

# Regional Safety Action Plan

TAC Planning Committee

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# Regional Safety Action Plan overview



## General overview

- **Focus:** Vehicle crashes and bicycle-vehicle crashes with an emphasis on fatalities and serious injuries in MPO planning area, consistent with Safe System Approach
- **Team:** Consultant project with SRF and support from Alta Planning, Safe Streets Research, Isthmus Engineering, and Zan Associates
- Technical Advisory Group with representatives from local, state, and federal partners
- Intended to help address requirements for USDOT Safe Streets and Roads for All funding program

# Federal Safe Streets & Roads for All

## Discretionary program

- Federal funds for 2022-2026
- Promote safety and work toward eliminating deaths and serious injuries from crashes
- Develop and use safety action plans to guide the work

## Funding opportunities

- Planning and demonstration
  - Includes supplemental activities – enhance or improve action plan
  - Demonstration work to inform action plans
- Implementation projects for infrastructure improvements, along with other work on behavioral or operational strategies

# Plan elements

- Worked with Technical Advisory Group
- Public engagement
- State of the practice review
- Trend summaries
- High Injury Streets identification by mode (pedestrians, bicyclists, motorists, motorcyclists)
- Systemic Crash Risk Index analysis (bicyclists and motorists)
- Crash rate analysis
- Top corridors in the region and by county based on the reactive and proactive analyses
- High-level countermeasures toolkit
- Programmatic recommendations

# Ways this work can be used

- **Help prioritize regional funding**
  - Regional Solicitation or other competitive funds at the regional level
  - High Injury Streets and the top 25 corridors within those to help focus on existing safety concerns; potentially in combination with the other analyses
- **Provide support for local planning, policies, and investments**
  - Identify areas where safety projects and safety audits may be needed
  - Inform project scoping for other projects that may not originate from safety concerns
- **Monitor safety performance**
  - Annual safety targets and performance review at the regional level

# Public engagement



## Approach for this project

- Summarized recent engagement from other Met Council projects and from partner agencies' transportation projects related to safety across the region.
- Identified communities that were insufficiently engaged in recent transportation projects regarding safety.
- Engaged with people from communities that have been identified as missing or underrepresented in recent transportation conversations through community-based organizations.
- Used images of existing transportation infrastructure to focus on what people wanted to see in their communities.

# Mode separation

Transportation facilities that are separated by travel mode make people feel safer.

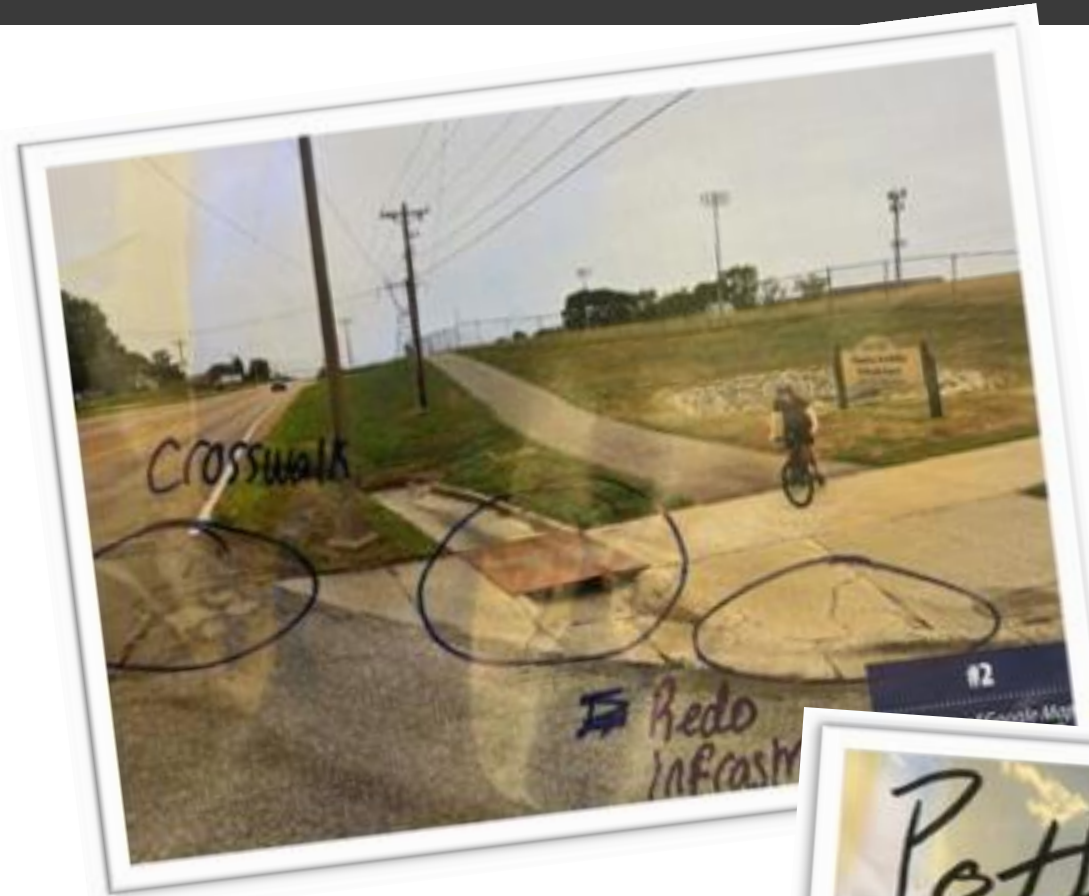
I love that there's a separate road, then boulevard, then sidewalk. You won't be hit by a car, and there are trees—I love the trees. We need wider sidewalks—I always walk with my kids and there's not enough space there.

