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State of Practice Review

Introduction

The State of Practice Review examines the current transportation safety planning practices employed by other Metropolitan Planning Organizations (MPOs) and local, county, and regional governments within Minnesota. It also explores best practices from both domestic and international sources, reviewing essential guidance and resource documents that focus on planning and designing safe infrastructure with consideration of vulnerable road users.

Executive Summary - Key Takeaways

Best practices in transportation safety planning employed by MPOs and other agencies include:

- Identifying characteristic crash profiles that contribute to the region's High Injury Network or other areas with high concentrations of crashes, especially severe injury and fatal crashes
- Prioritizing locations for investments that improve safety for vulnerable road users to guide future funding
- Implementing strategies to improve safety and address crashes on high-speed corridors, including *developing traffic operations recommendations, establishing local street design guidelines, collaborating with law enforcement and stakeholders, and policy review and recommendations*
- *Aligning with the USDOT National Roadway Safety Strategy and other Vision Zero and Safe Systems Approach initiatives*
- *Conducting engagement with stakeholders and community members to inform safety strategies and prioritization of projects*

What are MPOs doing?

- Results from peers in 2021 peer exchange from the Denver Regional Council of Governments (DRCOG), San Francisco Bay Area Metropolitan Transportation Commission (MTC), Portland Metro, and Delaware Valley Regional Planning Commission (DVRPC).

- [Summary document](#)
- Greater Madison MPO Regional Transportation Safety Action Plan (In Progress)
 - The Greater Madison MPO Regional Transportation Safety Action Plan is currently under development. The MPO's Plan will direct MPO staff on setting priorities for safety needs using a Safe Systems approach. It will identify high-risk locations and suggest safety countermeasures for implementation, preparing the MPO to apply for a Safe Streets for All (SS4A) Implementation Grant. With SS4A funding, the MPO could address prevalent safety concerns at identified high-risk locations, reducing the number of fatalities and severe injuries on the region's roadways.
 - The Plan builds on a regional High Injury Network developed by the University of Wisconsin TOPS lab. Given the context of a street or corridor, the HIN represents locations of higher collision incidents relative to what is expected. Using the HIN, the Plan identifies high risk locations by highlighting crash profiles for the most prevalent vehicle, bicycle and pedestrian crashes around the region.
 - The City of Madison is an important partner in the Greater Madison MPO planning process. The University of Wisconsin TOPS Lab identified an HIN for the City of Madison through a previous effort. While the regional HIN highlights some similar trends, the City's perspective has helped the project team understand unique challenges around the region.
 - The Safety Action Plan builds on Madison's Long-range Regional Transportation Plan and Transportation Improvement Program. Madison's transportation planning efforts reflect a prioritized multimodal approach, recognizing the importance of accommodating various modes of transportation, including transit, bicycle, and pedestrians, and considering projects for vulnerable road users as important projects in their Transportation Improvement Program. As part of the long-range Regional Transportation Plan, the MPO is considering transportation system improvements with the performance evaluation of existing safety status through crash data and equity analyses, review of policy and best practices, and prioritization of safety strategies.
- Knoxville TPO Regional Roadway Safety Action Plan (In Progress)
 - The Knoxville Regional TPO adopted its Regional Roadway Safety Action Plan in June 2023. The Action Plan aims to eliminate roadway injuries and fatalities, improve transportation safety for all users through well-coordinated and robust planning efforts, and provide technical assistance and data analysis to prioritize safety evaluations in underrepresented areas. The Plan centers on a 'Safe System Approach' which recognizes that humans will make mistakes and are vulnerable parties in crashes, and therefore focuses on creating a redundant and safe system that reduces the risk and severity of crashes. The City of Knoxville and Knox County were key partners in the process, and given the region's diverse land use context that encompassed both rural and urban contexts, crash profiles reflected both land use scenarios. This allowed for highlighting key crash causes that collectively targeted the areas with the highest concentrations of severe crashes. Crash profiles included roadway departure crashes in rural areas, and motor vehicle crashes in commercial areas.

- The Plan also identified specific corridors and intersections within the region where investments should be prioritized. Preliminary countermeasures and concepts were developed at these locations to guide future funding.
- Knoxville's Plan also developed a predictive analysis methodology that will allow a more proactive approach to crash data analysis in the region. A simplified predictive model for segments and intersections was used to compare rates of predicted collisions given a set of contextual variables to the actual observed collisions on the street network.
- With the adoption of its Regional Safety Action Plan, the TPO submitted for the 2023 SS4A Implementation Grant that was due on July 10, 2023.



