Safety Pilot

Research and Innovative Technology Administration
National Highway Traffic Safety Administration
Federal Highway Administration
Federal Motor Carrier Administration
Federal Transit Administration

August 2, 2011
Safety Pilot Sites

- Driver clinics
  - Assess user acceptance

- Large-scale model deployment
  - Obtain empirical safety data for estimating safety benefits
Safety Pilot Objectives

- Generate empirical data for supporting 2013 & 2014 decisions
- Show capability of V2V and V2I applications in a real world operating environment using multiple vehicle types
- Determine driver acceptance of vehicle-based safety warning systems
- Assess options for accelerating the safety benefits through aftermarket and retrofit safety devices
- Extend the performance testing of the DSRC technology
- Collect lots of data and make it available for industry wide use
- Let others leverage the live operating environment
Model Deployment

Obtaining Benefits Data and Operational Experience

- Major real world implementation starting in 2011 and continuing thru 2013, involving:
  - Over 3000 vehicles
  - Multiple vehicle types
  - Fully integrated systems and aftermarket devices
  - Roadside infrastructure
  - System wide interoperability testing
- Also to test
  - Prototype security mechanisms
  - Device certification processes
Basic Communication Devices

- Devices that only transmit Basic Safety Message
  - No driver interface
- Initial procurement resulted in 8 awards
  - 6 vendors made it to acceptance testing
  - No vendors fully complied with the tests
  - Specification was considered by DOT as still weak
  - Updated specification and issued 2\textsuperscript{nd} procurement
- 2\textsuperscript{nd} procurement resulted in 4 awards
  - Currently underway
- Qualified Products List (QPL) estimated to be established later this year
Aftermarket Safety Devices

- Devices that transmit and receive Basic Safety Message
  - Driver interface for safety warnings
  - No integration with vehicle
- 4 vendors currently underway
- Applications include:
  - CICAS-V (red light warning) (V2I)
  - Curve overspeed warning (V2I)
  - Emergency electronic brake light (V2V)
  - Forward collision warning (V2V)
- QPL projected for March 2012

Safety devices must comply with NHTSA driver interface criteria before being released to drivers for model deployment
Roadside Equipment for Safety

- Transmission and receipt of V2I messages
  - Interfaces with signal controller (at intersections)
  - Supports other dangerous road segment applications
- Applications supported
  - CICAS-V (red light warning)
  - Curve overspeed warning
  - Collection of probe data transmissions
  - Other (tbd)
- 4 vendors currently underway
- QPL projected for January 2012
ITS Safety Pilot Roadmap

<table>
<thead>
<tr>
<th>CY 2010</th>
<th>CY 2011</th>
<th>CY 2012</th>
<th>CY 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Q1</strong></td>
<td><strong>Q2</strong></td>
<td><strong>Q3</strong></td>
<td><strong>Q4</strong></td>
</tr>
<tr>
<td><strong>Q1</strong></td>
<td><strong>Q2</strong></td>
<td><strong>Q3</strong></td>
<td><strong>Q4</strong></td>
</tr>
<tr>
<td><strong>Q1</strong></td>
<td><strong>Q2</strong></td>
<td><strong>Q3</strong></td>
<td><strong>Q4</strong></td>
</tr>
<tr>
<td><strong>Q1</strong></td>
<td><strong>Q2</strong></td>
<td><strong>Q3</strong></td>
<td><strong>Q4</strong></td>
</tr>
</tbody>
</table>

**Vehicle Builds & Driver Clinics**

- **Integrated LV Builds**
- **LV Driver Clinics**
- **Integrated HV Builds**
- **HV Driver Clinics**

**Device Development and Qualification Lists**

- **HIA Device**
- **Update**
- **Device QPL**
- **Safety Pilot DVI Criteria**
- **A/M Safety Device - LV**
- **Device QPL**
- **Retrofit Safety Device - HV**
- **Device QPL**
- **Retrofit Safety Device - TV**
- **Device QPL**

**Real World Testing**

- **Controller interface defined**
- **Roadside Equipment**
- **RSE QPL**
- **Pre-Model Deployment**
- **Model Deployment**
- **Post-Model Deployment**
- **World Congress**

**Evaluation & Benefits**

- **Independent Evaluation of Testing Activities**
- **V2V Benefits Assessment**
- **NHTSA Agency Decision (LV)**
- **NHTSA Agency Decision (HV)**

**Acronyms**

- LV – Light Vehicle
- HV – Heavy Vehicle
- TV – Transit Vehicle
- HIA – “Here I Am”
- A/M - Aftermarket
- QPL – Qualified Product List
- RSE – Roadside Equipment
- V2V – Vehicle-to-Vehicle