



# Presentation Agenda

- ❑ Objective and Background
- ❑ ProDriver Challenge
- ❑ Research Methods
- ❑ Findings
- ❑ Conclusions and Recommendations

# Objective and Benefit

## ❑ Objective

- Evaluate the impact of a specific highway-rail grade crossing safety education or outreach program

## ❑ Benefit

- The information and results from the pilot evaluation can be used to improve the program and future programs, develop a methodology for evaluating rail safety education and outreach programs, and, ultimately, determine the overall effectiveness of education and outreach activities as a safety strategy

# Background

- ❑ Project sponsored by U.S. Department of Transportation (DOT) Federal Railroad Administration's (FRA) Office of Research and Development
- ❑ Grade crossing safety improvement is often classified by the three Es: Engineering, Enforcement, and Education.
- ❑ Education and outreach programs are becoming a more widespread approach to improving safety at highway-rail grade crossings.
- ❑ Evaluation of education and outreach programs for highway-rail grade crossings was identified as a high-priority need at the U.S. DOT FRA Research Needs Workshop on Highway-Rail Grade Crossing Safety and Trespass Prevention in 2003 and 2009
- ❑ Operation Lifesaver, Inc. is a national non-profit with a mission "to end collisions, deaths and injuries at highway-rail grade crossing and along railroad rights of way"

# ProDriver Challenge

## ❑ Program Selection Criteria

- The program is at the beginning or design phase.
- The program or evaluation has a duration of 1 year to 18 months.
- The program targets a focused audience.
- The program is the primary rail safety or highway-rail grade crossing safety message medium to the audience.

- ❑ In early 2011, OLI was implementing a new Web-based training module for professional drivers, Railroad Safety for the Professional Drivers e-Learning Challenge (ProDriver Challenge)

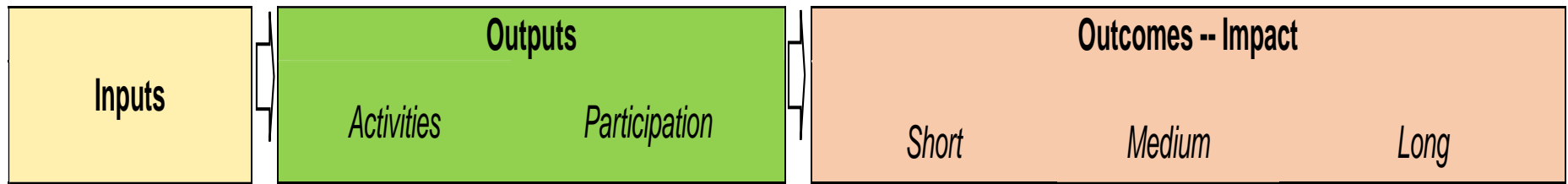
# ProDriver Challenge

- ❑ Created by OLI and Allen Interactions
- ❑ Interactive online training module with a video game style interface
- ❑ Simulated environment in which the user is behind the virtual dashboard of a large truck
- ❑ Target audience is professional truck drivers
- ❑ Driver experiences three trips and encounters various scenarios at highway-rail grade crossings which require critical thinking and quick response



