

QUARTERLY NEWSLETTER

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VISION ZERO MADISON

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Madison Crash Facts - Demystified

A message from Mayor Satya Rhodes-Conway

Learn about how crash data is collected and used in the creation of safer streets for all roadway users throughout Madison.

The City of Madison Crash Facts Report is an annual publication prepared by the City's Traffic Engineering Division that compiles and analyzes police-reported traffic crash data occurring within the city. The report has been produced for many years as part of Madison's ongoing effort to monitor roadway safety, identify high-risk locations, and guide transportation planning and design decisions. Crash data used in the report is obtained from the Wisconsin Department of Transportation crash database, which is based on standardized police crash reports completed for all reportable motor vehicle crashes. While we acknowledge that not all crashes, or near crashes, are reported and will not show up in the system, the data received does factor in the most dangerous crashes and remains useful for design and remediation purposes. By summarizing this information each year, the City maintains a consistent historical record of crash trends and overall safety performance across the transportation system.

The Crash Facts Report was originally developed as a practical engineering tool to support data-driven decision making. Earlier versions focused primarily on total crash counts and rankings of high-crash intersections, allowing staff to prioritize locations for signal improvements, turn lanes, signing upgrades, or geometric modifications. Over time, the report expanded to include additional information such as crash severity, crash

type, contributing factors, and crashes involving pedestrians and bicyclists. This expanded scope reflects the City's broader safety goals and the increased emphasis on multimodal transportation and Vision Zero principles.

Moving forward, the City will transition to a more automated process using traffic crash data analysis software developed by Citian known as CRASH. This program allows raw crash databases to be imported and automatically organized by location, severity, crash type, and contributing factors. The software improves efficiency and consistency in preparing annual summaries and makes it easier to identify trends, compare data from year to year, and support engineering studies, safety evaluations, and project prioritization decisions. In addition, future reports will distinguish between streets under City jurisdiction and those under county or state control. This distinction will allow crash trends to be evaluated based on the agency responsible for roadway design and operation, providing better guidance when prioritizing safety improvements on facilities where the City has direct design authority.

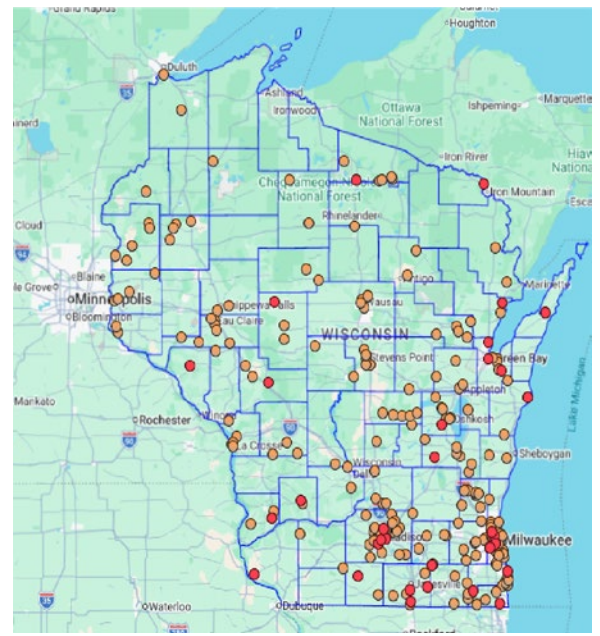
Ultimately, the City of Madison Crash Facts Report serves as more than just a statistical summary. It is a vital tool for transforming data into actionable safety improvements. By integrating Vision Zero principles with modern automated software, the City ensures that every engineering and policy decision is backed by the most current roadway evidence. As these data-driven strategies continue to evolve, they provide a transparent roadmap for Madison to effectively eliminate traffic-related injuries and create a safer, more equitable transportation network for all residents.

Wisconsin Community Maps: Turning Local Data into Actionable Safety Insights

Wisconsin Community Maps is a statewide interactive platform that integrates diverse transportation and safety datasets to help local and tribal agencies visualize safety trends.

