APPENDIX D7: WEST SALT LAKE VALLEY

Safety Summary

Tech Memo #1 Safety Analysis

Case Study Project Information Sheets

Case Study Project Location Map

Equity Index Map

WEST SALT LAKE VALLEY SAFETY SUMMARY

West Salt Lake Valley Geographic Focus Area

CSAP OVERVIEW

"A plan to provide local governments the means to make strategic roadway safety improvements"

Wasatch Front Regional Council (WFRC) is preparing a regional Comprehensive Safety Action Plan (CSAP). The CSAP will present a **holistic, well-defined strategy** to **reduce roadway fatalities and serious injuries** in the Wasatch Front region.

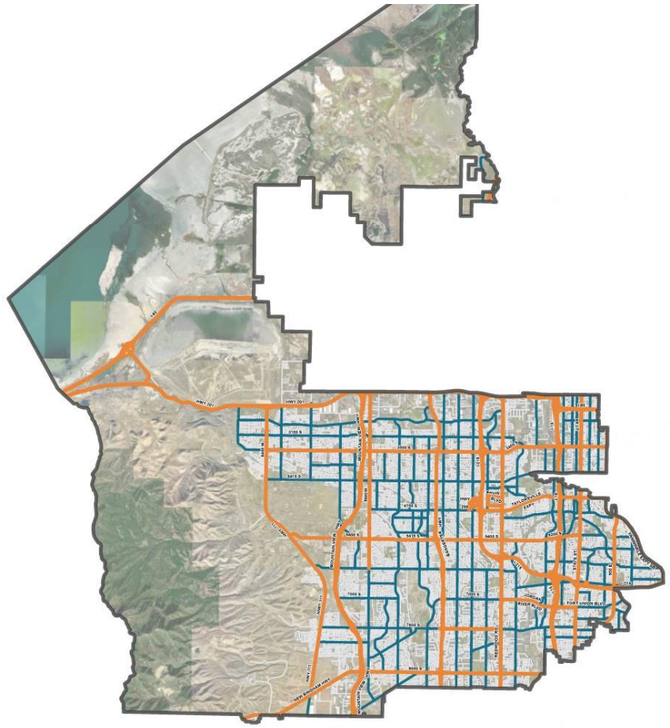
The CSAP will ***analyze*** safety needs, ***identify*** high-risk locations and factors contributing to crashes, and ***prioritize*** strategies to address them.

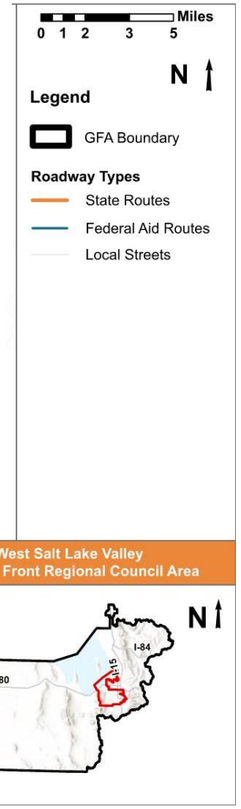
The CSAP will meet eligibility requirements that allow local jurisdictions to apply for **Implementation Grants** from the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) discretionary grant program. The grant program was established by the Bipartisan Infrastructure Law (BIL) with $5 billion in appropriated funds, 2022-2026. A Safety Action Plan must include the following elements, as specified by FHWA to satisfy eligibility requirements to apply for an implementation grant:

State Route: Roadways owned, operated, and maintained by UDOT

Federal-Aid Route: Non-UDOT roadways eligible for federal funding – typically minor arterials and collectors

Local Streets: Other non-UDOT / non-Federal Aid roadways, primarily collectors, and residential streets





Self-Certification Checklist

Plan must include the following:

- ❑ Safety Analysis
  - ❑ Existing conditions and historical trends
  - ❑ Crashes by location, severity, and contributing factor
  - ❑ Systemic and specific safety needs
  - ❑ Geospatial identification of higher risk locations
- ❑ Identification of comprehensive set of projects and strategies

...And must complete 4 of the 6 elements to the right:

1. Leadership Commitment
   - ❑ Governing body publicly commit to a zero fatalities and serious injury goal
2. Plan Development
   - ❑ Committee charged with plan development, implementation, and monitoring
3. Development Activities
   - ❑ Engagement with public and relevant stakeholders
4. Equity
   - ❑ Data-driven, inclusive, and representative processes
5. Policies, Plans, Guidelines, and/or Standards
   - ❑ Assessment policies, plans, guidelines, and/or standards
6. Progress
   - ❑ Description on how progress will be measured over time

