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Crash Data Access and Retrieval Tool (CDART)

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This paper will describe the Crash Data Analysis and Retrieval Tool (CDART) developed for the Pennsylvania Department of Transportation (PennDOT). This Web-based GIS application provides PennDOT highway safety engineers, traffic engineers, maintenance personnel, and project designers the capability of analyzing crash data collected through the Crash Reporting System (CRS). CDART allows the users to create, store, and execute ad-hoc queries that display results in several formats, including maps, spreadsheets, and reports.

CDART was a joint effort between PennDOT's Bureau of Highway Safety and Traffic Engineering (BHSTE) and the Bureau of Planning and Research (BPR). Data collected as part of the Crash Reporting System is extracted from the mainframe DB2 tables and reformatted for querying purposes into an Oracle Spatial Database. The overall design of the spatial database was crucial in supplying the users with an easy to use ad-hoc query tool. Safety Engineers from BHSTE and Database Administrators (DBA's) from BPR worked closely to establish a series of attributes used to query the 1.6 million accident records collected over the last eight years. The application is currently part of the department's suite of intranet applications, with plans to eventually move it to the Internet for access by various partners of the Department. CDART is a Web-based spatial application built using Microsoft's .NET development technology. Other important technologies include Crystal Reports and GeoMedia Web Map and Oracle 9i.