

**RESOLUTION NO. R-40 -2025**

**A RESOLUTION OF EAGLE MOUNTAIN CITY, UTAH,  
ADOPTING THE UTAH COUNTY  
COMPREHENSIVE SAFETY ACTION PLAN  
FOR SAFE STREETS FOR ALL (SS4A) GRANT ELIGIBILITY**

*PREAMBLE*

WHEREAS, the United States Department of Transportation (USDOT) established the Safe Streets for All (SS4A) Grant Program in 2022 to support local initiatives aimed at preventing roadway fatalities and serious injuries; and

WHEREAS, participation in the SS4A program requires the development and adoption of a Comprehensive Safety Action Plan that identifies and addresses local roadway safety concerns; and

WHEREAS, the Mountainland Association of Governments (MAG) completed a regional Safety Action Plan in 2024 that includes traffic studies, safety analyses, and public input for Utah County municipalities; and

WHEREAS, adopting the Utah County Comprehensive Safety Action Plan enables Eagle Mountain City to apply for federal SS4A grant funding without duplicating the cost and effort of conducting a separate study; and

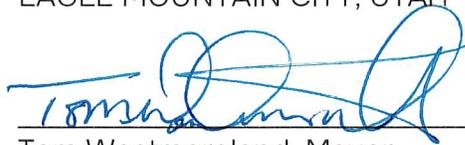
WHEREAS, the intersection of Pony Express Parkway and Trailhead has been identified in the Safety Action Plan and previous City discussions as a critical safety concern and a priority for potential funding;

NOW THEREFORE BE RESOLVED by the City Council of Eagle Mountain City; Utah as follows:

1. The Utah County Comprehensive Safety Action Plan relating to the USDOT Safe Streets for All (SS4A) Grant Program attached hereto as Exhibit A is hereby adopted.
2. This Resolution shall take effect immediately upon passage.

ADOPTED by the City Council of Eagle Mountain City, Utah, this 3<sup>rd</sup> day of June, 2025.

EAGLE MOUNTAIN CITY, UTAH



Tom Westmoreland, Mayor

ATTEST:



Gina L. Olsen, CMC  
City Recorder



## CERTIFICATION

The above Resolution was adopted by the City Council of Eagle Mountain City, Utah on the 3<sup>rd</sup> day of June, 2025.

Those voting yes:	Those voting no:	Those excused:	Those abstaining:
<input checked="" type="checkbox"/> Donna Burnham	<input type="checkbox"/> Donna Burnham	<input type="checkbox"/> Donna Burnham	<input type="checkbox"/> Donna Burnham
<input checked="" type="checkbox"/> Melissa Clark	<input type="checkbox"/> Melissa Clark	<input type="checkbox"/> Melissa Clark	<input type="checkbox"/> Melissa Clark
<input checked="" type="checkbox"/> Jared Gray	<input type="checkbox"/> Jared Gray	<input type="checkbox"/> Jared Gray	<input type="checkbox"/> Jared Gray
<input checked="" type="checkbox"/> Rich Wood	<input type="checkbox"/> Rich Wood	<input type="checkbox"/> Rich Wood	<input type="checkbox"/> Rich Wood
<input checked="" type="checkbox"/> Brett Wright	<input type="checkbox"/> Brett Wright	<input type="checkbox"/> Brett Wright	<input type="checkbox"/> Brett Wright



  
\_\_\_\_\_  
Gina L. Olsen, CMC  
City Recorder

**EXHIBIT A**

**MOUNTAINLAND SAFE STREETS  
2024 MAG MPO SAFETY ACTION PLAN**

Relating to the Safe Streets for All Grant Program

# MOUNTAINLAND SAFE STREETS

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2024

# MAG MPO SAFETY ACTION PLAN

# CONTENTS

<b>Executive Summary .....</b>	<b>ES 1</b>
ES 1. Safe Streets for All Program.....	ES 1
ES 2. Safety Analysis.....	ES 2
ES 3. Equity .....	ES 3
ES 4. Engagement .....	ES 4
ES 5. Recommendations .....	ES 4
<b>1. Leadership Commitment and Goal Setting .....</b>	<b>1</b>
1.1. Introduction .....	1
1.2. Safe System Approach.....	3
1.3. MPO Commitment .....	5
<b>2. Planning Structure.....</b>	<b>6</b>
2.1. Stakeholder Committee .....	6
<b>3. Safety Analysis.....</b>	<b>7</b>
3.1. Crash Data Sources .....	7
3.2. Crash Analysis Zones .....	7
3.3. Crash Data Overview .....	8
3.4. Analysis Components .....	9
3.5. Systemic Safety .....	27
3.6. Local Agency Concerns.....	35
<b>4. Engagement and Collaboration.....</b>	<b>36</b>
4.1. Website .....	36
4.2. Pop-Up Events.....	39
4.3. Public Open Houses .....	41
4.4. Group Outreach .....	42
4.5. Local Government Outreach.....	43
<b>5. Equity Considerations.....</b>	<b>45</b>
5.1. Disadvantaged Community Analysis .....	45
5.2. Vehicle Crash Data and Underserved Areas .....	47
5.3. Travel Pattern Analysis .....	49
<b>6. Policy and Process Change.....</b>	<b>56</b>



- 6.1. Best Practices ..... 56
- 6.2. MPO/RPO Planning Processes ..... 61
- 6.3. Recommended Policies and Practices ..... 63
- 6.4. Safety Countermeasures Toolkit..... 68
- 7. Strategy and Process Selection.....74**
  - 7.1. Project Identification.....74
  - 7.2. Prioritization Process .....74
  - 7.3. Projects .....77
  - 7.4. Programmatic Safety Improvements ..... 158
  - 7.5. Evolving Technology and Smart Systems ..... 159
- 8. Progress and Transparency.....160**
  - 8.1. Future Updates..... 160
  - 8.2. Safe Streets Report Dashboard ..... 160
  - 8.3. Monitoring Progress..... 162
- APPENDIX A: Safe Streets Countermeasures Toolkit..... 163**
- APPENDIX B: State-level Policies to Further Roadway Safety .....206**
- APPENDIX C: Project Scoring Tables.....211**
- APPENDIX D: RPO Process Evaluation..... 305**

## FIGURES

- Figure ES-1. Utah County High Injury Network..... ES 3
- Figure 1. Safe System Approach Components.....4
- Figure 3. Utah County Total Crashes ..... 8
- Figure 2. Crash Analysis Zones..... 8
- Figure 4. Utah County Serious Injury & Fatal Crashes .....9
- Figure 5. Utah County Pedestrian & Bicycle Crashes.....9
- Figure 6. Crash Analysis Zone Emphasis Areas ..... 11
- Figure 7. Eagle Mountain/Saratoga Springs Crash Analysis Zone Hotspot Locations..... 13
- Figure 8. Lehi/Highland Crash Analysis Zone Hotspot Locations..... 14
- Figure 9. American Fork/Pleasant Grove/Lindon Crash Analysis Zone Hotspot Locations ..... 15
- Figure 10. Orem/Provo Crash Analysis Zone Hotspot Locations..... 16
- Figure 11. Spanish Fork/Springville Crash Analysis Zone Hotspot Locations .....17



Figure 12. Payson Crash Analysis Zone Hotspot Locations ..... 18

Figure 13. American Fork/Pleasant Grove/Lindon Crash Analysis Zone HIN ..... 21

Figure 14. Eagle Mountain/Saratoga Springs Crash Analysis Zone HIN .....22

Figure 15. Lehi/Highland Crash Analysis Zone HIN.....23

Figure 16. Orem/Provo Crash Analysis Zone HIN ..... 24

Figure 17. Payson Crash Analysis Zone HIN .....25

Figure 18. Spanish Fork/Springville Crash Analysis Zone HIN ..... 26

Figure 19. Unincorporated Utah County Crash Analysis Zone HIN.....27

Figure 21: Facility Profile Tiers by Road Ownership ..... 30

Figure 20: Facility Profile Tiers by Share of Roadway Mileage and Share of Serious Crashes..... 30

Figure 22: Map of High-Risk Facilities (Utah County) ..... 31

Figure 23: Map of High-Risk Facilities (Northern Utah County) .....32

Figure 24: Map of High-Risk Facilities (Central Utah County) .....33

Figure 25: Map of High-risk Facilities (South Utah County)..... 34

Figure 26: Interactive Dashboard with Full Resolution .....37

Figure 27: Dashboard with Different Filters .....37

Figure 28. Infographic of Survey Results.....38

Figure 29. Pedestrian Intercept Survey..... 39

Figure 30. Pop-Up Event at Provo City Library ..... 40

Figure 31. Pop-Up Event at Lehi Round Up ..... 40

Figure 31. Pop-Up Event at Spanish Fork Library..... 41

Figure 32. Utah County Open House ..... 42

Figure 33. MAG Area Disadvantaged Census Tracts ..... 46

Figure 34. Utah County Disadvantaged Census Tracts .....47

Figure 35. Disadvantaged Census Tracts and HIN ..... 48

Figure 36. Northern Utah County People in Poverty Travel Pattern Analysis ..... 50

Figure 37. Central Utah County People in Poverty Travel Pattern Analysis ..... 51

Figure 38. Southern Utah County People in Poverty Travel Pattern Analysis .....52

Figure 39. Northern Utah County Zero-Car Household Travel Pattern Analysis.....53

Figure 40. Central Utah County Zero-Car Household Travel Pattern Analysis..... 54

Figure 41. Southern Utah County Zero-Car Household Travel Pattern Analysis .....55

Figure 42. Types of Plans Reviewed ..... 56

Figure 43. Safe System Roadway Design Hierarchy..... 69



Figure 44. American Fork/Pleasant Grove/Lindon Crash Analysis  
Zone Project Recommendations .....78

Figure 45. Eagle Mountain/Saratoga Springs Crash Analysis Zone Project Recommendations.....79

Figure 46. Lehi/Highland Crash Analysis Zone Project Recommendations ..... 80

Figure 47. Orem/Provo Crash Analysis Zone Project Recommendations ..... 81

Figure 48. Payson Crash Analysis Zone Project Recommendations .....82

Figure 49. Spanish Fork/Springville Crash Analysis Zone Project Recommendations.....83

Figure 50. Unincorporated Utah County Crash Analysis Zone Project Recommendations..... 84

## TABLES

Table ES-1. Percent Disadvantaged Census Tracts..... ES 4

Table 1. MAG MPO Stakeholder Committee .....6

Table 2. Crash Analysis Zones.....7

Table 3. Facility Profile Tiers by Factors ..... 29

Table 4. Summary of Safety Plans in Utah County .....58

Table 5. National Best Practices Reference Manuals and Resources ..... 60

Table 6. Required Safety Performance Measures .....62

Table 7. Current MPO Technical Scoring Criteria ..... 63

Table 8. Overarching Rationale for Recommendations ..... 64

Table 9. Regional Strategies ..... 65

Table 10. Local Strategies .....67

Table 11. Prioritization Scoring Rubric.....76

Table 12. Prioritization Thresholds by Crash Analysis Zone .....77

Table 13. American Fork/Pleasant Grove/Lindon..... 86

Table 14. Eagle Mountain/Saratoga Springs ..... 98

Table 15. Lehi/Highland .....105

Table 16. Orem/Provo..... 115

Table 17. Payson..... 132

Table 18. Spanish Fork/Springville..... 143

Table 19. Unincorporated Utah County ..... 156

Table 20. Number of Proposed Projects Related to Education & Enforcement ..... 158

Table 21. Number of Red-Light Running Crashes with Fatal and Serious Injuries ..... 159



# ES - 1. Executive Summary

## ES-1.1. SAFE STREETS FOR ALL PROGRAM

The U.S. Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) program provides grants to local and regional jurisdictions for implementation, planning, and demonstration activities as part of a systematic approach to preventing deaths and serious injuries on the nation's roadways. The SS4A program collaborates within USDOT, and with outside organizations committed to roadway safety, to disseminate program information and build capacity to help communities apply for grants and successfully implement grant activities.

SS4A identifies eight key components to be completed to qualify as an eligible Safety Action Plan. The Mountainland Association of Governments (MAG) Metropolitan Planning Organization (MPO) Safety Action documents the satisfaction of the eight components in this report:

**Chapter 1 Leadership Commitment and Goal Setting:** documents the leadership commitment adopted by the MPO Board to reduce fatal and serious injury crashes by 50% by 2050 with an eventual goal to eliminate all fatal and serious injury crashes.

**Chapter 2 Planning Structure:** identifies the Stakeholder Committee to guide the development, implementation, and monitoring of the plan.

**Chapter 3 Safety Analysis:** documents historical crash trends and locations of fatal and serious injury crashes, contributing factors, and crash types by relevant road users; provides a systemic analysis of high-risk locations.

**Chapter 4 Engagement and Collaboration:** summarizes the engagement conducted with agencies, public groups, and stakeholders through in-person and virtual outreach.

**Chapter 5 Equity Considerations:** documents analysis to identify transportation disadvantaged populations according to federal definitions and presents travel pattern analysis of disadvantaged populations.

**Chapter 6 Policy and Process Changes:** identifies current plans and policies related to safety and identifies opportunities to improve how MAG conducts its planning and transportation funding processes to better prioritize safety.

**Chapter 7 Strategy and Project Selections:** identifies a prioritized, comprehensive list of projects and strategies to address identified safety problems including programs and strategies.

**Chapter 8 Progress and Transparency:** describes how progress towards safety goals can be measured over time and outlines the online dashboard created to track key safety metrics as projects and strategies are implemented.



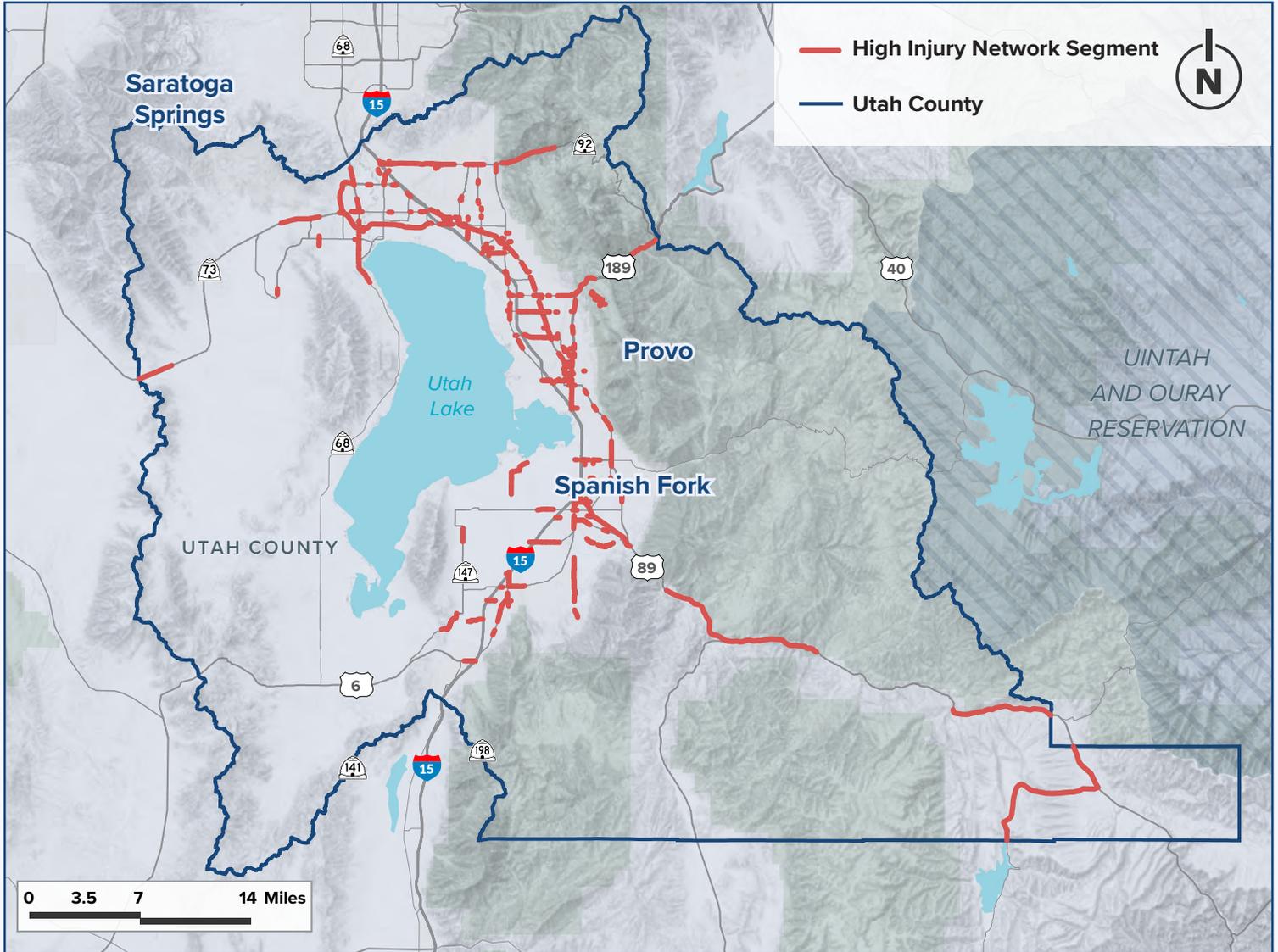
## ES-1.2. SAFETY ANALYSIS

Data for this analysis were downloaded from the Utah Department of Transportation (UDOT) Numeric database. The five most recent complete years of data, 2018-2022, were used. While crashes occurring on interstates were excluded, all other crashes during the study period were included in the analysis. Prior to analyzing the crash data, the data were grouped into crash analysis zones that represented groupings of one or more jurisdictions. This was done to ensure that there was an adequate sample size of crashes from which to identify trends and provide some contextual consistency.

In Utah County, 39,709 crashes occurred during the study period. This included 889 serious injury crashes and 145 crashes resulting in a fatality. Serious injury crashes generally trended upward from 2018 to 2022, with a drop in 2019, reaching 221 serious injury crashes in 2022. Fatal crashes were highest in 2018 with 35, dropping to just 22 in 2019, but slowly increasing back to 33 fatal crashes by 2022.

Overrepresented emphasis areas were identified for each crash analysis zone in the county. Aggressive driving and intersection safety were the most prevalent overrepresented emphasis areas in Utah County. Both were overrepresented in fatal and serious injury crashes in five of the county's seven crash analysis zones. American Fork/Pleasant Grove/Lindon had the highest percentage of both emphasis areas, with 10% involving aggressive driving and 74% involving intersections. Other notable overrepresented emphasis areas included 33% of fatal and serious injury crashes involving teen drivers in Eagle Mountain/Saratoga Springs and Spanish Fork/Springville; and 24% of fatal and serious injury crashes involving unsafe speed in Payson.

A high injury network (HIN) was developed for each crash analysis zone to identify locations for which investments can have the greatest impact to mitigate crash-related fatalities and serious injuries (Figure ES-1). The HIN for each zone incorporated the top 10% of road miles based on a detailed scoring methodology. In Utah County, the high injury network incorporated the locations for up to 98% of each zone's fatal and serious injury crashes.



**Figure ES-1. Utah County High Injury Network**

## ES-1.3. EQUITY

Within the MPO, there is a total population of 621,500 individuals according to the USDOT’s Equitable Transportation Community (ETC) Explorer (Table ES-1). According to the national results, 9% of the census tracts within the MPO qualify as disadvantaged communities. These census tracts are home to 52,600 people or 9% of the region’s total population. According to the state results, 35% of census tracts within the MPO are disadvantaged. These census tracts are home to 198,600 people or 32% of the region’s total population.

**Table ES-1. Percent Disadvantaged Census Tracts**

		NATIONAL RESULTS		STATE RESULTS	
Jurisdiction	Total Population	Disadvantaged Tract Population (% of Total)	Disadvantaged Tracts (% of Area Total)	Disadvantaged Tract Population (% of Total)	Disadvantaged Tracts (% of Area Total)
Utah County	621,500	52,600 (9%)	14 (9%)	198,600 (32%)	55 (35%)

## ES-1.4. ENGAGEMENT

Engagement for the MPO consisted of in-person and online survey opportunities in November 2023 to collect input about perceptions and lived experiences of safety on roads in Utah County that the team could use alongside analysis to develop the High Injury Network and get early ideas for mitigation projects. Once the HIN was created and draft countermeasures identified, a series of in-person public open houses and pop-up events were held in strategic locations to reach groups living in/near disadvantaged census tracts. The events informed the community about the work done so far and gathered input on which strategies seemed the most effective/likely to succeed for each community and what people would be willing to individually do to stay safe on the roads.

Events included a virtual meeting for Utah County and pedestrian intercept surveys in Provo in November 2023. Then, during April-July 2024, the team hosted an in-person open house in Orem at the Orem City Library and pop-up events in Provo at the Provo Library, in Lehi at the mini-float parade for the Lehi Round Up, and in Spanish Fork at the Spanish Fork Library.

## ES-1.5. RECOMMENDATIONS

The plan recommends 247 short-, medium-, and long-term projects to improve safety at HIN locations in Utah County. Some recommended projects include programmatic elements: a total of 31 teen driving education programs, 18 speed enforcement programs, and 66 red light running enforcement or education programs are recommended in various crash analysis zones throughout the county. Other project components focus on engineering-based improvements to roadway infrastructure. These include countermeasures such as enhancements to, or construction of, pedestrian and bicycle facilities, traffic calming elements, and traffic signal timing updates. This Plan also recommends a suite of six modifications to the MPO project selection and prioritization process to elevate the importance of safety.



# 1. Leadership Commitment and Goal Setting

## 1.1. INTRODUCTION

The U.S. Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) program provides grants to local and regional jurisdictions for implementation, planning, and demonstration activities as part of a systematic approach to preventing deaths and serious injuries on the nation's roadways. The SS4A program collaborates within USDOT, and with outside organizations committed to roadway safety, to disseminate program information and build capacity to help communities apply for grants and successfully implement grant activities.

SS4A requires an eligible Safety Action Plan to be adopted before applying to implement projects and strategies. It also provides funding for two types of grants: Planning and Demonstration Grants and Implementation Grants.

A SS4A Safety Action Plan includes the following eight key components:

### 1. Leadership commitment and goal setting:

An official public commitment by the public safety committee to an ultimate goal of zero roadway fatalities and serious injuries.

### 2. Planning structure

Form an Action Plan Committee and Public Safety Committee which are responsible for the development, implementation, and monitoring of the Action Plan.

### 3. Safety analysis

Analyze existing conditions and historical trends to measure the level of crashes involving fatalities and serious injuries in and near the project area. Analyze locations where there are crashes and the severity of the crashes, as well as contributing factors and crash types by relevant road users. An analysis of systemic and specific safety needs is also performed, with the mapping of higher-risk locations.

### 4. Engagement and collaboration

Engage the public and relevant stakeholders to allow for both community representation and feedback. Analyze and incorporate information received into the Action Plan. Include overlapping jurisdictions in the process. Coordinate and align other governmental plans and planning processes to the extent practical.

### 5. Equity

Consider equity by identifying underserved communities with recent and historic demographic data and population characteristics.



## 6. Policy and process changes

Assess current plans, guidelines, and policies related to safety and identify opportunities to improve how processes prioritize transportation safety through the adoption of new policies, guidelines, and/or standards, as appropriate.

## 7. Strategy and project selections

Identify a comprehensive list of projects and strategies that address safety problems. Once identified, prioritize the list of projects and strategies for when the strategies and countermeasures will be deployed. The list should include specific projects and strategies, descriptions of programs of projects and strategies, and an explanation of how the project list was prioritized and the criteria used.

## 8. Progress and transparency

Describe the method to measure progress over time after an Action Plan is developed or updated, including outcome data. Ensure ongoing transparency is established with residents and other relevant stakeholders.

The Mountainland Association of Governments (MAG) has received a federal SS4A grant to develop a Safety Action Plan for Utah, Wasatch, and Summit Counties that will provide a complete, well-defined strategy to prevent roadway fatalities and serious injuries in each county.

A Safety Action Plan is a data-driven approach that identifies the areas with the most safety needs so those areas can be targeted first. The Safety Action Plan aims to identify safety improvements to justify and prioritize investment decisions. It is a powerful way to prioritize safety improvement projects and rationalize investment decisions. The information in this plan will also help connect more clearly with stakeholders and the public, and access funding opportunities for future improvements and public education.

Utah County is in an urban area and is one of the most populated counties in Utah with a population of 665,665.<sup>1</sup> Utah County is the 16th largest county by area in Utah with a total area of 2,144 square miles (2.45% of Utah's total area) with 25 cities in the county.

Historically, population growth in Utah County has been robust, rising by 35% in each of the last two decades and surpassing one-half million people in 2009. More recently, the Provo/Orem area was the fourth fastest-growing metro area in the country. The cities of Provo and Orem have always been the urban core of Utah County but this is changing. The two largest metropolitan areas in the state, Salt Lake City and Provo/Orem, converge at the Point of the Mountain, creating a natural center for high growth in both jobs and population. Regional growth trends show that by 2050, Utah County will add half a million more people, growing to 1.2 million.

The MAG MPO is tasked with planning for urban Utah County's regional transportation needs. Located at the southern end of the Wasatch Front region of Utah, the MPO encompasses the rapidly growing Provo/Orem Urbanized Area and includes all 25 Utah County municipalities and contiguous unincorporated areas. Urbanization and the locations of major transportation facilities are constrained by physical boundaries, including steep mountain terrain to the east and west and the large, centrally located Utah Lake. The urban area is roughly bisected by I-15, the only freeway currently within Utah County.

<sup>1</sup> 2020 U.S. Census



The MPO creates a forum, bringing together urban leaders with state and federal transportation officials, opening dialogue, and providing a process for all to be involved in planning and funding the area's transportation needs. MAG has a strong history of working together with stakeholders and achieving results.

An MPO is the policy board of an organization created and designated to carry out the metropolitan transportation planning process. It comprises representatives from the local government and governmental transportation authorities. The MPO is supported by a Technical Advisory Committee (TAC) that reviews and recommends to the MPO Board various transportation planning and funding documents, such as the Regional Transportation Plan and the Transportation Improvement Program. The TAC is comprised of technical staff from all member agencies as well as the Utah Department of Transportation (UDOT) and the Utah Transit Authority (UTA).

## 1.2. SAFE SYSTEM APPROACH

USDOT adopts a Safe System Approach (Figure 1) as the guiding theory to address roadway safety. The Safe System Approach has been embraced by the transportation community as an effective way to address and mitigate the risks inherent in our enormous and complex transportation system. It works by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur. It is a holistic and comprehensive approach that provides a guiding framework to make places safer for people.

This is a shift from a conventional safety approach because it focuses on both human mistakes AND human vulnerability and designs a system with many redundancies in place to protect everyone.

USDOT's National Roadway Safety Strategy and the Department's ongoing safety programs are working towards a future with zero roadway fatalities and serious injuries. In support of this approach, safety programs are focused on infrastructure, human behavior, responsible oversight of the vehicle and transportation industry, and emergency response.

The Action Plan Committee and the Public Safety Committee were guided by the principles of the Safe Systems Approach in the development and implementation of the MAG Safety Action Plan. The Safe Systems Approach, also known as Vision Zero, is a comprehensive approach to road safety that aims to eliminate traffic-related deaths and serious injuries. It recognizes that humans are fallible and make mistakes, so it focuses on creating a forgiving system that takes into account human error and ensures that those errors do not result in serious consequences.

### Safe System Approach Core Principles:

- **Human Fallibility:**

The approach acknowledges that people will make mistakes on the road. Instead of blaming individuals, it seeks to design systems that prevent errors from leading to serious consequences.

- **Shared Responsibility:**

The responsibility for road safety is shared among various stakeholders,



including road users, vehicle manufacturers, infrastructure designers, and policymakers.

Collaboration and coordination among these stakeholders are essential for achieving safe systems.

- **Safe Infrastructure:**

Proactive tools should be used to identify and address safety issues in the transportation system, rather than waiting for crashes to occur and reacting afterward. It involves creating safe roads, intersections, sidewalks, and bicycle lanes that minimize the potential for crashes and protect vulnerable roadway users (VRUs).

- **Redundancy is Crucial:**

Reducing risks requires that all parts of the transportation system be strengthened, so that if one part fails, the other parts still protect people.

### Safe System Approach Objectives:

- **Safer People:**

Encourage safe, responsible driving and behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed. This includes promoting compliance with traffic laws and discouraging impaired driving, distracted driving, and aggressive behaviors.

- **Safer Roads**

Design roadway environments to mitigate human mistakes and account for injury tolerances, encourage safer behaviors, and facilitate safe travel by the most vulnerable users.

- **Safe Vehicles:**

Vehicle design and technology have a significant impact on road safety. Safe vehicles are equipped with features such as seat belts, airbags, advanced driver assistance systems, and crash avoidance technologies that mitigate the risk of crashes or reduce their severity.

- **Safe speeds:**

Speed is a critical factor in the severity of crashes. The Safe Systems Approach emphasizes safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.

- **Post Crash Care:**

Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.



**Figure 1. Safe System Approach Components**

Source: Federal Highway Administration (FHWA)

## Five E's of Safety:

The Five E's are the fundamentals in traffic safety to reduce the number and severity of crashes. They consists of the following concepts:

- **Engineering:**

This involves planning, designing, building, and maintaining safer transportation systems. Design principles and standards proven to improve safety for all users should be employed.

- **Education:**

Education is a key component of roadway safety. It leads to changes in behavior that can save lives. Proposed safety projects will include projects to educate the public, especially teenagers and older drivers, about numerous safety issues.

- **Enforcement:**

Law Enforcement works diligently to remind people of the laws associated with the use of our roadway network to increase safety.

- **Emergency Services:**

Instant response from emergency teams can save lives. Deploying trained dispatchers and ensuring the right resources arrive to provide care and address safety at the scene can reduce the number of fatalities and the severity of injuries.

- **Everyone:**

Everyone needs to make a difference and we all need to work together if we are going to reach Zero Fatalities. Ensuring all agencies and the public are working together is one of the main pillars of the Safety Committee.

## 1.3. MPO COMMITMENT

The first of the eight key components of a SS4A Safety Action Plan is for a governing body to adopt a goal to a timeline to eliminate fatal and serious injury crashes. The goal may take one of two forms:

- A target date to achieve zero fatal roadway fatalities and serious injuries, or
- A target date for an ambitious percent reduction of roadway fatalities and serious injuries with an eventual goal to eliminate all roadway fatalities and serious injuries.

On May 2, 2024 the MAG MPO Board adopted the goal to **reduce fatal and serious injury crashes by 50% by 2050 with an eventual goal to eliminate all fatal and serious injury crashes**. This goal is branded as the "Fifty in 50" goal.

## 2. Planning Structure

### 2.1. STAKEHOLDER COMMITTEE

MAG formed a stakeholder committee to guide the development of the Safety Action Plan. The stakeholder committee represented several MAG MPO member jurisdictions as well as partner agencies (Table 1). The stakeholder committee met monthly to review project progress, guide project decisions, and coordinate outreach with the community.

**Table 1. MAG MPO Stakeholder Committee**

Name	Position	Agency
Carla Merrill	Mayor	Alpine City
Mike West	Planning Division Manager	Lehi City
Vern Keeslar	Traffic Manager	Provo City
Jill Spencer	City Planner	Payson City
Jered Johnson	Engineering Division Manager	Spanish Fork City
Richard Nielson	County Engineer	Utah County
Dede Murray	Strategic Planner	UTA
Eric Rasband	Planning Manager	Utah Department of Transportation
Brian Phillips	Traffic Operations Engineer	Utah Department of Transportation

# 3. Safety Analysis

## 3.1. CRASH DATA SOURCES

Data for this analysis were downloaded from the UDOT Numetric database. The five most recent complete years of data, 2018-2022, were used. While crashes occurring on interstates were excluded, all other crashes during the study period were included in the analysis.

## 3.2. CRASH ANALYSIS ZONES

Prior to analyzing the crash data, the data were grouped into crash analysis zones that represented groupings of one or more jurisdictions. This was done to ensure that there was an adequate sample size of crashes from which to identify trends and provide some contextual consistency.

Crash analysis zones combined jurisdictions with similar characteristics. A number of factors were taken into account when defining the zones. These included geographic proximity, number of jurisdictions, school boundaries, crash totals, and area. The remaining areas within each county were grouped into unincorporated county zones. The crash analysis zones for each county are listed in Table 2 and are shown in Figure 2.

**Table 2. Crash Analysis Zones**

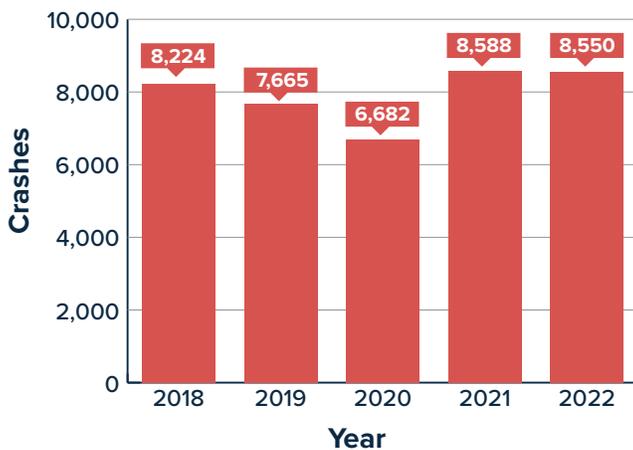
County	Crash Analysis Zone	Jurisdictions
<b>UTAH COUNTY</b>	Eagle Mountain/Saratoga Springs	Eagle Mountain, Saratoga Springs, Fairfield, Cedar Fort
	Lehi/Highland	Lehi, Highland, Alpine, Cedar Hills
	American Fork/Pleasant Grove/Lindon	American Fork, Pleasant Grove, Lindon
	Orem/Provo	Orem, Provo, Vineyard
	Spanish Fork/Springville	Spanish Fork, Springville, Mapleton
	Payson	Payson, Salem, Elk Ridge, Woodland Hills, Santaquin, Goshen, Genola
	Unincorporated Utah County	Unincorporated areas

### 3.3. CRASH DATA OVERVIEW

The following section details historical crash data for Utah County for the five-year analysis period 2018 to 2022. Crash trends are shown for total crashes, fatal/serious injury crashes, and pedestrian/bicycle related crashes.

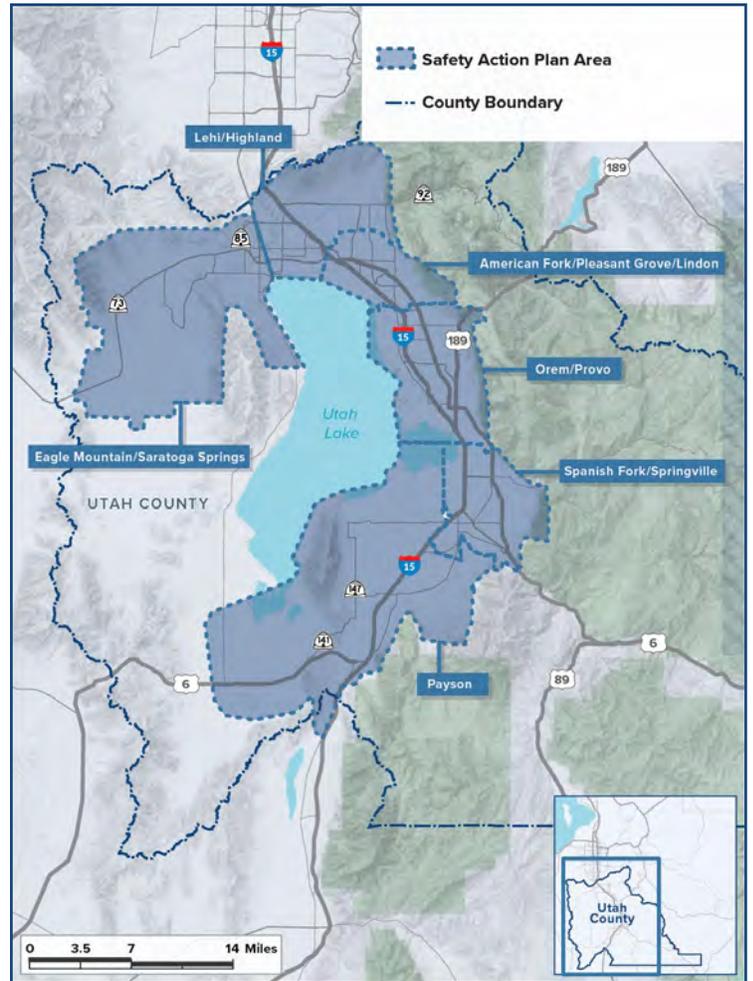
#### 3.3.1. UTAH COUNTY

Figure 3 shows total crashes in Utah County for the five-year period. Total crashes were lower in 2019 and again in 2020, likely due to the COVID-19 pandemic, dropping from 8,224 total crashes in 2018 to 6,682 total crashes in 2020. Total crashes for Utah County rose again to their highest level in 2021 with 8,588 total crashes and were slightly lower again in 2022.

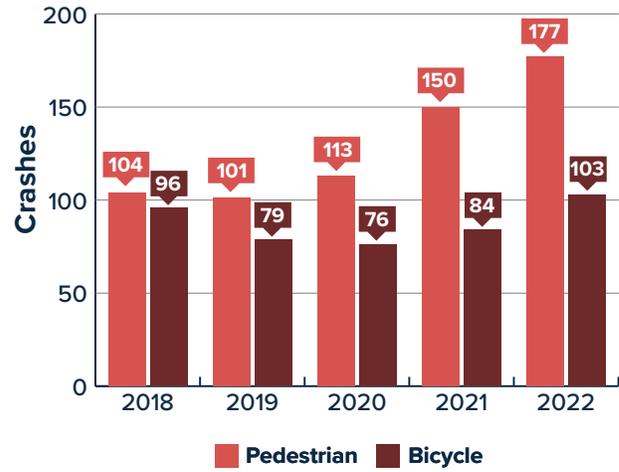
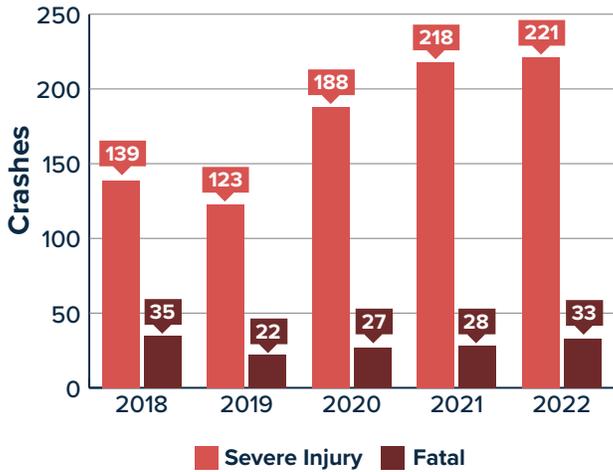


**Figure 3. Utah County Total Crashes**

Figure 4 shows the total serious injury crashes and total fatal crashes by year in Utah County. Serious injury crashes generally trended upward from 2018 to 2022, with a drop in 2019, reaching 221 serious injury crashes in 2022. Fatal crashes were highest in 2018 with 35, dropping to just 22 in 2019, but slowly increasing back to 33 fatal crashes by 2022.



**Figure 2. Crash Analysis Zones**



**Figure 4. Utah County Serious Injury & Fatal Crashes**

**Figure 5. Utah County Pedestrian & Bicycle Crashes**

Pedestrian related crashes in Utah County have been increasing since 2019, reaching a high of 177 total pedestrian-related crashes in 2022. Bicycle-related crashes have remained more steady year over year but show an increase from 2020 to 2022. Figure 5 shows the pedestrian and bicycle-related crashes in Utah County from 2018 to 2022.

## 3.4. ANALYSIS COMPONENTS

Several types of analyses were used to consider safety from multiple angles and to assist in identifying and prioritizing projects for each crash analysis zone. These included an assessment of emphasis areas, crash hotspot locations, and the development of high-injury networks for each crash analysis zone, which are described in more detail in the subsequent sections. The three analyses built upon each other to identify key locations for improvements, and ultimately guided development of projects and project prioritization.

### 3.4.1. EMPHASIS AREAS

Emphasis areas provide a framework for focusing on reducing fatalities and injuries by developing and implementing strategies within those specific areas to increase road user safety across a state. The Utah Strategic Highway Safety Plan (SHSP) features 11 emphasis safety areas that are to be given special attention by safety organizations to achieve Utah’s ultimate goal of zero road user fatalities. These emphasis areas highlight the most common and substantial contributing factors to fatal and serious injury crashes in Utah:

- Aggressive driving
- Distracted driving
- Impaired driving
- Motorcycle safety
- Pedestrian safety



- Roadway departure crashes
- Intersection safety
- Speed management
- Teen driving safety
- Use of safety restraints
- Senior safety

The SHSP also features “continuing safety areas,” which address programs and initiatives currently underway within the state’s safety agencies. Continuing safety areas that were relevant and capable of being analyzed for this study include:

- Bicycle safety
- Commercial motor vehicle safety
- Work zone safety

For simplicity, all relevant areas, whether an emphasis area or a continuing safety area, are subsequently referred to as emphasis areas.

### **3.4.1.1. Methodology**

As part of the crash analysis, the study team identified the emphasis areas that were overrepresented within each crash analysis zone. The results of this analysis were incorporated into the development of the High Injury Network (HIN), improvement strategies, and project identification, which are discussed later in this report. The percentage of crashes within each emphasis area resulting in a fatality or serious injury was calculated for each crash analysis zone and compared to both the county and state rates. Emphasis areas with crash analysis zone rates greater than both the county and state rates were considered “overrepresented.” Additionally, some emphasis areas that were not overrepresented based on the data were still included for consideration based on crash analysis zone priorities.

### **3.4.1.2. Results**

Figure 6 shows the overrepresented emphasis areas for each crash analysis zone. Aggressive driving and intersection safety were the most prevalent emphasis areas in Utah County. Both were overrepresented in fatal and serious injury crashes in five of the county’s seven crash analysis zones. American Fork/Pleasant Grove/Lindon had the highest percentage of both emphasis areas, with 10% involving aggressive driving and 74% involving intersections.

While not listed as an emphasis area or continuing safety area in the SHSP, the rates of fatal and serious injury crashes involving wildlife were also assessed owing to the concerns of jurisdictions and local advocacy groups. In Utah County, less than 3% of all crashes involved a wild animal, lower than the state rate (5.6%); of these crashes, eight resulted in a fatality or serious injury. Due to this low number of crashes, crashes involving wild animals were not further analyzed as a potential additional emphasis area.

GEOGRAPHIC AREA	Aggressive Driving	Distracted Driving	Impaired Driving	Motorcycle Safety	Bicycle Crashes	Pedestrian Safety	Roadway Departure Crashes	Intersection Safety	Speed Management	Teen Driving Safety	Use Of Safety Restraints	Senior Safety	Commercial Vehicles	Drowsy Drivers	Work Zone Safety	Count of Emphasis Areas
<b>UTAH COUNTY</b>																
AF/PG/Lindon	Orange				Red	Red		Orange				Orange		Orange		6
Eagle Mtn/Saratoga Sp	Orange							Orange		Orange			Orange			4
Lehi/Highland		Orange			Orange	Orange		Orange		Orange				Orange		6
Orem/Provo	Orange	Orange		Orange	Orange	Orange		Orange								6
Payson	Orange	Orange		Orange					Orange	Orange	Orange	Orange	Orange	Orange		9
Spanish Frk/Springville	Orange	Orange		Orange	Orange	Red		Orange		Orange						7
Unincorporated				Orange			Orange		Orange		Orange		Orange	Orange	Orange	7

 > County & State     Manual Addition

Figure 6. Crash Analysis Zone Emphasis Areas

### 3.4.2. HOTSPOT ANALYSIS

#### 3.4.2.1. Methodology

Intersection hotspots were identified for each crash analysis zone to determine locations with a high density of crashes within 500 feet of an intersection. Three types of hotspots were assessed: all crashes, fatal and serious injury crashes, and pedestrian and bicycle crashes. ArcGIS software was used to identify the hotspots; crashes for each hotspot location were then analyzed for trends in Excel.

#### 3.4.2.2. Results

Figure 7 through Figure 12 show the hotspot locations for each crash analysis zone. In American Fork/Pleasant Grove/Lindon, the biggest hotspots of all crashes were located along State Street and Pleasant



Grove Boulevard, both of which are the primary non-interstate corridors through the area. The largest hotspot of serious injury and fatal crashes was located at the intersection of State Street and North County Boulevard. The largest bicycle and pedestrian crash hotspots were located at 500 East/State Street in American Fork and along 100 East in American Fork.

Eagle Mountain/Saratoga Springs's all-crash hotspots were largely located along Redwood Road, particularly at the intersections of Pioneer Crossing and Pony Express Parkway. However, the intersection of Pioneer Crossing and Redwood Road was rebuilt between 2019 and 2020 to include displaced left-turns. Construction and the adjustment period following the reconfiguration may have impacted crashes in this area. Serious injury and fatal crash hotspots centered on the Redwood Road and Crossroads Boulevard intersection, while the largest bicycle and pedestrian crash hotspot was located along the Pony Express Parkway, which is adjacent to a church and large housing developments.

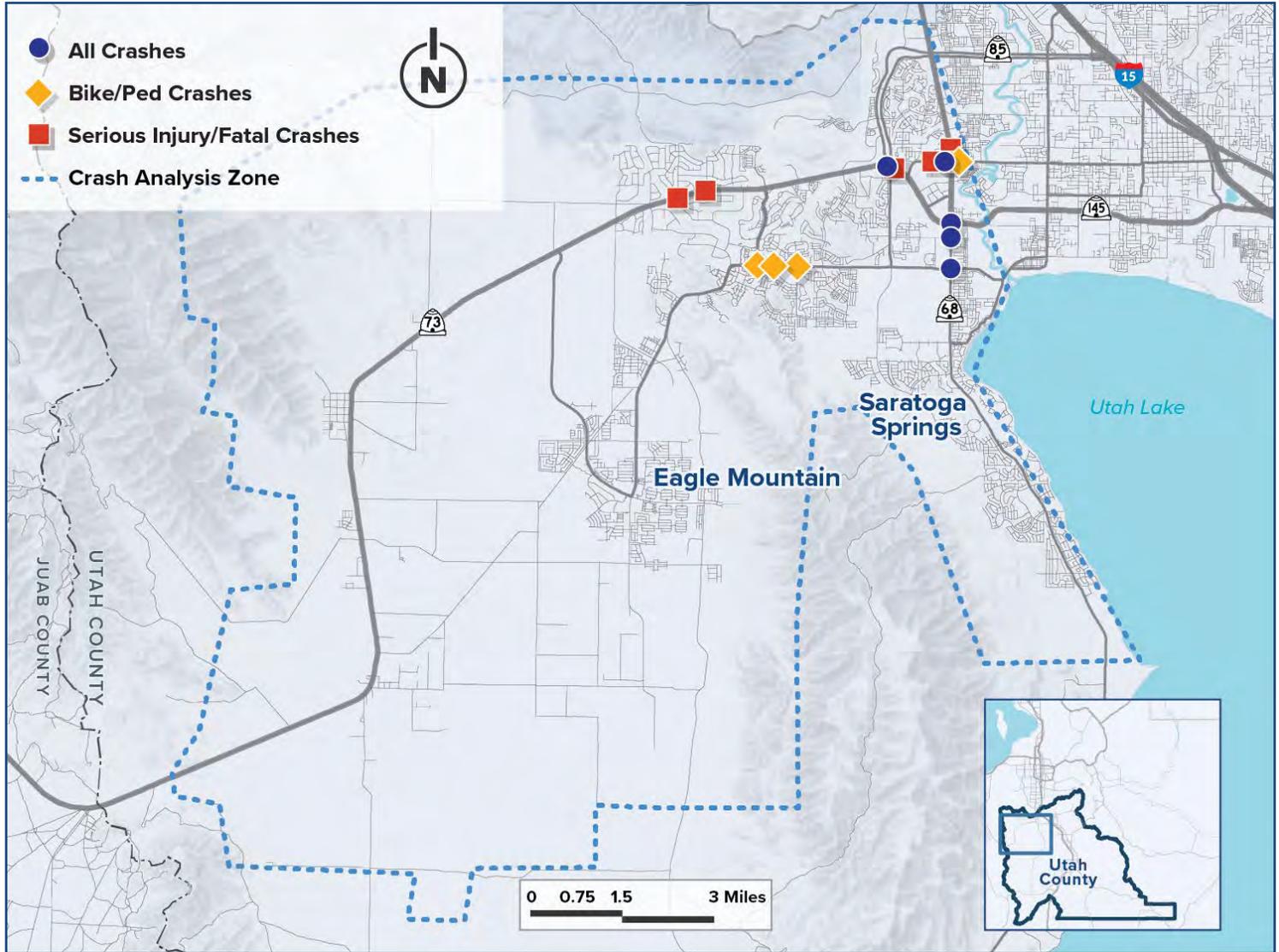
Lehi/Highland had large hotspots of all crashes on SR-92, adjacent to the interchange with I-15, and Main Street, adjacent to the interchange with I-15 and Lehi High School, in Lehi. Serious injury and fatal crash hotspots were also located along SR-92, particularly at the intersections with Highland Boulevard, adjacent to Texas Instruments, and 6000 West, near Highland Elementary School. The top bicycle and pedestrian crash hotspots were located in Downtown Lehi and the intersection of State Street and Main Street in Lehi, located in the midst of a large commercial area including Costco, Lowe's, Home Depot, and Walmart.

Many of Orem/Provo's top hotspots were located along State Street in Orem and University Avenue in Provo, with primary concentrations at State Street and 800 South in Orem and University Avenue and Cougar Boulevard next to Brigham Young University. The top serious injury and fatal crash hotspots were also located on State Street, notably at the intersections with Lakeview Parkway and Grandview Lane in Provo. The largest bicycle and pedestrian crash hotspots were located at the intersections of State Street/University Parkway in Orem next to University Place Mall, Orem Center Street by the Orem City Center, and 300 South/University Avenue in Provo.

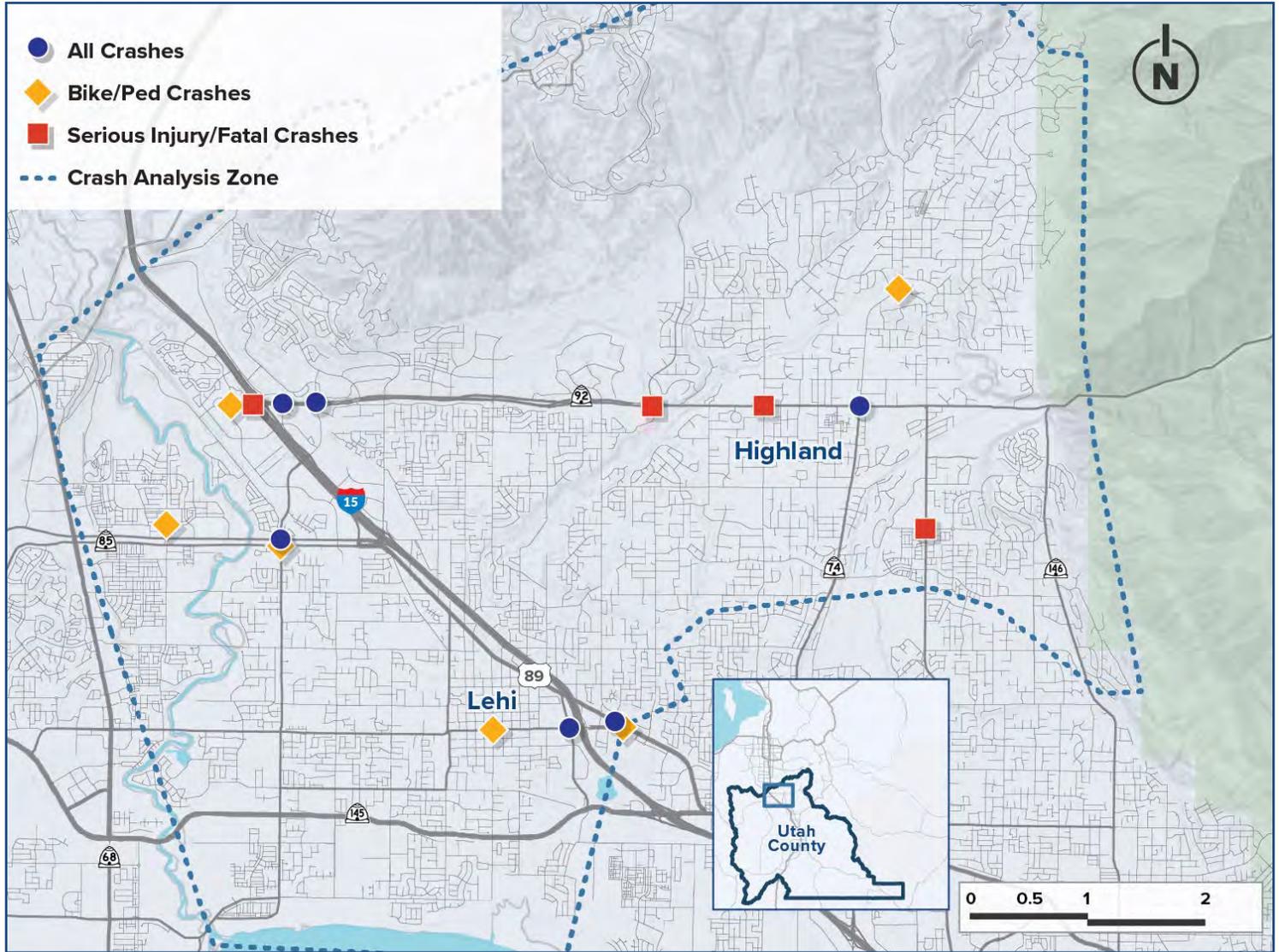
Payson's primary all crash hotspot was located at the intersection of Main Street and 100 North which is a major intersection in Payson at the entrance to downtown. Several hotspots were also located along SR-198. The intersection of 800 South and Main Street, next to Payson High School, was both a fatal and serious injury crash hotspot and the largest bicycle and pedestrian crash hotspot. The intersection of 800 South and 1270 West was also a fatal and serious injury crash hotspot, close to the I-15 interchange.

Spanish Fork's largest hotspots for all crashes were located along 1000 North at Main Street and US-6, amid a large commercial area. In Springville, the primary hotspots were along 400 South at Main Street, 950 West, and 1750 West. 400 South is the main east-west commercial corridor between Springville and I-15. The largest serious injury and fatal crash hotspots were both on US-6, at Expressway Lane and Powerhouse Road. The top bicycle and pedestrian crash hotspots were located at two intersections in Springville: 400 South at 400 East and Center Street at Main Street.

Unincorporated Utah County crashes were less frequent than urban areas and hot spots often overlapped with the HIN designations. Thus results focused on the HIN designations documented in Section 3.4.3.



**Figure 7. Eagle Mountain/Saratoga Springs Crash Analysis Zone Hotspot Locations**



**Figure 8. Lehi/Highland Crash Analysis Zone Hotspot Locations**



Figure 9. American Fork/Pleasant Grove/Lindon Crash Analysis Zone Hotspot Locations

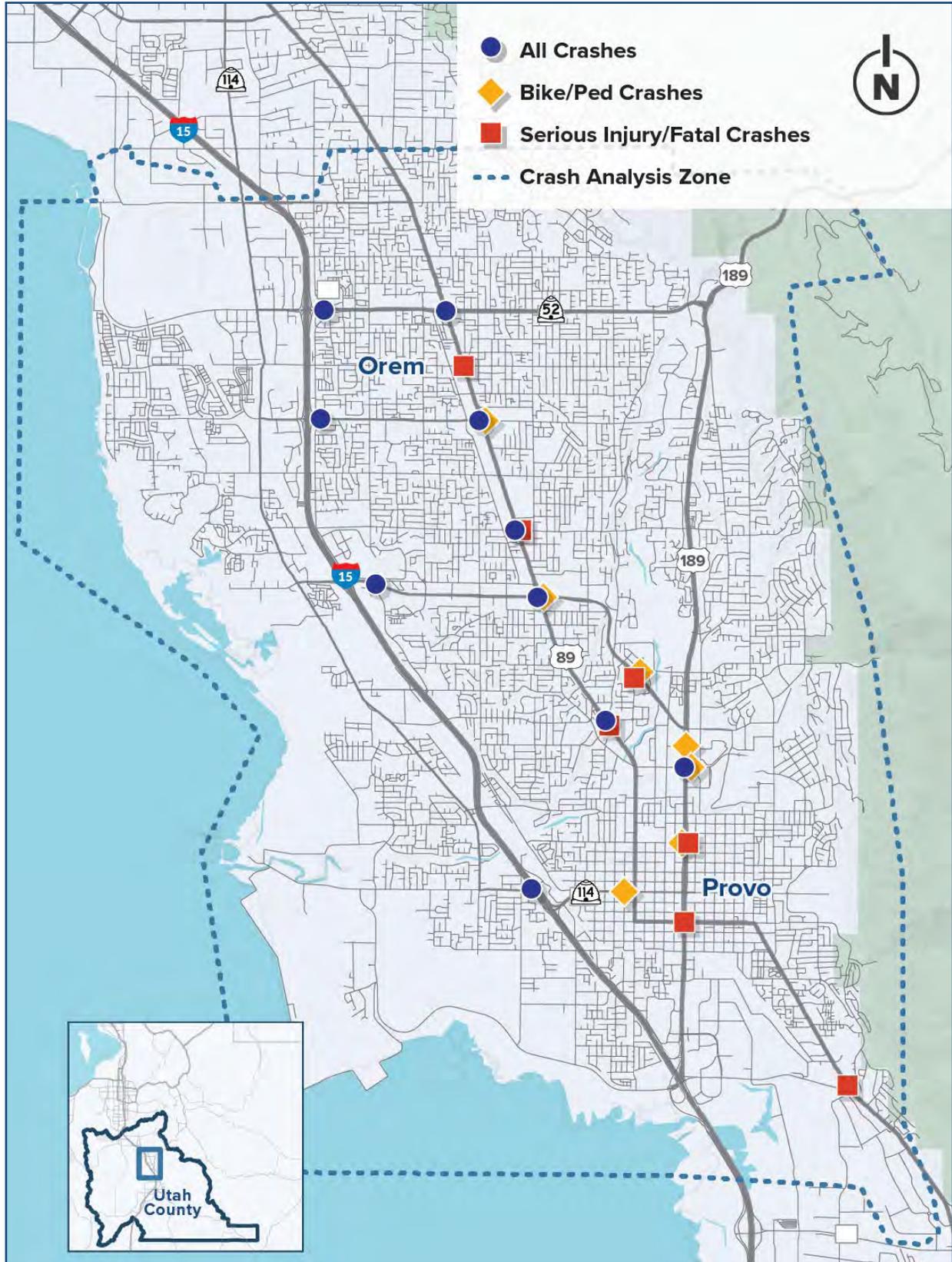


Figure 10. Orem/Provo Crash Analysis Zone Hotspot Locations

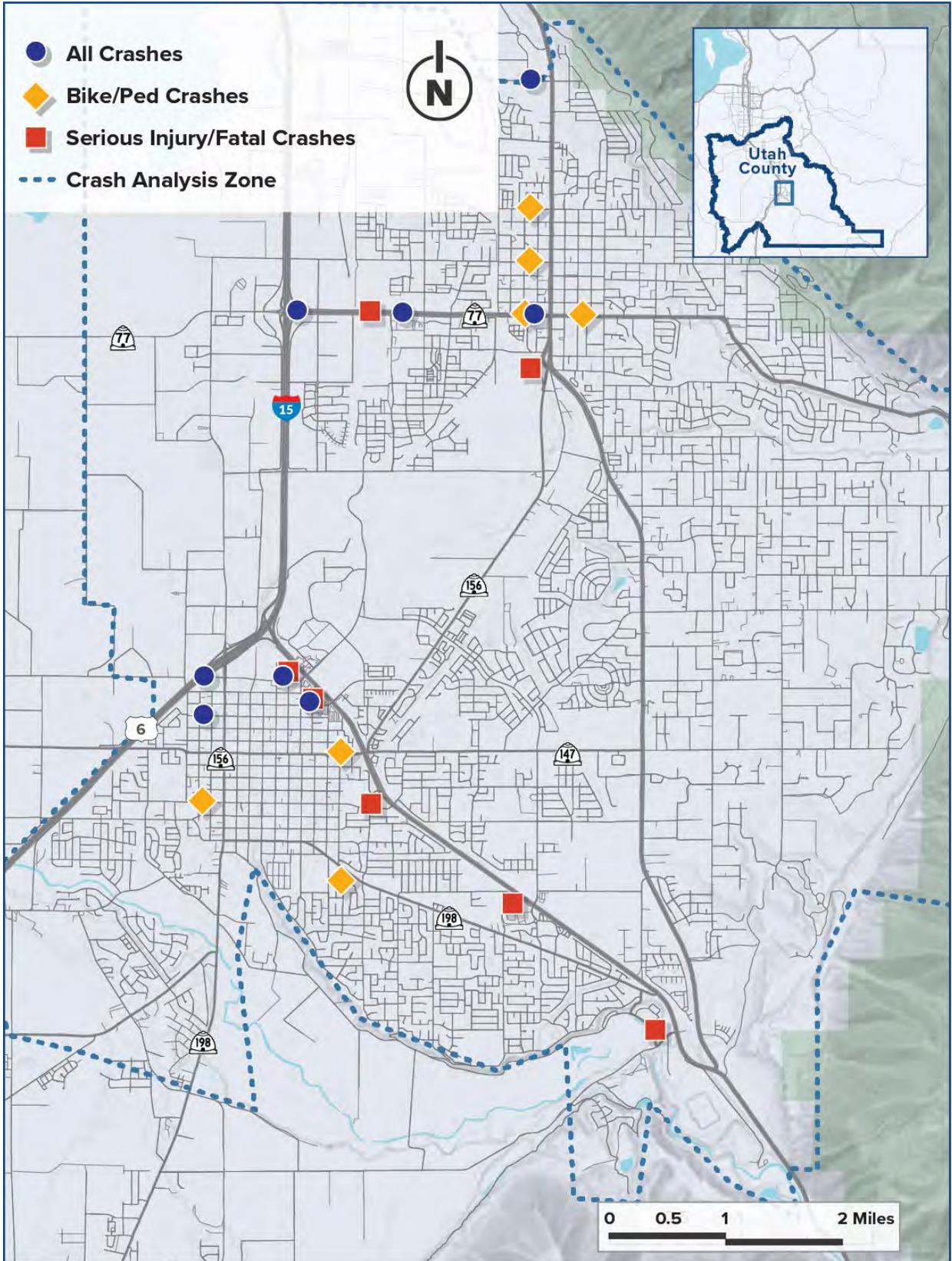


Figure 11. Spanish Fork/Springville Crash Analysis Zone Hotspot Locations

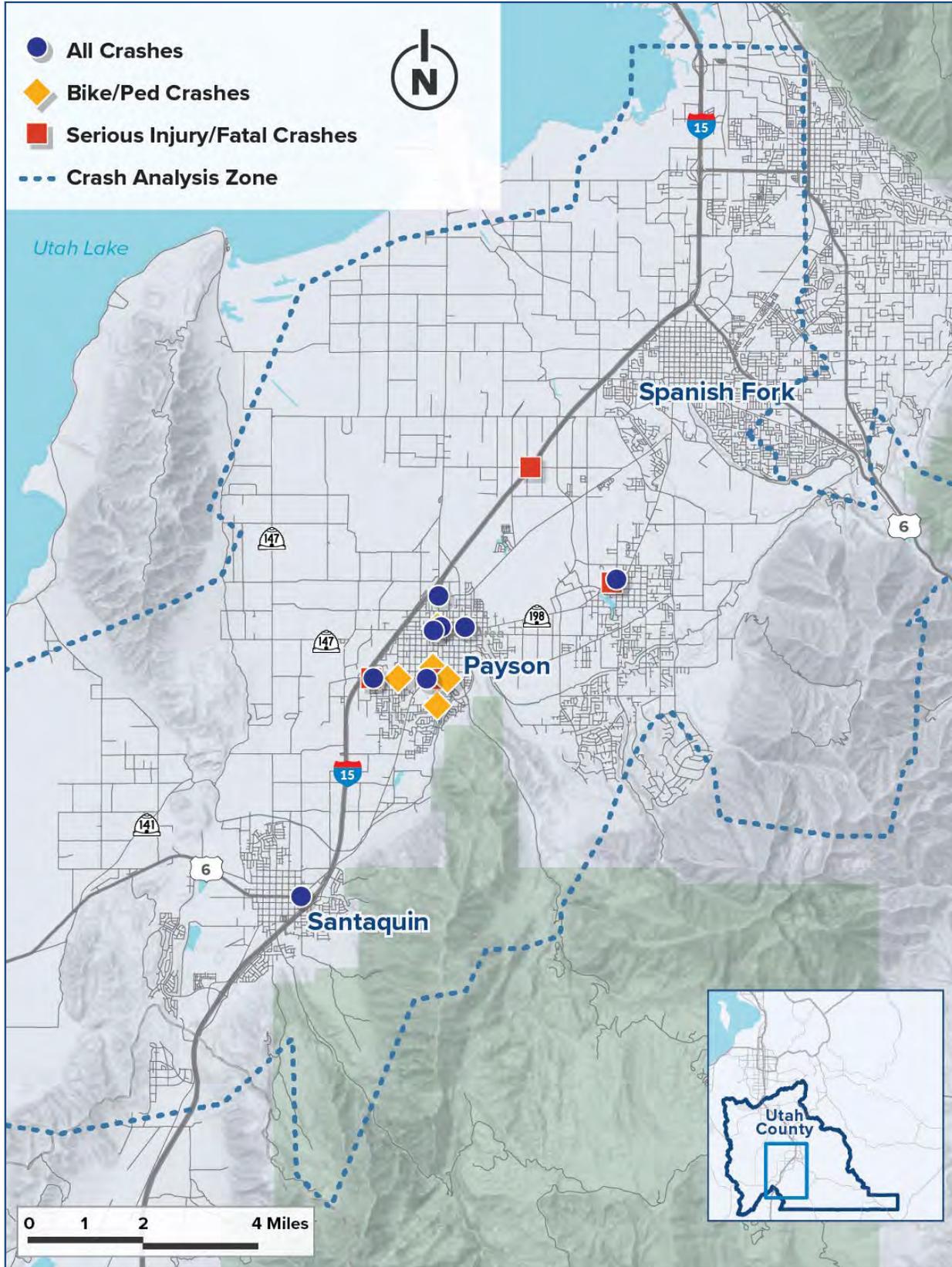


Figure 12. Payson Crash Analysis Zone Hotspot Locations

### 3.4.3. HIGH INJURY NETWORK

#### 3.4.3.1. Methodology

A HIN represents a priority network of locations where crashes, particularly higher severity crashes, are concentrated and occurring most frequently. This type of network is a useful safety tool for prioritizing investments to have the greatest impact on crash-related fatalities and serious injuries.

One HIN was made for each crash analysis zone to take into account the differences in each zone’s crash trends. HIN scores were calculated for every road segment in the zone based on a number of factors:

- **Number of Crashes:** Fatal, serious injury, and minor injury crashes
- **Emphasis Areas:** Number of fatal and serious injury crashes corresponding to the overrepresented emphasis areas for each crash analysis zone (see Figure 6)
- **Equity:** Overall or transportation inequality census tract percentile ranking from the USDOT Equitable Transportation Community Explorer (ETC). Overall equity ranking was used for zones with incorporated cities and towns, while transportation inequality was used for unincorporated zones.

Weighting was applied to each of the components listed above. Crashes with a higher degree of severity were assigned a higher weight than those with a lower degree of severity. Overrepresented emphasis areas were weighted based on the degree to which each emphasis area correlated with the number of statewide fatal and serious injury crashes.

The top 10% of segment miles with the highest scores were included in the HIN. Finally, the HIN segments were smoothed in ArcGIS to combine nearby segments into contiguous corridors and remove outliers based on local knowledge.

#### 3.4.3.2. Results

The resulting HINs for each crash analysis zone can be seen in Figure 13 through Figure 19. In the American Fork/Pleasant Grove/Lindon crash analysis area the HIN included the locations of 98% of the zone’s crashes resulting in serious injury or fatality. HIN segments with the highest number of crashes were located along State Street, particularly in Pleasant Grove: the segment between North County Boulevard and 1000 South was the site of 548 crashes, including 18 that resulted in serious injury and three that resulted in a fatality. The HIN segments on Pleasant Grove Boulevard and North County Boulevard resulted in 358 total crashes including three serious injuries. State Street is the major non-interstate corridor through the analysis area and Pleasant Grove Boulevard and North County Boulevard both provide direct access to I-15 for all three jurisdictions.

The Eagle Mountain/Saratoga Springs HIN encompassed 64% of the crash analysis zone’s crashes resulting in serious injury or fatality. The HIN segment located on Redwood Road south of Pioneer Crossing, which is the main north-south corridor in Saratoga Springs, had 745 crashes, including six serious injuries and three fatalities. SR-73 in Eagle Mountain, which is the main east-west highway between Eagle Mountain and Saratoga Springs also had a high number of crashes: the segment from Canyon Wash Drive to Mount Airy

Drive was the location of 106 crashes, including nine serious injury crashes and one fatal crash.

Lehi/Highland's HIN included the sites of 53% of the zone's crashes resulting in a serious injury or fatality. Segments on Pioneer Crossing and SR-92 had a high number of crashes. SR-92, which is the main east-west highway in north Utah County connecting Highland, Alpine, Cedar Hills and north Lehi with I-15, was the site of 736 crashes from I-15 to 6000 West, including 22 resulting in serious injury and five resulting in a fatality. Pioneer Crossing, which is a major east-west highway through south Lehi between Saratoga Springs and I-15, had 592 crashes on the segment between Jordan River and Mill Pond Road; 11 of these resulted in serious injury while three had fatalities.

In Orem/Provo the HIN included the locations of 67% of all crashes resulting in a serious injury or fatality in the crash analysis zone. The HIN segments with the highest number of crashes were all located on State Street, which is the main north-south corridor through Orem and Provo; particularly, locations in Orem from 500 North to 1300 South there were 876 crashes, including 23 serious injuries and three fatalities, in Provo from 1850 North to Cougar Boulevard where there were 187 crashes, including seven serious injury crashes and three fatal crashes, and south Provo near Slate Canyon Drive where there 87 crashes, including six serious injury crashes.

Payson's HIN – which represents the worst 8% of road segments as opposed to the top 10% - encompassed the locations of 100% of serious injury and fatality crashes. HIN segments with the highest number of crashes include Main Street and 100 North in Payson. The HIN segment on 100 North in Payson, which is the main east-west corridor through Payson and connects Payson to communities to the east including Salem and Spanish Fork, had the highest number of crashes for the crash analysis zone: 188 crashes occurred from 100 West to 1150 East, including two that resulted in a serious injury.

Spanish Fork/Springville's HIN included the sites of 67% of crashes resulting in a serious injury or fatality. The HIN segments with the highest number of crashes were located on US-6 in Spanish Fork and 400 South in Springville. 400 South, which is the main east-west corridor between Springville and I-15, had the highest number of crashes for the crash analysis zone, with 562 total crashes from 2450 West to 750 West including 13 that resulted in serious injury.

Unincorporated Utah County's HIN was the site of 67% of the crash analysis zone's serious injury and fatal crashes. The winding canyon roads had the highest number of crashes in this crash analysis zone, led by US-6, US-189, and the Alpine Loop (SR-92). US-6 which is the main highway between the Wasatch Front and southeastern Utah was the site of 241 crashes in Spanish Fork Canyon between mileposts 182 and 193.3, including eight resulting in serious injury and five resulting in fatalities.

