



RESEARCH NEED STATEMENT

Call for Projects 2015

Project Research Title: Green Generates Green

TDOT Sponsor Director: Tanisha Hall on behalf of Toks Omishakin

List TDOT Research Team Lead: Alan Jones

List TDOT Research Team Members: Jason Oldham, Casey Langford, Jessica Wilson, Terry Gladden

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

There is always a question of the financial feasibility of sustainability in Department of transportation. Whether through using recycled materials in construction projects, employing TSMO solutions to mitigate congestion, retrofitting fleets to reduce vehicle emissions or investing in multimodal infrastructure to provide transportation options for the public, it is a complicated discussion to prove their ability to provide cost benefit analysis. This research problem will investigate various sustainability practices of DOTs and develop a way to measure ROI.

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.

This research will allow TDOT to identify successful sustainable DOT practices and have the ability to develop performance measures to forecast cost benefit analysis.

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

The project would have a 12 - 18 month duration.

5. List the anticipated tasks for this research.

1. Document TDOT's existing sustainable practices/projects. 2. Perform a best practices analysis of other Transportation agencies' sustainability programs. 3. Coordinate with TDOT staff to determine feasibility of other DOT programs within TDOT. 4. Develop Performance measures and cost benefit analysis documentation. 5. Identify potential funding sources for recommended sustainable projects. 6. Coordinate with TDOT leadership on findings. 7. Implement selected best practices.

6. Describe how the project results will be implemented?

The project will be developed with coordination between the Chief of The Environment and Planning Bureau, TDOT Long Range Planning Division, Traffic Operation Division, Multimodal Division, and the Strategic Transportation Investments Division providing input and guidance along the way. Once viable options are analyzed showing acceptable cost benefit analysis and funding source identified, project will be coordinated with appropriate TDOT divisions and local partners to implement.

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:

Appropriate staff will be trained to review plans and projects for sustainability.

9. Will this research involve equipment or materials purchase?

☒ No ☐ Yes, please describe:

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 LRTP by looking at potentially less costly transportation investments to maximize TDOT's financial investment.

For additional information, please contact:

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