<http://oli.org/prodriver/>

# ProDriver Challenge Logic Model



# Research Methodology

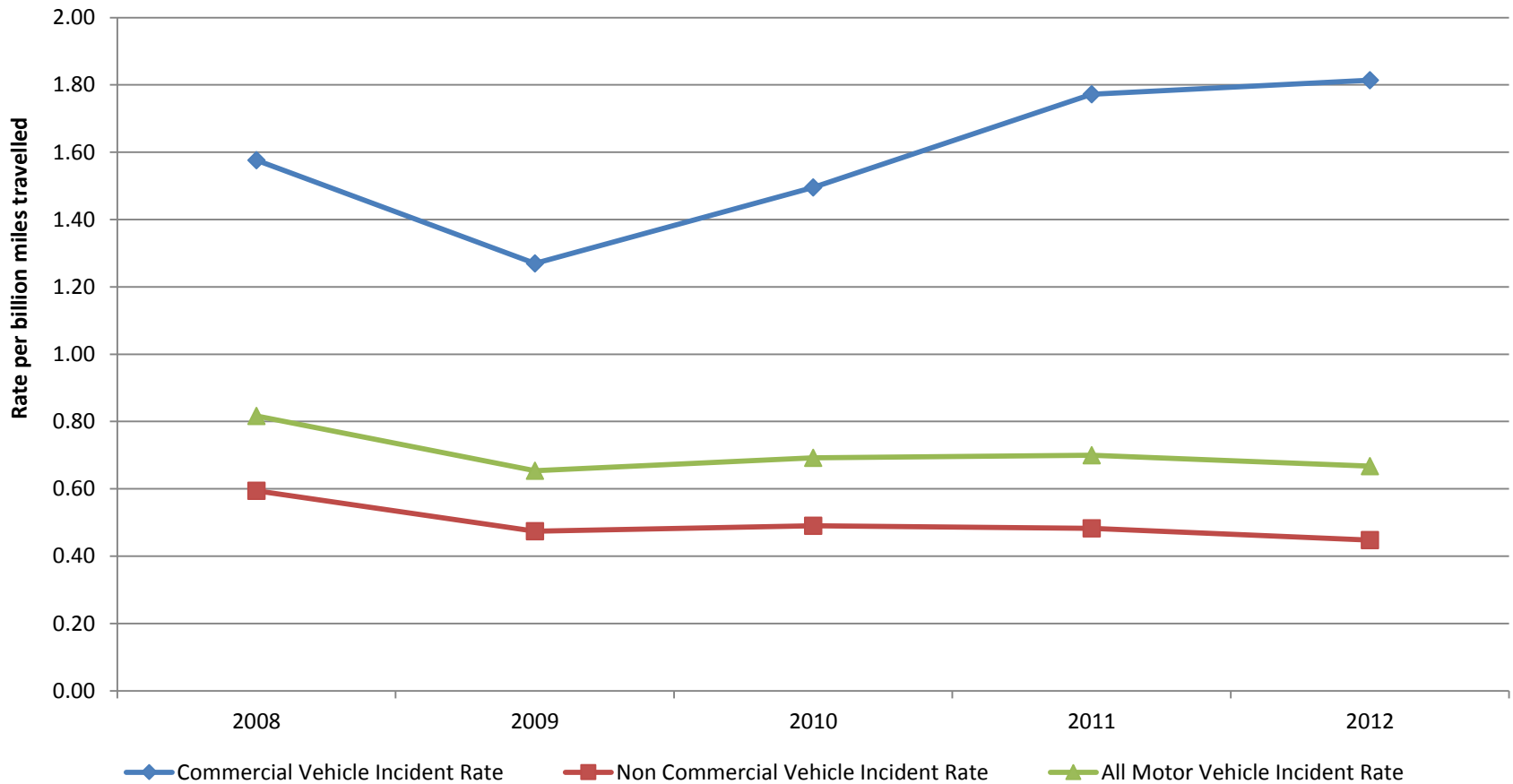
- ❑ Literature Review
  - Focus on effectiveness of Web-based trainings
- ❑ Data Review
  - FRA Railroad/Accident Incident Reporting System (RAIRS)
  - FMCSA Motor Carrier Management Information System (MCMIS)
- ❑ Evaluation of ProDriver Challenge
  - Participant demographics
  - Training completion
  - End of training survey results