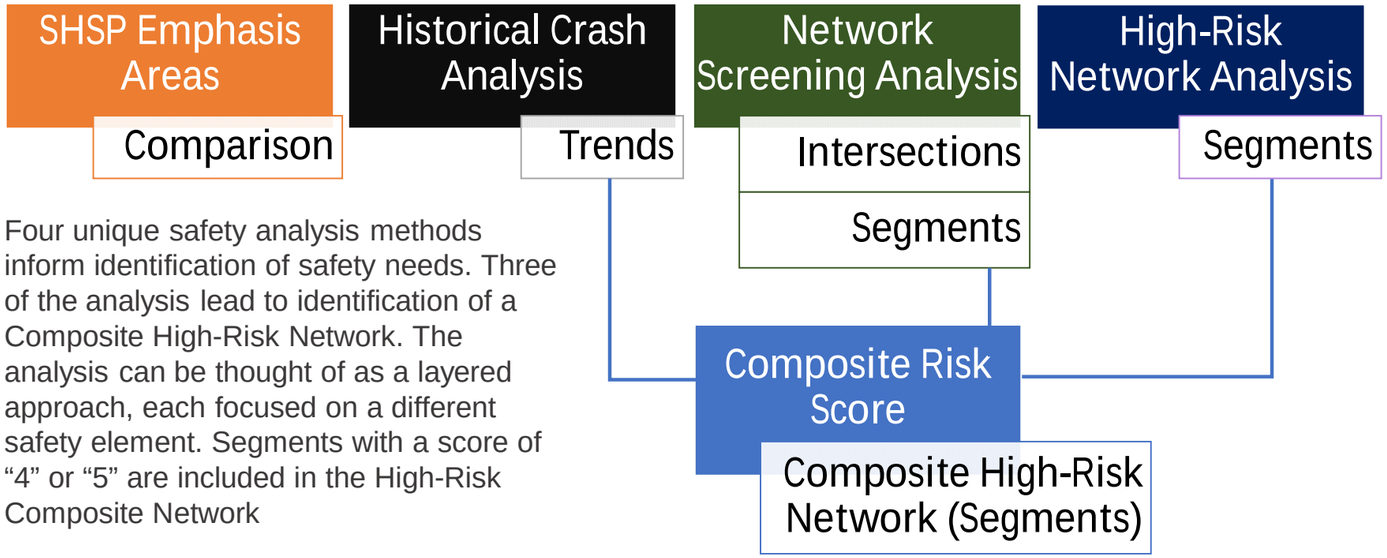
Safe System Approach

Implementing a Safe System Approach requires moving away from traditional safety paradigms.

- ❑ The Safe System approach seeks to prevent death and serious injuries.
- ❑ The Safe System approach designs for human mistakes and limitations.
- ❑ The Safe System approach focuses on speed management and strategies to reduce system kinetic energy.
- ❑ The Safe System approach aims to share responsibility among system users, managers, and others.
- ❑ The Safe System approach proactively identifies and addresses risks

Traditional Approach to Safety	Safe System Approach Paradigm
Prevent crashes	Prevent death and serious injury
Improve human behavior	Design for human mistakes/limitations
Control speeding	Reduce system kinetic energy
Individuals are responsible	Share responsibility
React based on crash history	Proactively identify and address risks

Safety Analysis Methodology



Four unique safety analysis methods inform identification of safety needs. Three of the analysis lead to identification of a Composite High-Risk Network. The analysis can be thought of as a layered approach, each focused on a different safety element. Segments with a score of "4" or "5" are included in the High-Risk Composite Network

Analysis	Composite High Risk Score Element	Value
Historical Crash Analysis	Segment 5-Year Crash Totals ≥ 3 Crashes	1
Network Screening Analysis	Positive CCR Differential	1
High-Risk Network Analysis	Crash Profile Risk Score ≥ 20	1
	usRAP Vehicle Star Rating = 1-2 Stars	1
	usRAP Pedestrian Star Rating = 1-2 Stars	0.5
	usRAP Bicycle Star Rating = 1-2 Stars	0.5
Total Possible Composite Risk Score		**5**

Strategic Highway Safety Plan (SHSP) Emphasis Area Comparison

Based on a comparison of fatal and serious injuries for each Utah SHSP Emphasis area, the following emphasis areas should be considered when developing safety improvement projects specific to the **West Salt Lake Valley** GFA.

- Intersections
- Speed-Related
- Teen Driver
- Roadway Departure
- Older Driver

Intersection, Roadway Departure, and Speed-Related emphasis areas rank highest in terms of number of fatal and serious injuries at the Statewide and WFRC Levels.

In addition to Intersection, Roadway Departure, and Speed-Related emphasis areas within the **West Salt Lake Valley** GFA, Teen Driver and Older Driver are also identified as top emphasis areas.

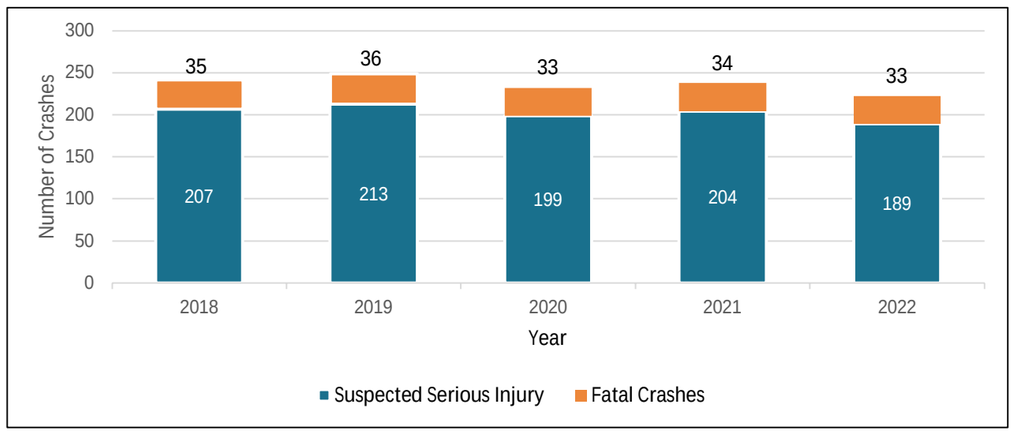
Strategic Highway Safety Plan Emphasis Area Comparison

Category	Utah SHSP Safety Emphasis Area	Statewide Totals		WFRC Totals		West Salt Lake Valley Totals		
		Fatal and Serious Injury	Rank	Fatal and Serious Injury	Rank	Fatal and Serious Injury	Rank	Change in Rank From WFRC
Driver	Teen Driver	1,640	**4**	751	4	240	3	1
	Older Driver	1,508	6	700	6	214	5	1
	Speed-Related	2,133	**3**	936	3	249	2	1
	Aggressive Driving	555	11	297	10	82	10	0
	Distracted Driving	718	10	286	11	82	10	1
	Impaired Driving	1,184	8	623	8	192	8	0
	No Safety Restraints	1,542	**5**	599	9	155	9	0
Roadway	Intersection	3,567	**1**	2,163	1	780	1	0
	Roadway Departure	2,931	**2**	1,014	2	234	4	-2
Special Users	Motorcycle	1,457	7	750	5	213	6	-1
	Pedestrian	912	9	636	7	196	7	0
	Bicycle*	280	12	167	12	40	12	0

