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## Commemorating the 20<sup>th</sup> Anniversary of the National Automated Highway Systems Consortium Demo '97 in San Diego



**Richard Bishop, Kevin Dopart and Steven Shladover**

## Origins – 1991 ISTEA Legislation



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**Section 6054(b) of Intermodal Surface Transportation Efficiency Act of 1991:**

**“The Secretary shall develop an automated highway and vehicle prototype from which future fully automated intelligent vehicle-highway systems can be developed. Such development shall include research in human factors to ensure the success of the man-machine relationship. The goal of this program is to have the **first fully automated roadway or an automated test track in operation by 1997.**”**

# **National Automated Highway Systems Consortium (NAHSC)**



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**Team formed to compete for FHWA cooperative agreement to deliver the AHS program (\$200 M from 1994-2002, with 20% cost share)**

- General Motors**
- Delphi Automotive (Delco Electronics)**
- Hughes Aircraft**
- Lockheed-Martin**
- Bechtel**
- Parsons-Brinckerhoff**
- Carnegie-Mellon University**
- University of California PATH Program**
- California Department of Transportation**



# Post-Demo Roadmap Toward Deployment

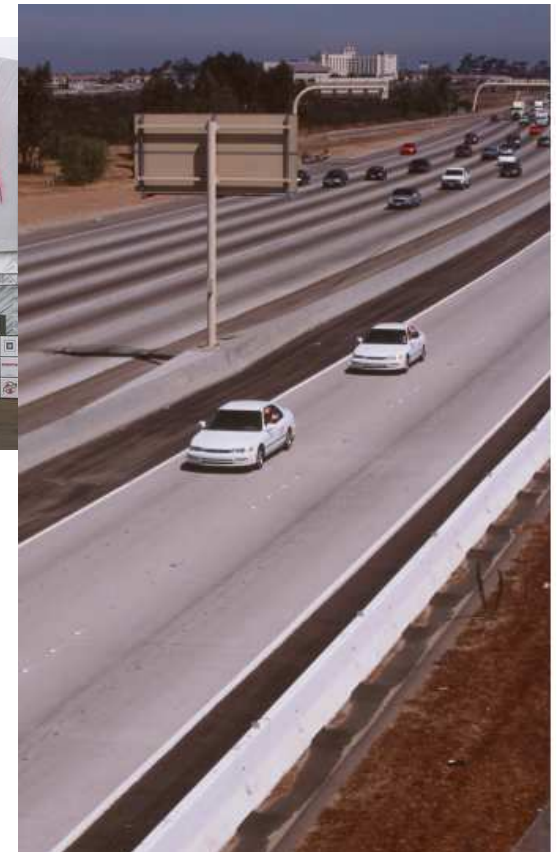




# Demo '97 Sites in San Diego



- On I-15 HOV lanes in San Diego and adjacent Miramar College campus (exhibits and mini-demos)
- August 7-10, 1997



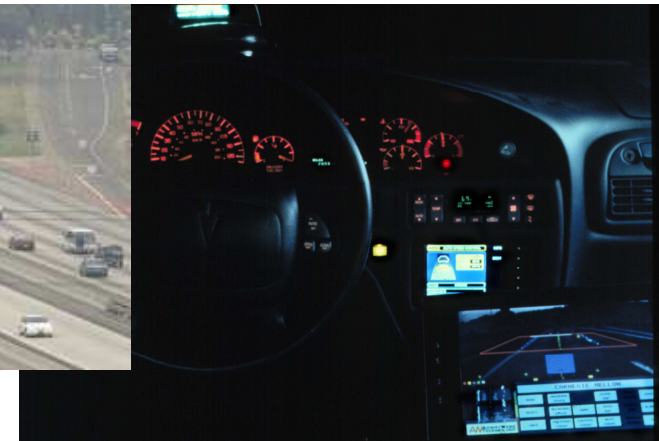
# Demo Scenarios



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- **NAHSC Core Team Demos:**
    - Free Agent Multi-Platform Demo (CMU, GM, Delphi, Hughes, Houston Metro) – 2 buses + 2 cars
    - Platooning Demo (PATH, GM, Delphi, Hughes) – 8 cars
  - **Associate Demos:**
    - Toyota – 2 cars
    - Honda – 2 cars
    - Ohio State University – 2 cars
    - Eaton-Vorad – 1 truck (warning) + target car
    - Caltrans/U.C. Davis AHMCT – 2 maintenance vehicles

