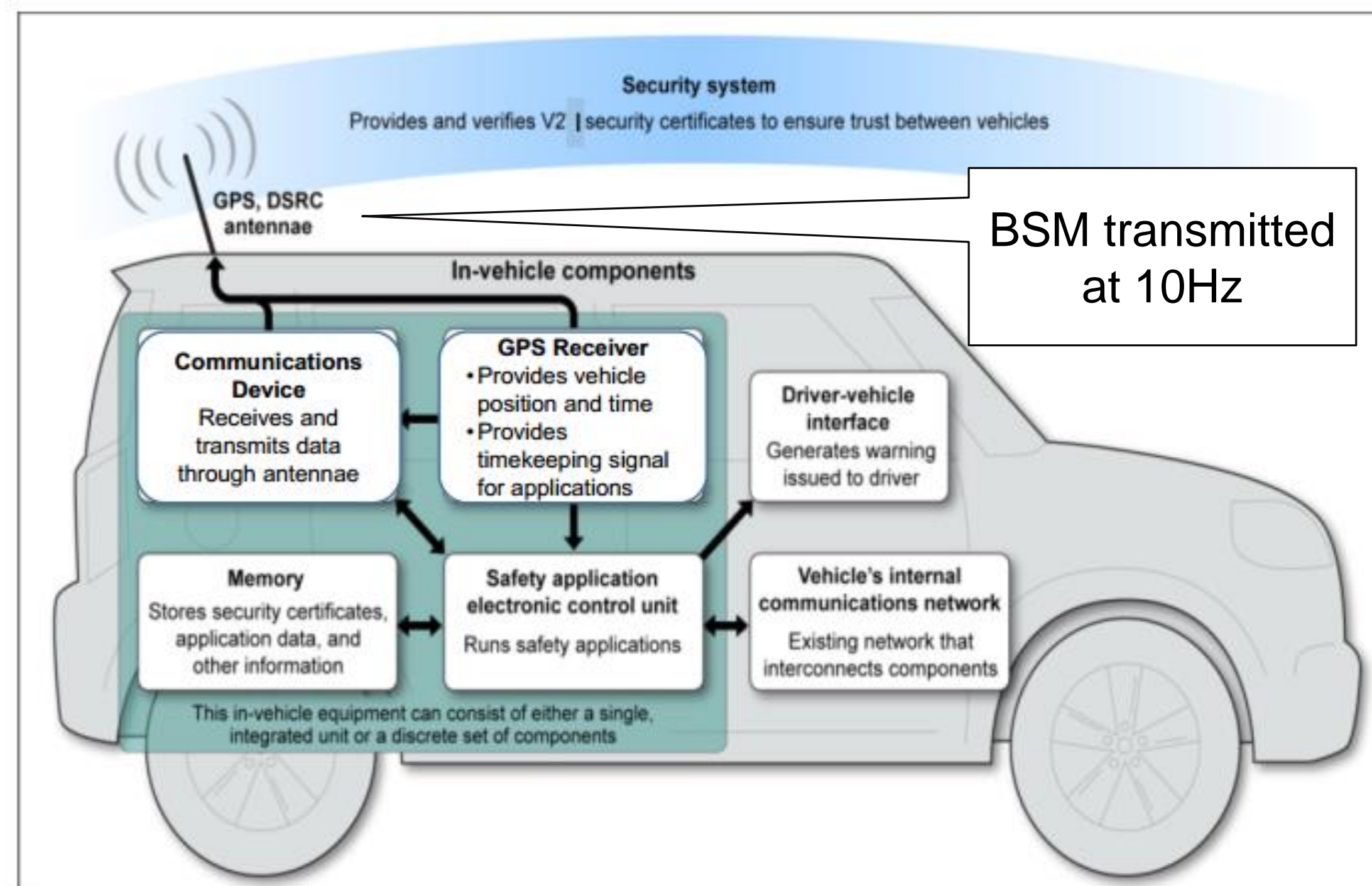
List of Terms

- DSRC – Dedicated Short-Range Communication
- V2V – Vehicle-to-Vehicle
- V2I – Vehicle-to-Infrastructure