CRASH PROFILE 1: MOTOR VEHICLE CRASHES IN COMMERCIAL AREAS

This factor analyzes crashes that resulted in death or serious injury that occurred within 200 feet of an area with commercial land use in the City of Knoxville.



Clinton Highway & Callahan Drive / Schaad Road



Strawberry Plains Pike & Region Lane

- Hillsborough TPO Safe Streets Now Vision Zero Action Plan (2017)
 - Through the Hillsborough Safe Streets Vision Zero initiative, the Hillsborough TPO is dedicated to creating safer streets for all road users and working towards the elimination of traffic fatalities and serious injury. The comprehensive safety approach focused on engineering solutions, education, enforcement, and collaboration to achieve meaningful improvements in road safety.
 - The Vision Zero Action Plan and its HIN identified twenty high-crash corridors. Out of these corridors, eight (8) were funded for additional evaluation and feasibility analysis of proposed countermeasures. This effort was conducted in collaboration with Hillsborough County, and resulted in identifying proven, low-cost, high-impact safety designs that could be implemented quickly to accelerate safety benefits. Examples included tightening curb radii with paint and bollards, installing dedicated left turn signals, narrowing lanes through striping, and realigning skewed geometry through striping, and better delineating crosswalks at controlled crossings.

Since the adoption of the Vision Zero Action Plan, the TPO has taken many implementation steps in road safety programming. The implementation of the Hillsborough TPO's safety values are reflected in their Speed Management Action Plan, Safe Access to Parks Study, and Tampa School Transportation Safety Study. The Speed Management Action Plan was particularly recognized for its implementation of strategies to address the significant number of severe crashes occurring on high-speed multi-lane limited-access arterials that intersect the urbanized area. Such strategies included developing traffic operations recommendations, establishing local street design guidelines, collaboration with law enforcement and stakeholders, policy review and recommendations, and more.

What are other Agencies in MN doing?

- [Minneapolis Vision Zero](#)
 - The Vision Zero Action Plan outlines the plan for the City of Minneapolis to progress toward ending traffic deaths and severe injuries by 2027. In addition to the mission of ending traffic deaths and severe injuries, the Plan aims to make streets safer for all modes of travel and create a safer and more walkable community.
 - The strategies and actions included in the Vision Zero Action Plan aim to address four City systems: Safe Streets, Safe People, Safe Vehicles, and Safety Data. Specific strategies/actions include reducing speed limits, making safety improvements on High Injury Streets, addressing unsafe behaviors, and seeking to implement automated traffic enforcement.
 - This Plan aligns with the USDOT National Roadway Safety Strategy. National steps for Vision Zero include driver assistance systems, alcohol detection systems, lowering speeds, roadway design, modal shift, and improved emergency response,
 - Since initially adopting the Vision Zero Action Plan, the City of Minneapolis has implemented many safety improvements (both “quick-build” and permanent), including but not limited to: bumpouts, hardened centerlines, medians, marked crosswalks, bike conflict striping, and 4-to-3-lane conversions.
- [St. Paul Safety Action Plan](#) (in progress)
 - The City of Saint Paul is currently developing a Safe Streets for All Transportation Safety Action Plan, with the goal of eliminating traffic fatalities and injuries for everyone in the City by prioritizing people and communities that are most affected by traffic-related fatalities or injuries. The Plan will identify actions and projects to help work toward this goal and address specific issues such as reckless driving, distracted driving, and speeding.
 - The Plan is currently conducting public engagement to inform prioritization of transportation safety projects. The City is applying for Federal Safe Streets for All funding which, if awarded, would aid in the implementation of safety projects.

