

# DEVELOPMENT OF A NEVADA STATEWIDE DATABASE FOR SAFETY ANALYST SOFTWARE

## Key Points:

*Project Number:*  
528-14-803

*Project Investigators:*  
NDOT  
&  
Center for Advanced Transportation Education and Research, UNR

## PROBLEM

It is the top priority for federal and state agencies to reduce traffic fatalities and serious injuries. Advanced traffic safety tools were developed to support traffic agencies to identify and solve road safety problems. However, the available software packages typically require comprehensive data in particular formats, which are not available in most states.

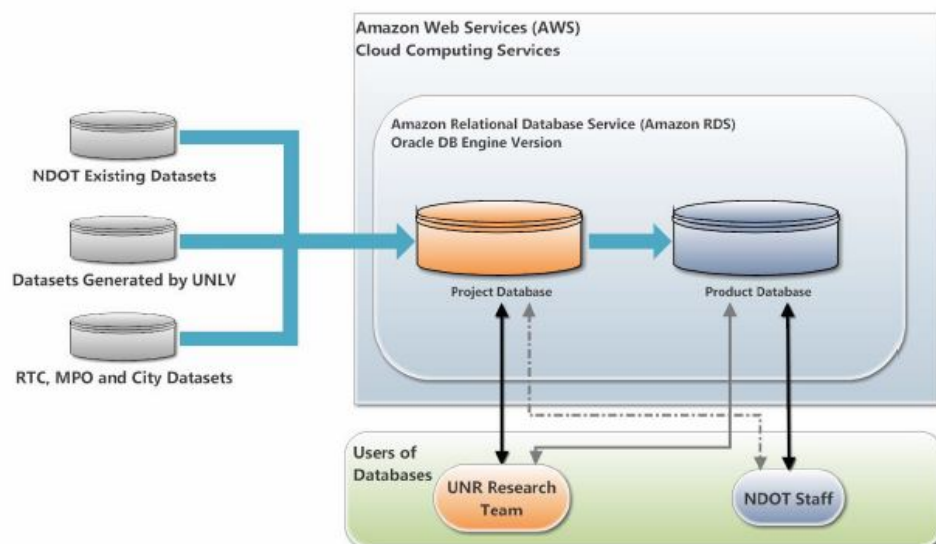
## OBJECTIVE

NDOT is to utilize the advanced tools to establish a data-driven and self-sustaining program for highway safety management. The Center for Advanced Transportation Education and Research at UNR worked with NDOT by collecting road, intersection, ramp, traffic and crash data from different Nevada data sources and generated a statewide database meeting requirement for Safety Analyst, a software package developed by the Federal Highway Administration. The software can be used to proactively identify and analyze sites that have the highest potential for safety improvement, and then it can suggest countermeasures for the identified sites.

## Contact Information:

Nevada Department of Transportation Research Division  
Annex 14-15  
1263 South Stewart Street  
Carson City, NV 89712  
(775) 888-7895

<https://www.nevadadot.com/doin-g-business/about-ndot/ndot-divisions/planning/research>



## METHODOLOGY

NDOT managed the data through six steps. Step one was data collection. The collection process results in a collection of all required data, stored in an electronic format. Step two was creating a dataset. The software uses a database to store and access datasets. Step three was importing data into a safety analyst database. This step is to import the inventory, crash, and traffic data specified by the agency in step 1 into the database created in step 2. Step four was post processing the safety analyst database. The statistical analysis by the software produces reliable results without very short segments in the database. Step five was calibrating the safety analyst database. Crash distributions are computed for the inventory based on site subtype and crash severity. Step six was serving the safety analyst database

## IMPLEMENTATION POTENTIAL

Safety Analyst can assist transportation engineers and researchers in implementing the highway safety manual and enhance statewide safety. The extensive data gathering effort is expected to increase the reliability of safety analysis in Nevada and determine the sites for safety improvement and countermeasure more cost-effectively.