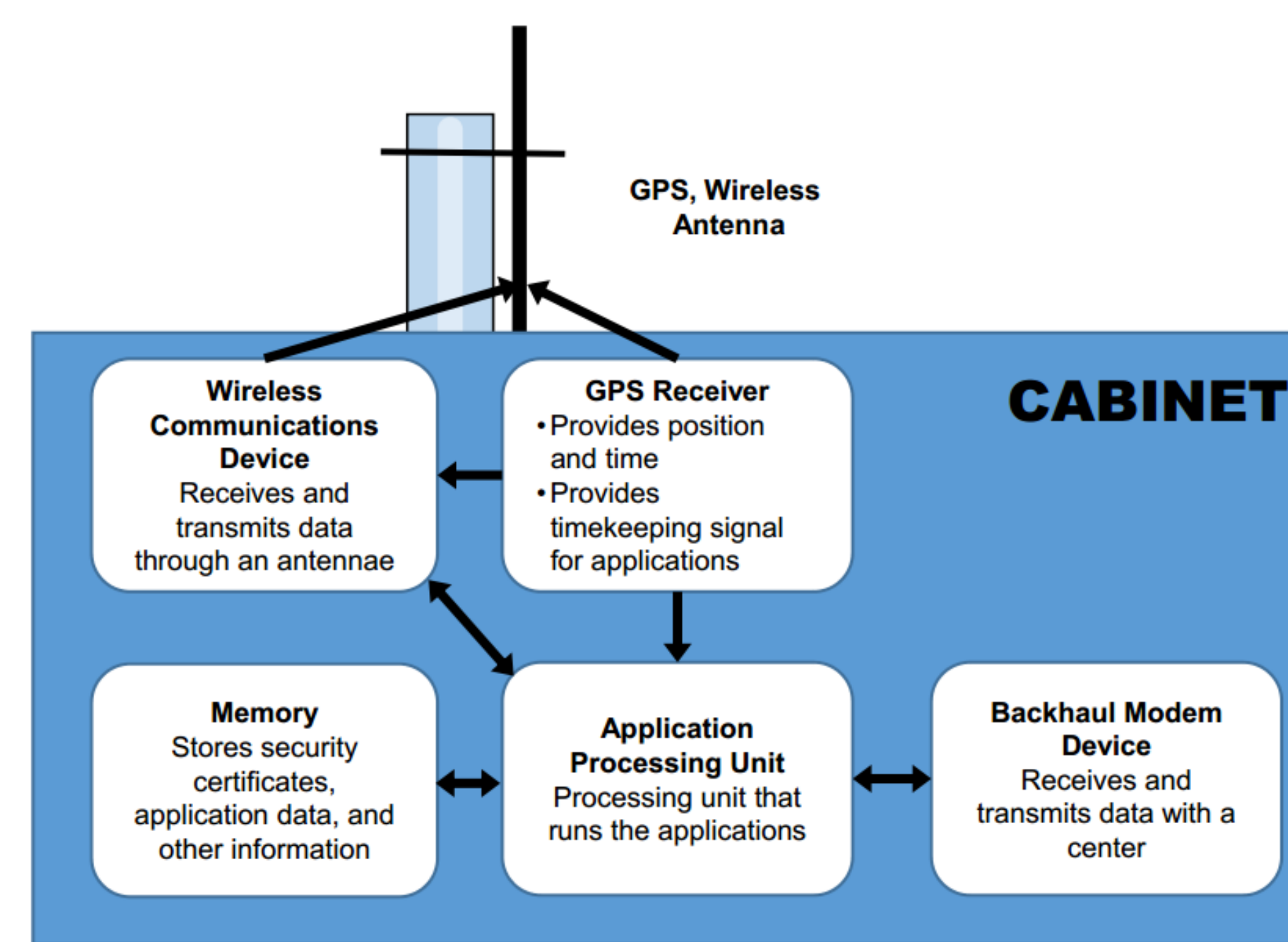
- OBE/OBU – Onboard Equipment/Onboard Unit
- RSE/RSU – Roadside Equipment/Roadside Unit
- SPaT – Signal Phase and Timing
- BSM – Basic Safety Message