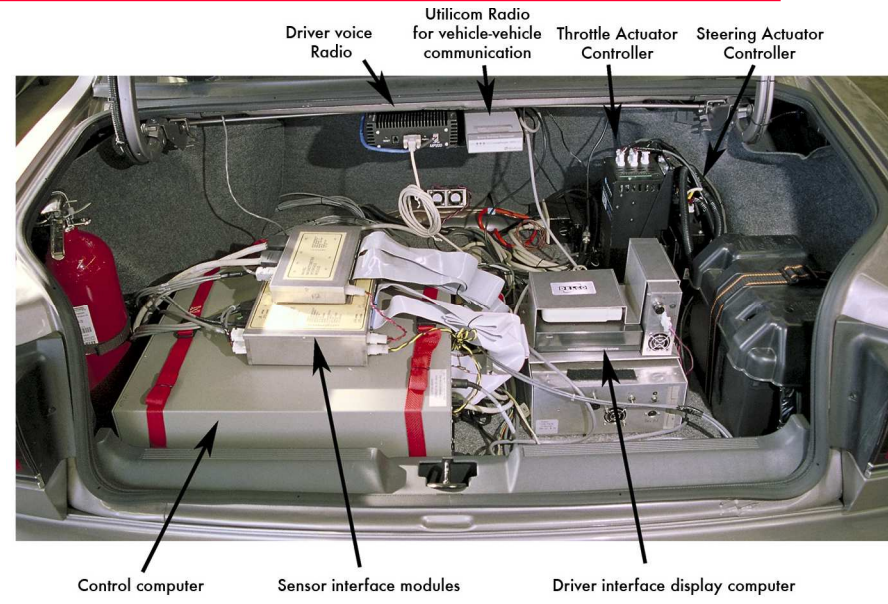
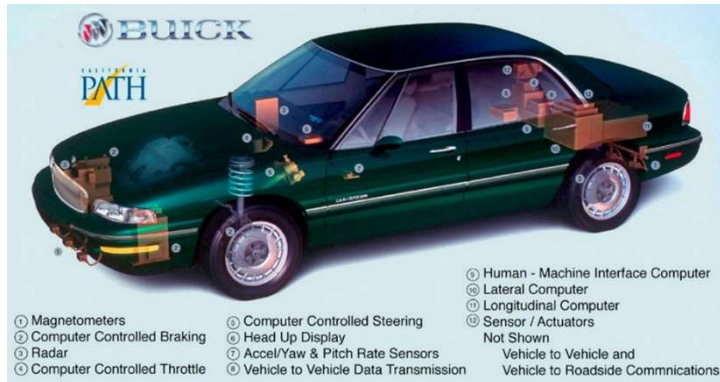


# Free Agent, Multi-Platform Scenario





# Platooning Scenario





# Control Transition Scenario (Honda)

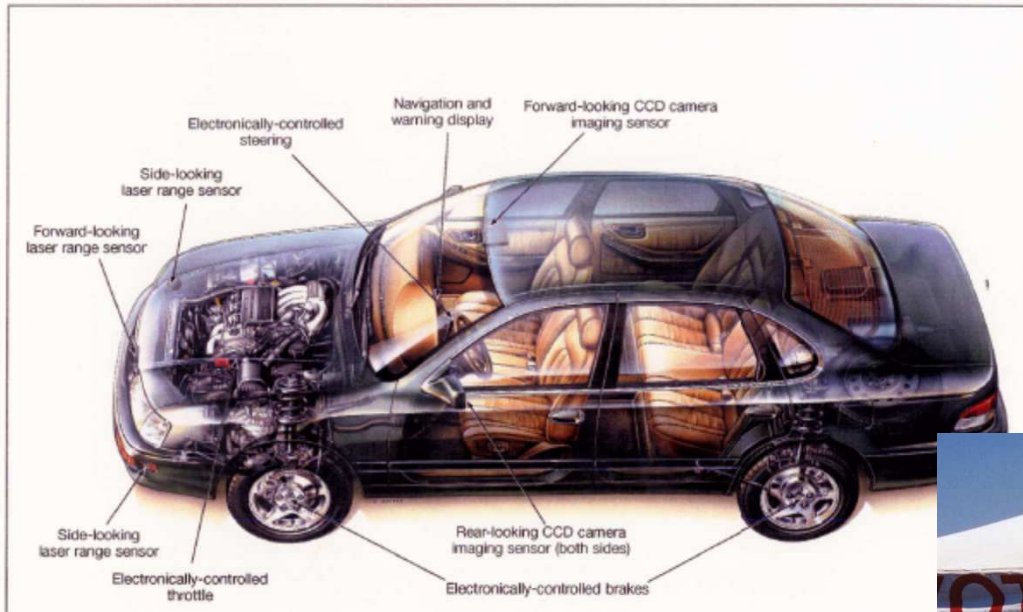




# Evolutionary Scenario (Toyota)



## TOYOTA TEAM AHS VEHICLE







# Eaton-VORAD Warning Demo





# Caltrans/UC Davis AHMCT Program Highway Maintenance Demo



# VIP Visitors and Media Attention





# Demo '97 Statistics



- 
- **21 vehicles drove over 8,000 automated miles**
  - **Visitors:**
    - **Exhibit - 3500**
    - **Mini-Demo riders: 3100**
    - **On-road demo riders - 2850**
  - **Media coverage:**
    - **ABC, CBS, NBC, CNN, MSNBC, PBS television coverage**
    - **NPR All Things Considered**
    - **AP, USA Today, NY Times, Washington Post, Wall Street Journal, Newsweek**
    - **International coverage in 12 countries on 5 continents**
    - **Total of 120 media outlets represented**

# Celebration at the End





58 mph | H

DEST: P-80453

Navigation/ADS Configuration  
Technical Feasibility Demonstration