

Toll Technology and IntelliDriveSM

Presented to:

The P3 Committee of the State Transportation Board of Georgia

March 17, 2010

Gregory A. Le Frois, PE
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Agenda

General Tolling Overview

- Toll Collection Basics
- Transponder Technologies
- Interoperability

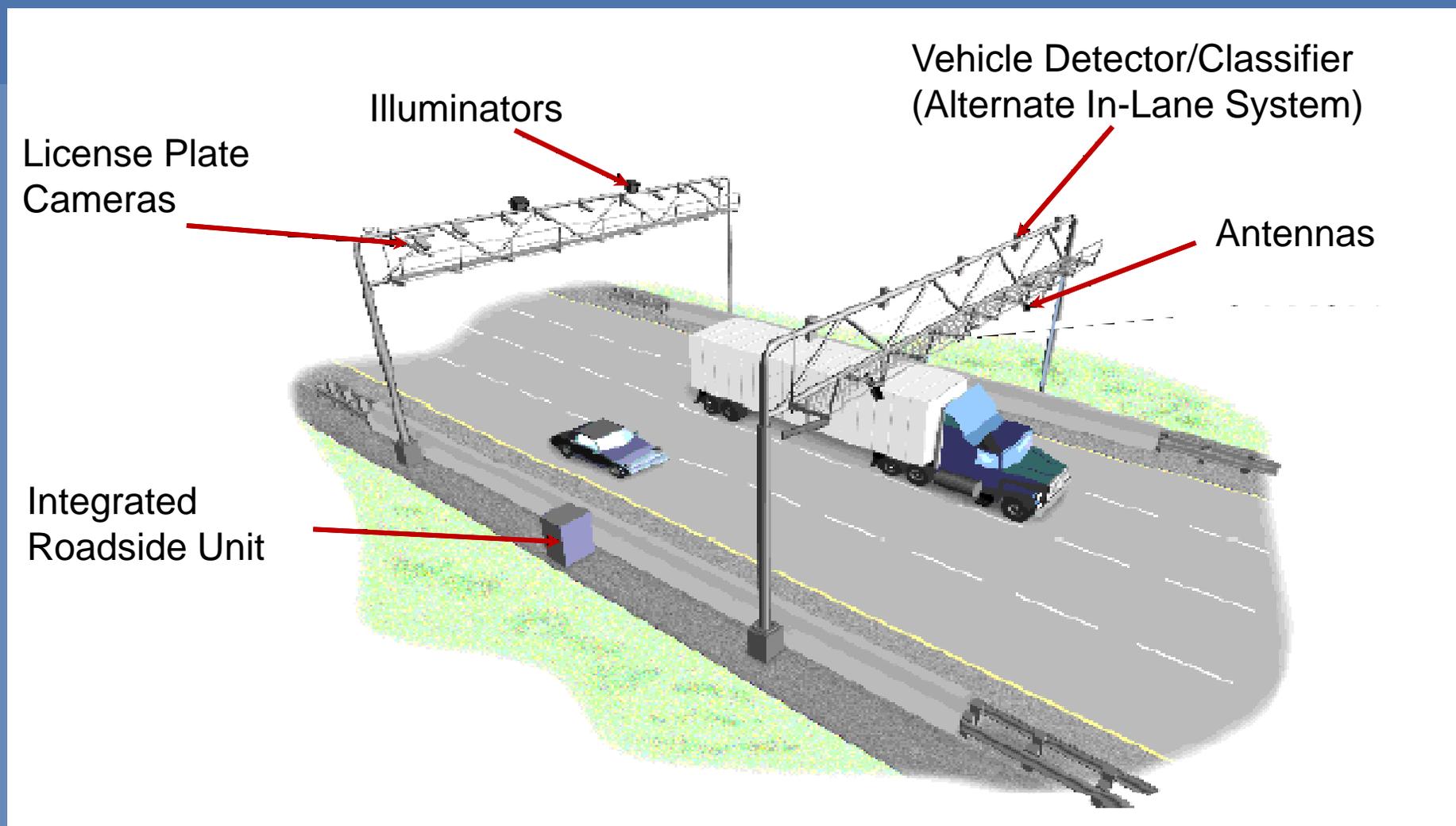
IntelliDriveSM

- The Program
