Chapter 5

CONCLUSIONS, RECOMMENDATIONS AND FUTURE WORK

Roadway safety is an essential component of transportation. Road safety audits and reviews are proactive strategies to improve safety by preventing crashes or reducing their severity. Their main objective is to identify features that could be potentially dangerous and ensure that measures to eliminate or reduce the problems are fully considered. Many factors contribute to crash causation and crash severity. Among all them, speed is considered one of the most critical. Chapter two of this document has presented an overview of road safety audits and reviews as well as a review of some topics related to speed and speed limits.

This research has provided a methodology to conduct road safety reviews on existing local roadways with special focus on observed speed problems. The road safety review process includes three phases, the office review, the field review, and the final report. Chapter three of this document has presented the procedure, describing in detail what should be accomplished in each phase and giving guidance to appropriately conduct a road safety review.

The established procedure was applied to six roadways in the Town of Natick, Massachusetts. The office review included a site description and a crash data analysis for each of the six roadways. The crash reports were obtained from the Natick Police Records Department and comprised the period from 1998 to 2003. The field review included a road survey and a speed study. The road survey was completed by field visits, checklists, photographs, and videotapes. The speed study consisted of speed data collection and analysis. Finally, the final report presented the findings and recommendations of the road safety review. Chapter four of this document has presented the implementation of the procedure.

Findings for South Main Street, Pine Street, and Union Street presented levels of risk medium and low, therefore these streets could be considered not dangerous. On Hartford Street and on Glen Street some issues were classified into high level of risk, which means that they should be corrected. Finally, on Walnut Street, a dangerous intersection with visibility issues was identified and considered an intolerable risk, and so it must be corrected.

It has been shown that road safety reviews are a useful tool in roadway safety. Operational safety of an existing road varies over time, as volumes, types of users or land uses may change, and reviews periodically conducted can help identify possible hazards or safety deficiencies due to these changes. In this research, the implementation of the proposed methodology was found successful and the results obtained were consistent. However, there is no single best way of carrying out a road safety review. The procedure should be adaptable; each particular case needs to define its particular needs.

It is noticeable that road safety review processes have a powerful component based on the judgement and decisions of the team conducting the review. Consequently, the road safety review team should be constituted by qualified people.
with appropriate experience and training. An understanding of road user behavior and human perception is extremely beneficial because of the high interaction between road user and roadway environment.

Some improvements could enhance the presented procedure. For example, the road safety review process could be improved by providing a methodology to assign a level of risk to each finding in the review. More guidance and a more objective method to categorize the results of the review would lead to more legitimate recommendations and therefore, an enhanced road safety review methodology.

Another enhancement would be to develop an automatic procedure. The idea is to mechanize the process using an expert system approach. Expert systems are computer programs that mimic expert thought processes to solve complex problems. This system would contain the basic information to conduct the road safety review, such as territorial information, checklists, and possible countermeasures, asking the user any other information needed to complete the process.

Although road safety reviews have a great potential for improving safety, they should be considered as part of an overall strategy to reduce crash risk. The management of crash risk is a long-term strategy and should be based on the development of a safety culture.