UNITED STATES
DEPARTMENT OF TRANSPORTATION

US ITS Connected Vehicle Program: Data Collection and Sharing Opportunities

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Solving Transportation Issues Through Greater Situational Awareness

Drivers/Operators

Vehicles and Fleets

Connectivity

Infrastructure

Wireless Devices

Opportunities for Accessing Data!

- Safety Pilot Model Deployment
- ITS Data Capture and Management
- Affiliated Test Beds
- Research Data Exchange

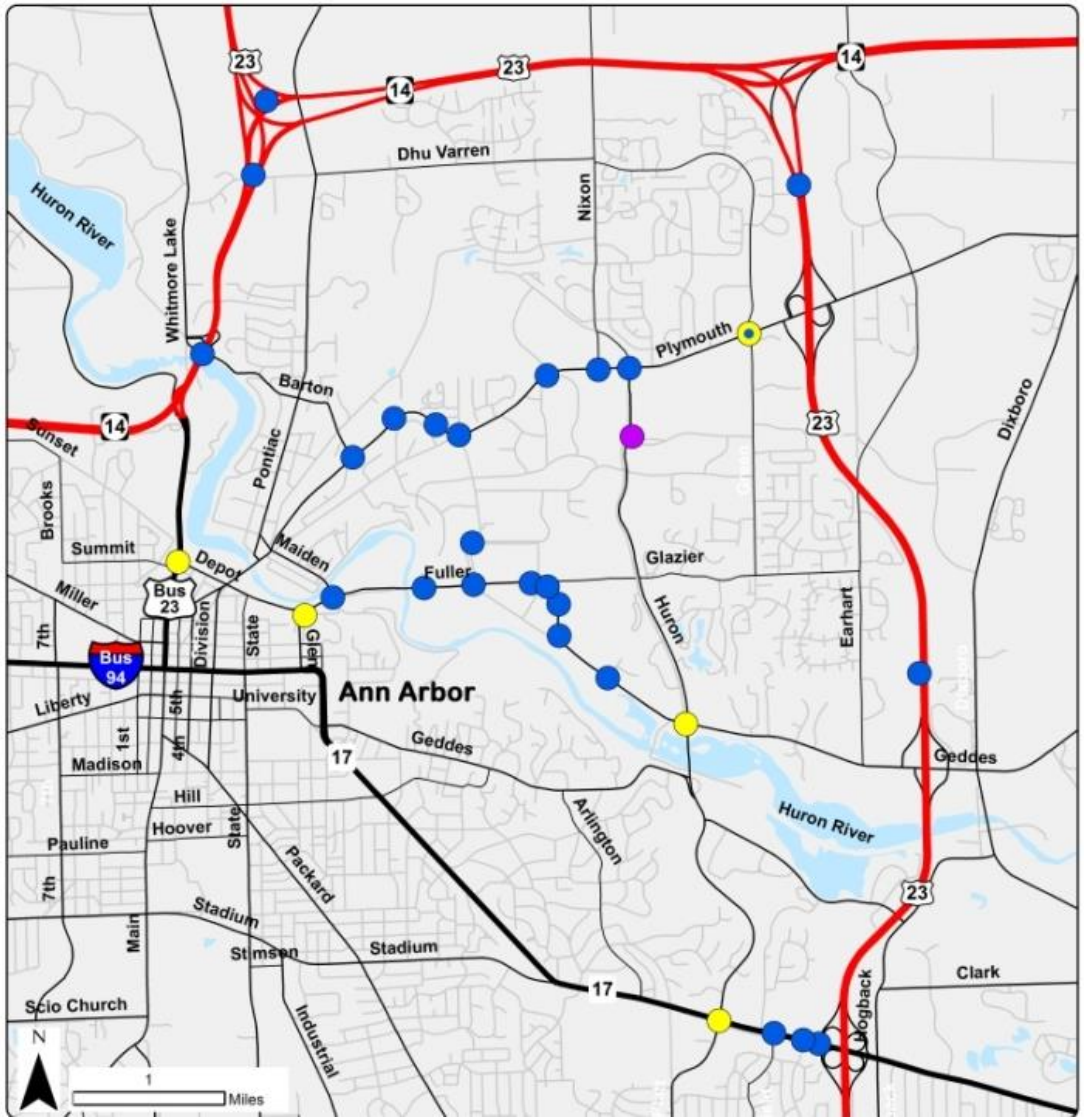
SAFETY PILOT OBJECTIVES

- Obtaining user acceptance data
- Estimate safety system effectiveness values for supporting 2013 and 2014 decision points
- Understanding how the system operates in a real world, highly concentrated environment
- Understanding the potential role that aftermarket devices might play in accelerating benefits
- **Archiving data for future government and industry use**

