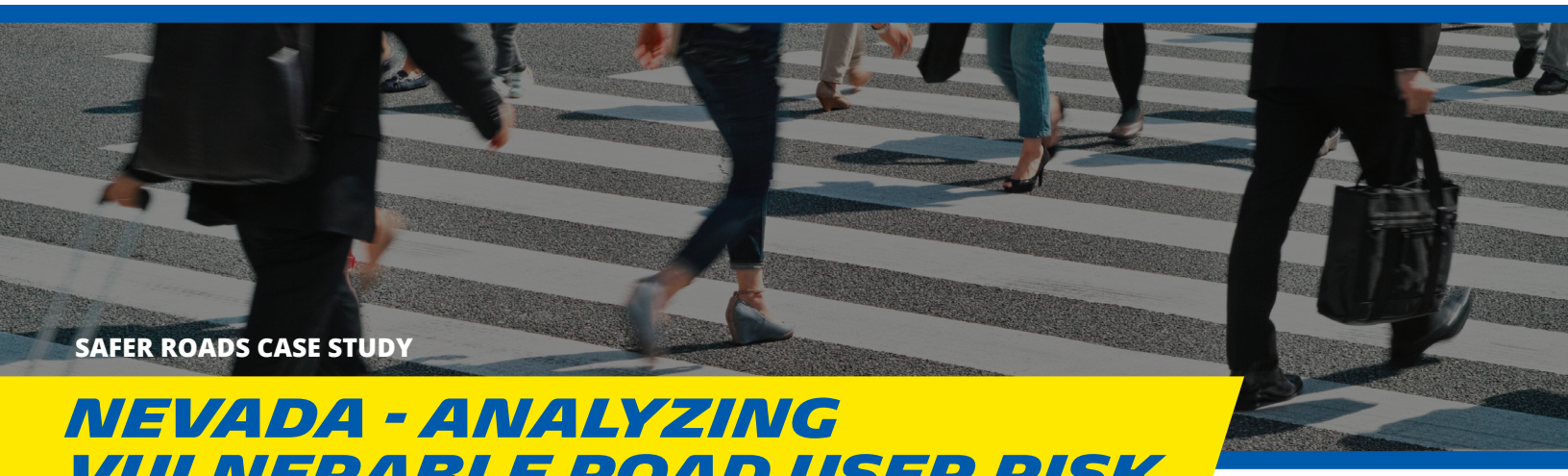


SAFER ROADS CASE STUDY

NEVADA - ANALYZING VULNERABLE ROAD USER RISK

CHALLENGE

The Bipartisan Infrastructure Law requires each state to complete a Vulnerable Road User (VRU) Safety Assessment as part of their Highway Safety Improvement Program.. Vulnerable road users (VRUs) include pedestrians and cyclists.

The Nevada Department of Transportation (DOT) needed a way to efficiently assess vulnerable road user risk in their transportation system to not only meet this requirement, but also to proactively deploy targeted safety improvements to protect those road users.

SOLUTION

By integrating DOT crash data with years of driving behavior data, we created a clear map of the riskiest areas for VRUs across Nevada.

For the VRU assessment, Michelin Safer Roads looked at 6.4 billion trip points, 13.4 million acceleration events, 33.6 million braking events, and 26,947 miles of road. Using guidelines provided by the U.S. Department of Transportation Federal Highway Administration, we analyzed data including location, roadway functional classification, design speed, speed limit, and time of day.

6.4B	1.3M	33.6M	25K+
Trip Points	Acceleration Events	Braking Events	Miles of Road

NEVADA DOT
SAFE AND CONNECTED

CHALLENGES

- Addressing historic safety risks in high-traffic zones, including sourcing data for specific areas
- Understanding where safety interventions could have the biggest impact
- Identifying the best approach to complete the state VRU assessment

SOLUTION

- Driving Behavior- Severity Ranking
- Vulnerable Road User Risk Hotspots
- Speeding Insights

