Project Title: In-depth investigation of the system currently used by the Las Vegas Metropolitan Police Department to store and process crash data and all other interconnected systems

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Abstract:
The existing software and hardware used by police agencies in Nevada to collect crash data are obsolete for a number of reasons, ranging from budget constraints to lack of coordination. Consequently, crash data collected in Nevada has quality and precision issues. Accurately locating crashes is the key to geographic analyses of crash statistics and patterns as well as for the development of safety recommendations at intersections and other crash ‘hotspots’. Currently, Safety Engineering at the Nevada Department of Transportation (NDOT) goes through a complicated process to locate crashes from the NCATS database on Nevada’s public roads. Many crashes are unlocated or mislocated. The main impediments to locate crashes accurately are well known and include errors in data entry, street name errors by the recording officer, the existence of alias names, county coding errors as well as many other factors. The objective of this study is to understand and document, in detail, the existing software and hardware architecture used at Metro to collect, store, and process crash data as well as any other interdependent activities. It is known that the current implementation Metro uses takes care of multiple transactions. Further, the existing implementation is the result of a sequential process over years of developments and upgrades. At present, it is unclear how the existing system works, what are the interdependencies across various systems, and what would be the effects of changes to system components. Any development to replace or upgrade existing technologies at Metro for data collection must take into consideration how the replacement or upgrade is going to affect other systems and transactions. Metro is unlikely to agree to any change of the existing system without full consideration of the impact on their entire operation. Further, any change to the existing Metro system must guarantee that all the current capabilities will be available after the change; in fact, Metro is unlikely to
agree to any deal that cannot guarantee this condition. The scope of this study is limited to Metro, which is the largest crash data collector in Nevada. The research team has been working with Metro for several months, and Metro has been extremely pleased with the work that the research team has done already. Metro is very interested in cooperation with NDOT and UNLV. Other Nevada police agencies are likely to follow Metro’s example.