A plan to collect work zone traffic collision report data, develop a decision support system, and perform data analysis.

WHAT IS THE NEED?

Work-zone-related injuries and fatalities are a major safety concern in California and nationwide. Developing mitigation measures is vital in improving work zone safety for roadway workers, as well as the traveling public. Developing such measures, however, require detailed data on the characteristics of these accidents and injuries.

Existing databases do not provide sufficient information that would justify mitigation measures or allow cost benefit analysis. This is because they only include traffic collision outcomes and locations, but not information on driver behavior, work zone intrusion and location, number of lanes, and comments by drivers, witnesses, and officers.

Traffic Accident Surveillance and Analysis System (TASAS) is a database that provides basic outcome information, such as the number of people injured or killed, the basic event that took place (e.g. auto accident, car hitting the barrier, etc.). However, more information is needed for mitigation, including data on the nature and severity of injuries, information about collision in terms of “what hit what”, as well as information about the actual location in work zone where accident occurred (e.g. taper, activity zone or transition area).

Furthermore, information about contributing factors related to the causation of accidents can be important for planning purposes. Such information can play a crucial role in developing and planning for mitigation measures, which is not included in existing databases.
WHAT ARE WE DOING?

This research project will collect, codify, and classify the Traffic Collision Reports (TCR) for accidents occurring near work-zones for 12 California Department of Transportation’s (Caltrans) districts from year 2011 to 2017. Extracted data from these reports will be codified in terms of factors and outcomes, which will become part of a decision support system designed to allow data analysis that can be used for planning and management for work zone operations, to improve worker and motorist safety.

WHAT IS OUR GOAL?

The purpose of this research is to provide an updated database with detailed injury and accident data, that can be used for developing countermeasures and planning roadway construction and maintenance activities to improve safety of highway workers and traveling public.

WHAT IS THE BENEFIT?

The benefits of this research include improved safety for highway workers and traveling public by providing an updated decision support tool.

WHAT IS THE PROGRESS TO DATE?

The data collection process was modified to accommodate TCRs data available in various formats and locations. The previously collected work zone TCRs data for years 2006 to 2010 was converted and integrated into MySQL database.

The research team from Advanced Highway Maintenance and Construction Technology Research Center, UC Davis, worked with TASAS coordinators from Caltrans Districts to collect work zone TCRs that were only available in hard copy format in Caltrans district offices. The research team visited and manually collected work zone TCRs data for years 2011 and those 2012 reports that were not available in Caltrans Document Retrieval System (DRS).

The research team also retrieved scanned TCRs for years 2012 to 2015 from Caltrans DRS. The narrative portions and diagrams from electronic TCRs for years 2015 to 2017 have been extracted and added to the database. Diagrams have been converted into individual image files. The analysis of collected data is being performed.