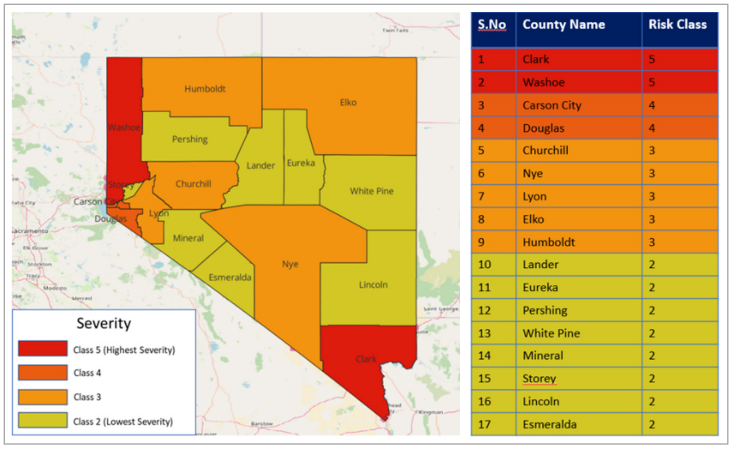
DELIVERABLES

- Detailed VRU safety analysis across the entire state of Nevada
- In-depth analysis of 10 focus areas across 17 different counties

RESULTS

- Efficient allocation of safety funding

RESULTS

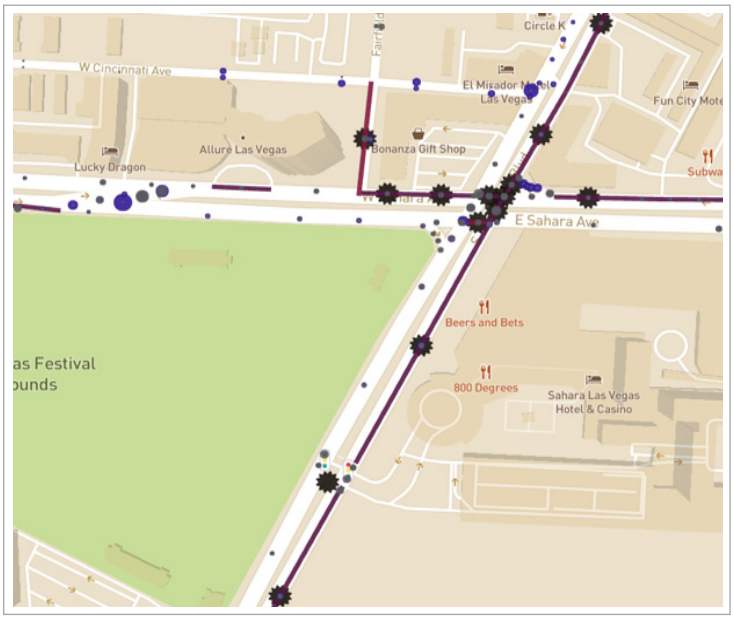


S.No	County Name	Risk Class
1	Clark	5
2	Washoe	5
3	Carson City	4
4	Douglas	4
5	Churchill	3
6	Nye	3
7	Lyon	3
8	Elko	3
9	Humboldt	3
10	Lander	2
11	Eureka	2
12	Pershing	2
13	White Pine	2
14	Mineral	2
15	Storey	2
16	Lincoln	2
17	Esmeralda	2

Michelin Safer Roads created VRU Risk Maps ranking the severity of each county in Nevada. Nevada DOT was provided insights on the highest-risk areas for VRUs within each county.

Focusing on 10 areas across Clark, Washoe, and Carson City Counties, Michelin Safer Roads indicated which specific areas were riskiest for VRUs so Nevada could begin to deploy safety countermeasures.

For example, past historical crash data showed a high number of crashes on multiple roads in Clark County. Our insights indicated the high risk for VRUs were on busy sidewalks that had very high pedestrian volume, but did not have buffers or safety strips protecting them from traffic. The proximity of retail stores and restaurants also raised the likelihood of pedestrians crossing at mid-block or during red lights.



East Sahara Avenue at South Las Vegas Blvd in Clark County, NV

In Carson City County, large sections of the road network were found to have higher VRU risk, even in intersections with pedestrian crossings and dedicated bike lanes. Historical data indicated VRUs had been involved in crashes in the area. Speeding was also found to be a contributing factor for risk. With this thorough and objective analysis, Nevada DOT is better positioned to recommend mitigations in each area. They now also have the data and insights they need to justify and explain safety investments and future funding needs.

"I WAS PROVIDED VITAL INFORMATION AND RELIABLE DATA THAT ENHANCED MY ABILITY TO ANALYZE THE ROADWAYS IN MY STATE FOR POTENTIAL PROBLEMATIC AREAS THAT NEED TO BE REVIEWED FURTHER TO MITIGATE FUTURE CRASH PROBLEMS.

OVERALL, MICHELIN MOBILITY INTELLIGENCE WAS GREAT TO WORK WITH. HOPEFULLY, IT WILL LEAD TO MORE FUTURE ENDEAVORS TOGETHER."

- Shara J. Thiesen
Chief Traffic Safety Engineer at Nevada DOT

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