

TRENDS AND CONDITIONS RESEARCH THE CONSEQUENCE OF INCIDENT CONGESTION IN FLORIDA: AN EXPLORATORY ASSESSMENT

PROBLEM STATEMENT

As roadway volumes increase, higher levels of congestion have greater impacts on travelers, and incident congestion contributes significantly to total travel congestion. Thus, transportation professionals are interested in exploring strategies of minimizing incidents to minimize both the safety consequences of incidents and the impact on roadway travelers. This is one of the tasks in the Trends and Conditions research program initiated in 2002 by the FDOT Office of Policy Planning. The work scope spelled out the following principal goal:

This trends and conditions task will research the current congestion situation in Florida on the Florida intrastate system. The current extent of congestion and trends will be quantified, the nature of the congestion (incident versus recurring) will be explored and the implications of addressing the congestion will be discussed. Particular attention will be directed at incident congestion with the intention of identifying policy issues and strategies that might be directed at addressing incident congestion.

OBJECTIVES

An underlying premise in this initiative is that the congestion levels on Florida's roadways are increasing and, hence, various strategies, such as incident mitigation, are ever more important in helping to minimize traveler delay. This study provides an overview and initial discussion of incident management and congestion and reviews incident and non-incident congestion and their relationship to roadway volume and incident frequency. The focus then shifts to explore a sketch planning strategy for evaluating incident congestion. This effort was carried out by utilizing a sketch-planning model developed for FHWA and by integrating that spreadsheet model with data from the Florida Decision Support System (DSS) databases. This strategy is applied using preliminary Florida data.

FINDINGS AND CONCLUSIONS

The focus of this effort was to explore development of an overall strategy. The preliminary results suggest that much of the congestion mitigation benefit of incident management would be concentrated on a relatively modest share of the system. It is also clear that additional data on Florida specific incident distribution, duration, and roadway conditions will be required to refine the database of the assessment tool. The identified methodology could be incorporated within a broader database/decision management system by integrating the spreadsheet analysis capabilities within the larger decision support program. Subsequent decisions regarding method refinement, data updating, and application within Florida will be required by FDOT should there be an interest in utilizing such an assessment strategy to support FDOT incident management resource prioritization. The proposed strategy provides a sound foundation for potential use by FDOT should there be an interest in using congestion relief as a criterion in prioritizing incident management priorities.

BENEFITS

The assessment of incident management in Florida shed light on the state of the practice nationally and provided an exploratory assessment of the consequences of incidents on delay in Florida. The model developed in the study can help to enrich the Decision Support System (DSS) database and be applied to freeway segments. This preliminary study in incident management has laid a foundation for detailed research in the future. Florida may be well served by continuing to explore overall incident management priorities through refinements of the assessment tool while simultaneously carrying out more intensive corridor level programs for incident management and congestion management at a local level.

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