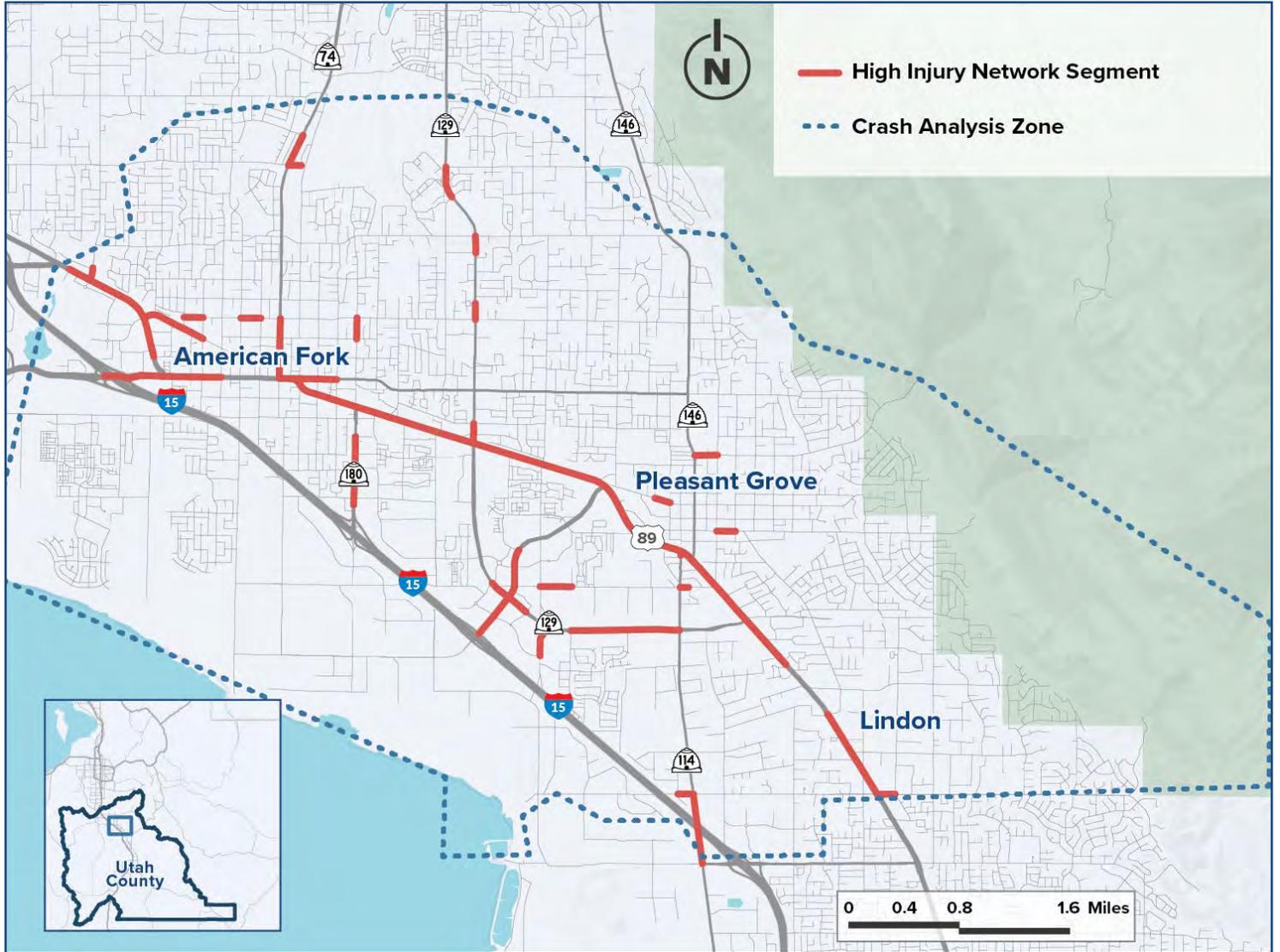


Figure 13. American Fork/Pleasant Grove/Lindon Crash Analysis Zone HIN

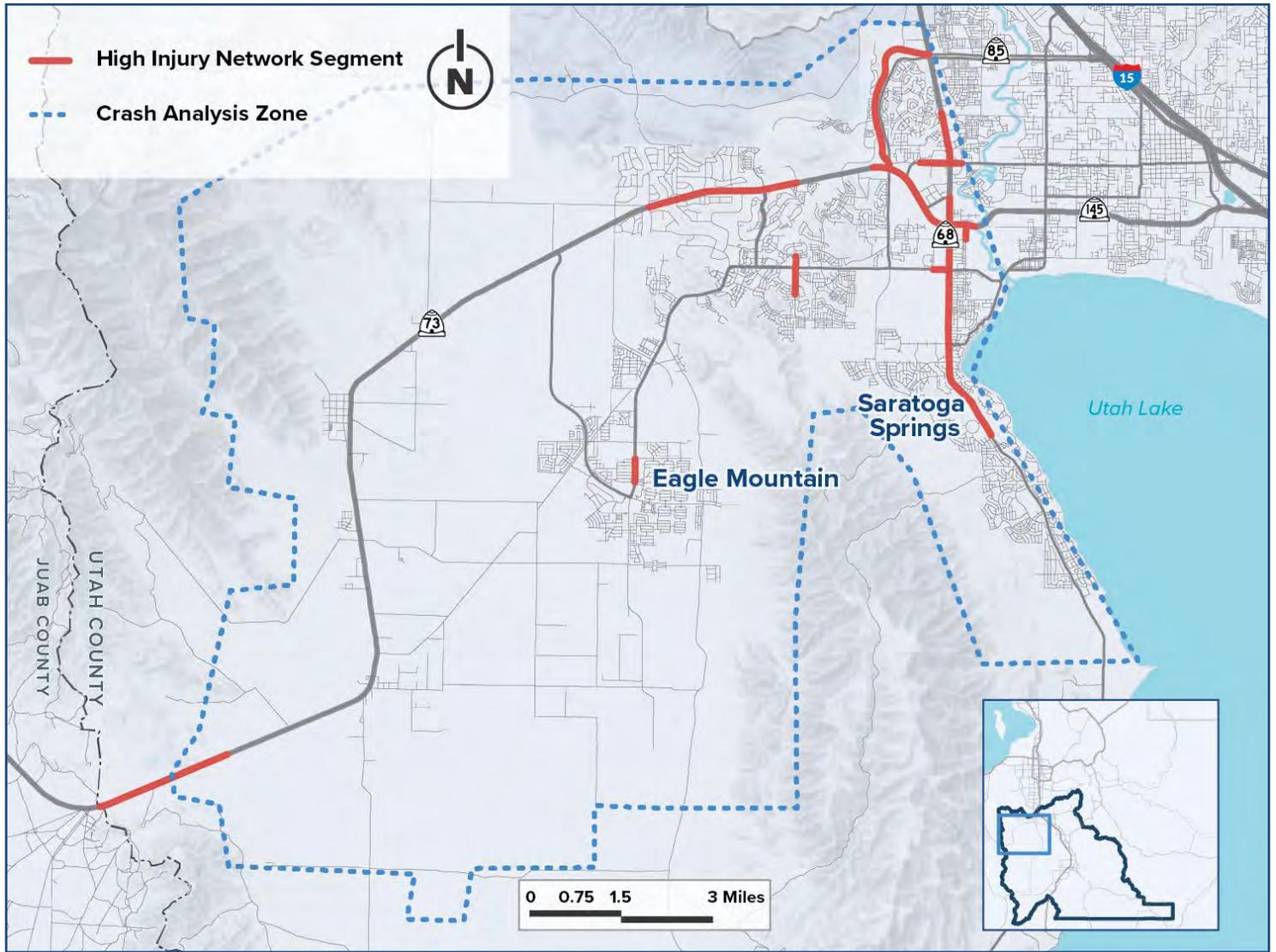


Figure 14. Eagle Mountain/Saratoga Springs Crash Analysis Zone HIN

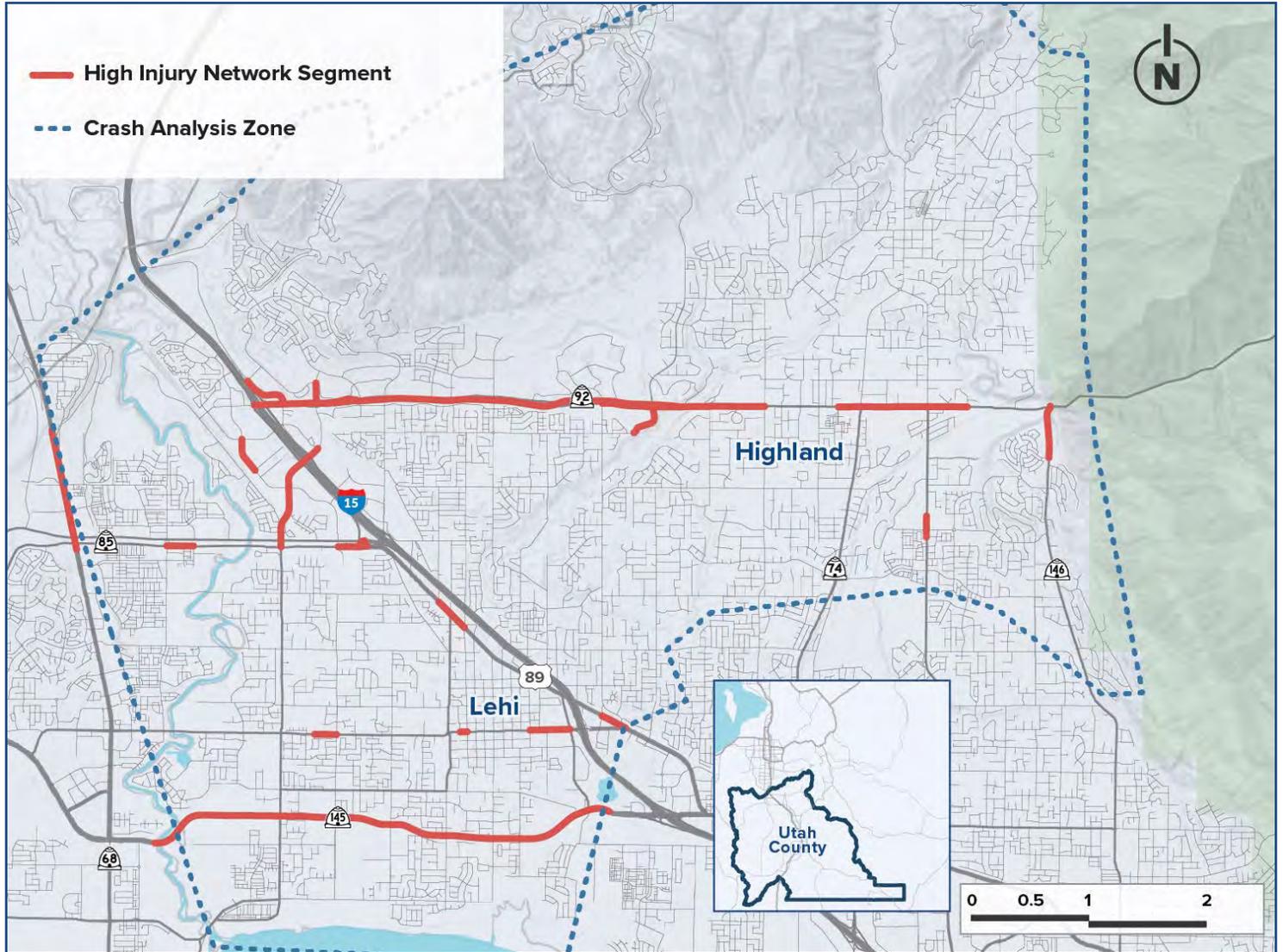


Figure 15. Lehi/Highland Crash Analysis Zone HIN



Figure 16. Orem/Provo Crash Analysis Zone HIN

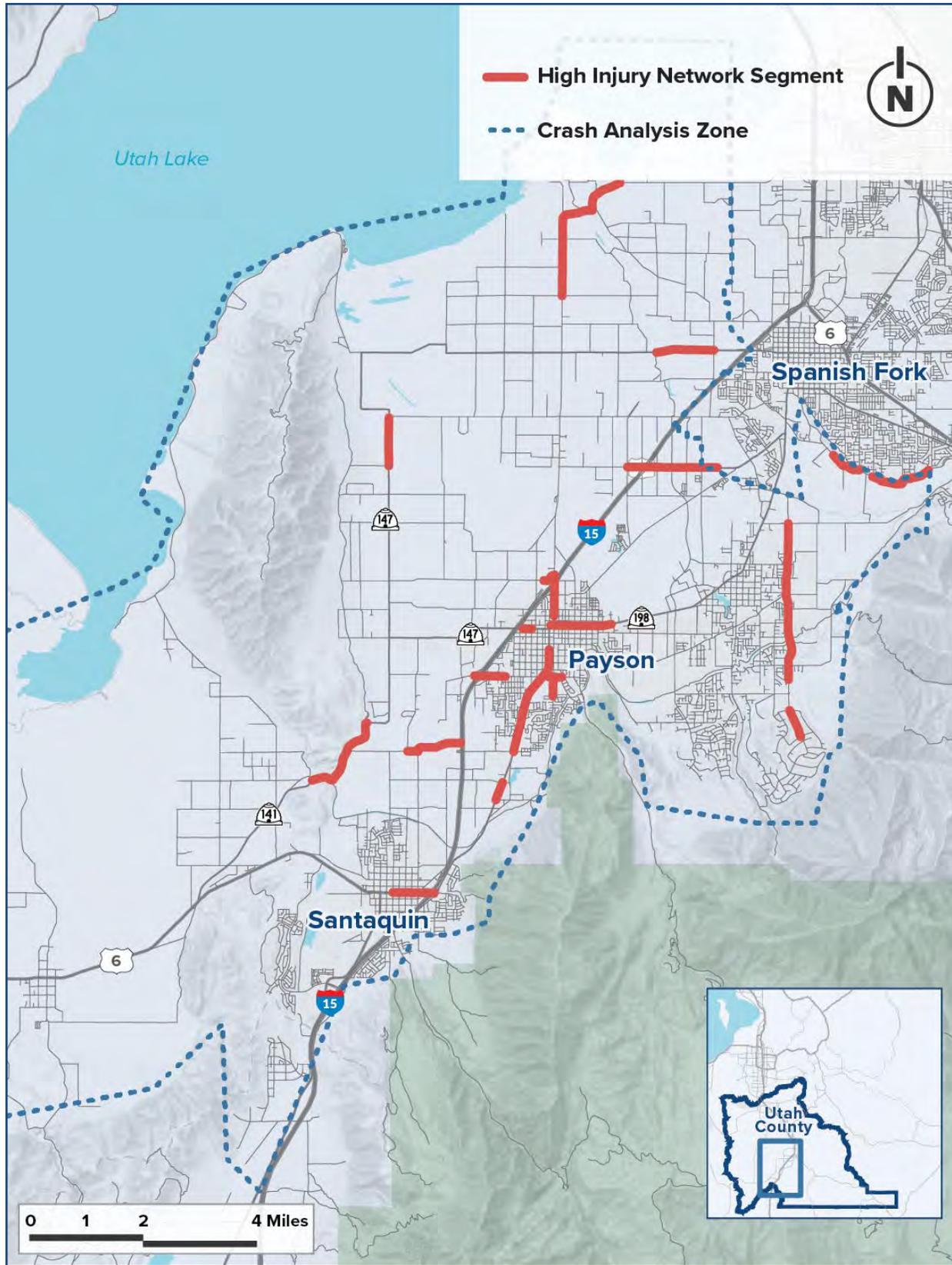


Figure 17. Payson Crash Analysis Zone HIN

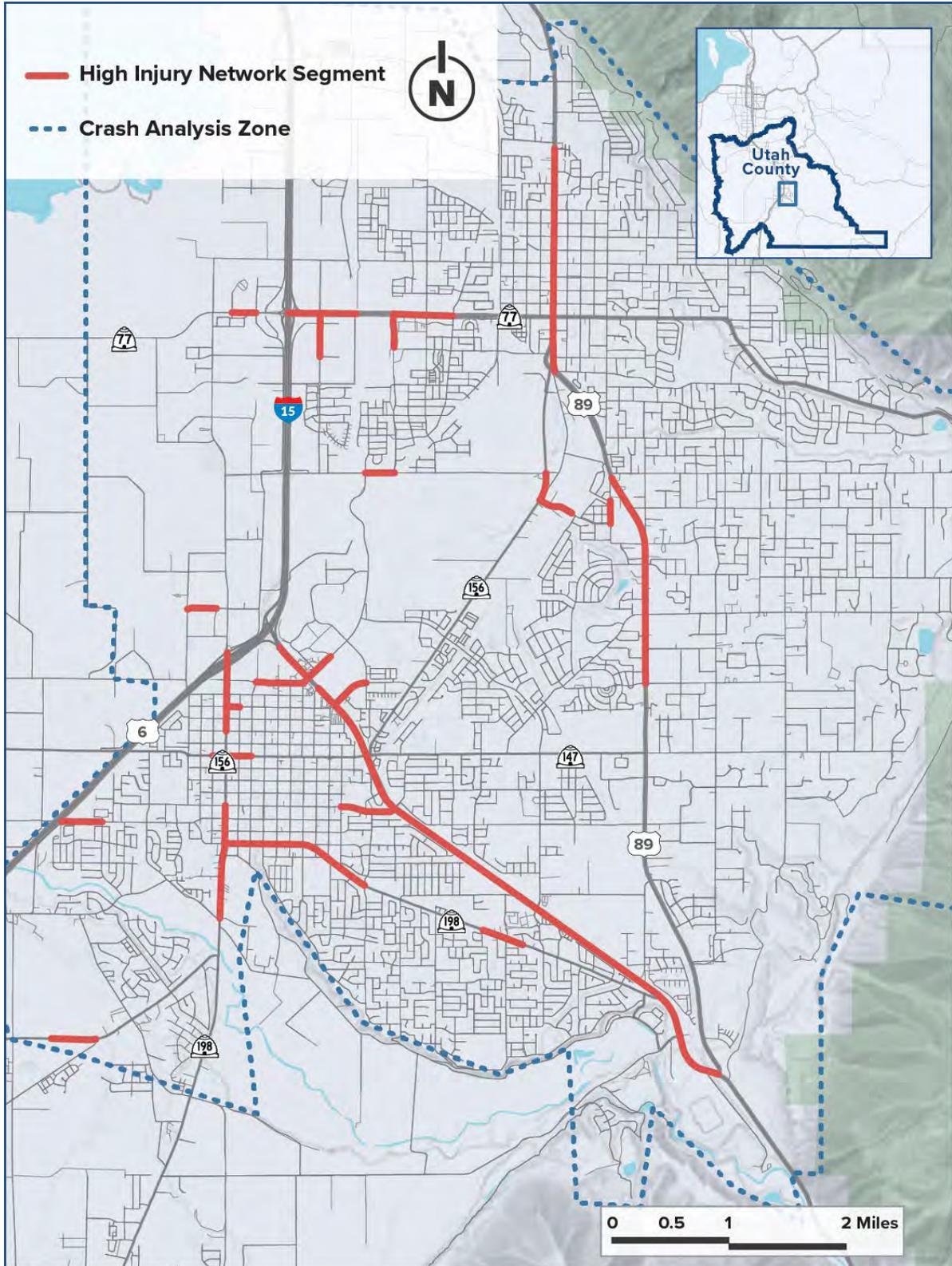
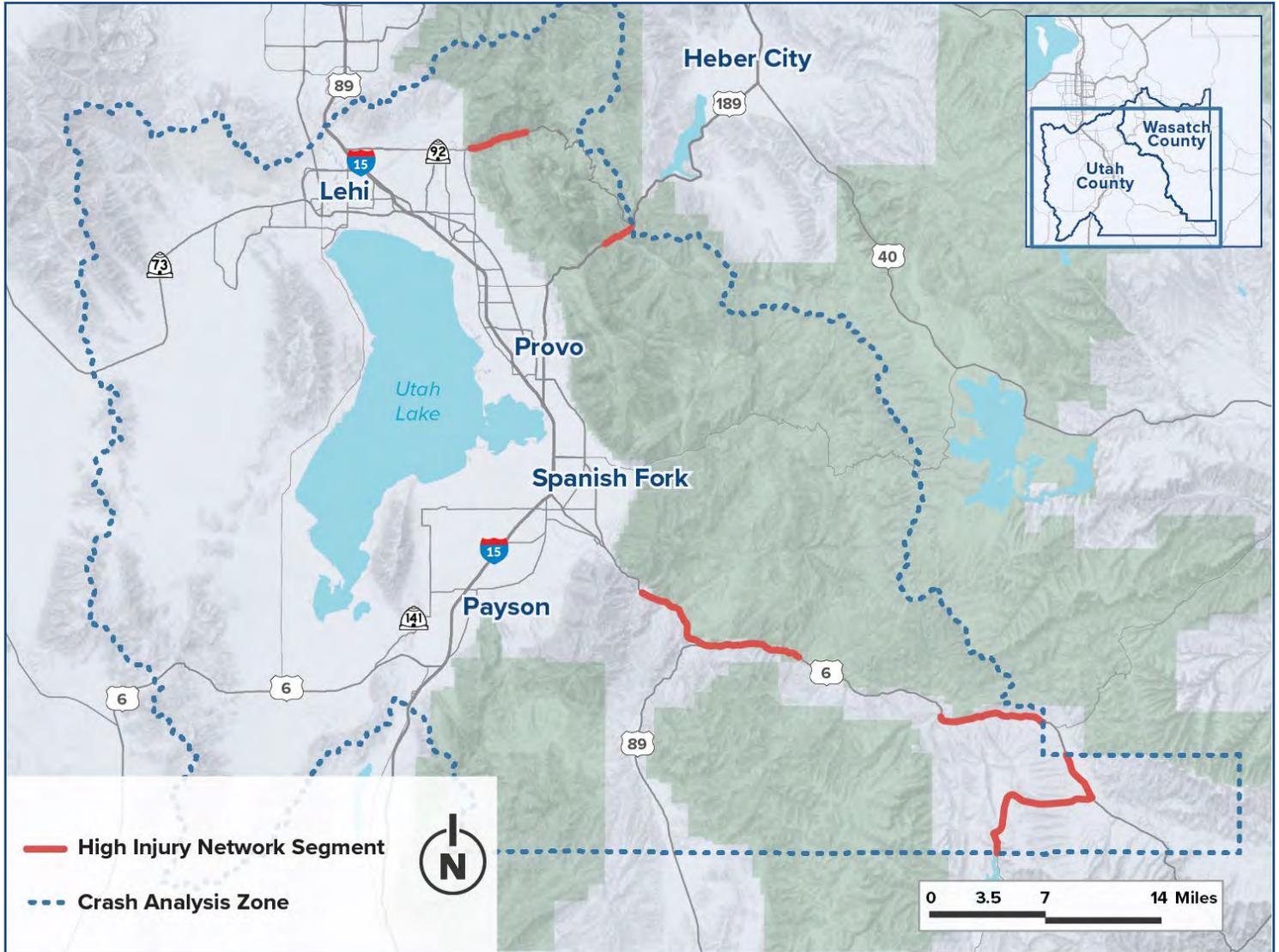


Figure 18. Spanish Fork/Springville Crash Analysis Zone HIN



**Figure 19. Unincorporated Utah County Crash Analysis Zone HIN**

### 3.5. SYSTEMIC SAFETY

While the analyses of emphasis areas, hotspots, and the HIN identify trends in historical crashes and the location of those crashes, systemic safety identifies high-risk locations where there may not be a history of crashes. Systemic safety enables local governments to understand the attributes of roadways that have elevated serious crashes (those that led to a fatality or serious injury) and identify roadway facilities with those same attributes across the region. This systemic safety analysis enables governments to proactively implement safety countermeasures on these high-risk facilities without waiting for a serious crash to happen.

#### 3.5.1. METHODOLOGY

The project team identified high-risk facilities by 1) locating roadways with serious crashes that occurred between 2018 and 2022, 2) examining the attributes of those roadways, and 3) screening

all public roadways within Summit, Utah, and Wasatch counties for those same attributes.<sup>2</sup> The region’s roadway network was divided into half-mile segments, retaining essential attributes such as road classification and speed limit. Supplementary data from sources like the U.S. Census and public databases were also incorporated to capture additional attributes like socioeconomic indicators and transit stop locations.

Based on data availability, these roadway attributes were screened as potential factors in high-risk facilities and were examined to determine which factors are key indicators of high-risk facilities.

- Roadway Functional Classification
- Speed Limits
- Traffic Volume
- Transit Stops or Stations
- Land Use Context (Urban vs. Rural)
- Proximity to Public Parks
- Proximity to Schools
- Household Poverty
- Zero Vehicles Households

Data availability influenced the selection of screening factors. Factors such as lane widths, presence of bicycle and pedestrian facilities, median width and type, intersection control type, and surface type were considered but excluded due to unavailable data or poor data quality.

With improved roadway network data collection practices, the region and local governments can conduct additional screening of more factors to expand the understanding of high-risk facility profiles.

The team screened the roadway factors individually to determine their correlation with serious crash frequencies. For instance, categorical factors like road classification (e.g., arterial or local roads) were screened separately for each unique classification. Similarly, numerical factors such as poverty rates were screened by considering various breakpoints to split the data. The project team iteratively screened these factors, identifying the ones most closely correlated with locations that have a high frequency of serious crashes. At the end of this process, the project team was able to define a set of factors that characterize the most high-risk road facilities.

### 3.5.2. HIGH-RISK FACILITY PROFILES

Through the systemic analysis, the project team identified five facility profile tiers based on their relative risk levels for fatal and serious injury crashes.<sup>3</sup> The factors identified in each of these tiers should be considered collectively as high-risk facilities. For example, while high-speed roads are identified in the Critical tier, the results of the analysis do not indicate that simply high-speed roads are high-risk. Similarly, correlation does not signify causation. For example, although Critical tier facilities include facilities near transit stops, this does not signify transit stops themselves are high-risk.

<sup>2</sup> The systemic safety analysis excluded interstates and interstate ramps. Additionally, the analysis was conducted for all three counties (Utah, Summit, Wasatch) together, therefore the results are for the combined region and not specific to the MPO or Rural Planning Organization individually.

<sup>3</sup> The identified high-risk facility profiles are for all three counties – Summit, Wasatch, and Utah counties because the analysis was for the combined MPO and RPO region.

The five tiers and their correlated factors are:

**Critical Tier:** Road facilities with high traffic volumes (over 10,000 vehicles per day), speed limits over 30 MPH, near transit stops, and in communities with high poverty rates (over 45% of households have incomes below 200% of the poverty level).

**High Tier:** Road facilities with high traffic volumes (over 10,000 vehicles per day), speed limits under or equal to 30 MPH, and near transit stops; also includes roads with speed limits greater than 30 MPH, are not near transit stops, and in communities with low poverty rates (than or equal to 45% of households below 200% of the poverty level).

**Medium Tier:** Road facilities with high traffic volumes (over 10,000 vehicles per day), speed limits under or equal to 30 MPH, and not near transit stops; also includes all roads with low traffic volumes (10,000 or fewer vehicles per day) and which have a high functional classification (minor arterial or greater).

**Low Tier:** Road facilities with low traffic volumes (10,000 or fewer vehicles per day), low functional classification, and in urban areas.

**Minimal Tier:** Road facilities with low traffic volumes (10,000 or fewer vehicles per day), low functional classification, and in rural areas.

Each tier represents a different level of crash risk, with Critical, High, and Medium tiers indicating the highest risk. Table 3 illustrates the factors that make up each of the facility profile tiers.

**Table 3. Facility Profile Tiers by Factors**

	Facility Factors											
	High Volume	Low Volume*	High Speed	Low Speed	Near Transit	NotNear Transit	High Fun. Classification	Low Fun. Classification	High Poverty Rates	Low Poverty Rates	Urban Area	Rural Area
Critical	Shaded		Shaded		Shaded				Shaded			
High			Shaded			Shaded				Shaded		
Medium	Shaded	Shaded		Shaded		Shaded						
Low		Shaded					Shaded				Shaded	
Minimal		Shaded						Shaded				Shaded

Shaded cells indicate the factors that make up each High-Risk Facility Profile Tier

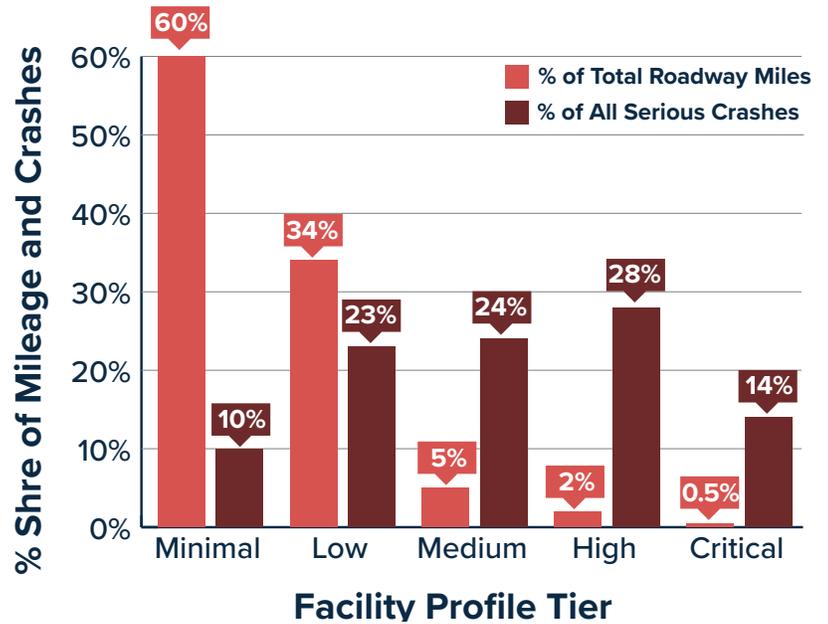
\*Low-volume road facilities also include facilities that did not have traffic volume information. The project team assumed that facilities with unknown volumes are low-volume facilities.

There is a disproportionate relationship between the characteristics of the region’s roadway network and the frequency of serious crashes across different facility profile tiers. Higher-risk facility profiles (i.e., Critical,

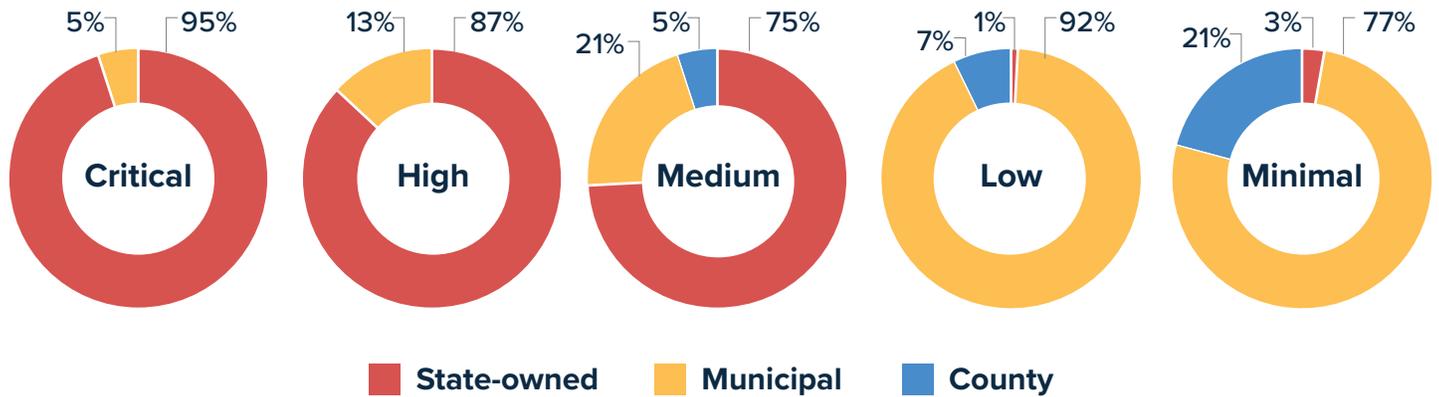


High, and Medium) make up a small percentage of the region’s roadway network total mileage, but a majority of fatal or serious injury crashes occur on these facilities. The disproportionate risk of certain roads implies priorities for action. For example, just 0.5% of the region’s roadways are Critical tier facilities, but 14% of the serious crashes in the region occurred on these facilities. Figure 20 illustrates the share of roadway miles and serious crashes for all five tiers.

Results from the systemic safety analysis also provide insights into the most high-risk facilities by ownership (i.e., roads that are under municipal, county, or state government jurisdiction). The majority of Critical, High, and Medium tier facilities are state-owned. Ninety-five percent (95%) of Critical tier facilities, 87% of High tier facilities, and 75% of Medium tier facilities are state-owned. Figure 21 illustrates the share of road ownership for each facility tier.



**Figure 20: Facility Profile Tiers by Share of Roadway Mileage and Share of Serious Crashes**



**Figure 21: Facility Profile Tiers by Road Ownership**

### 3.5.3. SYSTEMIC RISK MAP

Using the results of the systemic safety analysis, the project team identified all roadway facilities in the region that are either Critical, High, or Medium tier. These are the high-risk road facilities that regional and local governments should target for safety improvements to proactively address fatal and serious crashes.

Figure 22 illustrates the high-risk facilities across Utah County, and Figure 23 to Figure 25 illustrate the high-risk facilities in the vicinity of major cities in Utah County.



Figure 22: Map of High-Risk Facilities (Utah County)



Figure 23: Map of High-Risk Facilities (Northern Utah County)



**Figure 24: Map of High-Risk Facilities (Central Utah County)**

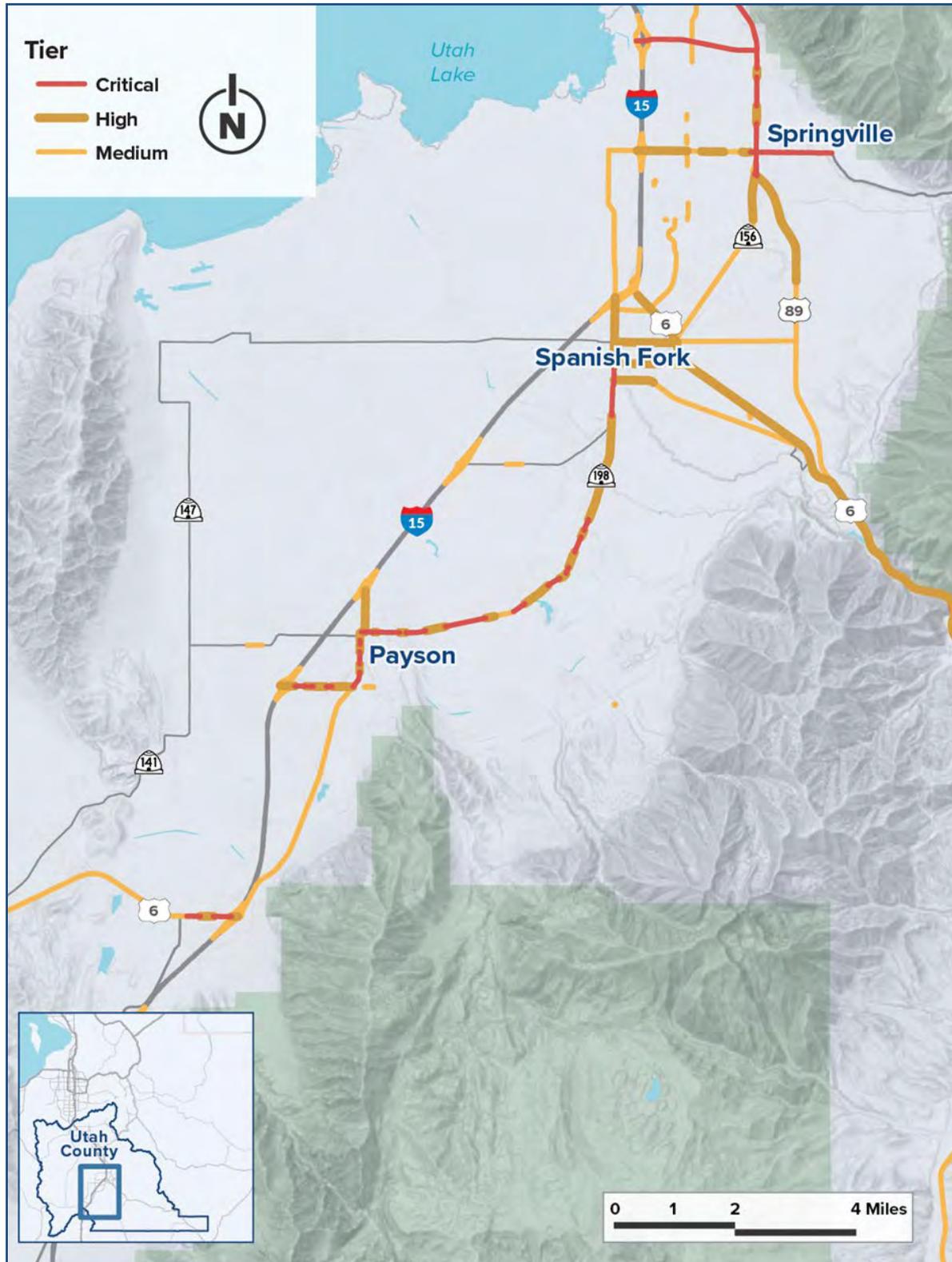


Figure 25: Map of High-risk Facilities (South Utah County)

The systemic analysis provides valuable insights to inform regional and local governments' decision-making on where to proactively target safety improvements:

- Certain roads have a disproportionate number of safety concerns and are higher risk (Critical, High, and Medium tier facilities).
- Communities with higher poverty rates are located along Critical tier facilities and are disproportionately exposed to safety risks.
- High-risk facilities are frequently state-owned indicating that partnership between local and state governments is crucial.

The project team has integrated these findings throughout the Plan to identify specific safety projects for implementation and to identify safety countermeasures that should be applied systematically across the road network, contributing to the overall goal of enhancing road safety in the region.

### 3.6. LOCAL AGENCY CONCERNS

To “ground truth” the data analysis results, the project team met with representatives of each jurisdiction during the data analysis phase of the project. Meetings were held in a hybrid manner to ensure the strongest possible participation from stakeholders. During these meetings the Project Team shared crash analysis trends for intersection crash hotspots and HIN results and discussed jurisdictions' safety priorities. Attendees from each jurisdiction were invited to share both safety project ideas and safety concerns within their city or county, especially for areas of concern not already identified by the Project Team. Feedback from the jurisdictions, including additional safety project ideas and locations was used to guide the development of the project lists and safety countermeasures.

Later in the process, as countermeasures and potential projects were developed, additional meetings were held with the jurisdictions to get feedback on project ideas. Again, local input was crucial in identifying the proper project or countermeasure for each crash hotspot or HIN network location. Overall, within the MPO, 13 meetings were held with 21 jurisdictions.

## 4. Engagement and Collaboration

The public engagement priorities for this project included:

- Informing stakeholders and community members in Utah County about the project and gathering comments during online and pedestrian intercept surveys, at public open houses, via email and phone call.
- Providing clear, easy to understand information in English and Spanish via the project website, public meeting materials and surveys, and newsletter/social media updates.
- Building public support for identified projects and supporting funding opportunities and implementation in preparation for the July 2024 grant submittal deadline.

### 4.1. WEBSITE

The website served as the home base for project information and included the following sections:

- Homepage: Overview with serious/fatal crash analysis, frequently asked questions, Link to survey results Schedule, SS4A Program Overview, Share Your Thoughts/Contact Us
- MAG Overview: Information about MAG
- Utah County: Spring Open House presentation materials, Winter Virtual Open House recording and presentation, and for Urban and Rural Areas: Crash Overview, Crash Demographics, Hotspot locations, and HIN maps

#### 4.1.1. SURVEYS

In November 2023, the project team launched an online community survey to gather input on the HIN maps and ask for lived experiences on and around transportation facilities for everyone living in the project areas. The survey was available online and was also performed as an intercept for pedestrians in certain high-traffic areas in the communities (see Section 4.1.2).

The survey was designed to be applicable to all communities within the Safety Action Plan study area (Utah, Summit, and Wasatch counties). The survey also provided open-ended questions where respondents could write specifics about their neighborhoods or localized concerns. Users were also able to provide detailed answers. Total participation in both surveys was 433 respondents (277 online, 156 pedestrian intercept).

To share the complete survey response with decision makers and the public, the project team built an online dashboard of the survey results. The dashboard for all survey results can be viewed using the following link:

<https://maps.avenueconsultants.com/portal/apps/dashboards/3b35ed6babf74b958f312bf88b70ecc0>

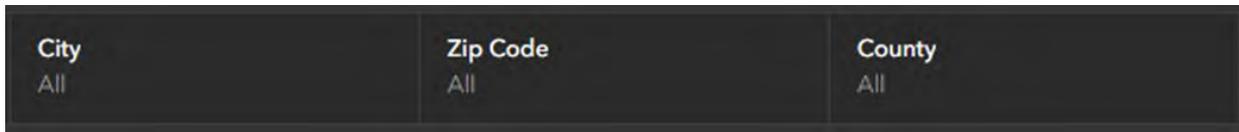
The dashboard shown in Figure 26 is interactive, and users can see specific results by changing the input filters. Each individual widget of the dashboard is associated with a specific survey question, indicated by the orange number tags in Figure 26. The dashboard is best viewed on a full computer screen.





**Figure 26: Interactive Dashboard with Full Resolution**

The user can filter survey results on the dashboard with filters located at the top of the dashboard and shown greater detail in Figure 27. For example, the City filter allows the user to pick one or more cities to see where the survey respondents are from (based on user-provided Zip Code data). Using a filter will change the widgets to reflect only those results. This is designed to allow the communities in our study area the ability to see what their residents are saying about safety.



**Figure 27: Dashboard with Different Filters**

## 4.1.2. INTERCEPT SURVEYS

Pedestrian intercept surveys were administered in strategic locations throughout the project study area. A total of 156 surveys were completed. Surveys were available in English and Spanish; only two surveys were completed in Spanish with the remainder in English.

Five total intercept surveys were conducted in the project study area. Three surveys were conducted in Utah County and one each in Summit County and Wasatch County. Survey locations were selected based on anticipated numbers of pedestrians and bicyclists in the area. The data from the pedestrian intercept surveys was added to the responses from the online survey and is part of the full dataset.

Two intercept surveys were held on November 21, 2023 in Provo City. The first Provo City survey was conducted on Cougar Boulevard between 500 West and University Avenue. This location features bicycle

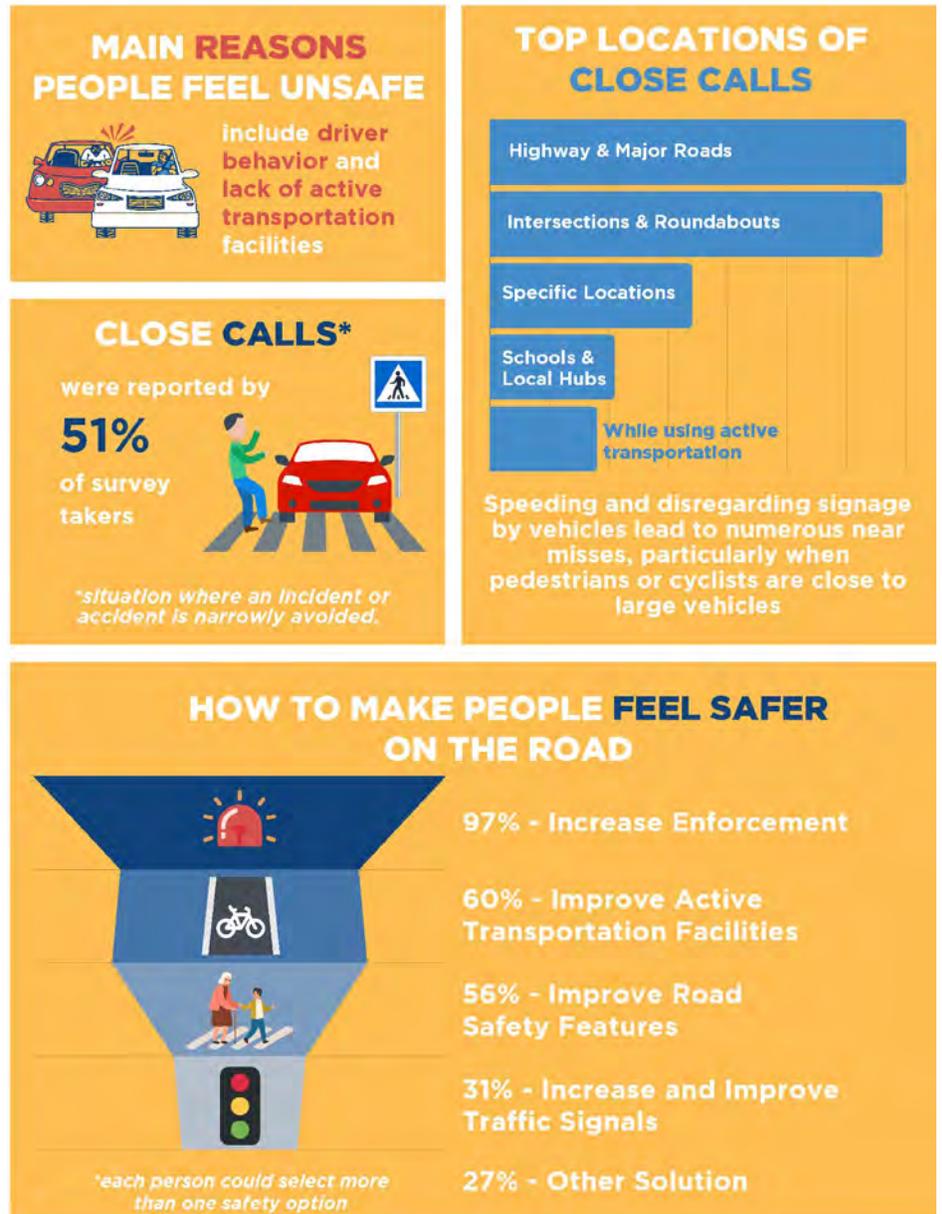
lanes and bus stops, access to many local restaurants and coffee shops, and a major hospital and health care campus. A mix of people walking and cycling participated in the surveys. The primary demographic at this location were students traveling to and from the Brigham Young University campus. The second Provo City survey was conducted on Provo Center Street between 500 West to University Avenue. This area is a walkable community hub with small local businesses and restaurants running the length of the canvass area. From a demographic perspective, this location offered more diversity, and several surveys were completed in Spanish.

A third Utah County survey to reach a smaller community was conducted in American Fork on November 13, 2023. Teams canvassed along Main Street near coffee shops, bus stops, and popular fast-food drive through restaurants. The team was able to speak with people who were waiting for or alighting from the bus.

The Wasatch County survey was held on November 10, 2023 and was intended to engage pedestrians and cyclists using Main Street near the Center Street intersection in Heber City. The team canvassed through the lunch hour to reach people who were going to local restaurants or banks during this time.

The Summit County survey was held in the early afternoon on a busy stretch of Park Avenue near Homestake Road in Park City. This area has a coffeeshop, grocery stores, easy access to neighborhoods, bus stops, and is a crossroads for travel to nearby resorts.

The most common theme heard during the intercept surveys was about near misses with vehicles when traveling on foot or by bicycle. The near-miss interactions took place predominantly in intersections. Most people with whom the team spoke mentioned drivers not paying attention because of cell phones or other distractions in the vehicle and how this made them feel less safe. Figure 28 shows an overview of key survey trends. Figure 29 shows the pedestrian intercept survey questions.



**Figure 28. Infographic of Survey Results**

**MOUNTAINLAND SAFE STREETS**  surveyor: \_\_\_\_\_ date/time: \_\_\_\_\_ location: \_\_\_\_\_

**1 What is your ZIP CODE?** \_\_\_\_\_  
 Home  
 Business

**2 How often are you in this area?**  
 Daily  
 Weekly  
 Monthly  
 A few times a year

**3 What types of transportation do you use when you travel?**  
 Choose all that apply.  
 Car  
 Public Transit  
 Bike  
 Walk  
 Scooter  
 Mobility Device  
 Other: \_\_\_\_\_

**4 Where do you travel to in this area?**  
 \_\_\_\_\_  
 \_\_\_\_\_

**5 Do you feel safe when you travel in this area?**  
 Yes  
 No

**6 What are your safety concerns?**  
 Choose all that apply.  
 Speeding vehicles  
 Insufficient lighting  
 No crosswalks  
 No/not enough signage  
 No/damaged sidewalks  
 Not enough separation of people from traffic  
 Running red lights  
 Other: \_\_\_\_\_

**7 Have you had any close calls or near misses with vehicles on the road?**  
 Yes  
 No

**X Sign up for updates and events about the study.**  
 email: \_\_\_\_\_ name: \_\_\_\_\_

**Figure 29. Pedestrian Intercept Survey**

## 4.2. POP-UP EVENTS

Once countermeasures were identified, the team held a series of pop-up events in each county to engage with the community and gather input. These were casual events focused on highlighting the top countermeasures identified to mitigate each of the different crash types.

Pop-up locations were selected in consultation with the equity analysis done on the project (See Chapter 5) and selected based on their proximity to disadvantaged communities in each county. Between 2-3 team members participated in the events and explained boards with county-specific information, including crash trends and most impacted demographic groups. Two sticky board activities asked community members to rank their preferred countermeasures and a third board asked them to write down what they would personally do to travel more safely.

**April 18, 2024 | Central Utah County:** The pop-up event in Utah County was held at the Provo City library during several regularly scheduled programs with large events happening on the floors above. The project team engaged with more than 50 residents including families with children varying in age, library staff, and Miss Utah. A member from Bike Walk Provo also attended and shared the event with her network on social media. Individuals who interacted with the pop-up table provided their input on the projects (Figure 30).



**Figure 30. Pop-Up Event at Provo City Library**



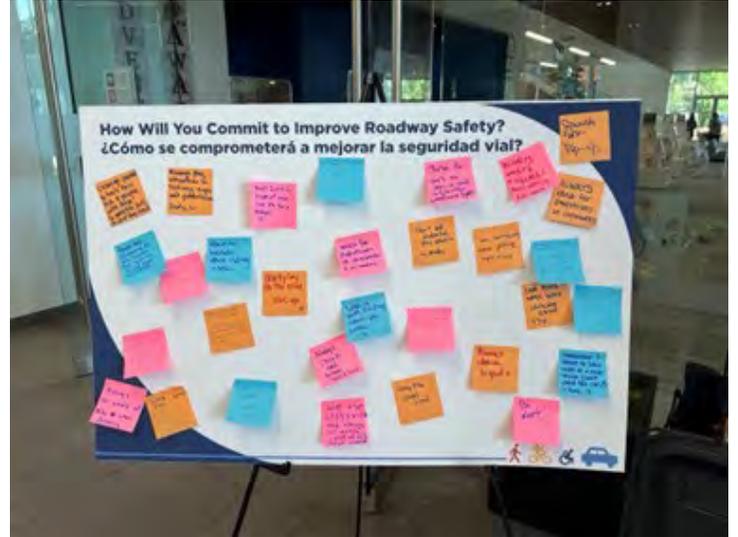
**June 28, 2024 | Northern Utah County:** The team attended the mini-float parade during the annual Round Up in Lehi. The event featured a parade and vendors and food trucks. About 60 people, including young families with children of various ages, stopped by the booth and were given sticky dots to select countermeasures they believed would be effective to improve safety in their community. They also had the opportunity to write out what they would do to personally stay safe while driving. Community members were especially interested in crosswalks and pedestrian access and wanted to see better facilities. Education and enforcement were hot topics for this group. (Figure 31)



**Figure 31. Pop-Up Event at Lehi Round Up**

**July 11, 2024 | Southern Utah County:** The pop-up event was held at the Spanish Fork Library during the evening. The event engaged residents as many adults and families were visiting the library to pick up books. The team spoke to close to 60 individuals, including many small families with children ranging from toddlers to new drivers or those about to receive their learner’s permits. Many of the children engaged in writing out what they do to stay safe when they use the road and many also helped select counter measures with

the help of their parents who took time explaining what they meant. The team also engaged with several Spanish speaking library patrons who were able to provide input and comments because of the Spanish translation on the board itself. Pedestrian facilities were the most popular countermeasure and the biggest topic of conversation with people who stopped by. (Figure 31)



**Figure 31. Pop-Up Event at Spanish Fork Library**

## 4.3. PUBLIC OPEN HOUSES

### 4.3.1. VIRTUAL OPEN HOUSES

One virtual open house was held for Utah County in December 2023. The goal of the open house was to introduce the project, talk about MAG and the SS4A program, give an overview of the Safe System Approach, and to show the high-injury network, hotspot locations, crash overview, and crash characteristics Utah county.

The open house was hosted on Zoom and included 45 minutes of presentation with a 15-minute question-and-answer session. The presentation was tailored to Utah County conditions and presented data specific to both the rural and urban areas of the county. Recordings of the presentations are hosted on the project [website](#) and [YouTube](#).

### 4.3.2. IN PERSON OPEN HOUSES

The project team hosted an open house for the public to learn about safety countermeasures and provide input on proposed lists of strategies and transportation safety projects. Input from the open house was used to help shape the plan. Information presented included MAG and SS4A program overview, Safety Action Plans, and strategies to reduce fatal and serious crashes with county-specific data.

**April 17, 2024 | Utah County:** The open house was held at the Orem City Library. More than a dozen staff from cities involved in discussions about mitigation projects and grant opportunities reviewed the boards and spoke with the project team. Several members of the public attended as well (Figure 32).



**Figure 32. Utah County Open House**

## 4.4. GROUP OUTREACH

Individual interviews were held with select interest groups and organizations. The purposes of the interviews were to understand perspectives on roadway safety from diverse groups and to help inform the selection of effective safety countermeasures. The following summarizes the key findings from each meeting:

### 4.4.1. BIKE UTAH

Bike Utah is a non-profit organization focused on encouraging more cycling through collaboration with local governments, community assistance, and education. The following summarizes some key findings from the interview:

- Facilities with bicycle lanes or other bicycle facilities may still have challenges with driveway interactions and intersection treatments.
- More engineering standards related to bicycle treatments can further the implementation of bicycle best practices.
- As backbone bicycle facilities are implemented, further treatments are needed to help riders reach destinations that may not be directly on the backbone.
- Trail crossings at roadways need appropriate treatments of comfort and safety.
- Neighborhood byways are a valuable asset, especially when accompanied with legitimate traffic calming features and not just signage.
- Bicycle planning should accommodate shorter trips as well and not just longer recreational or commuter trips.
- Rural communities can also have appropriate bicycle facilities without losing their rural character.

#### 4.4.2. UTAH HIGHWAY PATROL

The Utah Highway Patrol (UHP) is the state law enforcement agency for state-controlled highways. The UHP trooper interviewed has specific experience patrolling Wasatch County roadways. The following summarizes some key findings from the interview:

- Motorcycle-involved crashes are one of the most common sources of fatalities and serious injuries on state highways. The motorcycle-involved crashes occur most frequently in the summer months and especially on weekends.
- Targeted motorcycle safety reminders may be an effective way to educate drivers and encourage safer behavior.
- Many rural-area motorcycle crashes involved drivers from Wasatch Front urban centers.
- Response times can be challenging for very rural areas especially as officers focus on issues in urban centers. Increased staffing resources would allow for more patrolling of rural routes.
- Lack of center barrier is a factor in many crashes.
- Wildlife-involved crashes rarely produce a fatality of serious injury for a vehicle occupant.

#### 4.4.3. ALPINE SCHOOL DISTRICT AND NEBO SCHOOL DISTRICT

The Alpine School District serves students in the northern half of Utah County and the Nebo School District serves students in the southern half of Utah County. These two school districts cover all of Utah County except for areas within Provo City. The following summarizes some key findings from the interview:

- Many school boundaries straddle wide, high-speed roads. School crossings at these roadways can be challenging.
- State funds reimburse school districts for busing children who live outside distances from school. Therefore, school districts sometimes spend extra money to bus students who live within the non-reimbursement area to help them cross wide, high-speed roads.
- School districts are sometimes able to partner with cities to construct pedestrian underpasses.
- Other drivers colliding into buses poses safety challenges for the districts.
- Many roadways lack sidewalks which complicate students' walking paths to schools.
- Railroad tracks also create barriers for children to walk to schools.
- Parents driving fast and student-drivers' inexperience pose challenges to roadway safety around schools.

### 4.5. LOCAL GOVERNMENT OUTREACH

During development of the Safety Action Plan, two rounds of discussions were held with local governments. Round 1 of the discussions focused on local safety concerns and occurred during the data analysis phase of the project. The project team met with representatives of each jurisdiction and discussed safety priorities within their community as well as sharing crash analysis trends for intersection crash hotspots and HIN

segments. Attendees from each jurisdiction were invited to share safety project ideas and safety concerns within their city or county, especially for areas of concern not already identified by the Project Team. Feedback from the jurisdictions, including additional safety project ideas and locations, was used to guide the development of the project lists and safety countermeasures.

Round 2 of the discussions occurred as countermeasures and potential projects were being developed and focused on project comment feedback. The project team discussed potential safety projects with the jurisdictions for each of the identified crash hotspots and HIN corridors to get feedback on project ideas. The local input received was crucial for the Project Team in identifying the proper project or countermeasure for each crash hotspot or HIN network location.

In addition to the two rounds of discussions, an online comment map was provided to the jurisdictions for additional feedback. Meeting attendees were encouraged to discuss the information presented at the meeting with their local government officials and add any additional safety ideas and projects to the online comment map within two weeks following the meeting. Feedback gathered at the meetings was also added to the online comment map. The information compiled from the online comment map helped guide the project identification and prioritization process.

# 5. Equity Considerations

## 5.1. DISADVANTAGED COMMUNITY ANALYSIS

The MAG Safety Action Plan is intended to align with USDOT’s role in implementing the Justice40 Initiative. Given the transportation focus of this plan, MAG opted to use the ETC methodology to identify transportation disadvantaged areas within the region.

The Disadvantaged Community Index is a blended metric that identifies underserved census tracts based on six components: transportation insecurity, health vulnerability, environmental burden, social vulnerability, and climate and disaster risk burden. The components comprise over 40 data indicators based on regularly updated government statistics. For example, the transportation insecurity component is comprised of metrics related to transportation access, cost burden, and traffic fatalities per 100,000 people. The transportation access metric is comprised of sub-components such as measures of households without a personal vehicle, commute times, access to points of interest, and job and transit access.

The data for each indicator are normalized and percentile ranked among other census tracts in the nation or state. This process is then repeated at the component level to produce a final Disadvantaged Community Index score. A census tract is considered “disadvantaged” if the final Index Score is greater than the 65th percentile. “National results” are the census tracts that are in the 65th percentile or higher when ranked among all census tracts in the United States. Meanwhile, “State Results” are the same metric, except ranking only census tracts in Utah. Hence, all “national results” census tracts are also included in the “state results” layer. Inevitably, there are more census tracts in the “state results” dataset because they are in the 65th percentile or more of tracts in the state.

Additionally, Native American tribal nations automatically receive “disadvantaged” status regardless of demographics. The Uintah and Ouray Reservation of the Ute Indian Tribe encompasses a large portion of the easternmost extents of Wasatch County. This area extends east of Heber to the county line, encompasses Strawberry Reservoir, and lacks a significant residential population.

### 5.1.1. NATIONAL RESULTS

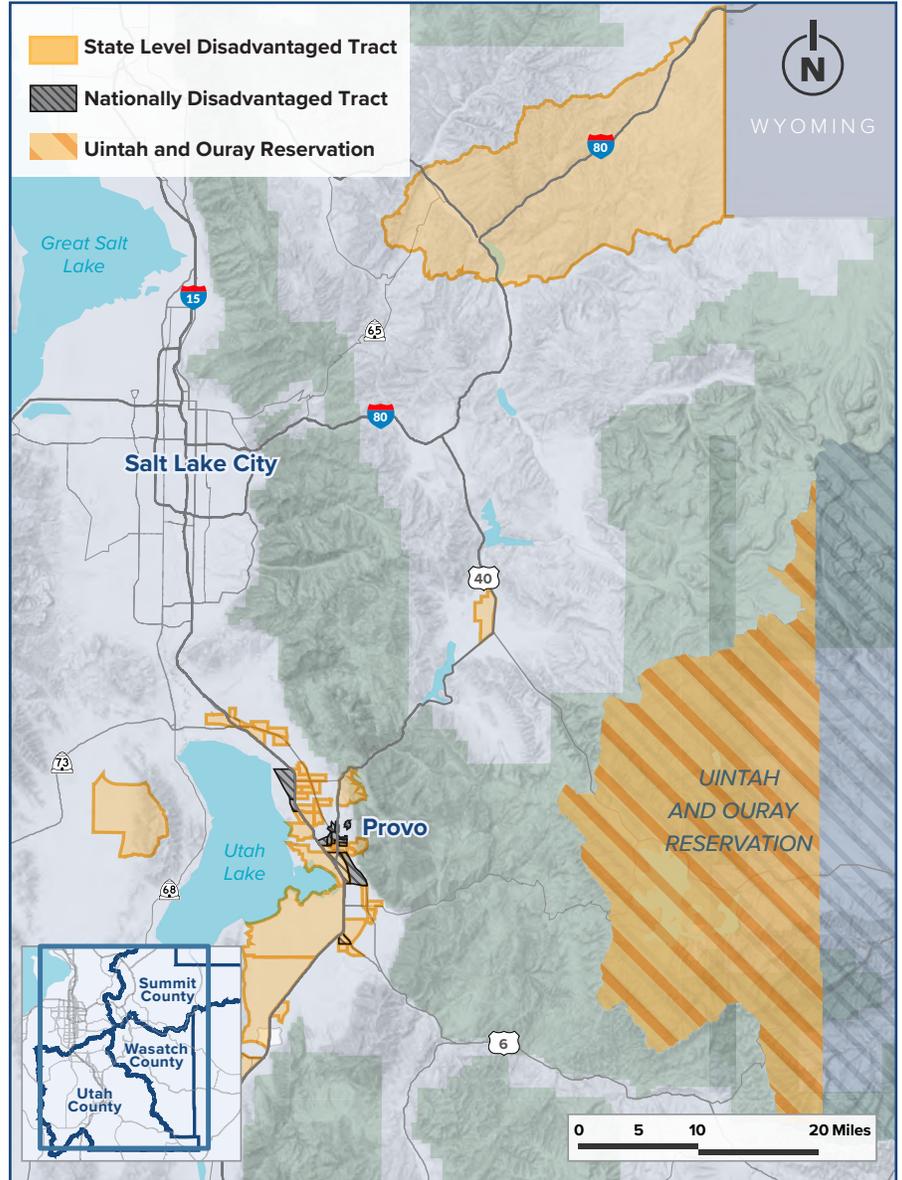
Within the MAG region—encompassing the total extents of Utah, Wasatch, and Summit counties—there is a total population of 696,200, about 52,000 (7.5%) people live in 13 disadvantaged census tracts, which represent 8% of tracts in the region.

Except for the portion of the Tribal Census Tract that overlaps with eastern Wasatch County, all other national results census tracts are located within Utah County. Two are west of I-15 in Vineyard and Orem. Nine census tracts are located near or next to Brigham Young University: five roughly between campus or University Avenue and the Provo River, three between campus and Center Street, and one to the northeast. Two other tracts are in Provo: stretching from 600 South to SR-75 and from I-15 to State Street. The final census tract is located within Spanish Fork. It is east of Main Street, north of 400 North/SR-147, west of U.S. Route 6, and south of I-15.

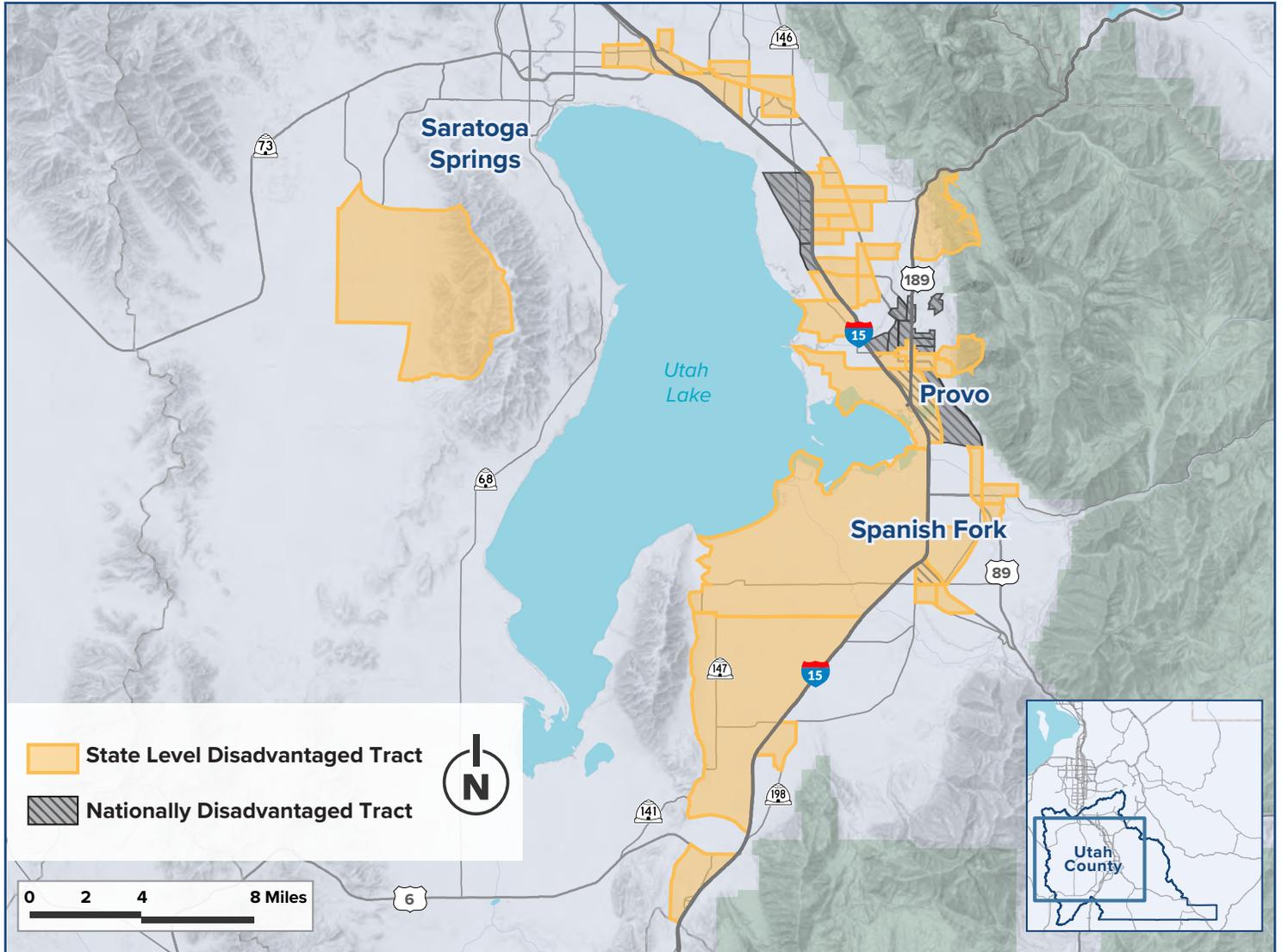
**5.1.2. STATE RESULTS**

Within the MAG region—encompassing the total extents of Utah, Wasatch, and Summit counties—there is a total population of 696,200, about 29.6% live in disadvantaged census tracts, amounting to 206,300 people. There are 56 disadvantaged census tracts, making up 31% of the MPO census tracts in the region.

The state results of the disadvantaged area census tracts, include all of the tracts described above, one in Wasatch County, one in Summit County, and the remaining tracts are located in a more geographically spread area throughout Utah County. Tracts are located in the following communities: Eagle Mountain, Lehi, American Fork, Pleasant Grove, Orem, Provo, Springville, Spanish Fork, Payson, and Santaquin. In Wasatch County, the single census tract is located west of U.S. Route 40, North of US-189, and east of 1140 West or 1750 West. The disadvantaged tract in Summit County is a large portion of the county extending north of Coalville to the Morgan County border and east to the Wyoming border along the I-80 corridor.



**Figure 33. MAG Area Disadvantaged Census Tracts**



**Figure 34. Utah County Disadvantaged Census Tracts**

## 5.2. VEHICLE CRASH DATA AND UNDERSERVED AREAS

The HIN and its proximity to the national results disadvantaged tracts was analyzed to understand the overlap between these underserved areas and hazardous traffic conditions. There are 152 distinct segments of the HIN and 30 of them (19.7%) intersect with nationally-ranked disadvantaged census tracts. Linearly, among the 250.5 miles of HIN segments, 42.7 miles (11%) intersected with disadvantaged census tracts. Among the 168 crash hotspots on the HIN within the MAG boundaries, 20 (11.9%) are located within or adjacent to a disadvantaged census tract. Despite only having less than 8% of MAG’s population, residents of disadvantaged census tracts are disproportionately exposed to hazardous traffic conditions.

Almost 40% (98 miles) of HIN length is alongside or within disadvantaged census tracts above the 65th percentile of census tracts in the state. Approximately 57% of HIN segments affect these areas. Among the 168 hotspots in the MAG region, 72 (42%) coincide with these underserved areas. This provides further evidence that state results disadvantaged census tracts are disproportionately exposed to hazardous traffic conditions.

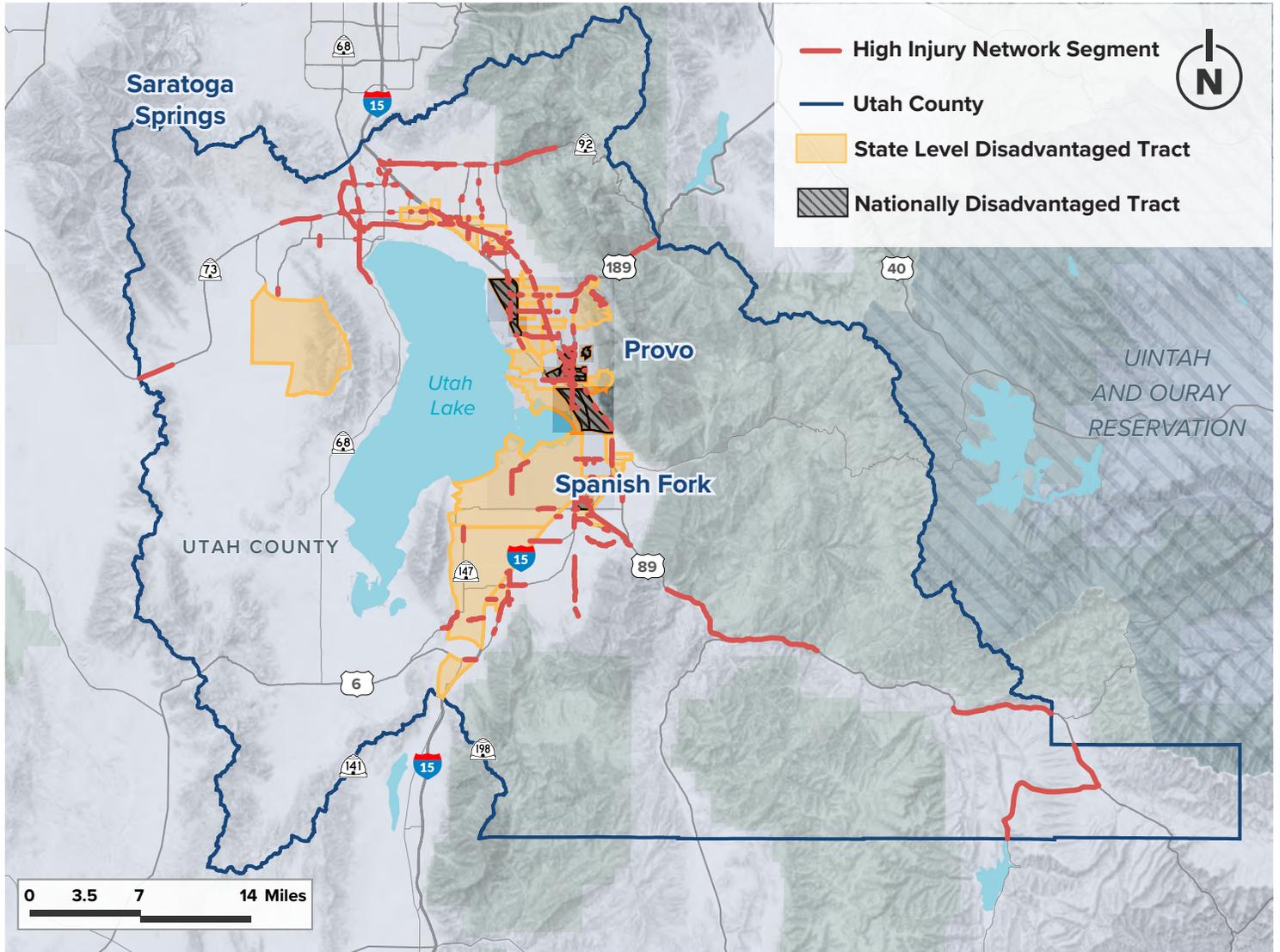


Figure 35. Disadvantaged Census Tracts and HIN

## 5.3. TRAVEL PATTERN ANALYSIS

A travel pattern analysis provides a means of understanding the effect of proposed improvements, particularly as it pertains to underserved populations such as those living in poverty and/or without a car.

This analysis was conducted using Replica’s travel model. The model is based on census data and other demographic sources, which in turn is used to model a typical weekday of travel by the simulated population on a simulated transportation multimodal network. Travel volumes are then calibrated based on real world count and location-based service data. The model user can filter the dataset based on certain characteristics of the trip, traveler, or geography involved. In this analysis, which was based on the Spring 2023 output, the two-way daily volume was calculated for non-separated roadways, with the outcome being an educated estimate into how disadvantaged individuals typically travel.

### 5.3.1. PEOPLE IN POVERTY

To conduct a travel pattern analysis of people in poverty, the Replica dataset was filtered based on household income. The USDOT’s ETC methodology and the Department of Health and Human Services both provided guidance for establishing this metric, as they classify poverty as living at 200% of the federal poverty line or below. For household size, a typical input when calculating a poverty line, this analysis used the typical Utah County household size of three people. Therefore, the 200% estimated 2023 poverty line for a household size of three people was \$49,720 annual income. Finally, to ensure that local marginalized populations travel patterns were captured, a filter based on the synthetic populations home location in any county in the MAG region was applied. Replica reported that this sample size was large enough to produce high quality results.

Once completed, the analysis enabled the project team to not only see how projects would impact disadvantaged areas but also their potential benefits for marginalized populations.

Figure 36 through Figure 38 show the travel pattern results for Utah County. While many of the roads in the MAG network fell into the lowest tier for percentage of users who were in poverty (0.3-20%) there were notable exceptions. In the American Fork and Lehi areas there were greater concentrations of people in poverty around State Street, which is even more pronounced in Orem, where between 20% and 40% of roadway users meet on State Street and 800 North meet the poverty definition. Notably in Provo almost all the streets, local and major, have a percentage of roadway users in poverty that is higher than 20%, with many streets located near BYU ranging from 40-80%.

