



THE JOURNEY TO VISION ZERO IN NAPA COUNTY

OBJECTIVE

The Napa Valley Transportation Authority (NVTa) sought to augment historic crash data to identify higher-risk intersections and driving behaviors that could lead to road safety incidents throughout Napa County.

The region is a popular tourism hub, drawing in more than 3.7 million visitors each year. Roadway capacity can be stressed during peak periods with one primary route through the region. A variety of challenges exist: Visiting drivers can be unfamiliar with local roads, and in some cases, impaired driving concerns may be present. Significant commute patterns exist with a large portion of the workforce living in the southern part of the county or even outside the county, stressing roadway conditions on primary roadways. The region's geography adds another layer of complexity, with rural two-lane highways, long straight roadways that can encourage speeding, and, in some areas, winding, narrow roads with limited lighting that reduce visibility and may increase the risk of roadway departures. These combined factors can create dangerous driving conditions: Between 2015 and 2021, the [county reported](#) 4,908 roadway injury collisions, including 571 severe or fatal crashes.

By incorporating Michelin Mobility Intelligence's driving behavior data, they aimed to pinpoint high-risk locations and driving behaviors, so that they could more effectively prioritize safety measures and law enforcement in high-risk zones to meet their mission of achieving "Vision Zero"—zero traffic crashes and fatalities—in Napa County by 2030.



CHALLENGES

- Two-year delay in safety incident data reporting
- High-speed arterial lanes are designated goods movement, safety, and evacuation corridors, which can complicate infrastructure planning
- Local law enforcement faces significant staffing limitations, which restricts their overall enforcement opportunities

SOLUTION

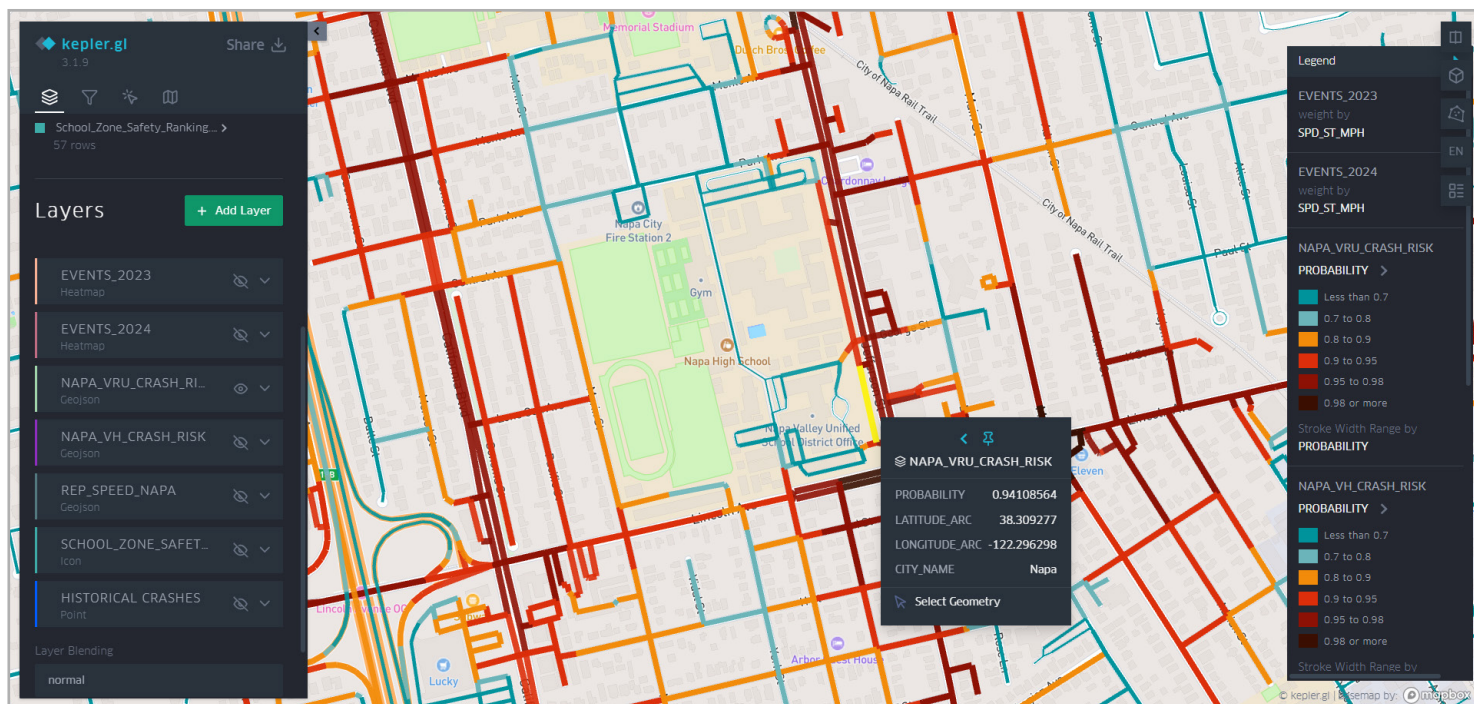
- Leverage near real-time driving behavior data
- Prioritize law enforcement resources at specific high-risk areas and times of day
- Help identify where to modify infrastructure to encourage lower driving speeds
- Implement safety measures to raise awareness of cyclists in areas where infrastructure changes aren't feasible
- Collaborate with other regional transportation agencies to foster regional coordination