- Experience in Other States
- Opportunities

Typical Toll Zone



Typical Toll Zone



Transponder Technologies

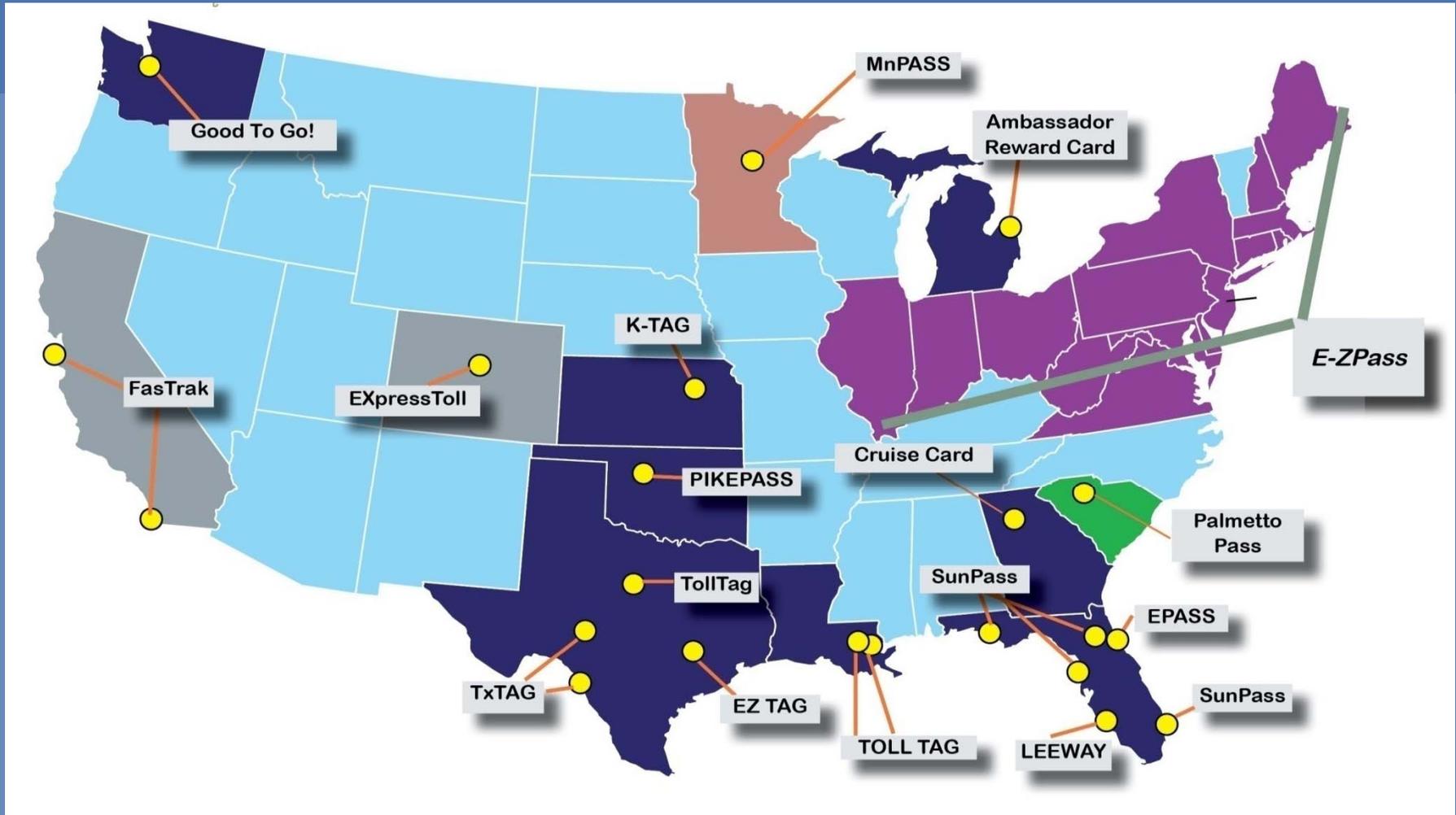


Technology Choices

Transponders/Readers Deployed in US

- Active and passive technology
- Passive technology uses ISO 18000 6B and 6C protocols
- 4 vendors currently in US market
- 2 vendors have similar technology