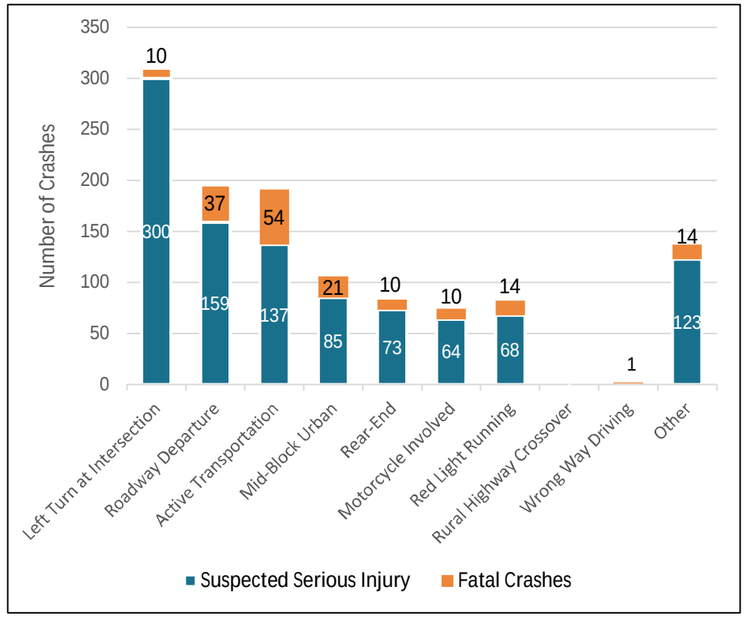
*While Bicycles are not one of the eleven Utah SHSP emphasis areas, they are included as part of the CSAP safety analysis.

5-Year Historical Crash Trends in the West Salt Lake Valley GFA

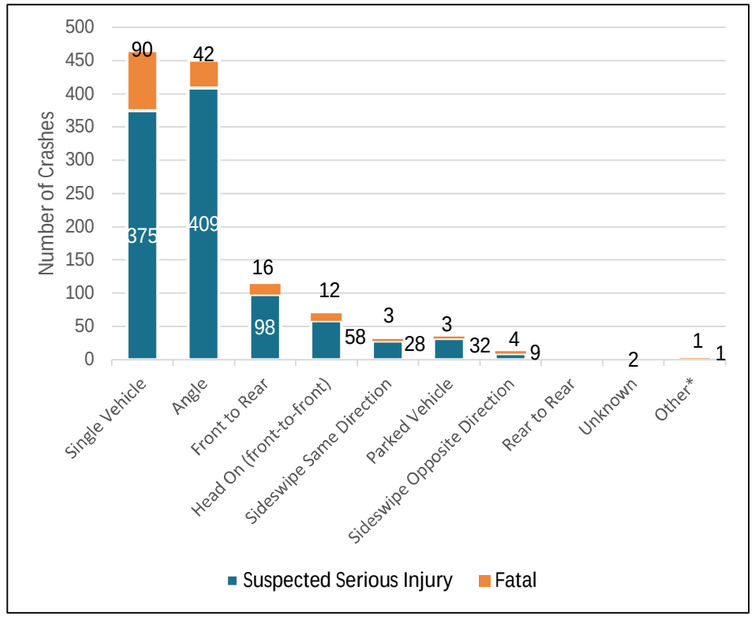
Route Type	State Route		Federal Aid Route		Local Street		Overall Total		% of WFRC
Crash Severity	Crashes		Crashes		Crashes		Crashes		%
	#	%	#	%	#	%	#	%	
Fatal	115	0%	47	0%	9	0%	**171**	**0.3%**	**0.1%**
Suspected Serious Injury	566	2%	374	2%	72	1%	**1,012**	**1.6%**	**0.6%**
Suspected Minor Injury	3,177	9%	2,150	11%	478	6%	**5,805**	**9.4%**	**3.2%**
Possible Injury	7,082	20%	3,778	20%	868	12%	**11,728**	**19.0%**	**6.5%**
No Injury / Property Damage Only	24,274	69%	12,759	67%	6,067	81%	**43,100**	**69.7%**	**23.9%**
Route Total	**35,214**	**100%**	**19,108**	**100%**	**7,494**	**100%**	**61,816**	**100%**	**34.3%**



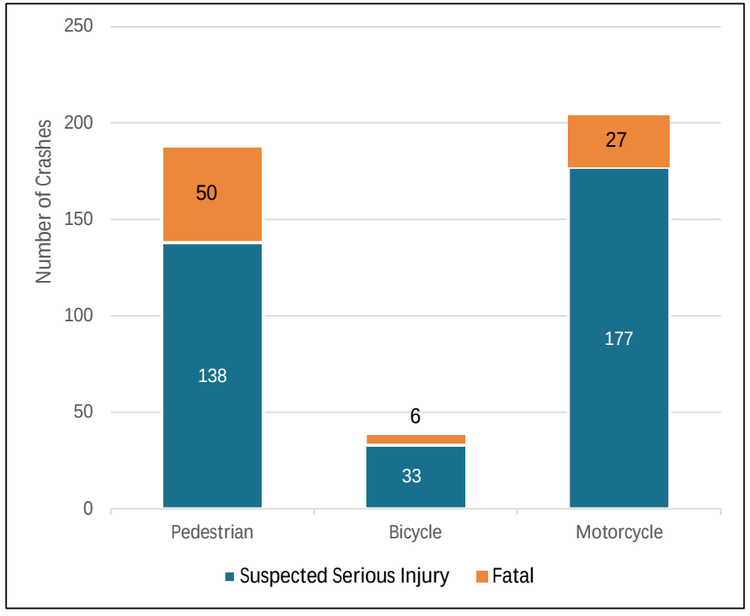
Annual Fatal and Serious Injury Crashes (2018-2022)