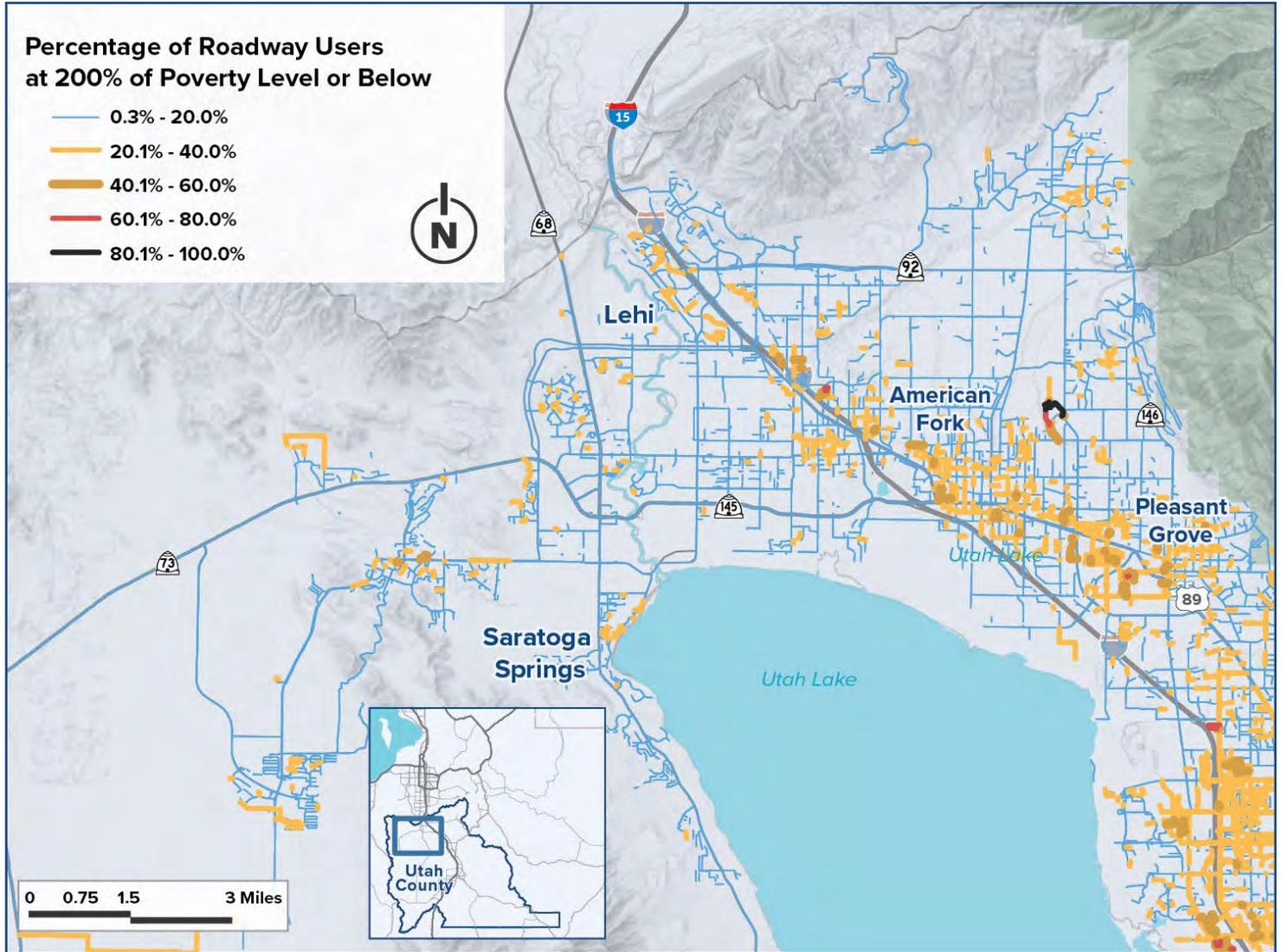
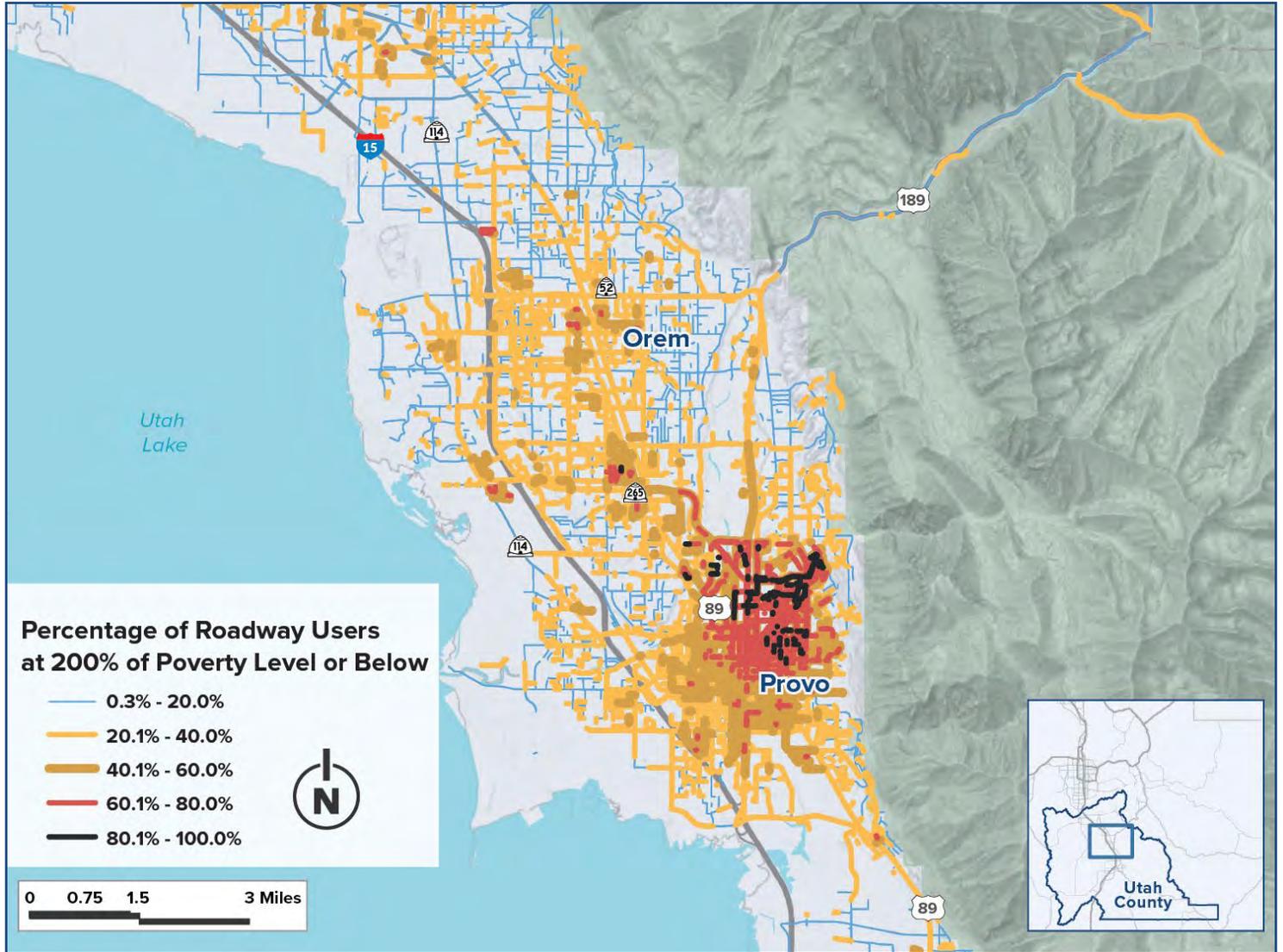


Figure 36. Northern Utah County People in Poverty Travel Pattern Analysis



**Figure 37. Central Utah County People in Poverty Travel Pattern Analysis**

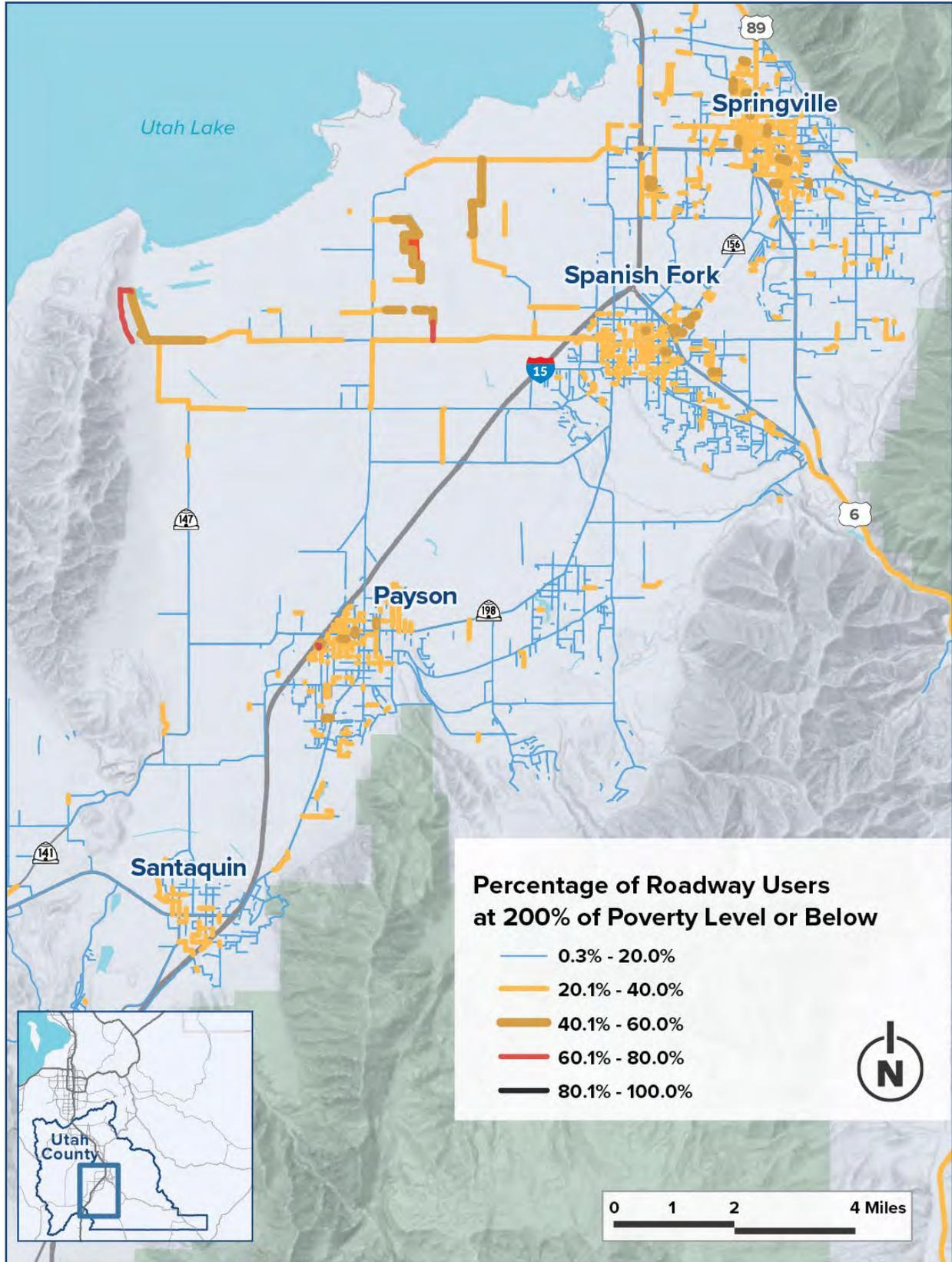
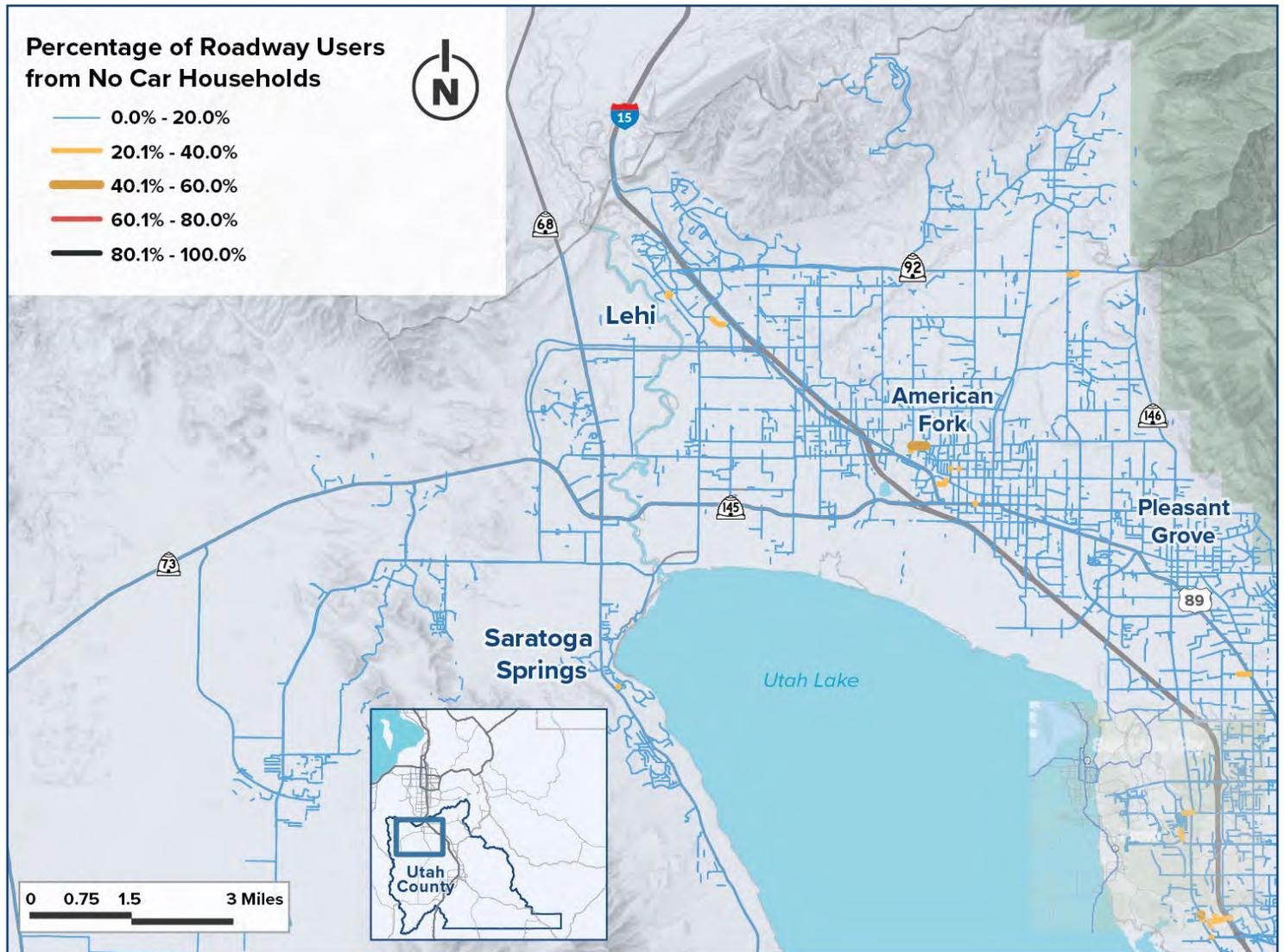


Figure 38. Southern Utah County People in Poverty Travel Pattern Analysis

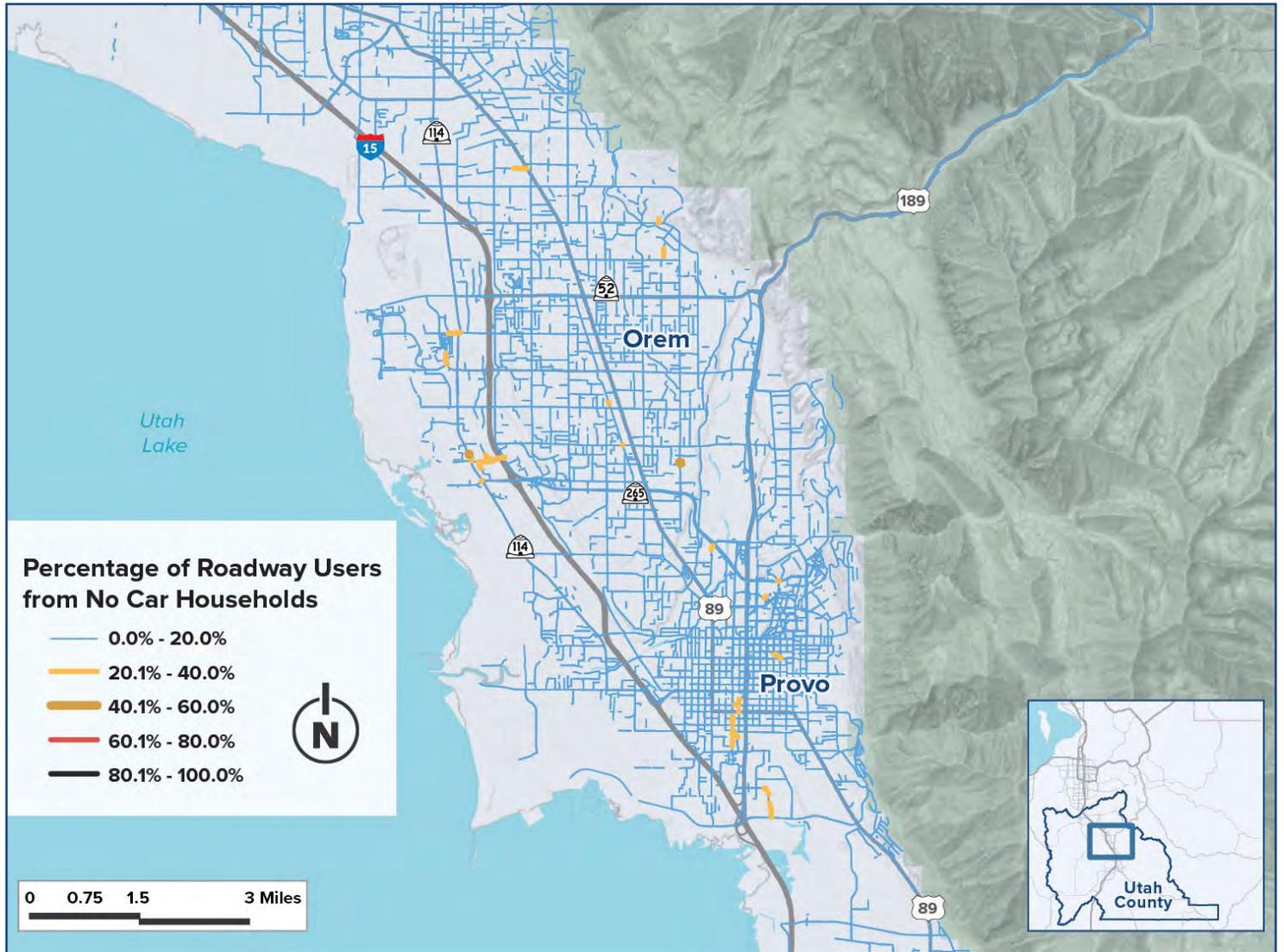
## 5.3.2. PEOPLE IN HOUSEHOLDS WITHOUT ACCESS TO A CAR

For analyzing populations without access to a car, a similar process to that detailed above was used though in this case the data was filtered to see travel volumes related to people with no household access to a car. Once again, a secondary filter was added to only show travelers who were residents of the MAG region. Though this analysis was of a smaller population than the people in poverty analysis, Replica’s analysis still indicates that it was a robust sample size.

Figure 39 through Figure 41 show the travel pattern results in Utah County. Unsurprisingly the vast majority of streets and roads have low concentrations of users from no car households, with only a smattering of instances in which the percentage rises higher than 20%. Small collections of streets in nearly every community in the entire MAG area that have concentrations of roadway users from no car households that ranged from 20-60%. One interesting exception was a single street in Spanish Fork where the concentration ranges from 80-100%. In addition, when it comes to volumes of people from no car households, there are higher volumes in Provo especially around the university and downtown.



**Figure 39. Northern Utah County Zero-Car Household Travel Pattern Analysis**



**Figure 40. Central Utah County Zero-Car Household Travel Pattern Analysis**

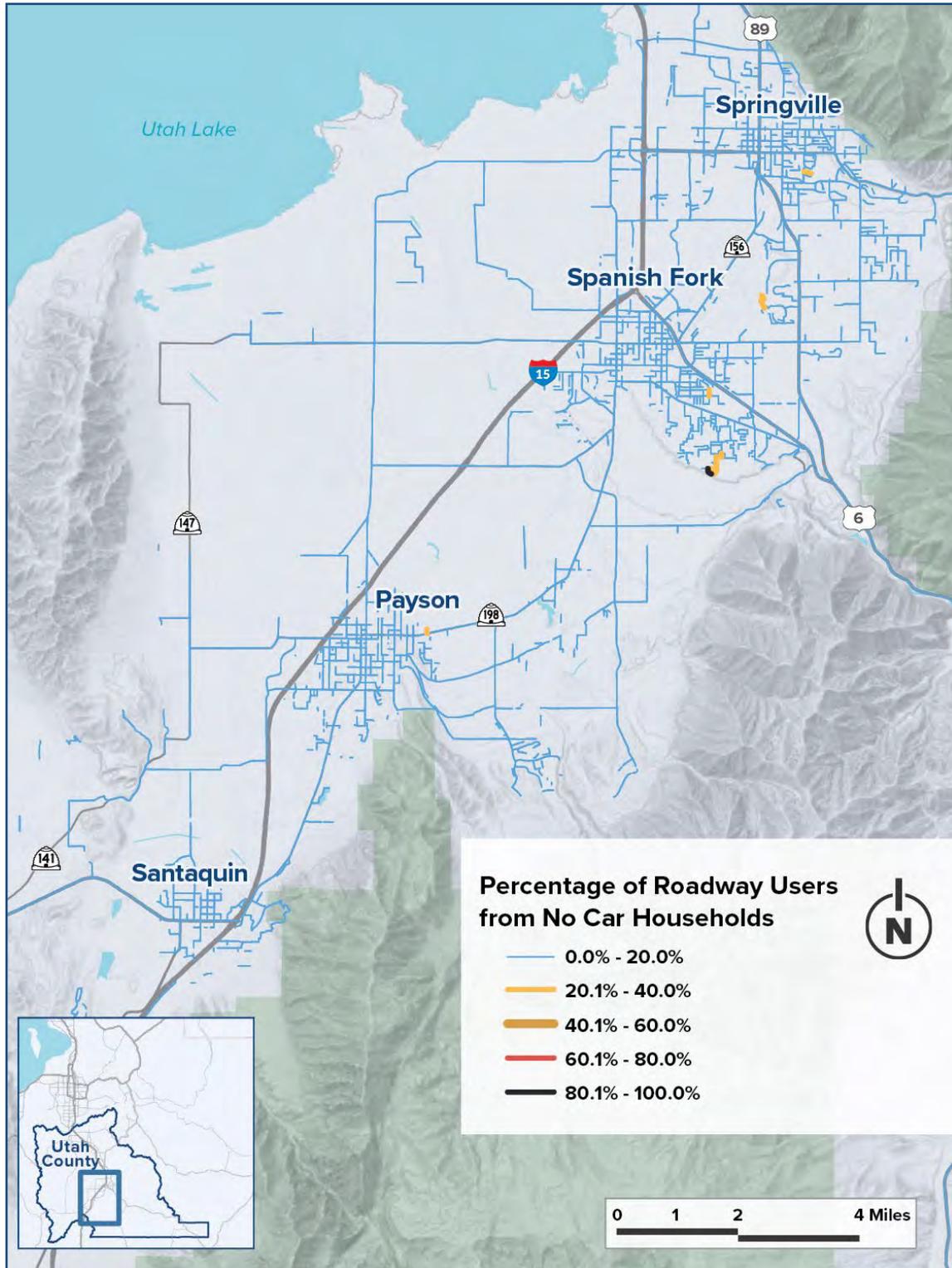


Figure 41. Southern Utah County Zero-Car Household Travel Pattern Analysis

# 6. Policy and Process Change

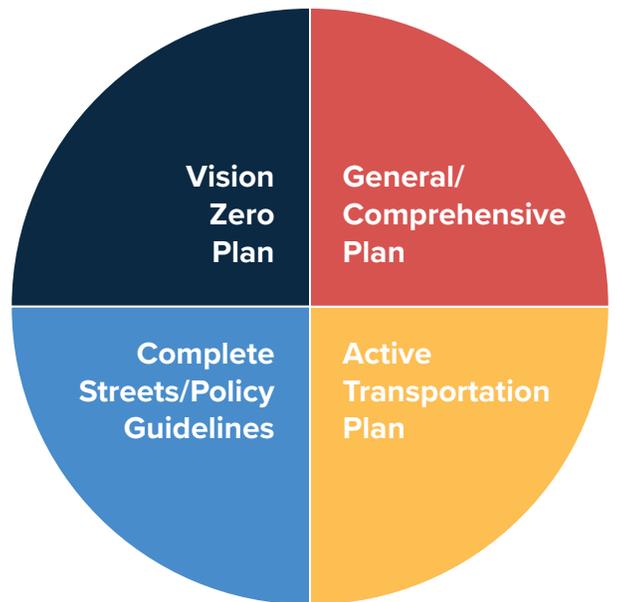
Robust policies and agency processes are critical elements in the effort to eliminate fatal and serious crashes on roadways. Policy and process changes serve as a pivotal framework for fostering a culture of roadway safety within government agencies. By evaluating current practices against best practices and establishing new data-informed policies and strategies, government agencies can proactively address systemic safety issues, prioritize safety initiatives, and enact timely safety countermeasures to mitigate risks. These practices, policies, and processes lay the foundation for a cohesive approach towards establishing a culture of roadway safety that saves lives.

## 6.1. BEST PRACTICES

### 6.1.1. CURRENT PLANS AND POLICIES

The project team evaluated local and regional plans and policies to determine the breadth and depth of safety planning across MAG communities (Figure 41). The plan review determined which communities have multiple transportation planning documents and which plans consider safety via goals, strategies, and targets/performance metrics.

The project team evaluated existing frameworks and identified inconsistencies or barriers to implementation. The best practices review considered whether regional and local governments' community planning documents reflected national best practices, especially regarding policies and strategies for roadway safety, traffic calming, and active transportation.



**Figure 42. Types of Plans Reviewed**

#### 6.1.1.1. Approach

The project team first gathered and reviewed the types of plans shown in Figure 42, then looked for safety-related goals, strategies, and metrics within each document.

In general, reviewers looked for:

1. **A clear safety goal**, especially one clearly defined as an overarching plan goal in the organization of the document, not simply stated or implied within the plan text.
2. **Strategies specifically identified to improve roadway safety outcomes**, not just where a reviewer could infer a connection to safety.
3. **Performance targets, metrics, and measures** to tie specific numbers to the safety goal and track progress toward achieving it. Note, some plans set performance metrics such as “the number of crashes” but were unclear about the current or target number of crashes in the future. Offering metrics without a meaningful target provides less accountability to plan goals. The best plans set both a metric and a target, with staff publicly sharing crash statistics over time so that the community can monitor progress.

The overall purpose of the document review was to identify how these plans and policies provide opportunities or present challenges to implementing the Safe System Approach and creating a positive roadway safety culture. The review of these documents highlights recommendations that will be crucial for the regional and local governments to create a positive culture of roadway safety that influences decision-making.

### 6.1.1.4. Findings

The following section summarizes high-level findings from the best practices review for communities in Utah County. The project team reviewed planning documents from 25 communities/subregions in the county:

- Unincorporated Utah County
- Alpine
- American Fork
- Cedar Fort
- Cedar Hills
- Eagle Mountain
- Elk Ridge
- Fairfield
- Genola
- Goshen
- Highland
- Lehi City
- Lindon
- Mapleton
- Orem
- Payson
- Pleasant Grove
- Provo
- Salem
- Saratoga Springs
- Spanish Fork
- Springville
- South Utah County
- Vineyard
- Woodland Hills

Twenty-four (24) of the 25 communities have general or comprehensive plans, and 18 of those plans contain a safety goal. Fourteen (14) of the 25 communities have active transportation plans, and 13 of those plans contain a safety goal.

Eleven (11) communities have a Complete Street policy or guidelines – four have a Complete Streets policy or guidelines established, and seven have plans to adopt a Complete Streets policy. One community, Provo, has a Safety Action Plan and Vision Zero goal (reduce fatal and serious injury crashes by 50% by 2040). Table 4 summarizes the plans reviewed from communities in Utah County.

**Table 4. Summary of Safety Plans in Utah County**

	Communities With This Type of Plan	Plans With Safety Goals	Plans Without Safety Goals	Communities Without This Type of Plan
<b>General/Comprehensive Plan</b>	24	18	6	1
<b>Active Transportation Plan</b>	14	13	1	11
<b>Complete Streets Policy/Guidelines</b>	11	n/a	n/a	14
<b>Vision Zero Policy/Plan</b>	1	1	0	24

## 6.1.2. LOCAL CHALLENGES TO BEST PRACTICES

Based on the initial document review, the project team identified four communities for follow-up interviews. The overall purpose was to gain additional insights from communities with key roadway safety strategies or policies. The lessons learned from the challenges and success these communities are having with promoting best practices for roadway safety provide crucial information for how other communities in the region can advance their safety policies and practices.

The project team selected the following two communities for the reasons described below:

- **Lehi City, Utah County (84,400 people):** Staff in Lehi City are performing an innovative systemic safety analysis, considering safe speeds, the functionality of street classifications, sidewalk and bicycle network gaps, and other geographic data. City staff are also willing to share information on how to perform similar studies with staff in other MAG member jurisdictions.
- **American Fork, Utah County (37,300 people):** This community has an active transportation plan with a safety goal and a Complete Streets policy that includes constructing bikeways during street resurfacing or restriping projects. American Fork also has an Access Management Plan that staff continue to follow during development or redevelopment projects to minimize driveways and multiple conflict points.

The interviews with these communities revealed several common challenges faced by communities in the region:

- **Data collection and safety metrics tracking can be taxing** for communities to perform at a regular frequency.
- **Local resources are limited** in terms of staff capacity and funding for safety initiatives and infrastructure



improvements.

- **Room for improvement in the partnerships with UDOT** to reduce speeds and improve roadway designs.
- **Room for improvement in the partnerships with police/sheriff departments** for postmortem evaluations of crash incidents and opportunities for targeted enforcement.
- **Political leaders and the community challenge safety initiatives when there is a perception of tradeoffs**, although they are generally in support of improving safety and understand the safety needs.
- **Inconsistent buildout of a multimodal network** leads to a disconnected patchwork of safe bicycle and pedestrian facilities.

Identifying these common challenges that communities face regarding roadway safety can help build recommendations from successful peer and national examples. In turn, these best practices can be established as key recommendations for updated or new policies and practices in the region.

### 6.1.3. NATIONAL BEST PRACTICES

The reference manuals and resources listed in Table 5 represent successful national best practices in six areas of roadway safety, as well as a seventh category of miscellaneous guidance:

- General street design standards
- Traffic calming
- Vision Zero
- Bicycle and pedestrian planning
- Crossing guidelines
- Accessibility

These documents and websites are references that the project team consulted during the review of the region's current plans and policies. These national best practices also frame the recommended policies and practices for the region to guide MAG and the local governments seeking to improve roadway safety.

**Table 5. National Best Practices Reference Manuals and Resources**

General Street Design Standards	Traffic Calming
<p>American Association of State Highway and Transportation Officials, <a href="#">A Policy on Geometric Design of Highways and Streets, 7th Edition</a></p> <p>National Association of City Transportation Officials, <a href="#">Urban Street Design Guide</a></p> <p>Federal Highway Administration, <a href="#">Manual on Uniform Traffic Control Devices for Streets and Highways</a></p> <p>Smart Growth America, <a href="#">Complete Streets</a></p> <p>American Planning Association, <a href="#">Complete Streets: Best Policy and Implementation Practices</a></p>	<p>Federal Highway Administration, <a href="#">Traffic Calming ePrimer</a></p> <p>U.S. Department of Transportation, <a href="#">Traffic Calming to Slow Vehicle Speeds</a></p> <p>Institute of Transportation Engineers, <a href="#">Traffic Calming</a></p> <p>Global Designing Cities Initiative, <a href="#">Traffic Calming Strategies</a></p> <p>National Association of City Transportation Officials, <a href="#">Speed Reduction Mechanisms</a></p> <p>National Association of City Transportation Officials, <a href="#">City Limits: Setting Safe Speed Limits on Urban Streets</a></p> <p>Project for Public Spaces, <a href="#">Traffic Calming 101</a></p>
Vision Zero	Bicycle & Pedestrian Planning
<p>Vision Zero Network, <a href="#">Resource Library</a></p> <p>National Safety Council, <a href="#">Road to Zero: A Plan to Eliminate Roadway Deaths</a></p> <p>Federal Highway Administration, <a href="#">Zero Deaths and Safe System</a></p> <p>Federal Highway Administration, <a href="#">Safe System Roadway Design Hierarchy</a></p> <p>Federal Highway Administration, <a href="#">Crash Modification Factors (CMF) Clearinghouse</a></p> <p>Pedestrian and Bicycle Information Center, <a href="#">Safe Routes to School Online Guide</a></p>	<p>National Association of City Transportation Officials, <a href="#">Urban Bikeway Design Guide</a></p> <p>Federal Highway Administration, <a href="#">Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts</a></p> <p>Federal Highway Administration, <a href="#">Separated Bike Lane Planning and Design Guide</a></p> <p>Federal Highway Administration, <a href="#">Designing Sidewalks &amp; Trails for Access</a></p> <p>Federal Highway Administration, <a href="#">Incorporating On-Road Bicycle Networks into Resurfacing Projects</a></p> <p>American Association of State Highway and Transportation Officials, <a href="#">Guide for the Development of Bicycle Facilities, 4th Edition</a></p> <p>American Association of State Highway and Transportation Officials, <a href="#">Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2nd Edition</a></p> <p>Institute of Transportation Engineers, <a href="#">Designing Walkable Urban Thoroughfares: A Context Sensitive Approach</a></p> <p>Federal Transit Administration, <a href="#">Manual on Pedestrian and Bicycle Connections to Transit</a></p> <p>The League of American Bicyclists, <a href="#">Federal Funding &amp; Planning for Biking &amp; Walking</a></p>

Crossing Guidelines	Accessibility
<p>Federal Highway Administration, <a href="#">Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations</a></p> <p>National Association of City Transportation Officials, <a href="#">Don't Give Up at the Intersection</a></p>	<p>U.S. Access Board, <a href="#">Public Right-of-Way Accessibility Guidelines</a></p> <p>U.S. Access Board, <a href="#">Americans with Disabilities Act Accessibility Standards</a></p> <p>Federal Highway Administration, <a href="#">Accessible Shared Streets: Notable Practices and Considerations for Accommodating Pedestrians with Vision Disabilities</a></p> <p>American Society of Landscape Architects, <a href="#">Universal Design</a></p> <p>National Association of City Transportation Officials, <a href="#">Universal Design Elements</a></p>

Miscellaneous
<p>People for Bikes, <a href="#">Quick Builds For Better Streets: A New Project Delivery Model for U.S. Cities</a></p> <p>Street Plans Collaborative, <a href="#">Tactical Urbanist's Guide to Materials and Design</a></p> <p>Smart Growth America, <a href="#">The Innovative DOT: A handbook of policy and practice</a></p> <p>Toole Design Group, <a href="#">Winter Maintenance Resource Guide</a></p> <p>National Workzone Safety Information Clearinghouse, <a href="#">Accommodating Pedestrians</a></p>

## 6.2. MPO/RPO PLANNING PROCESSES

As the MPO for the region, MAG is responsible for developing the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (TIP) to define transportation investments over the short and long term. MAG implements a continuing, cooperative, and comprehensive transportation planning process, in conformance with federal transportation regulations. One of the federally required planning factors for the RTP is to increase the safety of the transportation system for motorized and nonmotorized users. This is supported by the safety national performance goal, which directs MPOs to achieve a significant reduction in traffic fatalities and serious injuries on public roads. The MAG RTP adopted in 2023 and TIP comply with these federal requirements.

MAG also recognizes the state planning priorities identified in the Utah 2023-2050 Unified Plan and Utah SHSP. An objective of the Unified Plan is to reduce fatal and serious injuries on the transportation network. The Unified Plan safety performance measure is fatalities and serious injuries per capita. The SHSP establishes performance measures related to activity and behavior in addition to the core performance measures.

### 6.2.1. TRANSPLAN50

TransPlan50, the RTP adopted in 2023, identifies the transportation vision and priorities for the urbanized area. The goals in the current plan are shown below, where safety is identified as a component of the goal to develop a connected active transportation network.



- **Enhanced roadway grid network:** Creating a regional highway grid of properly spaced and sized roads can help reduce congestion, better facilitate transit, and provide pedestrian safety.
- **Expanded freeways, expressways, and arterials:** Growth and expansion require the regional highway system to evolve from the limited corridors today to a well connected system of right sized roads including freeways and expressways.
- **Robust regional transit system:** Funding and constructing a broader regional rail and transit system increases mobility and accessibility within our high-growth region. As the region becomes more urban, transit becomes a solid option for relieving congestion and moving people.
- **Connected active transportation network:** Create a regional network of active transportation (bicycle and pedestrian) facilities to provide additional and safe alternatives for people to commute and recreate.

In future updates, the RTP provides a platform to emphasize the importance of safety in the development of transportation investments. A peer review of other MPOs shows that several other agencies identify safety as a primary goal in the RTP. It is recommended that safety be showcased in future plan development processes as a primary goal with additional explanation of the extent of safety priorities, which could include the following:

- Reducing the number of fatalities and serious injuries.
- Addressing equity and VRU needs.
- Incorporating safety design features into construction of new roadway capacity.

The national safety performance goal, as identified in 23 CFR 150(b), is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. Federal statute (23 CFR 490.105) requires that MPOs establish safety goals and performance targets. TransPlan50 includes these federally required safety performance measures and reported baseline conditions and 2-year targets, as shown in Table 6.

**Table 6. Required Safety Performance Measures**

Safety Performance Measures	Baseline (2021)	2-Year Target
Number of Fatalities (5-year average)	2.77	2.5% reduction
Fatality Rate (5-year average)	0.86	
Number of Serious Injuries (5-year average)	1502.6	2.5% reduction
Serious Injury Rate (5-year average)	4.679	
Non-motorized Fatalities and Serious Injuries (5-year average)	223.8	2.5% reduction

Future RTP updates provide an opportunity to continue monitoring the progress toward these performance targets and incorporating the targets adopted through this Safe Streets for All Action Plan.



## 6.2.2. TRANSPORTATION IMPROVEMENT PROGRAM

The existing MAG prioritization process is defined in the Mountainland TIP Congestion Management Program/Project Selection Process. The current process is transparent and data-driven. The collaborative project selection framework uses a committee structure that provides an opportunity for input from all member jurisdictions and is available to the public.

The existing project evaluation and ranking process incorporates partner agency input through a Biennial Kickoff Meeting to review the process and schedule. Each agency then has the opportunity to submit Project Ideas through a Project Idea Application to describe the project concept, cost, and phasing. An additional opportunity for agency collaboration occurs at a meeting with MPO staff to review the draft application.

In the next steps applicants prepare a Project Concept Report. This documentation includes additional project detail about scope, local support, cost, and funding. MPO staff evaluate and score each Project Concept Report. These results are openly shared with the MPO TAC.

A field review of the project is conducted to share additional project information and context with MAG staff and the TAC. The TAC then scores each project using criteria shown in Table 7 to create a Project Priority List, which reflects input from each jurisdiction. The Project Priority List is reviewed by MPO staff, updated as needed, and presented to the MPO Regional Planning Committee. This process is transparent and offers multiple opportunities for local agencies to provide input. The following section discusses options for expanding the emphasis and weighting of safety in the project evaluation process.

**Table 7. Current MPO Technical Scoring Criteria**

Criteria	Current Weighting
<b>Congestion Relief (Road projects only)</b>	30
<b>Mode Choice (Transit projects only)</b>	30
<b>Mode Choice (Active Transportation projects only)</b>	30
<b>Environmental Quality</b>	15
<b>Safety</b>	20
<b>Other Considerations</b>	15

## 6.3. RECOMMENDED POLICIES AND PRACTICES

### 6.3.1. INCREASING SAFETY EMPHASIS IN THE RTP AND TIP

As a core planning document, the RTP establishes the framework for transportation prioritization. Including safety more prominently in the vision and goal statement of the RTP will elevate its importance. It is recommended that safety be included as a primary goal and performance targets and standards in the next RTP update be consistent with this safety plan.

There are multiple opportunities to expand the emphasis on safety in the TIP project evaluation and prioritization process. Proposed options are outlined below.



- **Definition of eligible transportation studies:** Consider specifically listing road safety audits, corridor safety management plans, and safe routes to school plans as eligible transportation study types.
- **Definition of eligible TIP projects:** Consider specifically listing safety improvement projects, safety education, bicycle improvements, and safe routes to school improvements as eligible TIP project types.
- **Project idea report:** Consider adding the project purpose to the items required in the project idea report. This will provide an opportunity for agencies to describe safety concerns that will be addressed by proposed projects.
- **Project concept report:** Consider adding safety criteria to the project minimum requirement, including whether the project is included in this or any other safety plan, whether it is located on the HIN, and what proven safety countermeasures are incorporated into the project scope.
- **Technical scoring:** Consider increasing the weighing of safety relative to other factors in the MPO technical scoring.
- **Technical scoring safety criteria:** Recommend using the term “crash” instead of “accident” in the technical documentation. Recommend adding the inclusion of proven safety countermeasures in the project scope to the scoring for reducing the severity of crashes.

### 6.3.2. OTHER SAFETY POLICY AND PRACTICE RECOMMENDATIONS

The recommended policies and practices to eliminate barriers to safer streets and foster a culture of roadway safety are based on findings from the plan review, follow-up interviews, and national best practices. The recommendations address one or more challenges or needs within the region, as described in Table 8. The ID corresponds to the rationale for each recommendation in Table 9 and Table 10.

**Table 8. Overarching Rationale for Recommendations**

Need	ID	Description
Increased Community and Political Support	COMMUNITY	There is community and political support for safety but tradeoffs are challenged. The MPO/RPO and local governments can conduct consistent messaging about regional safety goals, and needs.
Improved Data Collection and Reporting	DATA	Data collection and metrics tracking can be taxing. The MPO/RPO and local governments can use data that is already collected and leverage public and open-source resources.
Improved Multimodal Connectivity	MULTIMODAL	Inconsistent buildout of multimodal network can lead to gaps and inconsistencies. There are opportunities to consider regional networks and leverage growth and development for network buildout where all road users have safe facilities.



Need	ID	Description
<b>Stronger Regional, State and Interagency Partnerships</b>	PARTNERS	Seek opportunities to further improve partnerships with UDOT/state-level initiatives, and police/sheriff departments.
<b>Increased Funding and Resources</b>	RESOURCES	There are limited local resources in terms of staff capacity and funding for safety initiatives and infrastructure improvements. Ensure local staff are united and trained to increase capacity, utilize MAG and partner agency support, and explore new funding streams.

These recommendations are strategies that can be enacted on a regional level by MAG, the MPO, or on the local level by municipalities. Table 9 and Table 10 identify regional recommendations and recommendations for local communities, respectively. The tables are organized by recommended timing for when the strategies should be completed (i.e. near-term in 1-2 years, or mid-term in 3-5 years).

The review of regional and local practices also uncovered additional strategies that could be implemented at the state level to further support the regional and local governments’ ability to achieve safer streets. These strategies are discussed in Appendix B.

### 6.3.3. REGIONAL RECOMMENDATIONS

The recommended strategies that MAG and partners should pursue are listed in Table 9. These regional strategies are crucial for achieving overarching regional goals and extending outcomes beyond a single local government.

**Table 9. Regional Strategies**

ID	Strategy	Lead Agency	Rationale
<b>Complete in Near-Term (1-2 years)</b>			
<b>R1</b>	Establish a regional safety working group of local and UDOT representatives that meets monthly or bimonthly. This group would be responsible for reviewing regional roadway safety trends, tracking progress toward the regional safety goal, and sharing best practices and lessons learned from addressing safety issues. This group would also promote participation in the bi-annual statewide <i>Zero Fatalities Safety Summit</i> to encourage staff and stakeholders across the region to exchange lessons learned and best practices with peers.	MAG	DATA RESOURCES

ID	Strategy	Lead Agency	Rationale
R2	Ensure all TIP, regionally funded, and capacity-building projects include proven safety countermeasures by establishing safety as a project scoring metric. Require documentation on how projects are addressing safety and, if applicable, the rationale when safety is not addressed.	MAG	RESOURCES
R3	Maintain an annually updated, public-facing safety data dashboard that displays the regional HIN, crash statistics, and metrics on overall progress toward achieving the regional safety goal(s). Publish bi-annual reports that share these metrics with the public and other measures including the share of TIP funding spent on the HIN and safety projects.	MAG	COMMUNITY DATA RESOURCES
R4	Publicize the Safe Streets Countermeasures Toolkit and host trainings for local jurisdictions and transit agency staff to share guidance about how to apply the safety countermeasures.	MAG	RESOURCES
R5	Publicize information and provide technical support to local jurisdictions for general funding sources and federal discretionary grant funding programs that can be applied to implement safe multimodal facilities.	MAG	MULTIMODE RESOURCES
R6	Host trainings for county sheriffs and local police departments that provide guidance on how to eliminate bias and victim blaming, how to standardize crash data collection and publication of crash data, and how to address key crash profiles and behaviors.	MAG, police departments	DATA PARTNERS RESOURCES
R7	Develop a regional Vision Zero safety campaign and branding to generate awareness about traffic safety; work with local governments, police departments, transit agencies, and other partners to publicize the campaign. Partner with state agencies to leverage established campaign programs (e.g., Zero Fatalities, the Highway Safety Office, and the Department of Public Safety).	MAG, UDOT, police departments	COMMUNITY PARTNERS RESOURCES
<b>Complete in Mid-Term (3-5 years)</b>			
R8	Work with local jurisdictions and the state to evaluate the HIN and identify speeding issues, determine a process for setting safe target speed limits, implement design interventions to reduce speeds, and/or separate people walking, rolling, and bicycling from people driving.	MAG, police departments, UDOT	MULTIMODE PARTNERS
R9	Develop an annual Vision Zero program budget to provide technical assistance to local jurisdictions seeking to conduct safety planning; hire additional staff to support the program, including a Professional Engineer or other licensed designer to liaison with local and UDOT engineers.	MAG	RESOURCES



## LOCAL RECOMMENDATIONS

It is recommended that local jurisdictions and partners pursue the local strategies listed in Table 10. These local strategies are critical because local governments are directly responsible for designing, maintaining, and regulating streets, making it crucial for them to prioritize safety countermeasures and the buildout of a safe multimodal system.

**Table 10. Local Strategies**

ID	Strategy	Lead Agency	Rationale
<b>Complete in Near-Term (1-2 years)</b>			
L1	Adopt the regional Vision Zero goal or set a local Vision Zero goal.	Local government	COMMUNITY
L2	Use the regional HIN, crash statistics, systemic safety results, transit proximity, and equity factors to prioritize transportation investments and inform decision-making in capital improvement plans.	Local government, transit agencies	MULTIMODE
L3	Implement safety countermeasures beginning on the HIN, and systemic safety countermeasures across the jurisdiction. Coordinate with UDOT to determine the selection of safety countermeasures and strategies for mitigating safety concerns on segments of the HIN on state highways.	Local government, UDOT	MULTIMODE
L4	Conduct before and after studies of safety improvements to assess effectiveness and refine future applications.	Local government	DATA
L5	Publicize the regional Vision Zero safety campaign and branding to generate awareness about roadway safety. Include this campaign and branding during the planning, outreach, and construction of projects with safety funding. Pair education efforts with roadway construction projects to educate the community on the importance of infrastructure changes, and how to safely utilize and navigate those changes.	Local government, police departments, transit agencies, media	COMMUNITY
L6	Review local street design guidelines, standards, municipal codes, and development review practices to ensure they reflect the latest best practices and design tools from the Safe Streets Countermeasures Toolkit.	Local government	MULTIMODE
L7	Establish an interagency crash rapid response team to review fatal and serious injury crashes and locations, and conduct roadway safety audits after every fatal and serious injury crash.	Local government, police departments	DATA PARTNERS

ID	Strategy	Lead Agency	Rationale
<b>Complete in Mid-Term (3-5 years)</b>			
L8	Develop a plan to address roadway safety locally via the transportation element of a general plan, a local transportation plan, an active transportation plan, and/or standalone local safety plan, that includes prioritization of locations for safety interventions, measurable safety goals, and performance measures to track and assess progress every year.	Local government	DATA MULTIMODE
L9	Complete sidewalks, trails, and bikeways along the HIN, particularly infrastructure identified in local or regional plans. Evaluate distances between intersections and crossings to reduce distances through mid-block crossings or new streets.	Local government, UDOT	MULTIMODE PARTNERS
L10	Collaborate with neighboring jurisdictions to ensure consistency of bicycle and pedestrian network planning across boundaries.	Local government	MULTIMODE RESOURCES
L11	Establish a “Quick Build” team to identify and deploy low-cost safety solutions at high-need locations throughout the jurisdiction.	Local government	RESOURCES MULTIMODE
L12	Work with UTA and other transit agencies to improve transit service frequencies, beginning on the HIN. Support transit service by improving first- and last-mile connections to transit stops and stations, providing shelter and other stop amenities, and supporting long-term transit-oriented development goals to increase dense walkable around transit.	Local government, transit agencies	MULTIMODE PARTNERS
L13	Evaluate all government fleet vehicles for safety, including proper safety equipment such as side guards, and explore opportunities to procure smaller sizes that set a greater community standard for safe vehicles.	Local government	MULTIMODE

## 6.4. SAFETY COUNTERMEASURES TOOLKIT

Through data analysis and engagement, the project team has identified priority locations and assessed their safety issues. The safety issues and conditions at priority locations can be addressed with proven safety countermeasures – strategies for roadway design that help eliminate fatal and serious injuries. This document – the Mountainland Safe Streets Countermeasures Toolkit (the Toolkit) – was developed as part of this Safety Action Plan to assist local governments in deploying evidence-based tools that advance the Safe System Approach. The Toolkit will serve as a guide to select, design, and incorporate safety designs into every street project in the region.

The Toolkit presents safety countermeasures known to reduce crashes involving people walking, rolling (i.e., using a wheelchair or other mobility assistive devices), bicycling, or driving. The safety countermeasures presented in the Toolkit were selected based on an understanding of the leading crash types and risk



factors for fatal and serious injury crashes in the region.<sup>4</sup> MAG and the local governments will use the Toolkit to develop a shared understanding among roadway designers, planners, political leaders, road users, and other key stakeholders about road safety countermeasures and their appropriate uses and contexts. It will facilitate the decision-making process among government staff, contractors, developers, and community members when selecting safety countermeasures. Additionally, MAG will provide trainings to local governments so there is an understanding of how to use the Toolkit and select appropriate safety countermeasures to address individual communities’ safety issues.

The Toolkit presents 24 safety countermeasures, several of which are from the FHWA Proven Safety Countermeasures initiative, which documents specific design or operational changes to roads that have been shown through national research to improve safety.<sup>5</sup> It includes educational information about each safety countermeasure including a description of the countermeasure, how the countermeasure functions, where the countermeasure should be applied, and typical costs. The complete Toolkit is in Appendix A.

### 6.4.1. RECOMMENDED SAFETY COUNTERMEASURES

The safety countermeasures recommended in the Toolkit are organized into five categories, generally based on the type of crashes they address:

- Pedestrian and Bicyclist
- Intersections
- Speed Management
- Roadway Departure
- Interconnected Improvements

The Toolkit assigns a tier to each safety countermeasure based on the FHWA Safe System Roadway Design Hierarchy (Figure 43) to indicate how well they align with the Safe System Approach.<sup>6</sup> The four tiers will help governments identify and prioritize safety countermeasures that are most effective at eliminating fatalities and serious injuries.



**Figure 43. Safe System Roadway Design Hierarchy**

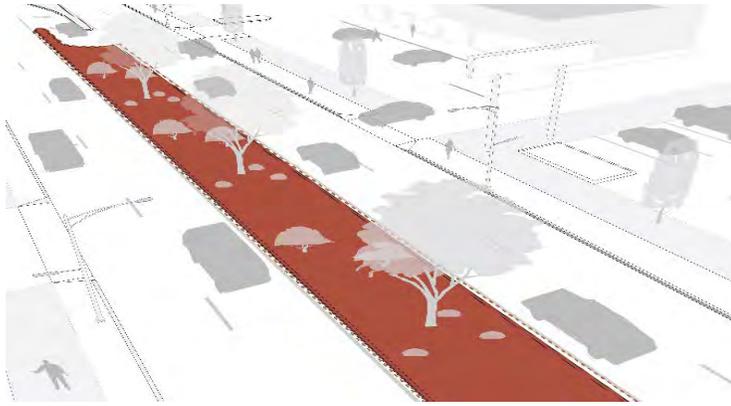
<sup>4</sup> The Toolkit was developed based on the understanding of prevailing crash types in both the MPO (Utah County) and MAG Rural Planning Organization region, therefore, the safety countermeasures in the Toolkit apply to both regions.

<sup>5</sup> FHWA. 2024. Proven Safety Countermeasures. <https://highways.dot.gov/safety/proven-safety-countermeasures>

<sup>6</sup> FHWA. 2024. Safe System Roadway Design Hierarchy: [https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-01/Safe\\_System\\_Roadway\\_Design\\_Hierarchy.pdf](https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-01/Safe_System_Roadway_Design_Hierarchy.pdf)

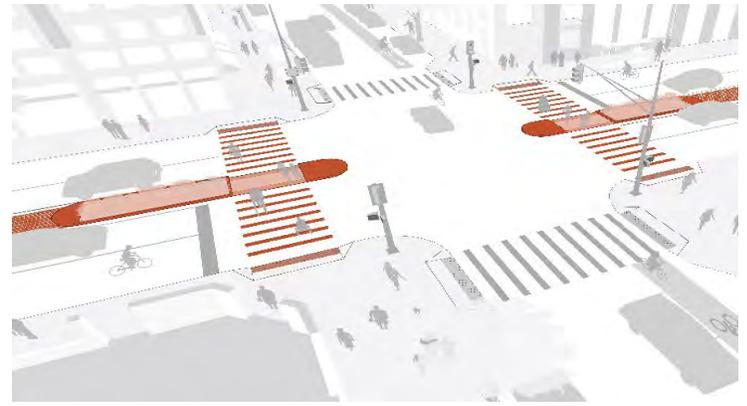
**6.4.1.1. Sample of Recommended Safety Countermeasures**

This is a sample of the Tier 1 countermeasures included in the Toolkit:



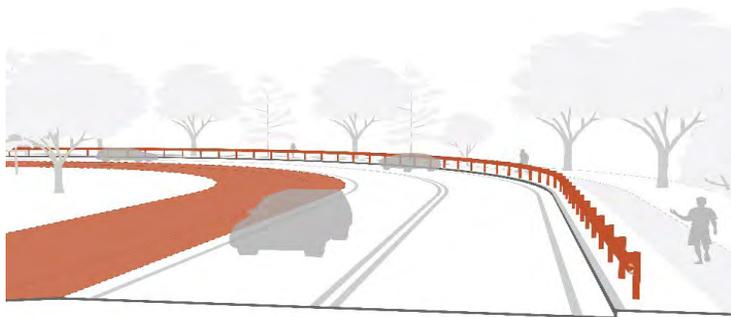
**Median Barriers**

Install physical infrastructure in the roadway median that separates opposing directions of travel lanes. They restrict drivers' turn movements and increase separation between drivers traveling in opposing directions.



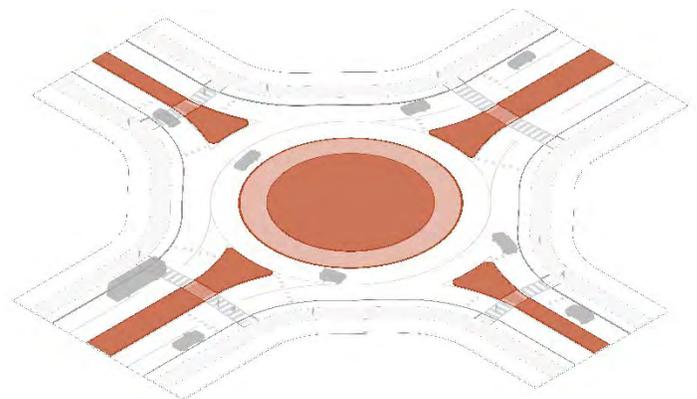
**Pedestrian Refuge Islands**

Create curbed sections in the center of a roadway that separate opposing directions of general-purpose lanes and provide a space for pedestrians crossing the street to cross one direction of traffic at a time.



**Roadside Design Improvements at Curves**

Deploy design improvements at curbs that include widened shoulders, flattened side slopes, expanded clear zones, and roadside barriers. These provide safe recovery if a driver departs the roadway.



**Roundabout**

Reconfigure intersections to roundabouts in which all approaches must yield to traffic already within the intersection. After yielding, drivers must circulate a center island before exiting to turn or continue straight. They reduce speeds and conflict points.

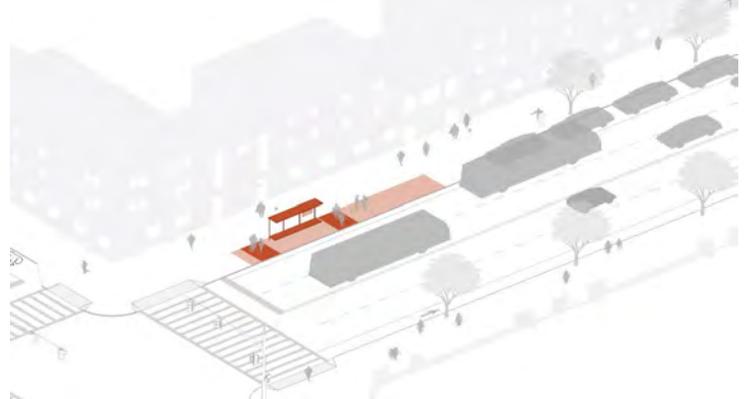
**6.4.1.2. Systemic Safety Countermeasures**

The Toolkit identifies select safety countermeasures as *systemic safety countermeasures*. Systemic safety countermeasures are countermeasures that should be applied region-wide regardless of the location’s crash history to proactively address the common safety issues associated with fatal and serious crashes. Local governments can install these safety countermeasures throughout their community or as standalone projects. These countermeasures should first be installed on the HIN, then region-wide in areas with similar crash risk factors to the HIN and the systemic high-risk facility profiles. This supports a proactive approach to safety and acknowledges that crash history alone does not determine safety. This Toolkit includes eight systemic safety countermeasures:



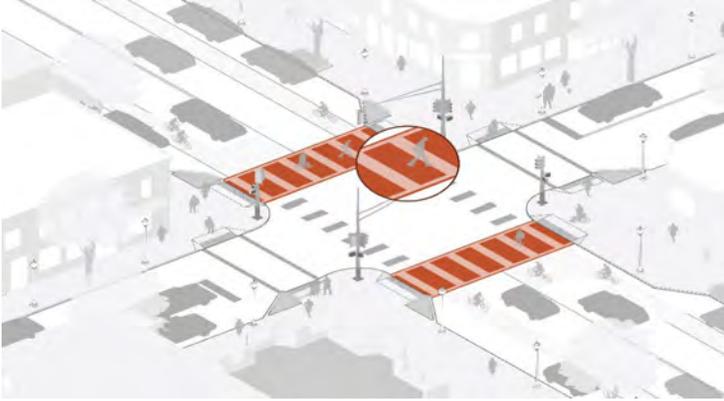
**Appropriate Speed Limits for All Road Users**

Set appropriate context-sensitive speed limits, especially in areas with a mix of road users, to reduce the significant risks drivers impose on others and themselves. In the event of a crash, fatalities, and serious injuries are much less likely if speeds are reduced.



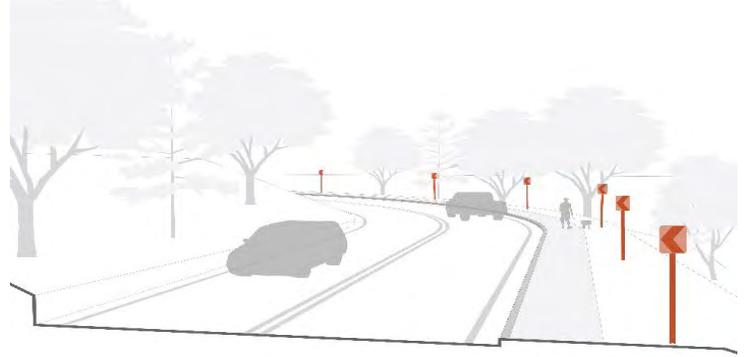
**Bus Stop Improvements**

Improve the area used for the waiting, boarding, and alighting of bus riders with amenities such as a clear curb area, safe crossings, and roadway area for the bus to safely service the stop. These create a safe, accessible, easily identifiable, and comfortable area for bus riders and bus operations.



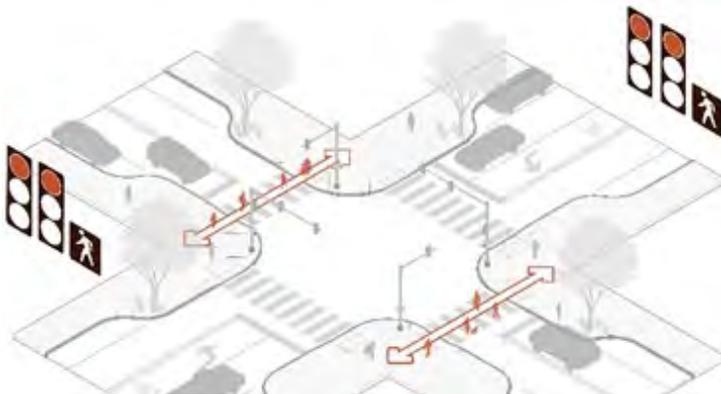
### Crosswalk Visibility Enhancements

Enhance crosswalks with high-visibility markings, lighting, and signage. High-visibility crosswalks include patterns such as bar pairs, continental, or ladder pavement markings that are visible to both drivers and pedestrians. These enhancements help improve the visibility of people in crosswalks



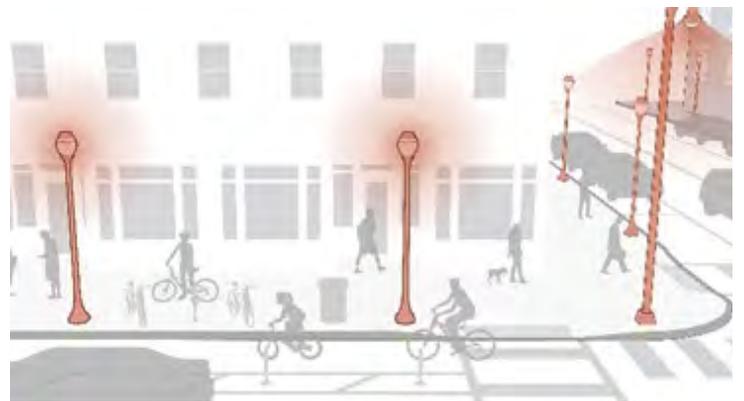
### Enhanced Delineation for Horizontal Curves

Enhance roadway curves with a variety of design strategies and features that can be implemented in advance of or within curves, in combination, or individually. These can include chevron signs, and pavement markings. They alert drivers to upcoming curves, the direction and sharpness of the curve, and the appropriate operating speed



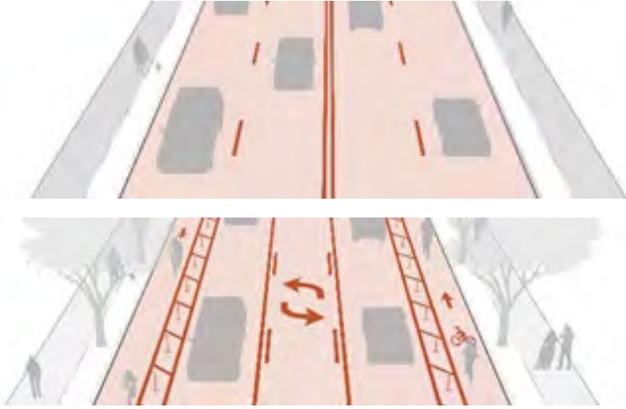
### Leading Pedestrian Intervals

Program traffic signals to give people walking a 3-7 second head start to enter crosswalks. These prioritize pedestrians within the intersection and allow them to enter the intersection first to establish presence before drivers begin moving. They increase the visibility of crossing pedestrians and reduce potential conflicts between pedestrians and turning drivers.



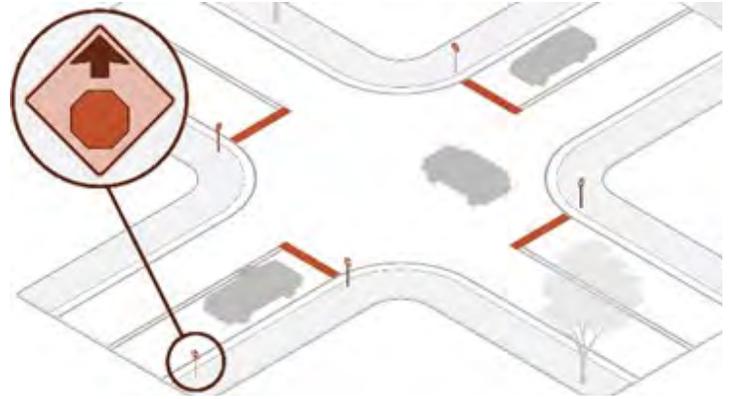
### Lighting

Install overhead lighting to increase visibility for all road users, especially at crossings. Pedestrian-scale lighting illuminates sidewalks and crossings where light fixtures are shorter than roadway-scale light fixtures. They may increase yielding and compliance when used in conjunction with traffic control devices.



### Road Diets (Roadway Reconfiguration)

Reduce the number of lanes or general-purpose lane widths so drivers travel at safe speeds and/or create roadway space for more users. These roadway reconfigurations can increase available space for pedestrian, bicycle, transit, or other infrastructure needs.



### Stop-Controlled Intersection Enhancements

Deploy a package of multiple low-cost countermeasures, including enhanced signing and pavement markings, at a large number of stop-controlled intersections within a jurisdiction. These countermeasures increase driver awareness and recognition of the intersections and potential conflicts.

# 7. Strategy and Process Selection

## 7.1. PROJECT IDENTIFICATION

Two primary approaches were used to identify projects. First, a technical approach identified projects to specifically address high injury segments and safety hotspots. Secondly, outcomes of outreach efforts were used to identify safety related projects of interest to the local communities.

### 7.1.1. TECHNICAL ANALYSIS

The technical analysis looked at specific crash statistics from the safety analysis along with geometric roadway conditions to identify appropriate countermeasures along high injury segments safety hotspots. Each location was matched with one or more countermeasures, which together created a project area. The countermeasures were primarily sourced from the FHWA proven countermeasures, and the countermeasures toolkit found in Section 6.4. Additional considerations were made to accommodate recent or planned projects, asking the following questions:

- Does the project influence the crash statistics?
- Are future projects going to include proposed countermeasures?
- Would future projects preclude the need for the countermeasure?

Finally, the identified project areas and countermeasures were vetted with the MPO stakeholder committees and local governments, through multiple rounds of review.

### 7.1.2. LOCAL RECOMMENDATIONS

Local interests were also considered to identify safety projects outside of the HIN and hotspot areas. Sources for these local recommendations include the website map comment tool, the project email address, public open houses, and meetings with local governments. These local safety project recommendations were vetted to ensure that they aligned with the FHWA Safe Systems Approach and were in the spirit of the Safety Action Plan.

## 7.2. PRIORITIZATION PROCESS

Project areas were prioritized into three tiers of priority for near, medium, and long-term time horizons. The prioritization process sought to account for the efficacy of the solutions being proposed, the opportunity for measurable improvement based on the existing condition, and the impact of the project on vulnerable populations. The prioritization process considered three primary considerations:

- Alignment with FHWA's Safe System Approach
- Safety Conditions
- Equity

## 7.2.1. SAFE SYSTEM APPROACH

FHWA’s Safe System Approach, detailed in section 1.2, was used as a screening and scoring for prioritization. Project areas needed to fall within one or more of the Safe System Element categories in order to qualify for inclusion in the plan. This was done to ensure that all projects included were safety related and in the spirit of the plan. Project areas receive a point for each safe systems element they address with a maximum of three possible points. Table 11 shows the full prioritization scoring rubric. Of the five safe systems elements, three were applicable to the project areas:

- **Safe Road Users:** Encourage safe, responsible driving and behavior by people who use our roads and create conditions that prioritize their ability to reach their destination unharmed.
- **Safe Roads:** Design roadway environments to mitigate human mistakes and account for injury tolerances, encourage safer behaviors, and facilitate safe travel by the most vulnerable users.
- **Safe Speed:** Promote safer speeds in all roadway environments through a combination of thoughtful, equitable, context-appropriate roadway design, appropriate speed-limit setting, targeted education, outreach campaigns, and enforcement.

## 7.2.2. SAFETY CONDITION

The existing safety condition was used in prioritization to capture the potential for safety improvements within project areas. The assumption is that for areas with the worst existing condition, there should be the highest potential for improvement and should receive increased priority. For this purpose, the following elements from the safety analysis were incorporated into the prioritization scoring:

- **HIN:** represents a priority network of locations where crashes, particularly higher severity crashes, are concentrated and occur most frequently.
- **Safety Hotspots:** locations with a high density of crashes within 500 feet of an intersection. Three types of hotspots were assessed: all crashes, fatal and serious injury crashes, and pedestrian and bicycle crashes.
- **Systemic Analysis:** The analysis led to the categorization of five tiers of facility profiles, each reflecting a different level of risk for fatal and serious injury crashes. The characteristics associated with each tier are indicative of high-risk facilities. For prioritization Medium, High, and Critical risk levels were considered.
- **Vulnerable Roadway Users:** “High-risk” areas for VRUs are those shown to be the most dangerous for people who walk, run, ride a bicycle, skate, use a scooter or wheelchair, or use other active-transportation modes.

Each project area was eligible to earn up to four priority score points, one for each of the aforementioned criteria. The complete prioritization scoring rubric is detailed in Table 11.

## 7.2.3. EQUITY

Equity was another important consideration for prioritization. The process seeks to prioritize project areas that will improve safety for the disadvantaged. The process utilized these two products of the equity analysis:



- **Disadvantaged Geography:** The Disadvantaged Community Analysis, detailed section 5.1, was used as part of the equity scoring criteria. The criteria scored projects which were within census tracts in the top 65th percentile of the Disadvantaged Community Index, both nationally and for the state. Project areas within nationally disadvantaged communities received two prioritization points, and those within locally disadvantaged communities received a single prioritization point.
- **Disadvantaged Segments:** Results from the travel pattern analysis were also used to score and prioritize project areas which serve disadvantaged individuals, not by where they live, but by where they travel. For the purposes of prioritization, the People in Poverty, section 5.3.1, analysis and network were utilized. Project areas aligned with these disadvantaged segments received a single prioritization point.

## 7.2.4. SCORING RUBRIC AND PRIORITIZATION THRESHOLDS

Table 11 shows the complete scoring rubric used for prioritization.

**Table 11. Prioritization Scoring Rubric**

Scoring Criteria	Points Available
<b>Safe Systems Approach</b>	<b>3</b>
Safe Road Users	1
Safe Roads	1
Safe Speeds	1
<b>Safety Condition</b>	<b>4</b>
High Injury Network	1
Safety Hotspot	1
Systemic Analysis <sup>1</sup>	0.5 – 1
Vulnerable Roadway Users	1
<b>Equity</b>	<b>3</b>
Disadvantaged Geography <sup>2</sup>	1 - 2
Disadvantaged Segment	1
<b>Maximum Possible Score</b>	<b>10</b>

<sup>1</sup>0.5 points for medium risk, 1 point for high or critical risk

<sup>2</sup>1 point for local disadvantage, 2 points for national disadvantage

Unique prioritization thresholds were set for each crash analysis zone. Scores tended to be higher in urbanized areas, so this approach ensured a more even distribution across each phase: near, medium and long-term. For each crash analysis zone, thresholds were set to achieve an even distribution across each phase. Table 12 shows the prioritization thresholds for each crash analysis zone.



**Table 12. Prioritization Thresholds by Crash Analysis Zone**

Crash Analysis Zone	Long-term	Medium-term	Near-term
American Fork/Pleasant Grove/Lindon	≤ 3	> 3 & < 7	≥ 7
Eagle Mountain/Saratoga Springs	< 4	≥ 4 & < 5	≥ 5
Lehi/Highland	< 3	≥ 3 & < 5	≥ 5
Orem/Provo	≤ 6	> 6 & < 8	≥ 8
Payson	< 4	≥ 4 & < 5	≥ 5
Spanish Fork/Springville	< 4	≥ 4 & < 7	≥ 7
Unincorporated Utah County	NA	≥ 3 & < 4	≥ 4

## 7.3. PROJECTS

As the result of the technical analysis, local recommendations, and prioritization process, safety projects were identified for each crash analysis zone. Projects arising from the crash data technical analysis were categorized into MAG Priority Tiers 1, 2 and 3, corresponding with the prioritized timeframe. Projects not arising from the technical analysis were grouped in their own “Local Projects” category. The following sections detail the recommended projects for each crash analysis zone.

### 7.3.1. PROJECT MAPS

MAG priority projects and Local Projects were developed for each crash analysis zone. Maps showing the locations and Tier of the projects in each analysis zone can be found in Figure 44 through Figure 50.