- WISE focus group participant



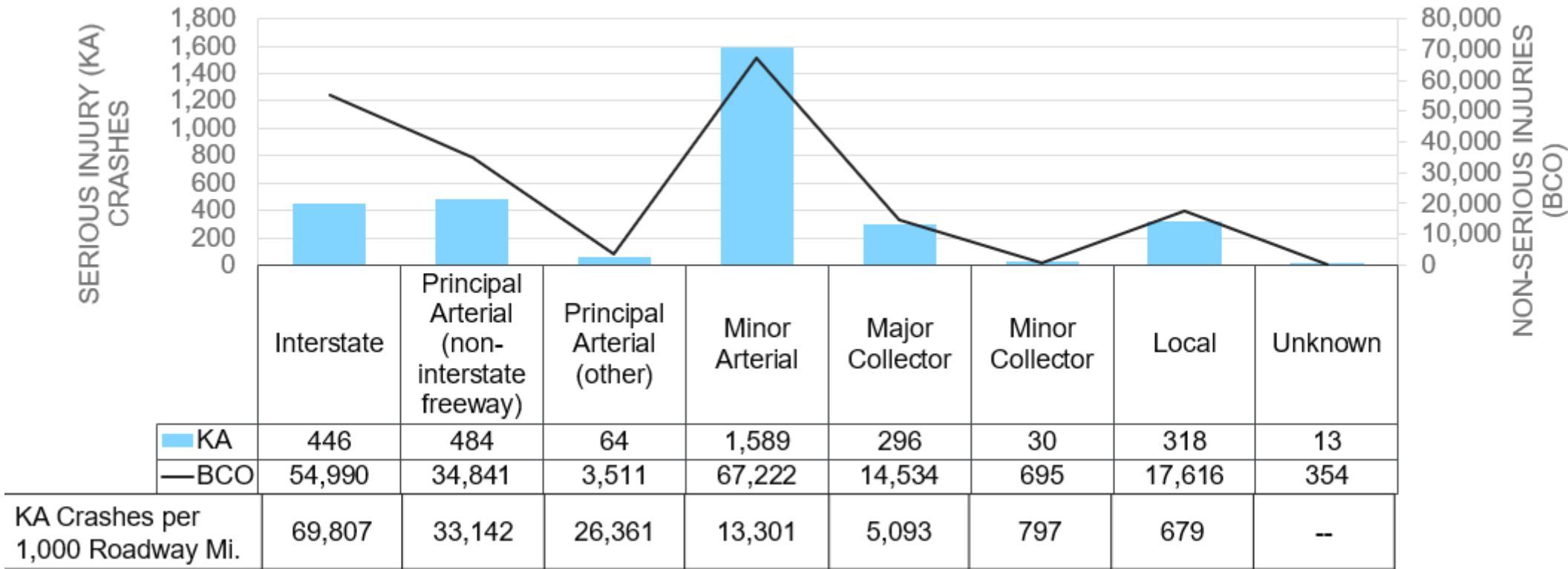
# Other engagement findings

- Interconnected walking and biking systems are essential for safer travel.
- Pedestrians and bicyclists need safe and accessible crossings.
- Clear signage is necessary for safe travel.
- Slower streets are preferred in residential areas and in areas with community destinations.
- Roundabouts slow down drivers but can be difficult for pedestrians to navigate.
- Better lighting makes people feel safer in areas where they walk.