Crash Type



Manner of Collision



Active Transportation

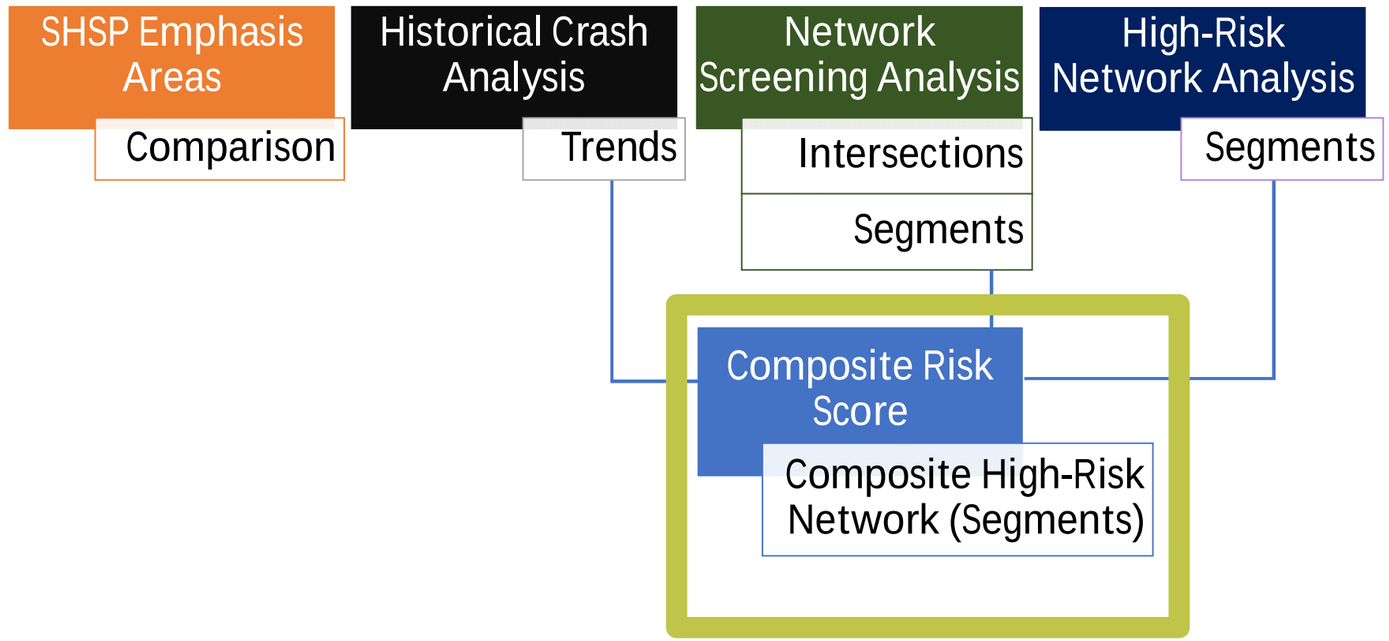
Composite High-Risk Roadway Network

Each of the completed safety analysis methodologies identified segments or intersections that are **candidates for safety improvements** to reduce fatalities and serious injury crashes.

To provide focused information for jurisdictional decisions regarding **prioritization of safety improvements**, an analysis was performed to identify overlapping segments from each of the analysis methodologies. A **composite score**, from zero to five, was assigned to each State Highway or Federal Aid Route segment in the region. State Route or Federal Aid Route segments with a score of "4" or higher are included in the Composite High-Risk Network. These represent the top 10% of State Route and Federal Aid Route segments for the entire WFRC area.

The Composite High Risk Network map on page 8 includes State Route and Federal Aid Route segments with a score of "4" or higher.

A list of locally-owned and maintained Federal Aid Route segments in the **West Salt Lake Valley** GFA Composite High-Risk Network is included on the next page. Streets operated and maintained by local agencies are an emphasis of the SS4A program.



Analysis	Composite High Risk Score Element	Value
Historical Crash Analysis	Segment 5-Year Crash Totals ≥ 3 Crashes	1
Network Screening Analysis	Positive Local CCR Differential	1
High Risk Network Analysis	Crash Profile Risk Score ≥ 20	1
	usRAP Vehicle Star Rating = 1-2 Stars	1
	usRAP Pedestrian Star Rating = 1-2 Stars	0.5
	usRAP Bicycle Star Rating = 1-2 Stars	0.5
Total Possible Composite Risk Score		**5**

Composite Risk Score
Composite High-Risk Network (Segments)

Composite High-Risk Network (State Route/Federal Aid) and Local Street Risk Network

Facility	Limits	Functional Classification	City	Length (miles)	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	Crash Profile Risk Score	CCR Differential Analysis	Significant Crashes	Local Street Risk Assessment
State Route											
8400 West	Washakie Lane to Oquirrh Hills Drive	Other Principal Arterial	Magna	1.1	X	X		X	X	X	
5600 West (SR-172)	2400 South to Alpine Point Circle	Other Principal Arterial	West Valley City	5.4	X	X	X	X	X	X	
3500 South (SR-171)	4800 West to 700 East	Other Principal Arterial	West Valley City, South Salt Lak	11.8	X	X	X	X		X	
Bangerter Highway (SR-154)	2100 South to 5400 South	Other Principal Arterial	West Valley City	5.0	X	X	X	X		X	
SR-85 (Southbound)	6200 South to 7800 South	Other Principal Arterial	West Jordan	2.2	X	X		X	X	X	
Highway 111	200 South to 8600 South	Other Principal Arterial	West Jordan	0.5	X	X	X	X		X	
4700 South (SR-266)	I-215 to Redwood Road	Other Principal Arterial	Taylorsville	3.5	X	X	X	X		X	
5400 South	Copper City Drive to Alpine Drive	Other Principal Arterial	Kearns, Taylorsville	7.3	X	X	X		X	X	
7200 South	Redwood Road to State Street	Other Principal Arterial	Midvale	2.6	X	X	X	X		X	
7800 South	Bangerter Highway to Redwood Road	Other Principal Arterial	West Jordan	2.0	X	X	X	X	X	X	
900 South (SR-209)	Redwood Road to Galilee Way	Other Principal Arterial	West Jordan	0.7	X	X	X	X	X	X	
Redwood Road (SR-68)	2100 South to 9400 South	Other Principal Arterial	Taylorsville, West Jordan, West	10.0	X	X	X	X	X	X	
State Street (US-89)	4500 South to Princeton Drive	Other Principal Arterial	Midvale, Murray	5.3	X	X	X	X	X	X	
900 East (SR-71)	Three Fountain Drive to 7800 South	Other Principal Arterial	Midvale, Murray	3.5	X	X	X	X		X	

State Route and Federal Aid segments in the **West Salt Lake Valley GFA** Composite High-Risk Network are listed at left. Each of these segments received a composite risk score of "4" or higher. These segments provide a focus for local jurisdictions or for coordination with UDOT. Each of these segments are shown on the map on page 8.