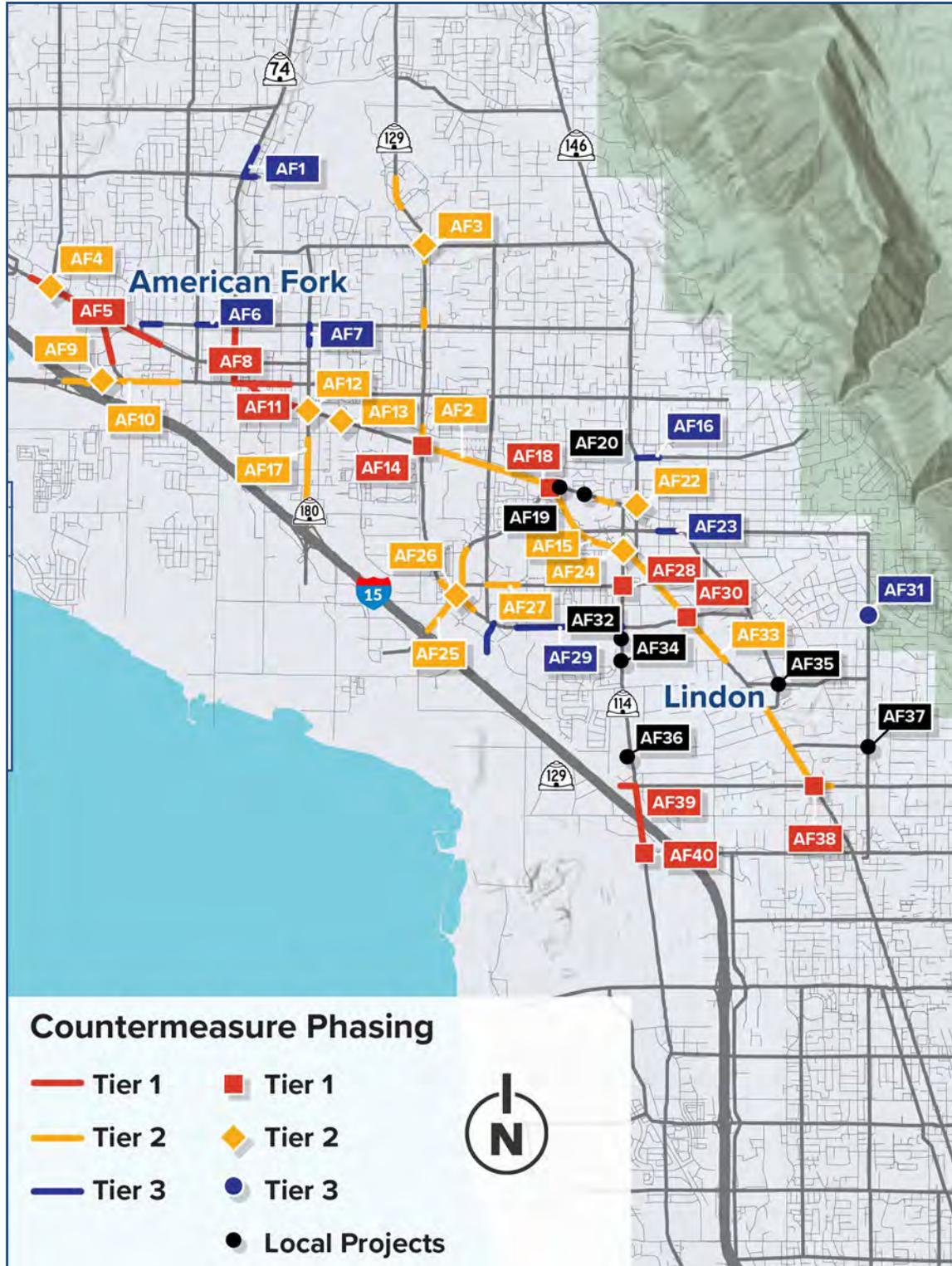


Figure 44. American Fork/Pleasant Grove/Lindon Crash Analysis Zone Project Recommendations

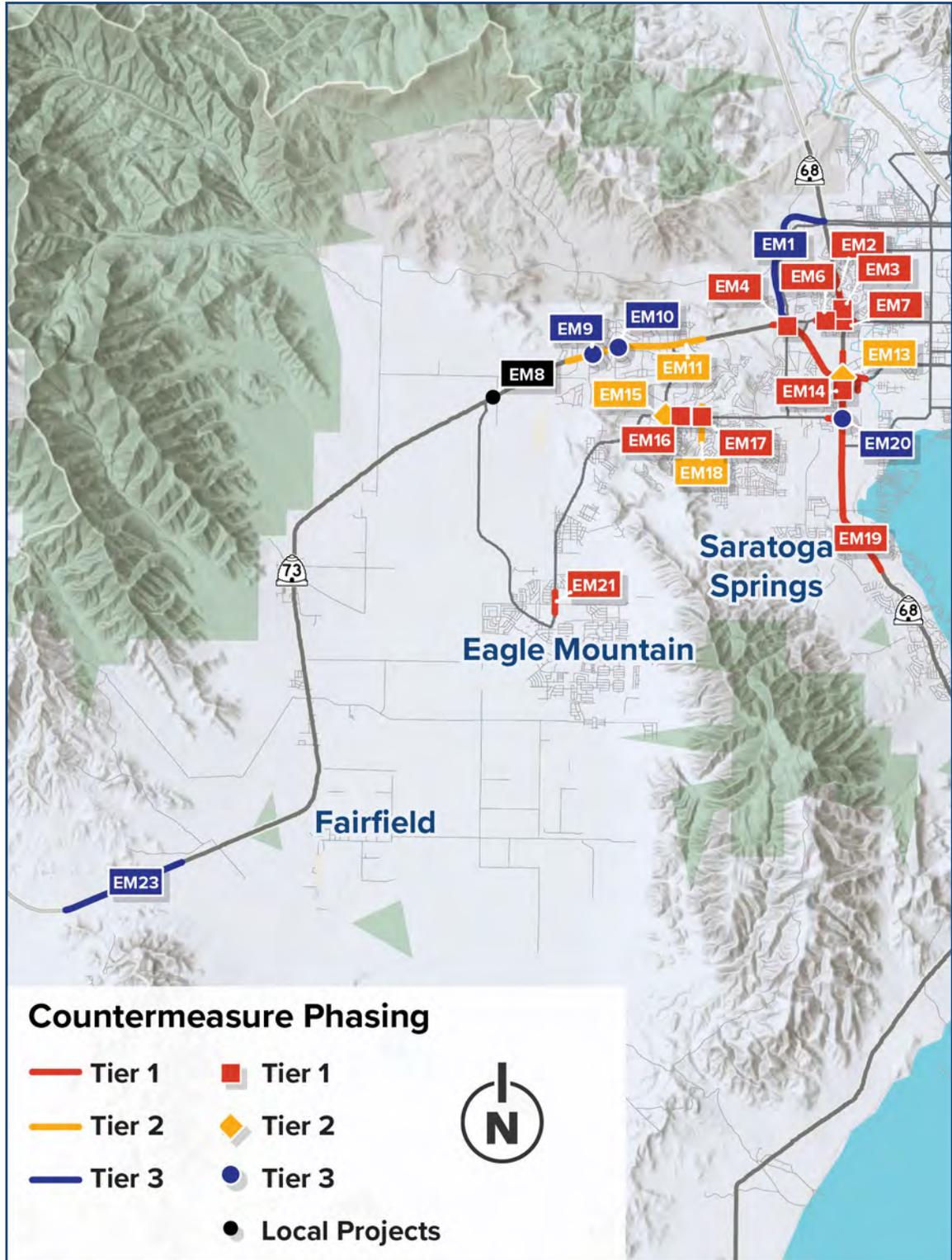


Figure 45. Eagle Mountain/Saratoga Springs Crash Analysis Zone Project Recommendations

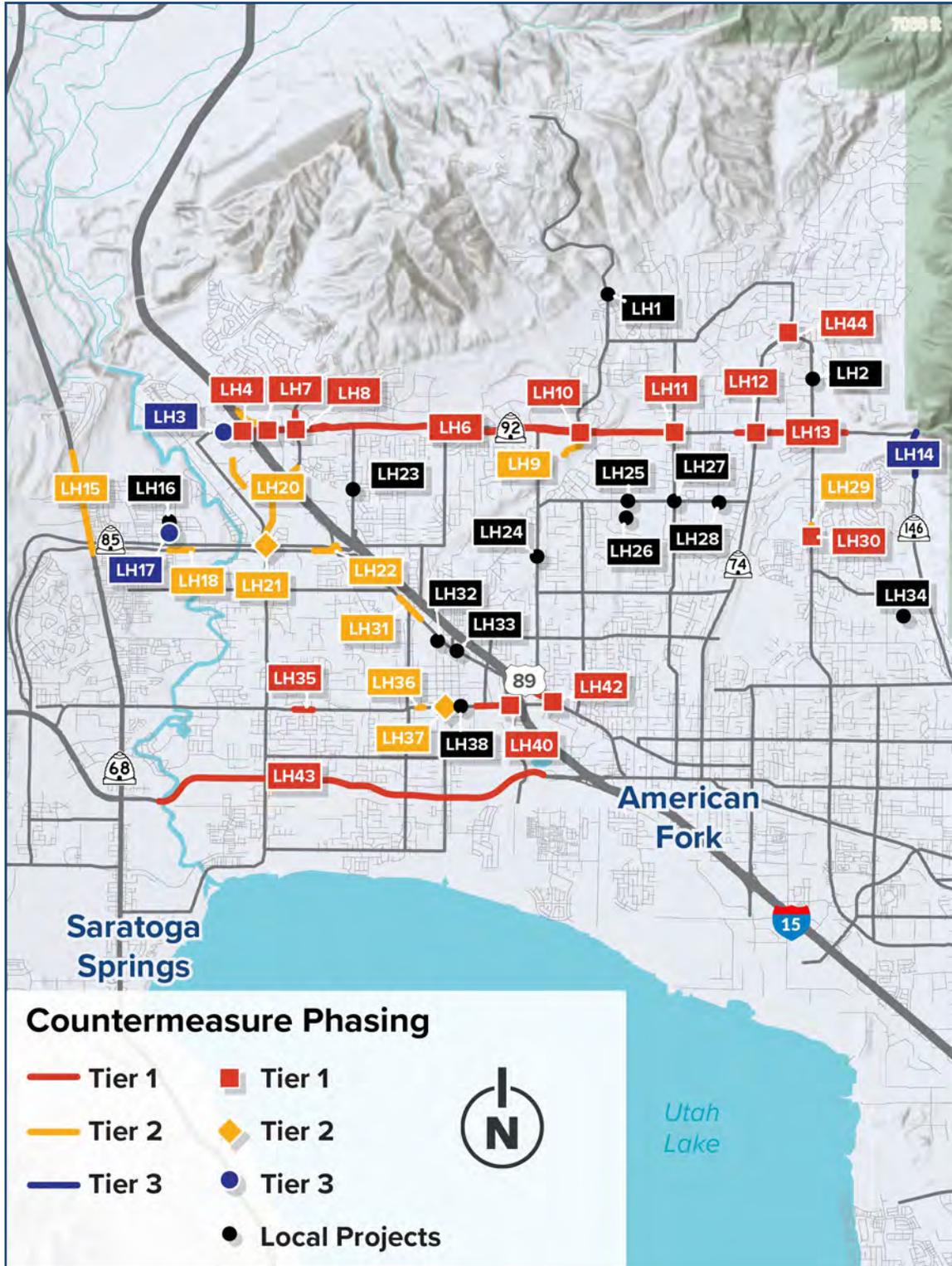


Figure 46. Lehi/Highland Crash Analysis Zone Project Recommendations

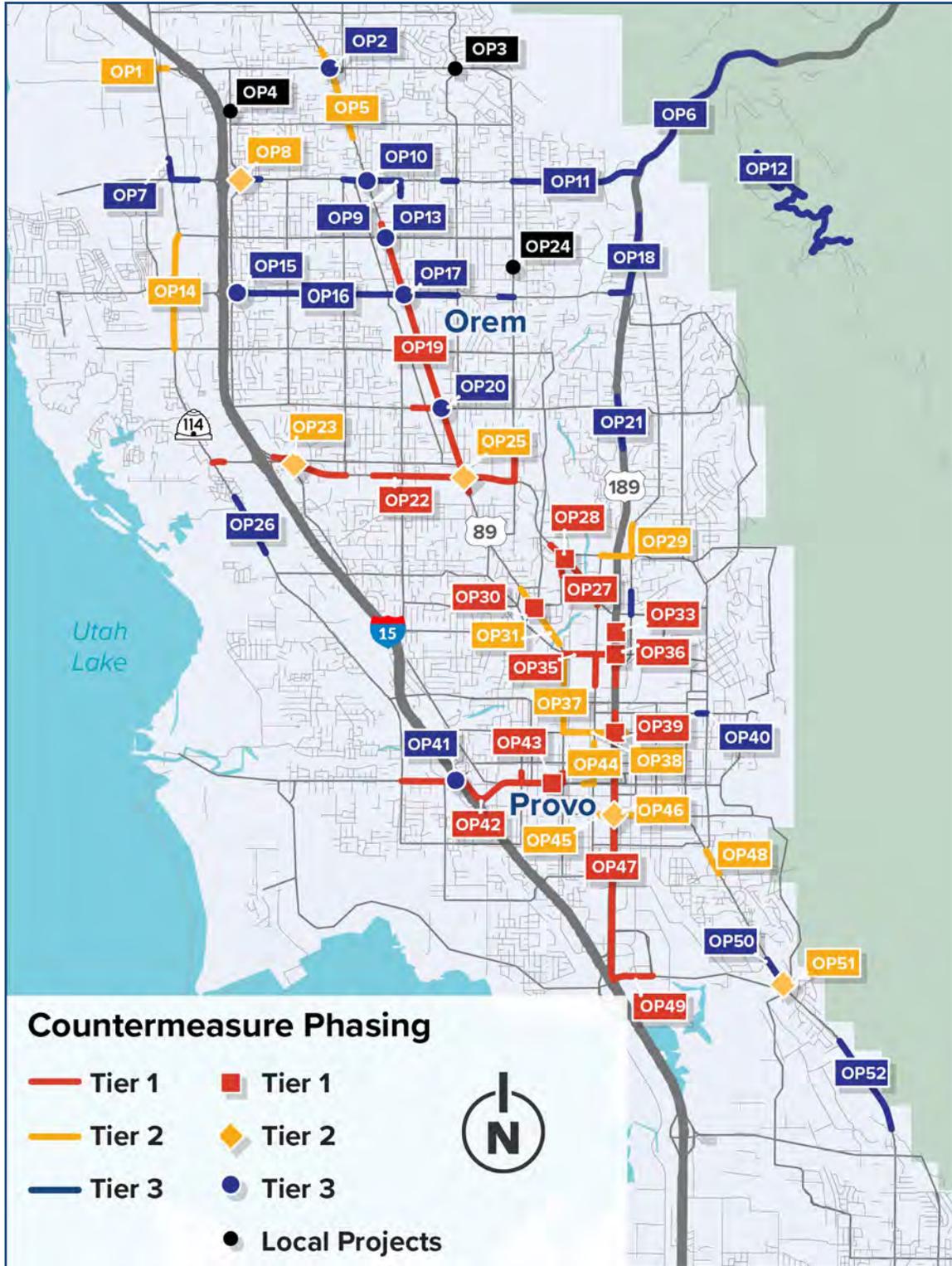


Figure 47. Orem/Provo Crash Analysis Zone Project Recommendations

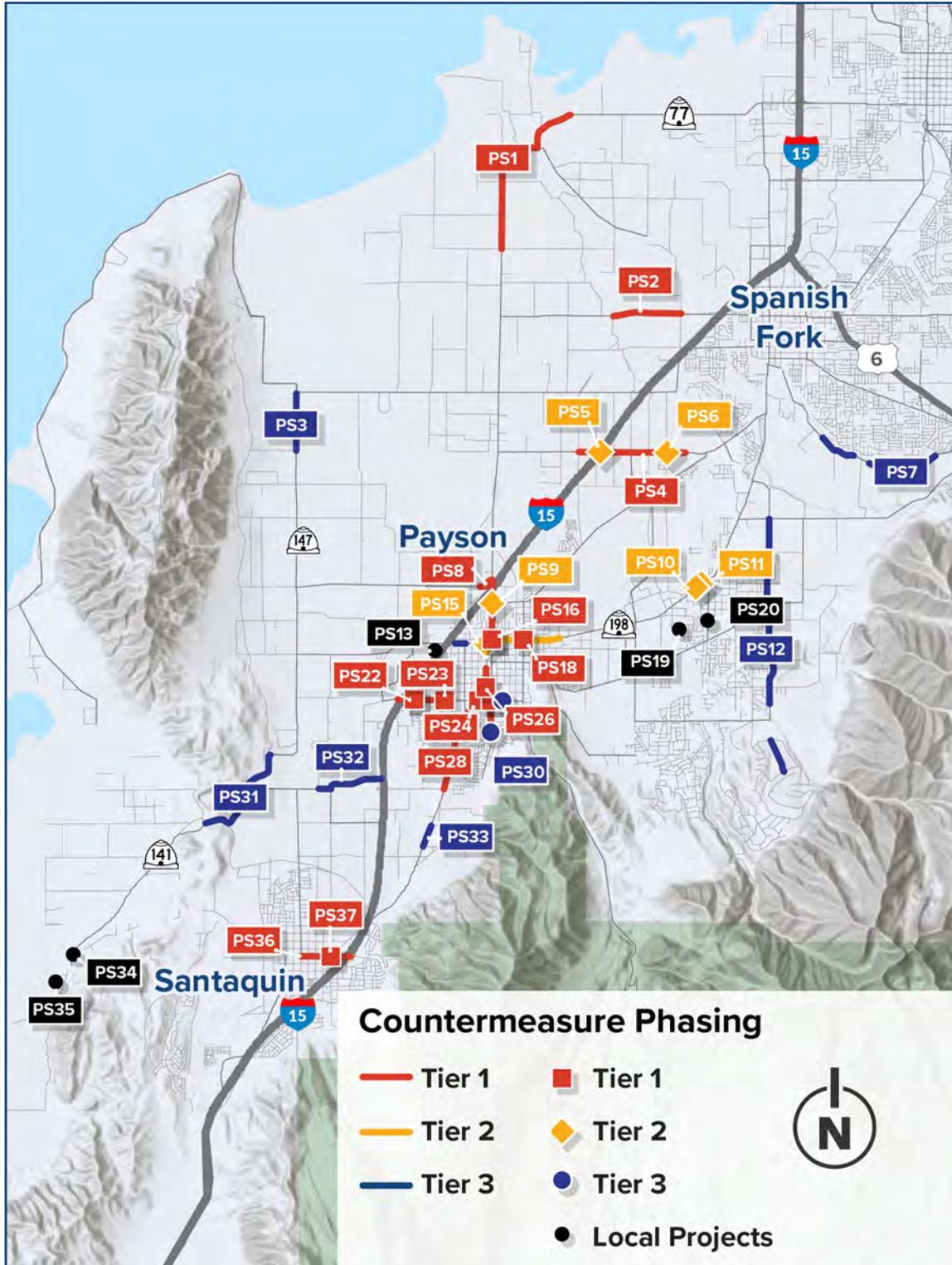


Figure 48. Payson Crash Analysis Zone Project Recommendations

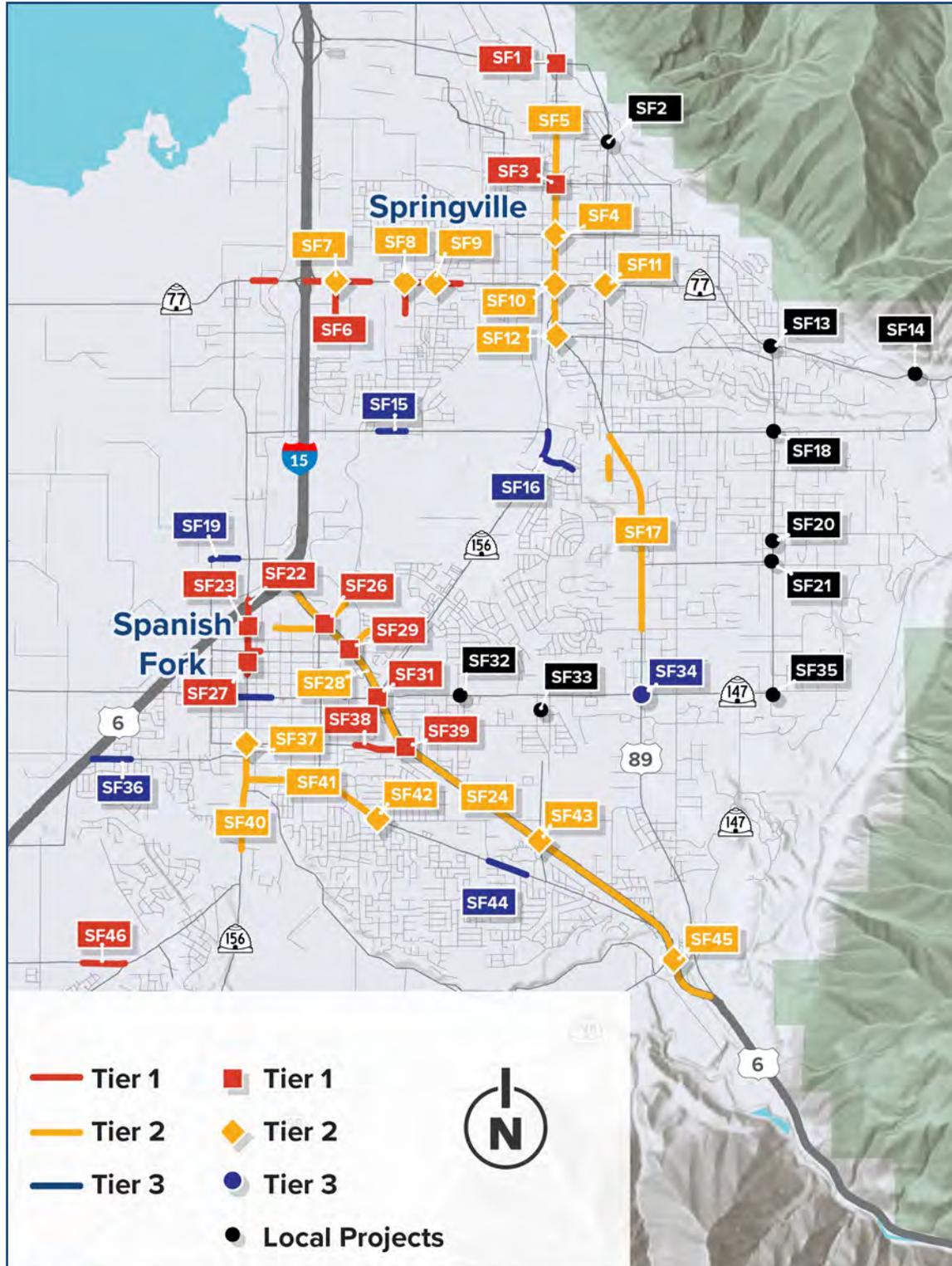


Figure 49. Spanish Fork/Springville Crash Analysis Zone Project Recommendations

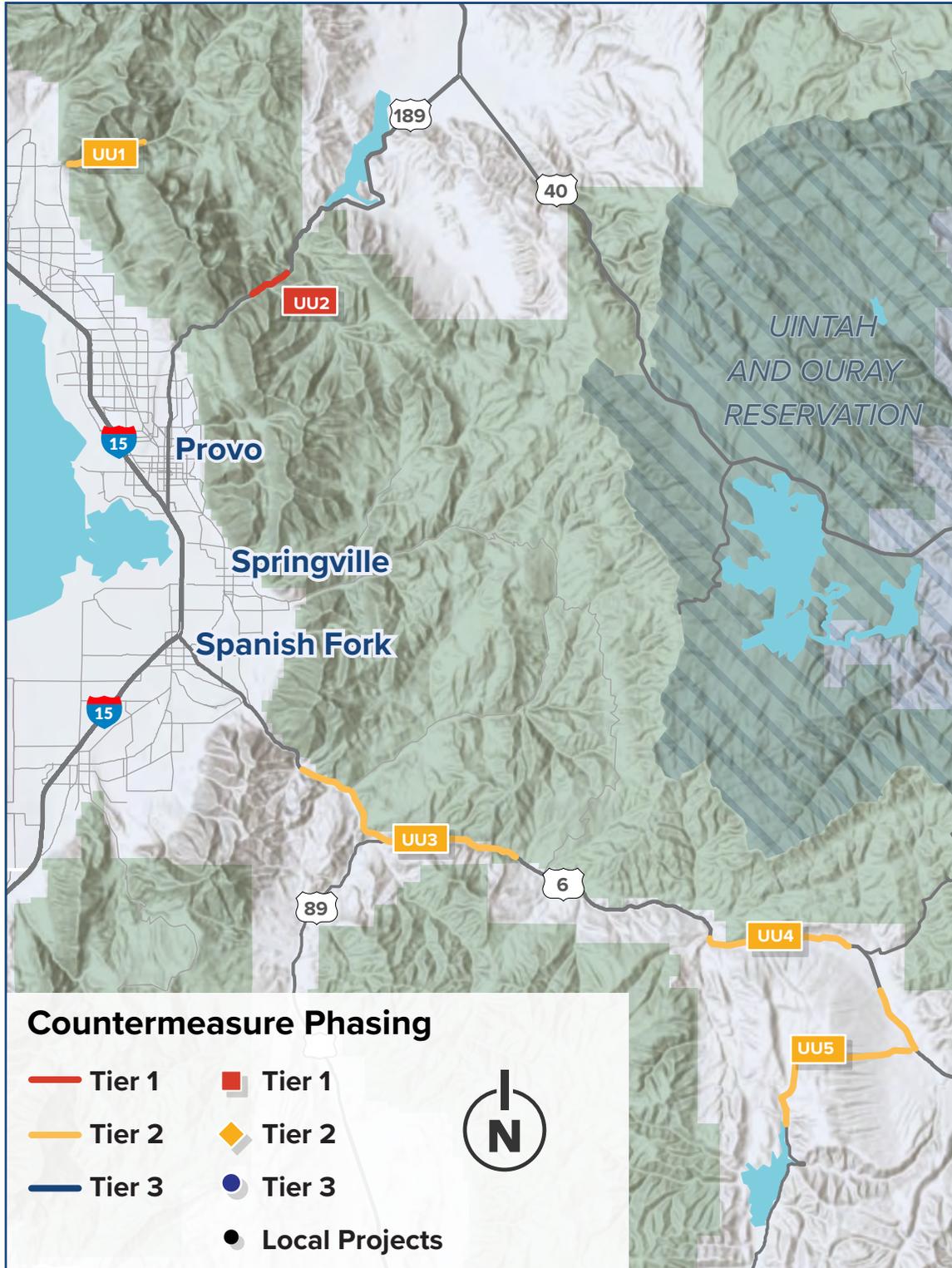


Figure 50. Unincorporated Utah County Crash Analysis Zone Project Recommendations

## 7.3.2. PROJECT TABLES

Table 13 through Table 19 detail the recommended projects for each high injury segment and safety hotspot in the crash analysis zones. The project IDs can be used to link the projects in the table to those on the maps. Red text in the tables denotes a recent, ongoing, or planned project in the same area as the study recommendations. In these cases, the project area may need to be monitored to see if the recent or future project will influence the safety issues the study recommendations are intended to address.

**Table 13. American Fork/Pleasant Grove/Lindon**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF1</b>	100 East (SR-74) at 1120 North	1340 North to 1120 North and 100 East to 200 East	American Fork	AF/PG/Lindon	Distracted driving education/enforcement campaigns especially amongst teenage drivers.	<b>Long-term</b>	<b>Tier 3</b>	21 Total 2 Serious Injury No Fatal No Ped 1 Bike
<b>AF2</b>	N. County Blvd (SR-129) in AF	1100 North to 1000 North, 700 North to 600 North, 400 North to 300 North	American Fork	AF/PG/Lindon	Speed management/enforcement on North County Blvd Red-light running education/enforcement campaign especially for teenage drivers Consider protected-only left turn phasing	<b>Medium-term</b>	<b>Tier 2</b>	43 Total 4 Serious Injury No Fatal 1 Ped 1 Bike
<b>AF3</b>	700 North/ North County Blvd (SR-129)	#N/A	American Fork	AF/PG/Lindon	Red-light running education/enforcement campaign, particularly in schools/as part of driver education Consider protected-only left turn phasing Upgrade pedestrian facilities Tighten curb radii Add bulb-outs Add leading pedestrian intervals	<b>Medium-term</b>	<b>Tier 2</b>	42 Total 3 Serious Injury No Fatal 1 Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF4</b>	900-950 West/ State Street (US-89)	#N/A	American Fork	AF/PG/ Lindon	Add striping Upgrade traffic signal heads to add reflective borders Add “no left turn” signage at 950 West/State Street Upgrade pedestrian facilities Add center median on State Street to prevent illegal turns to/from 950 West Add bulb-outs Tighten curb radii Add leading pedestrian intervals	<b>Medium-term</b>	<b>Tier 2</b>	71 Total 3 Serious Injury 1 Fatal 1 Ped No Bike
<b>AF5</b>	State St (US-89) and Pacific Dr	1000 West to 120 North and State Street to 300 West	American Fork	AF/PG/ Lindon	Improve lighting Speed management/enforcement on State Street Improve lighting at pedestrian crossing at 400 East/Pacific Drive Consider protected-only left turn phasing for NB traffic on State St Median and no left turn from State/Pacific to Quick Quack	<b>Near-term</b>	<b>Tier 1</b>	211 Total 11 Serious Injury 1 Fatal 4 Ped No Bike
<b>AF6</b>	300 North AF	400 West to 300 West, 100 West to Center Street	American Fork	AF/PG/ Lindon	Add high-visibility stop-signs Add pedestrian crosswalk at 300 West Distracted driving education/enforcement campaign especially for teenage drivers	<b>Long-term</b>	<b>Tier 3</b>	24 Total 1 Serious Injury No Fatal 1 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF7</b>	500 East AF – South of 300 North	300 North to 200 North	American Fork	AF/PG/Lindon	Improve stop-sign visibility on 500 East at 300 North intersection Shoulder improvements on south side of 300 North east of 500 East Active Transportation improvements	<b>Long-term</b>	<b>Tier 3</b>	15 Total 1 Serious Injury No Fatal No Ped 1 Bike
<b>AF8</b>	100 East (SR-74) and Main St AF	300 North to Main Street and 100 East to 400 East	American Fork	AF/PG/Lindon	Speed management on 100 East Upgrade pedestrian facilities on Main Street Add pedestrian crossing at 200 North/100 East Distracted driving education/enforcement campaigns, especially for teenage drivers. Improve lighting on 100 East and Main Street east of 200 East	<b>Near-term</b>	<b>Tier 1</b>	176 Total 6 Serious Injury 2 Fatal 4 Ped 1 Bike
<b>AF9</b>	Kawakami Drive/ West Main Street (SR-145)	#N/A	American Fork	AF/PG/Lindon	Consider protected-only left turn phasing	<b>Medium-term</b>	<b>Tier 2</b>	114 Total 1 Serious Injury No Fatal No Ped No Bike
<b>AF10</b>	Main St (SR-145/US-89)) AF - East of I-15	I-15 to 200 West	American Fork	AF/PG/Lindon	Upgrade pedestrian facilities between 200 West and 400 West Distracted driving education/enforcement campaigns Add bicycle facilities on corridor Red-light running education/enforcement campaign	<b>Medium-term</b>	<b>Tier 2</b>	290 Total 2 Serious Injury 1 Fatal 2 Ped 2 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF11</b>	State St (US-89)- AF Main to North County Blvd (SR-129)	American Fork Main Street (200 East) to North County Blvd	American Fork	AF/PG/Lindon	<p><b>*Current widening project from 500 E to 220 S PG*</b></p> <p>Upgrade pedestrian facilities at 700 East intersection including crosswalk visibility</p> <p>Add bicycle facilities</p> <p>Consider protected-only left turn phasing</p> <p>Red-light running education/enforcement campaign</p> <p>Speed management along US-89</p> <p>Add Median at 400 E/US-89 to protect left turns. Put medians at intersections w/ more than 50% crashes</p>	<b>Near-term</b>	<b>Tier 1</b>	<p>336 Total</p> <p>10 Serious Injury</p> <p>2 Fatal</p> <p>7 Ped</p> <p>1 Bike</p>
<b>AF12</b>	500 East (SR-180)/State Street (US-89)	#N/A	American Fork	AF/PG/Lindon	<p><b>*Current widening project from 500 E to 220 S PG*</b></p> <p>Consider protected-only left turn phasing</p> <p>Add striping</p> <p>Tighten curb radii</p> <p>Consider no-right-turn-on-red</p> <p>Upgrade traffic signal heads to add reflective borders</p>	<b>Medium-term*</b>	<b>Tier 2*</b>	<p>124 Total</p> <p>1 Serious Injury</p> <p>No Fatal</p> <p>3 Ped</p> <p>1 Bike</p>

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF13</b>	700 East/State Street (US-89)	#N/A	American Fork	AF/PG/Lindon	<p><b>*Current widening project from 500 E to 220 S PG*</b></p> <p>Improve lighting            Consider protected-only left turn phasing            Upgrade traffic signal heads to add reflective borders            Upgrade pedestrian facilities            Add bulb-outs            Tighten curb radii            Add leading pedestrian intervals</p>	<b>Medium-term*</b>	<b>Tier 2*</b>	36 Total 3 Serious Injury 1 Fatal 3 Ped No Bike
<b>AF14</b>	North County Blvd (SR-129)/ State Street (US-89)	#N/A	American Fork	AF/PG/Lindon	<p><b>*Current widening project from 500 E to 220 S PG*</b></p> <p>Red-light running education/enforcement campaign, particularly in schools/as part of driver education            Consider protected-only left turn phasing            Add striping            Add leading pedestrian interval            Upgrade pedestrian facilities and add bulb-outs at crossings            Tighten curb radii</p>	<b>Near-term*</b>	<b>Tier 1*</b>	189 Total 7 Serious Injury No Fatal 2 Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF15</b>	State Street (US-89) - Pleasant Grove	North County Blvd to 1000 South PG	Pleasant Grove	AF/PG/Lindon	<p><b>*Current widening project from 500 E to 220 S PG*</b></p> <p>Convert more intersections to protected only Upgrade pedestrian facilities at PG Blvd intersection and 1000 South PG/700 North Lindon intersection Add bicycle facilities on State Street between North County Blvd and PG Blvd Upgrade bicycle facilities</p>	<b>Medium-term*</b>	<b>Tier 2*</b>	548 Total 18 Serious Injury 3 Fatal 3 Ped 7 Bike
<b>AF16</b>	500 North - PG	100 East to 300 East	Pleasant Grove	AF/PG/Lindon	<p>Improve stop-sign visibility at stop-controlled intersections Improve crosswalk visibility at 300 East intersection including flashing signs.</p>	<b>Long-term</b>	<b>Tier 3</b>	16 Total 2 Serious Injury No Fatal 1 Ped No Bike
<b>AF17</b>	500 East (SR-180) AF - North of I-15	300 South to I-15	American Fork	AF/PG/Lindon	<p><b>*Signal added at 400 South*</b></p> <p>Speed management/enforcement on 500 East Red-light running education/enforcement campaign Distracted driving education/enforcement campaigns</p>	<b>Medium-term</b>	<b>Tier 2</b>	81 Total 2 Serious Injury 1 Fatal 1 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF18</b>	Pleasant Grove Blvd/ State Street (US-89)	#N/A	Pleasant Grove	AF/PG/ Lindon	<p><b>*Current widening project from 500 E to 220 S PG*</b></p> <p>Distracted driving education/enforcement campaigns</p> <p>Impaired driving education/enforcement campaigns</p> <p>Add bulb-outs</p> <p>Tighten curb radii</p> <p>Add leading pedestrian intervals</p>	<b>Near-term*</b>	<b>Tier 1*</b>	121 Total No Ser. Injury 1 Fatal 1 Ped No Bike
<b>AF19</b>	600 West St / Center St.	#N/A	Pleasant Grove	AF/PG/ Lindon	Intersection improvement	<b>Long-term</b>	<b>Local Project</b>	
<b>AF20</b>	Center St - PG/ Thorneberry Way	#N/A	Pleasant Grove	AF/PG/ Lindon	Upgrade pedestrian facilities Consider traffic signal at 2000 W	<b>Long-term</b>	<b>Local Project</b>	
<b>AF21</b>	Center St - PG	300 West to 100 West	Pleasant Grove	AF/PG/ Lindon	Implement traffic calming measures or road diet on Center Street Active transportation improvements on Center Street	<b>Medium-term</b>	<b>Tier 2</b>	14 Total 1 Serious Injury No Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF22</b>	Center Street/100 East	#N/A	Pleasant Grove	AF/PG/Lindon	Consider modifying traffic signal timing with longer clearance intervals such as with advanced dilemma zone detection Distracted driving education/enforcement campaigns, particularly in schools/as part of driver education Upgrade bicycle facilities Upgrade pedestrian facilities Add leading pedestrian intervals	<b>Medium-term</b>	<b>Tier 2</b>	51 Total No Ser. Injury No Fatal 1 Ped 3 Bike
<b>AF23</b>	200 South - PG	300 East to 400 East	Pleasant Grove	AF/PG/Lindon	Implement traffic calming measures on 400 East Consider increased stop-sign visibility at intersections	<b>Long-term</b>	<b>Tier 3</b>	18 Total 1 Serious Injury No Fatal No Ped No Bike
<b>AF24</b>	S. Main Street (SR-114)/State Street (US-89)	#N/A	Lindon	AF/PG/Lindon	Access management Consider prohibiting NB and SB left turns Add green blocks to bike lane through dilemma zones	<b>Medium-term</b>	<b>Tier 2</b>	99 Total 3 Serious Injury No Fatal No Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF25</b>	PG Blvd (SR-135)- North County Blvd (SR-129)	Garden Grove Lane to I-15 – Grove Pkwy to Mountain View Lane	Pleasant Grove	AF/PG/Lindon	<b>*Current Construction on Corridor*</b> Speed management on Pleasant Grove Blvd between I-15 and North County Blvd Well defined lane lines and merge areas near I-15 Interchange Distracted driving education/enforcement campaigns	<b>Medium-term*</b>	<b>Tier 2*</b>	358 Total 3 Serious Injury No Fatal No Ped 1 Bike
<b>AF26</b>	North County Blvd (SR-129)/ Pleasant Grove Blvd (SR-135)	#N/A	Pleasant Grove	AF/PG/Lindon	<b>*Currently under construction*</b> <b>*North-eastbound Right-turn improvements added in 2020*</b> Distracted driving education/enforcement campaigns Add advance right turn lane signage or road markings on NB Pleasant Grove Blvd.	<b>Medium-term*</b>	<b>Tier 2*</b>	165 Total No Ser. Injury No Fatal No Ped No Bike
<b>AF27</b>	Sam White Ln - 700 South	Proctor Lane to 1050 West – Main Street to Fossil Lane	Pleasant Grove	AF/PG/Lindon	Active Transportation Improvements on Sam White Lane Upgrade pedestrian facilities at 800 West and 910 West intersections Distracted driving education/enforcement campaigns	<b>Medium-term</b>	<b>Tier 2</b>	18 Total 2 Serious Injury No Fatal 3 Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF28</b>	700 North (SR-129)/Main Street (SR-114)	#N/A	Pleasant Grove	AF/PG/Lindon	Red-light running education/enforcement campaign Distracted driving education/enforcement campaigns Consider protected-only left turn phasing for the WBL movement Upgrade pedestrian facilities Add bulb-outs Tighten curb radii Add leading pedestrian intervals	<b>Near-term</b>	<b>Tier 1</b>	35 Total 1 Serious Injury No Fatal 4 Ped No Bike
<b>AF29</b>	700 North (SR-129) Lindon	1700 West to Geneva Road	Lindon	AF/PG/Lindon	<b>*Signal being designed for Anderson Blvd (1400 W)*</b> Improve lighting Signalization of intersections on corridor Add rumble strips Add wider edge lines	<b>Long-term</b>	<b>Tier 3</b>	52 Total 3 Serious Injury No Fatal No Ped No Bike
<b>AF30</b>	700 North (SR-129)/ State Street (US-89)	#N/A	Lindon	AF/PG/Lindon	Red-light running education/enforcement campaign Consider protected-only left turn phasing Tighten curb radii Upgrade pedestrian facilities Add leading pedestrian intervals	<b>Near-term</b>	<b>Tier 1</b>	82 Total 3 Serious Injury No Fatal 3 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF31</b>	1000 South/1500 East	#N/A	Pleasant Grove	AF/PG/Lindon	Bicycle safety education campaign Improve lighting Upgrade bicycle facilities	<b>Long-term</b>	<b>Tier 3</b>	6 Total No Ser. Injury No Fatal No Ped 2 Bike
<b>AF32</b>	Geneva Rd (SR-114)/600 North St.	#N/A	Lindon	AF/PG/Lindon	Speed enforcement	<b>Long-term</b>	<b>Local Project</b>	
<b>AF33</b>	State Street (US-89) - Lindon	700 North to 500 North and 200 North to 200 South	Lindon	AF/PG/Lindon	Speed management/enforcement on State Street Improve lighting Upgrade bicycle facilities Consider protected-only left turn phasing	<b>Medium-term</b>	<b>Tier 2</b>	207 Total 6 Serious Injury No Fatal 3 Ped 2 Bike
<b>AF34</b>	Geneva Road/ 500 North St.	#N/A	Lindon	AF/PG/Lindon	New signal	<b>Long-term</b>	<b>Local Project</b>	
<b>AF35</b>	Locust Ave / 400 North St.	#N/A	Lindon	AF/PG/Lindon	Add mini roundabout Add trail to 135 West	<b>Long-term</b>	<b>Local Project</b>	

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>AF36</b>	Geneva Rd (SR-114) - Lindon/Center St.	#N/A	Pleasant Grove	AF/PG/Lindon	Railroad crossing diagnostic	Long-term	Local Project	
<b>AF37</b>	400 East St / Center St	#N/A	Lindon	AF/PG/Lindon	Add mini roundabout Add sidewalks	Long-term	Local Project	
<b>AF38</b>	200 South/ State Street (US-89)	#N/A	Lindon	AF/PG/Lindon	Red-light running education/enforcement campaign Speeding education/enforcement campaign Consider protected-only left turn phasing Tighten curb radii	Near-term	Tier 1	52 Total 3 Serious Injury No Fatal No Ped No Bike
<b>AF39</b>	Geneva Rd (SR-114) - Lindon	200 South to 600 South	Lindon	AF/PG/Lindon	Consider protected-only left turn phasing Red-light running education/enforcement campaign Distracted driving education/enforcement campaigns	Near-term	Tier 1	97 Total 4 Serious Injury No Fatal No Ped No Bike
<b>AF40</b>	600 South (1600 N Orem)/ Geneva Road (SR-114)	#N/A	Lindon	AF/PG/Lindon	<b>*Eastbound right-turn lane added in 2023*</b> Red-light running education/enforcement campaign Upgrade traffic signal heads to add reflective borders Tighten curb radii Consider protected-only left turn phasing	Near-term	Tier 1	105 Total 4 Serious Injury No Fatal No Ped No Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.



**Table 14. Eagle Mountain/Saratoga Springs**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM1</b>	SR-145 MVC - west of Redwood	Redwood Road to SR-73	Saratoga Springs	Eagle Mtn/ Saratoga Springs	<b>*New four-lane road in 2020*</b> Shoulder improvements Add rumble strips/stripes	<b>Long-term</b>	<b>Tier 3</b>	47 Total 1 Serious Injury No Fatal No Ped No Bike
<b>EM2</b>	Redwood Rd (SR-68)- north of Crossroads Blvd	Harvest Hills Blvd to Crossroads Blvd	Saratoga Springs	Eagle Mtn/ Saratoga Springs	Add intersection warning signs Distracted driving education/enforcement campaigns, especially for teens Adjust signal timings	<b>Near-term</b>	<b>Tier 1</b>	164 Total 5 Serious Injury 2 Fatal No Ped No Bike
<b>EM3</b>	Commerce Drive/ Redwood Road (SR-68)	#N/A	Saratoga Springs	Eagle Mtn/ Saratoga Springs	Red-light running education/enforcement campaign Distracted driving education/enforcement campaign Consider protected-only left turn phasing Consider removing permissive left turn phase for NBL movement Improve lane markings	<b>Near-term</b>	<b>Tier 1</b>	71 Total 3 Serious Injury 1 Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM4</b>	Foothill Blvd/ SR-73/ SR-145	#N/A	Saratoga Springs	Eagle Mtn/ Saratoga Springs	<p><b>*Dual EB lefts and dual NBT lanes added in 2020*</b></p> <p><b>*Future UDOT project in 2024*</b></p> <p>Consider protected left-turn phasing</p> <p>Tight turning radii</p> <p>Consider no-right-turn-on-red</p> <p>Improve lighting</p>	<b>Near-term*</b>	<b>Tier 1*</b>	176 Total 4 Serious Injury 1 Fatal No Ped 1 Bike
<b>EM5</b>	Crossroads Blvd	400 West to Commerce Drive	Saratoga Springs	Eagle Mtn/ Saratoga Springs	<p>Adjust signal timings</p> <p>Remove TWLTL/install raised median with turn pockets</p> <p>Add intersection warning signs</p> <p>Distracted driving education/enforcement campaigns, especially for teens</p>	<b>Near-term</b>	<b>Tier 1</b>	142 Total 6 Serious Injury 1 Fatal 1 Ped 1 Bike
<b>EM6</b>	Exchange Drive/ Crossroads Blvd	#N/A	Saratoga Springs	Eagle Mtn/ Saratoga Springs	<p>Consider modifying traffic signal timing with longer clearance intervals such as with advanced dilemma zone detection</p> <p>Consider protected-only left turn phasing</p> <p>Upgrade pedestrian facilities</p> <p>Red-light running education/enforcement campaign</p>	<b>Near-term</b>	<b>Tier 1</b>	63 Total 3 Serious Injury No Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM7</b>	Crossroads Blvd/ Redwood Road (SR-68)	#N/A	Saratoga Springs	Eagle Mtn/ Saratoga Springs	Consider no-right-turn-on-red Red-light running education/enforcement campaigns Add leading pedestrian interval Tighten turning radii Add bulb-outs Upgrade pedestrian facilities Upgrade the bicycle facility	<b>Near-term</b>	<b>Tier 1</b>	136 Total 3 Serious Injury No Fatal 2 Ped 1 Bike
<b>EM8</b>	SR-73-The Ranches	#N/A	Eagle Mountain	Eagle Mtn/ Saratoga Springs	Speed enforcement	<b>Long-term</b>	<b>Local Project</b>	
<b>EM9</b>	Valley Drive/ SR-73	#N/A	Eagle Mountain	Eagle Mtn/ Saratoga Springs	<i>*Signal added in 2022*</i> Improve lighting Consider protected-only left turn phasing	<b>Long-term*</b>	<b>Tier 3*</b>	19 Total 4 Serious Injury 1 Fatal No Ped No Bike
<b>EM10</b>	South Sunset Dr/SR-73	#N/A	Eagle Mountain	Eagle Mtn/ Saratoga Springs	Improve lighting	<b>Long-term</b>	<b>Tier 3</b>	20 Total 2 Serious Injury 1 Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM11</b>	SR-73-The Ranches	Canyon Wash Drive to Mt Airy Drive	Eagle Mountain	Eagle Mtn/Saratoga Springs	<p><b>*New Signal added at 14400 West/Valley Dr in 2022*</b></p> <p>Add signals or roundabouts Add intersection warning signs Distracted driving education/enforcement campaigns, especially for teens</p>	<b>Medium-term</b>	<b>Tier 2</b>	106 Total 9 Serious Injury 1 Fatal No Ped No Bike
<b>EM12</b>	Pioneer Crossing (SR-145)- west of Jordan River	MVC (SR-85) to Jordan River	Saratoga Springs	Eagle Mtn/Saratoga Springs	<p><b>*Major road reconstruction in 2019 from Market St to Jordan River*</b></p> <p><b>*CFI added at Redwood Road in 2019*</b></p> <p>Add bicycle facilities between Market Street and Foothill Drive/SR-85 Speed management/enforcement on corridor Evaluate adding “Prepare to Stop When Flashing” advance warning signals approaching Redwood Road.</p>	<b>Near-term</b>	<b>Tier 1</b>	359 Total 9 Serious Injury 1 Fatal No Ped 1 Bike
<b>EM13</b>	Pioneer Crossing (SR-145)/ Redwood Road (SR-68)	#N/A	Saratoga Springs	Eagle Mtn/Saratoga Springs	<p><b>*CFI added in 2019*</b></p> <p>Improve lighting Consider installing red light indicator lights</p>	<b>Medium-term</b>	<b>Tier 2</b>	217 Total 1 Serious Injury 1 Fatal No Ped No Bike
<b>EM14</b>	400 North/ Redwood Road (SR-68)	#N/A	Saratoga Springs	Eagle Mtn/Saratoga Springs	<p>Distracted driving education and enforcement campaigns, particularly at high schools and as part of driver education programs Improve lighting</p>	<b>Near-term</b>	<b>Tier 1</b>	125 Total No Ser. Injury No Fatal No Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM15</b>	Ranches Pkwy/Pony Express Pkwy	#N/A	Eagle Mountain	Eagle Mtn/Saratoga Springs	Consider modifying traffic signal timing with longer clearance intervals such as with advanced dilemma zone detection Red-light running education/enforcement campaign Consider protected-only left turn phasing Add leading pedestrian interval Add bulb-outs Tighten turning radii Consider no-right-turn-on-red	<b>Medium-term</b>	<b>Tier 2</b>	63 Total No Ser. Injury No Fatal 1 Ped 2 Bike
<b>EM16</b>	Geronimo Drive/ Pony Express Pkwy	#N/A	Eagle Mountain	Eagle Mtn/Saratoga Springs	Distracted driving education/enforcement campaign, particularly in high schools/as part of driver education programs Add high visibility crosswalks Add rapid flashing beacon or HAWK signal Add bulb-outs Add signage to alert drivers of the presence of bicyclists Improve lighting	<b>Near-term</b>	<b>Tier 1</b>	9 Total 1 Serious Injury No Fatal No Ped 2 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM17</b>	Porters Crossing Pkwy/Pony Express Pkwy	#N/A	Eagle Mountain	Eagle Mtn/Saratoga Springs	Consider modifying traffic signal timing with longer clearance intervals such as with advanced dilemma zone detection Add leading pedestrian interval Add bulb-outs Tighten turning radii Consider protected-only left turn phasing Improve lighting Upgrade pedestrian facilities Consider no-right-turn-on-red	<b>Near-term</b>	<b>Tier 1</b>	46 Total 1 Serious Injury No Fatal 1 Ped 3 Bike
<b>EM18</b>	Porters Crossing Pkwy	St Andrews Drive to Parkers Place	Eagle Mountain	Eagle Mtn/Saratoga Springs	Add leading pedestrian intervals Upgrade pedestrian facilities Add signals or roundabouts Improve lighting Distracted driving education/enforcement campaigns, especially for teens	<b>Medium-term</b>	<b>Tier 2</b>	21 Total 0 Serious Injury 1 Fatal 3 Ped 3 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM19</b>	Redwood Rd (SR-68)- south of Pioneer Crossing	Market Street to Fairway Blvd	Saratoga Springs	Eagle Mtn/ Saratoga Springs	<p><b>*CFI added at Pioneer Crossing in 2019*</b></p> <p><b>*New Signals added at Pony Express Pkwy and 400 South in 2021*</b></p> <p>Remove TWLTL/install raised median with turn pockets</p> <p>Improve lighting</p> <p>Add pedestrian crossing</p> <p>Add pedestrian crossing underpass under Redwood Road near Pony Express Pkwy.</p> <p>Distracted driving education/enforcement campaigns, especially for teens</p> <p>Add intersection warning signs</p>	<b>Near-term</b>	<b>Tier 1</b>	745 Total 6 Serious Injury 3 Fatal 1 Ped No Bike
<b>EM20</b>	Pony Express Pkwy/ Redwood Road (SR-68)	#N/A	Saratoga Springs	Eagle Mtn/ Saratoga Springs	<p><b>*Intersection improvements and west leg added to intersection in 2022*</b></p> <p><b>*Upcoming project to include some of these improvements in 2024*</b></p> <p>Consider installing red light indicator lights</p>	<b>Long-term</b>	<b>Tier 3</b>	178 Total 2 Serious Injury No Fatal No Ped No Bike
<b>EM21</b>	Pony Express Pkwy	Bobby Wren Blvd to Trail Head Rd	Eagle Mountain	Eagle Mtn/ Saratoga Springs	<p><b>*NB/SB lanes added in 2022*</b></p> <p>Add signals or roundabouts</p> <p>Distracted driving education/enforcement campaigns, especially for teens</p>	<b>Near-term</b>	<b>Tier 1</b>	23 Total 1 Serious Injury No Fatal 1 Ped 1 Bike
<b>EM22</b>	Lehi Fairfield Rd.	#N/A	Saratoga Springs	Eagle Mtn/ Saratoga Springs	Speed enforcement	<b>Long-term*</b>	<b>Local Project</b>	



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>EM23</b>	SR-73 west of Fairfield	MP 16.7 to 18	Fairfield	Eagle Mtn/ Saratoga Springs	Shoulder improvements/recovery area Add rumble strips	<b>Long-term</b>	<b>Tier 3</b>	15 Total 2 Serious Injury No Fatal No Ped No Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.

**Table 15. Lehi/Highland**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH1</b>	Highland Blvd north of Grant Blvd	#N/A	Lehi	Lehi/ Highland	Add runaway truck ramp	<b>Long-term</b>	<b>Local Project</b>	
<b>LH2</b>	Canyon Crest Rd / Allegheny Way	#N/A	Alpine	Lehi/ Highland	Add pedestrian path	<b>Long-term</b>	<b>Local Project</b>	
<b>LH3</b>	Ashton Blvd/ Club House Drive (SR-92)	#N/A	Lehi	Lehi/ Highland	Consider protected-only left turn phasing Improve lane markings Upgrade pedestrian facilities Add a leading pedestrian interval	<b>Long-term</b>	<b>Tier 3</b>	97 Total No Ser. Injury No Fatal No Ped 3 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH4</b>	I-15 Ramps/ Timpanogos Highway (SR-92)	#N/A	Lehi	Lehi/ Highland	<b>*Converted from Diverging Diamond to Tight Diamond w/ Frontage Rds in 2020*</b> Red-light running education/enforcement campaign	<b>Near-term*</b>	<b>Tier 1*</b>	81 Total 4 Serious Injury 1 Fatal No Ped No Bike
<b>LH5</b>	Digital Dr - N of SR-92	Adobe Way to SR-92	Lehi	Lehi/ Highland	<b>*New signal added near Adobe*</b> Add wider edge Lines	<b>Medium-term*</b>	<b>Tier 2*</b>	44 Total 3 Serious Injury No Fatal No Ped No Bike
<b>LH6</b>	SR-92 in Lehi	I-15 to 6000 West	Lehi	Lehi/ Highland	<b>*DDI interchange, various turn lanes to other signals*</b> Add intersection warning signs Speeding education/enforcement campaign Add rumble strips and stripes Add wider edge lines Long term consider grade-separated or slower-speed intersections to reduce injury risk More snow fencing Variable speed limit signs	<b>Near-term</b>	<b>Tier 1</b>	736 Total 22 Serious Injury 4 Fatal 3 Ped 3 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH7</b>	Digital Drive/ Timpanogos Highway (SR-92)	#N/A	Lehi	Lehi/ Highland	<b>*Various turn lanes added 2019-2021*</b> Evaluate adding WB “Prepare to Stop When Flashing” advance warning signal Consider protected-only left turn phasing Red-light running education/enforcement campaign Shoulder improvements/bike lane Add bicycle signage Grade separation of Murdock Canal Trail under Digital Drive	<b>Near-term</b>	<b>Tier 1</b>	202 Total 1 Serious Injury 2 Fatal 1 Ped 1 Bike
<b>LH8</b>	Triumph Blvd/ Timpanogos Highway (SR-92)	#N/A	Lehi	Lehi/ Highland	<b>*Various turn lanes added or reconfigured*</b> Consider protected-only left turn phasing for NBL Speed management Upgrade pedestrian facilities	<b>Near-term</b>	<b>Tier 1</b>	153 Total 3 Serious Injury 1 Fatal 1 Ped 1 Bike
<b>LH9</b>	Catch Basin Rd	South from SR-92	Lehi	Lehi/ Highland	Improve lighting Consider a roundabout or signal at the shopping center exit north of O’Reilly Auto Parts Upgrade bicycle facilities	<b>Medium-term</b>	<b>Tier 2</b>	17 Total 1 Serious Injury No Fatal No Ped 2 Bike
<b>LH10</b>	Highland Blvd/ Timpanogos Highway (SR-92)	#N/A	Highland	Lehi/ Highland	Speed management Implement traffic calming measures Distracted driving education/enforcement campaign, particularly at high schools and driver education classes Upgrade pedestrian facilities Add leading pedestrian intervals	<b>Near-term</b>	<b>Tier 1</b>	69 Total 6 Serious Injury 1 Fatal 3 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH11</b>	6000 West/ Timpanogos Highway (SR-92)	#N/A	Highland	Lehi/ Highland	Red-light running education/enforcement campaign Upgrade pedestrian facilities Add bulb-outs Consider protected-only left turn phasing Evaluate adding WB “Prepare to Stop When Flashing” advance warning signal	<b>Near-term</b>	<b>Tier 1</b>	61 Total 7 Serious Injury No Fatal No Ped 2 Bike
<b>LH12</b>	Alpine Highway (SR-74)/ Timpanogos Highway (SR-92)	#N/A	Highland	Lehi/ Highland	Improve lighting Distracted driving education/enforcement campaign, particularly at high schools and driver education classes Consider protected-only left turn phasing	<b>Near-term</b>	<b>Tier 1</b>	136 Total 2 Serious Injury 1 Fatal 1 Ped 1 Bike
<b>LH13</b>	SR-92 in Highland	Town Center Blvd to Spruce Drive	Highland	Lehi/ Highland	Add center median Driving education/safety campaign in local high schools Improve lighting Upgrade bicycle facilities Improve lane alignment at North County Blvd intersection Speed management to match context change to more local access, neighborhood roadway	<b>Near-term</b>	<b>Tier 1</b>	189 Total 5 Serious Injury 2 Fatal No Ped 3 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH14</b>	Canyon Rd - S of SR-92	SR-92 to Briggs Blvd	Highland	Lehi/ Highland	<p><b>*Signal added at SR-92 in 2023*</b></p> <p>Add rumble strips on downhill curve south of SR-92</p> <p>Add a roundabout or signal at Canyon Road and Briggs Blvd</p> <p>Improve lighting</p> <p>Add wild animal fencing</p> <p>Add wild animal crossing signage</p>	<b>Long-term</b>	<b>Tier 3</b>	13 Total 1 Serious Injury 2 Fatal No Ped No Bike
<b>LH15</b>	Redwood Rd (SR-68) - N of 2100 N	Provo Reservoir Canal to 2100 North	Lehi	Lehi/ Highland	<p><b>*Mountain View west leg added at 2100 N*</b></p> <p>Add intersection warning signs</p> <p>Improve lighting, particularly at the 2100 North intersection</p> <p>Distracted Driving education/enforcement campaigns, particularly for teenagers</p> <p>Add separated trail</p>	<b>Medium-term</b>	<b>Tier 2</b>	131 Total 1 Serious Injury 1 Fatal No Ped No Bike
<b>LH16</b>	Liberty Hills Elementary School ( 3600 West St. / 2450 North St.)	#N/A	Lehi	Lehi/ Highland	Improve pedestrian crossings at 3600 W roundabout legs	<b>Long-term</b>	<b>Local Project</b>	
<b>LH17</b>	3600 West/ Waterbury Drive	#N/A	Lehi	Lehi/ Highland	<p>Upgrade striping</p> <p>Add striping</p> <p>Upgrade pedestrian facilities</p>	<b>Long-term</b>	<b>Tier 3</b>	10 Total No Ser. Injury No Fatal 2 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
LH18	2100 N (SR-194) - E of 3600 W	3600 West to 3200 West	Lehi	Lehi/ Highland	Add wider edge Lines Improve lighting Add wild animal fencing Add wild animal crossing signage Grade separation of bike/pedestrian traffic through this interchange	Medium-term	Tier 2	14 Total 1 Serious Injury 1 Fatal 1 Ped No Bike
LH19	Ashton Blvd - S of Executive Pkwy	Executive Pkwy to Sycamore Lane	Lehi	Lehi/ Highland	Review yellow and/or red clearance times at the Executive Parkway intersection Upgrade striping Add wider edge Lines Implement traffic calming measures Curve improvements	Medium-term	Tier 2	13 Total 1 Serious Injury No Fatal 1 Ped No Bike
LH20	Triumph Blvd - N of 2100 N	I-15 Ramps to 2100 North	Lehi	Lehi/ Highland	<b>*Added I-15 interchange*</b> Red-light running education/enforcement campaign Upgrade pedestrian facilities Upgrade bicycle facilities Review yellow and/or red clearance times	Medium-term	Tier 2	205 Total 6 Serious Injury No Fatal 1 Ped 5 Bike
LH21	2300 West/ 2100 North (SR-194)	#N/A	Lehi	Lehi/ Highland	Evaluate adding SB and EB "Prepare to Stop When Flashing" advance warning signal Red-light running education/enforcement campaign Distracted driving education/enforcement campaign Add a leading pedestrian interval Improve lighting Upgrade bicycle facilities	Medium-term	Tier 2	148 Total 2 Serious Injury No Fatal 1 Ped 2 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
LH22	2100 N (SR-194) - W of I-15	Ashton Blvd to I-15	Lehi	Lehi/Highland	<b>*Intersection reconfigurations with 2100 N interchange*</b> Add intersection warning signs Red-light running education/enforcement campaign, particularly for teenagers	Medium-term	Tier 2	53 Total 2 Serious Injury No Fatal No Ped No Bike
LH23	1200 West St @ Lehi Rail Trail	#N/A	Lehi	Lehi/Highland	Grade separate the Rail Trail under 1200 West	Long-term	Local Project	
LH24	1200 East St. / 1900 North St.	#N/A	Lehi	Lehi/Highland	Speed management	Long-term	Local Project	
LH25	10400 North St/ 6400 West St.	#N/A	Highland	Lehi/Highland	Consider roundabout corridor	Long-term	Local Project	
LH26	Hidden Pond Dr. / 10250 North St.	#N/A	Highland	Lehi/Highland	High visibility trail crossing	Long-term	Local Project	
LH27	10401 North St/ 6000 West	#N/A	Highland	Lehi/Highland	Consider roundabout corridor	Long-term	Local Project	
LH28	10401 North St / Mountain Ridge Ln	#N/A	Highland	Lehi/Highland	Consider roundabout corridor	Long-term	Local Project	
LH29	Cedar Hills Drive/ North County Blvd (SR-129)	#N/A	Cedar Hills	Lehi/Highland	Evaluate adding SB "Prepare to Stop When Flashing" advance warning signal Consider protected-only left turn phasing Red-light running education/enforcement campaign, particularly at high schools and driver education classes	Near-term	Tier 1	68 Total 4 Serious Injury No Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
LH30	N County Blvd (SR-129) - at Cedar Hills Dr	10200 North to 10000 North	Cedar Hills	Lehi/ Highland	<b>*Proposed project to widen west approach*</b> Evaluate adding SB “Prepare to Stop When Flashing” advance warning signal Consider protected-only left turn phasing Red-light running education/enforcement campaign, particularly at high schools and driver education classes	Medium-term	Tier 2	54 Total 4 Serious Injury No Fatal No Ped No Bike
LH31	State St (US-89) - 500 West Lehi	700 West to 300 West	Lehi	Lehi/ Highland	Red-light running education/enforcement campaign, particularly for teenagers Upgrade pedestrian facilities Improve lighting	Medium-term	Tier 2	38 Total 2 Serious Injury 1 Fatal 1 Ped No Bike
LH32	Lehi Elementary School ( State St.)	#N/A	Lehi	Lehi/ Highland	Access management near Lehi Elementary School	Long-term	Local Project	
LH33	State St. (US-89)	#N/A	Lehi	Lehi/ Highland	Improve pedestrian crossings of State Street Speed management	Medium-term	Local Project	
LH34	900 West St.@ Pleasant Grove Ditch	#N/A	Cedar Hills	Lehi/ Highland	High visibility trail crossing	Long-term	Local Project	
LH35	Lehi Main St - W of 1700 W	2000 West to 1700 West	Lehi	Lehi/ Highland	Review yellow and/or red clearance times, particularly at the 1700 West intersection Distracted Driving education/enforcement campaigns Access management west of 1700 W intersection Speed management	Near-term	Tier 1	20 Total 1 Serious Injury No Fatal 1 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH36</b>	Lehi Main St - W of 300 W	400 West to 300 West	Lehi	Lehi/ Highland	Active Transportation Improvements Add pedestrian crossing at either 300 West or 400 West Upgrade Southbound stop-sign at 300 West to flashing stop-sign	<b>Medium-term</b>	<b>Tier 2</b>	23 Total 2 Serious Injury No Fatal 1 Ped No Bike
<b>LH37</b>	Center Street/ Main Street	#N/A	Lehi	Lehi/ Highland	Upgrade pedestrian facilities Distracted driving education/enforcement campaign Add leading pedestrian interval Evaluate pedestrian crossing time	<b>Medium-term</b>	<b>Tier 2</b>	41 Total No Ser. Injury No Fatal 2 Ped 1 Bike
<b>LH38</b>	Main St./ 200 East St.	#N/A	Lehi	Lehi/ Highland	Speed management	<b>Medium-term</b>	<b>Local Project</b>	
<b>LH39</b>	Lehi Main St - W of I-15	500 East to I-15	Lehi	Lehi/ Highland	Implement traffic calming measures, particularly approaching intersections and at the 850 E intersection Distracted Driving education/enforcement campaigns, particularly for teen Access management	<b>Near-term</b>	<b>Tier 1</b>	197 Total 2 Serious Injury 0 Fatal 2 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
LH40	850 East/Main Street (SR-73)	#N/A	Lehi	Lehi/Highland	<p><b>*Flashing Yellow Arrow in 2020*</b></p> <p>Evaluate adding EB “Prepare to Stop When Flashing” advance warning signal</p> <p>Red-light running education/enforcement campaign</p> <p>Distracted driving education/enforcement campaign</p> <p>Upgrade pedestrian facilities</p> <p>Add a leading pedestrian interval</p>	Near-term	Tier 1	146 Total No Ser. Injury No Fatal 2 Ped No Bike
LH41	State St (US-89)- N of Lehi Main St	1200 East to Lehi Main St	Lehi	Lehi/Highland	<p><b>*Turn lanes added at State/Main*</b></p> <p>Improve lighting</p> <p>Red-light running education/enforcement campaign, particularly for teenagers</p> <p>Upgrade pedestrian facilities</p>	Near-term	Tier 1	88 Total 2 Serious Injury No Fatal 1 Ped 2 Bike
LH42	Main Street (SR-73) /State Street (US-89)	#N/A	Lehi	Lehi/Highland	<p><b>*Widening and turn lanes added in 2018*</b></p> <p>Consider protected-only left turn phasing</p> <p>Improve lighting</p> <p>Upgrade pedestrian facilities</p> <p>Add a leading pedestrian interval</p>	Near-term	Tier 1	141 Total 2 Serious Injury No Fatal 2 Ped 1 Bike
LH43	Pioneer Crossing (SR-145) - W of I-15	Jordan River to Mill Pond Rd	Lehi	Lehi/Highland	<p>Add intersection warning signs</p> <p>Distracted Driving education/enforcement campaigns, especially for teens</p> <p>Dual red-light signal head</p>	Near-term	Tier 1	592 Total 11 Serious Injury 3 Fatal 1 Ped No Bik



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>LH44</b>	Main Street/ Canyon Crest Rd	#N/A	Alpine	Lehi/ Highland	Add reduced speed signs southbound on Main Street approaching the roundabout Consider reflective signage or arrows on the center raised island of the roundabout Consider adding pedestrian crossing signage and warning lights on east and west legs of intersection (Canyon Crest Road) Continue bicycle facilities through roundabout or add signage directing bicyclists to use sidewalk	<b>Long-term</b>	<b>Local Project</b>	22 Total No Serious Injury 1 Fatal 1 Ped 1 Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.

**Table 16. Orem/Provo**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP1</b>	Geneva Rd (SR-114)– 1600 North	1600 North to 1400 North	Orem	Orem/ Provo	Red-light running education/enforcement campaign Tighten curb radii Upgrade traffic signal heads to add reflective borders Consider protected-only left turn phasing	<b>Medium-term</b>	<b>Tier 2</b>	64 Total 2 Serious Injury No Fatal No Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP2</b>	1600 North (SR-241)/State Street (US-89)	#N/A	Orem	Orem/Provo	<p><b>*Reconstruction project in design- will be constructed in 2025 or 2026*</b></p> <p>Red-light running education/enforcement campaign, particularly in schools/as part of driver education</p> <p>Distracted driving education/enforcement campaign, particularly in schools/as part of driver education</p> <p>Add leading pedestrian interval</p> <p>Upgrade pedestrian facilities</p>	<b>Long-term*</b>	<b>Tier 3*</b>	157 Total 3 Serious Injury No Fatal 4 Ped No Bike
<b>OP3</b>	1600 North St. / 400 East St.	#N/A	Orem	Orem/Provo	Grade separate trail crossing	<b>Long-term</b>	<b>Local Project</b>	
<b>OP4</b>	Wolverine Way/1300 North St.	#N/A	Orem	Orem/Provo	Add pedestrian crossing	<b>Long-term</b>	<b>Local Project</b>	
<b>OP5</b>	State Street (US-89) – North Orem	1700 North to 1100 North	Orem	Orem/Provo	<p>Access management</p> <p>Speed education/enforcement campaigns</p> <p>Prohibit U-turns at intersections</p> <p>Improve lighting</p> <p>Add leading pedestrian intervals at intersections</p> <p>Add pedestrian crossing</p>	<b>Medium-term</b>	<b>Tier 2</b>	194 Total 7 Serious Injury 1 Fatal 4 Ped 1 Bike
<b>OP6</b>	US-189 - north of SR-52	800 North Orem to Kyhv Peak Rd	Provo	Orem/Provo	<p>Curve improvements</p> <p>Add rumble strips and stripes</p> <p>Add wider edge lines</p> <p>Improve lighting</p> <p>Intersection improvements at Kyhv Peak Road intersection</p>	<b>Long-term</b>	<b>Tier 3</b>	126 Total 6 Serious Injury 1 Fatal No Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP7</b>	800 North (SR-52) Orem – Near I-15	Geneva Rd to 1200 West	Orem	Orem/Provo	Distracted driving education/enforcement campaigns Red light running education/enforcement campaigns	<b>Long-term</b>	<b>Tier 3</b>	244 Total 6 Serious Injury No Fatal 1 Ped No Bike
<b>OP8</b>	800 North (SR-52)/1200 West	#N/A	Orem	Orem/Provo	<b>*Westbound right-turn only lane added in 2021*</b> Red-light running education/enforcement campaign Access management Add leading pedestrian interval	<b>Medium-term</b>	<b>Tier 2</b>	169 Total 1 Serious Injury No Fatal 1 Ped No Bike
<b>OP9</b>	800 North (SR-52) Orem – Near State St	400 West to 400 East	Orem	Orem/Provo	Install leading pedestrian intervals at intersections Add pedestrian crossing	<b>Long-term</b>	<b>Tier 3</b>	181 Total 7 Serious Injury 1 Fatal 4 Ped 4 Bike
<b>OP10</b>	800 North (SR-52)/State Street (US-89)	#N/A	Orem	Orem/Provo	Red-light running education/enforcement campaign, particularly in schools/as part of driver education Upgrade striping Add striping Add leading pedestrian interval Upgrade pedestrian facilities	<b>Long-term</b>	<b>Tier 3</b>	169 Total 1 Serious Injury No Fatal 1 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP11</b>	800 North (SR-52) – 800 East to Provo Canyon	800 East to University Ave	Orem	Orem/Provo	Add leading pedestrian intervals at intersections Tighten turning radii at intersections where appropriate Add bulb-outs and tighten turning radii at north side of 1560 E intersection	<b>Long-term</b>	<b>Tier 3</b>	123 Total 6 Serious Injury No Fatal 4 Ped 4 Bike
<b>OP12</b>	Kyhv Peak Rd	to Hope Campground Rd	Provo	Orem/Provo	DUI education/enforcement campaigns Curve improvements Clear zone improvements Shoulder improvements Add rumble strips Variable speed limit signs	<b>Long-term</b>	<b>Tier 3</b>	11 Total 1 Serious Injury 1 Fatal 1 Ped No Bike
<b>OP13</b>	400 North/ State Street (US-89)	#N/A	Orem	Orem/Provo	Red-light running education/enforcement campaign, particularly in schools/as part of driver education Motorcycle safety education campaign Distracted driving education/enforcement campaign, particularly in schools/as part of driver education Add leading pedestrian interval Upgrade pedestrian facilities Improve lighting	<b>Long-term</b>	<b>Tier 3</b>	91 Total 5 Serious Injury 1 Fatal 1 Ped 2 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP14</b>	Geneva Rd (SR-114) – Vineyard	400 North to 400 South	Orem	Orem/Provo	Distracted driving education/enforcement campaigns Add rumble strips and stripes at 400 North Add wider edge lanes at 400 North Improve lighting, particularly at 400 North Add leading pedestrian intervals Upgrade bicycle facilities Dual EB LT at 400 S Bike lanes, crosswalk, intersection realignments along 400 S, east of Geneva	<b>Medium-term</b>	<b>Tier 2</b>	134 Total 4 Serious Injury 2 Fatal 4 Ped 1 Bike
<b>OP15</b>	Center Street/1200 West	#N/A	Orem	Orem/Provo	Consider modifying traffic signal timing with longer clearance intervals such as with advanced dilemma zone detection Red-light running education/enforcement campaign, particularly in schools/as part of driver education Add/formalize EB and WB bicycle facilities and include green blocks through intersections to raise awareness at dilemma zones Improve lighting Implement leading pedestrian interval Upgrade pedestrian facilities	<b>Long-term</b>	<b>Tier 3</b>	156 Total 1 Serious Injury No Fatal 1 Ped 2 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP16</b>	Orem Center St	I-15 to 400 East and near 800 East	Orem	Orem/Provo	Distracted driving education/enforcement campaigns Add bicycle facilities Upgrade bicycle facilities Add leading pedestrian intervals at intersections Add pedestrian crossing Add bulb-outs Review yellow and/or red clearance times	<b>Long-term</b>	<b>Tier 3</b>	601 Total 12 Serious Injury No Fatal 9 Ped 12 Bike
<b>OP17</b>	Center Street/ State Street (US-89)	#N/A	Orem	Orem/Provo	Red-light running education/enforcement campaign, particularly in schools/as part of driver education Distracted driving education/enforcement campaign, particularly in schools/as part of driver education Implement “share the road” driver education in high schools/as part of driver education Add leading pedestrian interval Upgrade pedestrian facilities Improve lighting	<b>Long-term</b>	<b>Tier 3</b>	158 Total 3 Serious Injury No Fatal 4 Ped 3 Bike
<b>OP18</b>	Univ Ave (US-189) - Orem Center St	5600 North to 4800 North	Provo	Orem/Provo	<b>*UDOT will be lowering speed limit on segment based on recent speed study*</b> <b>*UDOT will be adding additional “No Engine Brake” signage*</b> Add Wild animal signage or fencing on University Avenue north of River Park Drive intersection Speed management on University Avenue Upgrade bicycle facilities	<b>Long-term</b>	<b>Tier 3</b>	86 Total 5 Serious Injury No Fatal No Ped 3 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP19</b>	State St (US-89) - Orem 800 S	500 North to 1300 South	Orem	Orem/Provo	<p><b>*Center medians added on State St from 100 North to 100 South* *Center median in design for 2027 on State St from 1300 South to 1500 South*</b></p> <p>Speeding education/enforcement campaign Add bicycle facilities Add leading pedestrian intervals at intersections Add pedestrian crossing Add bulb-outs</p>	<b>Near-term</b>	<b>Tier 1</b>	876 Total 23 Serious Injury 3 Fatal 12 Ped 8 Bike
<b>OP20</b>	800 South/ State Street (US-89)	#N/A	Orem	Orem/Provo	<p>Red-light running education/enforcement campaign, particularly in schools/as part of driver education Access management Add leading pedestrian interval Upgrade pedestrian facilities Improve lighting Upgrade bicycle facilities</p>	<b>Long-term</b>	<b>Tier 1</b>	168 Total 5 Serious Injury No Fatal 3 Ped 4 Bike
<b>OP21</b>	Univ Ave (US-189) - Provo 3700 N	3800 North to 3300 North	Provo	Orem/Provo	<p>Active transportation improvements at intersections Add leading pedestrian interval Consider a protected intersection at University Ave/3300 North Red-light running education/enforcement campaign, particularly among older adults and teenagers</p>	<b>Long-term</b>	<b>Tier 3</b>	54 Total 2 Serious Injury 1 Fatal 1 Ped 5 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP22</b>	Univ Pkwy (SR-265) - Orem 800 E	I-15 to 800 East	Orem	Orem/ Provo	Increase signage around diverging left turn Distracted driving education/enforcement campaigns Upgrade bicycle facilities Add leading pedestrian intervals at intersections Add pedestrian crossing Add bulb-outs	<b>Near-term</b>	<b>Tier 1</b>	687 Total 11 Serious Injury 1 Fatal 15 Ped 7 Bike
<b>OP23</b>	Sandhill Rd/ University Pkwy (SR-265)	#N/A	Orem	Orem/ Provo	Red-light running education/enforcement campaign Distracted driving education/enforcement campaign Access management Remove pork chop islands/free-flow right turns	<b>Medium-term</b>	<b>Tier 2</b>	162 Total 1 Serious Injury 1 Fatal 2 Ped No Bike
<b>OP24</b>	200 North St. / 800 East St.	#N/A	Orem	Orem/ Provo	School crossing improvements	<b>Long-term</b>	<b>Local Project</b>	
<b>OP25</b>	University Pkwy (SR-265)/ State Street (US-89)	#N/A	Orem	Orem/ Provo	Red-light running education/enforcement campaign Consider “No Right-turn on Red” for eastbound right-turns at intersection. Implement leading pedestrian interval. Upgrade pedestrian facilities Improve lighting Long term – grade separation of intersection	<b>Medium-term</b>	<b>Tier 2</b>	173 Total 1 Serious Injury No Fatal 7 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP26</b>	Geneva Rd (SR-114) - south of Univ Pkwy	1450 South to 1860 South	Provo	Orem/Provo	Improve lighting Add center turn lane Shoulder improvements Distracted driving education/enforcement campaigns	<b>Long-term</b>	<b>Tier 3</b>	17 Total 2 Serious Injury No Fatal 1 Ped No Bike
<b>OP27</b>	Univ Pkwy (SR-265) Provo	2310 North to Freedom Blvd	Provo	Orem/Provo	Improve lighting Red-light running education/enforcement campaign, particularly among teenagers Active transportation improvements at intersections Upgrade pedestrian facilities, particularly at University Pkwy/2310 North	<b>Near-term</b>	<b>Tier 1</b>	134 Total 6 Serious Injury 2 Fatal 5 Ped 2 Bike
<b>OP28</b>	2230 N/ University Pkwy (SR-265)	#N/A	Provo	Orem/Provo	Review lead/lag phasing for EBL Red-light running education/enforcement campaign Signal indicator lights to aid enforcement Distracted driving education/enforcement campaign Upgrade pedestrian facilities	<b>Near-term</b>	<b>Tier 1</b>	112 Total 4 Serious Injury No Fatal 5 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP29</b>	2230 N Provo - Canyon Rd	200 West to Canyon Rd – 140 East to 2230 North	Provo	Orem/Provo	Right-turn improvements at 2230 N and University Avenue Add rumble strips and stripes Add wider edge lines Speeding education/enforcement campaign Implement traffic calming measures Review truck routing Active transportation improvements at intersections	Medium-term	Tier 2	53 Total 4 Serious Injury No Fatal 1 Ped 1 Bike
<b>OP30</b>	1720 North/ State Street (US-89)	#N/A	Provo	Orem/Provo	<b>*Recent intersection improvements at 1720 N/ Carterville Rd*</b> Study opportunity for protected left-turn phasing. Red-light running education/enforcement campaign Distracted driving education/enforcement campaign Upgrade pedestrian facilities	Near-term	Tier 1	123 Total 6 Serious Injury 1 Fatal 4 Ped 2 Bike
<b>OP31</b>	State St US-89) Provo – north of Cougar Blvd	1850 North to Cougar Blvd	Provo	Orem/Provo	<b>*Recent intersection improvements at 1720 North/Carterville Rd*</b> Active transportation improvements Upgrade pedestrian facilities at 1720 North and 550 W/Riverside Dr intersections Add leading pedestrian intervals	Medium-term	Tier 2	178 Total 7 Serious Injury 3 Fatal 5 Ped 3 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP32</b>	Canyon Rd Provo	Stadium Ave to Univ Pkwy	Provo	Orem/Provo	Active transportation improvements Consider a protected intersection at University Pkwy Improve lighting at Stadium Avenue intersection Review yellow and/or red clearance times	<b>Long-term</b>	<b>Tier 3</b>	17 Total No Serious Injury 1 Fatal 2 Ped 2 Bike
<b>OP33</b>	Paul Ream Ave/University Ave (US-189)	#N/A	Provo	Orem/Provo	Speed management on University Avenue Improve lighting Distracted driving education/enforcement campaign. Upgrade pedestrian facilities Active Transportation improvements on University Avenue	<b>Near-term</b>	<b>Tier 1</b>	47 Total No Ser. Injury No Fatal 4 Ped 5 Bike
<b>OP34</b>	Cougar Blvd – Freedom Blvd	500 West to University Avenue – Cougar Blvd to 950 North	Provo	Orem/Provo	<b>*Added buffered bike lanes*</b> Distracted Driving education/enforcement campaigns Red-light running education/enforcement campaign Consider protected-only left turn phasing Upgrade bicycle facilities at driveways on Cougar Blvd for exiting vehicles, especially for the hospital parking lot driveway at 400 West	<b>Near-term</b>	<b>Tier 1</b>	190 Total 1 Serious Injury No Fatal 3 Ped 9 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP35</b>	Univ Ave (US-189)– Paul Ream Ave to 500 North	Paul Ream Ave to 500 North	Orem	Orem/Provo	Consider implementing protected intersections where appropriate Upgrade bicycle facilities, particularly in dilemma zones Add leading pedestrian intervals Add bulb-outs	<b>Near-term</b>	<b>Tier 1</b>	366 Total 8 Serious Injury No Fatal 7 Ped 9 Bike
<b>OP36</b>	Cougar Blvd/ University Ave (US-189)	#N/A	Provo	Orem/Provo	Study opportunity for protected left-turn phasing Distracted driving education/enforcement campaign Access management Improve lighting Upgrade bicycle facilities and consider separated bicycle lanes; dd green blocks through conflict zones, particularly driveways Add leading pedestrian interval Upgrade pedestrian facilities	<b>Near-term</b>	<b>Tier 1</b>	144 Total 1 Serious Injury No Fatal 2 Ped 5 Bike
<b>OP37</b>	500 West Provo (US-89)	Cougar Blvd to 500 North	Orem	Orem/Provo	<b>*Reconstruction of 500 West in 2019*</b> Active transportation improvements Distracted Driving education/enforcement campaigns	<b>Medium-term*</b>	<b>Tier 2*</b>	200 Total 3 Serious Injury 0 Fatal 4 Ped 2 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP38</b>	500 North Provo	500 West to 100 East	Provo	Orem/Provo	Review yellow and/or red clearance times Upgrade striping Active transportation improvements	<b>Medium-term</b>	<b>Tier 2</b>	85 Total 3 Serious Injury 1 Fatal 3 Ped 4 Bike
<b>OP39</b>	500 North/ University Ave (US-189)	#N/A	Provo	Orem/Provo	Red-light running education/enforcement campaign Distracted driving education/enforcement campaign Upgrade striping Add leading pedestrian interval Upgrade bicycle facilities Consider adding EB and WB bicycle boxes at intersection	<b>Near-term</b>	<b>Tier 1</b>	168 Total 5 Serious Injury No Fatal 4 Ped 3 Bike
<b>OP40</b>	700 North Provo	800 East to 900 East	Provo	Orem/Provo	Enforce no parking in bike lanes Review yellow and/or red clearance times	<b>Long-term</b>	<b>Tier 3</b>	14 Total 0 Serious Injury 1 Fatal 1 Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP41</b>	I-15 Ramps/ Center Street	#N/A	Provo	Orem/ Provo	Red-light running education/enforcement campaign Refresh pavement markings Move flashing “stopped traffic on ramp” signage further north Clarify directional arrows on SB overhead signage Construct dedicated SB overpass to Center St	<b>Long-term</b>	<b>Tier 3</b>	167 Total 3 Serious Injury 1 Fatal No Ped No Bike
<b>OP42</b>	Provo Center St (SR-114)	Geneva Rd to 500 West	Orem	Orem/ Provo	<b>*Signal recently added at Independence Avenue*</b> Red light running education/enforcement campaigns Improve lighting on 900 West Upgrade pedestrian facilities at 100 North/500 West intersection Upgrade pedestrian facilities at 600 West intersection	<b>Near-term</b>	<b>Tier 1</b>	503 Total 15 Serious Injury 3 Fatal 15 Ped 3 Bike
<b>OP43</b>	600 West/ Center Street (SR-114)	#N/A	Provo	Orem/ Provo	<b>*Pedestrian Hybrid Beacon installed in 2018/19 on east crosswalk*</b> <b>*All five pedestrian crashes have occurred since installation*</b> <b>*UDOT plans to add additional lights to pedestrian crossing*</b> Upgrade pedestrian facilities	<b>Near-term</b>	<b>Tier 1</b>	69 Total 2 Serious Injury No Fatal 5 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP44</b>	Freedom Blvd - Center St	400 North to Center St	Provo	Orem/Provo	Red-light running education/enforcement campaign Review yellow and/or red clearance times	<b>Medium-term</b>	<b>Tier 2</b>	105 Total 3 Serious Injury No Fatal 5 Ped 1 Bike
<b>OP45</b>	300 South (US-89) Provo	200 West to 200 East	Provo	Orem/Provo	<b>Reconstruction project currently underway. Will be completed in December 2024)*</b> Add leading pedestrian interval at Freedom Boulevard intersection Upgrade pedestrian facilities at University Avenue and Freedom Blvd Upgrade bicycle facilities Red-light running education/enforcement campaign Distracted Driving education/enforcement campaign	<b>Medium-term*</b>	<b>Tier 2*</b>	60 Total 3 Serious Injury No Fatal 2 Ped 5 Bike
<b>OP46</b>	300 South (US-89) / University Ave (US-189)	#N/A	Provo	Orem/Provo	Red-light running education/enforcement campaign Distracted driving education/enforcement campaign Upgrade striping Access management Add leading pedestrian interval Upgrade pedestrian facilities Add bulb-outs Add bicycle facilities	<b>Medium-term</b>	<b>Tier 2</b>	56 Total 1 Serious Injury 1 Fatal 3 Ped 5 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP47</b>	Univ Ave (US-189)– South Provo	100 North to I-15	Orem	Orem/Provo	Consider implementing protected intersections where appropriate Red light running education/enforcement campaigns Distracted Driving education/enforcement campaigns Upgrade bicycle facilities, particularly in dilemma zones Upgrade pedestrian facilities, add leading pedestrian intervals	<b>Near-term</b>	<b>Tier 1</b>	363 Total 13 Serious Injury 1 Fatal 11 Ped 9 Bike
<b>OP48</b>	State St (US-89) Provo – south of 600 South	600 South to 900 South	Provo	Orem/Provo	<b>*New signal planned at 900 South*</b> Speed management on State Street Add rumble strips Motorcycle safety enforcement/education campaigns	<b>Medium-term</b>	<b>Tier 2</b>	32 Total 3 Serious Injury 1 Fatal No Ped No Bike
<b>OP49</b>	Lakeview Pkwy	Univ Ave to East Bay Blvd	Provo	Orem/Provo	Driver safety enforcement/education campaigns Review work zone safety policies and implementation Review yellow and/or red clearance times	<b>Near-term</b>	<b>Tier 1</b>	17 Total 2 Serious Injury No Fatal 1 Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>OP50</b>	State St (US-89) Provo - Slate Canyon Dr	1640 South to Industrial Pkwy (2000 South)	Provo	Orem/Provo	Consider protected-only left turn phasing for northbound Left Turn at Slate Canyon Drive intersection Improve lighting Red-light running education/enforcement campaign Upgrade bicycle facilities at 2000 South (Industrial Pkwy)	<b>Long-term</b>	<b>Tier 3</b>	87 Total 6 Serious Injury No Fatal No Ped 1 Bike
<b>OP51</b>	Slate Canyon Drive/State Street (US-89)	#N/A	Provo	Orem/Provo	Evaluate adding NB “Prepare to Stop When Flashing” advance warning signal Consider protected-only left turn phasing Red-light running education/enforcement campaign Signal indicator lights to aid enforcement Consider protected-only left turn phasing for NBL movement	<b>Medium-term</b>	<b>Tier 2</b>	107 Total 7 Serious Injury No Fatal No Ped 1 Bike
<b>OP52</b>	State St (US-89) Provo - Ironton	Yale Ave to Mountain Vista Pkwy	Provo	Orem/Provo	<b>*Signal added at Valley Vista Way/State Street*</b> Improve lighting Add wider edge lines Add center median Add rumble strips and stripes	<b>Long-term</b>	<b>Tier 3</b>	37 Total No Serious Injury No Fatal No Ped No Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.