Transponder Deployments

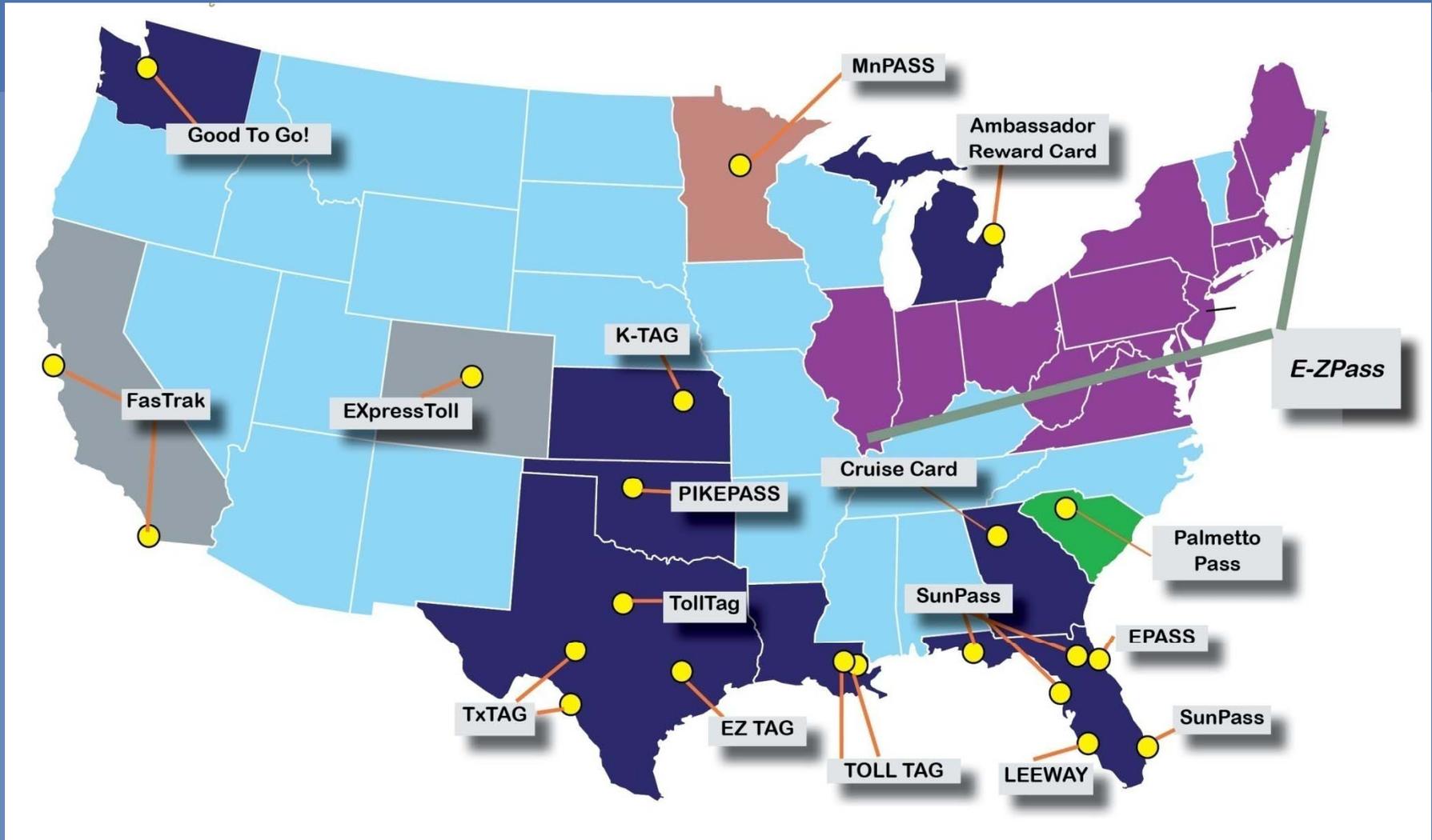


SRTA Transponder Procurement

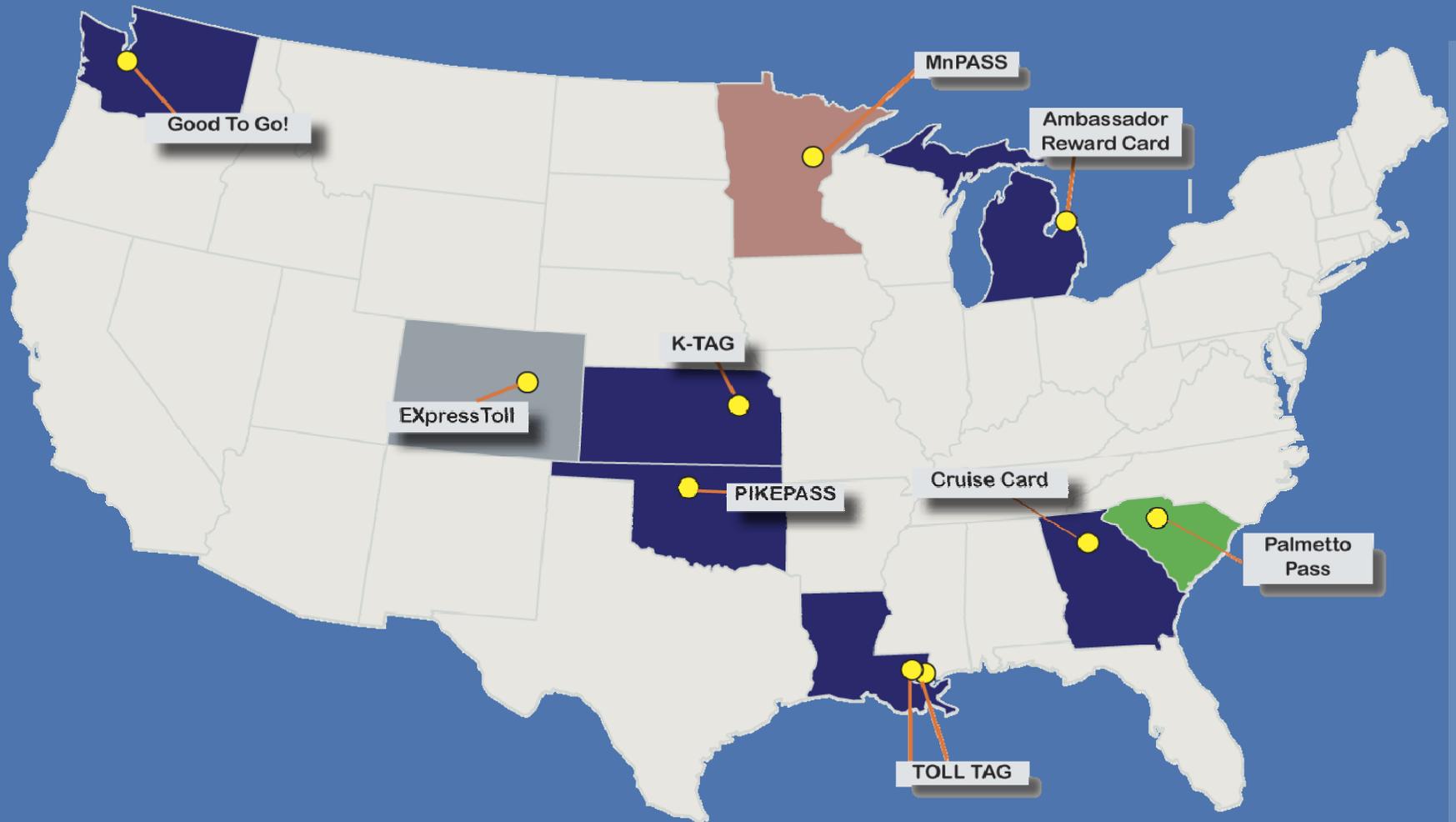
I-85 Express Lane Pilot Project expects to:

