



# IntelliDrive<sup>SM</sup>

## Connectivity and the Future of Surface Transportation

SAE Government/Industry Meeting  
Crash Avoidance and Crash Causation  
January 28, 2010

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US Department of Transportation  
ITS Joint Program Office



# The Problem!!!

## Safety

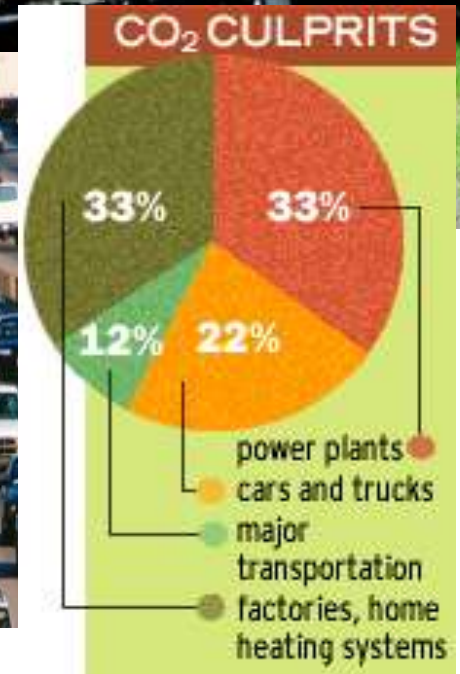
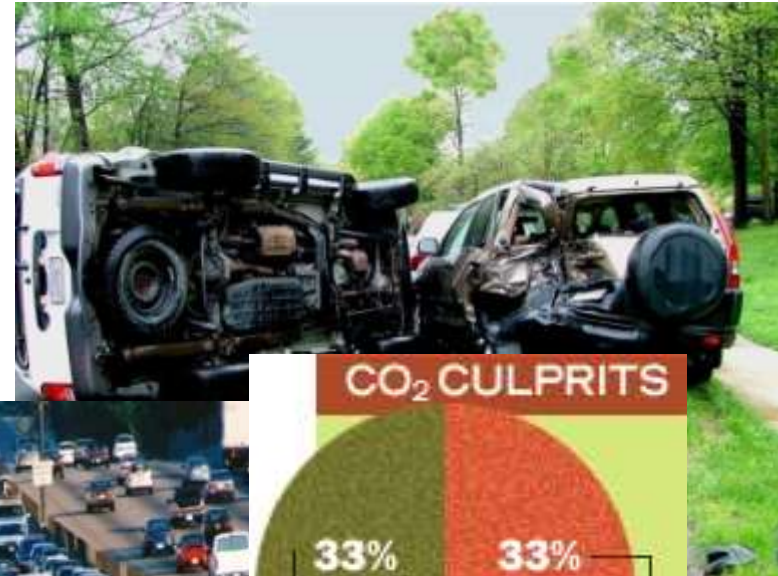
- 37,000 deaths in 2008
- 5,800,000 crashes/year
- **Leading cause of death for ages 4 to 34**

## Mobility

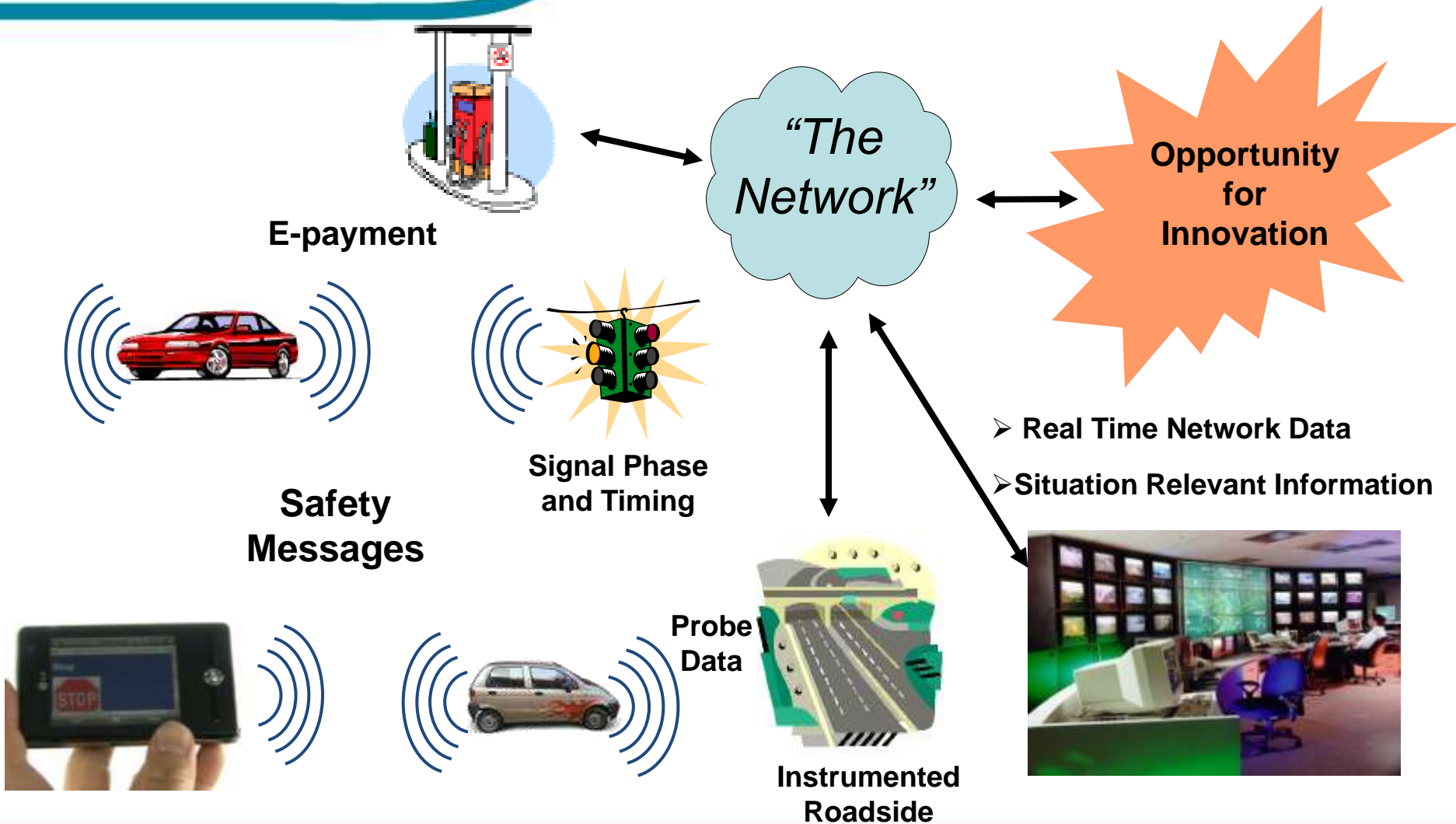
- 4.2 billion hours of travel delay
- \$78 billion cost of urban congestion