DELIVERABLES

Year-Over-Year Analysis, School Zone Analysis, Aggressive Driving Indicator Identification, Hotspot Identification, Vulnerable Road User Risk Analysis

RESULTS

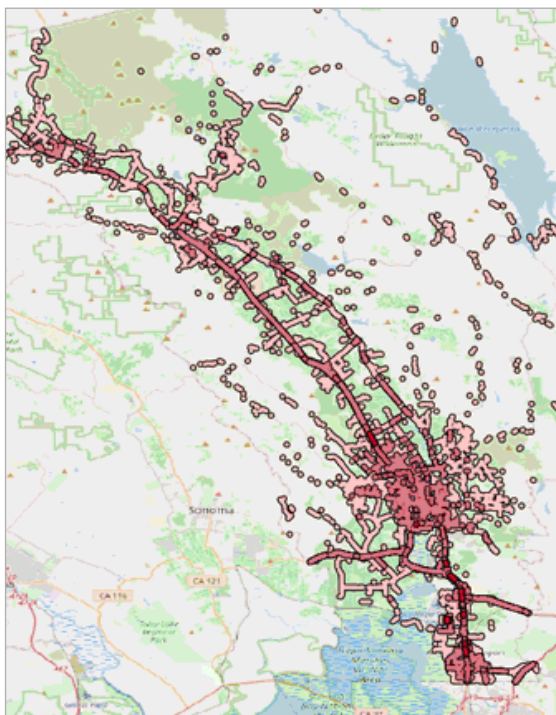
- High-risk areas identified for consideration in ongoing enforcement
- County officials are including new safety and visibility measures in planned repaving projects, informed by NVTa's data-backed recommendations
- NVTa leverages MMI data to provide supporting evidence in federal and state traffic safety grants



School zone safety rankings

CHALLENGES

As a celebrated region for both wine tourism and roadside cycling, excessive driving speeds can prove dangerous to nearby cyclists and pedestrians. The [county recorded](#) a 13% Year-Over-Year (YoY) increase in reported incidents involving pedestrians and cyclists between 2023 and 2024. School zone safety is also a major priority for the team, especially as some school zones are located near high-traffic corridors. NVTA gathered additional evidence to help evaluate and prioritize safety enhancements for pedestrians and cyclists throughout the county's school zones and other high-risk intersections and corridors.



School zone safety rankings

But statewide road safety data reporting lags up to two years behind each incident—making it difficult for government officials to understand what safety measures are most relevant now. NVTA was hopeful that near real-time traffic safety data insights would support their mission to improve safety for Vulnerable Road Users (VRUs).

“We wanted to take a deeper look into the challenges we know exist, such as DUI issues and speeding,” says Diana Meehan, Planning and Programming Manager at NVTA. “Most of the data we traditionally have access to only provides information after a crash has occurred. We wanted to take a more proactive approach.”

“MICHELIN HAS A FAMILIAR NAME. THERE IS A STRONG SENSE OF QUALITY AND BELIEF IN VALUE THERE.”

- Diana Meehan, Planning and Programming Manager at NVTA

To do that, NVTa needed to choose a partner that was up to the task. “I’ve been tracking and watching [the ‘mobility as a service’ space] for a number of years now, and it just hasn’t shown us the response that we would have hoped to see,” says Meehan. “So we thought, why not work with a team that’s a pioneer in this? And that’s really what sold us [on Michelin.]”

SOLUTION

To meet its goals, NVTa partnered with Michelin on a multi-pronged approach, including:



Year Over Year Analysis:

The team compared road safety metrics for Spring 2024 against a baseline covering the same period in 2023.



School Zone Analysis:

Michelin analyzed driving behavior in and around school zones, identifying high-risk areas based on infrastructure and data signals associated with aggressive driving behavior.



Aggressive Driving Indicator Identification:

Michelin Mobility Intelligence aggregated key data metrics associated with aggressive driving and crash risk, including harsh braking, rapid acceleration, and extreme speeding.



Hotspot Identification:

The team focused on identifying key intersections and stretches of road where crashes were more likely, based on both historical crash data and near real-time high-risk driving behavior in those areas.



Vulnerable Road Users Analysis:

Michelin applied an AI-driven Crash Risk Model to rate municipal road segments, including school zones, from 0 (lowest) to 1 (highest), helping prioritize these areas for infrastructure enhancements and/or law enforcement.

RESULTS

- NVTa was able to support additional validation of existing data while uncovering new insights
- More than a dozen high-risk areas were identified and prioritized for safety enhancements
- The Napa County Bicycle Coalition is using school zone data to advocate for school zone safety projects and funding support
- The data is being used to support upcoming grant funding applications
- The findings have been incorporated into NVTa’s newly adopted countywide Active Transportation Plan to help shape new road safety policies

“Napa County is about 750 square miles,” adds Meehan. “[Law enforcement] can’t cover all roads at all times. And so our goal here is really to be proactive. And I think our board members, decision makers and our elected officials really want to support that, but they need good data to be able to make those informed decisions. [Michelin’s data] is allowing them to do that.”



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