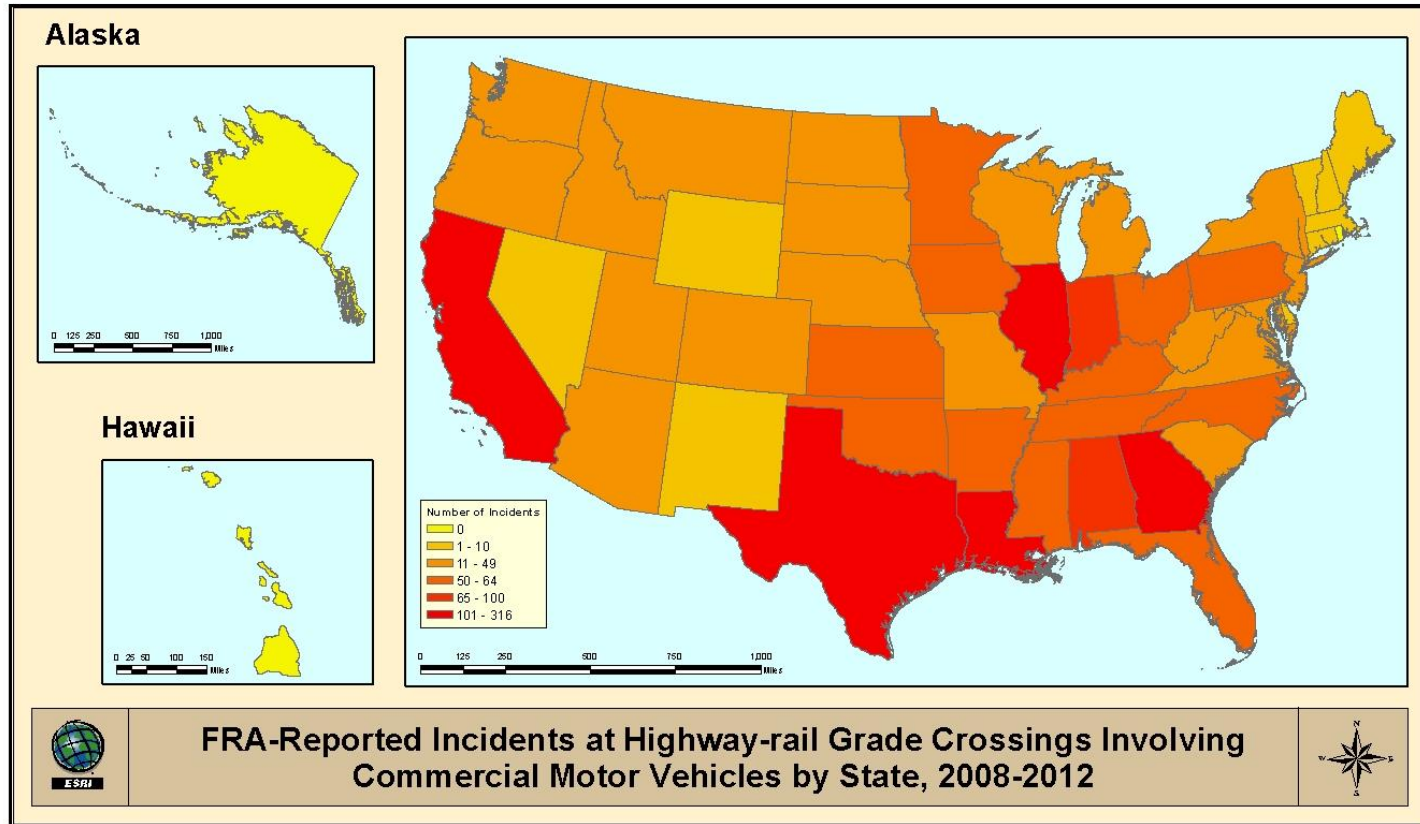
# Findings – Literature Review

- ❑ Computer and Web-based training can result in cost savings due to reduced travel, space, instructor and material costs
- ❑ Web-based training courses:
  - Provide increased accessibility for students
  - Present a consistent message
  - Give students control of what and how long they need to study the subject matter
- ❑ Limitations of a computer or Web-based module:
  - Unreliable technology can lead to frustration or missed opportunities
  - Lacks immediate feedback and interaction with an instructor