## Environment

- 2.9 billion gallons of wasted fuel



# It's All About Connectivity



# Opportunity for Safer Driving

- Greater situational awareness
  - Your vehicle can “see” nearby vehicles and knows roadway conditions you can’t see
- Reduce or even eliminate crashes thru:
  - Driver Advisories
  - Driver Warnings
  - Vehicle Control












*IntelliDrive has the potential to address 82% of the vehicle crash scenarios involving unimpaired drivers*

# Opportunity for Greater Mobility & Efficiency

- Create an information-rich environment for multi-modal transportation solutions.
  - Traveler information for rerouting or “modal shift” options
  - Better management & system performance of road network
  - Urban planning
- Enable environmental management through V2I capability
  - Reduced stopping/starting at traffic signals which consumes 3-5 times more fuel than constant driving
  - Nav systems with real time information can reduce fuel consumption by 10.5% over systems without real time traffic data



# What's Changed (from VII)

DSRC only		Technology options	
OEM production units only		Aftermarket & retrofit considerations	
Light vehicle focus		All vehicle types	
Prototyping/proof of concept		Focus towards deployment	
Limited stakeholders		Broader stakeholder engagement	
Limited visibility by "outsiders"		Greater program transparency	
US focus		International harmonization	
Loosely coupled programs		Strong, collective USDOT support, coordination, and leadership	


# Where We Are Today

- Completed major proof of concept test program and opening up the Michigan test site for industry use ▶
- Updating Concepts of Operations, System Requirements, and System Architecture
  - Expanding program to include:
    - Retrofit/carry in devices
    - Communications options beyond just DSRC
    - All vehicle types
  - Stakeholder forums in 2010
- ITS Strategic Research Plan, 2010-2014 released
  - Roadmaps/workplans currently being established to support deployment opportunities
  - Addressing “critical success factors”

# Critical Success Factors for Deployment

- Effective applications
- Interoperable Technology
- Sustainable Approach
- Publicly Acceptable

# Major Objectives

- Move aggressively on vehicle to vehicle communications
  - ❖ Regulatory Decision on In-Vehicle Equipment by 2013 
- Accelerate in-vehicle technology
  - ❖ “Here I Am” messages
  - ❖ Enables safety and active traffic management
- Accelerate infrastructure communications capability
  - ❖ Signal Phase and Timing (SPaT) as initial focus
  - ❖ Enables safety, mobility, and environmental applications
- On road multi-modal demonstrations for high-value applications
- Monitor and evaluation of driver distraction issues

For More Information...

<http://www.intellidrive.org/>



The screenshot shows the IntelliDrive website homepage. At the top left is the IntelliDrive logo with the tagline "Safer. Smarter. Greener." Below the logo is a large video player showing an aerial view of a highway interchange with yellow circular overlays and the IntelliDrive logo. A "Download This Video" button is visible above the video. To the right of the video player is a search bar and a "Search" button. Below the video player is a "News & Updates" section with three news items: "Proof of Concept Test Results Released" (March 11th, 2009), "IntelliDriveSM Brand Replaces VII" (February 23rd, 2009), and "SAFETRIP-21 News" (December 4th, 2008). Below the news section are five navigation tabs: "About IntelliDrive", "Who We Are", "Benefits", "Research", and "Library". Each tab has a corresponding image and a list of links.

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Research and Innovative Technology Administration

**IntelliDrive<sup>SM</sup>**  
Safer.  
Smarter.  
Greener.

Download This Video

Search

### News & Updates

**Proof of Concept Test Results Released**  
March 11th, 2009 at 4:04pm

**IntelliDrive<sup>SM</sup> Brand Replaces VII**  
February 23rd, 2009 at 10:12am

**SAFETRIP-21 News**  
December 4th, 2008 at 3:12pm

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  - Presentations

# Summary

- IntelliDrive will provide an enormous enabling capability for vehicle based communications and applications
- Lots of opportunity for market growth and innovation
- Driver distraction is area that needs to be carefully and aggressively managed