

2014 Road Weather Management Stakeholder Meeting

**August 12-14, 2014
Salt Lake City, Utah**

**VII Consortium
Bob Pheiffer**

VII Consortium (VIIC)

Industry consortium (Michigan 501 (c) (06) non-profit)
consisting of ten light-duty vehicle manufacturers



TOYOTA



HONDA

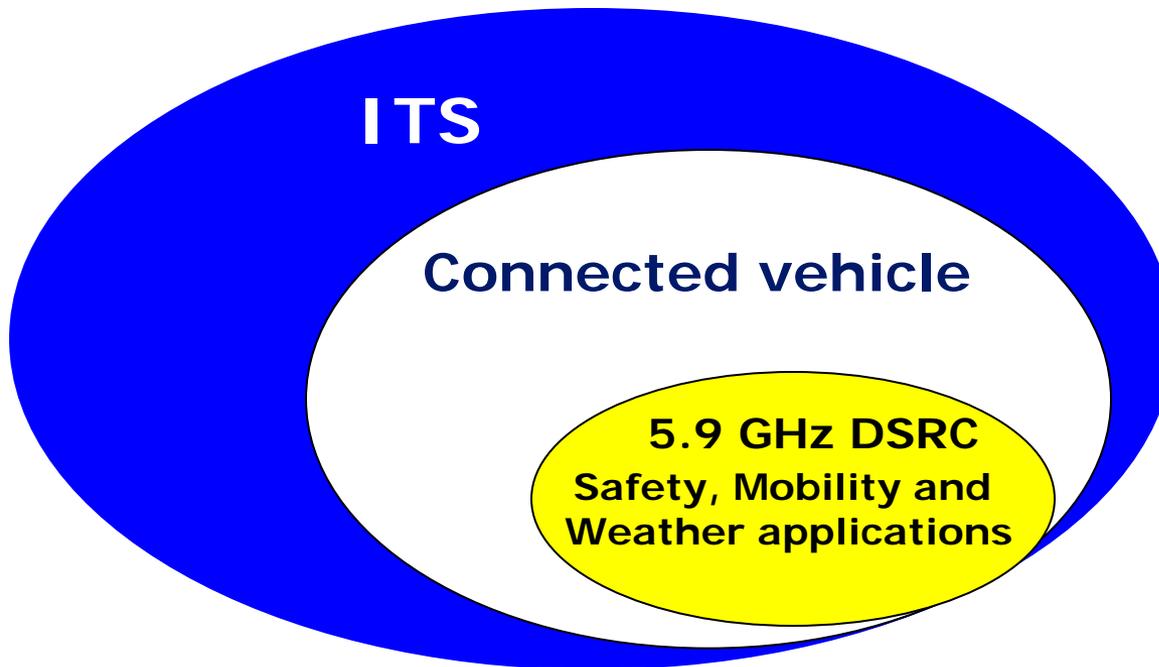


Mercedes-Benz



VIIC Focus within the Connected Vehicle Initiative

The Connected Vehicle initiative encompasses a wide range of evolving technologies developed by many government, industry, and academic partners. The VIIC is primarily focused on deployment of cooperative safety, mobility and weather applications based on 5.9 GHz DSRC .



Sustainable Transportation

The *Connected Vehicle communication system* can become a cornerstone for future transportation sustainability. It is more than a safety system or an environmental technology, it is a *suite of V2V and V2I applications* that:

- ▶ Provide enhanced active safety
- ▶ Leverage existing infrastructure for greater mobility and productivity
- ▶ Improved fuel economy and reduce greenhouse gases

General DSRC Requirements

Required for Deployment:



