MEMO

To: Ozarks Transportation Organization (OTO)

From: Lochmueller Group

Date: August 30, 2024

Subject: Project Prioritization Technical Memo

PRIORITIZATION PROCESS

An initial project list was developed to identify locations of safety needs in the region. In accordance with the Advisory Committee's guidance, evaluation criteria were developed and ranked to quantify priorities. The projects were quantitatively scored and qualitatively evaluated to classify each into one of three priority Tiers.

The culmination of this prioritization process is documented in the Implementation Matrix, and its contents are summarized in Table 1.

Table 1. Implementation Matrix Information

Data Elements per Project Location	
Project Location	Public Input*
Location Type	Local Agency Input
System (State vs Local)	Number KSI Crashes*
High Injury Network (HIN)*	Number Fatal Injuries*
CEJST Disadvantaged Community	Number Serious Injuries*
Municipality (Geographic)	Point Values^
Urban/Rural	Priority Score
STIP Priority*	Tier (Priority)
Timeframe	
**Prioritization criterion*	*^Assigned to each prioritization criterion*

Project List

A list of 202 project locations was developed and is a compilation from the following sources:

- Segments and locations identified on the high injury network (HIN)
- Locations of safety concern identified by the OTO member agencies
- Safety-related projects identified as STIP Priorities in the OTO region
- Locations most frequently identified by the public via the survey and meetings

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The data elements identified in Table 1 were populated for each project to inform the prioritization process. The Point Values, Priority Score, and Tier (Priority) were calculated and determined later in the prioritization process.

Quantitative Evaluation

Prioritization Criteria Development

OTO and the Advisory Committee collaboratively identified six criteria to evaluate the project list and ranked the criteria in order of importance. A measurement was identified for each prioritization criterion and an associated point value. The prioritization criteria information is summarized in Table 2.

Table 2. Prioritization Criteria

Prioritization Criteria	Ranking	Measurement	Point Value Assigned
Number KSI Crashes	#1	If greater than the mean (≥5)	6 pts
High Injury Network (HIN)	#2	If yes	5 pts
Number Fatal Injuries	#3	If greater than the mean (≥1)	4 pts
Number Serious Injuries	#4	If greater than the mean (≥5)	3 pts
STIP Priority	#5	If yes	2 pts
Public Input	#6	If yes	1 pt

Priority Scoring

Using project locations-specific data, point values were assigned for each project location in accordance with Table 2, and the assigned point values were summed to determine a Priority Score for each project location. All point values and priority scores are listed in the Implementation Matrix, and the priority scores served as the based for quantitative comparison of the project locations.

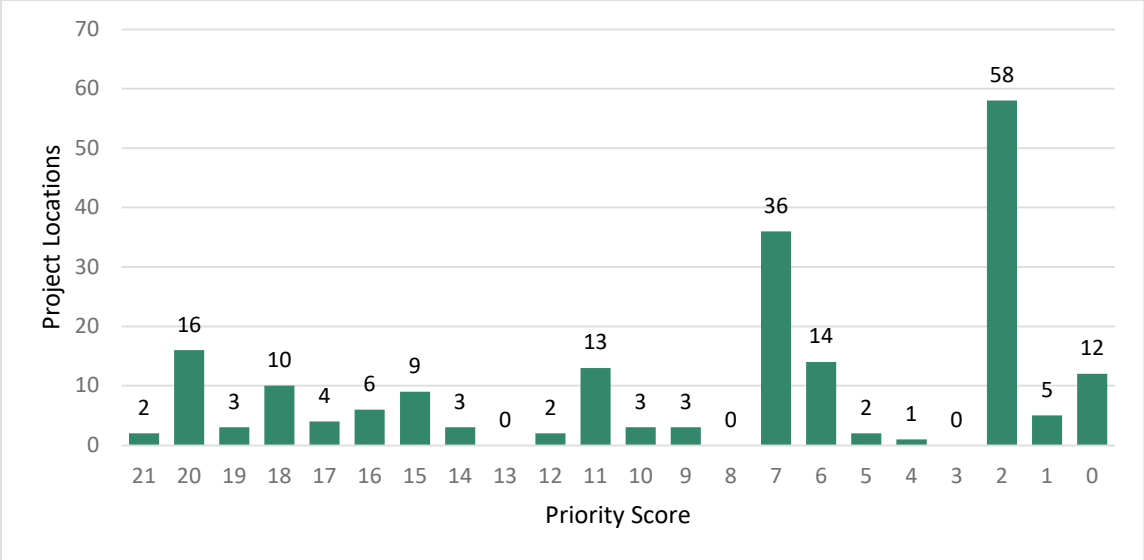
An example Priority Score calculation is outlined in Table 3.