Composite Risk Score

Composite High-Risk Network (Segments)

Composite High-Risk Network (State Route/Federal Aid) and Local Street Risk Network

Facility	Limits	Functional Classification	City	Length (miles)	RISK TYPE						
					usRAP- Pedestrian Star Rating	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	Crash Profile Risk Score	CCR Differential Analysis	Significant Crashes	Local Street Risk Assessment
Federal Aid Routes											
7200 W	2400 S to 4100 S	Minor Arterial	West Valley City, Magna	2.5	X	X	X	X		X	
4100 S	7200 W to 400 W	Minor Arterial	West Valley City	4.0	X	X	X	X		X	
3900 S	2100 W to 500 E	Minor Arterial	South Salt Lake, Millcreek	1.1	X	X	X	X		X	
3600 W	Christy Ave to 3650 S	Major Collector	West Valley City	0.5	X	X	X		X	X	
900 W	2100 S to 3300 S	Major Collector	South Salt Lake	1.7	X	X	X	X		X	
300 E	Newsome Park Ln to 3900 S	Major Collector	South Salt Lake	0.8	X	X	X		X	X	
4700 S	4140 W to I-15	Other Principal Arterial	Taylorsville	3.5	X	X	X	X		X	
2200 W	Kirkham Way to 4700 S	Major Collector	Taylorsville	1.3	X	X	X		X	X	
500 W	4350 S to 4500 S	Major Collector	Murray	0.2	X	X		X	X	X	
1300 E	El Sendero St to 5360 S	Minor Arterial	Murray	0.3	X	X	X	X		X	
6200 S	5600 W to Cannon Wood Dr	Minor Arterial	Taylorsville	4.8	X	X	X	X		X	
Winchester St	State St to Fashion Blvd	Minor Arterial	Murray	0.3	X	X		X	X	X	
Main St	7200 S to 7250 S	Minor Arterial	Midvale	0.1	X	X		X	X	X	
Fort Union Blvd	State St to Union Park Ave	Minor Arterial	Midvale	2.0	X	X	X	X		X	
7800 S	Norfolk Pine Way to White Pine Way	Major Collector	Midvale	0.1	X	X		X	X	X	
Center St	Stagg St to Center Sq	Minor Arterial	Midvale	1.4	X	X		X	X	X	
New Bingham Hwy, 7800 S	4800 W to Bangerter Hwy	Other Principal Arterial	West Jordan	2.5	X	X	X	X		X	
2700 S	9200 W to 9180 W	Major Collector	Magna	0.1	X	X	X		X	X	

State Route and Federal Aid segments in the **West Salt Lake Valley GFA** Composite High-Risk Network are listed at left. Each of these segments received a composite risk score of "4" or higher. These segments provide a focus for local jurisdictions or for coordination with UDOT. Each of these segments are shown on the map on page 8.

Composite Risk Score

Composite High-Risk Network (Segments)

Composite High-Risk Network (State Route/Federal Aid) and Local Street Risk Network

Facility	Limits	Functional Classification	City	Length (miles)	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	Crash Profile Risk Score	CCR Differential Analysis	Significant Crashes	Local Street Risk Assessment
Local Streets											Local Street Risk Assessment
Jordan Landing	7800 South to Bangerter Highway	Minor Arterial	West Jordan	0.8							X
1300 West	3850 South to Olive Street	Major Collector	Taylorsville/West Valley	0.5							X
Campus View Drive	Center Park Drive to 8000 South	Local	West Jordan	0.7							X
Atherton Drive	1300 West to River Grand Way	Major Collector	Taylorsville	0.7							X
Dixie Drive	Ft Sumpter Drive to 6200 South	Local	West Jordan	0.3							X
Cougar Lane	6000 South to 7000 South	Minor Arterial	West Jordan	1.2							X
West Temple	3100 South to 3900 South	Major Collector	South Salt Lake	0.5							X
8000 West	2100 South to 3700 South	Major Collector	Magna	2.3							X
7000 South	6100 West to 5400 West	Major Collector	West Jordan	0.7							X
3100 South	7200 West to 8800 West	Major Collector	Magna	2.0							X

The Local Street Risk Assessment considered factors such as locations of crashes, proximity to schools, and hard-braking.