# Findings – FRA RAIRS Data

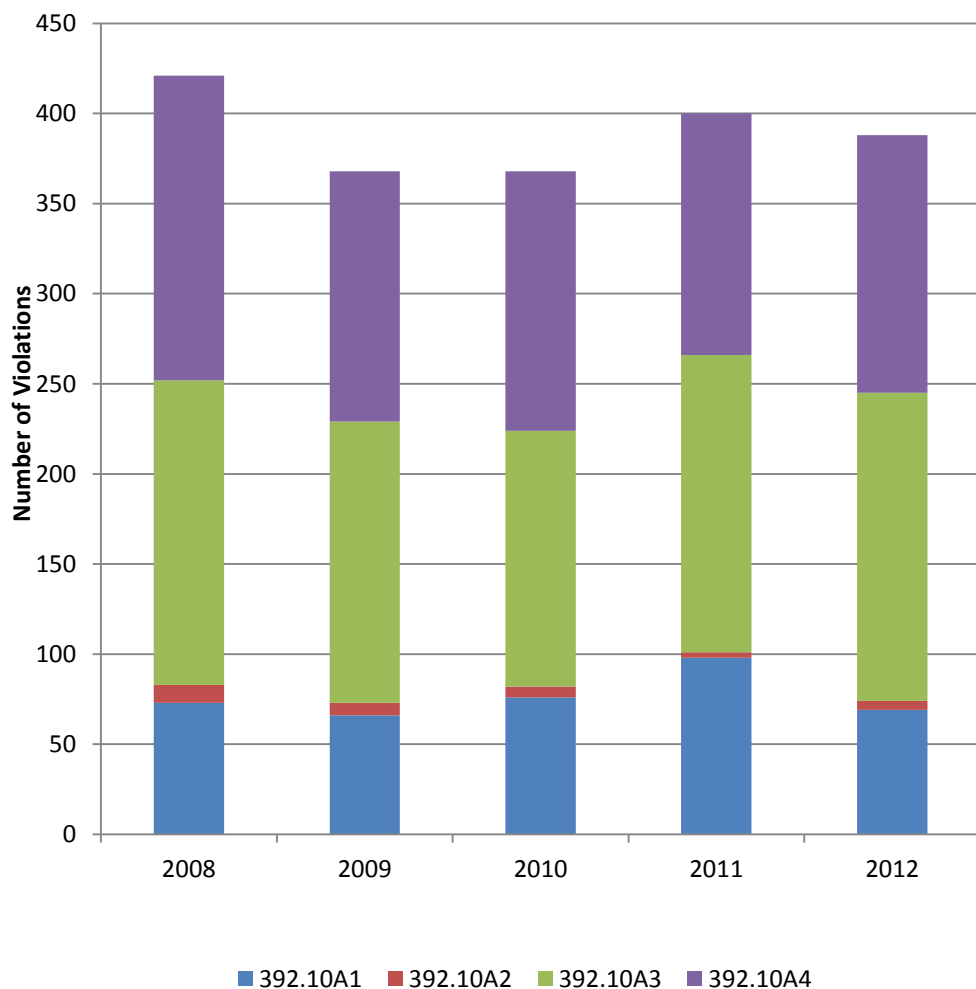


# Findings – FRA RAIRS Data



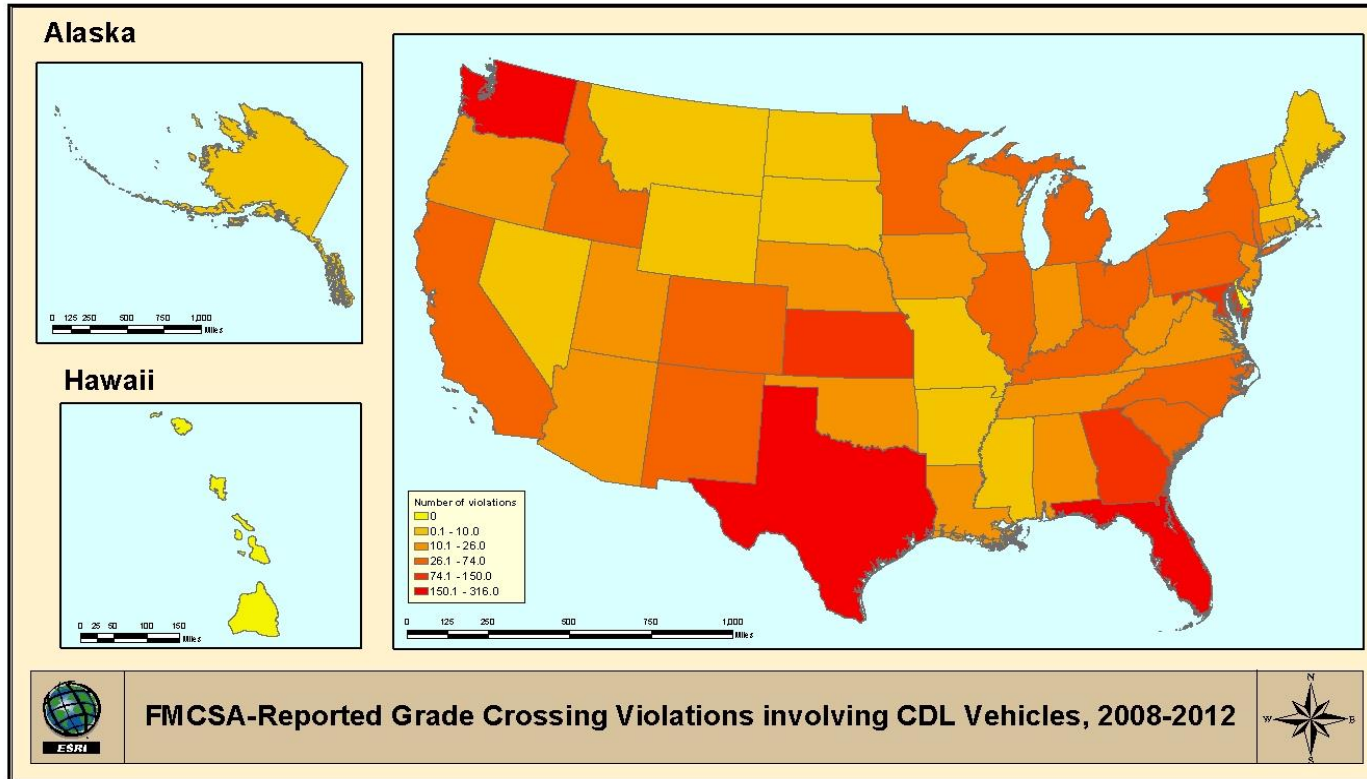
- Texas (316), Louisiana (134), Georgia (128), Illinois (114), and California (114) had the highest number of grade crossing incidents involving commercial motor vehicles over the 5 years

# Findings – FMCSA MCMIS Data



- Title 49 Code of Federal Regulations (CFR) 392.10 requires the driver of specified commercial motor vehicles to stop at a grade crossing and look in both directions for an approaching train before crossing the railroad tracks
  - 392.10A1 -- Failing to stop at railroad grade (RR) crossing-bus
  - 392.10A2 -- Failing to stop at RR crossing-chlorine
  - 392.10A3 -- Failing to stop at RR crossing-placard
  - 392.10A4 -- Failing to stop at RR crossing-HM cargo

# Findings – FMCSA MCMIS Data



- Texas (316), Florida (198), and Washington (190) had the highest number of citations issued for grade crossing violations from 2008-2012

# Findings – ProDriver Evaluation

- ❑ OLI provided data on training participants from June 2011 to February 2013, 11,469 participants
- ❑ Survey to start training
  - Are you a CDL truck driver?
  - What is your age range?
  - What is your home zip code?
  - How did you find out about the Railroad Safety for Professional Drivers e-Learning tool?
- ❑ CDL Truck Drivers
  - 41% of respondents identified themselves as CDL truck drivers

# Findings – ProDriver Evaluation

## ❑ Participant Age

- The age range from 41 to 50 years old had the most overall participants at 26.7 percent (3,063), as well as the most commercial driver participants at 29.5 percent (1,388)