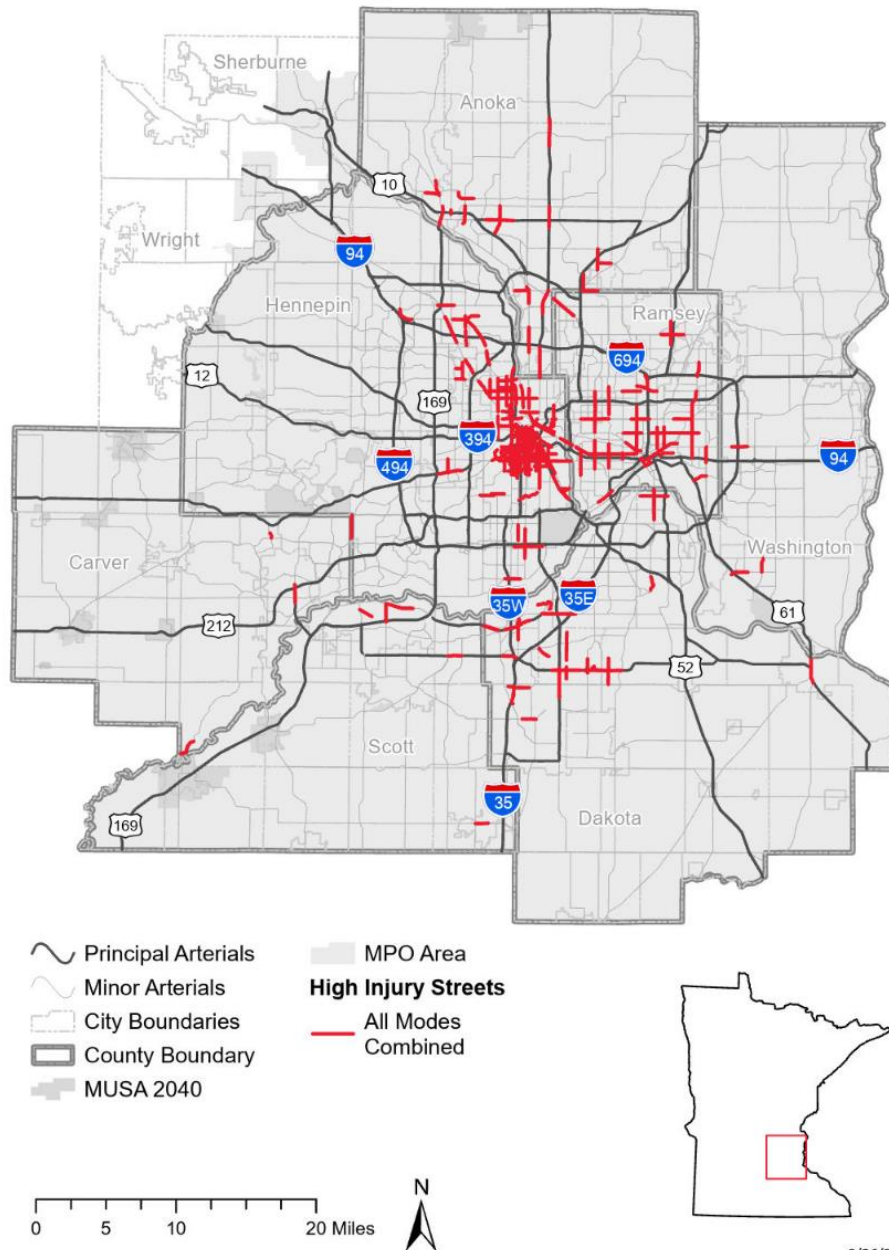


# Crashes by functional class



- Crash data from 2018-2022
- Pedestrian crashes were analyzed as a part of the Pedestrian Safety Action Plan (not included as part of this graph)
- Normalizing by 1,000 roadway miles is just one way to provide context. The results may vary depending on how the crashes are analyzed. Example – by population, centerline miles, etc.