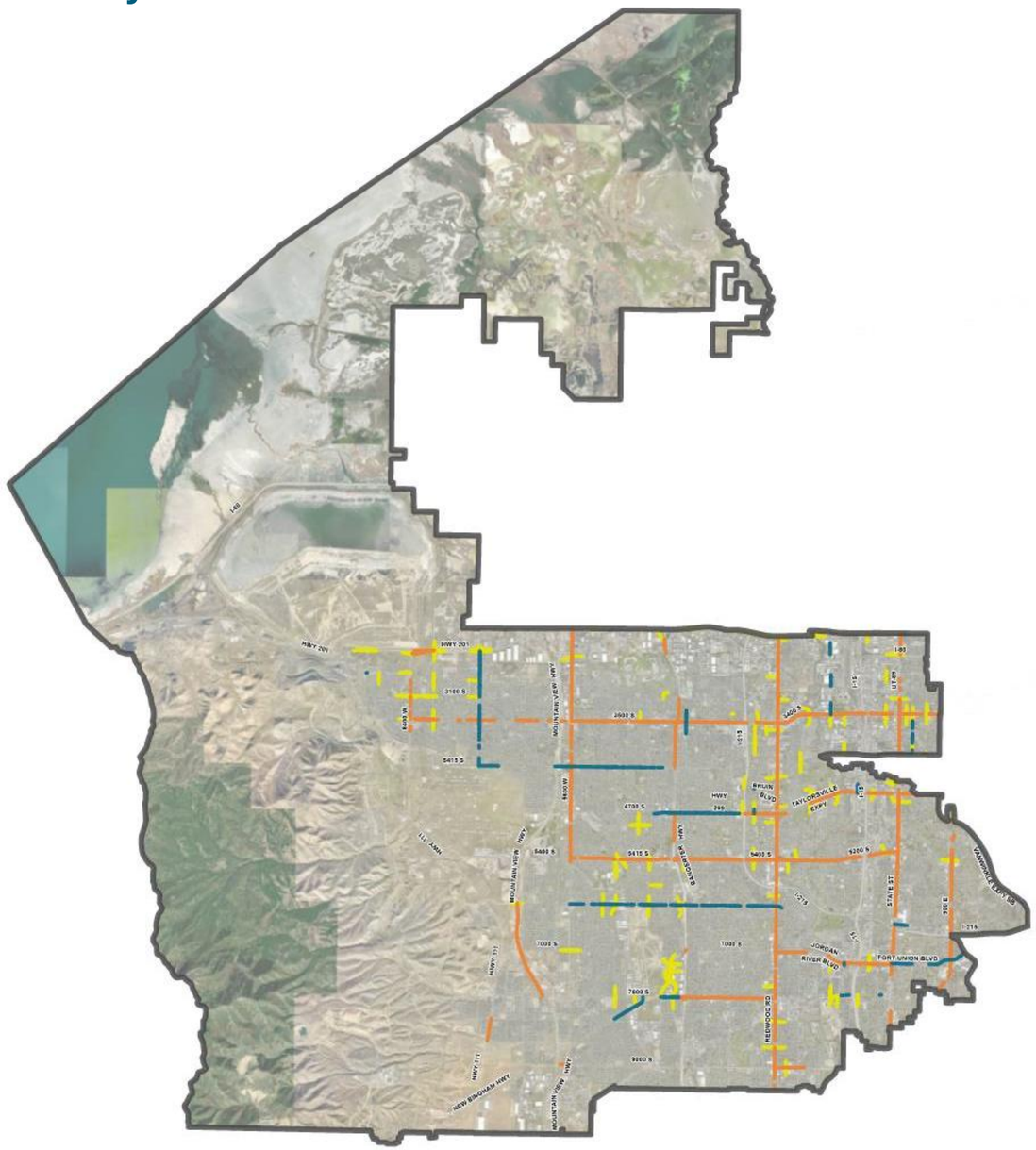
State Route and Federal Aid segments in the **West Salt Lake Valley GFA** Composite High-Risk Network are listed at left. Each of these segments received a composite risk score of "4" or higher. These segments provide a focus for local jurisdictions or for coordination with UDOT. Each of these segments are shown on the map on page 8.

Local Streets are also listed at left. These segments were identified through a separate analysis that considered factors such as crash location, proximity to schools, and hard braking.

Composite Risk Score

Composite High-Risk Network (Segments)

Composite High-Risk Roadway Network



Miles
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Legend

GFA Boundary

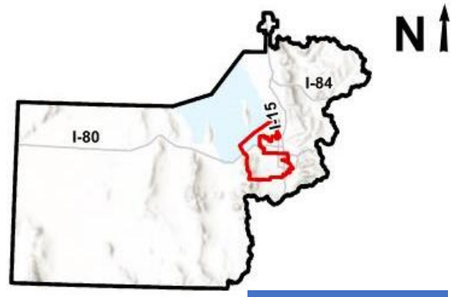
Composite High-Risk Network

State Routes

Federal Aid Routes

Local Streets

West Salt Lake Valley
Wasatch Front Regional Council Area



Composite Risk Score

Composite High-Risk Network (Segments)

Network Screening - Intersections

Network Screening is one of the inputs to the Composite High Risk Roadway Network. Network screening is based on Critical Crash Rate Differential analysis as documented in the Highway Safety Manual. This analysis identified intersections where historical crash rates exceed those which can be expected for similar facilities**.**

A list of the top 10 intersections on State Routes, Federal Aid Routes, and Local (Non-Federal Aid) Streets in the **West Salt Lake Valley** GFA are listed at right, along with their associated number of crashes.

For each intersection, the Critical Crash Rate (CCR) Differential and Equivalent Property Damage Only (EDPO) value is listed. These intersections represent those with the highest potential for safety improvements and can be considered as project candidate locations.

Signalized and unsignalized intersections in the **West Salt Lake Valley** GFA with a positive Critical Crash Rate Differential (rate exceeds expected rate) are mapped on page 11.