- Open I-85 HOT Lanes in January 2011
- Deploy (at a minimum):
 - ISO 18000 6C technology
 - 250,000 Interior Mount Transponders
 - 20,000 Exterior Mount Transponders
 - ETC Reader Subsystems at thirty-seven (37) Gantry Locations
 - Seven (7) Portable Readers/Programmers

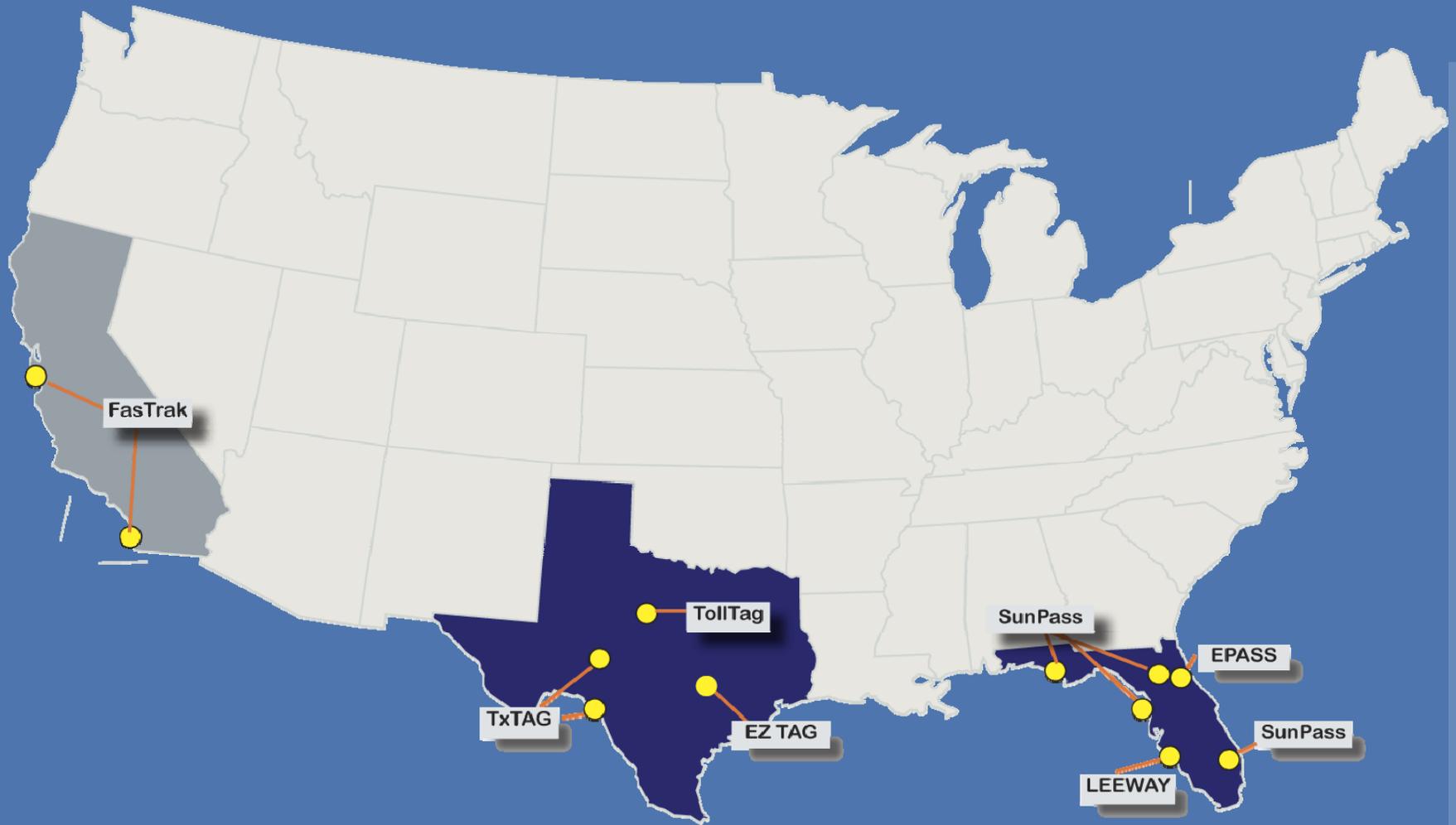
Interoperability



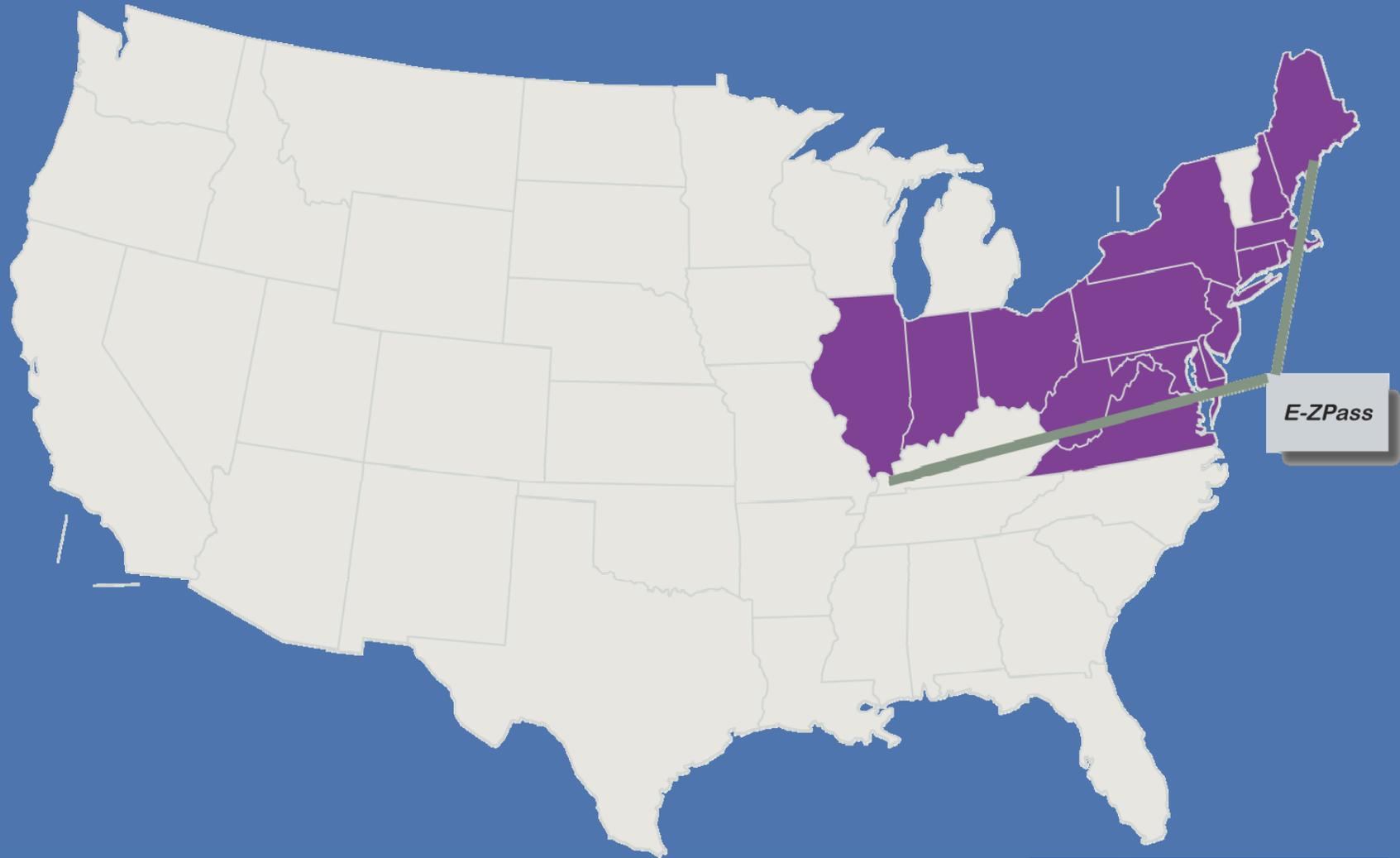
Interoperability



