

JOINT TRANSPORTATION RESEARCH PROGRAM

Principal Investigator: Andrew P. Tarko, Purdue University, tarko@purdue.edu, 765.494.5027

Program Office: jtrp@purdue.edu, 765.494.6508, www.purdue.edu/jtrp

Sponsor: Indiana Department of Transportation, 765.463.1521

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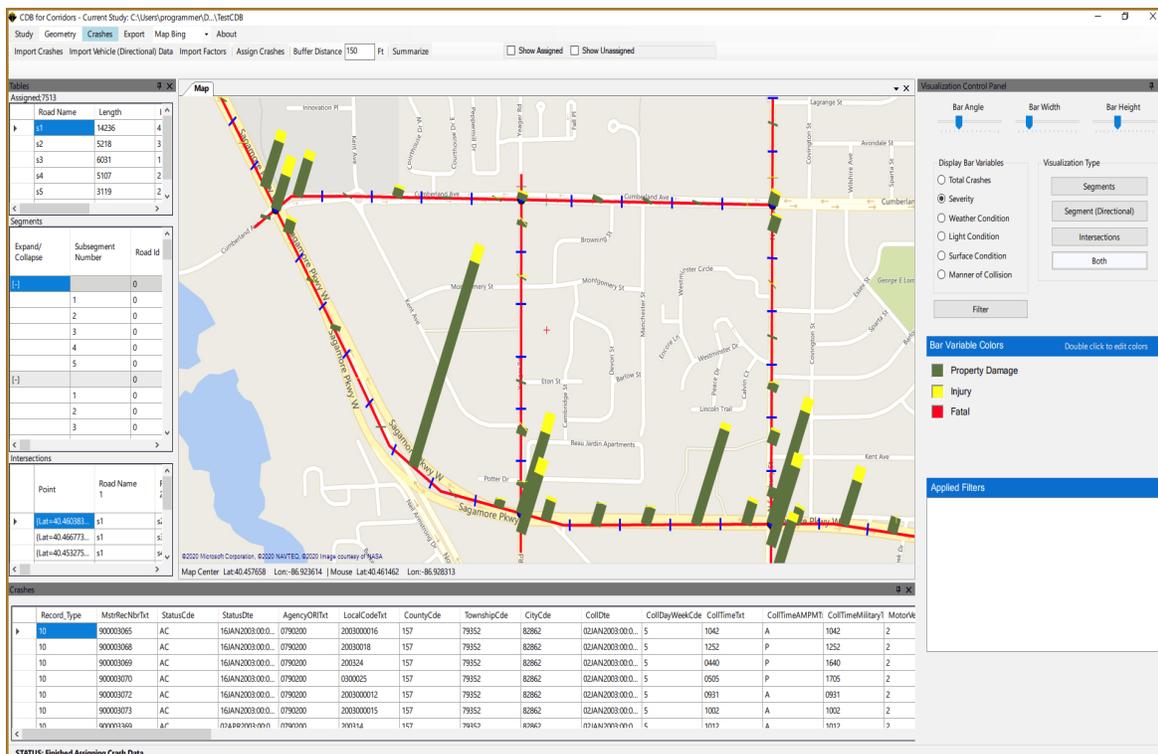
Collision Diagram Builder: Phase II Corridor Edition

Introduction

The Collision Diagram Builder—Corridor Edition (Corridor CDB) is a tool developed by the Center for Road Safety at the request of the Indiana Department of Transportation. Its development was supported through the Joint Transportation Research Program of Purdue University and the Indiana Department of Transportation. The primary objective of the tool is to expand the existing Collision Diagram Builder to make it useful for analyzing spatial patterns of various types of crashes at multiple intersections and on segments in corridors and networks of considerable size. The expanded CDB displays crashes at major intersections—a feature available in the original version—and between these intersections on roads divided by the user into short segments to allow analysis of crash grouping between intersections.

Results

- The project has expanded the existing Collision Diagram Builder to make it useful for large crash pattern analysis at the corridor level, at multiple major and minor intersections, and at segments between these intersections.
- Corridor CDB includes an editing tool to define a study corridor as a collection of intersections and segments. The user can split corridor segments into small sub-segments for crash spatial aggregation and distribution.
- Corridor CDB facilities import all crashes that occurred in an area with a studied corridor, assign crashes to major intersections and sub-segments between major intersections, and check if these crashes are assigned properly. Police reports and



drawings are available for this purpose. The new function integrates the individual components of an urban corridor into a single rendering with a properly synthesized spatial patterns to emphasize pattern features at the expanded level of analysis.

- Filters and display settings allow the user to display select types of crashes and their distribution between various conditions and factors. For example, clusters of rear-end and side-swipe crashes can be analyzed at the level of an arterial with signal coordination.

Implementation

The Corridor CDB computer software was developed in close collaboration with INDOT users. It facilitates an updated crash and state road database. The user manual describes the details of the software and various aspects of its use. Example studies are also included

in the manual to illustrate the CDB's uses and to better present its features. The Center for Road Safety will be involved in all the SNIP Light implementation by providing requested help, collecting the users' feedback, and implementing user recommendations.

Recommended Citation

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