



# RESEARCH NEED STATEMENT

Call for Projects 2015

Project Research Title: Tennessee SmartPark Pilot

TDOT Sponsor Director: Brad Freeze, Traffic Operations Division

List TDOT Research Team Lead: Brad Freeze

List TDOT Research Team Members: Mike Tugwell, Said ElSaid, Jerry Hatcher, Michael Nichols, Stacy Morrison, Bob Rock

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

TDOT has been a partner in a Federal Motor Carrier Safety Administration's (FMCSA) SmartPark Pilot Project on the I-75 Corridor between Chattanooga & Knoxville. ITS technologies have been deployed at the Northbound Rest area at Mile Marker 45, and at a upgraded truck inspection station Northbound Mile Marker 23 to create a SmartPark Corridor. Truck parking availability is monitored by cameras, ingress and egress laser sensors, and radar. Truck parking availability is presented to the public through dynamic message signs, a public website, and a smartphone application. The FMCSA project will conclude with a cursory review of the technology and 2 months of usage site data. Additional research is needed to continue the pilot an additional 6 months to provide TDOT a comprehensive study of the system operations and feasibility of continuing and expanding the program.

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.

N/A

3. Describe anticipated benefits/expected deliverables.

This research will enable TDOT to evaluate the pilot and make a decision on expanding to a SmartPark program in Tennessee.

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

6 months

5. List the anticipated tasks for this research.

The research will provide a comprehensive report that will include the following proposed tasks

1. An operational analysis including system performance measures
2. A SmartPark user survey

- 3. Recommended system improvements
- 4.A review of potential future SmartPark installations
- 5.A business plan for a Tennessee SmartPark Program

6. Describe how the project results will be implemented?

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

No  Yes, please describe:

N/A

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

No  Yes, please describe:

N/A

9. Will this research involve equipment or materials purchase?

No  Yes, please describe:

N/A

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:

This research supports the LRP policy recommendation for Safety, Security and Resilience of our transportation system, and the TDOT Operational Goal for providing a high level of safety and service to our customers and workers. This research will enable TDOT to chart the strategic direction of a program aimed at providing truckers with parking availability information. This information can help address driver fatigue issues with have been found to cause 800 deaths/year.

For additional information, please contact:

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