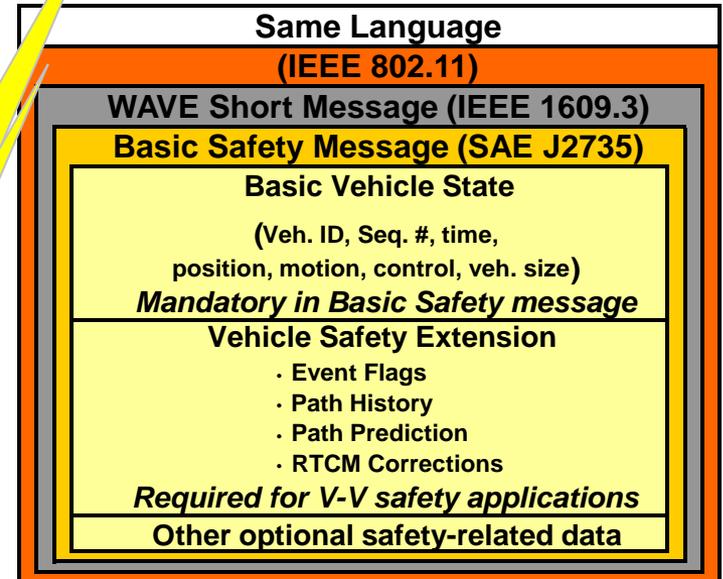
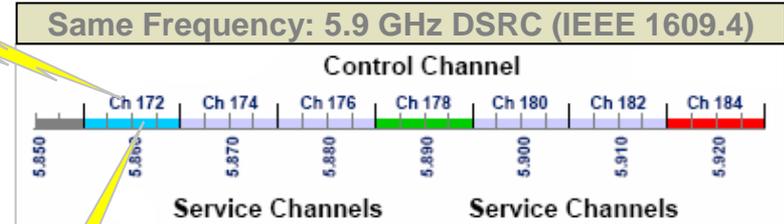
Different Manufacturers

– Communicating on the Same Frequency
→ *Where do we go to talk*

– Using the Same Language
→ *We understand each other*
→ *Data in messages meets same minimum requirements*

- With Security
→ *We trust what we say to each other*

- Managing Channel Loading
→ *We vary message frequency and power together*



Mobility: \$78 Billion Cost of Urban Congestion

USDOT data shows traffic congestion is a **\$78 billion annual drain** on the U.S. economy...

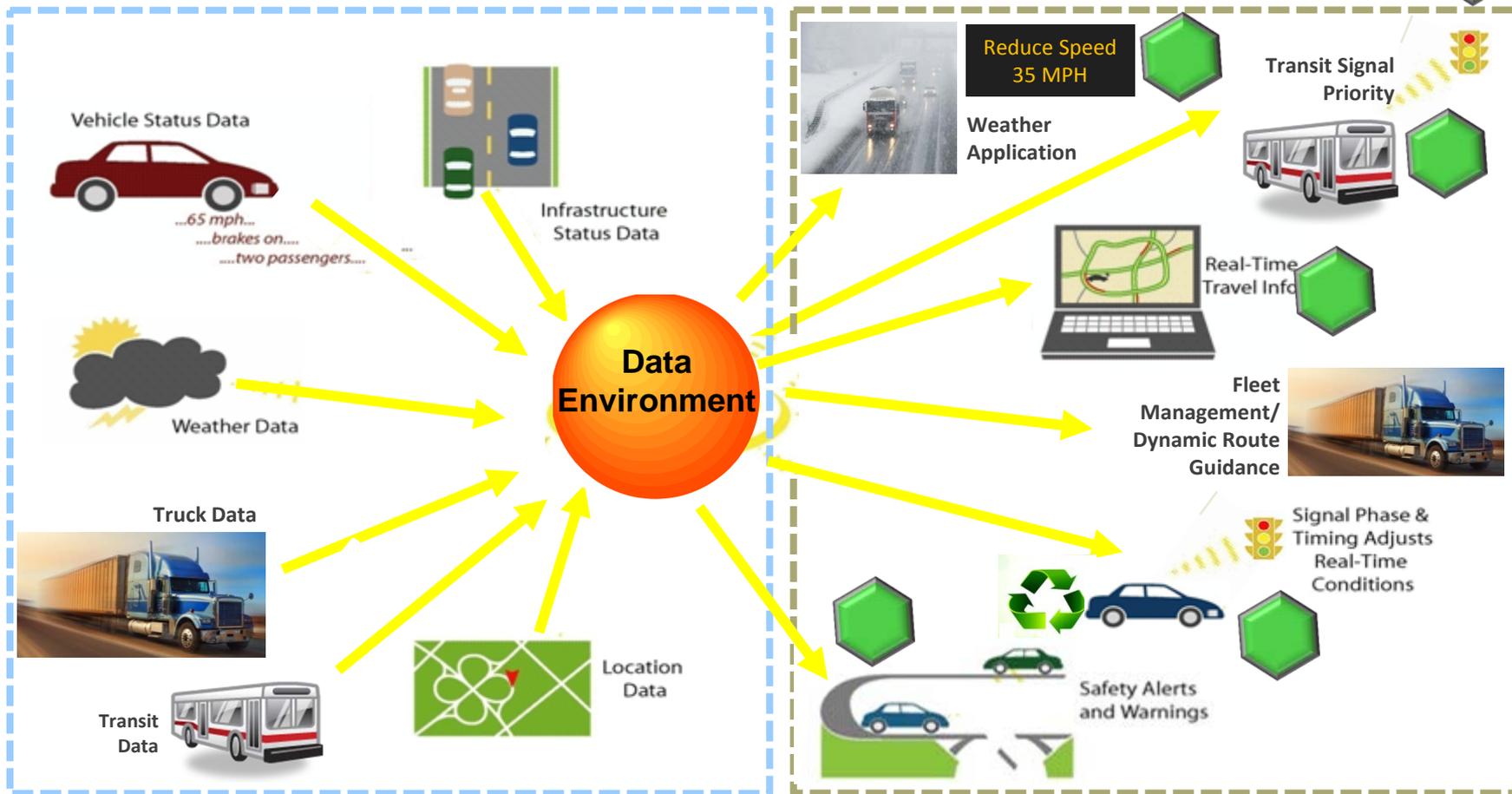
- 4.2 billion lost hours
- 2.9 billion gallons of wasted fuel = 58 fully loaded supertankers.