Interoperability

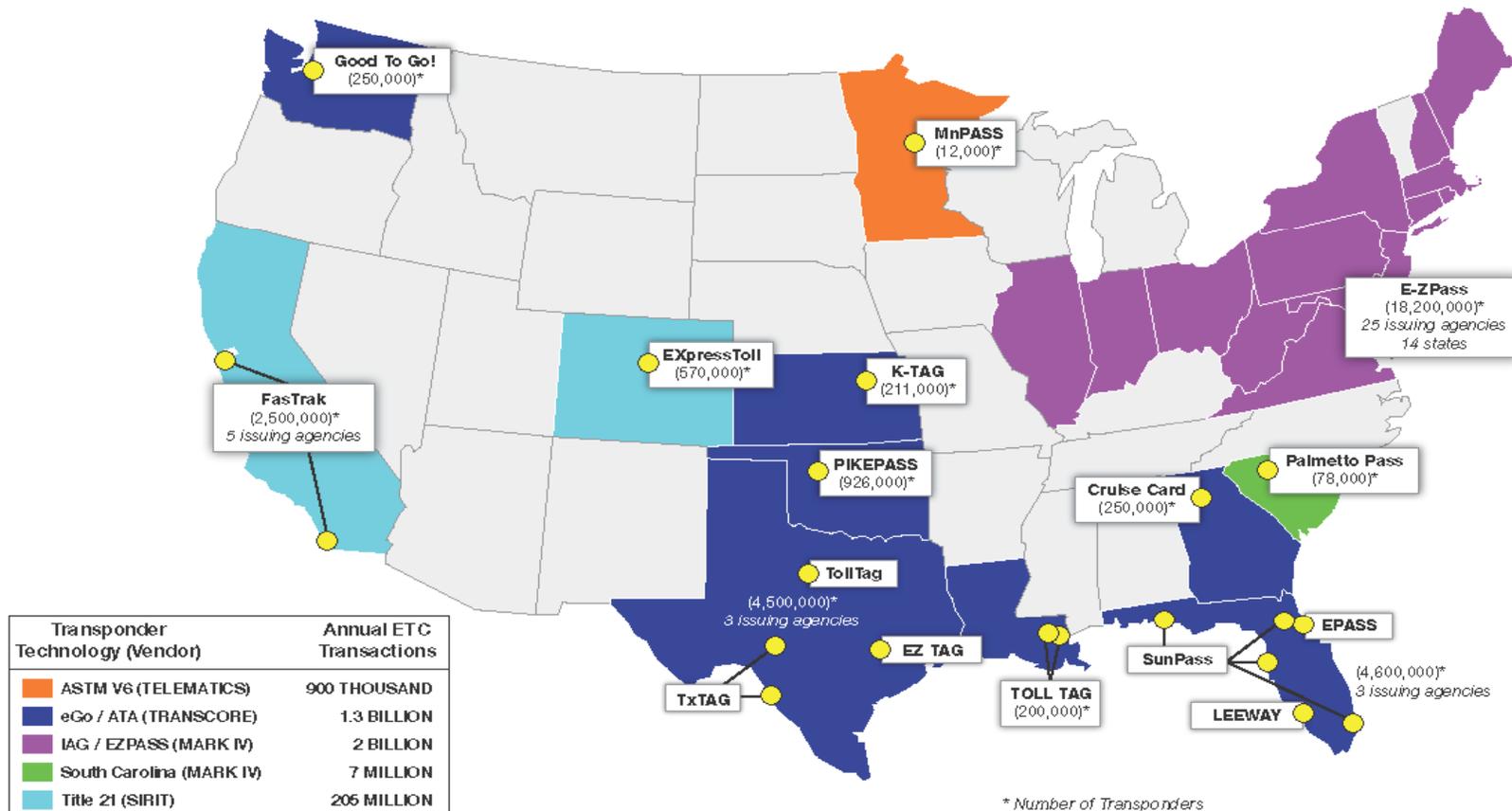


Interoperability



Interoperability

ETC Transponders and Annual Transactions



Source: IBTTA, transactions based on year of most recently reported statistics

What Does the Future Hold?

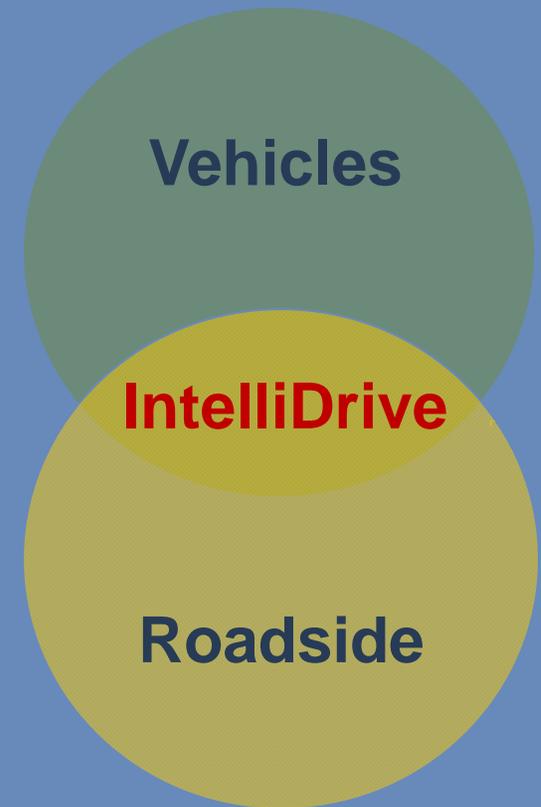
- ✓ Transponder Technology
- ✓ Camera Technology
- ✓ More Competition
- ✓ More Toll Facilities
- ✓ Interoperability