Wisconsin Community Maps is a statewide, web-based mapping platform designed to help communities visualize and understand transportation safety data at a local scale. Built on partnerships with state agencies and local jurisdictions, the system brings together multiple datasets into a single, interactive environment.

At its core, Wisconsin Community Maps relies on data contributed by a variety of sources. Crash data are collected by law enforcement and transmitted through



Screenshot of Wisconsin Community Maps

state reporting systems. Additional layers—such as DNR ATV/UTV crashes, and DOR liquor establishments—are able to be overlaid with the crashes. Because these data originate from different agencies, time periods, and collection practices, some inconsistency is inevitable. Variations in geocoding accuracy, reporting detail, or update frequency can affect how seamlessly datasets align.

To address this, the platform emphasizes interoperability. Data are standardized where possible, aligned spatially through GIS tools, and presented transparently so users understand both the strengths and limitations of what they’re seeing. Rather than replacing local knowledge, Wisconsin Community Maps complements it—allowing users to validate patterns, identify gaps, and ask better questions.

The benefits are significant. Communities gain an accessible way to explore safety trends, support data-driven decision-making, and communicate needs to stakeholders and policymakers. By lowering technical barriers and integrating diverse datasets, Wisconsin Community Maps empowers local and tribal agencies to move from raw data to meaningful action—supporting safer roads, more informed planning, and stronger collaboration across Wisconsin.

Metropolitan Planning Organization: Safety Data and Applications

The Greater Madison MPO integrates safety as a foundational component in its planning, project funding decisions, and through collaboration with local traffic safety commissions.

Safety is a key priority for the Greater Madison Metropolitan Planning Organization (MPO) and is a consideration throughout our activities and planning process. The MPO’s involvement in regional transportation safety ranges from our project funding decision-making process to our work with the Dane County Traffic Safety Commission to our planning documents, which include safety as a foundational component.

Safety is a key factor in identifying projects for funding through the Transportation Alternatives Program (TAP) and the Surface Transportation Block Grants – Urban (STBG-U) program. For infrastructure projects, safety enhancement accounts for up to 15% of TAP project scores, and for up to 20% of STBG-U project scores. Safety enhancement scores are based on the expected impact of proposed safety improvements and the crash history of the location.

MPO staff also serve on the Dane County Traffic Safety Commission (TSC) alongside representatives from

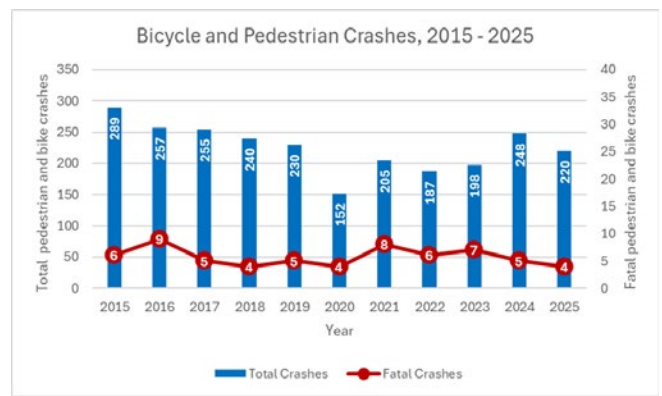


Figure 1. Dane County pedestrian & bike crashes vs total fatal pedestrian and bike crashes, 2015 -2025

local law enforcement and other organizations to review crash data, identify contributing factors, and discuss potential safety improvements and data needs. The MPO provides summary statistics for TSC meetings based on crash data assembled by the Wisconsin Traffic Operations and Safety Laboratory (TOPS Lab). The MPO also uses this data in our Performance Measure Dashboard.

Figure 1 shows total annual bicycle and pedestrian crashes per year since 2015, along with the total fatal crashes involving bicyclists and pedestrians.

The MPO recently completed the draft Active Transportation Plan (ATP), a ten-year strategic plan designed to identify priorities for both policy and infrastructure. To inform this work, the MPO conducted a countywide survey in 2025, that included survey questions as well as an interactive commenting map. More than 3,400 responses were gathered, reviewed and categorized. The Comment Map and Survey Results are now publicly available to inform planning processes and decision making in Dane County communities. Figure 2 details the volume of different comment types submitted on the comment map and Figure 3 shows the location and concentration of safety-related pedestrian comments.

