Research Office
Long Range Planning Division
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Research Project Title: ***Quantify Freeway Safety Service Patrol and Protect the Queue Impact on Transportation Network Reliability (RES2019-10)***

Purpose of the Project:

TDOT provides a myriad of real-time on-site fast-response and proactive safety services on its Interstate highways. These services require hefty initial capital investment and additional expenses to maintain and keep them operational on annual basis. This project seeks to objectively assess the impacts and benefits of the freeway safety service patrol (FSSR) and protect the queue (PTQ) services through the use of data-driven analyses.

Scope and Significance

This project covers FSSR and PTQ programs in all four TDOT regions. The data to be used include TDOT's own 30-second RDS traffic data, WAZE minute-by-minute travel time data, NMPRDS 2.0 5-minute data, and any other potential data sources available to this project. TDOT's FSSR patrol routes in the four regions are obviously the primary study sites. These will have to be coordinated with TDOT's RDS detector station locations and WAZE routes currently designated in the Connected Citizen Program (CCP). The primary benefits of FSSR and PTQ typical derive from incident scenarios. As such, TDOT's Locate/IM and WAZE's crowd-sourced incident report logs will be heavily used for the purpose of the project.

Expected Outcomes

- *Benefits: The deliverables of project will provide factual statistics backed by sound analyses to assist CMAQ application strategies. The B/C reports for FSSR program, for PTQ program, and for newly proposed rural FSSR program or an extension of the existing FSSR coverage will help TDOT make important investment decisions to best serve the motoring public. The automated B/C reports for HELP program will fulfill the recurring comprehensive performance monitoring objective. Furthermore, the incorporation of WAZE data into TDOT's exiting traffic incident management data framework will lead to better understanding of incident characteristics and more efficient incident management.*
- *Implementation: With the collaboration with TDOT's IT group, an automated workflow to generate benefit/cost reports would be desirable for future implementation and use.*
- *Innovation: The use of both traditional RDS data and crowd-sourcing data is a new approach.*

Time Period

The time period for the project is from January 28, 2019 through November 30, 2020.

Contact Information

Principal Investigator (PI):	**TDOT Lead Staff:**
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