Vehicle (V) and Infrastructure (I) Equipment To Deploy

Onboard Equipment (OBE)



Roadside Equipment (RSE)



Source: Crash Avoidance Metrics Partnership and GAO

Partners



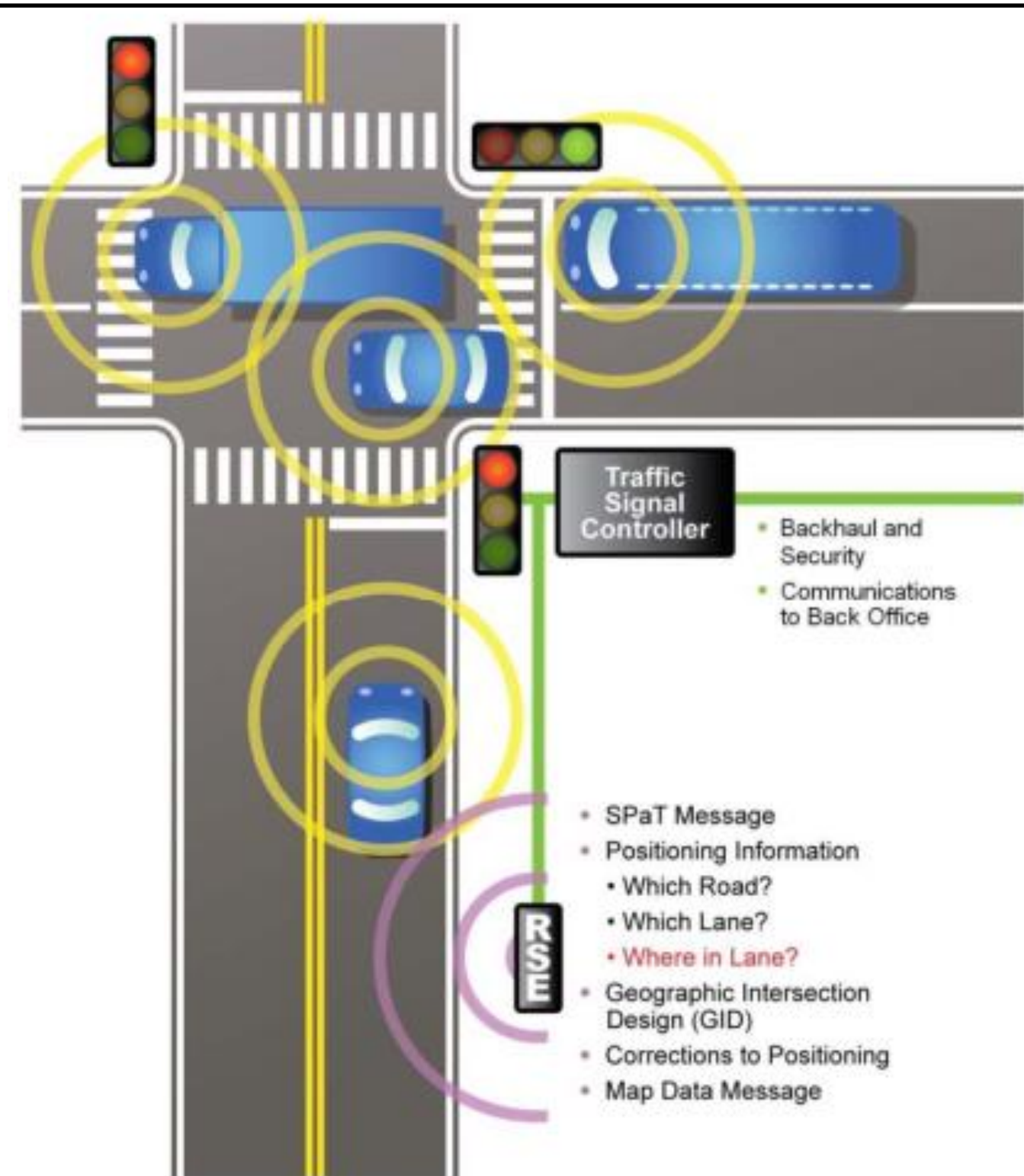
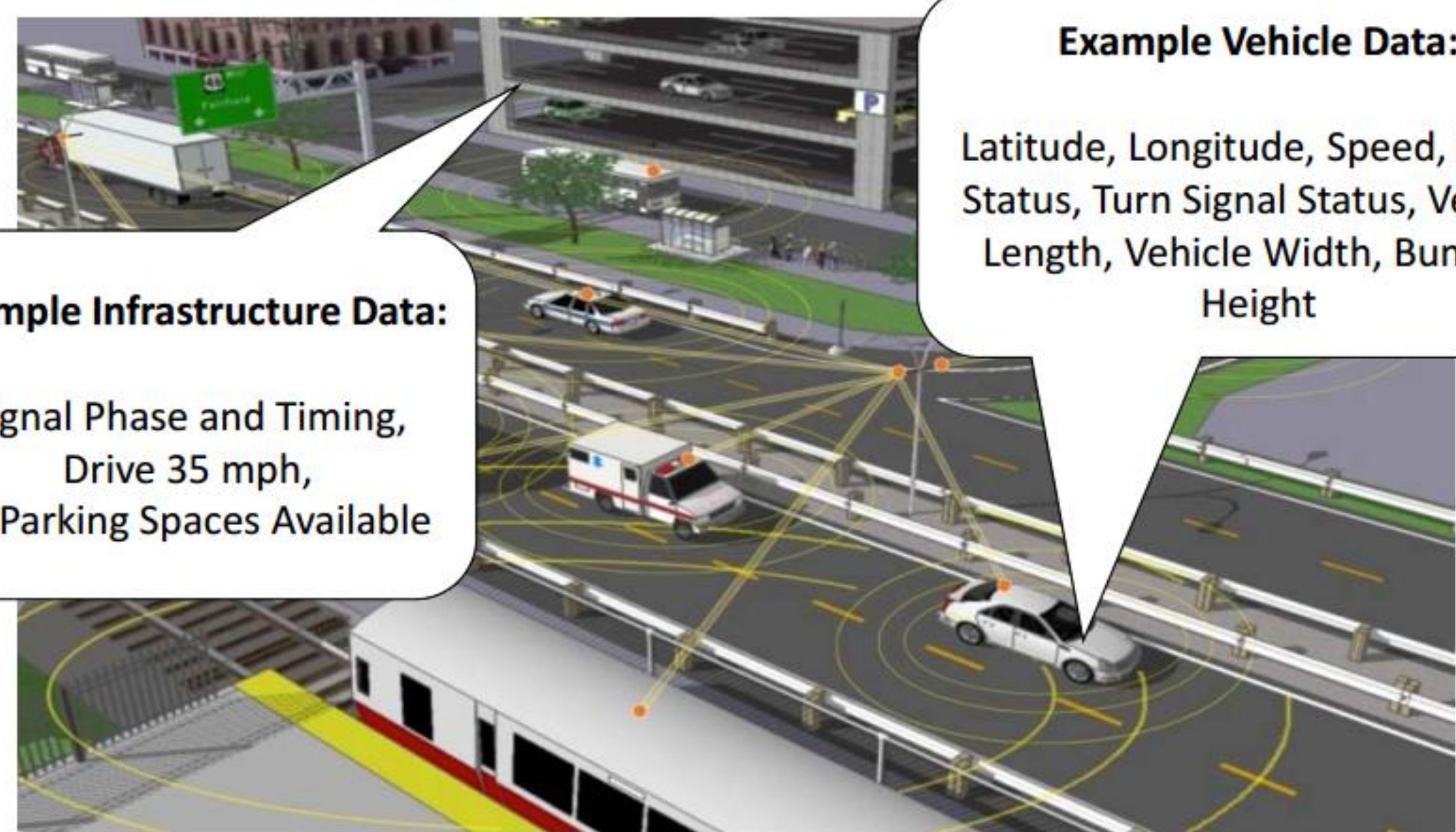
Savari Radios for V2I Communications