- ▶ Preventing crashes reduces the most common source of congestion
- ▶ Basic safety message monitoring by infrastructure allows optimization of traffic flow
- ▶ DSRC driver information minimizes local impact of traffic disruptions
- ▶ Vehicle communication with local infrastructure enables more effective traffic management algorithms to be implemented – more throughput from existing roadways

Mobility Program

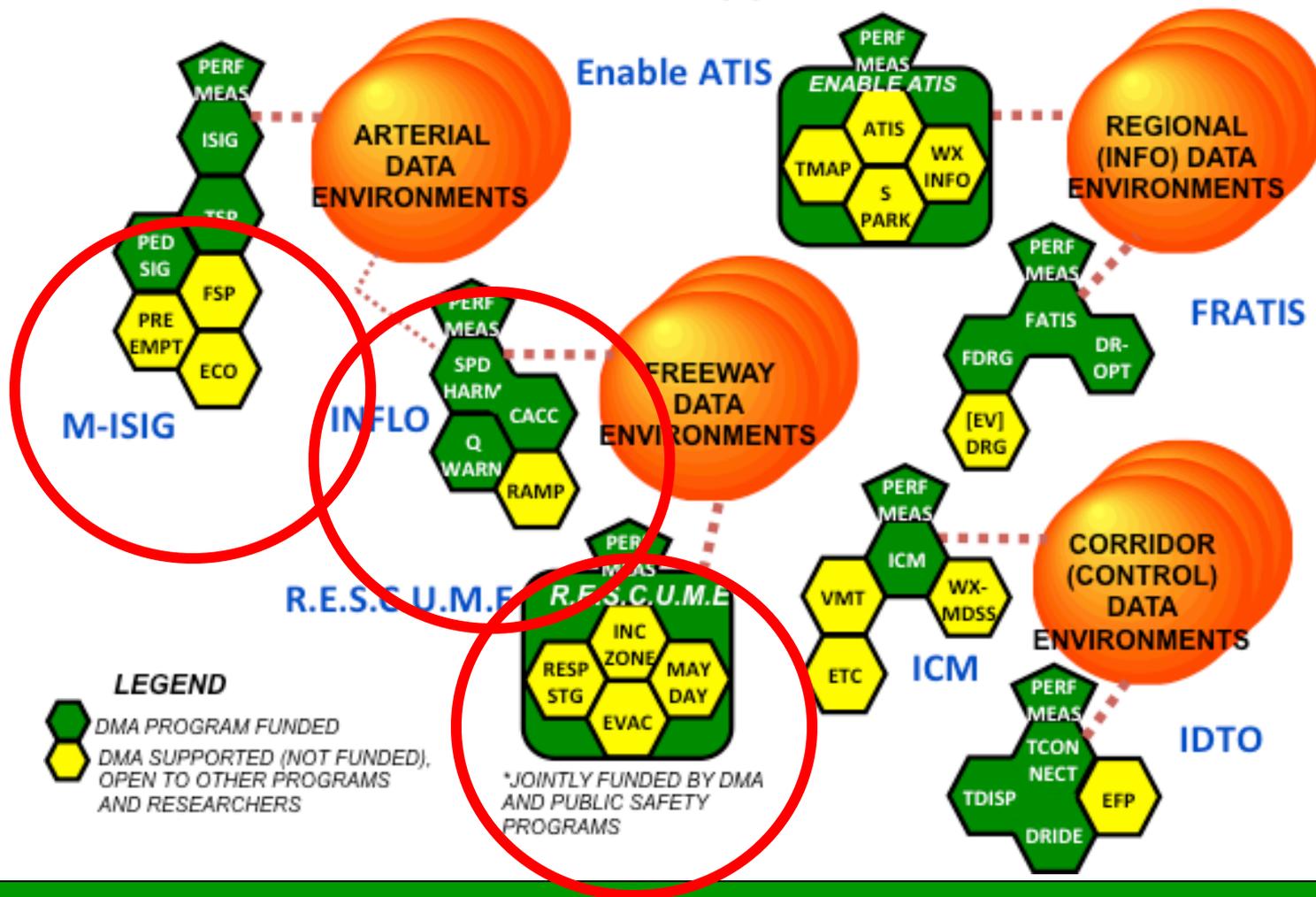
Real-time Data Capture and Management

Dynamic Mobility Applications



Dynamic Mobility Applications Program Data Environments and Applications