- ✓ VMT
- ✓ IntelliDriveSM

IntelliDriveSM Program

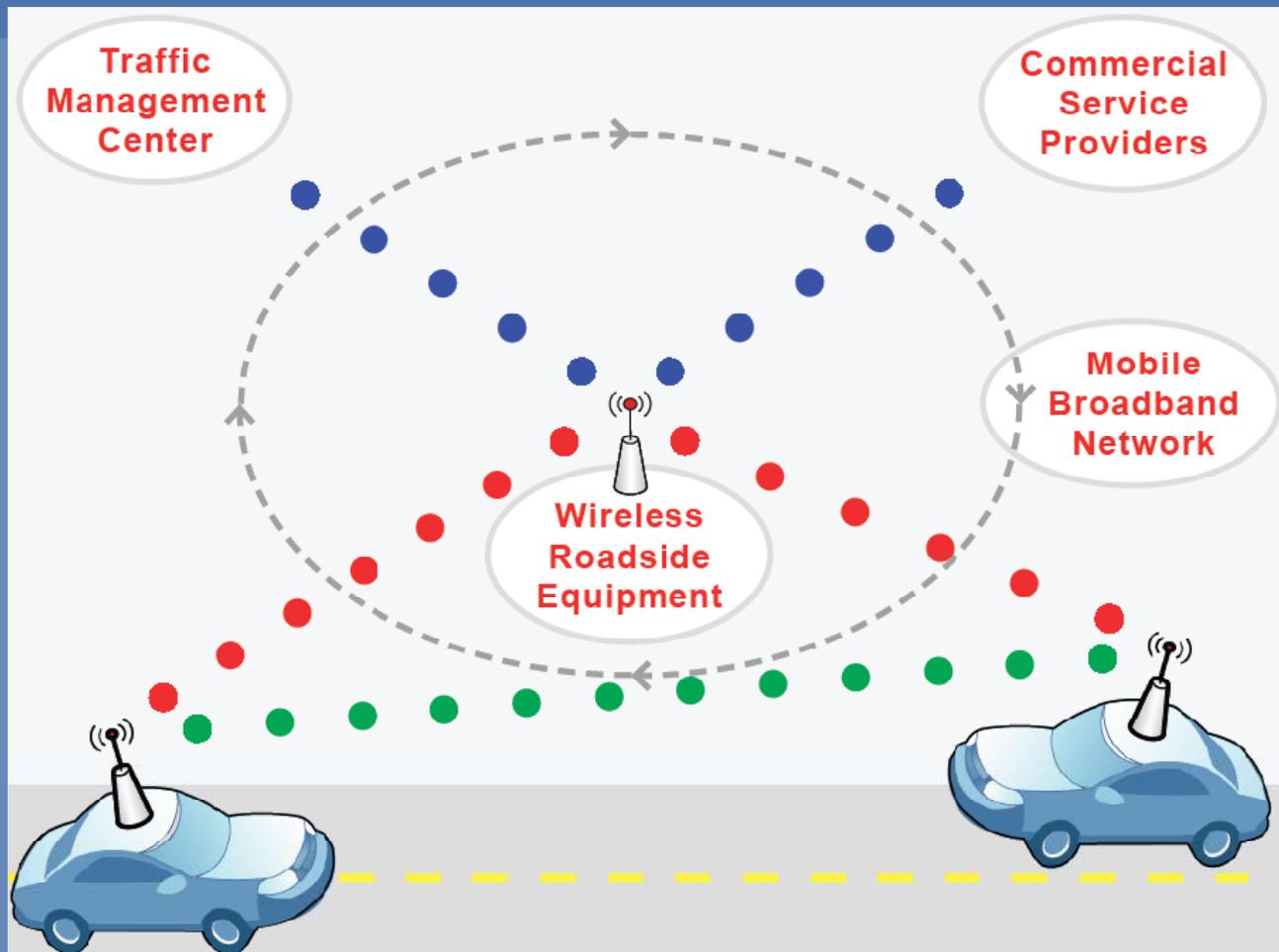
- New federal multimodal initiative to enable safe, interoperable networked wireless communications among vehicles, the infrastructure, and personal communications devices
- Broad stakeholder support from USDOT, auto manufacturers, consumer electronics industry, AASHTO, ITSA, and some toll industry suppliers