Savari's DSRC-based RSE have been used in ITS test beds and commercial applications nationwide. The Savari StreetWAVE has been deployed in both the Michigan mCity pilot program and in Arizona. It offers multiple configuration options for DSRC radios, Wi-Fi and GPS, and is compliant with the United States Department of Transportation (USDOT) RSE v4.1 specification. The MobiWAVE OBU allows for the retrofitting of CV technology in older or non-instrumented vehicles. It has a GPS receiver and contains radios capable of communicating DSRC, WiFi, Bluetooth, and cellular channels.



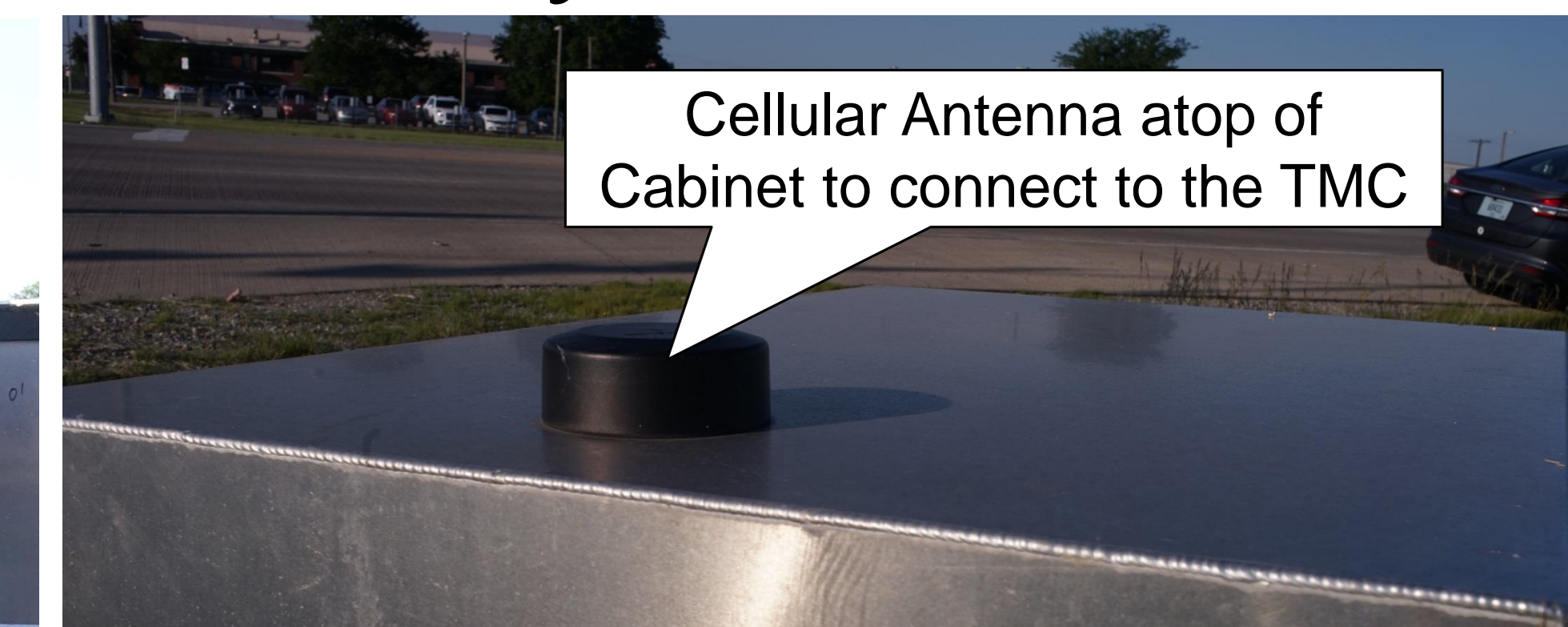
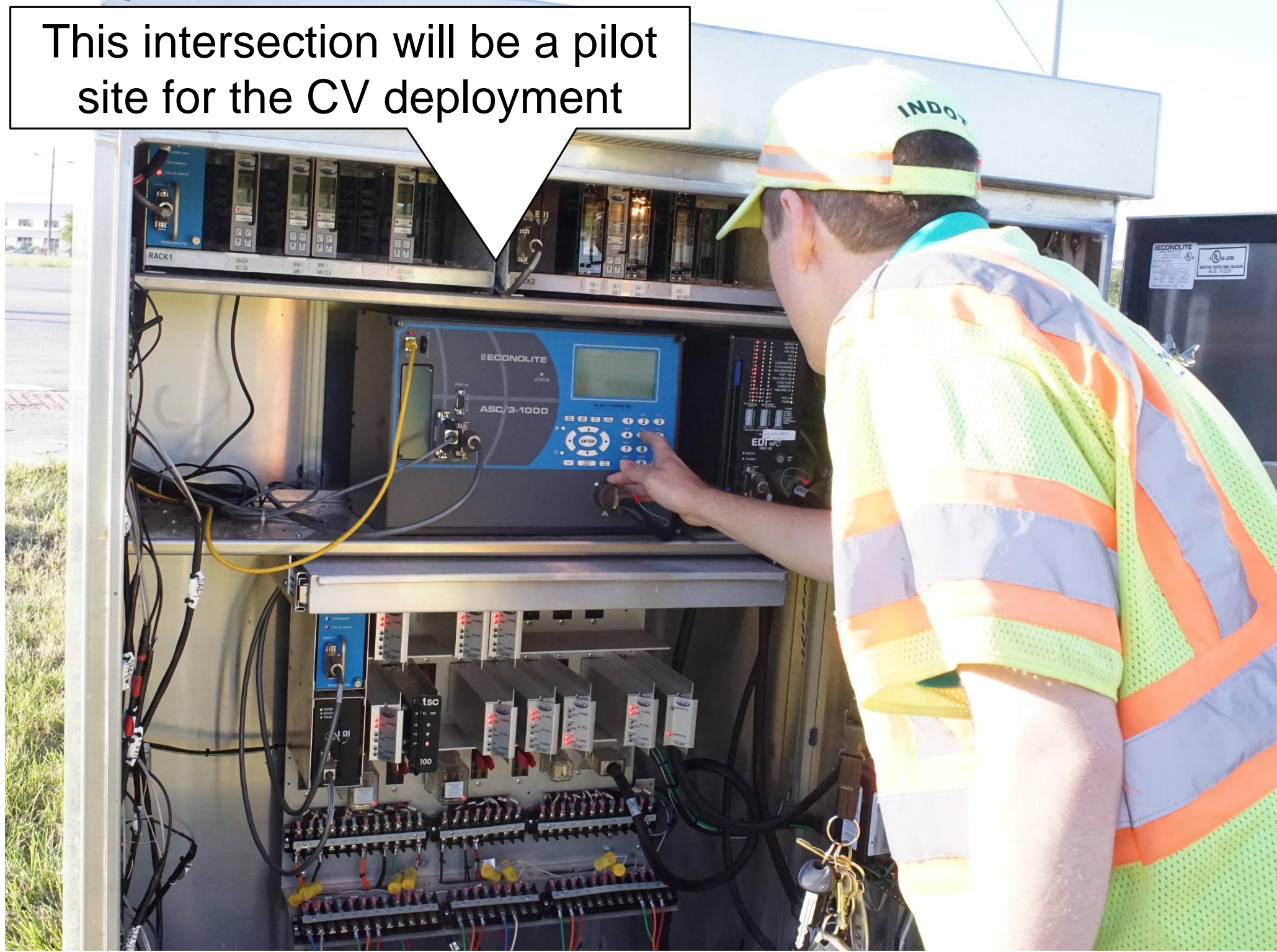
List of Data Elements in J2735