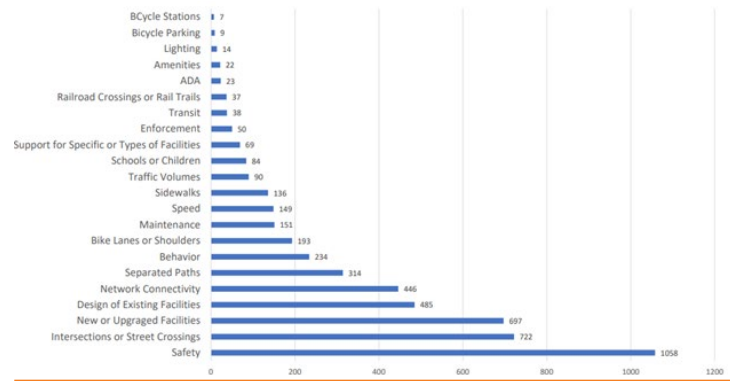


Figure 2. ATP survey comments and number of responses, 2025

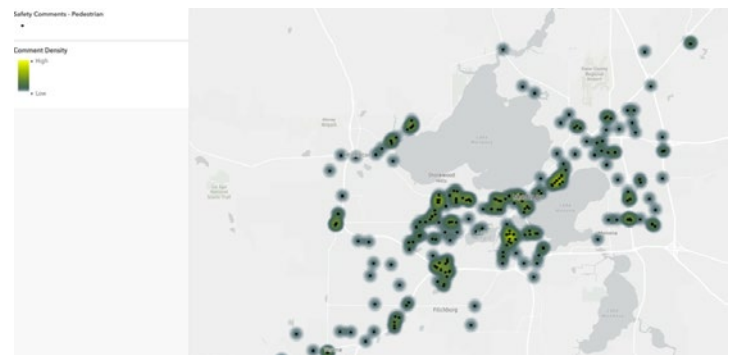


Figure 3. Safety-related pedestrian comments, 2025

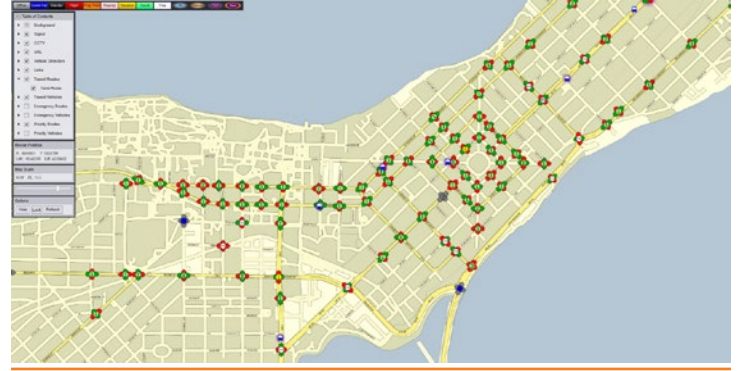
Centralized Traffic Signal Management

The City of Madison Traffic Engineering uses Econolite’s Centracs software to remotely manage 340 signalized intersections, allowing for real-time monitoring and optimized timing plans.

City of Madison Traffic Engineering uses centralized traffic signal management software called Centracs, developed by Econolite, to monitor, control, and analyze traffic signal operations across the city from a central location. This system allows Traffic Engineering staff to manage 340 signalized intersections throughout Madison remotely.

Centracs communicates with signal controllers installed in roadside cabinets at each intersection through the City’s communications network, which may include fiber, radio, or cellular connections. Through this connection, staff can review the real-time status of signals, modify timing plans, and respond quickly to crashes, special events, or emergency situations.

Centracs continuously collects operational data from the field. Induction loop detectors and video detection cameras connected to the signal controllers record vehicle actuations, phase calls, and timing information. These data are transmitted to the central system where they are stored and summarized. Traffic Engineering staff use this information to generate automated traffic volume reports, review peak-hour conditions, evaluate intersection performance, and support crash analysis, planning studies, signal timing updates, and roadway design projects.



