

Using Crash Data as a Measure of Effectiveness in Evaluating Signal Timing Optimizations along Corridors

Walt Vodrazka, Jr.
Orth-Rodgers and Associates, Inc.
3130 S. Durango Drive, Suite 404
Las Vegas, NV 89117
wvodrazka@orth-rodgers.com

ABSTRACT

Orth-Rodgers and Associates (ORA) has been working with the Freeway and Arterial System of Transportation of the Regional Transportation Commission of Southern Nevada (RTC FAST) on corridor signal timing optimization projects. The traditional measure of effectiveness (MOE) for the performance of corridor optimization projects is the changes to travel time, delay time, number of stops, and average speed along the corridor. These measurements are quantified through calculations of cost savings to the drivers in terms of time and maintenance and on the reduction of air pollutants. The MOEs are determined by conducting and comparing before and after travel time and delay runs.

ORA and RTC FAST are conducting research to determine if crash data analysis could be used as an additional MOE. The research will compare crash data for similar time periods before and after the signal timing optimization project improvements were installed on the corridor. The corridor projects selected for this research will be several miles in length, will have ten or more signals, and will have had the new signal timing plans operational for at least two years, but preferably three years.

This presentation will discuss the results of the crash analyses conducted on at least four corridors in the Las Vegas metropolitan area. Included in the presentation will be brief overviews of these corridors and the performance evaluations included with the project report. This information is useful for further justifying corridor-level signal timing optimization projects.

Key words: corridor signal coordination—crash mitigation—traffic safety