- BasicSafetyMessage
- EmergencyVehicleAlert
- ProbeVehicleData
- SignalStatusMessage
- MapData
- IntersectionCollision
- RoadSideAlert
- TravelerInformation
- SPaT
- NMEAcorrections
- RTCMcorrections
- PersonalSafetyMessage
- CommonSafetyRequest
- ProbeDataManagement
- SignalRequestMessage



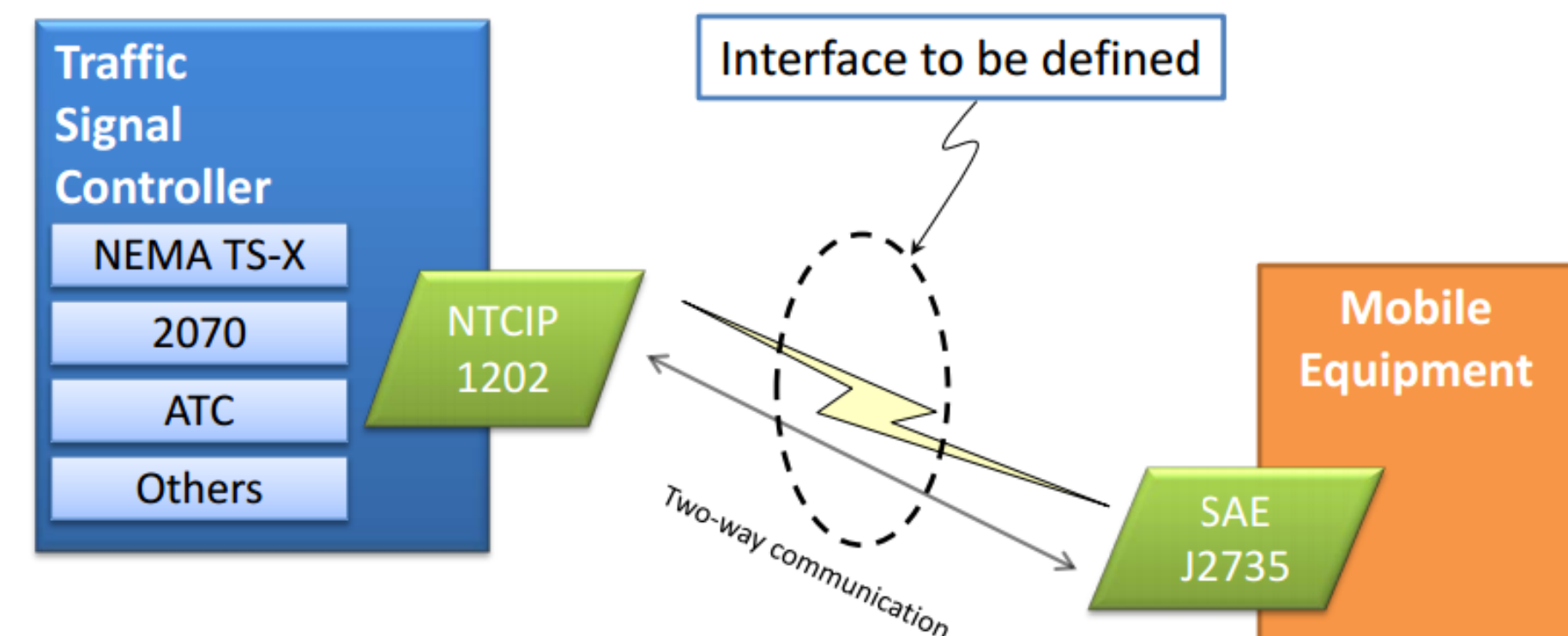
Source: US Department of Transportation

US-231 at Airport Road, West Lafayette



Standards

- Transmission Standards**
 - ASTM 2213-03
 - IEEE 802.11-2012
 - IEEE 1609 Family
- Interface Standard**
 - SAE J2945 Family
 - ISO 19091 Family
- Data Standard**
 - SAE J2735



Source: University of Arizona

