Crash Mapping Analysis Tool
Software Training

Course Description

Purpose of the Course:
To provide the tools and skills necessary for law enforcement, engineers, other highway safety related professions, and educators to determine where and why crashes occur in a given geographical area so they can more efficiently attempt to reduce the number and severity of those crashes.

Course Description:
This four hour class introduces the student to Iowa's Crash Mapping and Analysis Tool (CMAT v 3.6) software. The CMAT software, using a map interface, allows the student to use different tools to select crashes. For example: four manual crash selection tools are available: point, rectangle, polygon, and route segment. Eleven menu “finders” for crashes are also available: County, City, Township, Map Coordinate, Milepost, Node, Intersection: Road/Rail, Intersection: Road/River, Intersection: Road/Road, DOT Case Number, and Law Enforcement Case Number.

The student learns how to build and print a five year vertical bar “trend” chart plus ten other charts: County, Month, Day of the Month, Day of the Week, Major Cause, Crash Severity, Manner of Crash, Surface Conditions, Type of Roadway, Alcohol Related. A map can also be printed, showing the selected crashes as colored dots.

A Partial List of Applications for the Skills Learned in This Class:
The student should be able, upon completion of this four hour class:
- to select crashes by using any one of thirteen filters (time of day, day of month, major cause, year, etc.)
- to find the number of crashes in any given geographical location in Iowa,
- to view or print a five year vertical bar “trend” chart for the selected crashes,
- to view or print charts relating to where and when selected crashes occurred
- to view or print a chart showing the major cause for selected crashes
- to view or print a variety of other charts for the selected crashes
- to view or print any of five pre-formatted reports (see below).

Reports Available Using CMAT:
A five year vertical bar “trend” chart showing the number of total crashes each year for selected crashes.

A colored map with colored dots representing the selected crashes.

Four pre-formatted reports:
- A Major Cause report (listing major causes with the number of crashes for each cause; number of crashes per year; crash summary; injury summary; total property damage; average property damage per crash; surface conditions)
- A Driver / Time Summary (showing day of week/time of day, driver gender, drug/alcohol, fixed object)
- A Summary report (giving the date, DOT case #, LE case #, city, severity, location of selected crashes)
- A Detail report (with date, time, location of crash; major cause; severity; property damage; surface, weather, and road conditions; roadway type; number of vehicles; vehicle configuration; vehicle action; initial travel direction; manner of crash; driver condition; driver contributing circumstances; drug / alcohol; fixed object)