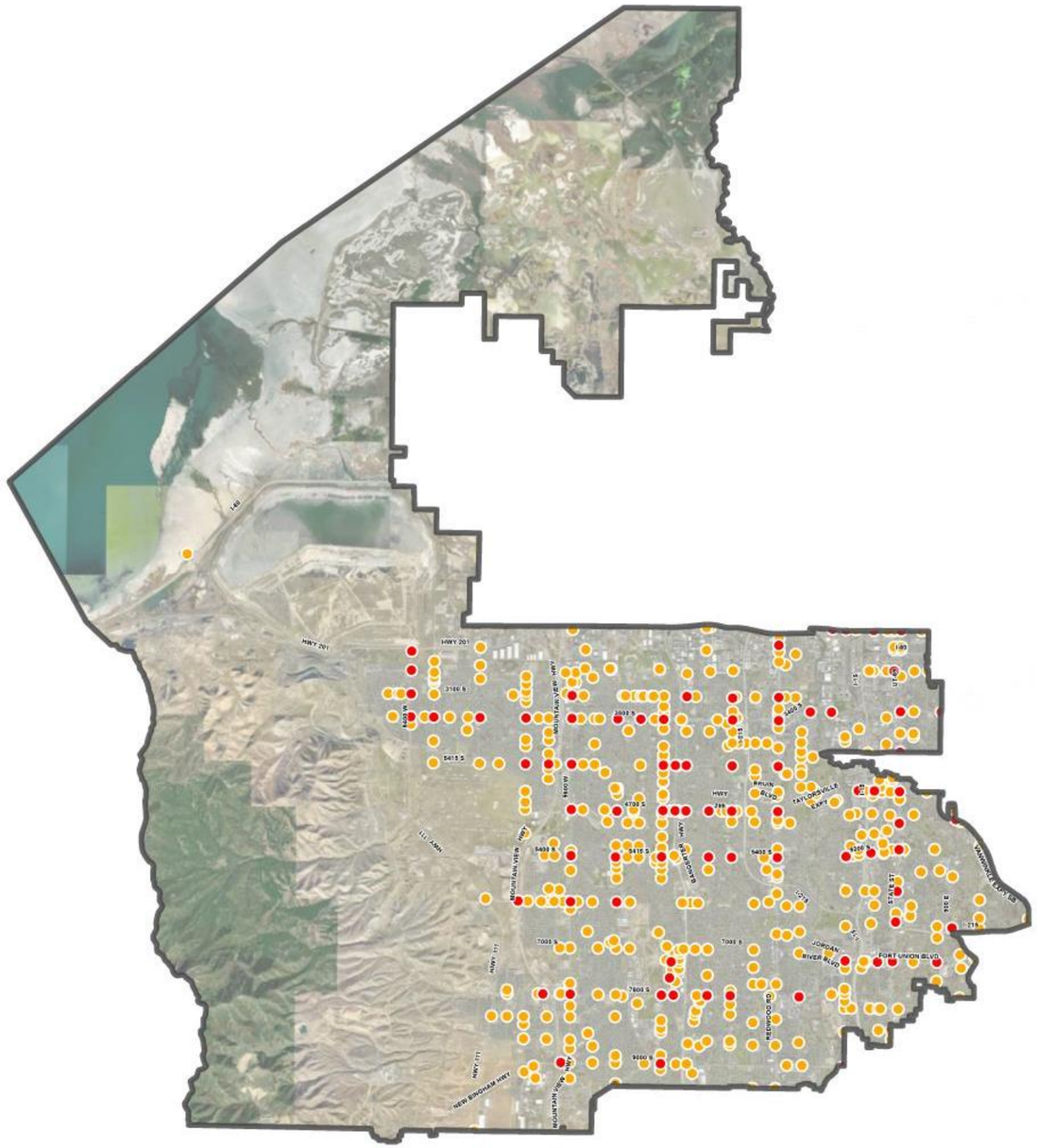
Intersection	City	Crashes	Critical Crash Rate Differential	EPDO[1]	*Fatal*	*Suspected Serious Injury*	*Suspected Minor Injury*	*Possible Injury*	*No Injury/PDO*	Angle	Front to Rear	Head On	Parked Vehicle	Single Vehicle	Rear to Rear	Rear to Side	Sideswipe (Same Direction)	Sideswipe (opposite Direction)	Other/Unknown	Pedestrian	Bicycle	Motorcycle
Signalized Intersections																						
Redwood Rd & 3500 S	West Valley (	351	1.9	2490	0	6	33	85	227	171	101	23	21	0	0	0	9	22	4	12	5	6
6400 W & 3500 S	West Valley (	76	1.7	611	0	1	12	18	45	31	30	3	6	1	1	0	1	3	0	4	0	1
Mountain View Sb Hwy & 6200 S	West Valley (	43	1.7	1173	1	0	7	9	26	17	19	0	4	0	0	0	0	3	0	0	0	0
4000 W & 9000 S	West Jordan	126	1.2	1316	0	5	20	29	72	72	37	3	3	0	0	0	0	10	1	0	0	4
4000 W & 4700 S	West Valley (	137	1.1	880	0	2	15	23	97	75	32	6	12	0	0	0	1	11	0	2	2	1
5600 W & 6200 S	Kearns	115	1.1	947	0	1	25	20	69	70	24	4	6	0	0	0	1	9	1	3	0	2
5600 W & 5400 S	Kearns	146	0.8	773	0	1	11	29	105	59	65	4	6	0	0	0	3	8	1	1	1	1
Mountain View Nb Hwy & 9000 S	West Jordan	68	0.8	1944	1	6	13	15	33	27	21	0	14	0	0	0	0	6	0	0	1	0
Constitution Blvd & 4700 S	Taylorsville	216	0.8	4091	3	4	23	34	152	99	63	6	5	1	0	0	4	34	4	3	0	3
Commerce Dr & 5300 S	Murray	111	0.7	372	0	0	4	17	90	34	52	4	2	0	0	0	1	17	1	0	0	0
Unsignalized Intersections																						
200 W & 4500 Frontage Rd	Murray	8	61.0	18	0	0	0	1	7	1	6	0	1	0	0	0	0	0	0	0	0	0
Angelsea Dr & Brandy Cir	West Jordan	3	24.1	3	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0
Peak Dr & 7800 S	West Jordan	6	14.4	38	0	0	1	1	4	3	3	0	0	0	0	0	0	0	0	0	0	0
Cheryl St & 3800 S	West Valley (	7	10.7	71	0	0	3	0	4	6	0	1	0	0	0	0	0	0	0	0	0	0
Swallow Ave & Clubhouse Dr	Taylorsville	5	8.2	48	0	0	2	0	3	3	0	1	1	0	0	0	0	0	0	0	1	0
6400 W & 4700 S	West Valley (	6	5.9	16	0	0	0	1	5	3	0	0	2	0	0	1	0	0	0	0	0	0
1300 W & Pharaoh Rd	West Valley (	12	5.7	75	0	0	1	4	7	4	6	0	0	0	0	0	0	2	0	0	0	1
Plaza Center Dr & Center Park Dr	West Jordan	21	5.5	303	0	1	5	8	7	16	3	0	0	0	0	0	1	1	0	0	0	0
Old Bingham Hwy & 8070 S	West Jordan	4	5.4	36	0	0	1	1	2	2	0	0	1	1	0	0	0	0	0	0	0	0
4420 W & 4865 S	Kearns	11	5.2	342	0	3	2	1	5	9	0	0	1	1	0	0	0	0	0	1	0	1

1. Equivalent Property Damage Only Crashes

= 90 - 100% probability that crash type is over-represented
= 80 - 90% probability that crash type is over-represented
= 70 - 80% probability that crash type is over-represented

Network Screening Analysis
Intersections
Segments

Network Screening - Intersections



Miles
0 1 2 3 5

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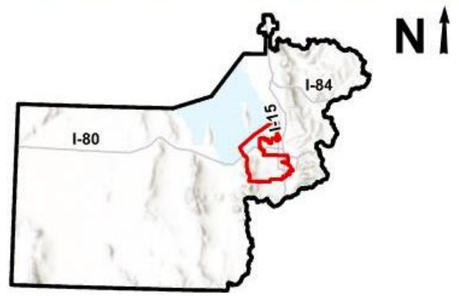
Legend