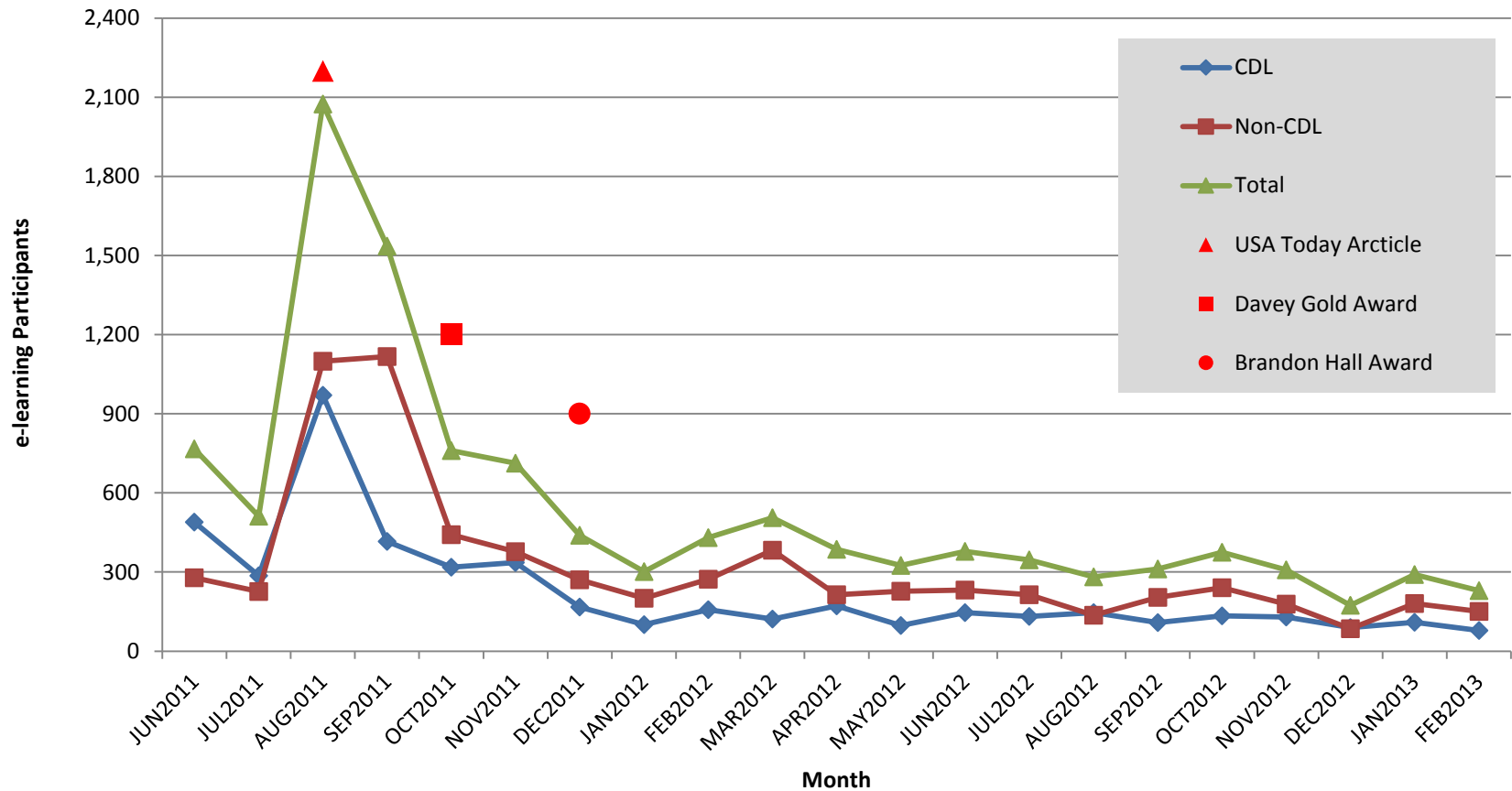
## ❑ Participant Locale

- Florida (749), California (732), Texas (685), Pennsylvania (561), and Minnesota (486) had the highest number of trainees

