**TMC Pooled Fund Study Quarterly Progress Report**

**August 2015**

**1. Recently Completed Projects**

* A Guidebook for Developing Virtual TMCs
* Roles of TMCs in Incident Management on Managed Lanes

**2. Current Projects**



**~~Estimated Benefits of Crowdsourced Data from Social Media (funded by FHWA):~~** ~~This project will develop a synthesis of how crowdsourced data from social media (i.e. content generated through end-user applications like Waze, Facebook, youtube, Twitter, LinkedIn) are applied at TMC. The report will provide recommendation to TMCs how they should navigate the potential overwhelming trend of the rise of social media crowdsourced data as well as how TMC must adapt to change and use the data from social media and turn it into information and use the information to make smart decisions.~~

~~FHWA Government Task Monitor: Jimmy Chu~~

~~Contractor Lead: Greg Hatcher, Noblis~~

~~Cost: $380,633 (FHWA funded)~~

~~Period of Performance: 14 Months~~

### *~~Milestones & Products:~~*

* ~~Project kickoff meeting: January 23, 2014.~~
* ~~Review of Literature and Practice Report: To be due in Mid-May, 2014.~~
* ~~SWOT panel meeting: July 23-24, 2014 at Fairfax, VA.~~
* ~~Webinar : March 11, 2015~~
* ~~Product: Final draft was submitted in February 2015. Review 508 compliance~~.

**Travel Time Displays at Freeway Entrance Approaches:** The objective of this project is to compare and quantify motorist response to real-time travel time displays at freeway approaches compared to displays located on the freeway itself. The research will determine the benefits and effectiveness of travel time signs on arterial approaches to freeways and develop recommendations for the design and use of such displays, including information content, format, sign location and warrants. The focus is on freeway travel time information (the current state of practice), but some experimental attention shall also be directed to provision of arterial route travel time estimates.

Project Champion: Jeff Galas, Illinois DOT

FHWA Government Task Monitor: Brian Philips

Contractor Lead: Neil Lerner, Westat

Cost: $298,042

Period of Performance: 21 Months

### *Milestones & Products:*

* Project kickoff meeting: July 13, 2011.
* Project restarted kickoff meeting: March 10, 2014.
* Field test: October 2014 through January 2015.
* Draft recommendations due: 8/31/2015 ( webinar to discuss the comments in second week of September)
* Product: A research report ( Due in September after receiving comments from members)

**Human Factors Guidelines for TMCs:** The objective of this project is to prioritize topics, identify chapters, and develop a handbook of Human Factors Guidelines for TMCs for use by TMC staff, supervisors, managers, and designers with a clear, relevant, and easy-to-use reference of human factors guidance for TMC design and operation. This project will build upon the Requirements Analysis for Human Factors Guidelines for TMCs project.

Project Champion: Ed Sirgany, North Carolina DOT

FHWA Government Task Monitor: Brian Philips

Contractor Lead: Emanuel Robinson, Westat

Cost: $297,268

Period of Performance: 21 Months

### *Milestones & Products:*

* Project kickoff meeting: July 13, 2011.
* Project restarted Kickoff meeting: March 10, 2014.
* Product: A guidelines document (Final draft was submitted in 8/25/2015)

**Next Generation Traveler Information System: A 5-year Outlook:** This project will research and synthesize the current and emerging technological advancements and potential changes in business models/decision and public anticipation in traveler information systems during the next five years. The research will also provide recommendations to transportation agencies for proactively addressing technology advancements, changes in business models and decisions, and public needs, demands and anticipation as they occur as well as provide recommendations for further research.

Project Champion: Lisa Miller, Utah DOT

FHWA Government Task Monitor: Jimmy Chu

Contractor Lead: Mike Waisley, Battelle

Cost: $ 79,894

Period of Performance: 10 Months

### *Milestones & Products:*

* Project kickoff meeting: October 22, 2014.
* Literature Review Letter Report: Completed in January 2015
* Annotated Outline: Draft outline submitted on February 17, 2015. Conference call on March 4, 2015.
* Product: Draft synthesis report submitted in May 2015; final report expected in August 2015.
* Webinar: September 23, 1pm-3pm EST

**Public Perception of PSA on DMS in Rural Areas:** This project will assess the effectiveness of disseminating public safety announcements on DMS in rural areas. This project will investigate the acceptance and recognition of PSA messages by drivers in rural areas, their responses to those messages, and their opinions on the value of posting them on DMS. Long haul commercial vehicle drivers will be one of the subject groups to be studied.