**Table 17. Payson**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS1</b>	SR-77 - Lake Shore/Palmyra	2300 West to 5600 South	Lake Shore/ Palmyra	Payson	Add rumble strips and stripes Curve improvements Shoulder improvements Implement traffic calming measures Implement clear zone improvements Speeding education/enforcement campaigns DUI education/enforcement campaigns	<b>Near-term</b>	<b>Tier 1</b>	19 Total 2 Serious Injury 1 Fatal No Ped No Bike
<b>PS2</b>	6400 South (SR-241)	River Lane to 1050 West	Palmyra	Payson	Add rumble strips and stripes Curve improvements Shoulder improvements Implement traffic calming measures Speeding education/enforcement campaigns Implement clear zone improvements Improve lighting Consider a signalized intersection or roundabout at 1050 W	<b>Near-term</b>	<b>Tier 1</b>	12 Total No Serious Injury No Fatal No Ped No Bike
<b>PS3</b>	SR-147 - 5600 West	7300 South to 8000 South	West Mountain	Payson	Add wider edge Lines Implement clear zone improvements	<b>Long-term</b>	<b>Tier 3</b>	3 Total No Serious Injury 1 Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS4</b>	SR-164 (8000 S) at I-15	2200 West to 1000 West	Benjamin/Salem	Payson	<b>*New signal added at SB I-15 Ramps in 2021*</b> Improve lighting Red-light running education/enforcement campaigns	<b>Near-term</b>	<b>Tier 1</b>	49 Total 5 Serious Injury 1 Fatal No Ped No Bike
<b>PS5</b>	I-15 Ramps/ SR-164 (8000 South)	#N/A	Benjamin	Payson	Consider protected-only left turn phasing	<b>Medium-term</b>	<b>Tier 2</b>	22 Total 1 Serious Injury 1 Fatal No Ped No Bike
<b>PS6</b>	460 West/ SR-164 (8000 South)	#N/A	Salem	Payson	Red light running education/enforcement campaigns Consider protected-only left turn phasing	<b>Medium-term</b>	<b>Tier 2</b>	17 Total 2 Serious Injury No Fatal No Ped No Bike
<b>PS7</b>	River Bottoms Rd	Swenson Lane to 3400 East	Utah County	Payson	Curve improvements Add wider edge Lines Add rumble strips Implement clear zone improvements	<b>Long-term</b>	<b>Tier 3</b>	9 Total 2 Serious Injury No Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS8</b>	North Payson Main Street (SR-241)	900 North to 100 North	Payson	Payson	<p><b>*New signal at 600 North in 2022*</b></p> <p>Add edge lines and implement traffic calming measures</p> <p>Active transportation improvements</p> <p>Add traffic calming measures and add pedestrian facilities along North Main Street</p> <p>Add pedestrian facilities at 400 North intersection</p>	<b>Near-term</b>	<b>Tier 1</b>	97 Total 3 Serious Injury 1 Fatal 1 Ped No Bike
<b>PS9</b>	600 North/ Main Street (SR-115)	#N/A	Payson	Payson	<p><b>*Future plans to add fourth leg to intersection*</b></p> <p>Access management</p> <p>Consider removing permissive left phase</p> <p>Upgrade pedestrian facilities</p> <p>Implement a leading pedestrian interval</p>	<b>Medium-term</b>	<b>Tier 2</b>	45 Total 1 Serious Injury No Fatal 1 Ped No Bike
<b>PS10</b>	100 West/100 North/State Street (SR-198)	#N/A	Salem	Payson	<p>Access management</p> <p>Add center median</p> <p>DUI education/enforcement campaigns</p> <p>Upgrade pedestrian facilities for the State Street crossing</p>	<b>Medium-term</b>	<b>Tier 2</b>	14 Total 2 Serious Injury No Fatal 1 Ped No Bike
<b>PS11</b>	Main Street/ State Street (SR-198)	#N/A	Salem	Payson	<p><b>*Westbound Right-Turn Lane added in 2021*</b></p> <p>Red light running education/enforcement campaigns</p>	<b>Medium-term</b>	<b>Tier 2</b>	44 Total 1 Serious Injury No Fatal No Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS12</b>	Woodland Hills Drive	8800 South to 11000 South and West Oak Ln to Valley View Way	Salem/Woodland Hills	Payson	<p><b>*New Signal at 340 South, Salem in 2020*</b></p> <p><b>*Southbound Right-Turn pocket added at 400 North, Salem in 2022*</b></p> <p>Improve lighting</p> <p>Consider wildlife crossing treatments as appropriate</p> <p>Add rumble strips and stripes</p> <p>Implement clear zone improvements</p> <p>Install safety Edge</p> <p>Add wider edge lines</p> <p>Add pedestrian crossing at 400 N</p> <p>Consider a signalized intersection or roundabout at E 8800 N, E Salem Canal Road, and/or 600 S</p>	<b>Long-term</b>	<b>Tier 3</b>	47 Total 3 Serious Injury 1 Fatal No Ped 1 Bike
<b>PS14</b>	Utah Ave	400 West to 700 West	Payson	Payson	Evaluate street parking and consider two-way center turn lane	<b>Long-term</b>	<b>Tier 3</b>	2 Total No Serious Injury 1 Fatal No Ped No Bike
<b>PS15</b>	100 West (SR-198) /Utah Ave	#N/A	Payson	Payson	Upgrade pedestrian facilities Implement a leading pedestrian interval	<b>Medium-term</b>	<b>Tier 2</b>	32 Total No Ser. Injury No Fatal No Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS16</b>	100 North (SR-198)/Main Street (SR-115)	#N/A	Payson	Payson	Add a WB protected left turn phase Consider protected-only left turn phasing Red light running education/enforcement campaigns Tighten turning radii Add bulb-outs Consider no-right-turn-on-red Add pedestrian facilities Add leading pedestrian interval	<b>Near-term</b>	<b>Tier 1</b>	68 Total (250 ft) 1 Serious Injury No Fatal 1 Ped 1 Bike
<b>PS17</b>	100 North (SR-198) - Payson	100 West to 1150 East	Payson	Payson	<b>*Westbound Right-Turn lanes added at 600 E and 700 E in 2022*</b> <b>*Westbound Through lane added from 800 E to 1250 E in 2022*</b> Implement traffic calming measures Add pedestrian facilities at unmarked intersections including 100 West, 400 East, 500 East and 800 East	<b>Medium-term</b>	<b>Tier 2</b>	188 Total 2 Serious Injury No Fatal 5 Ped No Bike
<b>PS18</b>	600 East/100 North (SR-198)	#N/A	Payson	Payson	Consider protected-only left turn phasing Red light running education/enforcement campaigns DUI education/enforcement campaigns Consider no-right-turn-on-red Upgrade active transportation facilities for right turns Consider westbound advance warning signal lights	<b>Near-term</b>	<b>Tier 1</b>	43 Total 1 Serious Injury No Fatal No Ped 1 Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS19</b>	300 West, Salem Canal Rd.	#N/A	Salem	Payson	Speed management	<b>Long-term</b>	<b>Local Project</b>	
<b>PS20</b>	300 South , 100 East	#N/A	Salem	Payson	Speed management	<b>Long-term</b>	<b>Local Project</b>	
<b>PS21</b>	800 South (SR-178)- Payson	I-15 to 880 West	Payson	Payson	<b>*New Signal at 930 West in 2023*</b> Improve lighting Implement traffic calming measures Add pedestrian facilities at unmarked intersections Pedestrian facilities across I-15 bridge Add pedestrian crossing above Interstate 15 Current bridge is not wide enough to support safe pedestrian access across freeway	<b>Near-term</b>	<b>Tier 1</b>	87 Total 3 Serious Injury No Fatal 2 Ped No Bike
<b>PS22</b>	1270 West/800 South (SR-241)	#N/A	Payson	Payson	Consider protected-only left turn phasing Improve lighting Upgrade pedestrian facilities Add leading pedestrian interval	<b>Near-term</b>	<b>Tier 1</b>	70 Total 2 Serious Injury No Fatal 1 Ped No Bike
<b>PS23</b>	780 West/800 South (SR-178)	#N/A	Payson	Payson	Distracted driving education/enforcement campaign Upgrade pedestrian facilities across 800 S Install advance warning signage	<b>Near-term</b>	<b>Tier 1</b>	14 Total No Ser. Injury No Fatal 2 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS24</b>	800 South (SR-241)/State Street (SR-198)	#N/A	Payson	Payson	Consider protected-only left turn phasing at NB Add rumble strips Improve lighting Tighten turning radii Upgrade pedestrian facilities Add leading pedestrian interval	<b>Near-term</b>	<b>Tier 1</b>	59 Total No Ser. Injury No Fatal 1 Ped No Bike
<b>PS25</b>	650 South/State Street (SR-198) (mid-block)	#N/A	Payson	Payson	<b>*Enhanced pedestrian crossing added at SR-198 and 300 South in February 2024*</b> Improve lighting Add pedestrian crossing at 600 South intersection	<b>Near-term*</b>	<b>Tier 1*</b>	23 Total 1 Serious Injury No Fatal 2 Ped 1 Bike
<b>PS26</b>	800 South/Main Street	#N/A	Payson	Payson	Red light running education/enforcement campaigns Distracted driving education/enforcement campaigns Tighten turning radii Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval Improve lighting Upgrade bicycle facilities	<b>Near-term</b>	<b>Tier 1</b>	30 Total 1 Serious Injury 1 Fatal 3 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS27</b>	Canyon Road/ 800 South	#N/A	Payson	Payson	Add bulb-outs Upgrade pedestrian facilities Add pedestrian crossing Add bicycle facilities Traffic calming on 800 South	<b>Long-term</b>	<b>Tier 3</b>	4 Total No Ser. Injury No Fatal 1 Ped 1 Bike
<b>PS28</b>	SR-198 - State St/100 West Payson	400 South to 1900 South	Payson	Payson	<b>*New access added at 1900 South in 2020*</b> <b>*Southbound Right-Turn Lane added at 1750 S in 2023*</b> Teen Driver education Access management at the Junior High School Implement traffic calming Add pedestrian facilities at 1050 S Add pedestrian facilities at Smith's Add leading pedestrian intervals Add buffered bike lanes Add pedestrian crossings and signals at appropriate locations to prevent jaywalking across highway Signal at 1900 South intersection	<b>Near-term</b>	<b>Tier 1</b>	116 Total 2 Serious Injury 1 Fatal 4 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS29</b>	South Payson Main St (SR-198) - 800 South	800 South to 1200 South – SR-198 to Greenridge Ave	Payson	Payson	<p><b>*Two-way center turn lane added from 1100 S to 1200 S in 2019*</b></p> <p><b>*Existing pedestrian tunnel under 800 South that connects baseball fields*</b></p> <p>Access management Active transportation improvements Add/formalize bicycle lanes on entire Main Street corridor Enhance pedestrian crossings Implement Safe Routes to Schools programming</p>	<b>Near-term</b>	<b>Tier 1</b>	34 Total 2 Serious Injury 1 Fatal 4 Ped No Bike
<b>PS30</b>	1250 South/ Main Street	#N/A	Payson	Payson	<p><b>*Two-way Left-Turn Lane added to Main Street in 2022*</b></p> <p>Improve lighting Add bulb-outs Add RRFB or pedestrian hybrid beacon</p>	<b>Long-term</b>	<b>Tier 3</b>	7 Total No Ser. Injury No Fatal 1 Ped 1 Bike
<b>PS31</b>	SR-141 - West Mountain Rd	1175 East to Fruitridge Lane	West Mountain	Payson	<p>Add wider edge Lines Add rumble strips Implement clear zone improvements Curve improvements Add center median</p>	<b>Long-term</b>	<b>Tier 3</b>	9 Total 1 Serious Injury 1 Fatal No Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS32</b>	11950 South/ 12000 South	5350 West to 4600 West	Utah County	Payson	Add striping Add rumble strips and stripes Curve improvements Shoulder improvements Improve lighting at 5200 W intersection	<b>Long-term</b>	<b>Tier 3</b>	19 Total 2 Serious Injury No Fatal No Ped No Bike
<b>PS33</b>	SR-198 - Spring Lake	12400 South to 12680 South	Spring Lake	Payson	Add intersection warning signs on through approaches Enhanced pavement markings at intersections Enhance stop-sign visibility on approaches at 12400 South Consider signal at 12400 South	<b>Long-term</b>	<b>Tier 3</b>	9 Total 1 Serious Injury No Fatal No Ped No Bike
<b>PS34</b>	State St. @ US6	#N/A	Payson	Payson	Correct intersection skew	<b>Long-term</b>	<b>Local Project</b>	
<b>PS35</b>	US 6 West of 400 West St.	#N/A	Payson	Payson	Speed management Curve improvements	<b>Long-term</b>	<b>Tier 3</b>	

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>PS36</b>	Santaquin Main Street (US-6)	Center St to I-15	Santaquin	Payson	<p><b>*Construction in 2024 will widen Main Street to 5-lanes and add new signal at Center Street*</b></p> <p>Consider a signalized intersection or roundabout at 300 East            Add ADA curb ramps and crosswalks at intersections            Upgrade pedestrian facilities            Distracted Driving education/enforcement campaigns</p>	<b>Near-term*</b>	<b>Tier 1*</b>	100 Total 1 Serious Injury 1 Fatal 1 Ped No Bike
<b>PS37</b>	400 East/Main Street (US-6)	#N/A	Santaquin	Payson	<p><b>*Construction in 2024 will widen Main Street to 5-lanes*</b></p> <p>Access management</p>	<b>Near-term*</b>	<b>Tier 1*</b>	54 Total No Ser. Injury No Fatal 1 Ped No Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.

**Table 18. Spanish Fork/Springville**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF1</b>	1400 North (SR-75)/Main Street (US-89)	#N/A	Springville	Spanish Fork/ Springville	Speeding enforcement/education campaign Tighten turning radii Upgrade pedestrian facilities Add leading pedestrian interval Consider no-right-turn-on-red	<b>Near-term</b>	<b>Tier 1</b>	125 Total No Serious Inj. No Fatal 3 Ped 1 Bike
<b>SF2</b>	700 North/ 400 East	#N/A	Springville	Spanish Fork/ Springville	Roundabout bulb outs and RRFB signs at 700 N/400 E	<b>Long-term</b>	<b>Local Project</b>	
<b>SF3</b>	400 North/ Main Street (US-89)	#N/A	Springville	Spanish Fork/ Springville	Distracted driving education/enforcement campaigns Red light running education/enforcement campaigns Consider protected-only left turn phasing Tighten turn radii Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval Upgrade bicycle facilities Consider no-right-turn-on-red	<b>Near-term</b>	<b>Tier 1</b>	56 Total 1 Serious Injury No Fatal 3 Ped 2 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF4</b>	Center Street/ Main Street (US-89)	#N/A	Springville	Spanish Fork/ Springville	Upgrade striping Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval Upgrade bicycle facilities	<b>Medium-term</b>	<b>Tier 2</b>	58 Total 1 Serious Injury No Fatal 2 Ped 3 Bike
<b>SF5</b>	Springville Main Street (US-89)	900 North to 81600 South	Springville	Spanish Fork/ Springville	Upgrade pedestrian facilities in downtown core Add center median Access management Speed management Separated bike path Roundabout at US-89/SR-51 Bulb outs at pedestrian crosswalks	<b>Medium-term</b>	<b>Tier 2</b>	284 Total 7 Serious Injury 1 Fatal 10 Ped 2 Bike
<b>SF6</b>	400 South (SR-77) Springville	2450 West to 750 West	Springville	Spanish Fork/ Springville	Consider lengthening left turn lanes, particularly at 2200 W, 1750 W, and 950 W Access management Add bicycle facilities Upgrade pedestrian facilities Red light running education/enforcement campaigns Implement traffic calming measures, particularly approaching intersections	<b>Near-term</b>	<b>Tier 1</b>	562 Total 13 Serious Injury No Fatal 2 Ped 4 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF7</b>	1750 West/ 400 South (SR-77)	#N/A	Springville	Spanish Fork/ Springville	Access management Tighten turning radii Upgrade pedestrian facilities Add leading pedestrian interval	Medium-term	Tier 2	197 Total No Serious Inj. No Fatal No Ped 2 Bike
<b>SF8</b>	1200 West/ 400 South (SR-77)	#N/A	Springville	Spanish Fork/ Springville	<b>*Dual northbound left-turns added in 2020*</b> Speeding enforcement/education campaign Consider protected-only left turn phasing Upgrade pedestrian facilities Add leading pedestrian interval	Medium-term	Tier 2	93 Total 3 Serious Injury No Fatal 2 Ped 1 Bike
<b>SF9</b>	950 West/ 400 South (SR-77)	#N/A	Springville	Spanish Fork/ Springville	Consider protected-only left turn phasing Tighten turning radii Upgrade pedestrian facilities Add leading pedestrian interval Consider no-right-turn-on-red	Medium-term	Tier 2	151 Total 1 Serious Injury No Fatal 1 Ped 1 Bike
<b>SF10</b>	400 South (SR-77)/Main Street (US-89)	#N/A	Springville	Spanish Fork/ Springville	Improve lighting Tighten turning radii Upgrade pedestrian facilities Add leading pedestrian interval	Medium-term	Tier 2	174 Total 2 Serious Injury No Fatal 3 Ped 2 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF11</b>	400 East/400 South	#N/A	Springville	Spanish Fork/ Springville	Consider modifying traffic signal timing with longer clearance intervals such as with advanced dilemma zone detection Consider protected-only left turn phasing Red light running education/enforcement campaigns Tighten turn radii Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval Consider no-right-turn-on-red	Medium-term	Tier 2	50 Total 1 Serious Injury No Fatal 6 Ped 1 Bike
<b>SF12</b>	800 South/ Main Street/ US-89	#N/A	Springville	Spanish Fork/ Springville	*Outside NB lane converted to right-turn only lane in 2019* *Project in construction for 2024 to do most of these improvements)* Add rumble strips and stripes Consider implementing a roundabout Curve improvements at NB	Medium-term*	Tier 2*	61 Total 3 Serious Injury 1 Fatal No Ped No Bike
<b>SF13</b>	1700 East St. / Canyon Rd	#N/A	Springville	Spanish Fork/ Springville	Upgrade pedestrian facilities	Long-term	Local Project	
<b>SF14</b>	Canyon Rd. west of 2900 East St.	#N/A	Springville	Spanish Fork/ Springville	Curve improvements	Long-term	Local Project	

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF15</b>	1600 South Springville	Wallace Drive to 1200 West	Springville	Spanish Fork/ Springville	Increase stop-sign visibility at Wallace Drive/1600 South intersection Roundabout or signal at Wallace Drive/1600 South Shoulder improvements and rumble strips on 1600 South	<b>Long-term</b>	<b>Tier 3</b>	8 Total 1 Serious Injury No Fatal No Ped No Bike
<b>SF16</b>	Evergreen Dr - SR-51 Springville	SR-51 to Eldorado Drive – 1600 South to Evergreen Drive	Springville	Spanish Fork/ Springville	Shoulder improvements on Evergreen Drive Improve lighting on Evergreen Drive Active transportation improvements on Evergreen Drive	<b>Long-term</b>	<b>Tier 3</b>	16 Total No Serious Injury 1 Fatal 2 Ped 1 Bike
<b>SF17</b>	1600 West Mapleton (US-89)	1600 North to 800 South	Mapleton	Spanish Fork/ Springville	<b>*Signal recently added at 800 S*</b> <b>*Signal funded and designed for 800 N*</b> <b>*Developers required to add lighting and trail on east side*</b> Improve lighting Consider protected-only left turn phasing at 400 East intersection Add rumble strips Add Center medians Multi-use trail on east side	<b>Medium-term</b>	<b>Tier 2</b>	81 Total 4 Serious Injury 2 Fatal No Ped No Bike
<b>SF18</b>	Main St. / 1600 North St.	#N/A	Springville	Spanish Fork/ Springville	Add roundabout	<b>Long-term</b>	<b>Local Project</b>	

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF19</b>	1600 North Spanish Fork	300 West to 100 West	Spanish Fork	Spanish Fork/ Springville	Add wild animal fencing Improve lighting	<b>Long-term</b>	<b>Tier 3</b>	2 Total 1 Serious Injury No Fatal No Ped No Bike
<b>SF20</b>	Mapleton City wide	#N/A	Mapleton	Spanish Fork/ Springville	Add raised crossings at major trails and crosswalks immediately adjacent to elementary and middle schools. Roundabouts at major intersections Main & Maple, Main & 1600 S, Main and 1200n or 1600 N	<b>Long-term</b>	<b>Local Project</b>	
<b>SF21</b>	Main St. / Maple St	#N/A	Springville	Spanish Fork/ Springville	Add roundabout	<b>Long-term</b>	<b>Local Project</b>	
<b>SF22</b>	Spanish Fork Main St (SR-156)– south of I-15	I-15 to 600 North	Spanish Fork	Spanish Fork/ Springville	<b>*Project in Add bicycle facilities , raised medians, bulb outs, signal changes, Upgrade pedestrian facilities*</b> Add bulb-outs at 800 N Consider reducing lane width and shoulder width Add leading pedestrian interval Consider driveway consolidation Improve lighting Add center median	<b>Near-term*</b>	<b>Tier 1*</b>	273 Total 4 Serious Injury No Fatal No Ped 3 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF23</b>	1000 North/ Main Street (SR-156)	#N/A	Spanish Fork	Spanish Fork/ Springville	Red light running education/enforcement campaigns Consider protected-only left turn phasing Add bulb-outs Upgrade pedestrian facilities Upgrade bicycle facilities	<b>Near-term</b>	<b>Tier 1</b>	83 Total No Serious Inj. No Fatal 1 Ped 1 Bike
<b>SF24</b>	US-6 Spanish Fork	I-15 to US-89	Spanish Fork	Spanish Fork/ Springville	<b>*Project underway to add dual lefts, EB lane*</b> Upgrade pedestrian facilities Add leading pedestrian interval Consider no-right-turn-on-red Grade separation of Canyon Cr Pkwy, Expressway Lane and/or Center Street intersections RR line relocation and interchange safety @ 3400 East	<b>Medium-term</b>	<b>Tier 2</b>	279 Total 15 Serious Injury 5 Fatal 2 Ped 2 Bike
<b>SF25</b>	1000 North – Canyon Creek Pkwy SF	200 East to Commerce Drive	Spanish Fork	Spanish Fork/ Springville	Tighten turning radii Add leading pedestrian interval	<b>Medium-term</b>	<b>Tier 2</b>	153 Total 3 Serious Injury No Fatal 1 Ped No Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF26</b>	1000 North/US-6	#N/A	Spanish Fork	Spanish Fork/ Springville	<p><b>*Improvement project currently in construction should be done December 2024*</b></p> <p>Consider protected-only left turn phasing Red light running education/enforcement campaigns, particularly at high schools/part of driver education programs Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval</p>	<b>Near-term*</b>	<b>Tier 1*</b>	164 Total 3 Serious Injury 1 Fatal No Ped 1 Bike
<b>SF27</b>	700 North/Main Street (SR-156)	#N/A	Spanish Fork	Spanish Fork/ Springville	<p>Distract driving education/enforcement campaign, particularly at high schools/part of driver education programs Install left turn flashing yellow arrow signals and supplemental traffic signs Add bulb outs Upgrade pedestrian facilities Consider a road diet with ROW reallocation for bicycle lanes</p>	<b>Near-term</b>	<b>Tier 1</b>	87 Total (250 ft radius) No Serious Inj. No Fatal No Ped No Bike
<b>SF28</b>	Expressway Lane	US-6 to Market Place Drive	Spanish Fork	Spanish Fork/ Springville	<p><b>*New signals recently added at 800 North/Target Driveway and Marketplace Drive/1100 East*</b></p> <p>Rumble stripes for lane lines Red light running enforcement/campaign</p>	<b>Medium-term*</b>	<b>Tier 2*</b>	49 Total 2 Serious Injury No Fatal 1 Ped No Bike



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF29</b>	Expressway Lane/ US-6	#N/A	Spanish Fork	Spanish Fork/ Springville	<b>*WB dual left-turns and additional through lane added on Expressway Lane in 2023*</b> Red light running education/enforcement campaigns Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval	<b>Near-term*</b>	<b>Tier 1*</b>	137 Total 4 Serious Injury 1 Fatal No Ped 1 Bike
<b>SF30</b>	400 North (SR-147) Spanish Fork	100 West to 200 East	Spanish Fork	Spanish Fork/ Springville	<b>*Roundabout being installed at 300 E*</b> <b>*Main Street project in design for bike lanes, raised medians, bulb outs, signal changes, improved crosswalks*</b> Add pedestrian crossing at unsignalized intersections including bulb-outs Upgrade pedestrian facilities at Main Street intersection	<b>Long-term*</b>	<b>Tier 3*</b>	35 Total 2 Serious Injury No Fatal 2 Ped No Bike
<b>SF31</b>	1100 East/400 North (SR-147) (midblock)	#N/A	Spanish Fork	Spanish Fork/ Springville	<b>*RRFB and add striping ~2021*</b> <b>*Roundabout added at SR-51 intersection in 2019*</b> Install advance warning signage Bicyclist education campaigns, particularly at schools	<b>Near-term*</b>	<b>Tier 1*</b>	31 Total 2 Serious Injury No Fatal 3 Ped 2 Bike
<b>SF32</b>	400 North St.	#N/A	Spanish Fork	Spanish Fork/ Springville	Upgrade pedestrian facilities	<b>Long-term</b>	<b>Local Project</b>	
<b>SF33</b>	Spanish Fork Pkwy	#N/A	Spanish Fork	Spanish Fork/ Springville	Add pedestrian crossing	<b>Long-term</b>	<b>Local Project</b>	



ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF34</b>	1600 South/ 1600 West (US-89)	#N/A	Mapleton	Spanish Fork/ Springville	Consider protected-only left turn phasing NB/ SB Red light running education/enforcement campaigns, particularly in high schools/as part of driver education	<b>Long-term</b>	<b>Tier 3</b>	25 Total 2 Serious Injury No Fatal No Ped No Bike
<b>SF35</b>	Main St. /1600 South	#N/A	Springville	Spanish Fork/ Springville	Add roundabout	<b>Long-term</b>	<b>Local Project</b>	
<b>SF36</b>	100 South (SR-115) Spanish Fork	I-15 to Spanish Fields Drive	Spanish Fork	Spanish Fork/ Springville	Add pedestrian crossing to the Spanish Fields Drive/100 South intersection	<b>Long-term</b>	<b>Tier 3</b>	3 Total 1 Serious Injury No Fatal 1 Ped No Bike
<b>SF37</b>	Center Street/ Main Street (SR-156)	#N/A	Spanish Fork	Spanish Fork/ Springville	Consider protected-only left turn phasing Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval Consider no-right-turn-on-red Tighten turning radii Upgrade bicycle facilities	<b>Medium-term</b>	<b>Tier 2</b>	99 Total 1 Serious Injury No Fatal 3 Ped 3 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF38</b>	Spanish Fork Center St	900 East to US-6	Spanish Fork	Spanish Fork/ Springville	<p><b>*Additional through lanes recently added on Center Street from 900 East to US-6*</b></p> <p><b>*Signal recently added at 800 East*</b></p> <p>Improve lighting</p> <p>Speed management on Center Street</p> <p>Distracted driving enforcement/campaign</p>	<b>Near-term*</b>	<b>Tier 1*</b>	<p>21 Total</p> <p>2 Serious Injury</p> <p>1 Fatal</p> <p>No Ped</p> <p>No Bike</p>
<b>SF39</b>	Center Street/ US-6	#N/A	Spanish Fork	Spanish Fork/ Springville	<p><b>*Additional westbound through lane added in 2019*</b></p> <p>Consider protected-only left turn phasing</p> <p>Speeding education/enforcement campaigns</p> <p>Improve lighting</p> <p>Add bulb-outs</p> <p>Upgrade pedestrian facilities</p> <p>Add leading pedestrian interval</p>	<b>Near-term</b>	<b>Tier 1</b>	<p>68 Total</p> <p>4 Serious Injury</p> <p>No Fatal</p> <p>1 Ped</p> <p>No Bike</p>
<b>SF40</b>	Spanish Fork Main Street South (SR-156/ SR-198)	Center Street to Volunteer Drive	Spanish Fork	Spanish Fork/ Springville	<p><b>*Project in design for bike lanes, raised medians, bulb outs, signal changes, improved crosswalks*</b></p> <p>Upgrade pedestrian facilities at Center Street/ Main Street intersection</p> <p>Consolidate accesses along the corridor</p> <p>Consider protected only Left-Turn phasing at signalized intersections</p> <p>Add leading pedestrian interval at Center Street</p>	<b>Medium-term*</b>	<b>Tier 2*</b>	<p>136 Total</p> <p>5 Serious Injury</p> <p>No Fatal</p> <p>2 Ped</p> <p>2 Bike</p>

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF41</b>	Canyon Rd Spanish Fork (SR-198)	Main Street to 1150 East	Spanish Fork	Spanish Fork/ Springville	<p><b>*Signal recently added at 600 East/Canyon Road, Signal planned for 300 E, Trail planned on N side*</b></p> <p>Active Transportation improvements            Upgrade pedestrian facilities at 1150 East/ Canyon Road intersection            Consider protected-only left turn phasing            Add pedestrian crossing on 300 South between Main Street and 600 East            Red light running enforcement/campaign, especially among teenage drivers</p>	<b>Medium-term</b>	<b>Tier 2</b>	68 Total 7 Serious Injury No Fatal 6 Ped 1 Bike
<b>SF42</b>	1150 East/ Canyon Road (SR-198)	#N/A	Spanish Fork	Spanish Fork/ Springville	<p>Consider protected-only left turn phasing            Aggressive driving education/enforcement campaigns            Add bulb-outs            Upgrade pedestrian facilities            Add leading pedestrian interval            Tighten turning radii            Consider no-right-turn-on-red</p>	<b>Medium-term</b>	<b>Tier 2</b>	18 Total 2 Serious Injury No Fatal 3 Ped 1 Bike

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>SF43</b>	Spanish Fork Pkwy/ US-6	#N/A	Spanish Fork	Spanish Fork/ Springville	Red light running education/enforcement campaigns, particularly in high schools/as part of driver education Consider protected-only left turn phasing Add bulb-outs Upgrade pedestrian facilities Add leading pedestrian interval Tighten turning radii Consider no-right-turn-on-red	<b>Medium-term</b>	<b>Tier 2</b>	39 Total 2 Serious Injury 1 Fatal 1 Ped No Bike
<b>SF44</b>	Canyon Rd (SR-198)- 2300 East SF	2070 East to 2400 East	Spanish Fork	Spanish Fork/ Springville	<b>*North leg added to 2300 East/Canyon Road intersection*</b> <b>*Signal at 2300 East going out to bid*</b> Roundabout or signal at 2300 East/Canyon Road intersection Speed management/enforcement on Canyon Road	<b>Long-term*</b>	<b>Tier 3*</b>	13 Total 2 Serious Injury No Fatal No Ped No Bike
<b>SF45</b>	Powerhouse Road/ US-6	#N/A	Spanish Fork	Spanish Fork/ Springville	<b>*Signal added to intersection in 2022*</b> Install animal fencing	<b>Medium-term</b>	<b>Tier 2</b>	21 Total 3 Serious Injury 1 Fatal 1 Ped No Bike
<b>SF46</b>	SR-164 - West of Arrowhead Trail	West of Arrowhead Trail	Spanish Fork	Spanish Fork/ Springville	Add rumble strips on SR-164	<b>Long-term</b>	<b>Tier 3</b>	4 Total 1 Serious Injury 1 Fatal No Ped No Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.



**Table 19. Unincorporated Utah County**

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>UU1</b>	SR-92 - AF Canyon	MP 8 to 11.6	Utah County	Unincorp. Utah County	<p><b>*Shoulder improvements near Timpanogos Cave State Park in 2018*</b></p> <p>Add rumble strips</p> <p>Shoulder improvements</p> <p>Add edge lines</p> <p>Speed management</p> <p>Variable speed limit signs</p>	<b>Medium-term</b>	<b>Tier 2</b>	<p>64 Total</p> <p>3 Serious Injury</p> <p>1 Fatal</p> <p>No Ped</p> <p>No Bike</p>
<b>UU2</b>	US-189 - Provo Canyon to SR-92	MP 12.4 to 14.3 (SR-92)	Utah County	Unincorp. Utah County	<p>Add rumble strips</p> <p>Shoulder improvements and/or enact clear zone improvements</p> <p>Curve improvements</p> <p>Add edge lines</p> <p>Speed management</p> <p>Variable speed limit signs</p> <p>Add advance intersection warning signs on the approach to Old Provo Canyon Rd</p>	<b>Near-term</b>	<b>Tier 1</b>	<p>203 Total</p> <p>15 Serious Injury</p> <p>No Fatal</p> <p>No Ped</p> <p>No Bike</p>

ID	Name	Extents	City	Crash Analysis Zone	Description	Phase	MAG Priority	Crash Totals
<b>UU3</b>	US-6 Spanish Fork Canyon	MP 182 to 193.3	Utah County	Unincorp. Utah County	<p><b>*Median barrier and upgrade striping in design for 2025 between Diamond Fork Road and US-89 (MP 184.2 to 187.5)*</b></p> <p>Shoulder improvements and add wider edge lines</p> <p>Add center median from MP 192.8 to 193.5 (cluster of head-on crashes)</p> <p>Add wild animal fencing and wild animal crossing signage between Diamond Fork Road and US-89</p> <p>Improve lighting</p> <p>Additional passing lanes</p>	<b>Medium-term</b>	<b>Tier 2</b>	241 Total 8 Serious Injury 5 Fatal 2 Ped No Bike
<b>UU4</b>	US-6 to SR-96	MP 203.8 to 210.5 and MP 212.9 to SR-96	Utah County	Unincorp. Utah County	<p>Add rumble strips</p> <p>Shoulder improvements and/or enact clear zone improvements</p> <p>Curve improvements</p> <p>Add edge lines</p> <p>Speed management</p> <p>Variable speed limit signs</p>	<b>Medium-term</b>	<b>Tier 2</b>	206 Total 18 Serious Injury 4 Fatal 0 Ped 0 Bike
<b>UU5</b>	SR-96	500 North to 1300 South	Utah County	Unincorp. Utah County	<p>Shoulder improvements</p> <p>Add wider edge lines</p> <p>Speed management</p> <p>Variable speed limit signs</p> <p>Add wild animal crossing signage and/or fencing between MP 20.8 and 21.8</p>	<b>Medium-term</b>	<b>Tier 2</b>	34 Total 3 Serious Injury No Fatal No Ped No Bike

\*Recent or planned project may affect conditions. Monitor location to determine if project addresses issues.



## 7.4. PROGRAMMATIC SAFETY IMPROVEMENTS

Many opportunities to implement Education & Enforcement programs arose from the crash analysis. A total of 31 education campaigns for teen drivers have been proposed where high rates of crashes related to teen drivers are observed. Education campaigns can be held at high schools or by safe driving media campaigns to educate teenagers about the importance of seatbelts, and risky driving behaviors such as texting or drinking while driving. Eighteen (18) proposed projects related to speed enforcement in locations where a high rate of crashes related to speed is identified from the data. Police enforcement can be used as tools for speed enforcement. Furthermore, 66 projects associated with red-light running enforcement or education campaigns have been proposed where crash data shows high numbers of red-light crashes. Table 20 illustrates the number of proposed projects in each zone related to teen driver education, speed enforcement, and red-light running education or enforcement.

**Table 20. Number of Proposed Projects Related to Education & Enforcement**

Crash Analysis Zone	Teen Driving Education	Speed Enforcement	Red Light Running Enforcement or Education
American Fork/Pleasant Grove/Lindon	4	6	11
Eagle Mountain/Saratoga Springs	8	3	4
Lehi/Highland	5	1	10
Orem/Provo	8	3	25
Payson	1	2	6
Spanish Fork/Springville	5	3	10
Unincorporated Utah County	0	0	0
<b>TOTAL</b>	<b>31</b>	<b>18</b>	<b>66</b>

Table 21 illustrates the number of crashes with fatal and serious injuries linked to red-light running at signalized intersections for each crash analysis zone. Crash analysis shows that 76 serious injuries and 13 fatal crashes involved red-light-running with the majority at the Orem/Provo crash analysis zone.

**Table 21. Number of Red-Light Running Crashes with Fatal and Serious Injuries**

Crash Analysis Zone	Fatal Crashes Involved Red-Light-Running	Serious Injury Crashes Involved Red-Light-Running
American Fork/Pleasant Grove/Lindon	1	12
Eagle Mountain/Saratoga Springs	3	10
Lehi/Highland	3	16
Orem/Provo	3	28
Payson	1	1
Spanish Fork/Springville	2	9
Unincorporated Utah County	0	0
<b>TOTAL</b>	<b>13</b>	<b>76</b>

## 7.5. EVOLVING TECHNOLOGY AND SMART SYSTEMS

Advancements in machine vision that leverage artificial intelligence (AI) algorithms are providing new tools to enhance road safety to save lives especially for VRUs. Traditional techniques that rely mainly on historical crash data to implement safety related solutions is not proactive. Planning and implementing smart sensing infrastructure such as AI powered machine vision systems is in line with the proactive focus of the FHWA Safe System approach. The systems can help monitor roadways and road users and flagging areas that need attention automatically.

Multimodal smart sensing infrastructure provides 24/7/365 situational awareness of the road system enabling proactive road safety management and mitigation. This is done by observing and documenting near-miss incidents, illegal road user activities such as red light running, lane violations, speeding, etc. Agencies have the ability to set up and configure the AI system to observe and document specific behavior or incidents that can provide insights to save lives.

Evolving computer vision algorithms powered by AI can detect, classify, and track pedestrians, bicyclists, buses, vehicles, and other road users. Interactions between various road users can also be monitored in real time. Near misses and illegal behavior can be extracted for insights that are used to implement safety mitigation measures. The AI systems can also be used to activate advanced alerting systems such as rapid flashing beacons or dynamic message signs, in addition to extending walk phases at signalized intersections if pedestrians need more time to safely cross the intersection.

## 8. Progress and Transparency

### 8.1. FUTURE UPDATES

Implementing and monitoring progress toward implementation of this Safety Action Plan is important to MAG and its partner agencies. To ensure continued advancement of safety initiatives, MAG will regularly update the Safety Action Plan to reflect the following items:

- Completion of improvements on priority corridors
- Implementation of policy initiatives and educational programs
- Progress toward performance targets
- Updates to crash data and socioeconomic information
- Updates to designation of the high-injury network

It is recommended that MAG revisit the plan as a precursor to future RTP updates, which occur every four years. The goal of future Safety Action Plan revisions is to evaluate progress toward safety goals and identify future safety projects to include in the RTP. In instances where more recent crash data is available from UDOT or other sources, MAG has an opportunity to revisit the HIN and make modifications, as appropriate. Ensuring that the HIN remains accurate is important, as this is a factor in identifying and evaluating future RTP projects. As new Census data becomes available, MAG can also update the equity analysis included in the Safety Action Plan.

There are currently no federal requirements associated with updates to Safety Action Plans. Thus, MAG has the flexibility to use a process tailored to the needs of the region. For example, if no updates to data sources are available or if they indicate no changes would be required to the HIN, an expedited update process could focus on reporting the status of project implementation and progress toward performance targets. In contrast, if analysis demonstrates that changes to the HIN are warranted by changes in crash patterns and trends, a more robust community and stakeholder engagement process may be beneficial.

### 8.2. SAFE STREETS REPORT DASHBOARD

In pursuit of enhancing road safety and achieving the goal of eliminating roadway fatalities and serious injuries, MAG has developed a comprehensive Safe Streets Report Dashboard (the Dashboard). This online tool provides an intuitive and accessible way to visualize and understand safety trends, patterns, and factors throughout the region. The Safety Report Dashboard is an essential component of the Safety Action Plan, serving as a cornerstone for data-driven decision-making and strategic planning.

## 8.2.1. FEATURES OF THE SAFE STREETS REPORT DASHBOARD

### Mapping

The Dashboard integrates a variety of map data to provide a clear and comprehensive view of road safety data:

- **HIN:** Displays the network of roads with the highest concentration of serious crashes, identifying priority areas for safety improvements.
- **Location of TIP Projects:** Maps all TIP projects, providing a spatial understanding of current and planned infrastructure interventions.
- **Equity Layer:** Includes an equity layer to identify transportation disadvantaged areas, ensuring that safety improvements benefit all community members equitably.

### Statistical Trends

To track and analyze safety performance, the Dashboard includes several key statistical metrics:

- **Total Fatal Crashes:** Shows the number of fatal crashes within the region.
- **Total Serious Injury Crashes:** Displays the number of crashes resulting in serious injuries.
- **Total Killed or Seriously Injury (KSI) Crashes with VRU:** Indicates the number of KSI crashes involving VRUs, such as pedestrians and bicyclists.
- **KSI Crashes by Year:** Provides a chart showing the trend of KSI crashes over time.
- **Percent of KSI on HIN:** Calculates the percentage of KSI crashes occurring on the HIN.

The Dashboard allows users to filter crash data based on specific attributes, facilitating targeted analysis and informed decision-making:

- **Year:** Filter crash data by year to analyze trends over time.
- **County:** Filter safety trends by county to focus on sub-regional geographic areas (i.e. MPO or RPO).
- **Municipality:** Filter information by municipality to examine local safety trends.

## 8.2.2. UTILIZING THE DASHBOARD FOR PROGRESS AND TRANSPARENCY

The Dashboard publishes information on high-risk areas that require attention. This includes locations along the HIN. Through data transparency and continuous monitoring, the Dashboard will be integral in the continuous monitoring and evaluation of safety initiatives. By tracking performance measures and crash data over time, MAG and its partners can assess the effectiveness of implemented strategies and make necessary adjustments to enhance safety outcomes.

The ultimate goal of the Dashboard is to support MAG and local governments achieve the goal of eliminating all roadway fatalities and serious injuries. By providing a clear, data-driven picture of the current state of road safety, the Dashboard empowers the region to take proactive and informed actions toward this ambitious goal.



MAG will update crash data in the Dashboard annually to provide new information on the safety statistical trends that allow monitoring over time. The HIN will be updated less frequently so that safety intervention can be targeted to those corridors over a long period.

## 8.3. MONITORING PROGRESS

As the MPO, MAG is required to report on progress toward federally required safety performance targets, as described in Section 6.2.1. These are to be updated every four years through the RTP. The Safe Streets Report Dashboard provides an additional opportunity to make transportation safety a higher community priority by elevating the visibility and accessibility of key safety information. It also allows MAG to include performance measures in addition to the federally required measures.

# APPENDIX A

## SAFE STREETS COUNTERMEASURES TOOLKIT



# **MOUNTAINLAND**

## SAFE STREETS

### COUNTERMEASURES

#### TOOLKIT

**MOUNTAINLAND**  
**SAFE STREETS**



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# CONTENTS

<b>Introduction .....</b>	<b>1</b>
Objectives .....	1
Vision Zero and the Safe System Approach.....	2
How to Use the Toolkit.....	3
Categories.....	3
Safe System Road Design Hierarchy.....	3
Crash Type Addressed .....	4
Location Types .....	4
Cost.....	4
Considerations.....	5
Systemic Safety Countermeasures.....	5
<b>Safety Countermeasures .....</b>	<b>6</b>
Bicycle and Pedestrian.....	6
Bicycle Lanes .....	7
Crosswalk Visibility Enhancements .....	8
Curb Extensions and Bulb Outs.....	9
Leading Pedestrian Intervals .....	10
Pedestrian Hybrid Beacons .....	11
Pedestrian Refuge Islands .....	12
Road Diets (Roadway Reconfigurations).....	13
Intersections .....	14
Corridor Access Management.....	15
Dedicated Left-Turn Lanes at Intersections .....	16
No Left Turn/U-turn Restrictions (Reduced Left-Turn Conflict Intersections).....	17
Retroreflective Traffic Signal Backplates .....	18
Right Turn on Red Prohibitions.....	19
Roundabouts.....	20
Enhanced Visibility at Stop-Controlled Intersections.....	21
Yellow Change Intervals.....	22

Speed Management .....	23
Appropriate Speed Limits for All Road Users .....	24
Roadway Departures .....	26
Enhanced Delineation for Horizontal Curves .....	27
Longitudinal Rumble Strips and Stripes on Two-Lane Roads .....	28
Median Barriers .....	29
Roadside Design Improvements at Curves .....	30
Safety Edge .....	31
Wider Edge Lines .....	32
Interconnected Improvements .....	33
Bus Stop Improvements .....	34
Lighting .....	35
<b>Conclusion .....</b>	<b>36</b>

# INTRODUCTION

Mountainland Safe Streets Countermeasures Toolkit (the Toolkit) presents design treatments known to reduce crashes involving people walking, rolling (i.e., using a wheelchair or other mobility assistive devices), bicycling, or driving. The Toolkit describes the applicable locations for each treatment, the crash type addressed, and the estimated cost for implementation. It also provides guidance regarding necessary considerations to be made during implementation.

## OBJECTIVES

The objectives of the Toolkit are to:

- 1** Inform stakeholders and the greater Mountainland community about road safety countermeasures and their appropriate uses and contexts.
- 2** Facilitate a shared understanding of these safety countermeasures among local jurisdictions' staff, contractors, developers, and community members when discussing transportation safety improvements.
- 3** Assist in the decision-making process to identify the most appropriate safety countermeasures for a location based on the location's crash history and context.



# VISION ZERO AND THE SAFE SYSTEM APPROACH

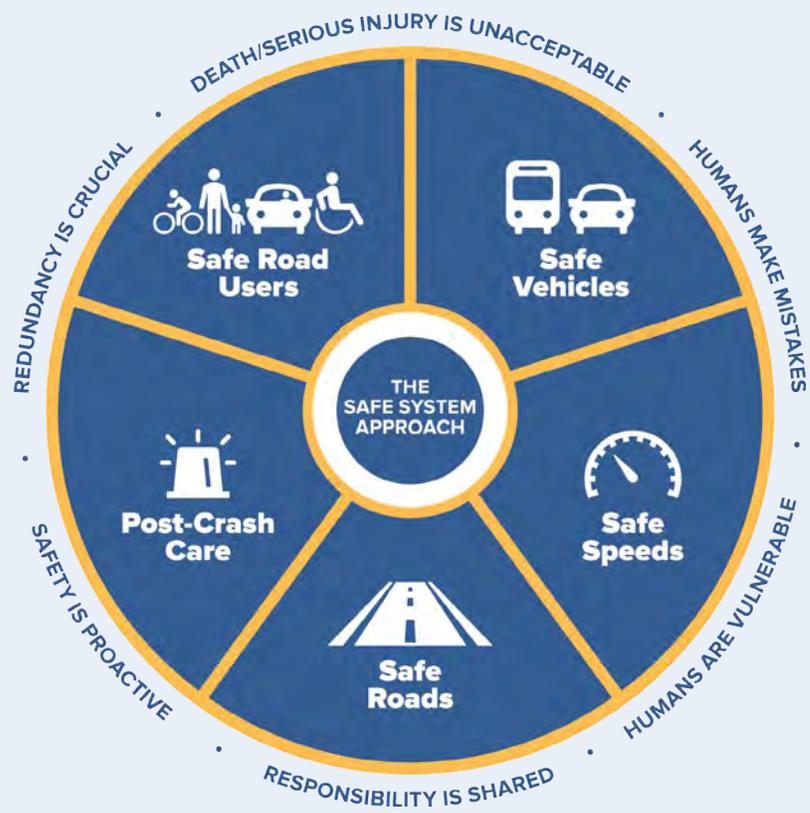
Vision Zero is the goal of no deaths or serious injuries on roadways. The Safe System Approach guides how we achieve the goal and prioritize safety in the decision-making process. The Safe System Approach differs from traditional safety methods. It recognizes that mistakes are inevitable, but the consequences should not be deadly. This proactive approach builds layers of safety to

prevent crashes and minimize harm if they do occur, keeping everyone safer on roads. Under Vision Zero and the Safe System Approach, local leadership, policymakers, traffic engineers, designers, planners, local enforcement, and road users are all responsible for preventing roadway deaths and serious injuries.

## WHAT IS THE SAFE SYSTEM APPROACH?

The Safe System Approach (Figure 1) is a holistic road safety strategy that recognizes humans make mistakes and aims to create a forgiving road system that reduces risk and eliminates fatal and serious injury crashes. This approach goes beyond simply preventing crashes. It builds layers of safety to both stop accidents from happening in the first place and minimize injuries if they do occur. It's a comprehensive strategy that creates a safer environment for everyone.

The Safe System Approach is based on six foundational principles: deaths and serious injuries are unacceptable, humans make mistakes, humans are vulnerable, responsibility is shared, safety is proactive, and redundancy is crucial. Additionally, the Safe System Approach involves five key elements to achieve zero fatal and serious injury crashes: safe roads, safe speeds, safe vehicles, safe road users, and post-crash care. By designing a system with multiple safeguards, it protects everyone on the road, even when mistakes happen.



**Figure 1.** Safe System Approach (FHWA. 2023. Zero Deaths and Safe System)

# HOW TO USE THE TOOLKIT

The Toolkit presents a collection of roadway design safety countermeasures and outlines how each of them addresses safety. The Toolkit also describes the applicable locations for each safety countermeasure and the estimated cost for implementation as well as necessary implementation considerations and guidance. The elements presented for each safety countermeasure are summarized below.

## CATEGORIES

The safety countermeasures are categorized into the five categories below based on Federal Highway Administration (FHWA) Proven Safety Countermeasures<sup>1</sup>:

- » Pedestrian and Bicyclist
- » Intersections
- » Speed Management
- » Roadway Departure
- » Interconnected Improvements

Within each category, the safety countermeasures are listed alphabetically, and each safety countermeasure is depicted in an illustration. Note the graphics are illustrative only and are not meant to depict fully engineered solutions specific to any location in the region.

## SAFE SYSTEM ROAD DESIGN HIERARCHY

The FHWA Safe System Roadway Design Hierarchy is a set of guidelines that ranks different engineering and infrastructure-

based countermeasures and strategies based on how well they align with the Safe System Approach.<sup>2</sup> These guidelines help transportation agencies identify and prioritize safety countermeasures in transportation projects. The Safe System Roadway Design Hierarchy includes four tiers (Figure 2):

- **Tier 1: Remove Severe Conflicts**
- **Tier 2: Reduce Vehicle Speeds**
- **Tier 3: Manage Conflicts in Time**
- **Tier 4: Increase Attentiveness and Awareness**

Tiers 1 through 3 include safety countermeasures focused on removing potential roadway conflicts and separating vulnerable road users from motor vehicles to reduce crash kinetic energy. Tier 4 includes safety countermeasures aimed at providing road users with critical information so they can take appropriate action consistent with the Safe System Approach.

The Toolkit indicates which of the four roadway design hierarchy tiers each safety countermeasure falls into. Note, some countermeasures fall into more than one tier.



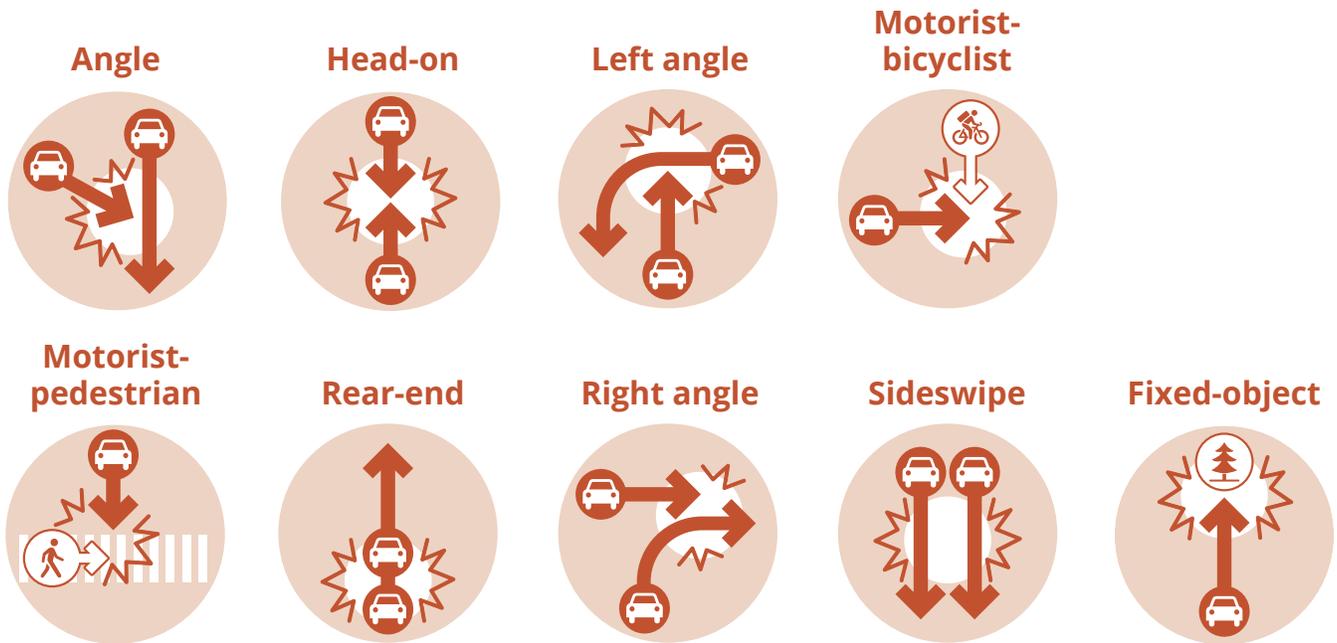
**Figure 2.** Safe System Roadway Design Hierarchy (adopted from FHWA)

<sup>1</sup> FHWA. 2024. Proven Safety Countermeasures. <https://highways.dot.gov/safety/proven-safety-countermeasures>

<sup>2</sup> FHWA. 2024. Safe System Roadway Design Hierarchy. [https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-01/Safe\\_System\\_Roadway\\_Design\\_Hierarchy.pdf](https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-01/Safe_System_Roadway_Design_Hierarchy.pdf)

# CRASH TYPE ADDRESSED

The safety countermeasures in the Toolkit were selected based on the common types of crashes that lead to a fatality or serious injury within Summit, Utah, and Wasatch counties. The crash type(s) that the safety countermeasure is known to address is indicated for each countermeasure with the following symbols:



# LOCATION TYPES

Roadways throughout the Mountainland region have distinct characteristics based on the number of lanes, daily vehicles, travel speeds, and other factors. Therefore, different safety countermeasures may be appropriate on different roadways. In addition, some countermeasures are applied along segments, while others improve safety at intersections. The Toolkit indicates the type of location most appropriate to apply each safety countermeasure. Most safety countermeasures can be applied to several diverse types of locations. Based on the Safe System Approach principle that redundancy is critical, it is important to consider implementing multiple safety countermeasures at one location.

# COST

Cost ranges are listed for each safety countermeasure to indicate estimates for planning, engineering, and installation of the safety countermeasure at a single typical location. If the safety countermeasure is linear, the cost assumes cost per mile. The assumptions on cost for each safety countermeasure are general and are not specific to an individual location or area.

The cost categories and symbols used in the Toolkit are as follows:

Low	Typically \$5K or less	\$
Medium	Typically \$5K to \$100K	\$ \$
Moderate	Typically \$100K to \$300K	\$ \$ \$
High	Typically \$300K or more	\$ \$ \$ \$

# CONSIDERATIONS

Implementation considerations are listed for each safety countermeasure to provide guidance for successful implementation of the safety countermeasure. The considerations include recommendations and necessary additions to ensure the countermeasure achieves the intended result.

## SYSTEMIC SAFETY COUNTERMEASURES

Systemic safety countermeasures are countermeasures that should be applied on all roads across the region regardless of the road's crash history. These countermeasures should first be installed on the High Injury Network (HIN), then region-wide in areas with similar crash risk factors to the HIN and the systemic high-risk facility profiles. This supports a proactive approach to safety and acknowledges that crash history alone does not indicate safety. This Toolkit includes eight systemic safety countermeasures:

- **Appropriate Speed Limits for All Road Users** - page 24
- **Bus Stop Improvements** - page 33
- **Crosswalk Visibility Enhancements** - page 8
- **Enhanced Delineation for Horizontal Curves** - page 26
- **Leading Pedestrian Intervals** - page 10
- **Lighting** - page 34
- **Road Diets (Roadway Reconfiguration)** - page 13
- **Stop-Controlled Intersection Enhancements** - page 21

These safety countermeasures are indicated with a “systemic application” label: 



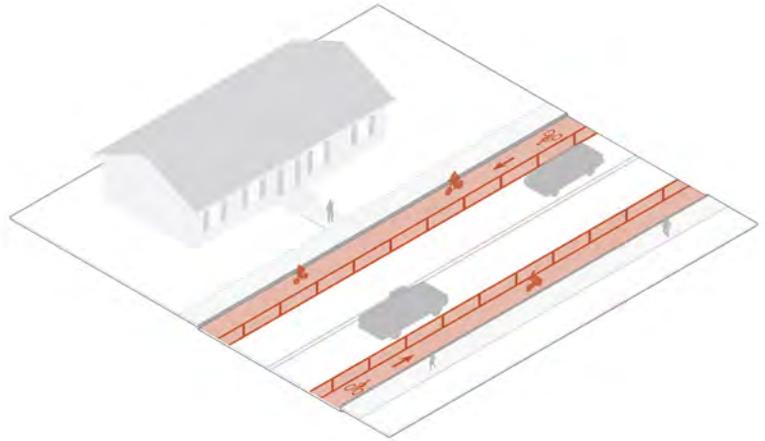
# **SAFETY COUNTERMEASURES**

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## **BICYCLE AND PEDESTRIAN**

# Bicycle Lanes

Designated sections of the road for people to ride bicycles outside of general-purpose lanes. There are three main types of bicycle lanes: conventional bicycle lanes, buffered bicycle lanes, and separated or protected bicycle lanes. Conventional bicycle lanes are designated sections of the road with signage, striping, and bicycle symbols. Buffered bicycle lanes include a buffered space between the bicycle lane and motorists, and separated or protected bicycle lanes include a physical separation between bicyclists and motorists.



## APPROPRIATE LOCATIONS

The appropriate bicycle lane should be selected based on the location's motorist volumes and posted speeds. Less separation is required for lower-volume (below 3,000 vehicles per day) and lower-speed roads (below 25-30 mph).

## CONSIDERATIONS

- Route planning and connectivity of bicycle networks should be coordinated by regional agencies and local governments to provide a system of safe routes for bicycle users
- Prioritize separated or buffered bike lanes over conventional bike lanes on roadways with higher speeds or when roadway width allows.
- Flex posts may be used for quick-build separated bicycle lanes, but vertical elements that provide protection for bicyclists are preferred (e.g., jersey barriers or concrete curbs).
- Consider a buffer between parked cars and the bicycle lane to decrease door zone conflicts.
- Consider transit stop locations to ensure that bicycle and transit user interactions are manageable.
- Consider deploying bicycle lanes as part of street maintenance/repaving projects.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

## CRASH TYPES

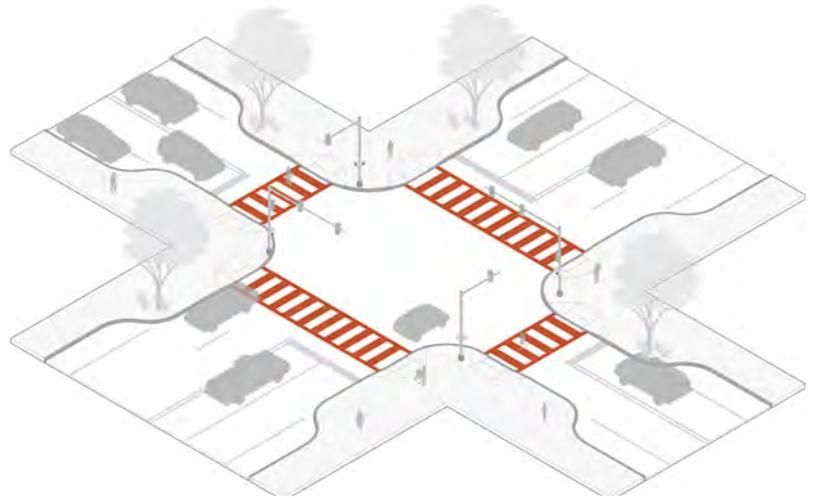


## COST



# Crosswalk Visibility Enhancements

Enhancements that include high-visibility crosswalks, lighting, and signage. High-visibility crosswalks include patterns such as bar pairs, continental, or ladder pavement markings that are visible to both the motorist and pedestrian from farther away compared to traditional transverse line crosswalks. These enhancements help improve the visibility of people in crosswalks to approaching motorists and increase awareness of crosswalk locations.



## APPROPRIATE LOCATIONS

- Intersections and midblock crossings
- Locals, collectors, and arterials

## CONSIDERATIONS

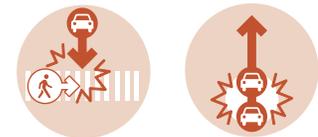
- Restrict parking near crosswalks to create adequate sight distance for pedestrians and motorists (i.e. “daylighting”).
- Install with ADA-compliant curb ramps.
- Install a stop bar in advance of the crosswalk.
- Provide advanced stop lines and appropriate signage at uncontrolled midblock crossings.
- Provide school-zone-applicable crossing signs in school zones.
- Ensure crosswalks are as wide or wider than connecting sidewalks.
- Consider the distance between crossings in high-volume pedestrian areas to ensure there are adequate opportunities for crossing.
- Ensure the locations of high-visibility crosswalks are convenient for pedestrian access.
- Consider decorative crosswalks that express community culture if they do not diminish the reflectivity of markings.



## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

## CRASH TYPES

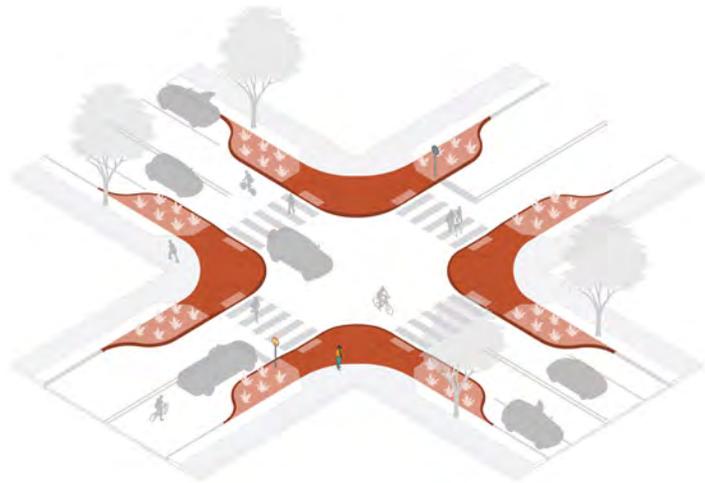


## COST



# Curb Extensions and Bulb Outs

Extensions to a section of sidewalk into the roadway at intersections and other crossing locations. They shorten the crossing distance for people walking, reduce turning speeds, and improve sight distance between motorists and people crossing. Curb extensions/bulb outs can be installed as permanent curb reconfigurations, or through paint and post bulb outs.



## APPROPRIATE LOCATIONS

- Intersections and midblock crossings
- Locals, collectors, and arterials

## CONSIDERATIONS

- Consider installation in parking lanes or on wide shoulders; curb extensions should not extend into travel lanes or bicycle lanes without appropriate design considerations.
- Curb extensions can create additional space for street furniture like bicycle parking and planters, but care should be taken to limit fixed element heights to ensure sight lines are preserved.
- Consider curb extensions on one side of the roadway even when conditions make installations on both sides infeasible (e.g., no parking lane).
- Turning radii or larger vehicles need to be considered when designing curb extensions. Truck aprons may be needed in some locations where the roadway is shared with larger trucks.
- Changes in drainage patterns need to be considered when designing curb extensions.
- Installing bus bulbs at bus stops can eliminate the need for buses to merge in and out of travel lanes at stops.

## SAFE SYSTEM HIERARCHY TIER

**Tier 2:** Reduce Vehicle Speeds

**Tier 4:** Increase Attentiveness and Awareness

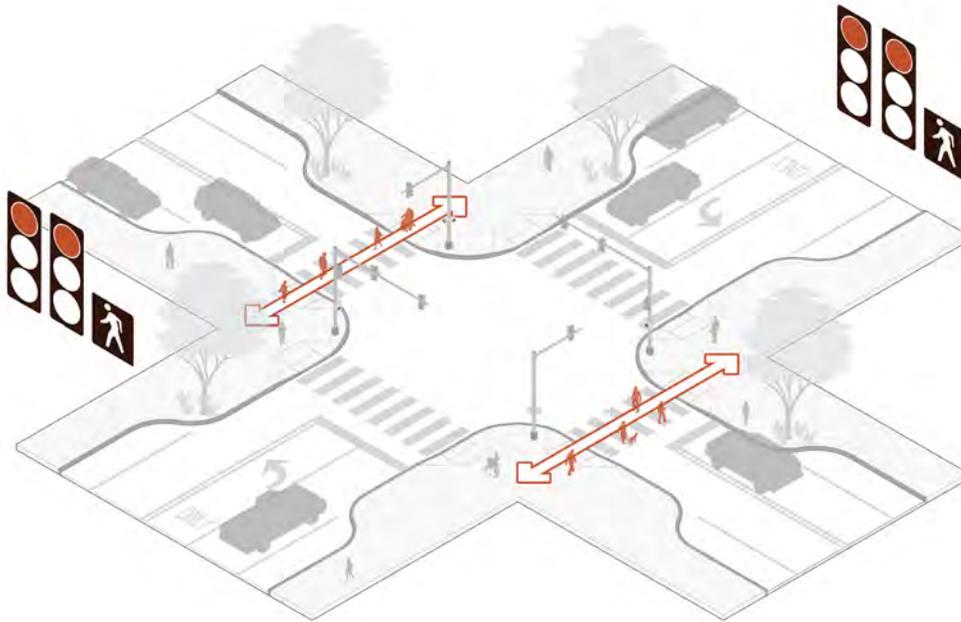
## CRASH TYPES



## COST



# Leading Pedestrian Intervals



Leading Pedestrian Intervals (LPIs) are programmed traffic signals that give pedestrians a 3-7 second head start to enter crosswalks. They prioritize pedestrians within the intersection and allow them to enter the intersection first to establish presence before motorists begin moving. They increase visibility of crossing pedestrians and reduce potential conflicts between pedestrians and turning motorists.

## APPROPRIATE LOCATIONS

- Signalized intersections
- Locals, collectors, and arterials



## CONSIDERATIONS

- Include audible pedestrian signals at all LPI locations that create noise to let visually impaired pedestrians know when to cross.
- Consider installation with curb extensions to increase the effectiveness of LPIs and the visibility of pedestrians.
- Consider longer head starts at intersections with higher pedestrian traffic volumes; head starts up to 10 seconds could be appropriate.
- Consider Leading Bicycle Intervals (LBIs) in locations with high-volume bicycle facilities and/or bicycle signals.
- Adjust existing signal timing to coordinate with LPIs.

## SAFE SYSTEM HIERARCHY TIER

**Tier 3:** Manage Conflicts in Time

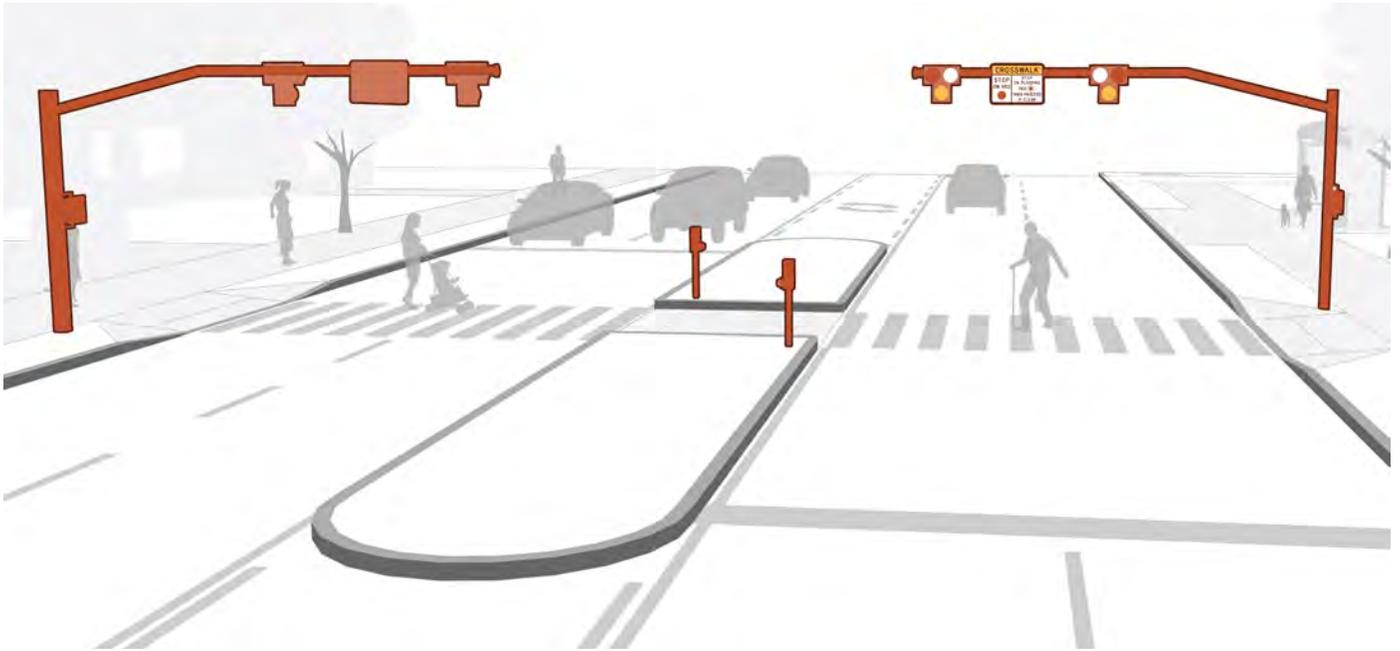
## CRASH TYPES



## COST



# Pedestrian Hybrid Beacons



Pedestrian Hybrid Beacons (PHBs) are traffic signals activated when someone walking, rolling, or bicycling presses the push button. The beacon turns from yellow to red, signaling motorists to stop and give people crossing the right of way. They provide safe opportunities for crossing high-volume roads between signalized intersections. PHBs are also known as High intensity Activated crossWALK (HAWK) signals.

## APPROPRIATE LOCATIONS

- Midblock crossing
- Arterials and collectors

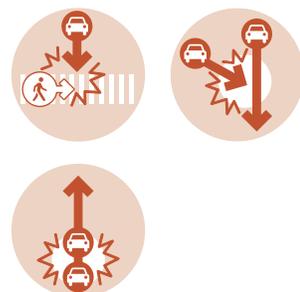
## CONSIDERATIONS

- Beacons are preferably placed above the crosswalk, rather than the side of the road.
- PHBs are most effective in situations where vehicle speeds are too high or gaps in traffic are too infrequent for pedestrians to cross safely.
- Since PHBs are not common, consider an educational campaign when implementing a PHB to educate motorists, pedestrians, and bicyclists on their operation.
- Consider implementing PHBs along roadways where people must walk more than 200 feet out of their way to get to a controlled crossing and near transit stops that do not have an intersection within 200 feet.

## SAFE SYSTEM HIERARCHY TIER

**Tier 3:** Manage Conflicts in Time

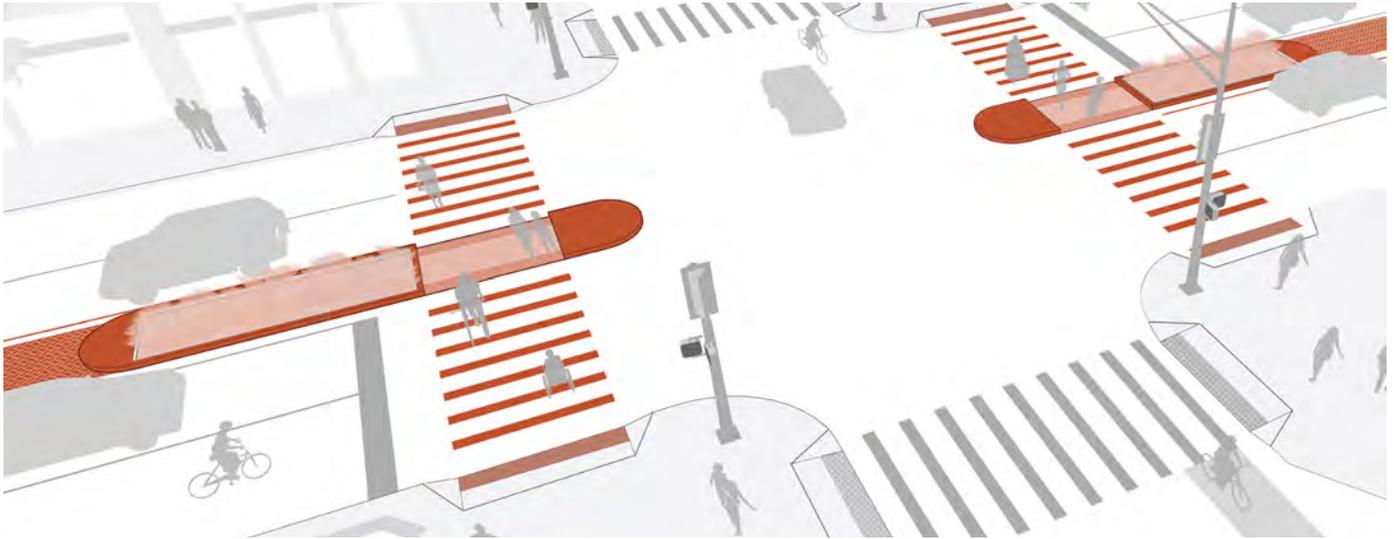
## CRASH TYPES



## COST



# Pedestrian Refuge Islands



Pedestrian refuge islands are curbed sections in the center of a roadway that separate opposing directions of general-purpose lanes. They provide a space for pedestrians crossing the street to cross one direction of traffic at a time, with a place to wait in the median. They are particularly effective where motorist speeds are above 30 mph, and traffic volumes are above 9,000 vehicles per day.

