



The University of Iowa (Lead Institution)  
 University of Central Florida  
 University of Massachusetts – Amherst  
 University of Puerto Rico – Mayagüez  
 University of Wisconsin – Madison

Grants awarded in 2013 and 2016.

Tier 1 University Transportation Center  
 Funded by the US Department of  
 Transportation.

Collaboration encouraged through a  
 requirement of a 50% funding match.

# Collaboration & Non-traditional Disciplines

## Across Consortium Sites



## Across University Departments

*Civil Engineering*  
*Computer Science*  
*Education Psychology*  
*Emergency Medicine*  
*Industrial Engineering*  
*Kinesiology*  
*National Advanced Driving Simulator*  
*Psychology & Quantitative Foundations*  
*Psychology*  
*Radiology*  
*Science Education*  
*Pharmacy*

# Center Themes



## **Automated vehicles technology**

assessing road users' responses to automated vehicles, augmented reality, and in-vehicle safety systems

## **Connected vehicles technology**

assessing user responses to connected vehicles technology (e.g., V2V, V2P, I2B)

## **Vulnerable road users**

examining risk factors for pedestrian and bicyclist collisions with vehicles, including high-risk groups (e.g., transportation workers, children, and the elderly)

## **Roadway infrastructure design**

assessing how safely drivers, bicyclists, and pedestrians interact with roadway infrastructure designs

## **Distributed simulation technology**

assessing real-time traffic conflicts between drivers, bicyclists, and pedestrians through connected simulators.

# Projects Funded

## 2013 Grant

- 38 single institution projects
- 7 multi-site collaborative projects
- \$35,000 - \$100,000
  
- 6 Education projects
- \$10,000 - \$80,000

## 2016 Grant

- Up to a total of 5 years of funding
- 8 Initial Projects – Year 1
  - 3 collaborative across institutions
  - 5 single institution projects

Year 2 funding available

# RFP coming Early October

## Types of Projects

- Research
- Education & Outreach

## Project Requirements:

- Safety theme
- Use of simulation technology
- Student involvement
- PI is a faculty member or full-time research staff
- 50% matching funds from non-Federal sources

## Proposals due

**November 30, 2017**

## Award Decisions

**February 15, 2018**

## Projects to begin

**Summer or Fall  
Term 2018**

# Advisory Board Member Panel



## Dr. William Horrey

- AAA Foundation for Traffic Safety

## Lisa Schletzbaum

- Massachusetts Department of Transportation

## Pat Hoye

- Bureau Chief - Governor's Traffic Safety Bureau - Iowa

## Dr. Linda Boyle

- University of Washington

## Dr. Rich Romano

- University of Leeds



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SAFETY RESEARCH USING SIMULATION

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UNIVERSITY TRANSPORTATION CENTER

# William J. Horrey

- Traffic Research Group Leader, AAA Foundation for Traffic Safety
- Ph.D. (2005) in Psychology from University of Illinois at Urbana-Champaign
- Transportation Human Factors
  - Visual and divided attention, Human-automation interaction, Driver distraction, Calibration of skill and judgement, Risk perception
- Chair of TRB Committee on Vehicle User Characteristics
- Associate Editor, Human Factors Journal



## About the AAA Foundation

- Founded in 1947 by American Automobile Association (AAA) to conduct research to address growing highway safety issues
- Non-profit organization, Section 501(c)(3), funded by voluntary contributions from motor clubs associated with AAA, the Canadian Automobile Association, and individuals



## Mission Statement

*"To identify traffic safety problems, foster research that seeks solutions, and disseminate information and educational materials."*



## Research Focus Areas

EMERGING  
TECHNOLOGIES

VULNERABLE  
ROAD USERS

DRIVER  
BEHAVIOR &  
PERFORMANCE

ROADWAY  
SYSTEMS &  
DRIVERS



Foundation  
for  
Traffic Safety

- What you would like to see from SAFER-SIM in terms of research, education, and outreach projects...
  - Continue to conduct strong work along the Center's core themes
    - Leverage strengths to break new ground
    - Focus on multi-disciplinary
    - Distributed simulation capabilities
  - Preserve “fundamentals” in education and outreach



Patrick Hoye  
Bureau Chief  
Governor's Traffic Safety Bureau



- Retired Colonel of the Iowa State Patrol
- 32 years of law enforcement experience

Patrick Hoye  
Bureau Chief  
Governor's Traffic Safety Bureau



- Senior Drivers – Testing to ensure safe drivers
- Teen specific research to support GDL modifications





# Richard Romano

## Institute for Transport Studies



UNIVERSITY OF LEEDS

- BAsC and MASc from University of Toronto (Aerospace): Started in Flight Simulation
- Manager of the Iowa Driving Simulator, University of Iowa (1990 to 1995)
- Founder and President Realtime Technologies, Inc. (1997 to 2015)
- Chair in Driving Simulation, University of Leeds (2015 to 2017)



# Richard Romano

## Institute for Transport Studies



- Improvements to rapid geo-specific database techniques
- Cost reduction in effective simulators
- Research into exploitation of geo-specific low-cost simulation to improve safety and provide training and accessibility
- Can we help people get or keep their driver's license
- Can we help people learn to navigate the challenging aspects of their local commute (both walking and driving)



## Lisa A. Schletzbaum



- Graduate of WPI with B.S. in Civil Engineering
- 20+ years of transportation planning, roadway/signal design, and traffic safety
- 200+ Road Safety Audits
- 20+ years member of WTS and ITE
- WTS-Boston Chapter President 2011-2012
- Member of Technical Advisory Committee for the ELCSI-PFS
- Member of various NCHRP Panels

## Lisa A. Schletzbaum



- Interested in safe travel for all modes
- Shared Use Path crossings
- Crosswalk education/enforcement
- Transition area/cues from highway to town center



# Linda Ng Boyle, University of Washington



- Professor & Chair, Industrial & Systems Engr
- Professor, Civil & Environmental Engineering (joint)
- Director, UW Human Factors and Statistical Modeling Lab
- <http://depts.washington.edu/hfsm/>
- linda@uw.edu
- Twitter: @lindangboyle



# Linda Ng Boyle, University of Washington



- Research

- Connected or autonomous vehicles: safety implications
- The changing face of transportation:
  - Multimodal
  - Shared rides
  - Bike share programs
- How the research relates to changes in ..
  - Policy
  - Infrastructure
  - Enhanced Driver Education
- Ongoing interdisciplinary and multi-institutional studies

- Education

- How to design simulator studies to examine the safety implications of autonomous vehicles
- What scenarios are available/possible to share?
  - Is there a shopping list somewhere?
  - Could Safer-Sim help set up a repository?



# Linda Ng Boyle, University of Washington



- Outreach
  - Webinars and newsletters are great: already exists
  - Would be good to provide a forum for researchers to share data and testing scenarios in some meaningful way
    - \*\* this is a challenge, but would be worthwhile.