Project Champion: Shari Hilliard, Kansas DOT

FHWA Government Task Monitor: Jimmy Chu

Contractor Lead: Jeremy Schroeder, Battelle

Cost: $ 186,205

Period of Performance: 16 Months

### *Milestones & Products:*

* Project kickoff meeting: October 7, 2014.
* Work Plan: Draft submitted on October 2, 2014; revised work plan submitted on October 21, 2014.
* Task 2 Memo (Study Messages): Submitted on October 31, 2014.
* Project Conference Call: February 18, 2015.
* Task 3 Memo (Preliminary Survey Result Summary): Submitted in August 2015. The contractor will gather more surveys in the field in late September)
* Annotated Outline: Draft outline submitted in August, 2015.
* Products: A project report and a PowerPoint presentation (expected in January 2016).

**TMC Video Recording and Archiving Best General Practice:** The purpose of this project is to identify best practice for TMC video camera recording and archiving. The project will synthesize agencies’ policies and rationale regarding the decisions to whether record or archive videos from traffic cameras or not. Agencies’ video recording and archiving practices will be reviewed and synthesized. Advancements in CCTV camera technology and their implications to video recording and archiving practices will also be investigated. This project will also provide guidance on how video data is shared with enforcement agencies, general public, third parties, etc.

Project Champion: Jeff Galas, Illinois DOT and John McClellan, Minnesota DOT

FHWA Government Task Monitor: Jimmy Chu

Contractor Lead: Steve Kuciemba, Parsons Brinckerhoff

Cost: $ 116,100

Period of Performance: 12 Months

### *Milestones & Products:*

* Project kickoff meeting: April 16, 2015.
* Work Plan: Draft submitted on April 14, 2015.
* Literature review and research: May and June 2015.
* Products: A synthesis report (draft expected in the fall of 2015 and final in December 2015) and a PowerPoint presentation (expected in February/March 2016).

**Freeway Service Patrol Prioritization and Best Practice:** The purpose of this project is to develop a synthesis report that provides guidance and recommended practices for establishing freeway service patrol. The project will identify factors, requirements and justifications for implementing freeway service patrol and synthesize methods, innovative techniques, models and procedures for prioritizing freeway corridors or segments for its operations. Project Champion: Suzette Peplinski (Michigan DOT). ***SOW was issued in April 2015. Project is expected to kick off in May/June 2015.***

Project Champion: Suzette Peplinski, Michigan DOT

FHWA Government Task Monitor: Jimmy Chu

Contractor Lead: Iteris

Cost: $ 151,000

Period of Performance: 12 Months

### *Milestones & Products:*

* Project kickoff meeting: August 11, 2015.
* Literature review and research: Fall 2015.
* Products: A synthesis report (draft expected in March 2016 and final in May/June 2016.

**3. Projects to Initiate in 2015-2016**

**Capability and Usage Guidelines for Color Changeable Message Signs (20 months, $350,000):** The objectives of this research effort are to: (1) perform a synthesis study and identify and document best practice in using colors and symbols on color, full-matrix CMSs; (2) develop guidelines for using colors and symbols on full-matrix CMSs; (3) recommend symbols and graphics for display on CMSs to ensure drivers recognition and comprehension; (4) conduct a human factors study to analyze the effects of using the recommended symbols and graphics on CMS messages; and (5) identify and recommend changes or new provisions, and provide justifications based on the human factors study to the FHWA’s MUTCD Team with regard to the use of colors, symbols and graphics on CMS messages. Project Champions: Bonnie Castillo (Iowa DOT) and Don Gedge (Tennessee DOT). ***Draft scope has been developed.***

**Synthesis of Variable Speed Limit Signs – Operations (12 months, $100,000):** This project will synthesize current practice on the operations of variable speed limits and identify successful and best practice. Focuses of the variable speed limit applications for this study will be on congestion management and weather-based management, including active management applications. System automation, impacts on TMC operations, as well as enforcement issues will also be investigated. Project Champions: Vinh Dang (Washington State DOT) and John McClellan (Minnesota DOT). ***Initial scope will be drafted by September 2015.***

**Roadmap to Address MAP-21 Performance Measures on Highway Operations (15 months, $150,000):** This project will identify and synthesis best practice to address performance measures on highway operations as required by MAP-21 and develop a roadmap to guide transportation agencies to meet the requirements. This study will identify required data to support MAP-21 performance measures and discuss methods and procedures to measure the performance. A synthesis on best practice from multiple agencies will also be included in the study report. Project Champion: Jon Nelson (Missouri DOT). ***Request for comments will be issued in June, 2015. This project will be delayed.***

**Effects on ITS Planning and Deployment in a Connected Vehicle Environment (18 months, $200,000):** The purpose of this project is to investigate how the Connected Vehicle environment will change ITS planning and future ITS deployment. This project report will provide guidance that assists transportation agencies with better preparation for the potential impacts, operational and maintenance activities, resources and system needs and better decision-making for replacement and future investments of ITS assets. Project champion: Paul Keltner (Wisconsin DOT).