## APPROPRIATE LOCATIONS

- Signalized and unsignalized intersections
- Midblock crossings
- Collectors and arterials

## CONSIDERATIONS

- Pedestrian refuge islands should be part of an ADA-compliant pathway.
- Pedestrian refuge islands may impact the ability of vehicles to make left turns. An analysis should be done to determine impacts to left turns and to emergency vehicles access.
- Ensure emergency vehicles can navigate around refuge islands by either installing mountable curbs or permitting travel in lanes going in opposite directions.
- Ensure any landscaping does not obstruct visibility.
- At midblock crossings, raised Pedestrian Refuge Islands may require additional crossing treatments such as PHB or Rectangular Rapid Flashing Beacons (RRFBs).
- Quick-build variations may use bolt-down features, such as rubberized curbs and flex posts.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

**Tier 2:** Reduce Vehicle Speeds

## CRASH TYPES

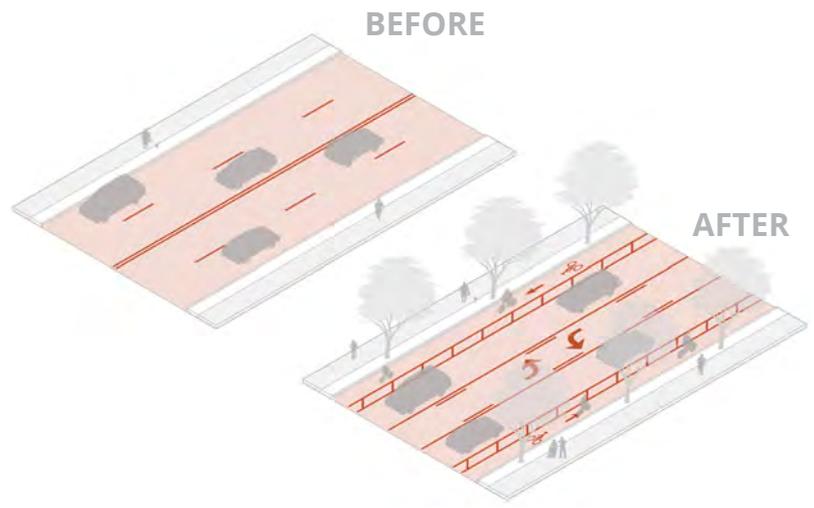


## COST



# Road Diets (Roadway Reconfigurations)

Road diets are a reduction in the number of lanes or general-purpose lane widths in order to reduce motorists speeds and/or repurpose roadway space. Roads may be a candidate for a road diet based on daily or peak hour traffic volumes. Road diets can increase available space for pedestrian, bicycle, transit, or other infrastructure needs, and may reduce crossing distances by eliminating a lane or through the addition of a pedestrian median island.



## APPROPRIATE LOCATIONS

- Along corridors
- Collectors and arterials

## CONSIDERATIONS

- Analyze candidate locations for road diets by considering several factors and trade-offs, including motorists' speeds and volumes, turning motorists' volumes, and operation and volume of pedestrians, bicyclists, transit vehicles, and parallel streets.
- Consider public engagement that leads with the safety need for the road diet.
- Conduct a before and after evaluation that considers the impacts on safety, travel speeds, and operations for all modes.
- Consider implementing as part of the jurisdiction's programmatic roadway resurfacing efforts and Complete Streets efforts.

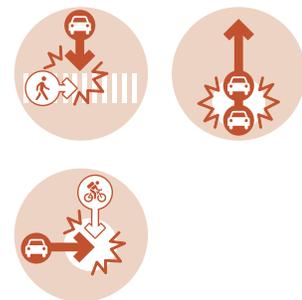


## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

**Tier 2:** Reduce Vehicle Speeds

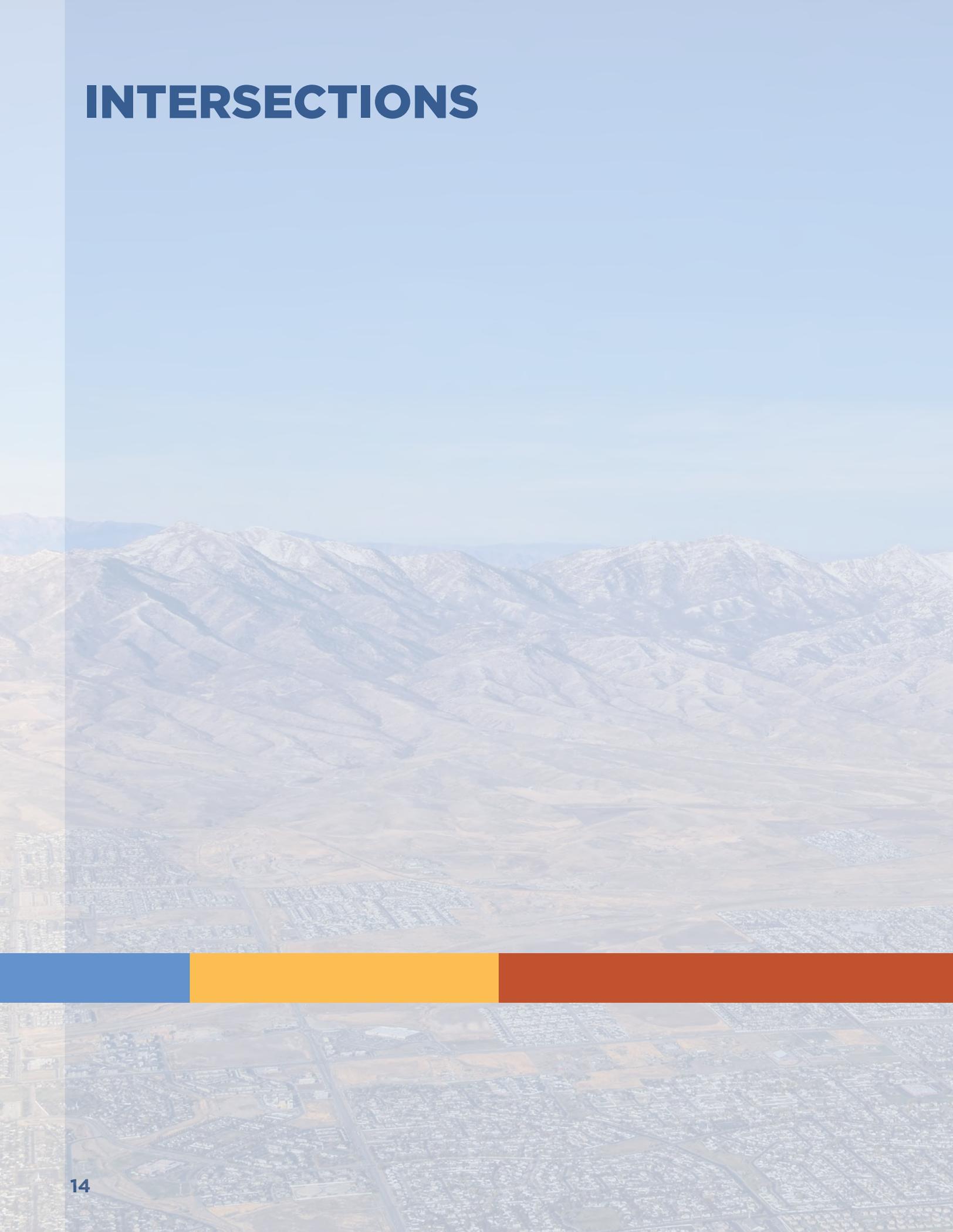
## CRASH TYPES



## COST

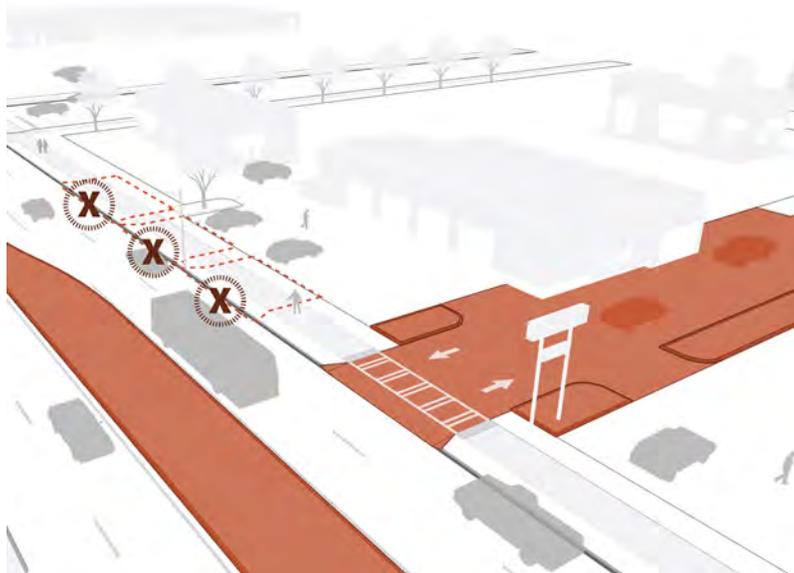


# INTERSECTIONS



# Corridor Access Management

Corridor access management refers to the design, application, and control of entry and exit points along a roadway, including intersections and driveways that serve properties. They reduce driveway density to create fewer conflict points among road users and are beneficial for people walking, bicycling, rolling, or driving while also reducing trip delay and congestion.



## APPROPRIATE LOCATIONS

- Along corridors
- Collector and arterials

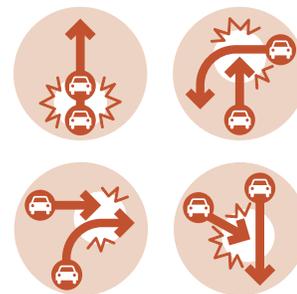
## CONSIDERATIONS

- Evaluate access management strategies such as reducing driveway density through closure, consolidation, or relocation.
- Consider narrowing driveways that are excessively wide to shorten crossing distance for pedestrians.
- Implement restrictions on allowable movements at driveways, such as right-in/right-out or left-in-left-out turning movements.
- If the opportunity exists for site developments, require placement of driveways on the intersection approach corners rather than receiving corners.
- Consider implementing directional curb, raised medians, or other treatments to prevent across-roadway movements and minimize conflicts.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

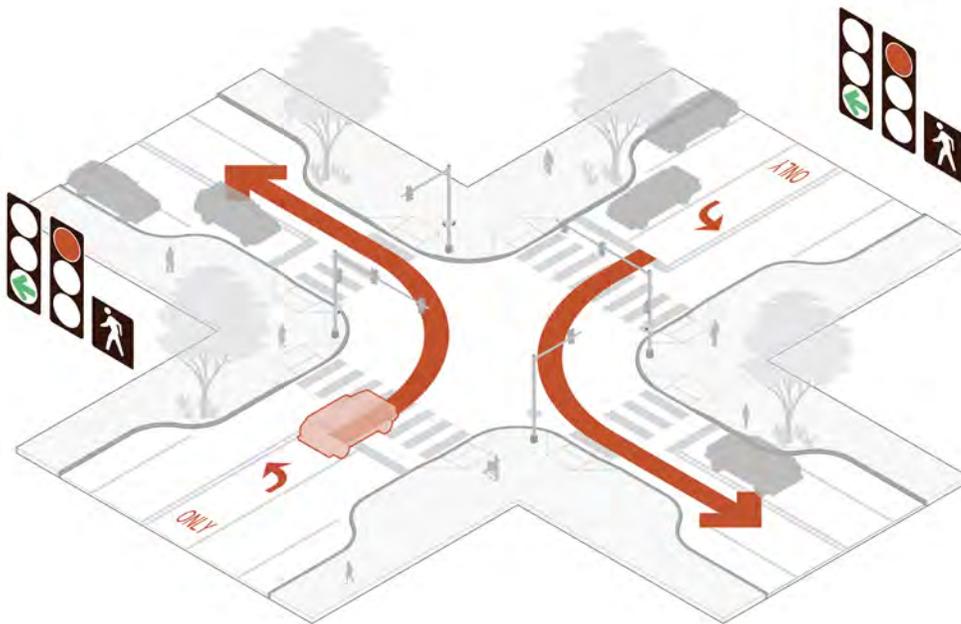
## CRASH TYPES



## COST



# Dedicated Left-Turn Lanes at Intersections



Dedicated left turn lanes provide physical separation between turning traffic that is slowing or stopped and adjacent through traffic at approaches to intersections. They provide space for deceleration before motorists make the left turn.

## APPROPRIATE LOCATIONS

- Signalized and unsignalized intersections
- Collectors and arterials

## CONSIDERATIONS

- Consider that dedicated left-turn lanes can lengthen crossing distances for pedestrians. Include curb extensions/ bulb outs and/or pedestrian refuge islands if feasible.
- Consider installations on roadways with raised medians.
- Combine with protected turn phases at signalized intersections when appropriate based on turning motorists' volumes.
- Consider installing offset turn lanes which can increase visibility in areas with higher vehicular speeds.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

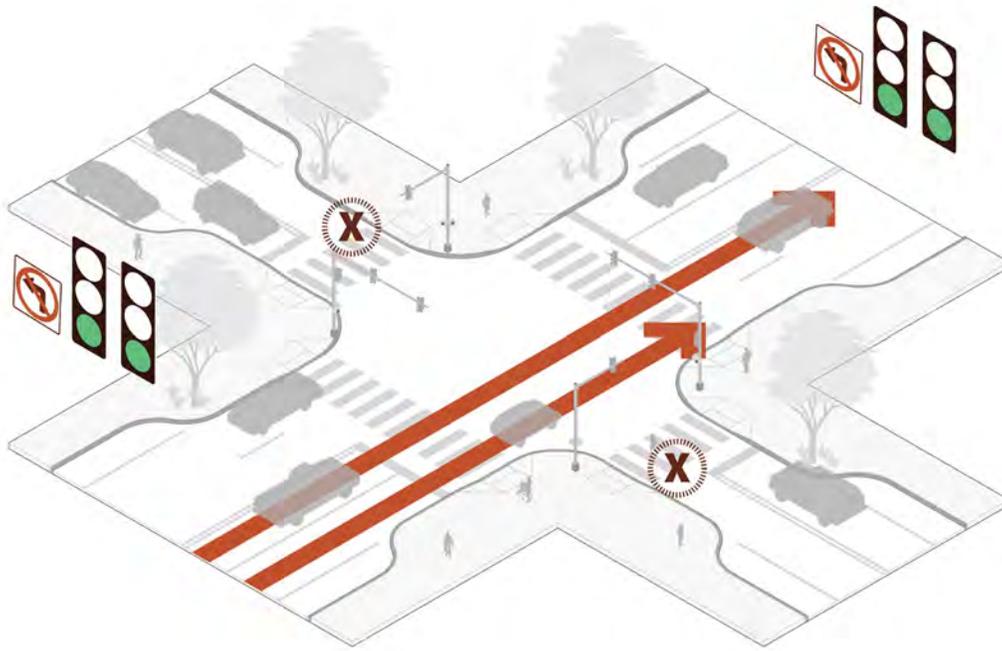
## CRASH TYPES



## COST



# No Left Turn/U-turn Restrictions (Reduced Left-Turn Conflict Intersections)



No Left Turn or no U-turn Restrictions are signs, signals, or geometric designs such as diverters with raised medians that prohibit motorists from making left-turn or U-turn movements. They reduce potential conflict points between turning motorists and other motorists and people walking and bicycling at intersections. Most appropriate at locations with frequent left-turn movement crashes at minor streets and to help reduce through traffic on neighborhood streets.

## APPROPRIATE LOCATIONS

- Signalized intersections
- Collectors based on traffic volumes and arterials

## CONSIDERATIONS

- Implementing no left turn restriction can reduce traffic volumes along minor streets, creating more comfortable streets for people walking or bicycling.
- Evaluate traffic patterns to determine whether other streets would be adversely affected.
- Ensure geometric designs used to physically prohibit motorist left-turns maintain easy access for people walking or bicycling.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

## CRASH TYPES

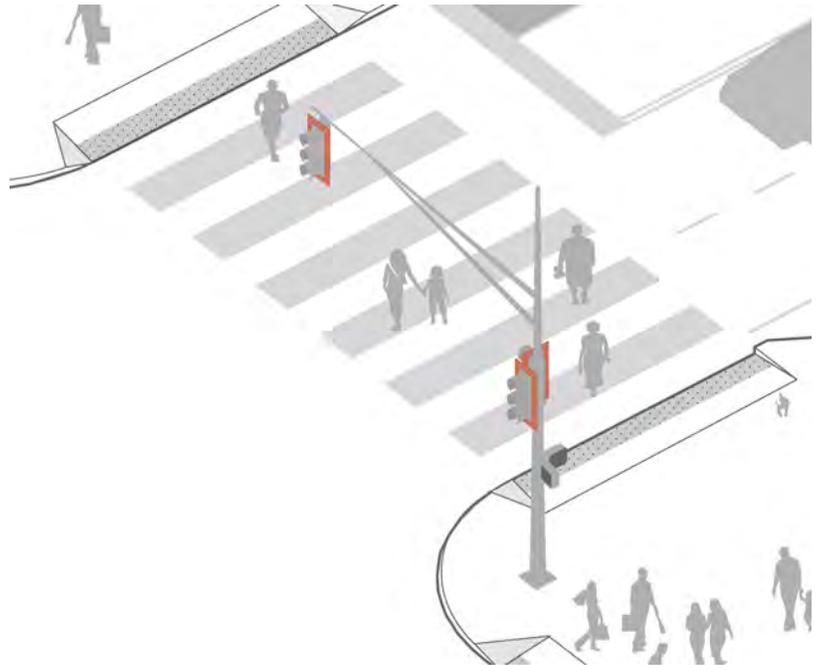


## COST



# Retroreflective Traffic Signal Backplates

Retroreflective Traffic Signal Backplates are a 1- to 3-inch wide retroreflective border framing traffic signals. They improve the visibility of the illuminated face of the traffic signal in both day and nighttime conditions. Backplates help reduce risk of crashes caused by motorist inattentiveness and poor visibility conditions such as at night, heavy fog, or heavy precipitation.



## APPROPRIATE LOCATIONS

- Signalized intersections
- Locals, collectors, and arterials

## CONSIDERATIONS

- Existing signal supports should be reviewed to ensure the design is sufficient to withstand the added wind load.
- Backplates with retroreflective borders should be used to systematically improve safety at signalized intersections.

## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

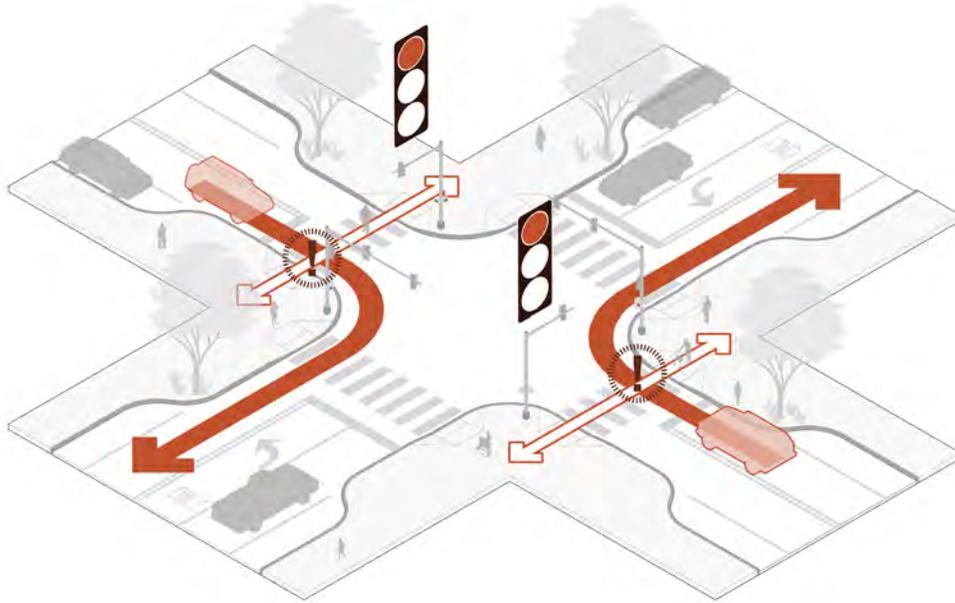
## CRASH TYPES



## COST



# Right Turn on Red Prohibitions



Right Turn on Red Prohibitions are signs or signals that prohibit motorists from making a right turn. Most appropriate at locations with high volumes of people walking or bicycling. They reduce potential conflicts between turning motorists and other motorists, and people walking and bicycling at signalized intersections.

## APPROPRIATE LOCATIONS

- Signalized intersections
- Locals, collectors, and arterials

## CONSIDERATIONS

- Consider Right Turn on Red restrictions in locations where sight distance may be limited.
- Use with LPIs to improve visibility of pedestrians given the increased number of motorists turning right on green.
- Consider dynamic electronic signs to restrict right turns only during certain times of day or during certain signal phases.
- Intersection impacts to vehicle operations should be studied.
- Must meet Manual on Uniform Traffic Control Devices (MUTCD) criteria to be installed.

## SAFE SYSTEM HIERARCHY TIER

**Tier 3:** Manage Conflicts in Time

## CRASH TYPES

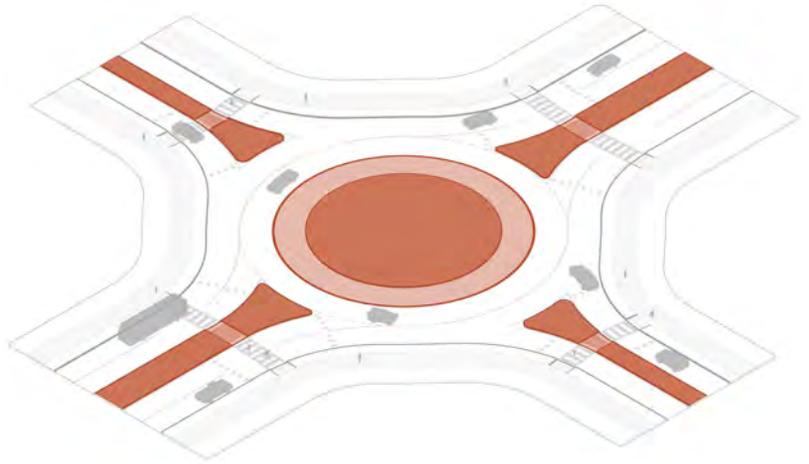


## COST



# Roundabouts

An intersection treatment in which all approaches must yield to traffic already within the roundabout. After yielding, motorists must circulate a center island before exiting to turn or continue straight. They reduce speeds and conflict points at intersections while maintaining efficient traffic operations and continuous flow. Traffic circles or mini-roundabouts are smaller and used on residential streets.



## APPROPRIATE LOCATIONS

- Signalized and unsignalized intersections
- Locals, collectors, and arterials

## CONSIDERATIONS

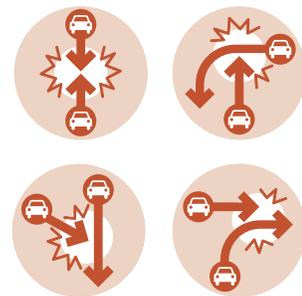
- Larger vehicles such as emergency vehicles or school buses may need to be accommodated with truck aprons.
- Typically requires significant right-of-way.
- Consider adding landscaping that does not obstruct visibility.
- Consider modular roundabout installations to reduce cost.
- Install signage that directs traffic flow and creates awareness of roundabout rules; consider pairing outreach efforts when implementing a roundabout to educate motorists, pedestrians, and bicyclists.
- Speeds and geometry should facilitate motorist yielding. Entry speed should be ~15 mph. Motorists can be slowed at exit and entry points with horizontal or vertical deflection.
- Crossing treatments for bicyclists and pedestrians should be installed at least one vehicle length (20 feet) from roundabout entries and may be installed with RRFBs.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

**Tier 2:** Reduce Vehicle Speeds

## CRASH TYPES

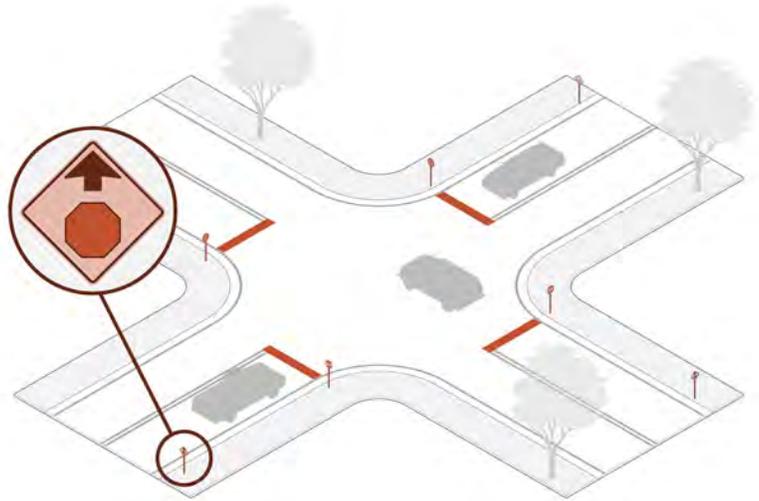


## COST



# Enhanced Visibility at Stop-Controlled Intersections

Officially considered Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections. These enhancements involve deploying a package of multiple low-cost countermeasures, including enhanced signing and pavement markings, at a large number of stop-controlled intersections within a jurisdiction.



## APPROPRIATE LOCATIONS

- Unsignalized intersections
- Local and collectors

## CONSIDERATIONS

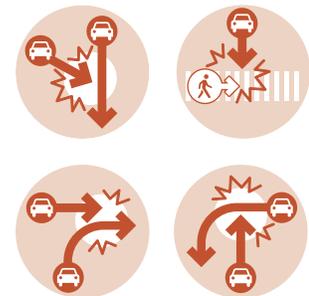
- Focus on enhancing signing and pavement markings, including stop bars, to improve visibility and delineate through lanes and stop approaches.
- Stop signs should be retroreflective and may be accompanied by flashing red signal or have embedded flashing LED lights for improved visibility.
- Consider implementation of these countermeasures during routine maintenance.



## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

## CRASH TYPES

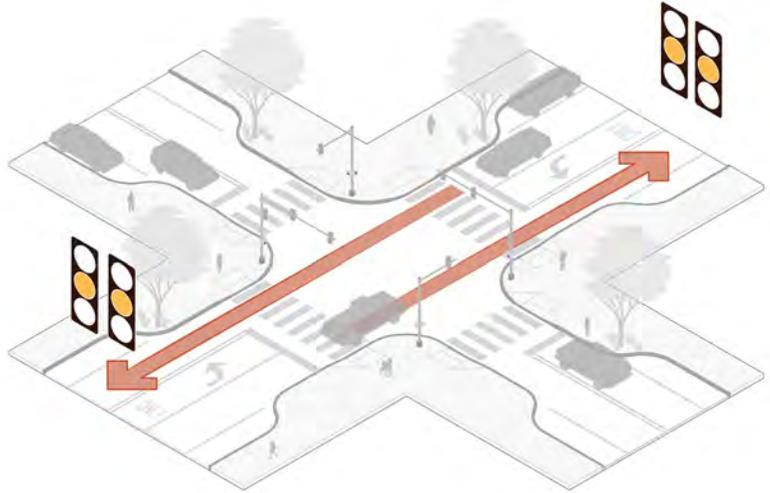


## COST



# Yellow Change Intervals

The yellow change interval is the length of time that the yellow signal indication is displayed after a green signal. They help improve motorist compliance to signals and reduce red-light running. If the interval is too brief, motorists may be unable to stop safely, causing unintentional red-light running, while a long interval may lead motorists to treat the yellow as an extension of the green phase, inviting intentional red-light running. Properly timing the length of the yellow phase following MUTCD requirements is important to provide motorists enough time to safely stop in preparation for the red phase.



## APPROPRIATE LOCATIONS

- Signalized intersections
- Locals, collectors, and arterials

## CONSIDERATIONS

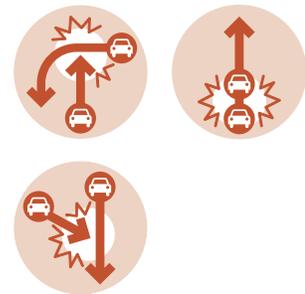
- Yellow change intervals that are too short may result in motorists being unable to react and stop safely. Yellow change intervals that are too long may encourage red-light running.
- Consider factors such as vehicle speed, turning movements, motorist perception-reaction time, vehicle deceleration, and intersection geometry in determining the optimal timing for the yellow change interval.
- Refer to MUTCD for basic requirements and additional recommendations regarding yellow change interval timing.

Automated enforcement through red-light cameras is currently not permitted in Utah. However, they are another safety countermeasure that may be considered to address red-light running issues.

## SAFE SYSTEM HIERARCHY TIER

**Tier 3:** Manage Conflicts in Time

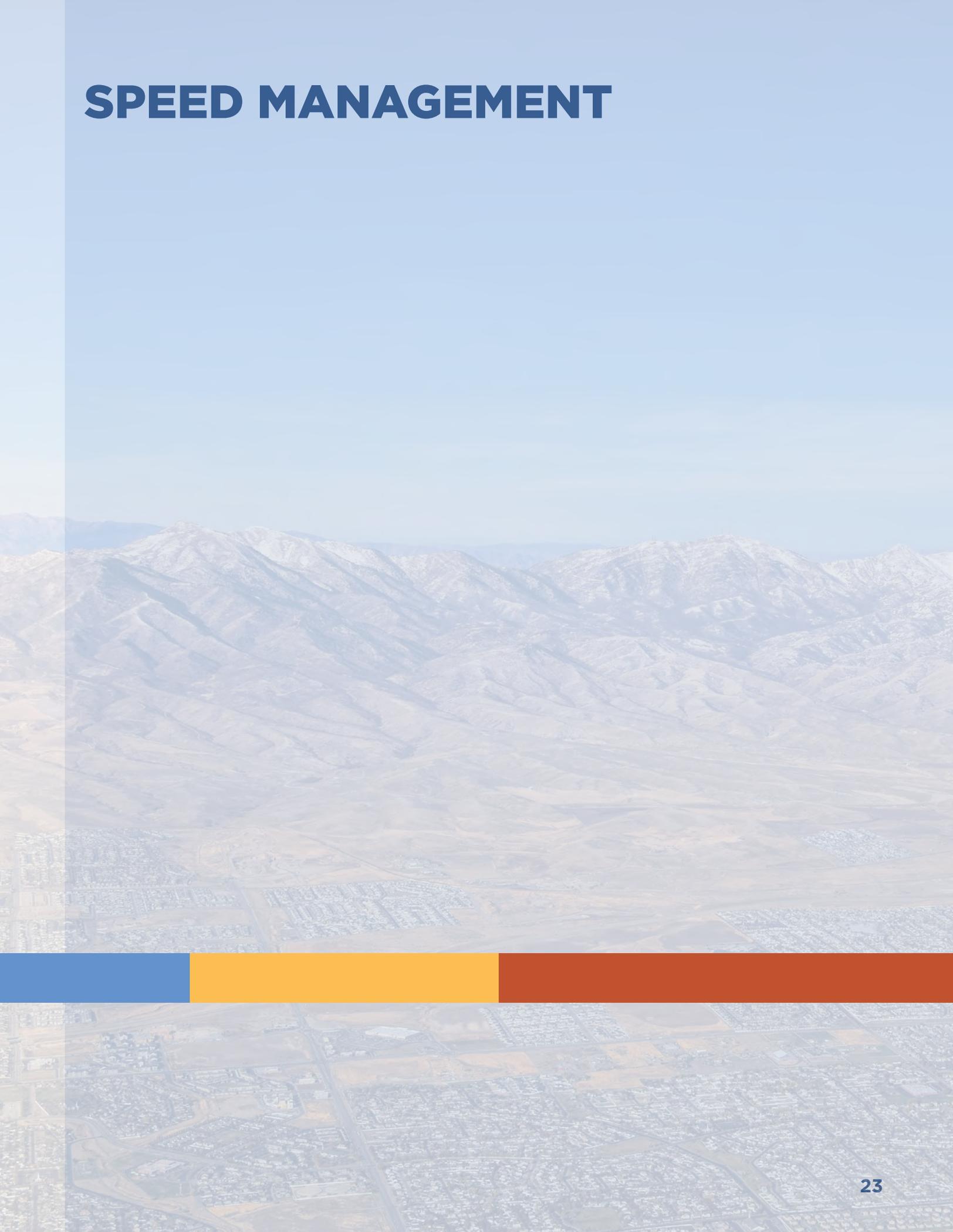
## CRASH TYPES



## COST



# SPEED MANAGEMENT



# Appropriate Speed Limits for All Road Users



Setting appropriate context-sensitive speed limits, especially in areas with a mix of road users, to reduce the significant risks of differing speeds among users. In the event of a crash, fatalities, and serious injuries are much less likely if speeds are reduced. The designated authority can establish non-statutory speed limits or designate reduced speed zones.

## APPROPRIATE LOCATIONS

- All streets and contexts



## CONSIDERATIONS

- Base speed limit decisions on engineering studies conducted in accordance with MUTCD, considering factors such as pedestrian and bicyclist activity, crash history, land use context, roadway geometry, and traffic volume.
- Reduce local speed limits in areas where there are high volumes of vulnerable road users (people walking and bicycling) sharing the road environment with motorists (e.g., school zones)
- Consider incremental adjustments to the posted speed limits of 5 mph or more to step operating speeds down over a period of time.
- Implement complementary speed management strategies concurrently to achieve desired speeds, such as self-enforcing roadways, traffic calming measures, and speed safety cameras.

## SAFE SYSTEM HIERARCHY TIER

**Tier 2:** Reduce Vehicle Speeds

## CRASH TYPES



## COST



## COMPLEMENTARY SPEED MANAGEMENT COUNTERMEASURES

There are several safety countermeasures that should be considered along with *Appropriate Speed Limits for All Road Users* for effective speed management. These safety countermeasures are included in the Toolkit and are in Tier 2 (Reduce Vehicle Speeds) of the Safe System hierarchy.

- **Curb Extensions and Bulb Outs** – page 9
- **Pedestrian Refuge Islands** – page 12
- **Road Diets (Roadway Reconfiguration)** – page 13
- **Roundabout** – page 20

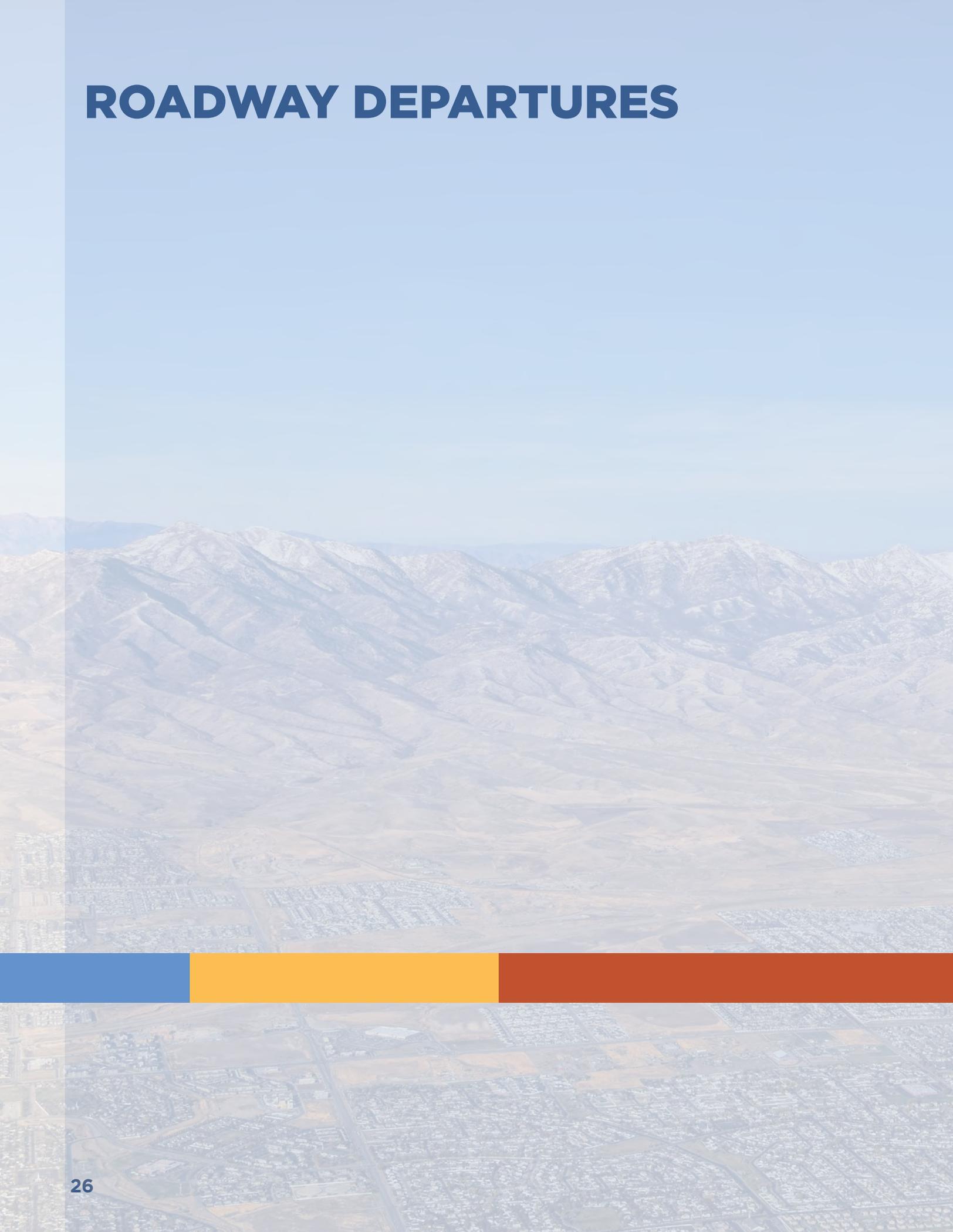


## SPEED SAFETY CAMERAS

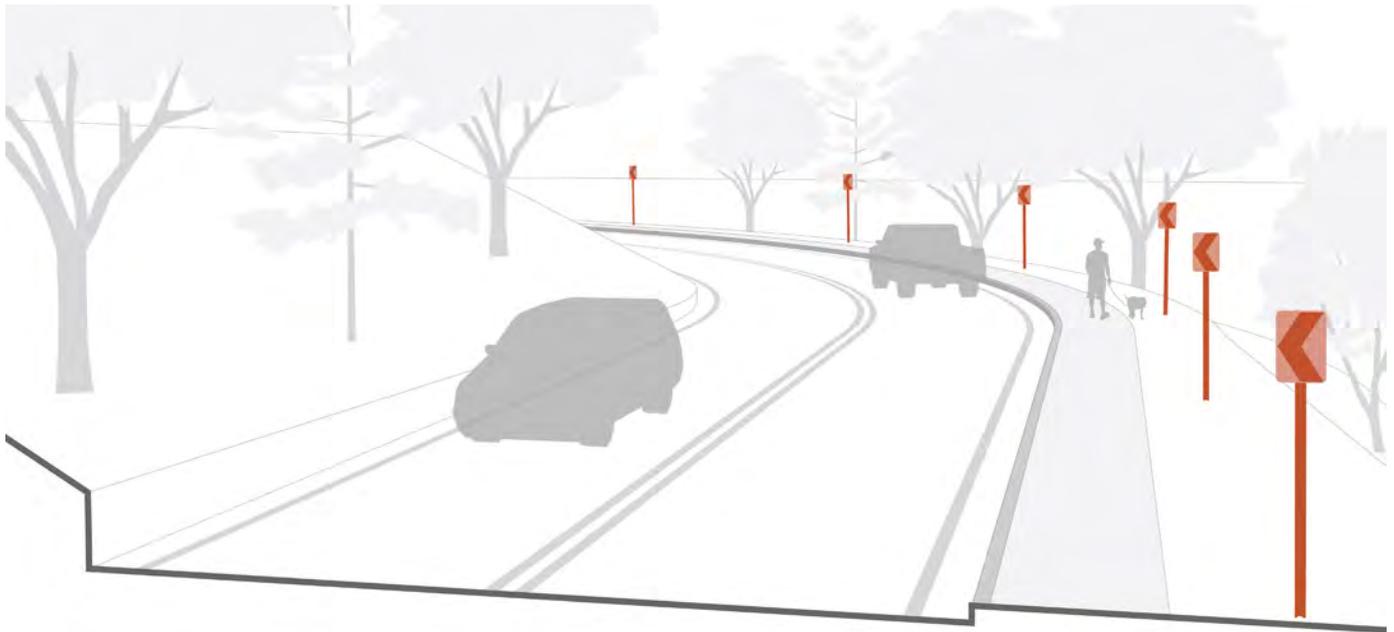
Speed Safety Cameras are another safety countermeasure that may be considered for speed management. Utah allows speed safety cameras in limited locations: school zones and streets with speed limits of 30 mph or lower. Contingent on adjustments to state policy, speed safety cameras should be considered at additional locations where motorists' speeds are an issue. During the installation of cameras, jurisdictions should consider equity when placing cameras, and assess and publish metrics to ensure enforcement does not cause additional harm to marginalized communities.



# ROADWAY DEPARTURES



# Enhanced Delineation for Horizontal Curves



Enhancements that include a variety of design strategies and roadway features that can be implemented in advance of or within curves, in combination or individually, including chevron signs, and pavement markings. They alert motorists to upcoming curves, the direction and sharpness of the curve, and appropriate operating speed.

## APPROPRIATE LOCATIONS

- Along corridors with curves
- Locals, collectors, and arterials

## CONSIDERATIONS

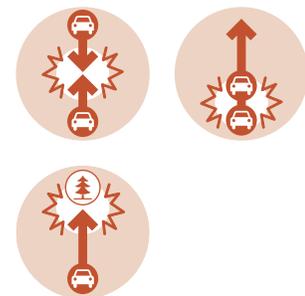
- Consider adding roadway features in advance of curves and within the curves to alert motorists.
- Review signing practices and policies to ensure compliance with the MUTCD principles of traffic control devices, maintaining consistent practices for similar curves.
- Install retroreflective or fluorescent signs, consistent with MUTCD and local design standards.



## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

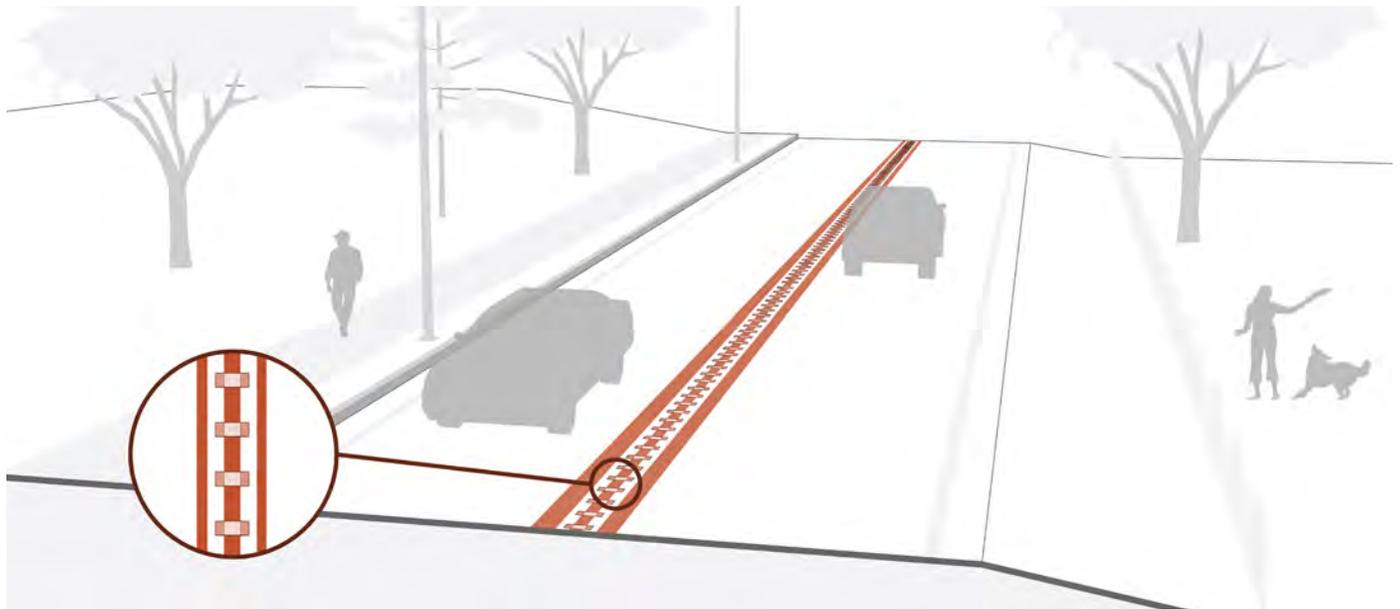
## CRASH TYPES



## COST



# Longitudinal Rumble Strips and Stripes on Two-Lane Roads



Longitudinal rumble strips are milled or raised elements on the pavement that create vibration and sound when driven over in an automobile. They alert motorists that they have traveled outside of the lane or roadway. They can be installed on the shoulder, edge line, or at or on the center line of an undivided roadway.

## APPROPRIATE LOCATIONS

- Along corridors
- Suburban and rural/production collectors or minor arterials

## CONSIDERATIONS

- Rumble strips can increase visibility of pavement markings during wet or nighttime conditions when pavement markings are placed over the rumble strip.
- Consider placing “mumble” strips with an oscillating sine wave pattern that reduces noise outside of the vehicle where rumble strip noise is a concern.
- Use rumble strips with gaps in areas where people are riding bicycles to allow their safe navigation around the strips.
- While studies have shown no evidence of issues related to snow, ice or rain build-up, consider winter maintenance during installation.

## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

## CRASH TYPES



## COST



# Median Barriers

Physical infrastructure in the roadway median that separates opposing directions of travel lanes. They restrict motor vehicle turn movements and increase separation between motorists traveling in opposing directions. These barriers can include cable barriers, curb/concrete barriers, or hardened centerlines—flexible delineators placed between opposing travel lanes that guide motorists to make wider turn angles for safer and more predictable turns.



## APPROPRIATE LOCATIONS

- Along corridors
- Collectors and arterials

## CONSIDERATIONS

- Assess the width of the median, motorists' volume, and roadway alignment to determine the appropriate median barrier installation, such as cable, metal-beam guardrails, or concrete, considering their flexibility, maintenance requirements, and crash absorption capabilities.
- Medians may be landscaped or paved with a material different to that of the roadway.
- Can be combined with raised refuge islands to provide safer crossings for people walking.
- Coordinate with emergency service providers to determine necessary gaps in the median barriers for turnaround ability.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

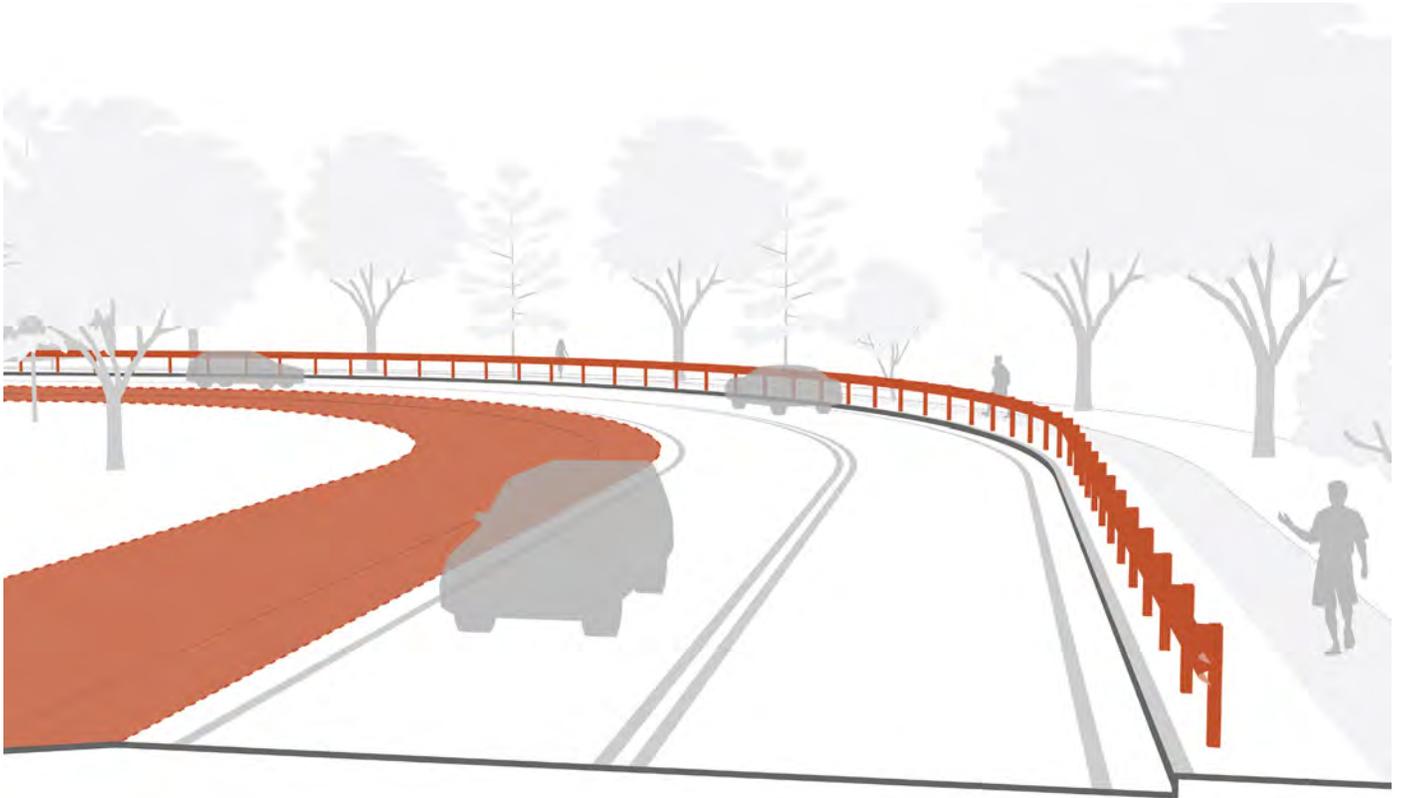
## CRASH TYPES



## COST



# Roadside Design Improvements at Curves



Several design improvements that include widened shoulders, flattened side slopes, and expanded clear zones that provide safe recovery if a motorist departs the roadway. Additionally, roadside barriers such as cable barriers, metal-beam guardrails, or concrete barriers can help mitigate crash severity.

## APPROPRIATE LOCATIONS

- Along corridors with curves
- Locals, collectors, and arterials

## CONSIDERATIONS

- Provide longitudinal barriers between pedestrian or bicyclist facilities and vehicle travel lanes.
- Consider implementing a combination of treatments at individual locations, such as adding or widening shoulders, flattening side slopes, and widening clear zones.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

## CRASH TYPES

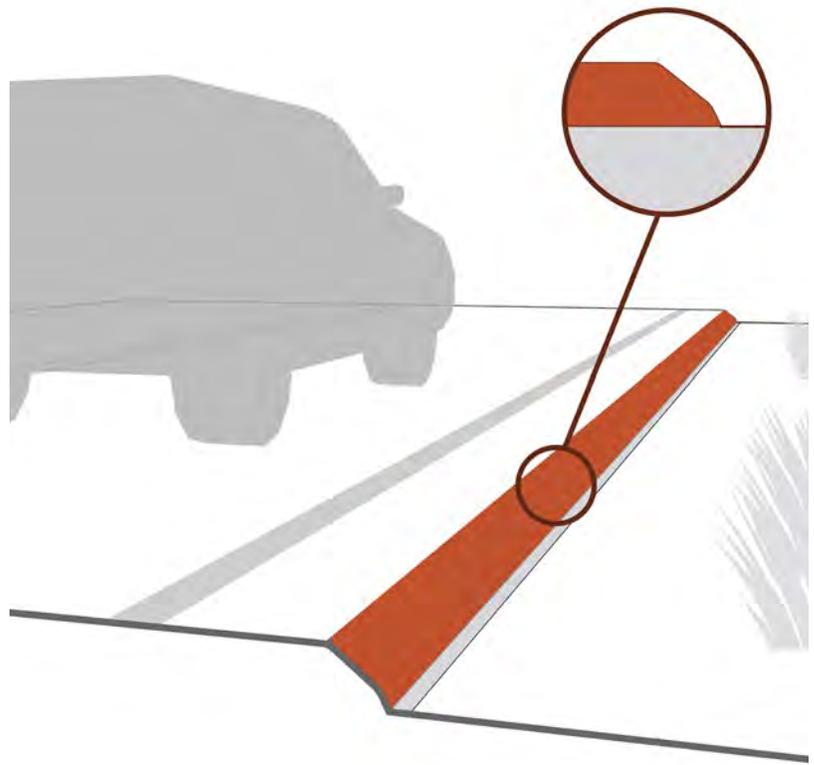


## COST



# Safety Edge

The SafetyEdge technology shapes the edge of the pavement to a gradual angle to eliminate the potential for a vertical drop-off at the pavement edge on curb-less roads. During construction of new roads or resurfacing of existing roads. They help allow motorists to safely return to the roadway after they veer off. They can also improve pavement durability by reducing edge raveling.



## APPROPRIATE LOCATIONS

- Along corridors
- Suburban and rural roads without curbs

## CONSIDERATIONS

- Consider developing standards for safety edges where curbs and/or guardrails are not present on new asphalt paving and resurfacing projects.

## SAFE SYSTEM HIERARCHY TIER

**Tier 1:** Remove Severe Conflicts

## CRASH TYPES

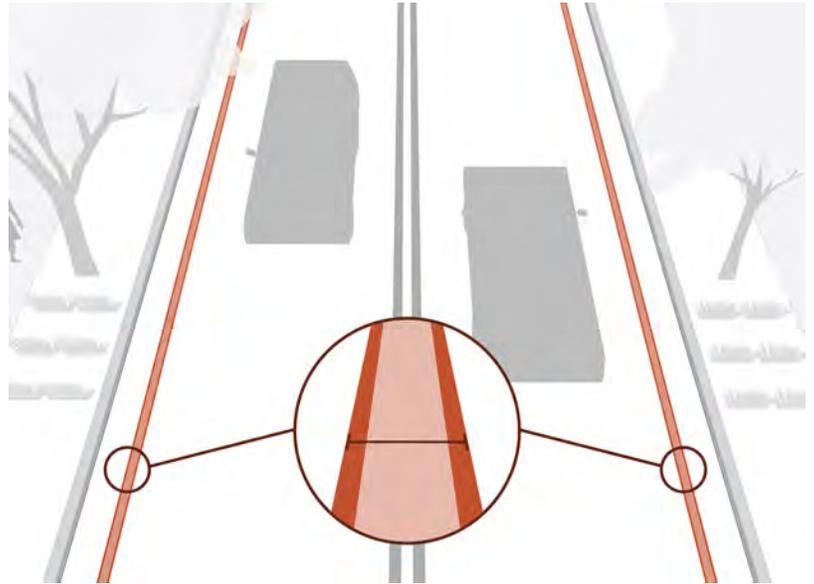


## COST



# Wider Edge Lines

Wider edge lines enhance the visibility of travel lane boundaries compared to traditional edge lines. Wider markings widths are 6 inches, up from the minimum normal line width of 4 inches. They help increase motorists' perception of the edge of the travel lane.



## APPROPRIATE LOCATIONS

- Along corridors
- Suburban and rural roads without curbs

## CONSIDERATIONS

- Consider striping wider edge lines during scheduled maintenance procedures such as roadway restriping and resurfacing events.
- Wider edge lines are relatively low cost and can be implemented using existing equipment during maintenance procedures such as re-striping and resurfacing.

## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

## CRASH TYPES



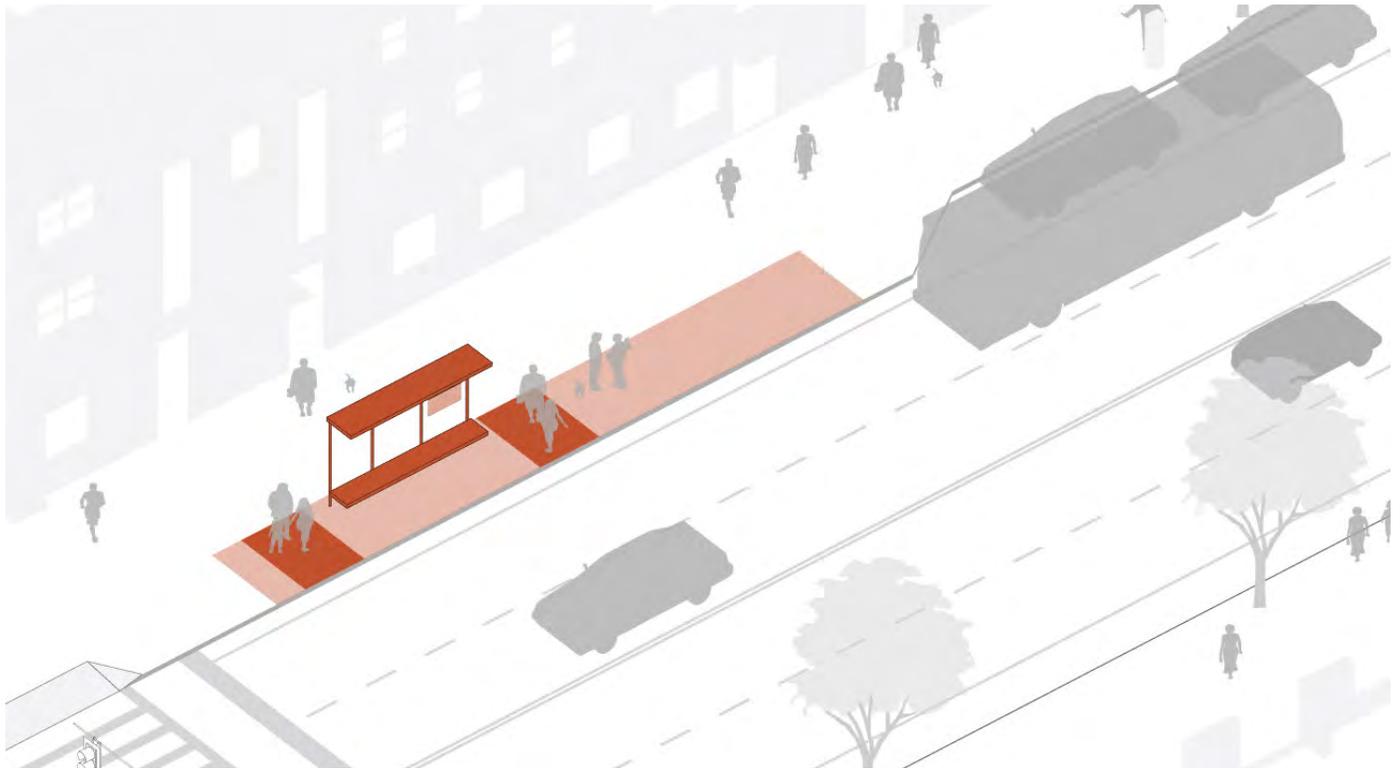
## COST



# INTERCONNECTED IMPROVEMENTS



# Bus Stop Improvements



Improvements to the area used for the waiting, boarding, and alighting of bus riders and include amenities such as a clear curb area and roadway area needed for the bus to safely service the stop. They create a safe, accessible, easily identifiable, and comfortable area for waiting, boarding, and alighting of bus riders and bus operations.

## APPROPRIATE LOCATIONS

- Along corridors
- Locals, collectors, and arterials with bus service



## CONSIDERATIONS

- Provide ADA-compliant pathways.
- Consider installing bus bulbs that allow buses to make stops in travel lanes without merging in and out of traffic to reach users. Bus bulbs also provide additional space for waiting passengers and amenities.
- Consider the installation of floating bus stops where bicycle facilities are present and transit vehicles need to pull up to the curb.
- Consider transit signal priority along congested corridors.
- Consider installing transit priority lanes to improve transit speeds, reliability, and efficiency as well as reducing conflicts between buses and other road users.

## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

## CRASH TYPES



## COST



# Lighting

Overhead lighting to increase visibility for all road users, especially at crossings. Pedestrian-scale lighting illuminates sidewalks and crossings where light fixtures are shorter than roadway-scale light fixtures. They may increase yielding and compliance when used in conjunction with traffic control devices.



## APPROPRIATE LOCATIONS

- Along all corridors and intersections

## CONSIDERATIONS

- Consider adjustments in brightness or bulb type to improve existing street lighting.
- Provide uniform lighting levels along an entire corridor.
- Consider energy usage and environmental impacts.
- Use new lighting installations that have breakaway features, are shielded, or placed far enough from the roadway to reduce the probability and severity of fixed-object crashes.



## SAFE SYSTEM HIERARCHY TIER

**Tier 4:** Increase Attentiveness and Awareness

## CRASH TYPES

All crash types

## COST



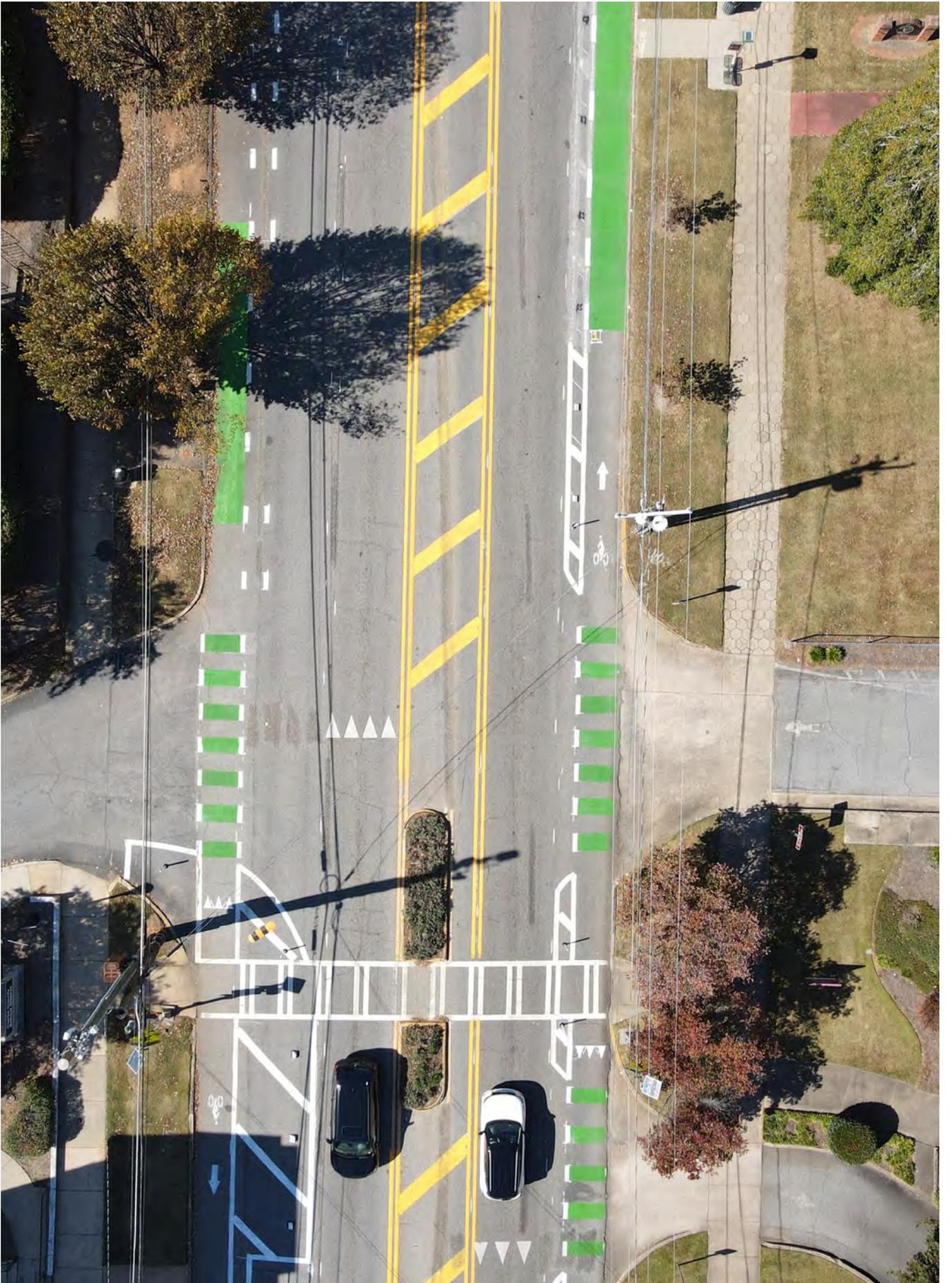
# CONCLUSION

The Toolkit is intended to be used as a reference guide by MAG, its local jurisdictions, and the Mountainland community. The Toolkit facilitates a shared understanding of various roadway design treatments that MAG and local governments can implement to eliminate roadway fatalities and serious injuries.

As MAG and local governments observe and evaluate the types of crashes occurring on roadways, they can select safety countermeasures from this Toolkit to implement at the appropriate locations. Safety countermeasures will be selected for specific locations after evaluation of the appropriateness of the safety countermeasures for the location's context. Implementation of safety countermeasures should be prioritized on the HIN where there is a disproportionate number of fatal or serious injury crashes or implemented systemically across the region.

As local governments implement these safety countermeasures, they should track what countermeasures are implemented and where they are implemented in a database and collect data at these locations before and after implementation. The before and after data is necessary to evaluate the effectiveness of the safety countermeasures for eventual adjustments to the safety countermeasures included in this Toolkit.





**MOUNTAINLAND**  
**SAFE STREETS**



# **APPENDIX B**

## **STATE-LEVEL POLICIES TO FURTHER ROADWAY SAFETY**



Beyond the safety countermeasures and policies/practices that the MAG and the local governments can implement, there are additional strategies that will need to be implemented at the state level to further support the regional and local governments' ability to achieve safer streets.

The Mountainland Safe Streets Action Plan identifies five strategies that would help address prevailing crash types and safety risks in the region if adopted at the state-level:

- Automated Speed/Red Light Enforcement
- Child Passenger Safety
- DUI Limited Driving Privileges During Suspension
- Motorcyclist Helmet

These strategies and resources for additional information are discussed in Table 1 below.

**Table 1: State-level Strategies**

Strategy or Policy	Description	Effectiveness	Resources
<b>Automated Speed/Red Light Enforcement</b>	<p>These systems capture violations, record relevant data about the violations, and record images of the violator vehicles. Following a review of images and violation data, a warning or traffic citation is issued and mailed to the registered owner of the vehicle. Utah currently has limited permitted use of speed cameras in school zones and areas that have a posted speed limit of 30 mph or less and has no law on red light cameras.</p> <p>As a best practice, the State can adjust speed camera use to be permitted statewide and allow the use of red light cameras statewide. During the installation of cameras, jurisdictions should consider equity when placing cameras, and assess and publish metrics to ensure enforcement does not cause additional harm to marginalized communities.</p>	<p>While red light camera systems have been associated with increased lower severity rear-end crashes at intersections, they have been associated with reductions in more severe offset and right-angle crashes. Similarly, speed cameras have demonstrated significant reductions in speeding and crash rates, with injury crash reductions ranging from 20 to 25% at fixed camera sites and reductions of 8 to 49% for all crashes related to serious injuries and fatalities.</p>	<p>NHTSA, 2020, “Countermeasures that Work”</p> <p><a href="https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work">https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work</a></p>

Strategy or Policy	Description	Effectiveness	Resources
<b>Child Passenger Safety</b>	<p>This law would require rear-facing car seats through age 2 or older, require booster seats, and rear seating for children through age 12. Utah currently has booster seat requirements, but no rear-facing or rear-seat requirements.</p> <p>The State can update child passenger safety laws to enact the Rear Facing Through Age 2 or Older Law, and Rear Seat Through Age 12 Law.</p>	<p>Although research into child passenger safety has not demonstrated a significant reduction in injuries with rear-facing seats or rear seat laws, the Governors Highway Safety Association these elements comprise a strong child passenger safety laws.</p>	<p>NHTSA, 2020, “Evaluation of Child Restraint System Effectiveness” <a href="https://rosap.nhtl.bts.gov/view/dot/72668/dot_72668_DS1.pdf">https://rosap.nhtl.bts.gov/view/dot/72668/dot_72668_DS1.pdf</a></p> <p>GHTSA, 2024, “Child Passenger Safety” <a href="https://www.ghtsa.org/issues/child-passenger-safety">https://www.ghtsa.org/issues/child-passenger-safety</a></p>
<b>DUI Limited Driving Privileges During Suspension</b>	<p>Also known as a “hardship license,” limited driving privileges during license suspension allows people to drive for specific trips such as commute trips or medical trips, recognizing equity concerns for residents of neighborhoods that lack other transportation options. This may be tied to the installation of an ignition interlock device that requires a breath sample before starting the vehicle.</p> <p>The State can adjust administrative license suspension to allow limited driving privileges.</p>	<p>All states have some type of ignition interlock program, in which judges require all or some convicted drunk drivers to install interlocks in their cars to disable the engine if alcohol is detected on their breath. Analysis by IIHS finds that impaired driving prevention systems could save 10,158 lives each year in the U.S., accounting for more than 25% of road fatalities.</p>	<p>GHTSA, 2024, “Alcohol-Impaired Driving” <a href="https://www.ghtsa.org/issues/alcohol-impaired-driving">https://www.ghtsa.org/issues/alcohol-impaired-driving</a></p> <p>Advocates for Highway &amp; Auto Safety, 2024 <a href="https://saferoads.org/advocates-roadmap-reports/">https://saferoads.org/advocates-roadmap-reports/</a></p>



Strategy or Policy	Description	Effectiveness	Resources
<p><b>Motorcyclist Helmet</b></p>	<p>This law would create a universal helmet requirement, including for riders of motorcycles. Utah law currently only mandates motorcyclists under 21 years of age wear helmets.</p> <p>The State can make universal helmet-use requirements for all motorcyclists.</p>	<p>States that enacted universal helmet laws witnessed helmet use rates of 90% or higher, compared to around 50% before the laws, while states that repealed such laws experienced drops in helmet use and increases in injury severity and mortality rates. For instance, in Michigan, after the repeal of the universal helmet law, helmet use among riders involved in crashes decreased by 24% to 27%, resulting in a 14% increase in head injury trauma among hospitalized motorcycle riders. A study found that Florida’s repeal of the universal helmet law led to an 81% increase in motorcyclist fatalities.</p>	<p>NHTSA, 2020, “Countermeasures that Work”</p> <p><a href="https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work">https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work</a></p> <p>–</p>

# APPENDIX C

## PROJECT SCORING TABLES



## American Fork/Pleasant Grove/Lindon

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>AF1</b>	100 East (SR-74) at 1120 North	1340 North to 1120 North and 100 East to 200 East	American Fork	1	0	0	1	0	1	0	0	0	3	21 Total 2 Serious Injury No Fatal No Ped 1 Bike	38% of crashes are Front to Rear with 100% SB 38% of crashes are Angle crashes. 48% of crashes involved Teen Drivers 38% of the crashes involved Distracted Driving 19% of crashes related to Adverse Roadway Surface Condition Serious Injury crashes – Both occurred at 1120 N/100 E intersection. WBL hit EBT at intersection, DUI SBL hit NBT at intersection, Adverse Weather conditions
<b>AF2</b>	N. County Blvd (SR-129) in AF	1100 North to 1000 North, 700 North to 600 North, 400 North to 300 North	American Fork	1	1	1	1	1	0.5	0	0	0	5.5	43 Total 4 Serious Injury No Fatal 1 Ped 1 Bike	49% of the total crashes are Angle crashes 53% of the crashes involved Left-Turns with 26% in NBL 49% of total crashes involved Teen Drivers 16% of the crashes involved Disregard Traffic Control Device 12% of the crashes involved Speeding 4 Serious Injury crashes – 3 involved Teen Drivers, 2 involved Drowsy Driving, 1 pedestrian involved Pedestrian crash – SBT vehicle hit pedestrian on curve at 1050 North

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>AF3</b>	700 North/ North County Blvd (SR-129)	#N/A	American Fork	1	1	1	1	1	0.5	0	0	0	5.5	42 Total 3 Serious Injury No Fatal 1 Ped No Bike	55% of crashes are Angle crashes with 43% involving NBL/SBT 40% of total crashes are left-turn involved. Teen drivers were involved in 43% of total crashes 24% of total crashes are Disregard Traffic Control Device with 50% SB Half of crashes resulted from failing to yield 3 Serious Injury crashes, two involved NBT vehicle collision with EBL. Pedestrian related crash - result of a right turn, EBR vehicle collided with ped in crosswalk. Ped had ROW.
<b>AF4</b>	900-950 West/ State Street (US-89)	#N/A	American Fork	0	1	1	1	1	1	0	1	0	6	71 Total 3 Serious Injury 1 Fatal 1 Ped No Bike	44% of total crashes are Front to Rear with 32% SEB on State Street. 35% of total crashes are Angle with 8% (NBL, SBT) 34% of the crashes involved left turns with 50% EBL 15 % of crashes involved Commercial Trucks. 11% of the crashes are related to disregard traffic devices 63% at SB Fatal crash involved speeding SBT fleeing from law enforcement ran red light and collided with NBL. 2 Serious Injury crashes at RIRO at 950 West, both were EB vehicles attempting to make illegal left-turns and collided with SBT on State Street. Ped crash involved WBT vehicle on State Street hitting pedestrian in crosswalk.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>AF5</b>	State St (US-89) and Pacific Dr	1000 West to 120 North and State Street to 300 West	American Fork	0	1	1	1	1	1	1	1	0	7	211 Total 11 Serious Injury 1 Fatal 4 Ped No Bike	50% of total crashes are Angle crashes 31% of total crashes are Front to Rear 39% of crashes involved Failing to Yield Right-of-Way 28% of crashes involved Teen Drivers Fatal crash – SBT on State ran red light hit NBL. 11 Serious Injury crashes – 8 occurred on State St, 3 on Pacific Dr. 73% intersection related, 64% are Angle crashes. 28% involved motorcycles, 18% Speed related. 3 of 4 pedestrian crashes occurred in Dark/Dark-Lighted conditions
<b>AF6</b>	300 North AF	400 West to 300 West, 100 West to Center Street	American Fork	1	1	0	1	0	0	0	0	0	3	24 Total 1 Serious Injury No Fatal 1 Ped No Bike	75% of the total crashes are Angle crashes 42% of the crashes involved Disregard Traffic Control Device 38% of total crashes involved Teen Drivers Serious Injury crash - Angle crash at 300 West. Speeding NB vehicle disregarded stop-sign. Pedestrian crash – Distracted driver hit pedestrian at 300 West
<b>AF7</b>	500 East AF – South of 300 North	300 North to 200 North	American Fork	0	1	0	1	0	0	0	1	0	3	15 Total 1 Serious Injury No Fatal No Ped 1 Bike	80% of the total crashes are Angle crashes 60% of crashes involved Teen Drivers 53% of crashes involved Failing to Yield Right-of-Way 27% of crashes involve Disregard Traffic Control Device with 75% SB Serious Injury crash – Speeding NB vehicle ran stop-sign, hit WB vehicle, and overturned. Bicycle crash – NB vehicle hit WB bicyclist at 300 N intersection



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<b>AF8</b>	100 East (SR-74) and Main St AF	300 North to Main Street and 100 East to 400 East	American Fork	1	1	1	1	0	1	1	1	0	7	176 Total 6 Serious Injury 2 Fatal 4 Ped 1 Bike	44% of total crashes are Front to Rear 41% of crashes are Angle crashes 35% of the crashes involved Teen Drivers 15% of crashes involved Distracted Driving 2 Fatal crashes –, both occurred in Dark Conditions. Pedestrian crash at 280 E Main St Speeding EB vehicle lost control on curve on Main St resulting in Head-on collision 6 Serious Injury crashes – 2 involving bike/ped. 2 bike/ped crashes occurred at 200 North/100 East intersection 2 ped crashes at Main St/100 East intersection
<b>AF9</b>	Kawakami Drive/ West Main Street (SR-145)	#N/A	American Fork	0	1	0	1	1	1	0	1	0	5	114 Total 1 Serious Injury No Fatal No Ped No Bike	A majority of crashes were Angle crashes (61%) Left turns were 47% of total crashes with EBL/WBT most common. Teen drivers were involved in 32% of crashes Failing to yield was the most common driver contributing factor (41%) Serious Injury – Involved WBT running red light and struck SBL.

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<b>AF10</b>	Main St (SR-145/US-89)) AF - East of I-15	I-15 to 200 West	American Fork	1	1	0	1	1	1	0	1	0	6	290 Total 2 Serious Injury 1 Fatal 2 Ped 2 Bike	48% of total crashes are Front to Rear with 75% in the WB 38% of total crashes are Angle crashes 15% of crashes involved Distracted Driving 12% of crashes involve Disregard Traffic Control Device with 26% EB 39% of crashes listed Followed too Closely as a contributing factor Fatal crash – Speeding EB motorcycle lost control at I-15 ramps weave Serious Injury crashes – EBT motorcycle ran red light at 600 W. WB Front to Rear near 400 West, Work Zone involved. All 4 ped/bike crashes occurred between 200 West and 350 West and 3 of 4 involved Right-Turn vehicles.
<b>AF11</b>	State St (US-89)- AF Main to North County Blvd (SR-129)	American Fork Main Street (200 East) to North County Blvd	American Fork	1	1	1	1	1	1	1	1	0	8	336 Total 10 Serious Injury 2 Fatal 7 Ped 1 Bike	51% of total crashes are Angle crashes 31% of total crashes are Front to Rear with 51% EB 43% of the crashes are Left-Turn Involved 12% of the crashes related to Disregard Traffic Control Device Involved 70% of the Serious Injury crashes were Angle or Left-Turn crashes that occurred at an intersection. 3 occurred at 700 East intersection. Both Fatal crashes were Left-Turn crashes involving motorcycles WBL failed to yield to EBT motorcycle at 860 East intersection Speeding motorcycle ran red light and hit WBL at 700 East int 4 pedestrian crashes occurred at intersections, 4 occurred between 400 East and 550 East, 3 of them occurred at the 700 East intersection Bicycle crash involved EBR vehicle at the 200 East intersection



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<b>AF12</b>	500 East (SR-180)/ State Street (US-89)	#N/A	American Fork	0	1	1	1	1	1	0	1	0	6	124 Total 1 Serious Injury No Fatal 3 Ped 1 Bike	Angle crashes most common type of crash (52%) with WBL/EBT (66%) 44% of crashes involved left turns Failing to yield to ROW most common Driver Contrib. Factor (41%) Serious Injury - WBT collided with SBT. WBT failed to stop at red light. Two Pedestrian crashes resulted from vehicles making right-turns. One pedestrian crash involved EBT colliding with ped west of intersection. Bike was struck by vehicle turning out driveway east of intersection.
<b>AF13</b>	700 East/ State Street (US-89)	#N/A	American Fork	0	1	1	1	1	1	0	1	0	6	36 Total 3 Serious Injury 1 Fatal 3 Ped No Bike	64% of all crashes were Angle crashes with 43% SBT 50% of all crashes involved left turns A third of all crashes took place during non-daylight hours (31%) Fatal – Speeding EBT motorcycle collided with SBL vehicle. 3 Serious Injury crashes – All three involved WBT vehicles, one WBT ran red light, EBL turned in front of WBT, and one front-to-rear crash. 3 ped crashes. Ped was struck in crosswalk in all three.

