Driver-Vehicle Interface
Design Principles

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Human Factors: Cross-Cutting Program
Human Factors for Connected Vehicles

- **Outcome Goal**
  - Connected Vehicle technologies and applications will have Driver Vehicle Interfaces (DVI) that effectively communicate safety and various levels of non-safety driving related information while managing workload and minimizing distraction

- **Product Goal**
  - **Driver-Vehicle Interface (DVI) Design Principles** to ensure interfaces are effective without increasing distraction or creating high workload
Research for the DVI Design Principles

- DVI Design Principles
- DVI Design Guidance
- Evaluation and Measurement
- Safety Pilot DVI Criteria
- Stakeholder Input
- Effective Warnings
- Distraction Mitigation
- DVI Integration
Accomplishments

✓ Effective Warnings Research
✓ Distraction Mitigation Best Practices
✓ DVI Integration Architecture
✓ DVI Design Research
✓ Integrated System Measurement
✓ Safety Pilot DVI Criteria
✓ Stakeholder Outreach
✓ DVI Design Principles
DVI Design Principles
Continuing Research

- Mobile devices study
- Generational drivers study
- Situation Awareness study
- Information from V2V and V2I Sources
Additional Research Activities

- **Predictive DVI Evaluation Software Tool**
  - Software tool for designers to be able to estimate distraction potential or workload issues for their DVI and system configurations

- **Longer-term Exposure Field Operational Experiment**
  - Driver adaptation to FCW and CIB
  - Naturalistic driving study began in July 2013
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