Table 3. Example Priority Score Calculation

Evaluation Criterion	Project Data	Metric Met	Assigned Point Value
Number KSI Crashes	5	Yes	6
High Injury Network (HIN)	Yes	Yes	5
Number Fatal Injuries	1	Yes	4
Number Serious Injuries	4	No	0
STIP Priority	Yes	Yes	2
Public Input	No	No	0
		Priority Score	***17***

High priority scores represent higher quantitative priority, and low priority scores represent lower quantitative priority. 21 is the highest priority score to be obtained, and 0 is the lowest. The priority score distribution of the 202 project locations is displayed in Figure 1.

Figure 1. Priority Score Distribution



Qualitative Evaluation

The project locations were further evaluated to better focus future efforts and resources toward a strategically identified set of projects focused on member agencies.

OTO and Advisory Committee intended to identify a set of priority project location that represent diversity in:

- Disadvantaged communities
- Urban and rural locations
- Roadway segments and intersections
- Pedestrian and bicycle improvements
- OTO member agencies

81% of project locations are on the State system and therefore under the Missouri Department of Transportation's (MoDOT) jurisdiction, which is a member of the Advisory Committee. These locations are representative of safety needs in the region, often traverse municipal boundaries, and affect all users. However, a state transportation agency cannot directly apply for SS4A funding, and identifying project locations under the jurisdiction of member agencies was a goal of OTO and the Advisory Committee.

Furthermore, multiple project locations on the state system have already been studied and/or identified for initial project development and were not considered as priorities for action, with respect to the Safety Action Plan.

Priority Project Location Identification

The 202 project locations were quantified by Priority Score and qualitatively evaluated in collaboration with the Advisory Committee. The project locations were categorized into one of the following three Tiers, as indicated in the Implementation Matrix.

Tier 0 – 10 Project Locations

These ten project locations are under the Missouri Department of Transportation's jurisdiction and have already been studied and/or identified for initial project development; however, each has safety merit with respect to the comprehensive safety analysis process for the region. Accordingly, these are categorized as Tier 0 project locations.

Tier 1 – 21 Project Locations

The Tier 1 project locations represent the **top safety priorities** in the OTO region. The Tier 1 project locations collectively represent the OTO member agencies, disadvantaged communities, and a mix of urban and rural locations, state and local routes, segments and intersections, and pedestrian/bicycle improvement needs. For each Tier 1 project location, an evaluation of existing conditions and crash history was performed and a set of safety countermeasure recommendations was developed to illustrate potential safety improvements at each Tier 1 location.

Tier 2 – 171 Project Locations

The remaining 171 projects have safety merit, as documented by the project data and Priority Scores, and are important elements of the comprehensive safety analysis process and action plan. Tier 2 project locations can be subject to future project development if funding becomes available and/or local priorities change Accordingly, they are collectively categorized in Tier 2 as secondary priorities.

IMPLEMENTATION MATRIX

The Implementation Matrix lists all 202 project locations and incorporates all data elements listed in Table 1, including the resulting priority as categorized by Tier.

Timeframes are specifically identified for each project. It is important to note that timeframes are not indicative of urgency, which is represented by the prioritization process results. Rather, timeframe is estimated to represent the duration to develop and implement a construction project (of undefined scope) at the location. Timeframes are estimated to fall into the following three categories.

- Short-term
    - Signal improvements, signing, pedestrian crossings, and sidewalks/trails
- Mid-term
    - Intersection improvements, roundabouts, corridor improvements, CSS solutions,
- Long-term
    - Capacity improvements, widening, interchanges, and overpasses