Truck Rollover Warning System

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Agenda

- Project Purpose
- Project Management Team (PMT)/Stakeholders
- Scope Review
- Location
- Design
- Schedule

Project Purpose

To use weigh-in-motion (WIM) and road surface condition detection to reduce truck rollover crashes.

Project Management Team

- MnDOT
 - Dan Rowe
 - Derek Leuer
 - Chad Erickson
 - Molly Kline
 - Tiffany Kautz
 - Ben Timerson
- FHWA
 - Will Stein
 - Jim McCarthy

- ATRI
 Dan Murray
- IRD
 - Ann Reinhart
 - Peter Fedechko
- SEH
 - Dennis Foderberg
 - Tom Sohrweide

Stakeholders

- MnDOT
 - Ray Starr
 - Jon Jackels
 - John Tompkins
 - Adam Josephson
 - Jeff Brunner
 - Mike Fairbanks

Scope

- Quality Management Plan
- Concept of Operations
- System Requirements
- Design
- Testing
- Operation
- Evaluation
- Removal / Turnover

Truck Rollover Crash Locations – 2001-2009 ATRI – May 2012

Top Rollover Locations								
Location	Number of Rollovers							
I-94 and US 52/Lafayette Bridge	17							
I-94, I-494, and I-694	13							
I-90 and I-35	12							
I-494 and US 52	12							
US 52 and US 63	9							
I-35W and US 10	9							
I-90 near Exit 242/CR 29	8							
I-35W and I-494	8							
I-35W and I-694	7							



Rollover Crashes I-94/694/494 Interchange

01/01/07 - 05/03/12

Location





Existing Advance Signing



Existing Signing



Existing Signing at Exit



System Components

- Road side WIM electronics
- Piezoelectric WIM sensors and inductive loops
- Warning signs and flashers
- Road surface condition detector

Design

- Source of Power
- Detector Locations (off bridge)
- Signs / Messages
- Factory Testing
- Shadow Testing



- Combine 2 Systems
 - Too fast
 - Slippery roadway

Design Concept



Signing





Signing





Schedule

	2013											2014						
Task	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	
Project Management																		
Concept of Operations																		
System Requirements																		
Design																		
Testing																		
Install																		
Operate																		
Final Report																		
System Removal or Turnover																		
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Questions?