IntelliDriveSM

- *“Internet on Wheels”*
- *Transforming Transportation*



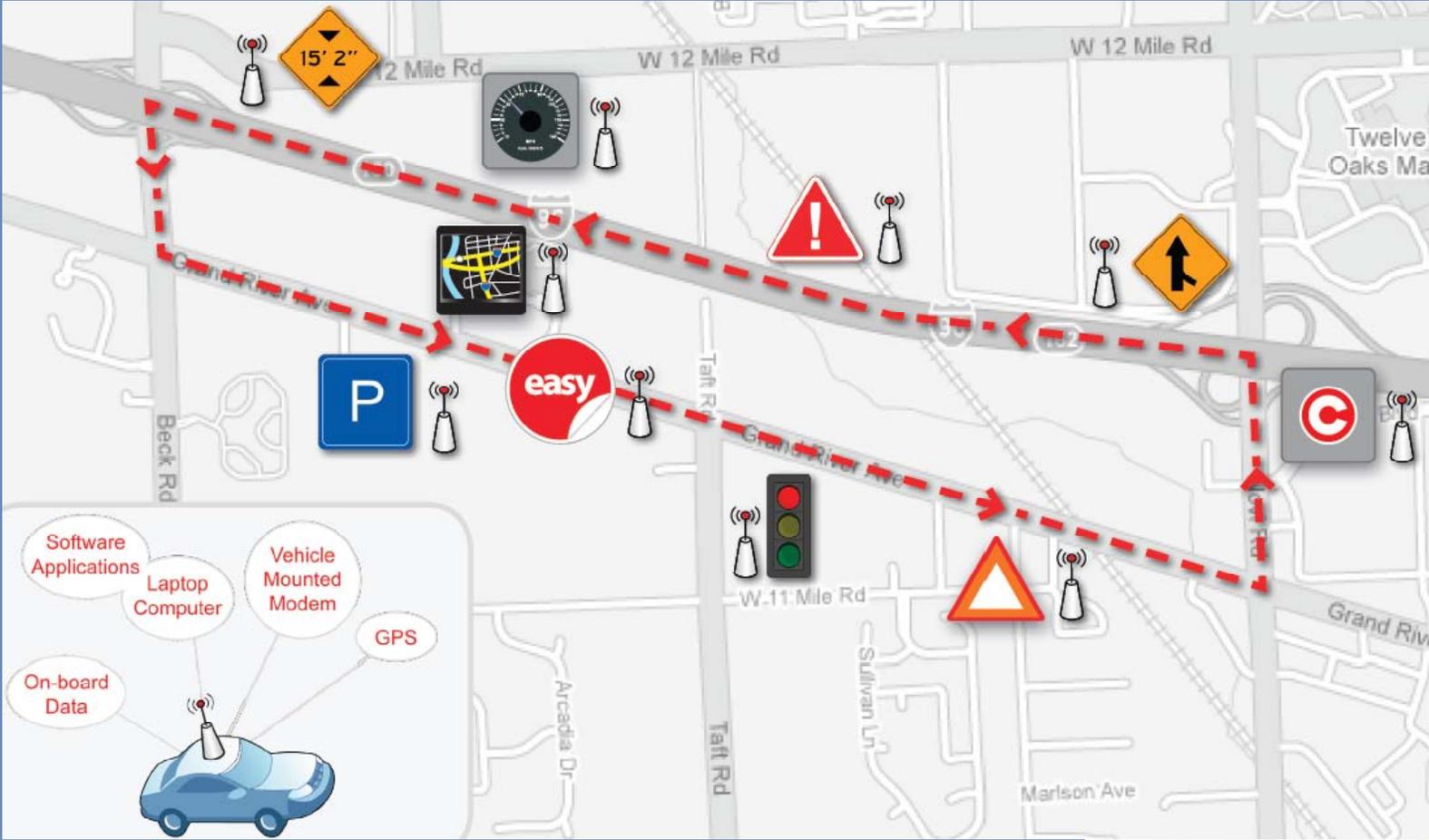
IntelliDriveSM Definition



IntelliDriveSM Benefits

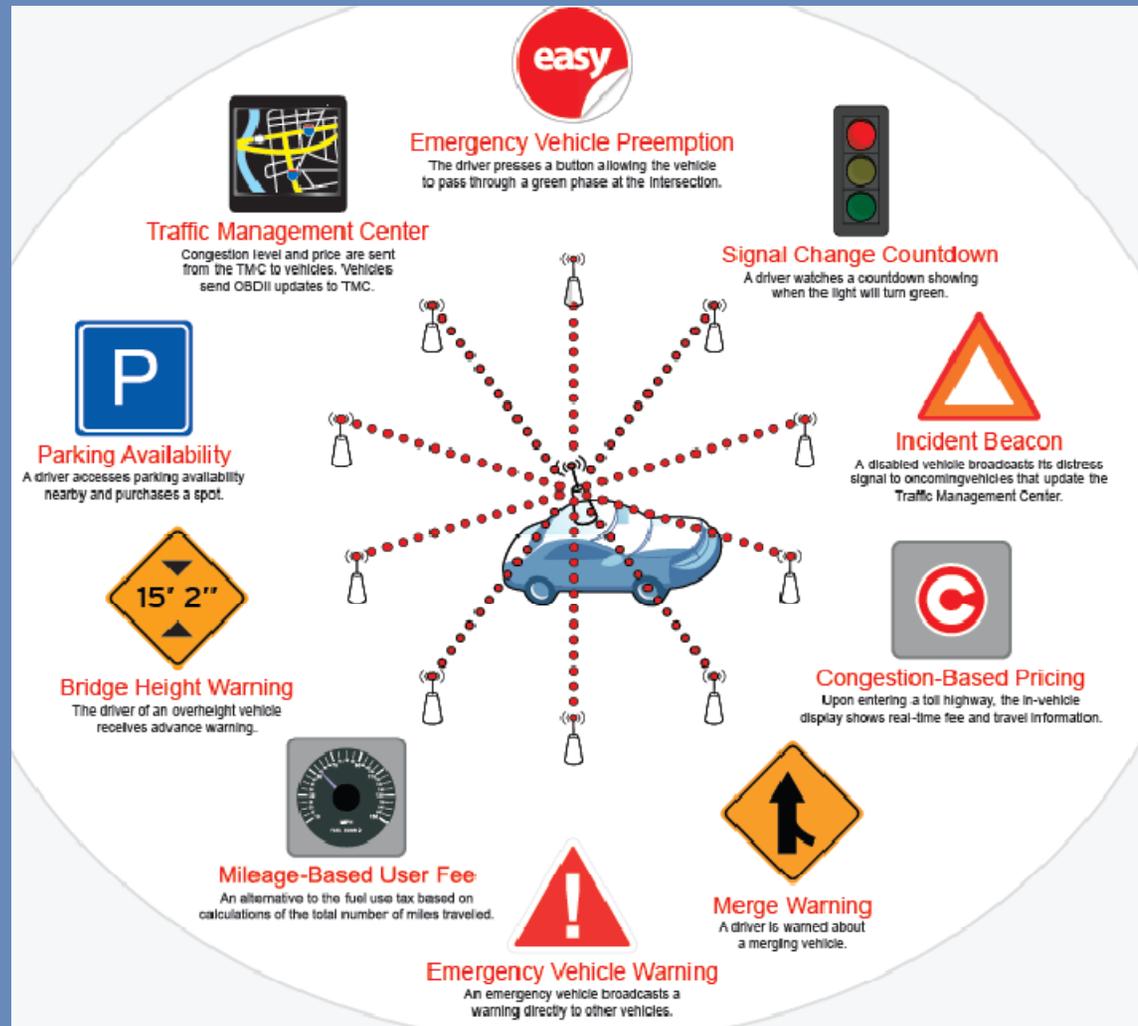
- Save thousands of lives
- Improve mobility
- Improve transportation operations
- Improve the environment

Michigan DOT IntelliDrive Test Bed



MDOT IntelliDrive Test Bed Applications

- Emergency vehicle pre-emption
- Traffic signal phase countdown
- Incident beacon
- Congestion pricing
- Merge warning
- Emergency vehicle warning
- Mileage-based user fee
- Bridge height warning
- Parking availability & payment
- TMC



Tolling Application

- IntelliDrive technology for tolling
 - Dual-frequency readers available in 915 MHz and 5.9 GHz
 - 5.9 GHz DSRC offers opportunity to test new IntelliDrive solutions
 - USDOT seeking new test environments
 - Auto companies want widespread deployment
 - Vendors and application solution providers seeking partners with infrastructure in place
 - Migration path for future IntelliDrive applications

National Program Next Steps

- USDOT research agenda
 - Technical issues
 - Policy issues
- National Deployment Plan
- Test Beds and Model Deployments
- NHTSA Regulatory Decision

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