## ❑ ProDriver Publicity

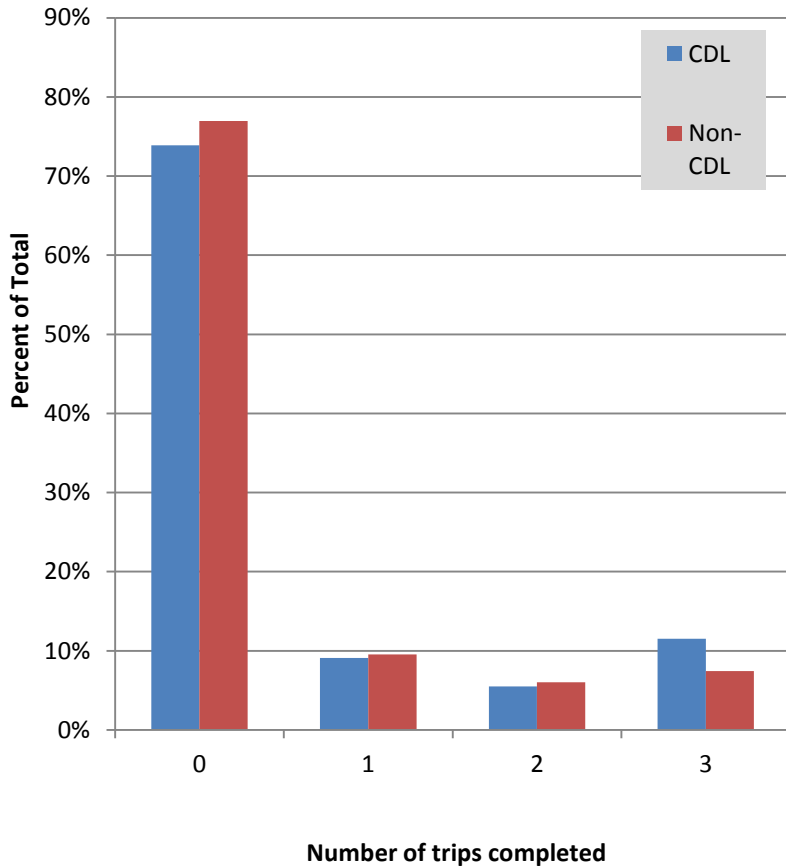
- Selected from a dropdown list that included Operation Lifesaver Website or Contact, Work or Company Suggested, Friend or Word of Mouth, Web Advertisement, Print Advertisement, Other or Blank
- Most participants indicated that they found out about the training through Other

# Findings – ProDriver Evaluation





# Findings – ProDriver Evaluation



- ❑ Participants who identified themselves as a CDL driver were more likely to complete the training than non-CDL drivers
- ❑ Significantly more younger CDL drivers (18-40 years old) completed the training than older CDL drivers (over 60 years old)

# Findings – ProDriver Evaluation

- ❑ Post Training Survey (respond Strongly Agree, Agree or Strongly Disagree)
  - After completing this program, I now have a better understanding of safe operation at highway-rail grade crossings.
  - The words used to describe the e-learning trips were ones familiar to professional truck drivers.
  - Overall, I am very satisfied with the Operation Lifesaver e-learning program and would recommend it to other professional truck drivers.
- ❑ Out of a possible 11,469 trainees that accessed the ProDriver Challenge, only 394, or 3.4 percent, participated in the post training survey
- ❑ Of the 394 trainees that participated in the survey, 57.9 percent of the trainees identified themselves as CDL drivers

# Findings – ProDriver Evaluation

- ❑ Focused only on CDL truck driver responses
- ❑ Better understanding of safe operation at highway-rail grade crossings
  - 61.8 percent strongly agreed, 36.0 percent agreed, and 2.2 percent strongly disagreed with the statement
- ❑ Words used in training were familiar
  - 60.5 percent strongly agreed, 37.7 percent agreed, and 1.8 percent strongly disagreed with the statement
- ❑ Satisfied with ProDriver Challenge
  - 67.5 percent of CDL drivers strongly agreed, 30.3 percent agreed, and 2.2 percent strongly disagreed with the statement

# Conclusions

- ❑ Commercial truck drivers is a fitting population to target for enhancing safety
- ❑ ProDriver Challenge is an opportunity to reach drivers that might not otherwise have access to OLI training
- ❑ Low-cost and consistent method of supplementing the rail safety education program for professional drivers
- ❑ ProDriver Challenge is reaching its intended audience:
  - Three of the top five home states of training participants were also the states that had the most CDL related collisions or violations at highway-rail grade crossings
  - Almost half of all training participants identified themselves as CDL drivers
  - CDL drivers were more likely to complete one or more of the trips within the training
  - Younger CDL drivers more often completed the entire training module, suggesting that this program may be more suited to those familiar with technology and video games
- ❑ Over 95% of users who took the post-training survey indicated that they had a better understanding of crossing safety, understood the message, and were satisfied with the training

# Recommendations

- ❑ Incorporating a text field if the user selects Other will to capture what means of communication led them to the training; OLI can take advantage of opportunities to spread the word
- ❑ An investigation into why users are not completing the full training may result in program improvement and a better user experience
- ❑ A formal study with a fixed population should be conducted to determine program effectiveness

# Thank you!

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