# Regional High Injury Streets



## Used crash data for 2018-2022

- Reviewed four modes
  - Pedestrians
  - Bicyclists
  - Motorcyclists
  - Motor vehicles
- Included fatal and serious injuries in addition to minor injury crashes for pedestrians and bicyclists ONLY
- Weighted injuries by severity with fatal and serious injury crashes weighted as 3. For pedestrians, bicyclists, and motorcyclists - minor injury crashes were weighted as 1.
- The four separate modes were then combined into an overall High Injury Streets selection for the region.
  - Each mode can also be viewed separately.

# Thresholds used

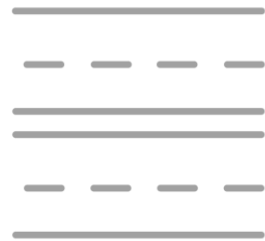
**30.8% of severe crashes on 1.8% of the regional network**

Mode	Threshold	Miles	Severe Crashes	Severe Crashes Per Mile
Pedestrians	12 (Urban Center) & 7 (non-Urban Center)	129.3 (0.7%)	236 (39.2%)	1.82
Bicyclists	5	163.7 (0.8%)	104 (44.3%)	0.64
Motorcyclists	9	35.8 (0.2%)	70 (12.1%)	1.96
Motorists	12	129.6 (0.6%)	301 (17.4%)	2.32
<b>All Modes</b>		<b>370.7 (1.8%)</b>	<b>968 (30.8%)</b>	<b>2.61</b>

# Systemic analysis

## Crash Risk Index analysis

- Identify road segments and intersections with high-risk characteristics for bicycles and motor vehicles.
- The analysis uses crash history to determine high-risk roadway characteristics but, unlike the High Injury Street, it is not a reflection of where crashes have been happening.

