

# **Ossama E. M. Ramadan**

## Thesis

Development of a GIS-Based Safety Information System for Rural Highways

## Abstract

Transportation is a basic daily activity for almost all members of the society. However, it has been one of the main reasons for the loss of tens of thousands of lives and millions of injuries each year. Traditional safety analysis is performed using statistical or analytical methods. Such tools and techniques are project specific and therefore cannot be used on a network level. The advantages of having one tool that can integrate the different road safety techniques and procedures on state or provincial network level are therefore obvious. A GIS-based safety information system, named Carleton University Safety Information System (CUSIS), has been developed. It is intended to provide a comprehensive analysis of existing rural highway networks. In its current version, CUSIS consists of five modules, namely: Collision Analysis Module (CAM), Highway Characteristics Module (HCM), Operational Characteristics Module (OCM), Consistency Evaluation Module (CEM), and Video View Module (VVM). (Co-supervisor: D. Patterson).

## Degree

M.A.Sc.

## Completion

2003

## Supervisors

Hassan, Patterson