Centracs software.

Centracs serves as the platform for the centralized Signal Control Priority system Metro Transit uses to request priority calls at intersections. This system, along with detectors and site specific signal phasing and operations contribute to the Transit Signal Priority system in Madison.

By maintaining a centralized signal management system, the City of Madison can operate traffic signals more efficiently, respond to changing traffic conditions, and maintain a long-term record of traffic activity and signal performance to support data-driven transportation planning, safety analysis, and engineering decisions.

City of Madison Vehicles Use Telematics Data to Improve Safety

The City of Madison is utilizing telematics in Public Works vehicles to track driving behaviors, resulting in a 30% reduction in harsh braking incidents between 2022 and 2025 as part of the Vision Zero initiative.

Safe driving is a learned behavior, and drivers practice this every day by driving at the speed limit, coming to a full stop at stop signs, keeping a safe following distance, buckling their seat belt, and slowing down gently. Every car trip is a chance for drivers to practice and improve their safe driving habits.

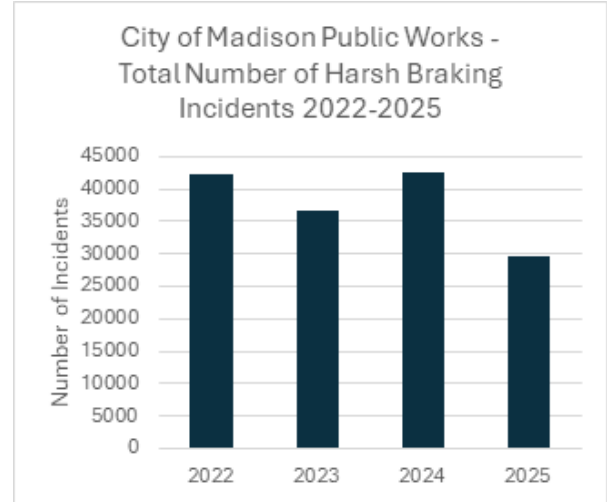
The City of Madison has taken this a step further and installed telematics devices in Public Works vehicles to collect and track data on driving behavior. This data, including speed, seat belt usage, harsh braking, and harsh acceleration, is combined into an overall safety score for each driver, allowing supervisors to coach employees on their driving habits and promote safe driving expectations.

Speeding is a leading cause of fatal crashes, and any speeding incident in a City vehicle equipped with a telematics device is flagged for review. As part of Madison's Vision Zero initiative, many City roads had had their posted speed limits lowered in recent years. The posted speed limit on South Park Street between Regent

Street and Badger Road, for example, was reduced from 30 mph to 25 mph in 2022. Driving at higher speeds means drivers have less time to recognize and react to a situation on the road. The less time drivers have to react, the more likely we will see incidents of sudden or harsh braking.

Given that, harsh braking can be a sign of distracted or aggressive driving. By tracking these incidents and following up with drivers, the City is improving the safety of our community roads. According to the telematics data collected on Public Works vehicles, City drivers lowered their harsh braking incidents by 30% in 2025 compared to 2022.

Everyday, we are working to improve safety in our community, and driving behavior is a key piece to that work. We value your feedback about how City vehicles are driving. If you have a comment or feedback to



City of Madison High Injury Network

The City of Madison is utilizing telematics in Public Works vehicles to track driving behaviors, resulting in a 30% reduction in harsh braking incidents between 2022 and 2025 as part of the Vision Zero initiative.

A High Injury Network consists of evaluating crashes and mapping roadway corridors according to safety metrics of people killed



Madison's High Injury Network

and severely injured. In collaboration with CITIAN and the TOPS laboratory at the University of Wisconsin – Madison, a High Injury Network has been developed for the city. The process for the development of the HIN consists of network segmentation, data collection, crash analysis, and safety performance classification. Network segmentation consists of dividing the roadway network into intersections and segments. Data collected for these roadway facilities include historical crashes, road geometry, and traffic volumes. For analysis, crashes would be evaluated by focus area, facility type, and crash severity. To assess the safety performance of road facilities, crash expectancy and the level of service of safety (LOSS) are being implemented. These are rigorous statistical methods recommended in the Highway Safety Manual (HSM) and

developed by the American Association of State Highway and Transportation Officials (AASHTO) with the support of the Federal Highway Administration (FHWA) to establish a national standard for roadway safety analysis. Due to the particular randomness of crash data, evaluations have to be carefully conducted to account for several factors that could bias safety estimates. Thus, crash expectancy combines the information from crash prediction models (accounting for traffic, geometry, speed limit, etc.) with actual

