



RESEARCH NEED STATEMENT

Call for Projects 2015

Project Research Title: Work Zone Crash Performance Data Measurement

TDOT Sponsor Director: Phillip B. Freeze

List TDOT Research Team Lead: Michael L. Tugwell

List TDOT Research Team Members: Joseph Sweat, Brian Hurst, Jason Oldham, Jason Moody

1. Define the problem or research requested. What is the goal/objective of the research?

Work zone crashes accounted for over 600 fatalities nationally in 2014. This equates to more than 50 deaths per month. TDOT is focused on increasing work zone safety and has targeted the reduction of work zone crashes in the Individual Performance Plans of all Operations staff. The current performance metric in use is based on a three year rolling average, with a target of less than 2851 statewide. This measure may be appropriate at the administrative level, but does not set actionable targets for operations staff. Research is needed to determine performance metrics for evaluating works zones for goal setting and performance reporting.

2. Is this research a continuation of a past or present project?

No Yes

If yes, provide current research project title, RES # and reason for the project continuation.

3. Describe anticipated benefits/expected deliverables.

Expected deliverables will include a set of detailed performance metrics for work zone safety measures, and documented methods for reporting these measures in quarterly review periods at a Statewide, TDOT Region, and TDOT District level.

Benefits of this research will include the creation of actionable goals for improving work zone safety in Tennessee, and the development of performance metrics for evaluating work zone safety strategies and staff work effort.

4. What is your timeline for completion of the research?

1 year

5. List the anticipated tasks for this research.

- The review of national best practices on work zone performance measurement
- The collection of work zone crash data from multiple data sets

- The collection of TDOT construction project data
- An analysis of work zone safety strategies deployed on TDOT projects
- Coordination with TDOT Project Team and Work Zone Safety Committee
- Development of recommended performance metrics for Tennessee Work Zones, including documented methods for reporting

6. Describe how the project results will be implemented?

The research results will be implemented by establishing annual goals with performance targets to achieve measureable improvement in Tennessee's construction work zones.

7. Will this study produce software, web page or other technology that will involve the Information Technology Division?

No Yes, please describe:

8. Will training be provided to employees as a result of this research?

No Yes, please describe:

9. Will this research involve equipment or materials purchase?

No Yes, please describe:

The project results could be integrated into the safety focused dashboard from a separate research project.

10. Research must support the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative. (*See attachments for additional information*)

Please indicate which categories the research will support:

Transportation Long Range Plan Policy Recommendations

(A) Accessibility

(B) Safety, Security, and Transportation Resilience

(C) Coordination, Cooperation, and Consultation

(D) Demographic and Employment Changes and Trends

(E) Freight Logistics and Planning

(F) Financial

(G) Mobility

(H) Travel Trends and System Performance

TDOT Operational Goals and/or Strategic Initiative

(A) Deliver transportation projects on schedule and within budget

(B) Maintain the state transportation system to protect the long term investment in our infrastructure assets

(C) Operate and manage Tennessee's transportation system to provide a high level of safety and service to our customers and workers

(D) Expanding mobility choices to maximize access

(E) Dramatically change the paradigm for delivery of transportation products and service to improve the efficiency and effectiveness of Tennessee's transportation network

11. Please explain how the research supports the Long Range Transportation Plan Policy Recommendations **and/or** TDOT Operational Goals and/or Strategic Initiative selected above:

Safety is a high priority for the Department. This research supports TDOT's Operational Goal for providing a high level of safety and service to our customers and workers. Since 1948, 109 TDOT workers have lost their lives in the line of duty. This research aims to help set TDOT on a path to achieve significant gains in improving the safety of construction works zones.

For additional information, please contact:

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