Abstract

Federal and state policy makers increasingly emphasize the need to reduce highway crash rates. This emphasis is demonstrated in Iowa's recently released draft *Iowa Strategic Highway Safety Plan* and by the U.S. Department of Transportation's placement of "improved transportation safety" at the top of its list of strategic goals. Thus, finding improved methods to enhance highway safety has become a top priority at highway agencies.

The objective of this project is to develop tools and procedures by which Iowa engineers can identify potentially hazardous roadway locations and designs, and to demonstrate the utility of these tools by developing candidate lists of high crash locations in the State. An initial task, building an integrated database to facilitate the tools and procedures, is an important product, in and of itself. Accordingly, the Iowa Department of Transportation (Iowa DOT) Geographic Information Management System (GIMS) and Geographic Information System Accident Analysis and Location System (GIS-ALAS) databases were integrated with available digital imagery. (The GIMS database contains roadway characteristics, e.g., lane width, surface and shoulder type, and traffic volume, for all public roadways. GIS-ALAS records include data, e.g., vehicles, drivers, roadway conditions, and the crash severity, for crashes occurring on public roadways during then past 10 years.)