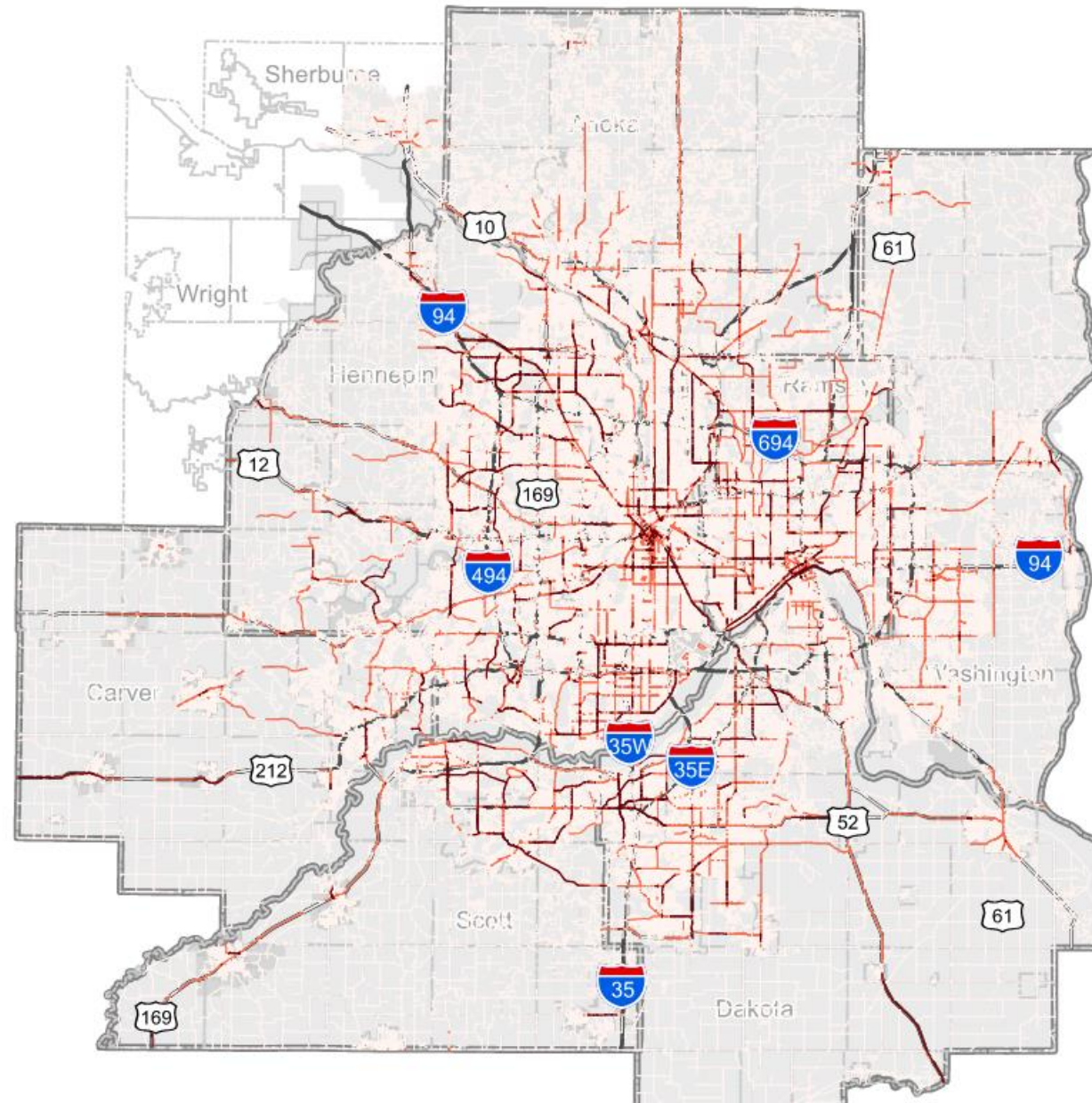


# Crash Risk Index process

- **Adding context to crashes.** Road characteristics and land use information, within 200 ft of road centerline, were linked to crashes to understand which road types and built environment characteristics lead to higher crash risks.
- **Compare crash contexts.** Crashes were examined across different road types, built environment characteristics, and other factors such as overall crash severity, traffic control devices, and number of lanes.
- **Calculate severe crash risk.** Roadways with the highest crash risks were identified by creating a Crash Risk Index. This index evaluated select roadway characteristics and built environment factors (number of lanes, posted speed limit, and AADT) associated with each roadway segment and intersection. Crash severity was also weighted (4 points for fatal and serious injury crashes and one point for B injury crashes) to emphasize roadways carrying a high risk of fatalities and serious injuries.