- A key component of this plan is determining the specific physical infrastructure projects, along with strategies and policies that address and reduce traffic crashes.
- MnDOT Vulnerable Road User Safety Assessment (In Progress)
 - The Vulnerable Road User Safety Assessment conducted for the Minnesota Department of Transportation (MnDOT) is a comprehensive evaluation set for completion in Fall of 2023. The assessment aims to identify potential risks and develop strategies to improve the safety of people biking, people walking, and other vulnerable road users such as people with disabilities.
 - The evaluation aims to understand the most pressing challenges faced by vulnerable road users and identify areas where improvements can be made across the transportation system. The methods will develop data tools such as a statewide High Injury Network (HIN) and conduct engagement with stakeholders and community members.
- County Road Safety Plans
 - The initial County Road Safety Plans were completed between 2008 and 2013. The updates began in 2016 by phase with approximately 15 counties in each phase. Since 2016, two phases were completed including more than 30 counties. Phase 3 will begin in Fall of 2023.
 - The goal is to develop a plan that provides a prioritized list of safety projects for the counties to implement. Key steps included analysis of severe crashes, data collection of existing roadway features and data-driven systemic analysis to prioritize locations. Proven, effective, low-cost safety countermeasures, such as rumble strip/stripes, modified intersection design, enhanced signing/markings, ITS signing applications, and lighting, were assigned to high-priority locations. Each plan resulted in a report that highlighted high-priority intersections, segments, and curves and identified projects for implementation. HSIP forms were created for each project to facilitate applying for funding. For each county, a workshop was held with safety partners (enforcement, education, emergency services, and engineering). In 2016, MnDOT retained SRF to update the County Road Safety Plans for all 87 counties.
- District Road Safety Plans
 - Between 2009-2016, MnDOT developed the first safety plans for the state highways in seven districts. The objective of the safety planning effort was to identify a list of prioritized candidate projects for each District to submit for funding through the Highway Safety Improvement Program. A two-step analytical process was used to identify projects: a site-specific review of locations with higher-than-average crash rates and a systemic risk assessment process documenting locations that include roadway and traffic characteristics determined to be over-represented at locations with severe crashes. For each District, a safety workshop was hosted to educate staff on safety trends, issues, and strategies, review locations with safety issues and brainstorm solutions. The final deliverable was a plan each District could use to identify projects to submit to MnDOT for safety funding.
 - The District Safety Plans are currently being updated for the first time since they were originally developed. Data collection and internal equity meetings have

taken place. The updates will incorporate new practices, crash data and lessons learned with the objective of further reducing fatal and serious injury crashes in Minnesota.

- [Strategic Highway Safety Plan](#)
 - The MnDOT Strategic Highway Safety Plan (SHSP) is a policy plan within the Minnesota Toward Zero Deaths (TZD) program that aims to provide a framework for strategies involving enforcement, education, engineering, and emergency medical services and trauma systems. The SHSP also serves as a tool to address safety issues on public roads. The SHSP is driven by data and outreach, which includes analyzing recent crash trends, identifying and prioritizing focus areas into one of four categories (core, strategic, support solutions, and connected), strategies with specific actions identified, and implementation to guide traffic safety partners to using this Plan effectively.
 - The SHSP is updated every five years to reflect crash trends and emerging safety strategies. Stakeholder and public engagement input is vital in informing strategies; stakeholder input is collected through conferences, workshops, and steering committee meetings.
 - The update is beginning soon.
- [Regional Pedestrian Safety Action Plan](#)
 - The Regional Pedestrian Safety Action Plan was developed by the Metropolitan Council and published in September 2022. This plan aims to improve safety for those walking and utilizing mobility devices. The Plan takes a systematic approach to safety with the goal of reducing, and ultimately eliminating, pedestrian death and serious injuries from traffic crashes in the metropolitan region. A guiding principle of the plan is encouraging and supporting safe and convenient walking and crossing.
 - Crash data from a four-year period from 2016-2019 from the metropolitan planning region (the seven-county region plus the urbanized portions of Wright and Sherburne counties) was analyzed by geographic distribution to identify areas of concentrated crashes. Findings of this plan include historic crash analysis, systematic safety analysis, and recommendations.
- [2050 Regional Development Guide](#)
 - The 2050 Regional Development Guide is the Metropolitan Council's 30-year plan that creates a vision for the region. It will help inform systems and policy plans and statements as well as the comprehensive plans in the seven-county region. This plan informs the following regional systems and policy plans: Transportation Policy Plan, Water Resources Policy Plan, Regional Parks Policy Plan, and Housing Policy Plan.
 - This plan is being updated for a 2050 time horizon and is currently anticipated to include a goal that our communities are healthy and safe, which will elevate safety at the regional level in different forms. This plan will be adopted in late 2024 or early 2025.
 - Core values identified include equity, leadership, accountability, and stewardship.