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<b>AF14</b>	North County Blvd (SR-129)/ State Street (US-89)	#N/A	American Fork	1	1	1	1	1	1	0	1	0	7	189 Total 7 Serious Injury No Fatal 2 Ped No Bike	47% of total crashes were Angle crashes with WBT and SBT 50% of Angle crashes 12% of total crashes were Disregard Traffic Control Device with 50% westbound. 45% of crashes were left turn involved 37% of crashes involved teen drivers Failing to yield was the biggest driver contributed factor (41%) 7 Serious Injury crashes – 6 were Angle crashes, three involved red light running. One pedestrian crash. Pedestrian crashes - EBT vehicle collided with ped on State St east of intersection resulting in serious injury. SBT collided with ped illegally crossing in crosswalk.
<b>AF15</b>	State Street (US-89) - Pleasant Grove	North County Blvd to 1000 South PG	Pleasant Grove	0	1	0	1	1	1	1	1	0	6	548 Total 18 Serious Injury 3 Fatal 3 Ped 7 Bike	41% of total crashes are Angle crashes 34% of total crashes are Front to Rear with 31% in EB 32% of total crashes are Left-Turn Involved 20% of total crashes involved Older Drivers 83% of Serious Injury crashes occurred at intersections. 5 occurred at N. County Blvd intersection and 3 occurred at Main Street intersection 83% of the Serious Injury crashes were Angle or Left-Turn crashes 3 Fatal crashes – Pedestrian crash with EBR vehicle at PG Blvd, EB roadway departure into oncoming lanes near Walmart, Angle crash involving attempted U-turn and speeding motorcycle at 1150 West. 3 bike/ped crashes at 1000 South intersection. Serious Injury crash from jaywalking pedestrian east of N. County Blvd.



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<b>AF16</b>	500 North - PG	100 East to 300 East	Pleasant Grove	0	1	0	1	0	0	0	1	0	3	16 Total 2 Serious Injury No Fatal 1 Ped No Bike	63% of total crashes are Angle crashes 19% of the crashes involved Disregard Traffic Control Device 2 Serious Injury crashes WB roadway departure at 500 N/100 E into the cemetery resulting in rollover NBT vehicle at 300 E hit WB vehicle. Pedestrian crash - WB vehicle hit ped in crosswalk at 300 East
<b>AF17</b>	500 East (SR-180) AF - North of I-15	300 South to I-15	American Fork	1	0	1	1	0	1	0	1	0	5	81 Total 2 Serious Injury 1 Fatal 1 Ped No Bike	37% of the total crashes are Front to Rear with 50% in the SB 35% of the total crashes are Angle crashes 16% of crashes involve Disregard Traffic Control Device with 46% NB 10% of the crashes related to Distracted Driving Involved Fatal crash – Front to Rear crash involving Speeding SB vehicle at 620 South intersection. DUI Both Serious Injury - Angle crashes at unsignalized intersections
<b>AF18</b>	Pleasant Grove Blvd/ State Street (US-89)	#N/A	Pleasant Grove	1	1	1	1	1	1	0	1	0	7	121 Total No Ser. Injury 1 Fatal 1 Ped No Bike	45% of crashes were Front to Rear EBT and WBT accounted for nearly half of Front to Rear crashes (46%) 15% of total crashes involved Distracted Driving. 5% of total crashes involved DUI. Following too closely was the most common driver contributing factor (33%) Fatal - A SBR vehicle collided and killed a ped that was in the crosswalk with the ROW. Ped crash was fatal and was the result of a right turn
<b>AF19</b>	600 West St / Center St.	#N/A	Pleasant Grove	0	1	0	0	0	1	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>AF20</b>	Center St - PG/Thornberry Way	#N/A	Pleasant Grove	0	1	0	0	0	1	0	1	0	3		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>AF21</b>	Center St - PG	300 West to 100 West	Pleasant Grove	0	1	1	1	0	1	0	1	0	5	14 Total 1 Serious Injury No Fatal No Ped No Bike	71% of total crashes are Angle crashes 14% of the crashes are Sideswipe Same Direction 57% of crashes involved Failing to Yield Right-of-Way 43% of crashes involved Teen Drivers Serious Injury crash – WB Roadway Departure collided with a light pole. DUI
<b>AF22</b>	Center Street/100 East	#N/A	Pleasant Grove	1	1	0	0	1	1	0	1	0	5	51 Total No Ser. Injury No Fatal 1 Ped 3 Bike	38% of total crashes were Front to Rear with 40% of Front to Rear crashes involving SBT Teen drivers involved in 33% of crashes 24% of crashes involved Distracted Driving. Most frequent driver contributing factor is following too closely. 3 bike crashes - 2 bike crashes resulted from WB right-turns colliding with bike in crosswalk. NBT collided with bike. Ped crash - NBT collided with ped north of intersection.
<b>AF23</b>	200 South - PG	300 East to 400 East	Pleasant Grove	0	1	1	1	0	0	0	0	0	3	18 Total 1 Serious Injury No Fatal No Ped No Bike	50% of total crashes are Angle crashes 44% of total crashes are Front to Rear with 50% in the WB 50% of crashes involved Teen Drivers 39% of crashes involved Following Too Closely Serious Injury crash – EB Front to Rear crash at 300 East intersection

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<b>AF24</b>	S. Main Street (SR-114)/State Street (US-89)	#N/A	Lindon	0	1	0	1	1	1	0	1	0	5	99 Total 3 Serious Injury No Fatal No Ped 1 Bike	54% of total crashes are Angle with 53% involving EBT. A majority of Angle crashes involved EBT (53%) Failure to yield was the main driver contributing factor (44%) 3 Serious Injury crashes, two caused by EBT colliding with SBL. All 3 Serious Injury crashes involved Disregard Traffic Control Device. Bike crash involved WBL vehicle failing to yield to bike in bike lane west of the intersection.
<b>AF25</b>	PG Blvd (SR-135)- North County Blvd (SR-129)	Garden Grove Lane to I-15 – Grove Pkwy to Mountain View Lane	Pleasant Grove	1	1	1	1	1	0.5	0	0	0	5.5	358 Total 3 Serious Injury No Fatal No Ped 1 Bike	63% of total crashes are Front to Rear 11% of total crashes were Sideswipe Same Direction. 15% of crashes involved Distracted Driving. 3 Serious Injury crashes, 2 Front to Rear and one Head-On crash. 1 Bicycle involved crash involving bicyclist riding on wrong side of road causing a Front to Rear crash near NB on-ramps.
<b>AF26</b>	North County Blvd (SR-129)/ Pleasant Grove Blvd (SR-135)	#N/A	Pleasant Grove	1	1	0	1	1	0.5	0	0	0	4.5	165 Total No Ser. Injury No Fatal No Ped No Bike	A large majority of crashes were Front to Rear (68%) with 28% South-bound. 15% of total crashes involved Distracted Driving. 13% of total crashes were Side-swipe-Same Direction with 55% NB on PG Blvd. Following too closely was the biggest driver contributing factor (40%)



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<b>AF27</b>	Sam White Ln - 700 South	Proctor Lane to 1050 West – Main Street to Fossil Lane	Pleasant Grove	1	1	0	1	1	1	0	1	0	6	18 Total 2 Serious Injury No Fatal 3 Ped No Bike	56% of the total crashes are Angle crashes 44% of the crashes involved Left-Turn 39% of crashes involved Teen Drivers 17% of crashes involved Distracted Driving 11% of the crashes involved Commercial Motor Vehicles 2 Serious Injury crashes, both were pedestrian crashes at 1100 West and Geneva Rd intersections
<b>AF28</b>	700 North (SR-129)/ Main Street (SR-114)	#N/A	Pleasant Grove	1	1	1	1	1	1	0	1	0	7	35 Total 1 Serious Injury No Fatal 4 Ped No Bike	57% of total crashes are Angle with 15% (WBL, NBT) 20% of the crashes related to Disregard Traffic Control Device Involved with 43% in WB. 11% of the crashes are Pedestrian Involved. 14% of the crashes related to Distracted Driving Involved 31% of the crashes involved Left Turns with 45% WBL Serious Injury – WBL vehicle failed to yield to Ped in crosswalk. All 4 pedestrian crashes involved westbound Left Turn vehicles striking pedestrians in south crosswalk.
<b>AF29</b>	700 North (SR-129) Lindon	1700 West to Geneva Road	Lindon	0	1	0	1	0	1	0	0	0	3	52 Total 3 Serious Injury No Fatal No Ped No Bike	50% of total crashes are Angle crashes 23% of total crashes are Single Vehicle crashes 30% of crashes occurred in Dark/Dusk conditions. 17% of crashes are Roadway Departure. 3 Serious Injury crashes – All Angle crashes at intersections. Two were NBL turning in front of EB vehicles at 2000 W and 1700 W intersections



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<b>AF30</b>	700 North (SR-129)/ State Street (US-89)	#N/A	Lindon	1	1	1	1	1	1	1	0	0	7	82 Total 3 Serious Injury No Fatal 3 Ped 1 Bike	43% of crashes were Angle crashes A majority red light running took place on NBT (54%) 41% of crashes involved left turns Most common driver contributing factor was following too closely (39%) 3 Serious Injury crashes- All three involved NBT vehicles. 2 of 3 involved Disregard Traffic Control Device. One pedestrian related crash. 2 of 3 pedestrian crashes involved right-turns. Bike involved crash - SBT collided with bike in north crosswalk.
<b>AF31</b>	1000 South/1500 East	#N/A	Pleasant Grove	1	1	0	0	1	0	0	0	0	3	6 Total No Ser. Injury No Fatal No Ped 2 Bike	33% of crashes involved bicyclists Both crashes involved NB/SB vehicles colliding with bicyclists crossing 1500 East at the Murdock Trail. Both bicycle-involved crashes involved bicyclists failing to yield ROW to vehicles.
<b>AF32</b>	Geneva Rd (SR-114)/600 North St.	#N/A	Lindon	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>AF33</b>	State Street (US-89) - Lindon	700 North to 500 North and 200 North to 200 South	Lindon	0	1	1	1	1	1	0	1	0	6	207 Total 6 Serious Injury No Fatal 3 Ped 2 Bike	41% of total crashes are Angle crashes 30% of total crashes are Front to Rear with 35% NB 20% of crashes involved Adverse Roadway Conditions 13% of the crashes involved Speeding 6 Serious Injury crashes – 4 were Angle or Left-Turn crashes, 2 involved Speeding & Aggressive Driving 3 of 5 bike/ped crashes occurred in Dark-lighted conditions

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<b>AF34</b>	Geneva Road/ 500 North St.	#N/A	Lindon	0	1	0	0	0	1	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>AF35</b>	Locust Ave / 400 North St.	#N/A	Lindon	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>AF36</b>	Geneva Rd (SR-114) - Lindon/ Center St	#N/A	Pleasant Grove	0	1	0	0	0	1	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>AF37</b>	400 East St / Center St	#N/A	Lindon	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>AF38</b>	200 South/ State Street (US-89)	#N/A	Lindon	1	1	1	1	1	1	0	1	0	7	52 Total 3 Serious Injury No Fatal No Ped No Bike	50% of the total crashes are Angle with 15% (NBL, SBT), 15% (NBT, EBT) 38% of the total crashes are Front to Rear with 45% in the SB, 40% in the NB 19% of the crashes related to Disregard Traffic Control Device Involved with 40% in NB, 40% in SB 15% total crashes are Speed related 29% of the crashes involved left turns with 47% NBL 3 Serious Injury crashes with 2 of 3 involving NBT vehicles, one NBT involving Disregard Traffic Control Device.

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<b>AF39</b>	Geneva Rd (SR-114) - Lindon	200 South to 600 South	Lindon	1	1	0	1	1	1	0	2	0	7	97 Total 4 Serious Injury No Fatal No Ped No Bike	39% of total crashes are Angle crashes 38% of total crashes are Front to Rear with 32% in the EB 18% of the crashes involved Disregard Traffic Control Device 14% of crashes involved Commercial Motor Vehicle 11% of the crashes related to Distracted Driving Involved All 4 Serious Injury crashes intersection related, 3 occurred at 600 South/1600 North intersection, 1 at 200 South intersection. 3 were Left-Turn crashes and 2 were red light running.
<b>AF40</b>	600 South (1600 N Orem)/ Geneva Road (SR-114)	#N/A	Lindon	1	1	1	1	1	1	0	2	0	8	105 Total 4 Serious Injury No Fatal No Ped No Bike	47% of crashes were Angle crashes with SBL/NBT most common (33%). 17% of total crashes are Sideswipe-Same Direction with 55% involving WBT/WBR. Red light running crashes primarily took place SBT (38%). 25% of total crashes are Right-Turns. Turns, left (35%) and right (25%), were attributes in a majority of crashes 18% involved a Commercial Vehicle. Failing to yield was the biggest driver contribution factor (34%) 4 Serious Injury crashes – All four involved Angle crashes with 3 of 4 involving SBL turning vehicles.

## Eagle Mtn/Saratoga Springs

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<b>EM1</b>	SR-145 MVC - west of Redwood	Redwood Road to SR-73	Saratoga Springs	0	1	0	1	0	0.5	0	0	0	2.5	47 Total 1 Serious Injury No Fatal No Ped No Bike	47% of total crashes were Front to Rear 21% of crashes related to Roadway Departure Involved 23% of the crashes Right-Turn Involved 23% of crashes involved Teen drivers Serious Injury crash – NB Front to Rear, Speed related.
<b>EM2</b>	Redwood Rd (SR-68)- north of Crossroads Blvd	Harvest Hills Blvd to Crossroads Blvd	Saratoga Springs	1	1	0	1	1	1	0	0	0	5	164 Total 5 Serious Injury 2 Fatal No Ped No Bike	41% of crashes are Front to Rear 41% of crashes are Angle crashes 34% of crashes involved Following too Closely 27% of the crashes are Teen driver involved 24% of the crashes are Left-Turn involved 14% of crashes related to Adverse Roadway Surface Conditions 2 Fatal crashes – SB Front to Rear crash at Commerce Drive Speeding SB ran red light at Harvest Hills Blvd

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<b>EM3</b>	Commerce Drive/ Redwood Road (SR-68)	#N/A	Saratoga Springs	1	1	0	1	1	1	0	0	0	5	71 Total 3 Serious Injury 1 Fatal No Ped No Bike	54% of the crashes are Angle and 35% are Front to Rear 13% of the crashes related to Distracted Driving Involved 21% of the crashes related to Disregard Traffic Control Device Involved with 55% SB. 34% of the crashes Left-Turn Involved, 14% Right-turn Involved and 8% are Speed related 32% of the crashes involved left turns with 33% WBL All 3 Serious Injury crashes involved Disregard Traffic Control Device with 2 of 3 involved NBT running red light. Fatal crash, Front to Rear, Motorcycle Involved, Following too Closely.
<b>EM4</b>	Foothill Blvd/SR-73/ SR-145	#N/A	Saratoga Springs	0	1	1	1	1	1	0	0	0	5	176 Total 4 Serious Injury 1 Fatal No Ped 1 Bike	53% of the total crashes are Front to Rear with 44% in the EB 20% of the total crashes are Angle with 26% (WBL/EBT), 17% (SBL/EBT) 23% of the crashes involved Left Turns with 53% WBL 16% of crashes are Right-Turn Involved 4 of 5 Severe crashes involved WBL turning in front of EBT. 2 of 4 of the Serious Injury crashes were Teenage driver involved 3 of 4 of the Serious Injury crashes happened in dark conditions. Fatal crash involved WBL turning in front of EBT motorcycle at dusk, DUI involved. Bicycle Involved crash was Teenage Driver involved

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<b>EM5</b>	Crossroads Blvd	400 West to Commerce Drive	Saratoga Springs	1	1	1	1	1	1	0	0	0	6	142 Total 6 Serious Injury 1 Fatal 1 Ped 1 Bike	33% of the crashes are Left-Turn Involved 27% of crashes involved Teen drivers The Fatal crash was a left-turn crash at intersection, involving Disregard Traffic Control Device 5 of the Serious Injury crashes were Angle crashes, 5 involved Disregarding Traffic Control Device 3 involved a Teen Driver
<b>EM6</b>	Exchange Drive/ Crossroads Blvd	#N/A	Saratoga Springs	1	1	0	1	1	1	0	0	0	5	63 Total 3 Serious Injury No Fatal No Ped No Bike	48% of total crashes are Front to Rear with 37% in SB direction 33% of total crashes from Angle with 38% SB direction 8% of total crashes are Head-On 13% of total crashes involved left turn 22% followed too closely as the driver contributing factor Three Serious Injury Crashes – All three involved Angle crashes and Disregard Traffic Control Device with eastbound (2) and westbound (1). No crashes involved Bicycles or Pedestrians.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>EM7</b>	Crossroads Blvd/ Redwood Road (SR-68)	#N/A	Saratoga Springs	1	1	1	1	1	1	0	0	0	6	136 Total 3 Serious Injury No Fatal 2 Ped 1 Bike	49% of the total crashes are Front to Rear with 42% in the SB 27% of the total crashes are Angle with 16% (WBL, SBT) 13% involved Sideswipe-Same Direction with 50% SB. 12% of total crashes are Disregard Traffic Control Device with 50% WB 19% of total crashes are Right-turn Involved with 30% involving EBR 2 of 3 Serious Injury crashes occurred SB 2 of 3 of the Serious Injury crashes were Angle crashes involving Disregard Traffic Control Device. One Serious Injury crash and bicycle related crash involved an Older Driver. Bicycle involved crash involved WB Right turn vehicle hitting bicyclist in crosswalk in dark conditions. Older Driver.
<b>EM8</b>	SR-73-The Ranches	#N/A	Eagle Mountain	0	0	1	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>EM9</b>	Valley Drive/ SR-73	#N/A	Eagle Mountain	0	1	0	1	1	0.5	0	0	0	3.5	19 Total 4 Serious Injury 1 Fatal No Ped No Bike	74% of total crashes are Angle with 43% (SBL, NBL) 53% of total crashes involved left turns with 70% SBL 37% of total crashes are Teen driver involved 21% of the total crashes are Serious Injury with 75% SB 3 of 4 Serious Injury crashes involved SB vehicles pulling out in front of WB vehicles. 2 of 4 Serious Injury crashes were Teenage Driver involved or in Dark-Lighted conditions.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>EM10</b>	South Sun-set Dr/SR-73	#N/A	Eagle Mountain	0	1	0	1	1	0.5	0	0	0	3.5	20 Total 2 Serious Injury 1 Fatal No Ped No Bike	60% crashes are Front to Rear with 33% crashes in EB 15% of total crashes are Commercial Motor Vehicle related. 25% of crashes occurred in Dark conditions. 2 of 3 Severe crashes involved Commercial Motor Vehicles. Fatal – WB Heavy Truck (CMV) ran red light and collided with SBT. No Pedestrian or Bicycle crashes
<b>EM11</b>	SR-73-The Ranches	Canyon Wash Drive to Mt Airy Drive	Eagle Mountain	1	1	0	1	1	0.5	0	0	0	4.5	106 Total 9 Serious Injury 1 Fatal No Ped No Bike	34% of total crashes were Front to Rear 32% were Angle crashes 25% of the crashes Left-Turn Involved 34% of crashes involved Teen drivers The Fatal crash was an Angle crash at intersection, involved DUI and Disregard Traffic Control Device 3 of the Serious Injury crashes involved a teenage driver
<b>EM12</b>	Pioneer Crossing (SR-145)-west of Jordan River	MVC (SR-85) to Jordan River	Saratoga Springs	0	1	1	1	1	1	0	0	0	5	359 Total 9 Serious Injury 1 Fatal No Ped 1 Bike	50% of total crashes are Front to Rear 15% of total crashes are Sideswipe Same Direction 10% of crashes are Speed related 30% of the crashes Teen driver Involved 67% of Serious Injury crashes are Left turn at Intersection, Angle 56% of Serious Injury crashes involved a Teen Driver 4 Serious Injury crashes occurred at SR-85/Foothill Dr intersection Fatal crash – WBL/EBT Angle crash at SR-85 intersection



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<b>EM13</b>	Pioneer Crossing (SR-145)/ Redwood Road (SR-68)	#N/A	Saratoga Springs	0	1	0	1	1	1	0	0	0	4	217 Total 1 Serious Injury 1 Fatal No Ped No Bike	62% of the total crashes are Front to Rear with 29% in NB and 29% in SB 16% of the total crashes are Angle with 38% in SB 27% of the crashes in Dark-Lighted conditions 19% of the crashes involved left turns with 26% EBL 30% of the total crashes involved teen driver and 10% involved older driver Both Fatal and Serious Injury crashes were Left-Turn crashes. The fatal one involved a SBL and the serious injury one involved a NBL.
<b>EM14</b>	400 North/ Redwood Road (SR-68)	#N/A	Saratoga Springs	1	1	0	1	1	1	0	0	0	5	125 Total No Ser. Injury No Fatal No Ped No Bike	83% of the total crashes are Front to Rear with 75% in NB 36% of the crashes involved Teen Drivers 19% of total crashes involved Distracted Driving 19% of the crashes in dark-light, 10% in wet road and No Severe or Bike/Ped crashes
<b>EM15</b>	Ranches Pkwy/Pony Express Pkwy	#N/A	Eagle Mountain	1	1	1	0	1	0.5	0	0	0	4.5	63 Total No Ser. Injury No Fatal 1 Ped 2 Bike	43% of the total crashes are Angle with 30% (EBL, WBT) 30% of the total crashes are Front to Rear with 37% SB 21% of total crashes related to Disregard Traffic Control Device with 62% EB 44% of the crashes involved Left Turns with 50% EBL Pedestrian Involved crash - Failed to Yield Right-of-Way at the Intersection in Bad Weather, Both Bicycle Involved crashes - Right-Turn vehicle Failed to Yield Right-of-Way to bicyclist, Teenage Driver involved.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>EM16</b>	Geronimo Drive/ Pony Express Pkwy	#N/A	Eagle Mountain	1	1	0	0	1	1	0	0	1	5	9 Total 1 Serious Injury No Fatal No Ped 2 Bike	56% of the crashes are Single Vehicle 22% are Parked Vehicle 33% of the crashes related to Distracted Driving Involved 44% Teenage driver involved Serious Injury crash – Bicyclist crossed Pony Express Pkwy (no crosswalk) and Failed to Yield Right-of-Way to EB vehicle. 2 Bicycle Involved crashes – One Serious Injury, Other Bicycle involved crash involved NB Right turn vehicle striking bicyclist in crosswalk.
<b>EM17</b>	Porters Crossing Pkwy/Pony Express Pkwy	#N/A	Eagle Mountain	0	1	1	1	1	1	0	0	0	5	46 Total 1 Serious Injury No Fatal 1 Ped 3 Bike	52% of the total crashes are Angle with 46% in NB 20% of the total crashes are Front to Rear with 44% in WB 46% of the crashes involved Left Turns with 33% NBL 41% of total crashes Teen Driver involved Serious Injury – Head-On collision WBL/EBT. Dark conditions 3 of 4 Bike/Ped crashes involved NB Right-Turn vehicles striking pedestrian in crosswalk.
<b>EM18</b>	Porters Crossing Pkwy	St Andrews Drive to Parkers Place	Eagle Mountain	1	1	0	1	1	0	0	0	0	4	21 Total 0 Serious Injury 1 Fatal 3 Ped 3 Bike	48% of crashes were single vehicle crashes 43% were Angle crashes 33% of crashes involved Teen drivers 3 bike/ped crashes occurred at Pony Express Pkwy intersection Fatal crash – SB motorcycle ran stop sign and hit pedestrian at Evans Ranch Drive intersection. Speed related



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<b>EM19</b>	Redwood Rd (SR-68)- south of Pioneer Crossing	Market Street to Fairway Blvd	Saratoga Springs	1	1	0	1	1	1	0	0	0	5	745 Total 6 Serious Injury 3 Fatal 1 Ped No Bike	64% of total crashes are Front to Rear with 54% NB 23% of the crashes Left-Turn Involved 39% of crashes involved Teen drivers, including ped crash All Fatal crashes occurred at Night (Dark-lighted) 2 of the Fatal crashes involved DUI, 2 involved Teen Drivers 4 of 6 Serious Injury crashes are Angle crashes, 3 involved a Teen Driver Over 70% of crashes are intersection related
<b>EM20</b>	Pony Express Pkwy/ Redwood Road (SR-68)	#N/A	Saratoga Springs	0	1	0	1	0	1	0	0	0	3	178 Total 2 Serious Injury No Fatal No Ped No Bike	65% crashes from Front to Rear with 42% in NB direction 22% crashes from Angle with 65% in SB direction 29% crashes involved Left Turns. Most of the crashes were not weather related 25% "followed too closely" as the driver contributing factor Two Serious Injury crashes. Both involved NBL/SBT Angle crashes. One involved Disregard Traffic Control Device.
<b>EM21</b>	Pony Express Pkwy	Bobby Wren Blvd to Trail Head Rd	Eagle Mountain	1	1	0	1	1	0.5	1	0	0	5.5	23 Total 1 Serious Injury No Fatal 1 Ped 1 Bike	17% of the crashes related to Distracted Driving Involved 30% of total crashes were Front to Rear 39% of total crashes were Angle crashes 39% of the crashes are Failed to Yield Right-of-Way 22% Followed too Closely
<b>EM22</b>	Lehi Fairfield Rd.	#N/A	Saratoga Springs	0	0	1	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.

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<b>EM23</b>	SR-73 west of Fairfield	MP 16.7 to 18	Fairfield	0	1	0	1	0	0	0	0	0	2	15 Total 2 Serious Injury No Fatal No Ped No Bike	87% of the crashes were Single vehicle crashes 33% of the crashes involved Roadway Departure 40% of crashes involved Teen drivers 47% of the crashes involved Wild Animal 13% of the crashes involved Adverse Roadway Conditions

### Lehi/Highland/Cedar Hills/Alpine

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>LH1</b>	Highland Blvd north of Grant Blvd	#N/A	Lehi	0	1	0	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>LH2</b>	Canyon Crest Rd / Allegheny Way	#N/A	Alpine	0	1	0	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>LH3</b>	Ashton Blvd/ Club House Drive (SR-92)	#N/A	Lehi	0	1	0	0	1	0.5	0	0	0	2.5	97 Total No Ser. Injury No Fatal No Ped 3 Bike	37% of total crashes are Front to Rear with 39% in the WB and 33% in EB 36% of total crashes are Angle crashes with 23% (SBL, WBT) 16% sideswipe same direction. (most west of intersection on Clubhouse Dr) 37% of the crashes involved left turns with 42% SBL All Bicycle crashes involved northbound Right turns from Ashton Blvd and two nearby driveways hitting bicyclists traveling eastbound on Clubhouse Drive.

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LH4	I-15 Ramps/ Timpanogos Highway (SR-92)	#N/A	Lehi	1	1	0	1	1	1	0	0	0	5	81 Total 4 Serious Injury 1 Fatal No Ped No Bike	35% of total crashes are Front to Rear with 39% in WB 31% of total crashes are Angle crashes with 50% involving WB vehicles. 21% of total crashes are Sideswipe same direction with 40% WB. 26% of the crashes involved left turns with 43% SBL 20% of the crashes are related to Disregard Traffic Control Device. 40% WB 4 Serious Injury crashes, which includes 1 Angle, 2 fixed object and 1 sideswipe crash 1 Fatal crash, WBT firetruck hit SBT vehicle at SB ramps. 3 of 5 Serious/Fatal crashes involved heavy trucks.
LH5	Digital Dr - N of SR-92	Adobe Way to SR-92	Lehi	0	1	0	1	1	0	0	0	0	3	44 Total 3 Serious Injury No Fatal No Ped No Bike	34% of the total crashes were Angle 20% of the total crashes were Front to Rear with 78% SB 70% of crashes occurred at an intersection 39% of crashes involved Left Turns 18% involved Adverse Roadway Conditions 14% of crashes involved Roadway Departure 11% of crashes involved Commercial Motor Vehicle

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LH6	SR-92 in Lehi	I-15 to 6000 West	Lehi	1	1	1	1	1	1	0	0	0	6	736 Total 22 Serious Injury 4 Fatal 3 Ped 3 Bike	44% of total crashes are Front to Rear with 51% WB 32% of crashes involved Teen Drivers 17% of crashes were Speed related 25% of crashes involved Adverse Roadway Surface Conditions 3 Fatal occurred near I-15 ramps, 2 occurred at Highland Blvd intersection. 4 of 5 are Angle crashes. 2 speed related. 6 Serious Injury crashes at 6000 West intersection 77% of the Serious Injury crashes occurred at intersections 41% of the Serious Injury crashes involved Left-Turns at intersections 18% of Serious Injury crashes were Roadway Departure crashes 2 of the pedestrian crashes occurred during Dark conditions
LH7	Digital Drive/ Timpanogos Highway (SR-92)	#N/A	Lehi	1	1	0	1	1	1	0	0	0	5	202 Total 1 Serious Injury 2 Fatal 1 Ped 1 Bike	53% of the total crashes are Front to Rear with 56% in WB 20% of the total crashes are Angle crashes with 40% in NB 19% of the crashes involved left turns with 29% SBL Disregard Traffic Control Device – 45% westbound Fatal – WBT ran red light hit SBL Fatal Bike crash– EBT hit bicyclist on shoulder west of intersection. Serious Injury – NBT ran red light hit WBT. Ped crash – SBR hit pedestrian.



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LH8	Triumph Blvd/ Timpanogos Highway (SR-92)	#N/A	Lehi	0	1	1	1	1	1	0	0	0	5	153 Total 3 Serious Injury 1 Fatal 1 Ped 1 Bike	58% of total crashes are Front to Rear with 48% westbound (downhill grade) 21% of total crashes are Angle crashes with 22% (WBL/EBT) 22% of the crashes involved left turns with 42% NBL 6% of total crashes related to Disregard Traffic Control Device with 33% NBT. 10% of total crashes are Speed related. 2 of 3 Serious Injury crashes are Angle crashes involving NB left turns. All the Serious Injury crashes occurred in Dark-lighted conditions. Ped related Serious Injury crash - EBT failed to Yield Right-of-Way hit Ped crossing in Dark lighted conditions. Bicycle related crash – SBR Failed to Yield Right-of-Way to EB bicyclist, Bad Weather Involved, Night/Dark Condition.
LH9	Catch Basin Rd	South from SR-92	Lehi	0	1	0	1	1	0	0	0	0	3	17 Total 1 Serious Injury No Fatal No Ped 2 Bike	41% of total crashes are Angle crashes 24% of total crashes are Single Vehicle 12% of total crashes are Head-On 41% of crashes involved Left Turns 29% of crashes involved Adverse Roadway Conditions 24% of crashes occurred in Dark conditions Both bicycle collisions occurred at intersections and involved left turns Most crashes on Catch Basin Drive occurred near SR 92

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LH10	Highland Blvd/ Timpanogos Highway (SR-92)	#N/A	Highland	1	1	1	1	1	1	0	0	0	6	69 Total 6 Serious Injury 1 Fatal 3 Ped No Bike	38% of the total crashes are Angle crashes with 42% in SB 29% of the total crashes are Front to Rear with 50% in WB 7 head-on crashes (10%) 45% of the crashes involved left turns with 43% SBL 9% of total crashes are Serious Injury 19% of the total crashes involved speeding 43% of the crashes involved Teen Driver and 20% involved older driver 6 Serious Injury crashes, two involved WBL turning in front of EBT. one Ped related - NBR hit ped, and WBT ran red light and hit SBT. 1 Fatal angle crash involved WB vehicle speeding and aggressive driving, crossing median and hitting oncoming EB. 3 Ped crashes – two crashes involved NBR vehicles
LH11	6000 West/ Timpanogos Highway (SR-92)	#N/A	Highland	1	1	0	1	1	1	0	0	0	5	61 Total 7 Serious Injury No Fatal No Ped 2 Bike	46% of total crashes are Angle crashes with 61% in WB 30% of total crashes are Front to Rear with 56% in WB 52% of crashes involved left turns with 44% EBL 10% of crashes are related to Disregard Traffic Control Device with 50% WB. 48% of the total crashes involved Teen Driver 11% of total crashes are Serious Injury. 4 of 7 of the Serious Injury crashes involved left-turns in the EB/WB direction, one WB Front to Rear involving speed, one bicyclist-involved with NBL/WBT crash. Other bike crash involved SBL hitting ped in east crosswalk



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LH12	Alpine Highway (SR-74)/ Timpanogos Highway (SR-92)	#N/A	Highland	1	1	0	1	1	1	0	0	0	5	136 Total 2 Serious Injury 1 Fatal 1 Ped 1 Bike	40% of total crashes are Angle crashes with 15% (EBL/WBT) 35% of total crashes are Front to Rear with 43% in the EB 47% of the crashes involved left turns with 38% EBL 18% crashes with older driver involved and 51% Teen Driver involved All 3 Fatal and Serious Injury crashes involved EB left-turns turning in front of oncoming westbound vehicles. Fatal crash involved EBL/WBT, Older driver involved, Dark-Lighted conditions. Serious Injury crash, Angle, WB Left turn, Teenage driver involved Bicycle-Involved EBL hit bicyclist in north crosswalk Dark-lighted.
LH13	SR-92 in Highland	Town Center Blvd to Spruce Drive	Highland	1	1	1	1	1	1	1	0	0	7	189 Total 5 Serious Injury 2 Fatal No Ped 3 Bike	40% of total crashes are Front to Rear with 60% EB 42% of the crashes are Left-Turn Involved 7% of total crashes are Head-On 50% of crashes are Teen Driver involved 2 Fatal crashes – EBL vehicle turned in front of WBT at SR-74 int. Dark condition EB vehicle hit bicyclist near Wasatch Dr. Distracted Driving 5 Serious Injury crashes – 80% involved Teen Drivers. 1 bicycle related at 4800 W intersection.



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LH14	Canyon Rd - S of SR-92	SR-92 to Briggs Blvd	Highland	0	1	0	1	0	0	0	0	0	2	13 Total 1 Serious Injury 2 Fatal No Ped No Bike	61% of crashes occurred at an intersection 38% of crashes were left turn, 31% Angle and 15% Front to Rear 15% of crashes involved older drivers and 15% teenage drivers 23% of crashes involved a wild animal 31% of crashes involved adverse roadway surface condition Serious Injury – NBL vehicle failed to yield to EBT at SR-92 intersection 2 Fatal crashes – Head-on crash on downhill near SR-92 intersection, NBT speeding motorcycle crossed over into SB lane. NBT Roadway Departure on downhill. Adverse weather conditions.
LH15	Redwood Rd (SR-68) - N of 2100 N	Provo Reservoir Canal to 2100 North	Lehi	1	1	0	1	0	1	0	0	0	4	131 Total 1 Serious Injury 1 Fatal No Ped No Bike	72% of the total crashes are Front to Rear with 60% SB 69% occurred at an intersection 34% occurred in Dark conditions 13% involved Distracted Driving Serious Injury crash – Head-On crash at north end of segment Fatal crash – SBT speeding heavy truck ran red light at 2100 N and hit EBT vehicle
LH16	Liberty Hills Elementary School ( 3600 West St. / 2450 North St.)	#N/A	Lehi	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.

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LH17	3600 West/ Waterbury Drive	#N/A	Lehi	0	1	0	0	1	0	0	0	0	2	10 Total No Ser. Injury No Fatal 2 Ped 1 Bike	40% of crashes are sideswipe same direction. All northbound. Teen driver involved the most common attribute (60%) Failing to yield the most common driver contributing factor (50%) Both ped crashes occurred just west and north of the intersection. Bicycle crash - WBT vehicle failed to yield and collided with bike in the intersection.
LH18	2100 N (SR-194) - E of 3600 W	3600 West to 3200 West	Lehi	0	1	0	1	0	1	0	0	0	3	14 Total 1 Serious Injury 1 Fatal 1 Ped No Bike	87% of crashes were Single Vehicle crashes 47% of crashes involved Wild Animal 33% of crashes involved Roadway Departure 40% of crashes involved Teen Drivers Fatal – EB Roadway Departure hit pedestrian on sidewalk at 3600 W intersection.
LH19	Ashton Blvd - S of Executive Pkwy	Executive Pkwy to Sycamore Lane	Lehi	0	1	1	1	0	0.5	0	0	0	3.5	13 Total 1 Serious Injury No Fatal 1 Ped No Bike	46% of crashes occurred at an intersection 46% of crashes involved Adverse Roadway Surface Conditions 38% of crashes involved Roadway Departure 38% of crashes involved Speeding 15% of crashes involved Distracted Driving



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
LH20	Triumph Blvd - N of 2100 N	I-15 Ramps to 2100 North	Lehi	1	1	0	1	1	0.5	0	0	0	4.5	205 Total 6 Serious Injury No Fatal 1 Ped 5 Bike	40% of crashes are Angle and 39% Front to Rear 82% of crashes are Intersection related 20% of crashes are related to Disregard Traffic Control Device 16% of crashes are Right turn Involved 6 Serious Injury crashes – All Angle crashes at intersections. Two at north 2100 North intersection, two at I-15 NB Ramps intersection. 5 of 6 involved Disregard Traffic Control Device 5 bicycle related crashes. All intersection related. 2 at south 2100 N intersection.
LH21	2300 West/ 2100 North (SR-194)	#N/A	Lehi	1	1	0	1	1	0.5	0	0	0	4.5	148 Total 2 Serious Injury No Fatal 1 Ped 2 Bike	55% of total crashes are Front to Rear with 32% in the SB, 30% in EB 31% of total crashes are Angle crashes with 28% (NBT/WBT) 18% of total crashes are Distracted Driving Involved 18% of the crashes are related to Disregard Traffic Control Device with 63% in NBT Both Serious Injury crashes involved NB vehicles (north intersection) Disregard Traffic Control Device resulting in Angle crashes in Dark-lighted conditions and Teen Driver involved. Ped crash – SBR vehicle Failed to Yield Right-of-Way and hit Ped in crossing in Dark-lighted conditions. Both bicycle-involved crashes were NBT/R vehicles hitting bicyclist in south crosswalk. (south intersection)



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LH22	2100 N (SR-194) - W of I-15	Ashton Blvd to I-15	Lehi	1	1	0	1	0	1	0	0	0	4	53 Total 2 Serious Injury No Fatal No Ped No Bike	40% of crashes are Angle crashes 32% of crashes are Front to Rear with 71% EB 38% involved a Left Turn with 55% SBL 30% of crashes occurred in Dark conditions 30% of crashes involved Disregard Traffic Control Device 21% of crashes involved Work Zone
LH23	1200 West St @ Lehi Rail Trail	#N/A	Lehi	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH24	1200 East St. / 1900 North St.	#N/A	Lehi	0	1	1	0	0	0	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH25	10400 North St/ 6400 West St.	#N/A	Highland	0	1	1	0	0	0	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH26	Hidden Pond Dr. / 10250 North St.	#N/A	Highland	0	1	0	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH27	10401 North St/ 6000 West	#N/A	Highland	0	1	1	0	0	0	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH28	10401 North St / Mountain Ridge Ln	#N/A	Highland	0	1	1	0	0	0	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.



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LH29	Cedar Hills Drive/ North County Blvd (SR-129)	#N/A	Cedar Hills	1	1	0	1	1	1	0	0	0	5	68 Total 4 Serious Injury No Fatal No Ped No Bike	57% of total crashes are Angle crashes with 23% (SBL/NBT) 25% of total crashes are Front to Rear with 58% in the SB 54% of total crashes involved left turns with 32% SBL 19% of the crashes are related to Disregard Traffic Control Device with 46% NB 12% crashes with Older driver involved and 75% Teen Driver involved. 3 of 4 Serious Injury crashes involved Disregard Traffic Control Device (all NB). 2 of 4 Serious Injury crashes involved SBL/NBT, 2 of 4 Teenage Driver Involved.
LH30	N County Blvd (SR-129) - at Cedar Hills Dr	10200 North to 10000 North	Cedar Hills	1	1	0	1	1	0.5	0	0	0	4.5	54 Total 4 Serious Injury No Fatal No Ped No Bike	57% of total crashes are Angle crashes 26% of total crashes are Front to Rear with 71% SB 72% of total crashes have Teen Drivers involved 22% of crashes related to Adverse Roadway Surface Conditions 17% of crashes are Disregard Traffic Control Device with 67% NB 13% of crashes are Distracted Driving Involved 13% of total crashes are Speed related All 4 Serious Injury crashes occurred at Cedar Hills Dr intersection 3 of 4 Serious Injury crashes involved Disregard Traffic Control Device (all NB). 2 of 4 Serious Injury crashes involved SBL/NBT, 2 of 4 Teenage Driver Involved

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
LH31	State St (US-89) - 500 West Lehi	700 West to 300 West	Lehi	1	1	0	1	0	1	0	0	0	4	38 Total 2 Serious Injury 1 Fatal 1 Ped No Bike	53% of crashes are Angle crashes 32% of crashes are Disregard Traffic Control Device 37% of crashes involved Teen Drivers 21% of crashes involved Adverse Roadway Surface Conditions Fatal crash – Pedestrian clearing debris in road at @570 W was struck by NB vehicle, Dark conditions. 2 Serious Injury crashes – One Angle crash at 500 W intersection, EB ran red light. Head-On crash at 550 West.
LH32	Lehi Elementary School (State St.)	#N/A	Lehi	0	1	0	0	0	1	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH33	State St. (US-89)	#N/A	Lehi	0	1	1	0	0	1	0	0	0	3		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH34	900 West St. @ Pleasant Grove Ditch	#N/A	Cedar Hills	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH35	Lehi Main St - W of 1700 W	2000 West to 1700 West	Lehi	1	1	1	1	0	0.5	0	1	0	5.5	20 Total 1 Serious Injury No Fatal 1 Ped No Bike	80% of crashes are Front to Rear 40% of crashes occurred at an intersection 25% of crashes involved Distracted Driving Most crashes occurred at/around the intersection with 1700 West

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
LH36	Lehi Main St - W of 300 W	400 West to 300 West	Lehi	0	1	0	1	0	0.5	0	1	0	3.5	23 Total 2 Serious Injury No Fatal 1 Ped No Bike	48% of total crashes are Front to Rear with 64% WB 35% of total crashes are Angle 13% of crashes involve Distracted Driving 2 Serious Injury crashes – Both involved SBT vehicles at 300 W intersection disregarding stop sign. One Speed related. Pedestrian crash at 400 West intersection. Pedestrian ran into road. No crosswalk.
LH37	Center Street/ Main Street	#N/A	Lehi	1	1	0	0	1	0.5	0	1	0	4.5	41 Total No Ser. Injury No Fatal 2 Ped 1 Bike	51% of crashes were Front to Rear crashes A majority of Front to Rear crashes were WBT (52%) Teen driver involved was the most common crash attribute (39%) Distracted Driving involved in 20% of crashes Following too closely was the biggest driver contributing factor (34%) Both ped crashes involved SBL vehicles striking ped in east crosswalk. Bike crash involved EBR vehicle hitting bicyclist in crosswalk.
LH38	Main St./ 200 East St.	#N/A	Lehi	0	1	1	0	0	0.5	0	1	0	3.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
LH39	Lehi Main St - W of I-15	500 East to I-15	Lehi	1	1	0	1	1	0.5	0	1	0	5.5	197 Total 2 Serious Injury 0 Fatal 2 Ped No Bike	50% of crashes are Angle and 37% are Front to Rear. 51% of crashes occurred at an intersection 46% of crashes involved Left Turns. 34% of crashes involved Teen Drivers. 15% of crashes involved Distracted Driving Serious Injury crash – NBT at 400 East intersection ran stop sign



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
LH40	850 East/ Main Street (SR-73)	#N/A	Lehi	1	1	0	1	1	1	0	0	0	5	146 Total No Ser. Injury No Fatal 2 Ped No Bike	47% of the total crashes are Angle crashes with 20% (WBL/EBT) 40% of the total crashes are Front to Rear with 59% in the EB 13% of the crashes related to Disregard Traffic Control Device Involved 45% of the crashes involved left turns with 48% WBL 13% of the crashes are related to Disregard Traffic Control Device with 37% EBT Top Driver Contributing Factor: 32% Failed to Yield right of way and 31% Followed too closely. Both Ped Involved crashes were SBL vehicles hitting ped in east crosswalk.
LH41	State St (US-89)- N of Lehi Main St	1200 East to Lehi Main St	Lehi	1	1	0	1	1	1	1	0	0	6	88 Total 2 Serious Injury No Fatal 1 Ped 2 Bike	48% of crashes are Angle and 30% are Front to Rear 80% occurred at an intersection, mainly State St & Main St 45% of crashes involved Left Turns 20% of crashes occurred in Dark-Lighted conditions 20% of crashes involved Disregard Traffic Control Device 27% of crashes involved a Teen Driver



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
LH42	Main Street (SR-73) / State Street (US-89)	#N/A	Lehi	0	1	0	1	1	1	1	1	0	6	141 Total 2 Serious Injury No Fatal 2 Ped 1 Bike	Angle crashes most common type of crash (42%) with EBL/WBT on State St most common. Front to Rear are 31% of total crashes with 30% WB on State St. 35% of crashes involved left turns, 40% NBL. (from Main to State St) 18% of total crashes were Sideswipe Same-Direction. Failure to yield to ROW most common Driver Contributing Factor (42%) 23% of crashes took place at night Both Serious Injury crashes involved vehicles hitting ped/bike. - EBT struck a pedestrian just past the intersection. Vehicle had a green light. WBL hit bicyclist in crosswalk. Ped crash – EBL hit ped in north crosswalk.
LH43	Pioneer Crossing (SR-145) - W of I-15	Jordan River to Mill Pond Rd	Lehi	1	1	0	1	0	1	1	0	0	5	592 Total 11 Serious Injury 3 Fatal 1 Ped No Bik	66% of crashes were Front to Rear with 53% WB 51% of crashes occurred at an intersection 14% of crashes were Single Vehicle crashes 15% of crashes involved Distracted Driving 30% of crashes involved a Teen Driver 36% of Serious Injury/Fatal crashes involved Disregard Traffic Control Device.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
LH44	Main Street/ Canyon Crest Rd	#N/A	Alpine	0	1	1	0	1	0	0	0	0	3	22 Total No Serious Injury 1 Fatal 1 Ped 1 Bike	59% of total crashes are Front to Rear with 45% of those in SB direction. 27% of crashes are Single-Vehicle crashes with 60% resulting in Roadway Departure. 1 Fatal crash - NBT vehicle hit center concrete barrier of roundabout at night and driver was ejected from vehicle. 1 pedestrian crash - NBR hit pedestrian in east crosswalk. 1 bike crash - NB vehicle hit NB bicyclist trying to move into center lane just south of roundabout.

## Orem/Provo

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
OP1	Geneva Rd (SR-114)– 1600 North	1600 North to 1400 North	Orem	1	1	1	1	0	1	0	2	0	7	64 Total 2 Serious Injury No Fatal No Ped No Bike	47% of crashes were Angle crashes with SBL/NBT most common (33%). 17% of total crashes are Sideswipe-Same Direction with 55% involving WBT/WBR. Red light running crashes primarily took place SB (38%). 25% of total crashes involved Right-Turns. 18% of total crashes involved a Commercial Vehicle. 4 Serious Injury crashes – All four involved Angle crashes at 1600 North intersection with 3 of 4 involving SBL turning vehicles.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP2</b>	1600 North (SR-241)/ State Street (US-89)	#N/A	Orem	1	1	0	1	1	1	0	1	0	6	157 Total 3 Serious Injury No Fatal 4 Ped No Bike	48% of total crashes are Front to Rear with 29% in the EB 27% of total crashes are Angle crashes with 7% (WBL, NBT), 7% (SBL, WBT), 7% (SBT, EBT) 19% of the crashes involved left turns with 43% WBL. 17% crashes with older driver involved and 39% Teen Driver involved. 2 of 3 Serious Injury crashes involved a Left Turn 1 Serious Injury crash involved speed and a Teen Driver. 1 Serious Injury crash SBR disregarded red light and hit pedestrian. All 4 of the Ped involved crashes related to right turns.
<b>OP3</b>	1600 North St. / 400 East St.	#N/A	Orem	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>OP4</b>	Wolverine Way/1300 North St.	#N/A	Orem	0	1	0	0	0	0.5	0	1	0	2.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>OP5</b>	State Street (US-89) – North Orem	1700 North to 1100 North	Orem	1	1	1	1	1	1	0	1	0	7	194 Total 7 Serious Injury 1 Fatal 4 Ped 1 Bike	40% of total crashes are Front to Rear 15% of total crashes are Sideswipe Same Direction 11% of total crashes are Speed related. 50% of Severe crashes were motorcycle related. Fatal crash – SB U-Turn collided with Speeding NB motorcycle at approx. 1110 North State St. 7 Serious Injury crashes – 2 were pedestrian related. 2 occurred at 1200 N intersection, 2 near 1400 N. 4 pedestrian crashes – 2 of 4 occurred in Dark Conditions.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP6</b>	US-189 - north of SR-52	800 North Orem to Kyhv Peak Rd	Provo	0	1	0	1	0	1	0	1	0	4	126 Total 6 Serious Injury 1 Fatal No Ped No Bike	39% of the total crashes were Angle 34% of the total crashes were Front to Rear with 69% WB 42% of the crashes involved Roadway Departure 35% of the crashes involved Adverse Roadway Surface Conditions 21% of the crashes involved a Wild Animal 33% of crashes involved Teen Drivers 6 Serious Injury crashes – 3 Roadway Departure, 2 Speed related 1 Fatal, 2 Serious Injury at Kyhv Peak Rd intersection, all NBL turning in front of WBT vehicles.
<b>OP7</b>	800 North (SR-52) Orem – Near I-15	Geneva Rd to 1200 West	Orem	1	0	0	1	1	1	0	2	0	6	244 Total 6 Serious Injury No Fatal 1 Ped No Bike	44% of total crashes are Front to Rear with 64% WB 39% of total crashes are Angle 13% of total crashes are Distracted Driving Involved 12% of total crashes are Disregard Traffic Control Device with 67% WB 6 Serious Injury crashes – 3 of 6 were motorcycle related, 3 of 6 Angle crashes, 2 of 6 Speed related. 2 occurred at 1200 West intersection.
<b>OP8</b>	800 North (SR-52)/1200 West	#N/A	Orem	1	1	0	1	1	1	0	2	0	7	169 Total 1 Serious Injury No Fatal 1 Ped No Bike	47% of total crashes are Angle crashes with 44% of those in WB 34% of total crashes are Front to Rear crashes with 54% of those in WB 18% of crashes Disregard Traffic Control Device, 53% of those were in NB 33% of crashes involved left turn, 36% of those were in SB 8% crashes involved “Failed to yield right of way” as the Driver contributing factor. Serious Injury crash – WBT ran red light and hit SBL Pedestrian crash involved SBL vehicle hitting pedestrian in east x-walk.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP9</b>	800 North (SR-52) Orem – Near State St	400 West to 400 East	Orem	0	1	0	1	1	1	0	1	1	6	181 Total 7 Serious Injury 1 Fatal 4 Ped 4 Bike	37% of total crashes are Front to Rear with 54% WB 12% of total crashes are Sideswipe Same Direction Fatal crash – WBL Failed to Yield to EBT at 400 West intersection 7 Serious Injury crashes - 6 were Angle/Left Turn crashes. 3 Serious Injury crashes occurred at Main Street and 3 at 400 East. 3 of the Serious Injury crashes involved a Teen Driver 3 of the Serious Injury crashes were related to Disregard Traffic Control Device 4 bike/ped crashes occurred near Main Street intersection 2 of the bicycle crashes were Serious Injury
<b>OP10</b>	800 North (SR-52)/ State Street (US-89)	#N/A	Orem	1	1	0	1	1	1	0	1	0	6	169 Total 1 Serious Injury No Fatal 1 Ped 1 Bike	46% of total crashes are Front to Rear crashes with 47% of those SB 22% of total crashes are Angle crashes with 34% of those WB 26% of Angle crashes involved Teen Drivers. 18% of total crashes involved Side-swipe Same Direction with 30% of those northbound. 10% of total crashes Disregard Traffic Control Device, 47% of those were NB 17% of crashes involved left turn, 39% of those were EB 23% crashes involved followed too closely as the driver contributing factor Serious Injury crash was WB vehicle running red light hitting SB and EB vehicles. Both Bike/Ped crashes involved right-turns



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP11</b>	800 North (SR-52) – 800 East to Provo Canyon	800 East to University Ave	Orem	0	1	1	1	0	1	1	1	0	6	123 Total 6 Serious Injury No Fatal 4 Ped 4 Bike	39% of total crashes are Angle 34% of the total crashes are Front to Rear with 69% WB 33% of total crashes are Teen Driver involved 5 of 6 Serious Injury crashes were Angle crashes 3 of 6 Serious Injury crashes occurred at Palisades Dr intersection and all 3 are Disregard Traffic Control Device, 2 of 3 Speed involved. All Serious Injury crashes occurred at intersections 57% of the bike/ped crashes involved Teen Drivers 6 of 8 bike/ped crashes involved Right-Turn vehicles. 3 of 8 bike/ped crashes occurred at 1560 East intersection
<b>OP12</b>	Kyhv Peak Rd	to Hope Camp-ground Rd	Provo	1	1	1	1	0	0	0	1	0	5	11 Total 1 Serious Injury 1 Fatal 1 Ped No Bike	64% of the crashes were Roadway Departure crash 18% of the crashes involved Aggressive Driving 55% of the crashes were Speed related 36% of the crashes involved DUI Fatal crash – Speeding vehicle could not negotiate sharp curve and left roadway and overturned. Dark conditions. Unrestrained.



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OP13	400 North/ State Street (US-89)	#N/A	Orem	1	1	0	1	1	1	0	1	0	6	<p>91 Total</p> <p>5 Serious Injury</p> <p>1 Fatal</p> <p>1 Ped</p> <p>2 Bike</p>	<p>44% of total crashes are Front to Rear with 32% northbound</p> <p>38% of total crashes are Angle crashes with 37% NBL/SBT.</p> <p>32% of total crashes involved left turns with 52% NBL</p> <p>10% of the crashes are red light running related with 56% in SB</p> <p>4 of 5 Serious Injury crashes occurred Southbound. 2 of 5 inv. Motorcycle.</p> <p>3 of 5 Serious Injury are Angle crashes, 2 Front to Rear.</p> <p>Ped-involved crash - EBL hit ped in x-walk, speed related, dark condition.</p> <p>Both Bike-Involved crashes happened at 70 West/400 N intersection, related to right turns, all failed to yield right of way</p>

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
OP14	Geneva Rd (SR-114) – Vineyard	400 North to 400 South	Orem	1	1	0	1	0	1	0	2	1	7	134 Total 4 Serious Injury 2 Fatal 4 Ped 1 Bike	46% of total crashes are Angle 13% of total crashes related to Distracted Driving. 9% of total crashes are Speed related 3 Severe crashes (2 Fatal) at 400 North intersection. All Roadway Departure due to curve. 4 of 6 Severe crashes occurred in Dark conditions. 2 Serious Injury crashes just south of Center St/Geneva Rd intersection. Both Angle crashes. 2 of 4 Serious Injury crashes are Teen Driver involved 2 Fatal crashes – Both at 400 N intersection. Both Speeding vehicles in Dark Conditions resulting in Roadway Departure at curve. 4 Pedestrian crashes – Two occurred at Center St/Geneva Rd and two occurred at Center St/Mill Rd. 3 of 4 involved Left-Turn vehicles. 2 of 4 occurred in Dark conditions. Bicycle crash – EB Right-Turn vehicle hit bicyclist in south crosswalk at Center St/Geneva Rd intersection. Older driver involved



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP15</b>	Center Street/1200 West	#N/A	Orem	1	1	0	1	1	1	0	1	0	6	156 Total 1 Serious Injury No Fatal 1 Ped 2 Bike	40% of total crashes are Front to Rear with 59% in the WB 37% of total crashes are Angle crashes with 14% EBL/WBT 27% of the crashes involved left turns with 33% NBL 15% of the crashes are related to Disregard Traffic Control Device with 43% westbound and 43% east-bound. Serious Injury crash WBL hit EBT, Speed involved. Ped involved crash – WBR hit ped in Dark conditions, Older driver involved, Bike involved crash - WBR hit Bicycle at on-ramp, Older Driver Involved Bike involved crash - EBR from side road hit Bicycle
<b>OP16</b>	Orem Center St	I-15 to 400 East and near 800 East	Orem	1	1	0	1	1	1	0	1	0	6	601 Total 12 Serious Injury No Fatal 9 Ped 12 Bike	45% of total crashes are Front to Rear 14% of total crashes related to Distracted Driving. 12 Serious Injury crashes – 4 of 12 Bicycle involved. 3 occurred at 400 East intersection. 9 pedestrian crashes – 7 of 9 occurred at intersections. 2 Serious Injury 13 bicycle crashes – 4 Serious Injury.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP17</b>	Center Street/State Street (US-89)	#N/A	Orem	1	1	0	1	1	1	0	1	0	6	158 Total 3 Serious Injury No Fatal 4 Ped 3 Bike	43% of total crashes are Front to Rear with 26% in the SBT and 26% WBT 26% of total crashes are Angle crashes with 20% (NBL/EBT) 23% of the crashes involved left turns with 56% NBL, 13% of the crashes Right-turn Involved. 7% of the crashes are related to Disregard Traffic Control Device with 27% in EBT. 2 of 3 of Serious Injury crashes are Teen Driver Involved and during Dark conditions. 1 of the Serious Injury crashes was Bicycle involved. 2 of 4 Ped involved crashes involved SBR, and 2 of 4 of the Ped involved crashes involved Teenage driver. All 3 of the Bicycle involved crashes are related to right turns.
<b>OP18</b>	Univ Ave (US-189) - Orem Center St	5600 North to 4800 North	Provo	0	1	0	1	0	1	1	1	1	6	86 Total 5 Serious Injury No Fatal No Ped 3 Bike	33% of crashes are Front to Rear and 28% are Angle crashes 20% of crashes related to Adverse Roadway Surface Conditions 15% of crashes are Wild Animal Involved 13% of crashes related to Distracted Driving Involved 9% of crashes are Speed related 3 Serious Injury crashes at River Park Dr intersection - EBR hit bicyclist in bike lane, SBT Front to Rear, NBL/SBT Angle crash 3 bicycle crashes – All 3 involved EB Right-Turn vehicles hitting bicyclists using bike lane.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP19</b>	State St (US-89) - Orem 800 S	500 North to 1300 South	Orem	1	1	1	1	1	1	1	1	0	8	876 Total 23 Serious Injury 3 Fatal 12 Ped 8 Bike	45% of total crashes are Front to Rear with 51% SB 33% of total crashes are Angle 3 Fatal crashes and 23 Serious Injury crashes 2 Fatal crashes were Left Turn crashes at intersections, one at 400 S intersection and one at 400 N intersection 1 Fatal crash - Angle crash from Pep Boys - speeding motorcycle. 2 of 3 Fatal crashes involved motorcycles, DUI or were Speed related. 19 of 23 of the Serious Injury crashes occurred at intersections. 5 occurred at 800 South, 3 occurred at 400 North 13 of the Serious Injury crashes were Angle/Left Turn crashes. 5 Serious Injury motorcycle related; 5 Serious Injury Speed related. 3 of the 12 pedestrian crashes were Serious Injury 50% of Bike/Ped crashes involved Right Turn vehicles

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP20</b>	800 South/ State Street (US-89)	#N/A	Orem	1	1	0	1	1	1	0	1	0	6	168 Total 5 Serious Injury No Fatal 3 Ped 4 Bike	42% of total crashes are Front to Rear with 37% in SB 40% of total crashes are Angle crashes with 40% involving NBL/SBT on State St. 38% of the crashes involved left turns with 42% SBL on State St. 7% of the crashes related to Disregard Traffic Control Device with 83% northbound. 3 of 5 of Serious Injury are Angle crashes. 2 of 5 Serious Injury crashes involved vehicles disregard traffic signal. 2 of 3 Pedestrian Involved crashes involved a right turn vehicle, and one Ped-involved crashes was a Serious Injury crash. All four Bike Involved crashes involved vehicles failing to yield right of way to bicyclists and 50% were in dark lighted conditions.
<b>OP21</b>	Univ Ave (US-189) - Provo 3700 N	3800 North to 3300 North	Provo	1	1	0	1	0	1	0	1	1	6	54 Total 2 Serious Injury 1 Fatal 1 Ped 5 Bike	78% of crashes occurred at intersections 37% of crashes are Angle crashes, 33% are Front to Rear 31% of crashes involved Teen Drivers 18% of total crashes involved Disregard Traffic Control Device 4/5 bike crashes were intersection related. 4 occurred at University Ave/3300 North and 3 bicyclists were on marked crosswalks Fatal crash – SBL Front to Rear at 3700 North intersection Clusters of bike/ped crashes at 3700 North and 3300 North intersections



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
OP22	Univ Pkwy (SR-265) - Orem 800 E	I-15 to 800 East	Orem	1	1	0	1	1	1	1	1	1	8	687 Total 11 Serious Injury 1 Fatal 15 Ped 7 Bike	61% of total crashes are Front to Rear with 56% EB 12% of total crashes are Sideswipe Same Direction 16% of total crashes related to Distracted Driving 12% of total crashes are Work Zone Involved Fatal crash – EB vehicle on Wolverine Way hit Pedestrian in crosswalk west of RAB. DUI involved 11 Serious Injury crashes - 7 of 11 are Intersection Related, 5 of 11 are Angle crashes, 3 of 11 are Disregard Traffic Control Device Involved. Majority of Bike/Ped crashes occurred at State St and 800 East. 75% of Bike/Ped crashes involved Right-Turn vehicles. 15 Pedestrian Involved crashes – 2 Serious Injury, 1 Fatal 7 Bicycle involved crashes -3 of 7 occurred at 800 East intersection.
OP23	Sandhill Rd/ University Pkwy (SR-265)	#N/A	Orem	1	1	0	1	1	1	0	1	1	7	162 Total 1 Serious Injury 1 Fatal 2 Ped No Bike	48% of total crashes are Front to Rear crashes with 44% of those in WB 33% of total crashes are Angle crashes with 25% of those in EB 9% crashes related to Disregard Traffic Control Device, 53% of those were in WB 21% of crashes involved left turn, 32% of those were turning WB 8% crashes involved “Failed to yield right of way” as the Driver contributing factor. Serious Injury crash – WBL vehicle did not have ROW and hit EBT Fatal crash – Occurred on Campus Drive just west of RAB – EBT hit ped in crosswalk. Ped involved crash – EBR vehicle hit illegally crossing pedestrian.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
OP24	200 North St. / 800 East St.	#N/A	Orem	0	1	0	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
OP25	University Pkwy (SR-265)/ State Street (US-89)	#N/A	Orem	1	1	0	1	1	1	0	1	1	7	173 Total 1 Serious Injury No Fatal 7 Ped 1 Bike	56% of total crashes are Front to Rear with 27% in the NB and 27% in SB 19% of total crashes are Angle crashes with 36% eastbound. 12% of total crashes are related to Disregard Traffic Control Device. 21% of the crashes involved left turns with 33% eastbound. 7 of 8 Bike/Ped crashes were related to right-turns. 5 of 7 Ped involved crashes involved eastbound right-turn vehicles hitting pedestrians. Bike involved crash was WBR vehicle hitting bicyclist at night.
OP26	Geneva Rd (SR-114) - south of Univ Pkwy	1450 South to 1860 South	Provo	1	1	0	1	0	1	0	1	0	5	17 Total 2 Serious Injury No Fatal 1 Ped No Bike	59% of total crashes are Front to Rear with 90% SB 35% of crashes occurred in Dark conditions 18% of total crashes involve Distracted Driving 2 Serious Injury crashes – SBT vehicles hit SBL vehicle stopped in travel lane on Geneva Rd waiting to turn left at 1600 South. Front to Rear. SB vehicle attempting U-Turn on Geneva Rd near 1860 South hit SBT vehicle. Pedestrian crash – NB vehicle hit pedestrian on shoulder. Dark conditions, DUI involved.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP27</b>	Univ Pkwy (SR-265) Provo	2310 North to Freedom Blvd	Provo	1	1	0	1	1	1	1	2	1	9	134 Total 6 Serious Injury 2 Fatal 5 Ped 2 Bike	78% of crashes were at an intersection; more than 50% of crashes occurred at 2230 N/University Pkwy intersection 50% of crashes were Angle crashes 36% of crashes were Front to Rear 24% of crashes involved Disregard Traffic Control Device 6 Serious Injury crashes – 4 occurred at 2230 N intersection. 4 Angle crashes, 2 pedestrian involved. 2 Fatal crashes – Pedestrian involved at Freedom Blvd intersection, Speeding motorcycle on Riverside Drive south of intersection. Both bicycle crashes involved vehicles “failing to yield”
<b>OP28</b>	2230 N/University Pkwy (SR-265)	#N/A	Provo	1	1	0	1	1	1	0	2	1	8	112 Total 4 Serious Injury No Fatal 5 Ped 1 Bike	48% of the total crashes are Angle crashes with 11% EBL/SBT 35% of the total crashes are Front to Rear with 28% in the EB and 28% SB 48% of the crashes involved left turns with 46% EBL 21% of the crashes are related to Disregard Traffic Control Devices with 25% in WBT 16% of the crashes related to Distracted Driving Involved 2 of 4 Serious Injury crashes are Ped-involved, 1 crash Disregard Traffic Control Device. Five Ped involved crashes at intersection, 3 involved left-turning vehicles. One Bicycle involved crash - EBR vehicle hit ped in dark conditions



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
OP29	2230 N Provo - Canyon Rd	200 West to Canyon Rd – 140 East to 2230 North	Provo	1	1	1	1	0	1	0	1	1	7	53 Total 4 Serious Injury No Fatal 1 Ped 1 Bike	77% of crashes occurred at an intersection 31% of total crashes were Angle 20% of total crashes were Front to Rear 14% of crashes were Roadway Departure crashes 23% of crashes involved Speeding 49% of crashes involved Adverse Roadway Surface Conditions 17% of crashes involved Commercial Motor Vehicle 4 Serious Injury crashes – 3 of 4 Angle crashes, 1 pedestrian involved, 2 occurred at 2230 North/ Freedom Blvd intersection.
OP30	1720 North/ State Street (US-89)	#N/A	Provo	1	1	0	1	1	1	0	2	1	8	123 Total 6 Serious Injury 1 Fatal 4 Ped 2 Bike	50% of total crashes are Angle crashes with 30% involved SBL/NBT on State St. 28% of total crashes are Front to Rear with 47% in SB. (downhill slope) 44% of the crashes involved left turns with 54% SBL on State St. 18% of the crashes related to Disregard Traffic Control Device with 45% SB. Fatal crash – NBT hit ped illegally crossing in dark-lighted conditions. 4 of 6 Serious Injury are Angle crashes with 50% in SBT direction. 3 of 6 Serious Injury Disregard Traffic Control Device (2 SB). 3 of 4 of Ped-involved crashes were left-turns failing to yield to pedestrians and in Dark lighted conditions. Both Bicycle-Involved crashes were Serious Injury crashes 3 Bike/Ped crashes involved NBL vehicle



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP31</b>	State St US-89) Provo – north of Cougar Blvd	1850 North to Cougar Blvd	Provo	0	1	0	1	1	1	1	2	0	7	178 Total 7 Serious Injury 3 Fatal 5 Ped 3 Bike	44% of total crashes are Angle 37% of total crashes are Front to Rear with 58% SB 37% of crashes involved Left Turns with 51% SBL 14% involved Disregard Traffic Control Device 7 Serious Injury crashes – 6 of 7 occurred at 1720 North intersection, 4 Angle crashes, 2 bicycle related. 3 Fatal crashes – Pedestrian involved at 550 W/Riverside Dr intersection Angle crash at 550 W/Riverside Dr intersection (NBT ran red light) Pedestrian involved at 1720 North intersection 50% of ped/bike crashes were Fatal/Serious Injury
<b>OP32</b>	Canyon Rd Provo	Stadium Ave to Univ Pkwy	Provo	0	1	0	1	0	0.5	0	2	1	5.5	17 Total No Serious Injury 1 Fatal 2 Ped 2 Bike	88% of crashes occurred at an intersection 71% of crashes were Angle crashes 53% of the crashes involved Left Turns. 29% of the crashes involved Disregard Traffic Control Device Fatal crash – SBT vehicle hit pedestrian at Stadium Avenue intersection. Dark conditions
<b>OP33</b>	Paul Ream Ave/University Ave (US-189)	#N/A	Provo	1	1	1	1	1	1	0	2	1	9	47 Total No Ser. Injury No Fatal 4 Ped 5 Bike	45% of the total crashes are Front to Rear with 67% in SB. 23% of the total crashes are Angle crashes with 55% in SB 26% of the crashes involved left turns with 25% EBL. 60% of the crashes in daylight, 40% in dark-lighted 3 of 4 pedestrian crashes related to distracted driving. 2 of Bike/Ped involved WBL vehicle at Paul Ream Ave intersection. 4 of 9 Bike/Ped crashes occurred on Univ Ave. away from intersection.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP34</b>	Cougar Blvd – Freedom Blvd	500 West to University Avenue – Cougar Blvd to 950 North	Provo	1	1	0	1	1	1	0	2	1	8	190 Total 1 Serious Injury No Fatal 3 Ped 9 Bike	54% of total crashes are Angle and 21% Front to Rear 23% of crashes on Freedom Blvd involved Distracted Driving 38% of total crashes involved vehicles Failing to Yield Right-of-Way 17% of total crashes are Disregard Traffic Control Device with 42% WB 17% of total crashes are Work Zone Involved Serious Injury crash – NBR vehicle out of hospital parking hit bicyclist 9 bicycle crashes on Cougar Blvd. 6 of 9 involved Right-Turn vehicles. 2 occurred at hospital parking driveway at 400 West
<b>OP35</b>	Univ Ave (US-189)– Paul Ream Ave to 500 North	Paul Ream Ave to 500 North	Orem	0	1	0	1	1	1	1	2	1	8	366 Total 8 Serious Injury No Fatal 7 Ped 9 Bike	57% of crashes were Front to Rear; 29% were Angle crashes Approximately 70% of crashes were intersection related. Most of these were at Cougar Blvd/University Aveune 25% of crashes involved Left Turns, mostly in the northbound direction 20% of crashes involved Distracted Driving All pedestrian and bicycle collisions were at intersections 8 Serious Injury crashes – 4 Front to Rear, 4 Single Vehicle. 2 involved bike/ped. 5 of 8 occurred in Dark-Lighted conditions.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP36</b>	Cougar Blvd/University Ave (US-189)	#N/A	Provo	1	1	0	1	1	1	0	2	1	8	144 Total 1 Serious Injury No Fatal 2 Ped 5 Bike	56% of the total crashes are Angle crashes with 49% in NB 26% of the total crashes are Front to Rear with 58% in SB. 53% of the crashes involved left turns with 42% NBL. 63% of the crashes in daylight, 37% in dark-lighted Serious Injury crash – NBL into CVS driveway hit bicyclist. Both pedestrian-involved crashes occurred in the north crosswalk. EBL and NBT. 5 Bicycle-related crashes, four at driveways near intersection.
<b>OP37</b>	500 West Provo (US-89)	Cougar Blvd to 500 North	Orem	1	1	0	1	0	1	0	2	1	7	200 Total 3 Serious Injury 0 Fatal 4 Ped 2 Bike	59% of crashes occurred at intersections 59% of the total crashes were Front to Rear with 58% SB 27% of crashes were Angle crashes 27% of crashes involved a Work Zone 20% of the crashes were related to Distracted Driving 3 Serious Injury crashes – 2 at 800 North intersection, 2 Angle crashes, one pedestrian involved crash. 4 bike/ped crashes occurred at 800 North intersection
<b>OP38</b>	500 North Provo	500 West to 100 East	Provo	0	1	0	1	1	1	0	2	1	7	85 Total 3 Serious Injury 1 Fatal 3 Ped 4 Bike	84% of crashes occurred at intersections 52% of the total crashes are Angle 34% of the crashes involved Left Turns with 38% WBL 24% of the total crashes are Front to Rear with 50% WB 57% of the pedestrian/bicycle crashes occur at intersections Fatal crash – Pedestrian involved at 400 West intersection 2 of 3 Serious Injury crashes involved pedestrians



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP39</b>	500 North/ University Ave (US-189)	#N/A	Provo	1	1	0	1	1	1	0	2	1	8	168 Total 5 Serious Injury No Fatal 4 Ped 3 Bike	42% of total crashes are Front to Rear with 59% in northbound direction. 33% of total crashes are Angle crashes and most common NBT/ WBT (9%) Left-turn crashes are most common in NBL (29%) 15% of total crashes are Red light running and most common in NB (31%) Following too closely most common Driver Contrib. Factor (25%) 2 Ped crashes involving NBT vehicles. Right-turn vehicles involved in 3 Bike/Ped crashes
<b>OP40</b>	700 North Provo	800 East to 900 East	Provo	0	1	0	1	0	0.5	0	2	1	5.5	14 Total 0 Serious Injury 1 Fatal 1 Ped No Bike	71% of crashes occurred at an intersection 64% of total crashes were Angle crashes 57% of the crashes involved Left Turns. 21% of the crashes involved Teen Driver Fatal crash – WB roadway departure hit pedestrian at 800 East intersection
<b>OP41</b>	I-15 Ramps/ Center Street	#N/A	Provo	1	1	0	1	1	1	0	0	0	5	167 Total 3 Serious Injury 1 Fatal No Ped No Bike	55% of total crashes are Angle crashes with 71% in SB 22% of total crashes are Front to Rear with 50% in SB 22% of the crashes involved left turns with 49% SBL 32% of the crashes are related to Disregard Traffic Control Device 3 of 4 Fatal/Serious Injury involved disregard traffic control device. 2 of 3 Serious Injury are Angle crashes. Both involved NB vehicles running red light. Fatal – WBT ran red light and hit SBT.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
OP42	Provo Center St (SR-114)	Geneva Rd to 500 West	Orem	1	1	0	1	1	1	0	2	1	8	<p>503 Total 15 Serious Injury 3 Fatal 15 Ped 3 Bike</p> <p>503 Total 15 Serious Injury 3 Fatal 15 Ped 3 Bike</p>	<p>37% of the total crashes are Angle 33% of the total crashes are Front to Rear with 37% EB 16% of crashes involved Disregard Traffic Control Device with 49% WB 15 Serious Injury crashes – 4 Serious Injury at I-15 ramp intersections 2 Serious Injury at Geneva Rd intersection, both SBL turning in front of NBT, both dark/dusk conditions. 2 Serious Injury on 900 West N. of Center St, both Dark cond. 2 Serious Injury pedestrian crashes at 100 N/500 W int. 3 Fatal crashes - Pedestrian hit at 750 West Center in Dark-Lighted conditions EBL/WBT Head-On at Independence Ave intersection WBT ran red light at SB Ramps intersection 8 pedestrian crashes (one Fatal, two Serious Injury) between 900 West and 500 West 6 bike/ped crashes at 600 West intersection</p>



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP43</b>	600 West/ Center Street (SR-114)	#N/A	Provo	0	1	0	1	1	1	1	2	1	8	69 Total 2 Serious Injury No Fatal 5 Ped 1 Bike	42% of total crashes are Front to Rear with 48% in the WB, 48% in EB 30% of total crashes are Angle crashes with 14% (WBL/EBT), 14% (SBT/WBT) 10% of total crashes involved left turns with 57% WBL. 2 Serious Injury crashes were both Ped related. EBT Disregard Traffic Control to Ped crossing WBT Failed to yield to Ped crossing. 5 of 6 Bike/Ped crashes involved east crosswalk. 3 of 5 Ped Involved crashes EBT vehicles striking peds in east x-walk. One crash with Bicycle involved, WBT hit bike in east x-walk. Dark lighted
<b>OP44</b>	Freedom Blvd - Center St	400 North to Center St	Provo	1	1	0	1	0	1	0	2	1	7	105 Total 3 Serious Injury No Fatal 5 Ped 1 Bike	77% of crashes occurred at an intersection; 45% crashes occurred at the Freedom Blvd/Center St intersection 57% of crashes were Angle crashes 23% of crashes were Front to Rear 27% involved Disregard Traffic Control Device
<b>OP45</b>	300 South (US-89) Provo	200 West to 200 East	Provo	1	1	0	1	1	1	0	1	1	7	60 Total 3 Serious Injury No Fatal 2 Ped 5 Bike	37% of total crashes are Front to Rear and 28% are Angle crashes 15% of the crashes related to Distracted Driving Involved 18% of total crashes are Disregard Traffic Control Device with 55% WB 13% of total crashes are Commercial Motor Vehicle Involved 3 Serious Injury crashes – All 3 bike/ped involved 4 bike/ped crashes at Freedom Blvd intersection



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP46</b>	300 South (US-89) /University Ave (US-189)	#N/A	Provo	1	1	0	1	1	1	0	1	1	7	56 Total 1 Serious Injury 1 Fatal 3 Ped 5 Bike	38% of total crashes are Front to Rear and 33% are westbound. Most common Angle crashes: SBT/NBL 15%, SBT/WBT 15%, WBT/EBL 15% Red light running are 16% of total crashes and 44% are southbound. 34% of total crashes are Left-turn involved and 42% of left-turn crashes involve EBL movement. 8 Bike/Ped crashes at intersection (14% of total crashes) Two Bike crashes at 30 West driveway 2 Bike/Ped hit by EBR vehicle 2 Bike/Ped hit when illegally crossing Fatal – NBT hit peds in north crosswalk
<b>OP47</b>	Univ Ave (US-189)– South Provo	100 North to I-15	Orem	1	1	0	1	1	1	1	2	0	8	363 Total 13 Serious Injury 1 Fatal 11 Ped 9 Bike	66% of crashes were intersection related 46% of the total crashes were Angle crashes 31% of total crashes were Front to Rear with 44% SB 17% of crashes involved Disregard Traffic Control Device 15% of the crashes were related to Distracted Driving All the pedestrian crashes occurred at intersections 13 Serious Injury crashes – 5 ped/ bike involved. 7 Angle crashes. Fatal crash – Pedestrian involved at 300 South 20 ped/bike crashes – 82% intersection related, 5 at 300 South intersection, 4 at East Bay Blvd intersection.