SAFETY PILOT MODEL DEPLOYMENT SITE

Key Site Elements:

- 75 miles of instrumented roadway
  - 29 roadside units
- ~3000 vehicles
  - -Cars, trucks, buses
  - Integrated, aftermarket, and retrofit
- 1 year of data collection
  - 200TB



Stage II. Safety Pilot Deployment
- Stage I. Radio Installation Location
- Stage II. Radio Installation Location
- Plymouth & Green Stage II. SPaT Radio Upgrade
- UMTRI Service Garage

DATA COORDINATION

Virginia Tech/ CAMP

U of M

Model Deployment Database

Southwest Research

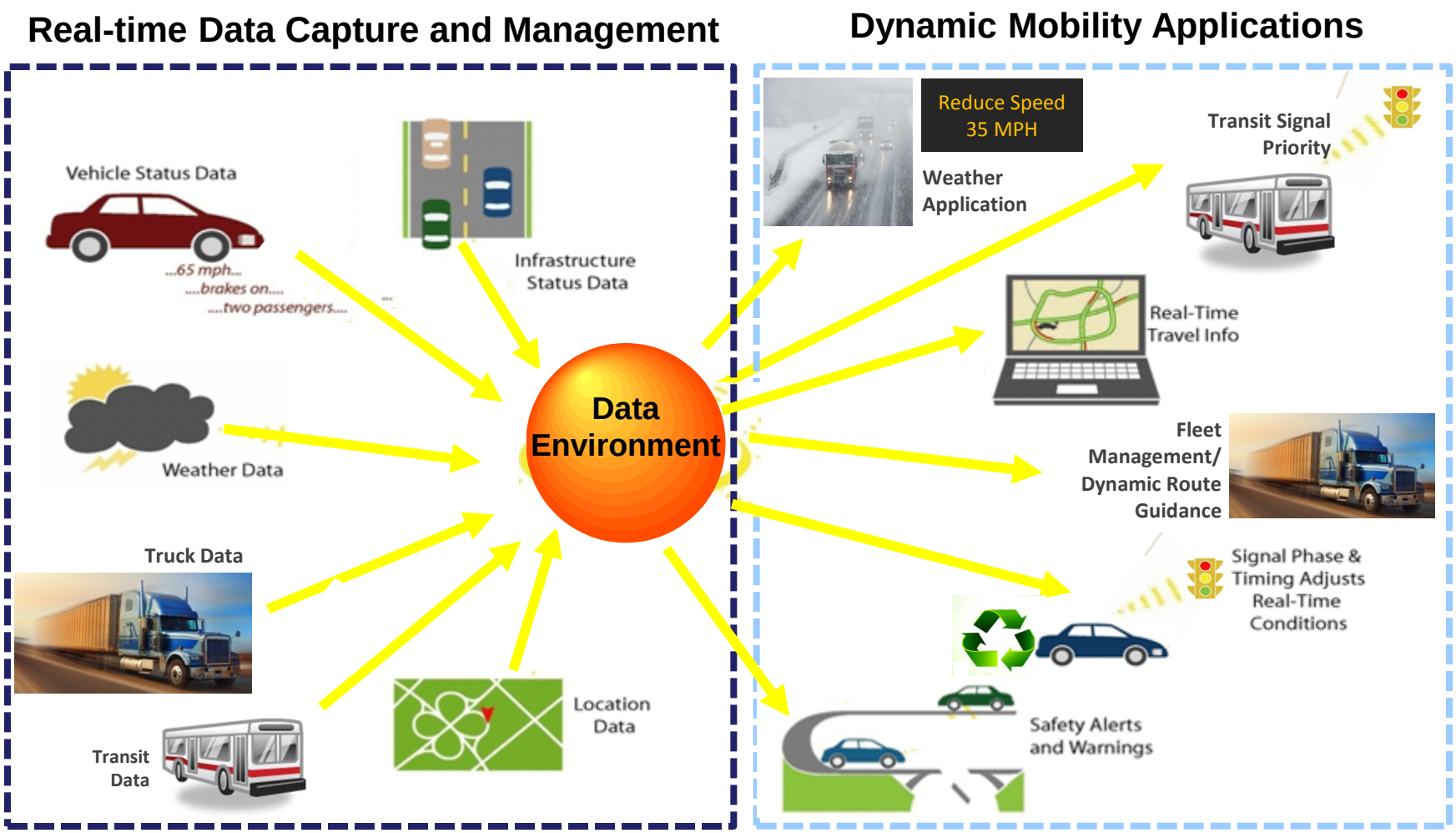
Battelle

MODEL DEPLOYMENT DATA

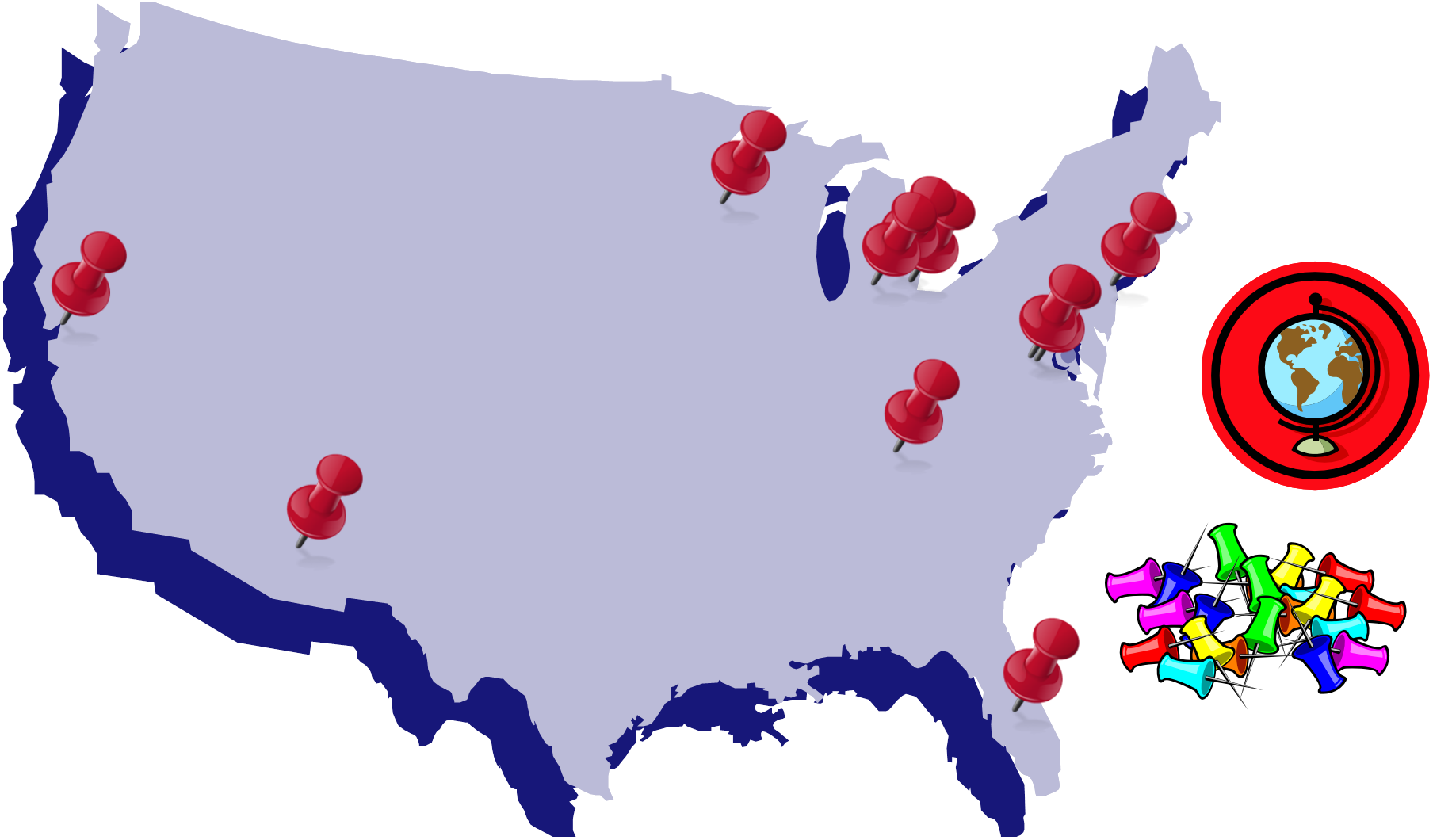
Numerical & Video Data

- In-vehicle
- External sensors
- GPS
- V2V

MOBILITY PROGRAM



Moving Toward the Concept of Affiliated Test Beds



KEY OBJECTIVES OF THE AFFILIATED TEST BED CONCEPT

"Harness the abilities of existing researchers and installations to move the technology toward full deployment"