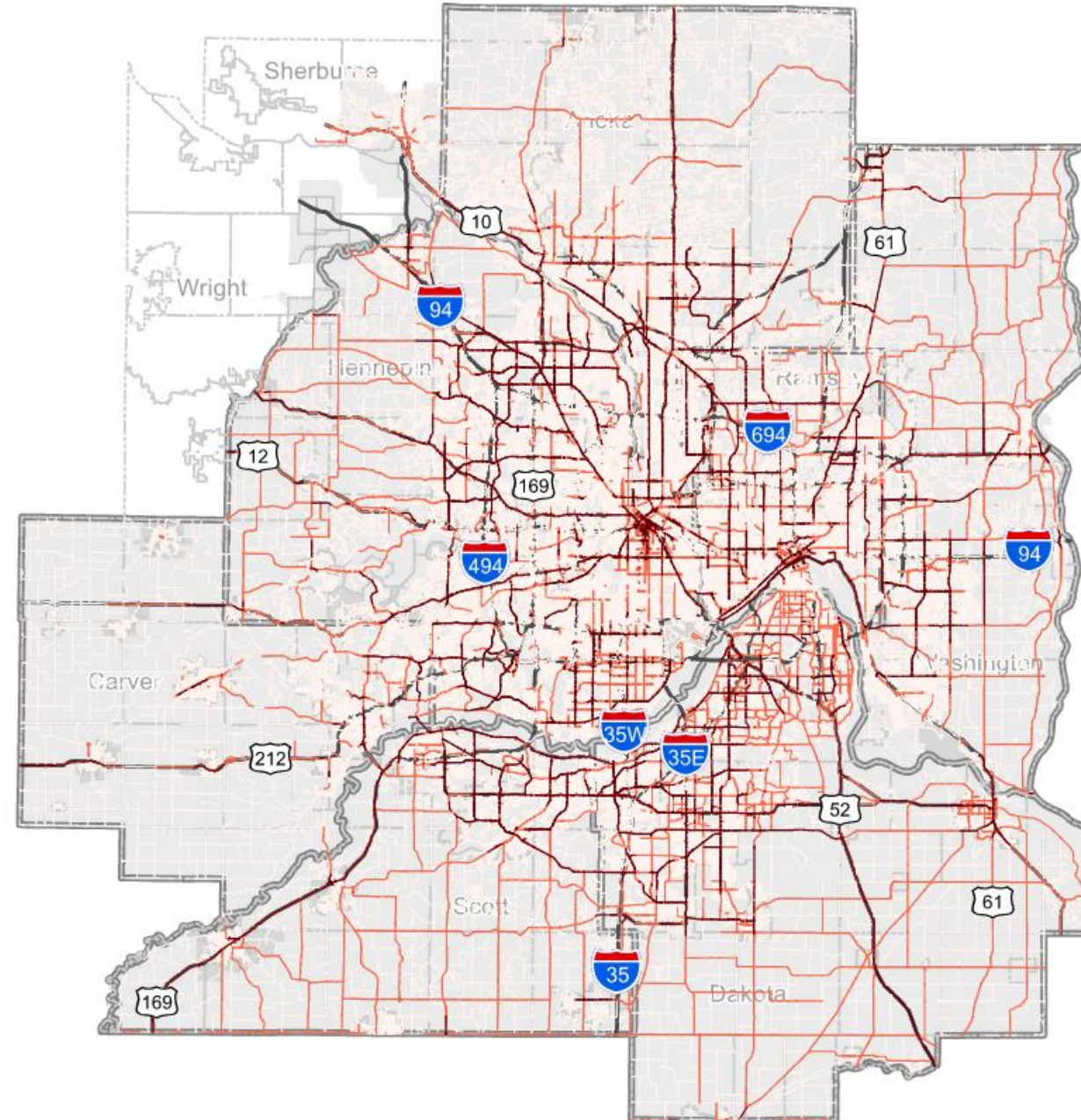
# Crash Risk Index - Bicyclists

- The highest risks tend to appear on large arterial and collector roads with posted speeds over 30mph, Average Annual Daily Traffic (AADT) over 9,000, and 3 or more vehicle lanes.
- Pockets of high risk in downtown Minneapolis and on smaller urban roads also exists



# Crash Risk Index - Drivers

- A lower number of these large roads throughout the region results in high Crash Risk Index scores for motor vehicles (as compared to bicycles).
- Lower density population areas show lower risk for bicyclists, and even lower risks for motor vehicles, even in rural and suburban downtown areas.



# Recommended corridors

## Top 25 for the region, up to 10 for each county

Lists are based on:

- Reactive Lists
  - High Injury Streets Scoring Results
- Proactive Lists
  - Crash Rate Index and Crash Rate Results

Locations with recent or upcoming projects remain on the list because they may be good candidates for further monitoring.

Locations without planned work are recommended for further work.



# Countermeasures toolkit



## Higher level recommendations

- Does not prescribe specific countermeasures for specific corridors or intersections
- Focused on five categories, primarily infrastructure
  - Speed management
  - Pedestrians and bicyclists
  - Roadway departures
  - Intersections
  - Crosscutting applications
- Complimentary strategies and initiatives should be considered

# Programmatic recommendations

## Five strategies

1. Update the plan regularly
2. Take a Safety in All Policies approach
3. Prioritize safety in funding allocations
4. Use the High Injury Streets and Crash Risk Index in Council decision making
5. Provide technical support for local agencies

# Strategy summaries

## 1. Regular updates

- Update for all modes together in future
- Use data-driven schedule for updates every 5 years
- Additional detail in plan

## 2. Safety in All Policies

- Incorporate safety in comprehensive planning work and support
- Review future TPP policies and actions, even those not specifically related to safety for unintended effects

## 5. Technical support

- Will have online map with the analysis layers

# Strategy summaries related to funding

## 3. Prioritize safety in funding

- Develop regional guidance on using the Safe System Road Design Hierarchy
- Evaluate funding processes, including HSIP, for Safe System Approach alignment and unintended impacts of non-safety aspects
- Consider replacing benefit-cost ratio with more systemic approach
- Explore need/opportunities to fund local safety planning work