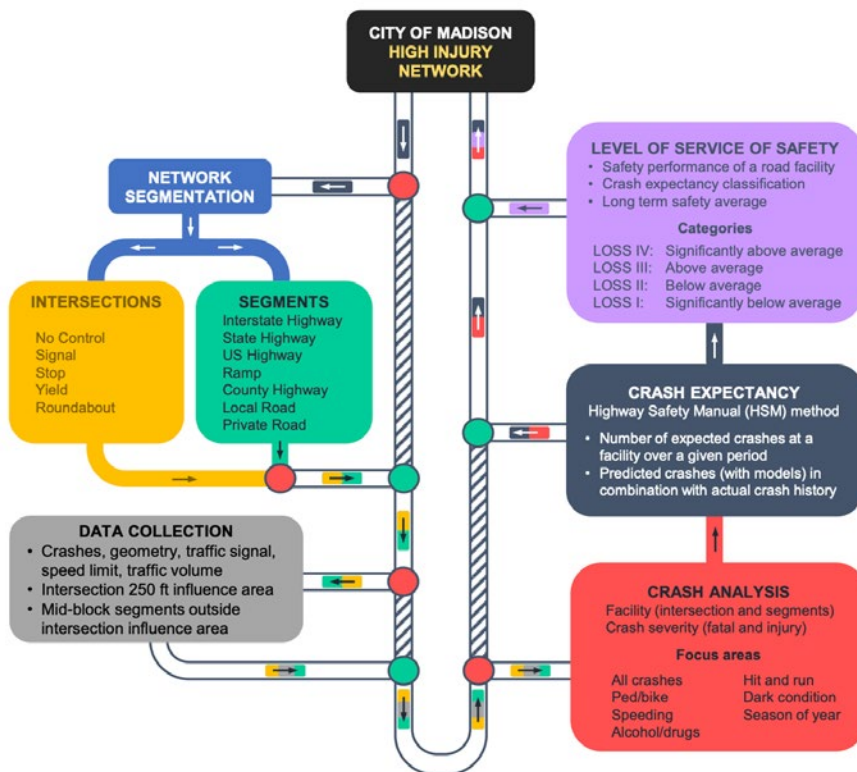
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crash history. Crash expectancy provides a safety estimate of the number of crashes “expected” to occur at a roadway facility over a given period of time. Once we know how many crashes are expected over time at a roadway facility, we can assess the safety performance by categorizing how fatal and injury crash expectancy compares to a long term average safety estimate from a given roadway facility. There are four levels of service of safety (LOSS) in relation of how far off are the expected crashes from the long term average:

- LOSS IV: Significantly above average
- LOSS III: Above average
- LOSS II: Below average
- LOSS I: Significantly below average



Vision Zero is a data driven strategy intended to eliminate traffic deaths and severe injuries on all roadways, bikeways, and sidewalks by 2035.

The City of Madison Vision Zero initiative strives to improve safety for all roadway users throughout the city and address identified high-injury intersections, all in an effort to prevent avoidable fatal crashes.

SAFETY STARTS WITH ALL OF US.

We can't control human error, but we can help create more forgiving infrastructure and change systems to prevent crashes from being serious or fatal.

www.cityofmadison.com/VisionZero

If the safety performance of a roadway facility is above average (LOSS III or IV) and other engineering considerations, the facility would be flagged. After evaluating all intersections and segments in the roadway network, all flagged roadway facilities would be considered to generate corridors and develop the High Injury Network. The result is a map of the city's roadways highlighting corridors with fatal and injury expected crashes above average and locations with the greatest potential for safety improvement.



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