93 ideas → 30 applications → 7 bundles



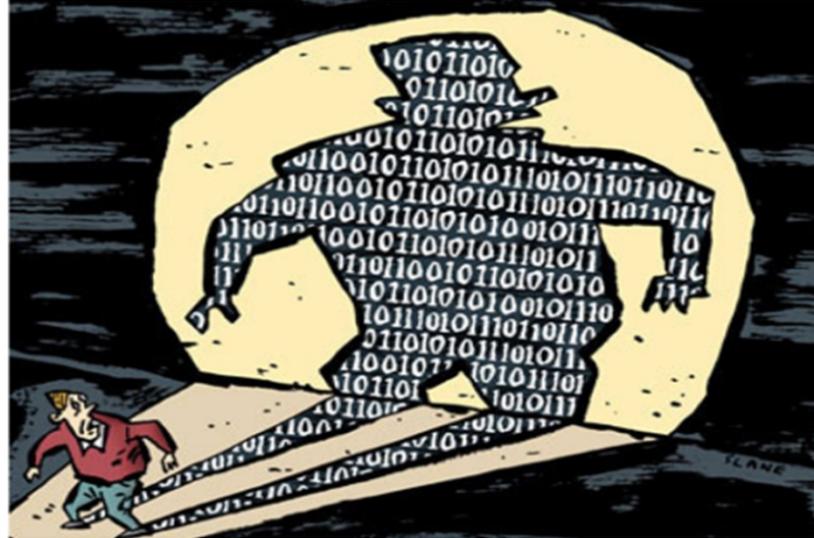
Another Key Area for AASHTO-VIIC Coordination - Security



Messages from other Vehicles and the Infrastructure must be trusted

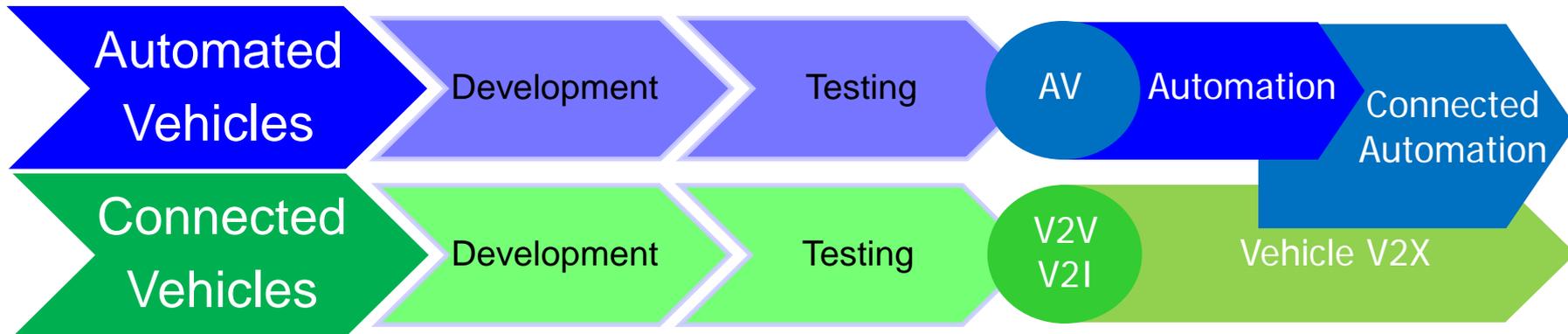
- Autonomous vehicle safety applications depend upon sensor data from within the same vehicle
- Cooperative safety and mobility applications depend upon data from other vehicles and from the infrastructure
- This data must be trusted in order for a cooperative system to work