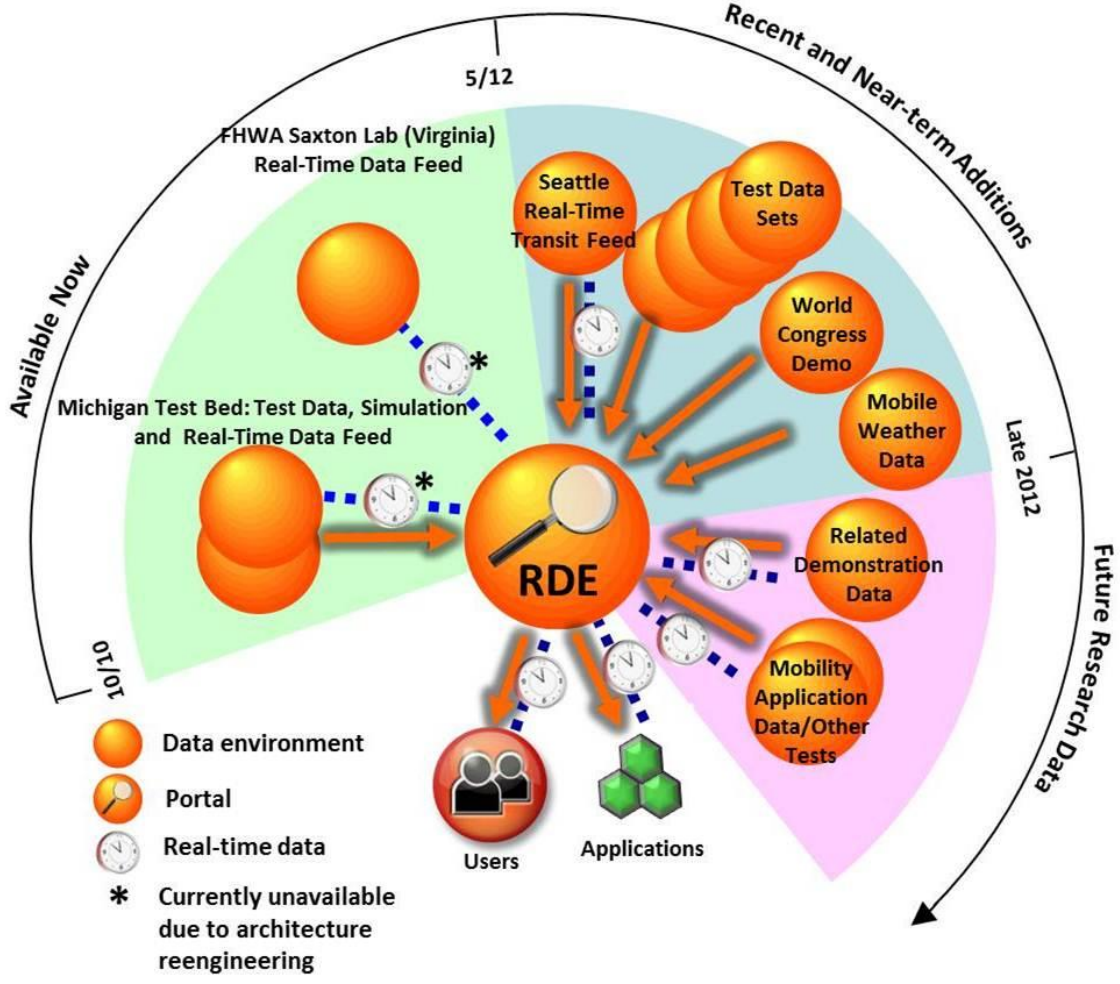
- Create an organizational structure
- Share deployment lessons learned
- Develop a common technical platform
- Expand Test Bed options for users
- Share tools and resources across all facilities
- Serve as models for future deployments

MOVING TOWARDS AFFILIATION…(PROPOSED)

Initial steps:

- Use Common Third Generation RSEs (Safety Pilot)
  - RSEs must be easily upgradeable
- Use of the Security Credential Management System (SCMS) for security
- **Coordinate on Data Issues**
  - **Share data with other users/parties**
    - **Provide data to the USDOT Research**
  - **Standard data formats**
- Share Installation, Operations and Maintenance guidance and tools
- Begin Refinements

RESEARCH DATA EXCHANGE (RDE)



Role of the Research Data Exchange

- Host and provide access to data to be used in the development and testing of ITS “connected vehicle” applications
- Host multi-source, multi-modal data
  - Archived data sets
  - “Real-time” data feeds
- Flexible design in order to meet data requirements of applications that are still in the concept development stage
- Provide access to research community at large, not just researchers funded by USDOT ITS Research Program
- Provide mechanism for researchers to interact
- www.its-rde.net

FOR MORE INFO…

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