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<b>OP48</b>	State St (US-89) Provo – south of 600 South	600 South to 900 South	Provo	1	1	1	1	0	1	0	2	0	7	32 Total 3 Serious Injury 1 Fatal No Ped No Bike	44% of crashes are Angle and 28% Front to Rear with 83% NB 34% of crashes related to Adverse Roadway Surface Conditions 22% of crashes are Roadway Departure Involved 19% of total crashes are Speed related 9% of total crashes are Motorcycle Involved 1 Fatal crash – EBL vehicle turned in front of SBT motorcycle at 900 S intersection. DUI 3 Serious Injury crashes – 2 of 3 involved WBL turning in front of NB/SB 3 of 4 Severe crashes involved Left-Turns from side streets
<b>OP49</b>	Lakeview Pkwy	Univ Ave to East Bay Blvd	Provo	1	1	0	1	1	1	1	2	1	9	17 Total 2 Serious Injury No Fatal 1 Ped No Bike	35% of crashes were Front to Rear 29% of crashes were Left Turn related; 29% Angle crashes 18% of the crashes involved Disregard Traffic Control Device 18% of the crashes involved Distracted Driving 18% of the crashes were Speed related 24% of crashes were Work Zone related
<b>OP50</b>	State St (US-89) Provo - Slate Canyon Dr	1640 South to Industrial Pkwy (2000 South)	Provo	0	1	0	1	1	1	0	2	0	6	87 Total 6 Serious Injury No Fatal No Ped 1 Bike	51% of the crashes are Angle and 26% Front to Rear 52% of the crashes Left-Turn Involved with 62% NBL 27% of crashes occurred in Dark/Dark-Lighted conditions. 21% of crashes related to Adverse Roadway Surface Conditions 18% of total crashes involved Disregard Traffic Control Device with 50% SB 5 of 6 Serious Injury crashes at intersection were an NBL/SBT collision. One Bicycle-Involved crash – SBR hit bike at 2000 S intersection



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>OP51</b>	Slate Canyon Drive/ State Street (US-89)	#N/A	Provo	1	1	0	1	1	1	0	2	0	7	107 Total 7 Serious Injury No Fatal No Ped 1 Bike	50% of total crashes are Angle crashes with 37% involved (NBL/ SBT) at State St. 28% of total crashes are Front to Rear with 37% NB 50% of total crashes involved left turns with 41% SBL 18% of total crashes are related to Disregard Traffic Control Device with 42% in SBT 21% of crashes adverse roadway surface condition 7 Serious Injury crashes 5 of 6 Serious Injury crashes at intersection were an NBL/SBT collision. One Bicycle-Involved crash – SBR hit bike at 2000 S intersection
<b>OP52</b>	State St (US-89) Provo - Ironton	Yale Ave to Mountain Vista Pkwy	Provo	0	1	0	1	0	1	0	2	0	5	37 Total No Serious Injury No Fatal No Ped No Bike	A high density of crashes was located near the intersection of State St and Mill Pond Dr 41% of crashes involved Wild Animals 27% of crashes involved Adverse Roadway Surface Conditions 24% of crashes involved Roadway Departure 16% of crashes involved Speed



**Payson**

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS1</b>	SR-77 - Lake Shore/Palmyra	2300 West to 5600 South	Lake Shore/Palmyra	1	1	1	1	0	0	0	1	1	6	19 Total 2 Serious Injury 1 Fatal No Ped No Bike	89% of crashes were Single Vehicle crashes 79% of crashes involved Roadway Departure 42% of crashes occurred in Dark/not lighted conditions 42% of crash were Speed-related 32% of crashes were DUI-related 32% of crashes involved Adverse Roadway Surface Conditions The Fatal crash occurred at the intersection of SR 77 and 4800 South. and was caused by a failure to “keep proper lane”
<b>PS2</b>	6400 South (SR-241)	River Lane to 1050 West	Palmyra	1	1	1	1	0	0	0	1	0	5	12 Total No Serious Injury No Fatal No Ped No Bike	33% of crashes were Angle crashes 42% of crashes involved Teen Driver 17% of crashes involved Wild Animal 17% of crashes involved Roadway Departure 17% of crashes involved Speeding
<b>PS3</b>	SR-147 - 5600 West	7300 South to 8000 South	West Mountain	0	1	0	1	0	0	0	1	0	3	3 Total No Serious Injury 1 Fatal No Ped No Bike	2 crashes were Single Vehicle The Fatal crash was a sideswipe involving a vehicle departing the roadway



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS4</b>	SR-164 (8000 S) at I-15	2200 West to 1000 West	Benjamin/Salem	1	1	0	1	1	0.5	0	1	0	5.5	49 Total 5 Serious Injury 1 Fatal No Ped No Bike	71% of crashes occurred at an intersection 49% of crashes were Angle crashes 35% of crashes were Front to Rear with 76% EB 35% of crashes involved Left Turns with 29% EBL 18% of crashes involved Disregard Traffic Control Device 43% of crashes involved Teen Drivers 4 of 5 Serious Injury crashes are Angle crashes at intersections. Fatal crash – WBL vehicle turned in front of EBT motorcycle at SB ramps intersection. DUI involved
<b>PS5</b>	I-15 Ramps/ SR-164 (8000 South)	#N/A	Benjamin	0	1	0	1	1	0.5	0	1	0	4.5	22 Total 1 Serious Injury 1 Fatal No Ped No Bike	55% of total crashes are Angle with 17% (WBL/EBT), 17% (NBT/EBT) 55% of the crashes involved Left Turns with 42% WBL 36% of total crashes are Older Driver involved 23% of total crashes are Commercial Motor Vehicle involved Serious Injury crash – NBL vehicle turned in front of EBT vehicle at NB ramps intersection. Fatal crash – WBL vehicle turned in front of EBT motorcycle at SB ramps intersection. DUI involved
<b>PS6</b>	460 West/ SR-164 (8000 South)	#N/A	Salem	1	1	0	1	1	0.5	0	0	0	4.5	17 Total 2 Serious Injury No Fatal No Ped No Bike	76% of the total crashes are Angle with 15% (WBT, SBT) 41% of total crashes are Disregard Traffic Control Device with 71% EB 47% of the crashes involved Left Turns with 50% NBL 53% of total crashes are Teen Driver involved 2 Serious Injury crashes – 1. EBT vehicle Disregarded Traffic Control Device and collided with NBL vehicle. 2. NBL failed to yield to EBT (before Traffic Signal was installed).



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS7</b>	River Bottoms Rd	Swenson Lane to 3400 East	Utah County	0	1	0	1	0	0	0	0	0	2	9 Total 2 Serious Injury No Fatal No Ped No Bike	75% of crashes were Single Vehicle Both Serious Injury crashes involved a driver failing to negotiate a curve
<b>PS8</b>	North Payson Main Street (SR-241)	900 North to 100 North	Payson	0	1	1	1	1	1	0	1	0	6	97 Total 3 Serious Injury 1 Fatal 1 Ped No Bike	34% of crashes were Front to Rear 25% of crashes involved Left Turns with 38% NBL 31% of crashes were Angle crashes 13% of crashes involved Distracted Driving 30% of crashes involved Teen Drivers Serious Injury pedestrian crash at 590 North Fatal crash – WB motorcycle ran stop-sign at 300 North intersection. Dark conditions.
<b>PS9</b>	600 North/ Main Street (SR-115)	#N/A	Payson	0	1	0	1	1	0.5	1	0	0	4.5	45 Total 1 Serious Injury No Fatal 1 Ped No Bike	42% of total crashes are Angle with 37% in NB 24% of total crashes are Front to Rear with 45% in SB 22% of total crashes are Sideswipe Same Direction primarily occurring on north leg of intersection. 28% of the crashes involved Left Turns with 38% SBL 35% of total crashes are Teen Driver involved Serious Injury crash – SBT vehicle hit pedestrian south of the intersection in adverse roadway surface conditions.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS10</b>	100 West/100 North/State Street (SR-198)	#N/A	Salem	1	1	0	0	1	1	0	0	0	4	14 Total 2 Serious Injury No Fatal 1 Ped No Bike	43% of total crashes are Front to Rear with 50% in EB 21% of total crashes are Head On (front-to-front) 21% of total crashes related to DUI 64% of total crashes are Teen Driver involved 2 Serious Injury crashes – 1. WB Drowsy Driver hit pedestrian at 100 West intersection. 2. WBT crossed center median and hit EBT vehicle Head-On. DUI Involved.
<b>PS11</b>	Main Street/ State Street (SR-198)	#N/A	Salem	1	1	0	0	1	1	0	0	0	4	44 Total 1 Serious Injury No Fatal No Ped No Bike	55% of total crashes are Front to Rear with 75% WB 30% of total crashes are Angle with 46% WB 25% of the crashes are related to Disregard Traffic Control Device 42% of total crashes are Teen Driver involved 18% of the crashes involved Left Turns with 63% NBL Serious Injury crash - EBT Disregarded Traffic Control Device and collided with NBL vehicle.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS12</b>	Woodland Hills Drive	8800 South to 11000 South and West Oak Ln to Valley View Way	Salem/ Woodland Hills	0	1	0	1	0	0	0	0	0	2	47 Total 3 Serious Injury 1 Fatal No Ped 1 Bike	47% of total crashes are Single Vehicle with 55% Animal related and 45% Roadway Departure. 28% of total crashes involved Adverse Roadway Surface Conditions 26% of total crashes involved Roadway Departure 19% of total crashes are Wild Animal Involved. Most occurred between 340 South and 1280 South in Salem. 15% of crashes are Speed related 15% of crashes related to Distracted Driving Fatal crash – EBL vehicle at 340 South turned in front of SB motorcycle 3 Serious Injury crashes – 2 of 3 involved Distracted Driving, Roadway Departure, Dark conditions. One crash was a Head-On with school bus at 500 North Salem. Bicycle crash – EBR vehicle hit bicyclist at 400 North intersection
<b>PS14</b>	Utah Ave	400 West to 700 West	Payson	0	1	0	1	0	0	0	1	0	3	2 Total No Serious Injury 1 Fatal No Ped No Bike	1 crash involved a Left Turn 1 crash involved a Parked Vehicle The Fatal crash was a left turn crash at 588 W Utah Ave involving failure to yield
<b>PS15</b>	100 West (SR-198) / Utah Ave	#N/A	Payson	0	1	0	0	1	1	0	1	0	4	32 Total No Ser. Injury No Fatal No Ped No Bike	56% of total crashes are Front to Rear with 61% NB 22% of total crashes are Angle 38% of total crashes are Teen Driver involved No Severe or Bike/Ped crashes

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS16</b>	100 North (SR-198)/ Main Street (SR-115)	#N/A	Payson	1	1	1	1	1	1	0	0	0	6	68 Total (250 ft) 1 Serious Injury No Fatal 1 Ped 1 Bike	43% of the total crashes are Angle with 14% (EBL, SBT) 38% of the total crashes are Front to Rear with 66% in the EB 21% of the crashes involved Left Turns with 43% WBL 13% of the crashes Disregard Traffic Control Device with 60% in EB Serious Injury crash – EBL/WBT Angle Crash, Left Turn Failed to yield, Motorcycle Involved, Night Dark Condition. Both bike/ped crashes involved Southbound Right-Turn vehicles. Pedestrian crash – SBR hit pedestrian in crosswalk. Bicycle related crash – SBR vehicle hit bicyclist in crosswalk.
<b>PS17</b>	100 North (SR-198) - Payson	100 West to 1150 East	Payson	0	1	0	1	1	1	0	0	0	4	188 Total 2 Serious Injury No Fatal 5 Ped No Bike	51% of total crashes are Front to Rear with 75% WB 28% of total crashes are Angle 37% of crashes listed Followed too Closely as Driver Contributing Factor 10% of crashes involved Disregard Traffic Control Device with 47% EB 10% of crashes related to Distracted Driving 2 Serious Injury crashes – EBL/WBT Angle crash at Main St intersection, WB Front to Rear at 625 East 5 pedestrian crashes – 4 of 5 are intersection related but only 1 of 5 occurred in a crosswalk.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS18</b>	600 East/100 North (SR-198)	#N/A	Payson	1	1	0	1	1	1	0	0	0	5	43 Total 1 Serious Injury No Fatal No Ped 1 Bike	56% of total crashes are Front to Rear with 67% in WB 30% of total crashes are Angle with 46% in WB 14% of the crashes involved Left Turns 12% of the crashes are related to disregard traffic device 7% of total crashes are DUI related 1 Serious Injury crash – WB Front to Rear crash 1 bicycle crash – NB Right-Turn vehicle hit pedestrian. no injury/PDO.
<b>PS19</b>	300 West, Salem Canal Rd.	#N/A	Salem	0	0	1	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>PS20</b>	300 South , 100 East	#N/A	Salem	0	0	1	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>PS21</b>	800 South (SR-178)- Payson	I-15 to 880 West	Payson	0	1	1	1	1	1	0	1	0	6	87 Total 3 Serious Injury No Fatal 2 Ped No Bike	56% of crashes are Angle and 28% Front to Rear 55% of crashes are Left-Turn Involved 46% of crashes are Teen Driver involved 43% of crashes Failed to Yield Right-of-Way 42% of crashes occurred in Dark-Lighted/Dark conditions 13% of crashes are related to Distracted Driving 3 Serious Injury crashes – 2 occurred at 1270 W intersection: EBL hit WBT motorcycle, Dark conditions, and WB Front to Rear. 1 at SB ramps intersection: WBL hit EBT.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS22</b>	1270 West/800 South (SR-241)	#N/A	Payson	0	1	0	1	1	1	0	1	0	5	70 Total 2 Serious Injury No Fatal 1 Ped No Bike	63% of the total crashes are Angle with 45% EB 17% of the total crashes are Front to Rear with 42% in WB 61% of total crashes involved Left Turns with 33% SBL 35% of the crashes occurred in Dark conditions 40% of total crashes are Teen Driver involved 2 Serious Injury crashes - WB Front to Rear crash and EB left-turn crash. 1 pedestrian crash – Work zone related; data unclear about how pedestrian was involved.
<b>PS23</b>	780 West/800 South (SR-178)	#N/A	Payson	1	1	0	0	1	1	0	1	0	5	14 Total No Ser. Injury No Fatal 2 Ped No Bike	43% of total crashes are Angle with 50% in (NBL/WBT) 36% of total crashes are Front to Rear with 40% in WB/EB 36% of total crashes involved Left Turns with 80% NBL 21% of total crashes are Distracted Driving Involved 36% of total crashes are Teen Driver involved 2 Pedestrian crashes – WB Front to Rear due to vehicles stopped for pedestrians at crosswalk and WB vehicle hitting pedestrian in crosswalk
<b>PS24</b>	800 South (SR-241)/ State Street (SR-198)	#N/A	Payson	0	1	1	1	1	1	0	0	0	5	59 Total No Ser. Injury No Fatal 1 Ped No Bike	37% of total crashes are Angle with 45% in WB 36% of total crashes are Front to Rear with 52% in WB 34% of total crashes involved Left Turns with 35% NBL 9% of total crashes are Head-On crashes. 42% of total crashes are Teen Driver involved 1 pedestrian crash – EBT vehicle with ROW hit ped in dark-lighted conditions.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
PS25	650 South/ State Street (SR-198) (mid-block)	#N/A	Payson	0	1	0	1	1	1	0	1	0	5	23 Total 1 Serious Injury No Fatal 2 Ped 1 Bike	57% of total crashes are Angle crashes 26% of total crashes in Dark-lighted conditions 35% of total crashes involved Teen Driver Serious Injury crash – EBT vehicle at 600 South intersection failed to yield to NBT motorcycle. 2 pedestrian crashes – Both near Smiths driveway crossing State Street, pedestrians crossing suddenly into traffic, causing collisions. Bicycle crash – Occurred at 600 South intersection when bicyclist could not stop and collided with stopped EB vehicle.
PS26	800 South/ Main Street	#N/A	Payson	1	1	1	1	1	0.5	0	0	0	5.5	30 Total 1 Serious Injury 1 Fatal 3 Ped 1 Bike	40% of total crashes are Angle with 17% (SBT, EBT) 27% of total crashes are Front to Rear with 38% in NB 23% of total crashes are Disregard Traffic Control Device with 57% EB 13% of the crashes related to Distracted Driving. 43% of total crashes are Teen Driver involved. 15% of total crashes are bike/ped related. Serious Injury crash – EBT vehicle hit pedestrian on sidewalk east of intersection Fatal crash - NB Left turn, Speed related, Aggressive/Reckless Driving Dark-Lighted conditions. 3 pedestrian crashes – EBR vehicle hit pedestrian in crosswalk at intersection, WB Front to Rear crash due to children crossing street west of intersection. Bicycle crash – WB vehicle hit WB bicyclist east of intersection.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
PS27	Canyon Road/ 800 South	#N/A	Payson	0	1	0	1	1	0.5	0	0	0	3.5	4 Total No Ser. Injury No Fatal 1 Ped 1 Bike	50% of the crashes involved bike/ped. Pedestrian crash – WB vehicle struck children crossing road at Canyon Rd intersection. Minor Injury. Bicycle crash – WBL vehicle hit bicyclist attempting to turn from 800 S onto Greenridge Ave.
PS28	SR-198 - State St/100 West Payson	400 South to 1900 South	Payson	1	1	1	1	1	1	0	1	0	7	116 Total 2 Serious Injury 1 Fatal 4 Ped 1 Bike	47% of crashes occurred at an intersection 41% of crashes occurred at an Angle, followed by 34% from Front to Rear 28% of crashes involved Left turns 45% of crashes involved Teen Drivers 3 pedestrian crashes were caused by improper crossing Serious Injury Angle crash at 600 South intersection. Fatal crash – SB vehicle struck horse in roadway near 1900 South. Night/Dark conditions
PS29	South Payson Main St (SR-198) - 800 South	800 South to 1200 South – SR-198 to Greenridge Ave	Payson	1	1	1	1	1	0.5	0	0	0	5.5	34 Total 2 Serious Injury 1 Fatal 4 Ped No Bike	47% of crashes were Angle 21% of crashes involved Disregard Traffic Control Device 15% of crashes involved Distracted Driving 18% of crashes involved Adverse Roadway Surface Conditions 15% of crashes were Roadway Departure crashes 50% of crashes involved Teen Drivers 75% of pedestrian crashes occurred at an intersection and involved a Teen Driver Fatal crash - NB Left turn at 800 South/Main Street, Speed related, Aggressive/Reckless Driving Dark-Lighted conditions.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS30</b>	1250 South/ Main Street	#N/A	Payson	0	1	0	0	1	0	0	0	0	2	7 Total No Ser. Injury No Fatal 1 Ped 1 Bike	29% of total crashes are Front to Rear with 50% in SB/NB 43% of total crashes are Teen Driver involved 29% of the crashes are Not Applicable/Single Vehicle and 29% Front to Rear Pedestrian crash – SB Front to Rear due to vehicle stopped for pedestrian in crosswalk. Older driver involved Bicycle crash - WB Right Turn vehicle hit NB Bicyclist at 1270 South intersection.
<b>PS31</b>	SR-141 - West Mountain Rd	1175 East to Fruitridge Lane	West Mountain	0	1	0	1	0	0	0	1	0	3	9 Total 1 Serious Injury 1 Fatal No Ped No Bike	67% of the crashes were Single Vehicle 22% of crashes were Angle crashes 22% of the crashes involved Left Turns 44% of the crashes were Roadway Departure crashes 33% of the crashes involved Speeding The Fatal crash was a head-on crash, where vehicle 1 drifted over the center line and struck vehicle 2
<b>PS32</b>	11950 South/ 12000 South	5350 West to 4600 West	Utah County	0	1	0	1	0	0	0	1	0	3	19 Total 2 Serious Injury No Fatal No Ped No Bike	42% of crashes occurred at an intersection 21% of crashes involved Left Turns 37% of crashes involved Adverse Roadway Surface Conditions 53% of crashes involved Roadway Departure 26% of crashes involved Speeding 16% of crashes involved Distracted Driving Serious Injury crashes – Sideswipe Opposite Direction involving Heavy Truck and Roadway Departure. Angle crash at 5200 West intersection.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS33</b>	SR-198 - Spring Lake	12400 South to 12680 South	Spring Lake	0	1	0	1	0	0.5	0	0	0	2.5	9 Total 1 Serious Injury No Fatal No Ped No Bike	56% of crashes occurred at an intersection 33% of crashes were Single Vehicle 33% of crashes were Front to Rear 44% of crashes involved an older driver; 44% of crashes involved a Teen Driver Serious Injury crash – EB vehicle ran stop sign at 12400 South intersection resulting in Angle crash.
<b>PS34</b>	State St. @ US6	#N/A	Payson	0	1	0	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>PS35</b>	US 6 West of 400 West St.	#N/A	Payson	0	1	1	0	0	0.5	0	0	0	2.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>PS36</b>	Santaquin Main Street (US-6)	Center St to I-15	Santaquin	1	1	0	1	1	1	0	1	0	6	100 Total 1 Serious Injury 1 Fatal 1 Ped No Bike	69% of crashes occurred at an intersection 55% of the total crashes are Front to Rear with 76% EB 23% of crashes involved Left-Turn with 35% EBL 30% of crashes were Angle 42% of crashes involved Distracted Driving 35% of crashes involved Teen Drivers 11% of crashes involved commercial motor vehicle Fatal crash – SB speeding vehicle ran red light at SB ramps intersection

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>PS37</b>	400 East/ Main Street (US-6)	#N/A	Santaquin	0	1	0	1	1	1	0	1	0	5	54 Total No Ser. Injury No Fatal 1 Ped No Bike	57% of the total crashes are Front to Rear with 77% EB 26% of the total crashes are Angle with 50% in WB 10% of total crashes are Commercial Vehicle Involved 39% of total crashes are Teen Driver involved Pedestrian crash – EBR vehicle exiting driveway just north of intersection collided with SB pedestrian

## Spanish Fork/Springville

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF1</b>	1400 North (SR-75)/Main Street (US-89)	#N/A	Springville	1	1	1	0	1	1	0	2	0	7	125 Total No Serious Inj. No Fatal 3 Ped 1 Bike	49% of the total crashes are Front to Rear with 39% in the EB 31% of the total crashes are Angle with 18% (NBL, SBT) 11% of total crashes are Speed related 28% of the crashes involved left turns with 29% NBL 3 of 4 bike/ped crashes involved Right-Turn vehicles that Failed to Yield Right-of-Way to pedestrians. 2 of 3 Ped involved occurred in Dark conditions.
<b>SF2</b>	700 North/ 400 East	#N/A	Springville	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF3</b>	400 North/ Main Street (US-89)	#N/A	Springville	1	1	1	1	1	1	0	2	0	8	56 Total 1 Serious Injury No Fatal 3 Ped 2 Bike	39% of the total crashes are Front to Rear with 55% in the NB 30% of the total crashes are Angle with 24% (EBT, SBT) 16% of the crashes related to Distracted Driving Involved 14% of the crashes are Disregard Traffic Control Device with 88% SB 21% of total crashes are Older Driver involved. 23% of the crashes involved left turns with 31% NBL, 31% WBL Serious Injury crash – SBT distracted driver, Sideswipe Same Direction, Older Driver involved. South of intersection 3 Ped involved crashes and 2 Bicycle Involved crashes Both bicycle related crashes occurred in east crosswalk 2 bike/ped crashes involved right-turn vehicles at intersection
<b>SF4</b>	Center Street/ Main Street (US-89)	#N/A	Springville	0	1	0	1	1	1	0	1	0	5	58 Total 1 Serious Injury No Fatal 2 Ped 3 Bike	43% of the total crashes are Front to Rear with 64% SB 35% of the total crashes are Angle with 63% in NB 29% crashes with Older Driver involved 10% of crashes involved bike/ped Serious Injury crash – Bicyclist struck by right-turn vehicle north of intersection. DUI involved. 4 of 5 bike/ped crashes involved WB vehicles at intersection.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF5</b>	Springville Main Street (US-89)	900 North to 81600 South	Springville	0	1	1	1	1	1	0	1	0	6	284 Total 7 Serious Injury 1 Fatal 10 Ped 2 Bike	43% of crashes are Front to Rear 30% of crashes are Angle 18% of crashes occurred in Dark conditions 23% involved Left-Turns 24% of crashes are Older Driver involved Fatal crash was a sideswipe opposite direction crash under dark/rainy conditions, involving a DUI, speeding, and aggressive driving Serious Injury crashes – 2 Speed related, 1 bicycle related All bike/ped crashes occurred between 400 North and 400 South
<b>SF6</b>	400 South (SR-77) Springville	2450 West to 750 West	Springville	1	1	1	1	1	1	0	1	0	7	562 Total 13 Serious Injury No Fatal 2 Ped 4 Bike	51% of the total crashes are Front to Rear with 59% WB 32% of the total crashes are Angle 29% of the crashes Left-Turn Involved 27% of crashes involved Teen Drivers 10% of the crashes related to Distracted Driving Involved 13 Serious Injury crashes – 3 occurred at 1200 West intersection, 23% involved Disregard Traffic Control Device, 23% Angle crashes, 23% Head-on crashes and 15% Motorcycle Involved 50% of bike/ped crashes occurred at 1200 West intersection
<b>SF7</b>	1750 West/ 400 South (SR-77)	#N/A	Springville	0	1	1	1	1	1	0	0	0	5	197 Total No Serious Inj. No Fatal No Ped 2 Bike	52% crashes are Front to Rear with 50% in WB direction 29% crashes are Angle with 40% NB direction 13% of total crashes are Sideswipe Same Direction with 45% WB 37% followed too closely as the driver contributing factor Both bicycle involved crashes involved Right-Turn vehicles striking bicyclist in crosswalk. (EBR, NBR)



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF8</b>	1200 West/ 400 South (SR-77)	#N/A	Springville	1	1	1	1	1	1	0	0	0	6	93 Total 3 Serious Injury No Fatal 2 Ped 1 Bike	71% of the total crashes are Front to Rear with 48% in WB 14% of the total crashes are Angle with 77% in EB 10% of total crashes involved Speed. 18% of the crashes involved left turns with 47% WBL 3 Serious Injury crashes, one Head-On left-turn, one Front to Rear and one Single Vehicle crash. 2 of 3 bike/ped crashes occurred in the south crosswalk.
<b>SF9</b>	950 West/ 400 South (SR-77)	#N/A	Springville	0	1	1	1	1	1	0	0	0	5	151 Total 1 Serious Injury No Fatal 1 Ped 1 Bike	45% of the total crashes are Front to Rear with 43% in WB 35% of the total crashes are Angle with 45% in EB 28% of the crashes involved left turns with 35% WBL 9% of the crashes are related to disregard traffic device 9% crashes with older driver involved and 32% teen driver involved 1 Serious Injury crash – Head-On crash WBL/EBT. Disregard Traffic Control Device. Both bike/ped crashes involved NB Right-Turn vehicles failing to yield to pedestrians in the crosswalk.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF10</b>	400 South (SR-77)/Main Street (US-89)	#N/A	Springville	0	1	1	1	1	1	0	1	0	6	174 Total 2 Serious Injury No Fatal 3 Ped 2 Bike	43% of the total crashes are Front to Rear with 30% in the EB 33% of the total crashes are Angle with 16% (EWBL, WBT) 32% of the crashes involved Left Turns with 33% WBL 21% crashes with Older Driver involved and 34% Teen driver involved 2 Serious Injury crashes – both Angle crashes with Teenage Driver involved. One Disregard Traffic Signal (SB), One WBL Failed to Yield Right-of-Way All 3 Pedestrian crashes – vehicle Failed to Yield Right-of-Way to Ped in crosswalk and occurred in Dark – Lighted conditions. Two occurred in south crosswalk. Both Bicycle Involved crashes, involved Right turn vehicles that Failed to Yield Right-of-Way.
<b>SF11</b>	400 East/400 South	#N/A	Springville	1	1	1	0	1	1	0	1	0	6	50 Total 1 Serious Injury No Fatal 6 Ped 1 Bike	38% of total crashes are Angle with 37% in EB direction 34% of total crashes are Front to Rear with 47% in SB direction 38% of total crashes involved Left Turns with 47% in WB 14% of total crashes are bike/ped involved Serious Injury Crash – SBT vehicle Disregarded Traffic Control Device. 6 Pedestrian crashes. 4 of 6 involved Left-Turn vehicles hitting peds in crosswalk. 1 Bicycle crash – NBR hit bicyclist in crosswalk.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF12</b>	800 South/ Main Street/ US-89	#N/A	Springville	0	1	0	1	1	1	0	1	0	5	61 Total 3 Serious Injury 1 Fatal No Ped No Bike	32% of crashes are Roadway Departure 30% of the total crashes are Front to Rear with 67% in the WB 25% of total crashes are Speed related 21% of the total crashes are Angle with 31% (WBT, SBT) 13% Right-turn Involved Fatal crash – Speeding NBT motorcycle lost control in adverse surface conditions and collided with SBT on south Main St near RR tracks in Dark Conditions 3 Serious Injury crashes - All 3 NB Speed related, Roadway Departure crashes on NB curve of US-89 north of intersection. Two of the crashes were DUI involved
<b>SF13</b>	1700 East St. / Canyon Rd	#N/A	Springville	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>SF14</b>	Canyon Rd. west of 2900 East St.	#N/A	Springville	0	1	1	0	0	0	0	0	0	2		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>SF15</b>	1600 South Springville	Wallace Drive to 1200 West	Springville	0	1	0	1	0	0.5	0	1	0	3.5	8 Total 1 Serious Injury No Fatal No Ped No Bike	60% of crashes were Angle crashes 17% of total crashes are Roadway Departure Serious Injury crash - rear end collision, following too closely. NBT vehicle hit WBT vehicle at Wallace Drive/1600 South intersection

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF16</b>	Evergreen Dr - SR-51 Springville	SR-51 to Eldorado Drive – 1600 South to Evergreen Drive	Springville	0	1	0	1	0	0.5	0	1	0	3.5	16 Total No Serious Injury 1 Fatal 2 Ped 1 Bike	38% of crashes were Angle crashes (Left-Turns) 31% of crashes were Front to Rear 19% of crashes occurred in Dark conditions 25% of crashes involved Teen Drivers Fatal crash – pedestrian crash on Evergreen Drive east of RR tracks. Dark conditions
<b>SF17</b>	1600 West Mapleton (US-89)	1600 North to 800 South	Mapleton	0	1	0	1	0	1	0	1	0	4	81 Total 4 Serious Injury 2 Fatal No Ped No Bike	38% of total crashes are Angle 21% of total crashes are Front to Rear with 53% NB 35% of total crashes involved Left Turns with 29% in EBL 38% of crashes involved Teen Drivers 16% of crashes related to Wild Animal Involved 2 Fatal crashes – EBL turned in front of SBT traffic at 400 East intersection SB crossed into NB lanes and collided Head-On near 800 North 4 Serious Injury crashes – 3 of 4 occurred in Dark conditions. Two Angle crashes at intersections. One Wild Animal involved crash.
<b>SF18</b>	Main St. / 1600 North St.	#N/A	Springville	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>SF19</b>	1600 North Spanish Fork	300 West to 100 West	Spanish Fork	0	1	0	1	0	0	0	1	0	3	2 Total 1 Serious Injury No Fatal No Ped No Bike	1 crash occurred during dark conditions Both single-vehicle crashes – 1 roadway departure, 1 motorcycle EBR truck at 1600 N/300 W collided with railroad gate arm just north of intersection. Serious Injury crash – WB motorcycle hit a cow in the middle of the road and the driver fell off from the bike. Dark conditions



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
SF20	Mapleton City wide	#N/A	Mapleton	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
SF21	Main St. / Maple St	#N/A	Springville	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
SF22	Spanish Fork Main St (SR-156)–south of I-15	I-15 to 600 North	Spanish Fork	0	1	0	1	1	1	1	2	0	7	273 Total 4 Serious Injury No Fatal No Ped 3 Bike	49% of total crashes are Front to Rear with 88% WB 35% of total crashes are Angle crashes 45% of crashes involved Following too Closely 14% of crashes involve Disregard Traffic Control Device with 59% NB 12% of the crashes related to Distracted Driving Involved 25% of crashes involved Teen Drivers 4 Serious Injury crashes – All Angle crashes at intersections. Two ran red light, two at unsignalized intersections. Two bicycle crashes occurred at 800 N/Main intersection, both bicyclists hit in east crosswalk in Dark conditions
SF23	1000 North/ Main Street (SR-156)	#N/A	Spanish Fork	1	1	0	1	1	1	0	2	0	7	83 Total No Serious Inj. No Fatal 1 Ped 1 Bike	59% of total crashes are Angle with 43% in NB direction 23% Disregard Traffic Control Device with 47% in WB 53% of total crashes Involved Left-Turns with 55% involving SBL 37% of crashes listed Following Too Closely as the top driver contributing factor. Both bike/ped crashes occurred in the east crosswalk and during Adverse Weather Conditions with Adverse Roadway Surface condition listed as a contributing factor.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF24</b>	US-6 Spanish Fork	I-15 to US-89	Spanish Fork	0	1	0	1	1	1	0	2	0	6	279 Total 15 Serious Injury 5 Fatal 2 Ped 2 Bike	38% of crashes are Front to Rear 31% of crashes are Angle 29% of crashes involved Left-Turns 13% of crashes involved Commercial Motor Vehicles 16% of crashes involved Adverse Roadway Surface Conditions 5 Fatal crashes – 4 intersection related, 3 CMV involved, 1 bicycle crash and 1 motorcycle crash. 15 Serious Injury crashes – 82% at intersections, 63% Angle crashes, 20% CMV involved.
<b>SF25</b>	1000 North – Canyon Creek Pkwy SF	200 East to Commerce Drive	Spanish Fork	0	1	1	1	1	0.5	0	2	0	6.5	153 Total 3 Serious Injury No Fatal 1 Ped No Bike	54% of total crashes are Angle crashes 44% of the crashes Left-Turn Involved 42% of crashes involved Failed to Yield Right-of-Way 15% of crashes involved Disregard Traffic Control Device with 48% EB 31% of crashes involved Teen Drivers 3 Serious Injury crashes – One pedestrian involved at 200 East. Two Angle crashes at intersections
<b>SF26</b>	1000 North/ US-6	#N/A	Spanish Fork	1	1	0	1	1	1	0	2	0	7	164 Total 3 Serious Injury 1 Fatal No Ped 1 Bike	42% of the total crashes are Front to Rear with 32% in the EB 34% of the total crashes are Angle with 25% (NBL, SBT) 31% of the crashes involved left turns with 37% NBL 21% crashes with Older Driver involved and 27% Teen driver involved 6% of total crashes are Disregard Traffic Control Device with 80% SB 3 Serious Injury crashes – all Angle crashes involving Left-Turns. Fatal crash – NEBR Heavy Truck hit Bicyclist in crosswalk, Right Turn Involved



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF27</b>	700 North/ Main Street (SR-156)	#N/A	Spanish Fork	1	1	0	1	1	1	0	2	0	7	87 Total (250 ft radius) No Serious Inj. No Fatal No Ped No Bike	85% of the total crashes are Front to Rear with 99% in NB 20% of total crashes involved Distracted Driving. 9% of the total crashes are Angle with 63% in NB 15% crashes with older driver involved and 32% teen driver involved 9% of the crashes involved left turns with 38% SBL No Fatal or Serious Injury crashes No Pedestrian or Bicycle related crashes
<b>SF28</b>	Expressway Lane	US-6 to Market Place Drive	Spanish Fork	1	1	0	1	1	0.5	0	1	0	5.5	49 Total 2 Serious Injury No Fatal 1 Ped No Bike	63% of total crashes are Angle 16% of total crashes are Sideswipe Same Direction 65% of the crashes involved Failing to Yield Right-of-Way 37% Teen Drivers involved 31% of the crashes involved Left Turns with 53% in SBL 2 Serious Injury crashes – both Angle crashes. One red light running at Marketplace Drive. One EBL from Target driveway
<b>SF29</b>	Expressway Lane/ US-6	#N/A	Spanish Fork	1	1	0	1	1	1	0	2	0	7	137 Total 4 Serious Injury 1 Fatal No Ped 1 Bike	50% of the crashes are Angle and 27% are Front to Rear 10% of the crashes were Disregard Traffic Control Device Involved with 60% NWB on US-6. 23% crashes with Older Driver involved and 28% Teen driver involved 4 Serious Injury crashes - All four were Angle crashes involving NWBT vehicles on US-6. 3 of 4 were NBT/ SBL crashes. 2 of 4 involved NB Disregard Traffic Control Device Fatal crash – NWB vehicle ran red light and collided Head-On with SEB vehicle. Bicycle Involved crash – NWB vehicle with ROW hit bicyclist in crosswalk.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF30</b>	400 North (SR-147) Spanish Fork	100 West to 200 East	Spanish Fork	0	1	0	1	0	0	0	0	0	2	35 Total 2 Serious Injury No Fatal 2 Ped No Bike	74% were Angle crashes 37% of crashes involved Left-Turns 43% of crashes involved Teen Drivers Serious Injury pedestrian crash at 100 East intersection. Pedestrian crash at Main Street intersection.
<b>SF31</b>	1100 East/400 North (SR-147) (mid-block)	#N/A	Spanish Fork	1	1	0	1	1	1	0	2	0	7	31 Total 2 Serious Injury No Fatal 3 Ped 2 Bike	4 of 5 bike/ped crashes occurred at the bike/ped trail crossing with 400 North. All 4 trail crossing crashes involved pedestrians crossing Northbound. 2 Serious Injury crashes, both were bicycle crashes at the bike/ped trail crossing involving NB bicyclists on the trail failing to yield to vehicle traffic on 400 North. 2 of 3 pedestrian crashes also occurred at the bike/ped trail crossing. In 4 of the 5 bike/ped crashes
<b>SF32</b>	400 North St.	#N/A	Spanish Fork	0	1	0	0	0	0.5	0	0	0	1.5		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>SF33</b>	Spanish Fork Pkwy	#N/A	Spanish Fork	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF34</b>	1600 South/1600 West (US-89)	#N/A	Mapleton	1	1	0	0	1	0	0	0	0	3	25 Total 2 Serious Injury No Fatal No Ped No Bike	80% of total crashes are Angle 48% of total crashes are Left Turn involved with 67% NBL or SBL 20% of total crashes are Disregard Traffic Control Device with 60% WB 44% of total crashes are Teen Driver involved. 16% of total crashes involved a Commercial Motor Vehicle. 2 Serious Injury crashes EBT vehicle Disregarded Traffic Control Device and collided with NBT. NBT Sideswipe Same Direction. Heavy Truck involved.
<b>SF35</b>	Main St./1600 South	#N/A	Springville	0	1	0	0	0	0	0	0	0	1		Detailed crash analysis not performed. Project arises from local comment and is not located on the high-injury network or at a crash hot spot.
<b>SF36</b>	100 South (SR-115) Spanish Fork	I-15 to Spanish Fields Drive	Spanish Fork	0	1	0	1	0	0	0	0	0	2	3 Total 1 Serious Injury No Fatal 1 Ped No Bike	2 crashes were Angle crashes 1 single-vehicle crash Serious Injury crash - pedestrian crash occurred at 100 South/Spanish Fields Drive, WB vehicle failed to yield for pedestrian crossing west leg of intersection

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF37</b>	Center Street/ Main Street (SR-156)	#N/A	Spanish Fork	0	1	1	1	1	1	0	1	0	6	99 Total 1 Serious Injury No Fatal 3 Ped 3 Bike	42% of the total crashes are Angle with 12% (NBL/WBT) 32% of the total crashes are Front to Rear with 47% in the NB 41% of the crashes Left-Turn Involved with 34% NBL 54% of total crashes are Teen Driver involved 8% of the crashes are Disregard Traffic Control Device with 50% NB Serious Injury – WBL vehicle stuck Pedestrian in crosswalk, Teenage Driver involved. 3 Pedestrian crashes – 2 of 3 involved Right-Turn vehicles. One Serious Injury. 3 Bicycle Involved crashes – 2 of 3 involved WB Left-turn vehicles hitting bicyclist in south crosswalk.
<b>SF38</b>	Spanish Fork Center St	900 East to US-6	Spanish Fork	1	1	1	1	1	1	0	2	0	8	21 Total 2 Serious Injury 1 Fatal No Ped No Bike	57% of crashes were Angle crashes 29% of crashes were Front to Rear 48% of crashes involved Left-Turns 33% of crashes occurred in Dark conditions 14% of crashes involved Distracted Driving 33% of crashes involved Teen Drivers 10% of crashes involved Speeding Fatal crash – Angle intersection crash at 900 East intersection. NBT failed to yield to WBT vehicle. 2 Serious Injury crashes – both Angle crashes at US-6 intersection

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF39</b>	Center Street/US-6	#N/A	Spanish Fork	1	1	1	1	1	1	0	1	0	7	68 Total 4 Serious Injury No Fatal 1 Ped No Bike	53% of total crashes are Angle with 28% (EBL, WBT) 25% of total crashes are Front to Rear with 35% in the EB, 35% in WB 16% of total crashes are Disregard Traffic Control Device with 45% EB 46% of total crashes Left-Turn Involved with 45% EBL 15% of total crashes are Speed related 4 Serious Injury crashes - 2 Angle crashes, 1 Front to Rear, 1 Pedestrian Involved. 2 of 4 occurred in Dark-Lighted conditions and/or involved Older Driver. Ped involved crash - SEB vehicle on US-6 hit pedestrian in crosswalk. Vehicle had ROW. Dark-Lighted conditions
<b>SF40</b>	Spanish Fork Main Street South (SR-156/SR-198)	Center Street to Volunteer Drive	Spanish Fork	0	1	0	1	1	1	0	1	0	5	136 Total 5 Serious Injury No Fatal 2 Ped 2 Bike	40% of total crashes are Front to Rear 38% of total crashes are Angle crashes 35% of crashes are Left-Turn Involved 46% of crashes involved Teen Drivers Serious Injury pedestrian crash at Center Street intersection All 4 ped/bike crashes occurred at Center Street intersection



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF41</b>	Canyon Rd Spanish Fork (SR-198)	Main Street to 1150 East	Spanish Fork	1	1	0	1	1	1	0	1	0	6	68 Total 7 Serious Injury No Fatal 6 Ped 1 Bike	38% of total crashes are Angle crashes 26% of crashes are Left-Turn Involved 32% of crashes are Front to Rear 46% of crashes involved Teen Drivers 12% of crashes involved Disregard Traffic Control Device 10% of crashes were Serious Injury 3 pedestrian Serious Injury crashes. 3 pedestrian crashes at 1150 East 2 Serious Injury crashes involved Older Drivers, 2 involved Teen Drivers
<b>SF42</b>	1150 East/ Canyon Road (SR-198)	#N/A	Spanish Fork	1	1	1	1	1	0.5	0	1	0	6.5	18 Total 2 Serious Injury No Fatal 3 Ped 1 Bike	50% of the total crashes are Angle with 22% in (EBL,WBT) 33% of total crashes are Disregard Traffic Control Device with 33% WB 22% of the crashes related to Aggressive Driving Involved 44% of total crashes are Teen driver involved 22% of the crashes are Pedestrian Involved 2 Serious Injury crashes Both Bike/ Ped related. Bicyclist hit after failing to yield right-of-way to NB vehicle. Pedestrian hit by EB left-turn vehicle. 3 Pedestrians involved crashes – Two involved NBL and NBR vehicles hitting pedestrians in crosswalk.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF43</b>	Spanish Fork Pkwy/ US-6	#N/A	Spanish Fork	1	1	1	1	1	1	0	0	0	6	39 Total 2 Serious Injury 1 Fatal 1 Ped No Bike	36% of the total crashes are Front to Rear with 57% in EB 31% of the total crashes are Angle with 17% (SBL, NBT) 21% of total crashes are Disregard Traffic Control Device Involved with 38% in WB 18% of total crashes are Commercial Motor Vehicle involved. 21% crashes with Older Driver involved and 23% Teenage driver involved 18% of the crashes involved left turns with 43% SBL All 3 Severe crashes involved Disregard Traffic Control Device. 2 Serious Injury crashes – Both crashes involved NWB/SEB vehicles on US-6 running red light resulting in Angle crashes with NB vehicles. Speed related. Fatal crash - SEB Disregard Traffic Control Dev, Distracted Driving. Ped involved crash – SEB Right Turn, Teenage Driver involved
<b>SF44</b>	Canyon Rd (SR-198)- 2300 East SF	2070 East to 2400 East	Spanish Fork	0	1	1	1	0	0.5	0	0	0	3.5	13 Total 2 Serious Injury No Fatal No Ped No Bike	46% of crashes were Angle crashes 46% of crashes were Front to Rear 31% of crashes involved Teen Drivers Most crashes occurred at Canyon Rd/S 2300 E 2 Serious Injury crashes – WB Front to Rear crash at 2300 East, WB motorcycle overturned at 2230 East because of reckless driving



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>SF45</b>	Powerhouse Road/ US-6	#N/A	Spanish Fork	0	1	0	1	1	1	0	0	0	4	21 Total 3 Serious Injury 1 Fatal 1 Ped No Bike	52% of the total crashes are Angle with 27% (WBL, EBT) 52% of the crashes involved Left Turns with 27% WBL, NBL, EBL 24% of total crashes involved Commercial Motor Vehicle. 19% of total crashes are Wild Animal related. 20% of the total crashes are Fatal/ Serious Injury. All 4 Fatal/Serious Injury crashes –involved eastbound left-turn vehicles on Powerhouse Road turning in front of southbound vehicles on US-6. Two crashes involved Commercial Motor Vehicles. Ped involved crash - Away from intersection
<b>SF46</b>	SR-164 - West of Arrowhead Trail	West of Arrowhead Trail	Spanish Fork	0	1	0	1	0	0	0	0	0	2	4 Total 1 Serious Injury 1 Fatal No Ped No Bike	50% of crashes were Sideswipe Same-Direction crashes 50% of crashes involved a Teen Driver Fatal crash – vehicle crossed the centerline

## Unincorporated Utah County

ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>UU1</b>	SR-92 - AF Canyon	MP 8 to 11.6	Utah County	0	1	1	1	0	0	0	0	0	3	64 Total 3 Serious Injury 1 Fatal No Ped No Bike	83% of crashes are Single Vehicle and 8% Front to Rear 72% of crashes involve Roadway Departure 33% of crashes are Speed related 47% of crashes are Teen drivers involved 27% of crashes related to Adverse Roadway Surface Conditions 16% of crashes are DUI involved 3 Serious Injury crashes – All 3 are Teen driver involved and related to Roadway Geometry, 2 of 3 involved Roadway Departure. Fatal crash – WB Motorcycle, Roadway Departure, Collision with Fixed Object, Dark Conditions, Roadway Geometry, Speed, DUI
<b>UU2</b>	US-189 - Provo Canyon to SR-92	MP 12.4 to 14.3 (SR-92)	Utah County	0	1	1	1	0	1	0	0	0	4	203 Total 15 Serious Injury No Fatal No Ped No Bike	71% of crashes were Roadway Departure crashes 58% of crashes involved Speeding 67% of crashes involved Adverse Roadway Surface Conditions 15 Serious Injury crashes – 60% Roadway Departure, 40% motorcycle involved, 33% occurred at intersections, 27% Speed related. 5 Serious Injury crashes at South Fork Road intersection.



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
<b>UU3</b>	US-6 Spanish Fork Canyon	MP 182 to 193.3	Utah County	0	1	0	1	0	1	0	0	0	3	241 Total 8 Serious Injury 5 Fatal 2 Ped No Bike	80% of crashes are Single Vehicle and 6% Sideswipe Same Direction 27% of crashes involve Roadway Departure 37% of crashes are Wild Animal involved 23% of crashes involve Adverse Roadway Surface Conditions 15% of crashes are Speed related 14% of crashes involve Commercial Motor Vehicles 8 Serious Injury crashes - 75% are Roadway Departure, 25% Head-on crashes, 25% Speed related. 4 of 8 occurred near MP 93.1 5 Fatal crashes - 4 of 5 Roadway Departure, 3 of 5 occurred in Dark conditions, 3 of 5 DUI involved. 2 occurred at MP 185.5, 2 occurred near MP 186.6. Pedestrian crashes - both involved Heavy Trucks in Dark Conditions.
<b>UU4</b>	US-6 to SR-96	MP 203.8 to 210.5 and MP 212.9 to SR-96	Utah County	0	1	1	1	0	0.5	0	0	0	3.5	206 Total 18 Serious Injury 4 Fatal 0 Ped 0 Bike	62% of crashes were Roadway Departure crashes 51% of crashes involved Speeding 61% of crashes involved Adverse Roadway Surface Conditions 22% of crashes involved Commercial Motor Vehicle 75% of Fatal crashes involved Speeding and Aggressive Driving 75% of Fatal and Serious Injury crashes involved Roadway Departure 60% of Serious Injury crashes are Speed related, 30% involve a Commercial Motor Vehicle



ID	Name	Extents	City	Safer Ppl Score	Safer Roads Score	Safer Speed Score	HIN Score	Hot Spot Score	Syst. Score	VRU Score	Dis. Geog. Score	Seg. Dis. Score	Total Score	Crash Totals	Crash Patterns
UU5	SR-96	500 North to 1300 South	Utah County	0	1	1	1	0	0	0	0	0	3	34 Total 3 Serious Injury No Fatal No Ped No Bike	97% of crashes are Single Vehicle and 3% Sideswipe Same Direction 56% of crashes involved Roadway Departure 38% of crashes are Speed related 35% of crashes are related to Too Fast for Conditions 29% of crashes are Wild Animal involved 26% of crashes related to Adverse Roadway Surface Conditions 21% of crashes are Motorcycle involved 15% of crashes involved Commercial Motor Vehicles 3 Serious Injury crashes - All 3 crashes were Geometry related, involved Roadway Departure and Speed

# APPENDIX D

## RPO PROCESS EVALUATION



# 1. Introduction

A peer review of MPO approaches to integrating safety into the development of regional transportation plans (RTPs) and transportation improvement programs (TIPs) was conducted to provide MAG with a range of notable practices in the industry. This report considered how safety was reflected in RTP vision statement, goals, and project selection processes. Increasing the safety of the transportation system for motorized and nonmotorized users is a federal requirement for RTPs, as is the inclusion of safety performance measures and targets. Beyond these requirements, MPOs have flexibility in the approach used to evaluate, select, and prioritize projects to best meet the needs of each region. It should be noted that MPOs bring wide variability in their framework for project prioritization, with some conducting an extensive process during development of the RTP and incorporate the results directly into the TIP, while others have a higher level policy analysis in the RTP and conduct a detailed project evaluation in the TIP.

Eight metropolitan planning organizations (MPOs) were chosen as peer agencies for this review, including the Mid-Region Council of Governments (MRCOG), the Maricopa Association of Governments (MAG), Wasatch Front Regional Council (WFRC), Regional Transportation Commission of Washoe County (RTC WA), Regional Transportation Commission of Southern Nevada (RTC SNV), Puget Sound Regional Council (PSRC), Boston Region MPO, MetroPlan Orlando. These agencies were chosen based on several factors, including their location as other MPOs, and having a diversity of approaches to their regional transportation plan (RTP) document and/or planning process.

# 2. Agency Overview

**MRCOG** is a Council of Governments that serves as the MPO for the Albuquerque Metropolitan Area (MRMPO) and the Rural Planning Organization (MRRTPO) for non-metropolitan areas of the region. The MRCOG planning area includes southern Santa Fe County and Bernalillo, Valencia, Torrance, and Sandoval Counties. MRMPO is currently developing a Regional Transportation Safety Action Plan.

**MAG** is a Council of Governments (COG) that serves as the MPO and TMA for the greater Maricopa region in Arizona. The agency's planning area covers all of Maricopa County and portions of Pinal County, encompassing 10,600 square miles and a population of 5.1 million (2025 projected). MAG's Board of Directors includes representatives from 27 cities and towns and three Native nations, in addition to the two counties.

**WFRC** is an Association of Governments (AOG) that serves as the MPO for the Salt Lake City-West Valley City and Ogden-Layton Urbanized Areas, which includes Box Elder, Davis, Morgan, Salt Lake, Tooele, and Weber Counties in Utah. The agency's Regional Council has a maximum membership of 27, including 21 voting and six non-voting members. WFRC's planning area has a population of 3.36 million (2020).

**RTC WA** is the MPO, transit service provider, and regional road builder for the Reno-Sparks metropolitan area in Washoe County. The agency serves three jurisdictions and has a five-member board of elected officials selected from participating agencies plus the Director of the Nevada Department of Transportation.

**RTC SNV** is the MPO, transit service provider, regional traffic operations management agency, and regional bike share provider for the Las Vegas metropolitan region. The RTC Board includes representatives of Clark



County and the Cities of Las Vegas, Henderson, North Las Vegas, Mesquite, and Boulder City. RTC SNV is currently beginning the development of a Regional Safe Streets for All Action Plan.

**PSRC** is the MPO that shapes the future of the central Puget Sound region in Washington state covering four counties – King, Pierce, Snohomish, and Kitsap. PSRC makes decisions about transportation, growth management and economic development with its nearly 100 members, including the counties, towns and cities, Tribal governments, and the state and local transportation agencies within the region.

**Boston Region MPO** is responsible for the metropolitan transportation planning processes for the Boston metropolitan area. From Boston to Ipswich in the north, Marshfield in the south, and

**Interstate 495** in the west, the Boston Region MPO covers approximately 1,360 square miles, through 97 cities and towns.

**MetroPlan Orlando** is the regional transportation partnership for central Florida that leads all of the transportation planning efforts in Osceola, Orange, and Seminole county. This agency MPO sets the priorities in regard to shaping a future system that offers travel options and determines how Federal and state transportation dollars are spent within the region.

## 3. RTP Goals

Each of the agencies took a slightly different approach to developing their regional goals. For example, MAG used a succinct set of transportation-related goals and WFRC had a longer list of plan emphasis areas, which extended beyond transportation-specific measures.

**MRCOG** is currently updating its RTP, called Transitions 2045 Metropolitan Transportation Plan. The project website identifies the goals and objectives to be used in the new plan, as listed below. While safety is not a stand-alone goal, it is integrated into three of the five goal areas.

- **Mobility: Promote the safe and efficient movement of people and goods throughout the region**
- **Active transportation: Ensure safe and convenient ways to travel for people who cannot or choose not to drive**
- **Healthy environment:** Incorporate climate change and environmental considerations into transportation planning and decisions
- **Economic vitality:** Strategically invest in high-quality transportation systems that support the economic health of the region
- **Equity: Improve safe and reliable transportation systems in traditionally underserved communities**

**MAG** developed a set of six broad goal areas based on community and stakeholder input received during early public outreach efforts. The goals/types of goals were similar to those in the agency's previous RTPs. Major public priorities related to transportation often remain relatively consistent over time, especially areas like safety and mobility.

The agency's six goal areas were:

1. **Safety**
2. Mobility
3. Prosperity
4. Responsiveness
5. Livability
6. Preservation

**WFRC** outlined ten goals or emphasis areas for their plan, which have a broader community development context than those of the other agencies. The goal areas included:

1. Livable and healthy communities
2. Access to economic and educational opportunities
3. Manageable and reliable traffic conditions
4. Quality transportation choices
5. **Safe, user-friendly streets**
6. Clean air
7. Housing choices and affordable living expenses
8. Fiscally responsible communities and infrastructure
9. Sustainable environment
10. Ample parks, open spaces, and recreational opportunities

**RTC Washoe** organized the RTP around four guiding principles and 11 supporting goals that were developed based on community input. The plan is organized with a chapter for each of the goals. Performance measures and targets link to the goals and guiding principles.

The guiding principles include:

1. **Safe and healthy communities**
2. Economic prosperity, equity, and innovation
3. Sustainability and climate action
4. Increased travel choices



The supporting goals include:

- 1. Improve and promote safety**
2. Integrate all types of transportation
3. Promote healthy communities and sustainability
4. Promote and foster equity and environmental justice
5. Integrate land-use and economic development
6. Manage existing systems efficiently
7. Enhance regional connectivity
8. Improve freight and goods movement
9. Invest strategically
10. Engage the public and encourage community involvement

**RTC Southern Nevada** is currently developing an RTP update. The previously adopted plan, Access 2050, includes a vision, goals and primary strategies. While the vision and goals do not mention safety, it is identified as a primary strategy. The vision statement is:

*The transportation system of Southern Nevada will enhance and balance our defining regional characteristics:*

- *Strong and Vibrant Economy,*
- *Diverse and Welcoming Quality of Life, and*
- *Valuable Natural and Infrastructure Resources.*

The goals in Access 2050 include the following:

1. Strengthen regional economic competitiveness
2. Maintain and enhance quality of life for Southern Nevadans
3. Ensure sustainable use of infrastructure and resources

The primary strategies are to:

- 1. Improve safety**
2. Manage congestion
3. Enhance multimodal connectivity
4. Maintain current infrastructure
5. Promote economic development



The update to the RTP, called Let's Go 2050, has a more prominent focus on safety. RTC is initiating a Safe Streets for All Action Plan and will be incorporating a higher level of priority for safety through the RTP update.

**PSRC's RTP**, lists six performance measures identified by the Transportation Policy Board. The focus for safety in this RTP is to achieve zero deaths and serious injuries through safety in the design, planning, and funding portion of the projects. PSRC continuously looks at safety data, best practices, and trends throughout the region to improve and address safety.

The performance measures include:

1. Climate
2. Access to Transit
3. Equity
- 4. Safety**
5. Mobility
6. Local Needs and Infrastructure

**Boston Region MPO's RTP**, Destination 2050, includes the vision, goals, and objectives associated with each goal. The vision statement is:

The Boston Region Metropolitan Planning Organization envisions an equitable, pollution-free, and modern regional transportation system that gets people to their destinations safely, easily, and reliably, and that supports an inclusive, resilient, healthy, and economically vibrant Boston region.

The goals of Destination 2050 are:

1. Equity
- 2. Safety**
3. Mobility and Reliability
4. Access and Connectivity
5. Resiliency
6. Clean Air and Healthy Communities

The objectives for safety are:

- Eliminate fatalities, injuries, and safety incidents experienced by people who walk, bike, roll, use assistive mobility devices, travel by car, or take transit.
- Prioritize investments that improve safety for the most vulnerable roadway users: people who walk, bike, roll, or use assistive mobility devices.



- Prioritize investments that eliminate disparities in safety outcomes for people in disadvantaged communities.

**MetroPlan Orlando’s Metropolitan Transportation Plan (MTP)** lists Safety & Security as their top goal out of 5 while hoping to protect lives and health while providing a safe and secure way for everyone to travel.

These goals of the MTP are:

1. Safety & Security
2. Reliability & Performance
3. Access & Connectivity
4. Health & Environment
5. Investment & Economy

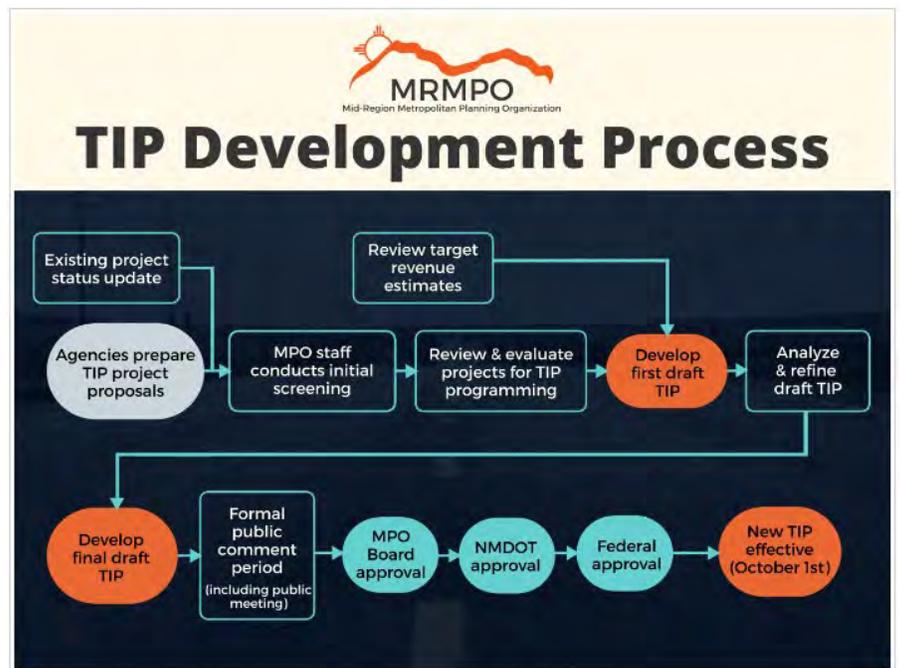
## 4. Prioritization Framework

Each agency brings a unique approach to the project evaluation and prioritization process, using a variety of technical tools.

### 4.1. MRCOG PROJECT EVALUATION PROCESS

MRCOG develops a project scoresheet that outlines the criteria and allocates points based on how well projects perform in each relevant table column. The scoring process, particularly in the Active Transportation column, evaluates safety-related improvements, assigning points for factors like road diet candidacy, long-range bicycle systems, and education and outreach strategies. Through the Project Selection Process, MRCOG offers a transparent guide for member agencies and the public to understand how projects are assessed and the total points available for each category.

MRCOG takes a careful approach to select projects for their Regional



**Figure 1. MRCOG TIP Development Process**

Transportation Plan (RTP), emphasizing performance measures and a data-driven selection strategy to ensure a safe and effective transportation network. The focus on performance measures is reflected in their evaluation criteria, including the total number of traffic fatalities, fatalities per 100 million vehicle miles traveled (VMT) at the statewide, rural, and urban levels, as well as the total number of serious injuries resulting from traffic incidents. Further, MRCOG assesses serious injuries and their rate per 100 million VMT on a statewide, rural, and urban scale. The performance evaluation extends to pedestrian fatalities and serious injuries per 100,000 population (statewide, rural, and urban) and bicyclist fatalities per 100,000 population, providing a comprehensive overview of safety metrics.

The primary strategy stated by MRCOG for the RTP is a data-driven process to reduce fatalities and serious injuries. This approach involves the examination of safety hot spots and safety concerns using crash data and traffic counts data. This strategic integration of performance measures and a data-driven process aids MRCOG in their project selection for enhancing safety within the region and to better align with their goals for the RTP.

## 4.2. MAG PROJECT EVALUATION PROCESS

As part of their most recent RTP update, MAG conducted extensive community and stakeholder outreach to better understand the region’s shared values. Respondents indicated that reducing traffic congestion and improving safety/reducing crashes were their top two transportation priorities (tied). MAG used a second round of outreach to confirm the initial values mapping exercise, asking respondents to rank and prioritize a set of six goal areas, including safety, mobility, prosperity, responsiveness, livability, and preservation. The goal areas received nearly equal rankings at 17% each for the first four, and 16% each for the last two. Thus, safety was included as a primary RTP goal area, along with the other five aforementioned topics.

The agency noted: “MOMENTUM increases funding for the execution of safety projects and programs. Projects and initiatives will be selected using an evaluation process based on industry best practices that focus on improving safety outcomes, including the reduction of severity and human impact of crashes. Safety is intimately tied to nearly all aspects of the plan — from ensuring investments we’ve already made are kept in a state of good repair to empowering users through education and awareness.”

Thus, safety was also included in the agency’s assessment of various investment options via program investments (i.e., the amount of money invested into the Safety program, which includes education programs, safety countermeasure improvements, serious crash response, and traffic calming projects). The scenario planning process used a 2x2 matrix of options, weighing the benefits of two investment strategies at two different funding levels. MAG incorporated a substantial investment in the agency’s safety program in all four scenarios, ranging from \$180 million in the New Capacity/Half Cent Scenario to \$240 million in the System Optimization/One Cent Scenario. As noted in the agency quote, individual safety projects are to be evaluated and selected as part of the safety program.

## 4.3. WFRC

The Wasatch Front Regional Council’s (WFRC) Transportation Improvement Program (TIP) strategically develops projects with a focus on improving the overall transportation system. Rather than evaluating projects



individually, the council emphasizes a collective approach to enhance system-wide performance. Key strategies include the use of specific performance measures aligned with defined goals, such as reducing accidents. Safety is assessed through annual statewide figures for fatalities and serious injuries, also measuring the rate of the incidents per 100 million vehicle miles of travel. The analysis considers bike and pedestrian serious injuries statewide as well and compares all of the estimated rates and/or numbers for each within the WFRC area with the statewide target to get the current status.

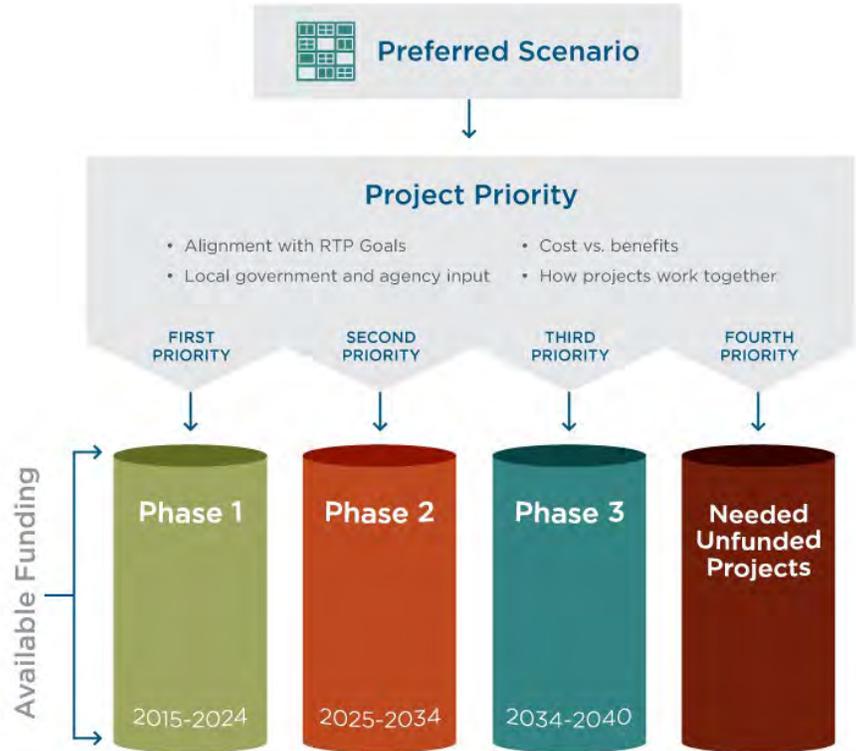
In their latest Regional Transportation Plan (RTP) update, the Wasatch Front Regional Council (WFRC) has adeptly incorporated a phased approach based on needs and financial constraints.

The phasing criteria, outlined in three phases (2015-2024, 2025-2034, and 2035-2040), prioritize projects based on mode of transportation and are scored on a scale of one to 100. Safety, criteria seven out of nine, is a critical aspect of the roadway phasing criteria, with a focus on Health, Safety & Security and mitigating safety issues. Projects are evaluated using the UDOT Safety Index score, ranging from 1 to 10 points, with higher scores indicating a greater potential to reduce crashes. The careful consideration of safety criteria within the phasing process ensures that projects identified in the preferred scenario of the RTP are not only needed but are also strategically prioritized based on their potential to enhance safety and security within the transportation system by 2040.

## 4.4. RTC WA

The RTC identified a scoring framework that serves as an input to staff and the RTC board for prioritization. The plan notes that the mathematical formula does not provide the final determination of project rankings, and that professional judgement and community/agency input are considered in making the final recommendation.

Separate evaluation frameworks are used for evaluating projects on existing roadways and construction of new roads. While safety is a criteria for projects on existing facilities, that data was not available for new alignments.



**Figure 2. WFRC Prioritization Process**

## 4.5. RTC SNV

Through the RTC of Southern Nevada’s On Board Mobility Plan, a meticulous combination of intensive community involvement and a blend of technical analyses, the RTC compiled a refined set of projects for each priority. Out of the 8 “Big Moves,” number 3 specifically focuses on safety, identified as the top priority by 78% of respondents in a 2016 survey with almost 25,000 responses. Public involvement

with stakeholders, elected officials, and over 80,000 Southern Nevada residents through interviews, surveys, public meetings, and pop-up events provided vital feedback in the selection process. The technical analysis involved multifaceted steps such as peer reviews, transit demand analysis, market assessments, and cost estimations. This included ridership forecasts and detailed examinations of local, regional, and corridor-specific transit markets. Rigorous economic impact analysis was also an integral part of the process.

The RTC’s Transportation Investment Program (TIP) employs a carefully designed process for project identification and selection. Aligned with Southern Nevada’s transportation priorities from the Access 2050 Vision, Goals, and Strategies, the approach is value-based and aims for transparency, fairness, as well as efficient and equitable fund distribution. Jurisdictions contribute project information, assessed technically by the RTC, and additional prioritization details are provided based on local needs. The integration of technical assessments and jurisdictional input categorizes projects into “High Priority,” “Medium Priority,” or “Unfunded,” with the corresponding determined start timelines.

Notably, the RTC’s TIP section on their website includes a document on the Congestion Management Process, featuring their Safety Matrix in the appendix. This matrix correlates crash types with road conditions in the Five Focus Areas, providing insights into crash frequency along corridors and standard mitigation options for each crash type. These safety considerations play a crucial role in the comprehensive project selection process.

Through the Regional Transportation Plan (RTP) known as “Access 2050,” the project selection process is enhanced with a new tool called the Benefits Calculator. This platform facilitates a comprehensive comparison of projects, considering performance measures, cost projections, funding, existing conditions, and scope and features. Notably, the scope and features encompass Safety Countermeasures, where entities can choose the relevant category and incorporate new multimodal capacity and safety features, if applicable, into their project input forms. The utilization of the Benefits Calculator highlights the RTC’s commitment to a systematic and data-driven approach in aligning projects with the goals and priorities outlined in the Access 2050 plan.

Performance Measures	
<b>Federal Performance Measures</b>	
<b>Choose all that apply:</b>	
Safety	<input checked="" type="checkbox"/>
Pavement / Bridge Condition	<input checked="" type="checkbox"/>
Congestion	<input checked="" type="checkbox"/>
Multimodal	<input checked="" type="checkbox"/>
Air Quality	<input type="checkbox"/>
<b>Primary RTP Strategy</b>	
Select one:	Manage Congestion

**Figure 3. RTC SNV Access 2050 Benefits Calculator**

## 4.6. PSRC

The PSRC selects projects for its TIP and RTP through a rigorous process aimed at identifying regional, high-priority initiatives. The TIP process begins with a call for projects, during which countywide forums are invited to submit applications for consideration in the regional project competition. PSRC staff evaluates and scores these applications using the Regional Project Evaluation Criteria (RPEC). The RPEC considers factors such as center development, mobility, accessibility, circulation, safety, and equity. The prioritized list of funding recommendations resulting from this evaluation is then reviewed by the Transportation Policy Board (TPB) for further discussion and approval. The Federal legislation prohibits formula allocations, ensuring that projects are chosen based on merit rather than predetermined quotas.

For the RTP, a similar method is followed every two years, with projects evaluated against specific criteria including regional priorities, transportation needs, and alignment with long-term plans. Projects are categorized based on scope and impact, with a Benefit-Cost Analysis (BCA) required for those exceeding \$100 million in total cost. This comprehensive approach ensures that selected projects address critical transportation needs and contribute to the region's long-term goals.

## 4.7. BOSTON REGION MPO

The Boston Region Metropolitan Planning Organization (MPO) employs a rigorous evaluation process to select projects for their Regional Transportation Plan (RTP). Their assessment criteria encompass safety, cost-benefit analysis, and anticipated project impact. Safety scores are determined by analyzing crash data, considering factors such as crash severity, project area traffic volumes, and expected project costs. Projects are categorized based on their risk level, cost per equivalent property damage only (EPDO), and the anticipated impact of proposed improvements. Professional judgment plays a crucial role in characterizing the nature of proposed enhancements, ranging from major infrastructure changes to low-impact improvements. Additionally, considerations for mobility, reliability, non-motorized modes, and roadway deterioration further inform project selection, ensuring alignment with regional transportation goals and anticipated benefits for all modes of transportation.

## 4.8. METROPLAN ORLANDO

MetroPlan Orlando adopts a systematic approach for selecting and prioritizing projects for its Metropolitan Transportation Plan (MTP). The process revolves around evaluating projects against regional transportation goals, objectives, and targets. For instance, in addressing safety concerns, MetroPlan Orlando examines factors such as crash rates, traffic fatalities, pedestrian and bicycle incidents, and evacuation routes. These metrics provide crucial insights into the current transportation landscape and help in identifying areas requiring attention and improvement.

The selection and prioritization process for the 2045 MTP involve three primary phases. Firstly, a Multimodal Needs Assessment is conducted, which assesses corridor-level needs based on system performance and anticipated socio-economic and developmental changes. This phase aims to identify potential project solutions to address these needs. Secondly, there's an Agency Review of Preliminary Needs, where feedback from various stakeholders, including MPO staff and advisory committees, is gathered and considered for



incorporation. This collaborative approach ensures that the proposed projects align with the interests and priorities of relevant agencies and stakeholders. Finally, Project Evaluation and Comparative Analysis are undertaken, utilizing established criteria and scoring logic to rank candidate projects. This data-informed and performance-based process ensures that projects are prioritized based on their potential to address regional transportation goals effectively.

The Criteria and Scoring Logic applied to the region’s corridors provide a quantitative assessment foundation for project prioritization. This assessment, based on performance indicators aligned with specific objectives, guides decision-makers in selecting projects that best fulfill the defined criteria. The use of various analysis tools, including data models and scenario planning, further enhances the accuracy and comprehensiveness of the evaluation process.

Goal Area	Criteria
<b>Safety &amp; Security</b>	Crash Rate
	Fatal & Serious Injury Crash Rates
	Number of Pedestrian & Bicycle Crashes
	Evacuation Route Designation
<b>Reliability &amp; Performance</b>	Travel Time Reliability (Auto)
	Unreliability on Constrained Corridor
	Fiber Optic Presence
	Segment Actively Monitored/Managed
	Relative Change: Future Congested Speeds
<b>Access &amp; Connectivity</b>	Transit System Headways
	Population: ½ Mile of Non-Transit Corridor
	Jobs: ½ Mile of Non-Transit Corridor
	Food & Healthcare Locations: ½ Mile of Corridor
	Cultural & Recreational Locations: ½ Mile of Corridor
	MTP Centrality Analysis Score (Critical Sidewalk Need)
<b>Health &amp; Environment</b>	Bicycle Level of Traffic Stress
	Residential Density: ¼ Mile of Multimodal Facility
	Non-Residential Density: ¼ Mile of Multimodal Facility
	Public Health Indicator Rates
	Intensity & Proximity: Environmental Justice Populations
	Relative Change: Vehicle Miles Traveled (2020 vs. 2045)
<b>Investment &amp; Economy</b>	Percentage of Commercial Vehicle Traffic
	Statewide Truck Bottlenecks
	Intensity & Proximity: Freight Intensive Land Uses
	Relative Change: Vehicle Hours Traveled
	Cost Burdened Households: ¼ Mile of Corridor
	Percentage of Visitor Traffic
	Cost of Congestion

Source: MetroPlan Orlando Prioritized Project List, Appendix A

**Figure 4. Metro Orlando Prioritized Project List**