Key Enabler - Privacy



- Drivers must also find the system acceptable
- It must be possible for people to travel in their private vehicles without being tracked, therefore mandatory services must be rendered anonymously
- Opt-in services that collect personally-identifiable information must adhere to use limits and fair information practices

Autonomous Vehicles



▶ Vehicle Automation Development

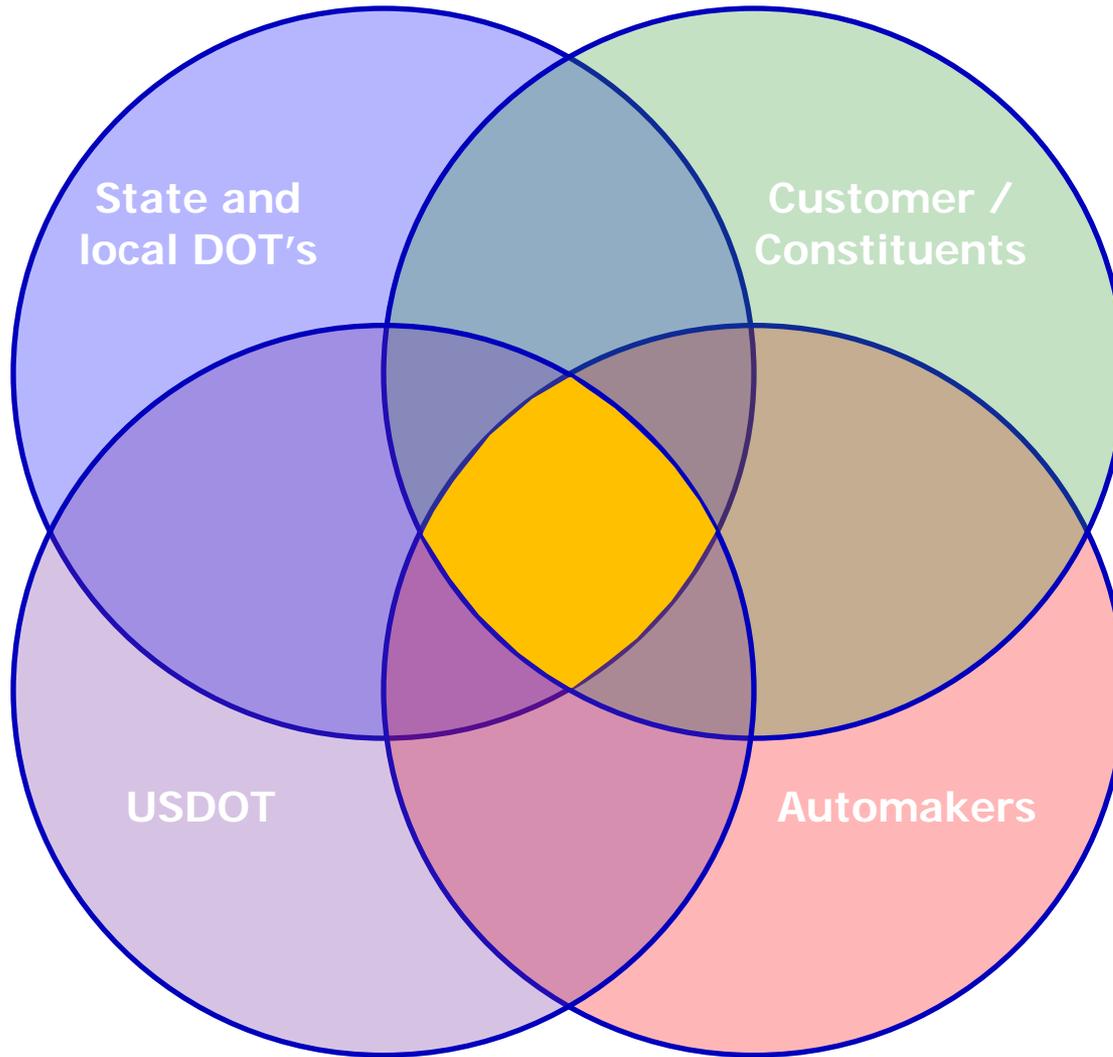
- Can proceed independently of connectivity to a point
- Greatly enhanced with connectivity to other vehicles and infrastructure

▶ Benefits of Connectivity

- Increases availability, speed, and reliability of information
- Enables coordination of automated traffic streams

The full potential benefits of road vehicle automation may be enhanced through a connected environment

Final Thoughts



Need to Collaborate on a Focused Suite of Applications that Motivate Stakeholders to Take Action for a Successful Deployment.