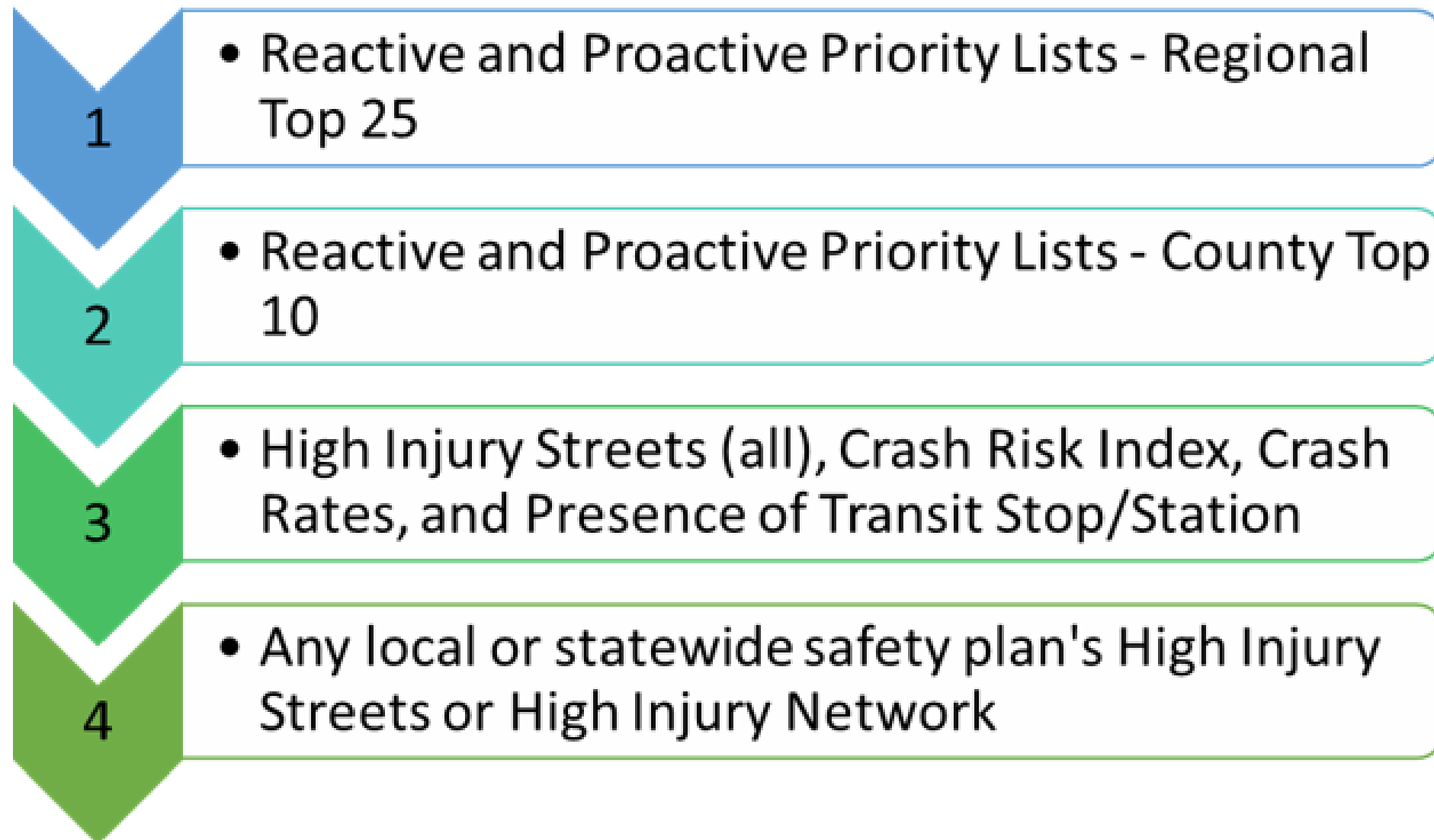
## 4. Use plan analysis in Council decision making

- Use the regional High Injury Streets and Crash Risk Index
- Apply in both safety-specific decisions and those where with a different primary goal

# Ranking example for safety focus



# Ranking example with other main goal





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