GFA Boundary

Critical Crash Rate Differential (> 0.0)

- Signalized
- Unsignalized

West Salt Lake Valley
Wasatch Front Regional Council Area



Network Screening Analysis

- Intersections
- Segments

Supporting Information

High-Risk Roadway Segments (Federal Aid Routes)

Facility	Limits	City	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	*Crash Profile Risk Score*	CCR Differential Analysis	Significant Crashes	Local Streets Risk Assessment
Federal Aid Routes									
Bacchus Highway	Old Bingham Highway to New Bigham Highv	Magna	X	X					
Old Bingham Highway	New Bingham Highway to 9000 South	West Jordan	X	X					
9180West/9200West/3500 Soutl	8400 West to SR-201	West Valley City	X	X	X				
8000 West	2820 South to SR-201	Magna	X						
8000 West	4100 South to Breeze Drive	Magna			X				
7200 West	4100 South to SR-201	Magna	X	X	X				
4100 South	3600 West to East GFA Extents	West Valley City	X						
4100 South	4000 West to 3600 West	West Valley City	X	X					
4100 South	7200 West to 4000 West	West Valley City	X	X	X				
4100 South	8000 West to 7200 West	West Valley City	X	X					
4100 South	8400 West to 8000 West	Magna	X						
2820 South/Parkway Blvd	7200 West to 5600 West	West Valley City	X						
Lake Park Blvd	5600 West to Bangerter Highway	West Valley City		X	X				
Parkway Blvd	Lake Erie Drive to 3200 West	West Valley City	X						
2100 South	3500 West to 3200 West	West Valley City	X	X					
2100 South	3200 West to 2700 West	West Valley City	X						
3500 West	Christy Avenue to 2100 South	West Valley City	X	X					
3500 West	Badwen Avenue to Christy Avenue	West Valley City	X	X	X				

A list of Federal Aid segments in the **West Salt Lake Valley GFA** identified from each of the safety analysis methods is listed in the table at left. An “x” is placed to identify the analysis that flagged the segment:

- **usRAP** Star Ratings (Vehicle, Bicycle, Pedestrian)
- **Crash Profile** Risk Score
- **Network Screening,** applying Critical Crash Rate (CCR) and Significant Crashes (three or more crashes over 5-year period)

The maps on page 18 through 22 depict each of these segments identified by the respective analysis.

Composite Risk Score

High-Risk Network

High-Risk Roadway Segments (Federal Aid Routes), Cont'd

Facility	Limits	City	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	*Crash Profile Risk Score*	CCR Differential Analysis	Significant Crashes	Local Streets Risk Assessment
Federal Aid Routes									
2700 West	3100 South to 2100 South	West Valley City	X						
3100 South	5600 West to 4100 West	West Valley City	X	X					
3100 South	4100 West to Cultural Center Drive	West Valley City	X						
Cultural Center Drive	3300 South to 3100 South	West Valley City	X						
4700 South	5600 West to I-215	West Valley City	X	X	X				
2200 West	4700 South to 3800 South	Taylorsville	X	X	X				
Mantle Avenue/4200 South	2200 West to 1300 West	Taylorsville			X				
Murray Taylorsville Road	Redwood Road to 1175 West	Taylorsville	X						
3200 West	Bernina Drive to Royalwood Drive	Taylorsville	X						
2700 West	5400 South to 3650 South	Taylorsville	X						
2700 West	6865 South to 5400South	Taylorsville	X	X					
500 West/Murray Blvd	Cherry Street to 3300 South	Murray	X	X					
500 West/Murray Blvd	Vine Street to Cherry Street	Murray	X						
900 West	3300 South to SR-201	South Salt Lake	X	X	X				
300 West	Louise Avenue to 2100 South	South Salt Lake	X						
West Temple	3300 South to Louise Avenue	South Salt Lake	X		X				
West Temple	3300 South to 2100 South	South Salt Lake	X						
2700 South	300 West to 500 East	South Salt Lake	X		X				

A list of Federal Aid segments in the **West Salt Lake Valley GFA** identified from each of the safety analysis methods is listed in the table at left. An "x" is placed to identify the analysis that flagged the segment:

- **usRAP** Star Ratings (Vehicle, Bicycle, Pedestrian)
- **Crash Profile** Risk Score
- **Network Screening,** applying Critical Crash Rate (CCR) and Significant Crashes (three or more crashes over 5-year period)

The maps on page 18 through 22 depict each of these segments identified by the respective analysis.

Composite Risk Score

High-Risk Network

High-Risk Roadway Segments (Federal Aid Routes), Cont'd

Facility	Limits	City	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	*Crash Profile Risk Score*	CCR Differential Analysis	Significant Crashes	Local Streets Risk Assessment
Federal Aid Routes									
300 East	3900 South to Vidas Avenue	South Salt Lake	X	X	X				
5290 South	900 East to 1300 East	Murray			X				
1300 East	5600 South to Van Winkle Expressway	Murray	X		X				
1300 East	Vine Street to 5600 South	Murray	X	X					
1300 East	I-215 to Vine Street	Murray	X						
6400 South	1300 East to Highland Drive	Murray	X	X	X				
5900 South/Vine Street	700 West to Van Winkle Expressway	Murray	X						
Fashion Blvd	5900 South to 5600 South	Murray	X	X					
Fashion Blvd	Winchester Street to 5900 South	Murray	X						
700 West/Murray Blvd	River Glen Drive to Allendale Drive	Murray	X						
7000 South	Traveler Lane to Adventure Way	West Jordan			X				
6600 South	5600 West to Cougar Lane	West Jordan		X	X				
5600 West	7000 South to 6200 South	West Jordan	X						
6200 South/Benion Blvd	5600 West to 1300 West	Taylorsville	X	X	X				
1300 West	Benion Blvd to 5400 South	Taylorsville	X						
7800 South	Highlands Loop Road to Airport Road	West Jordan	X	X	X				
7800 South	SR-111 to Highlands Loop Road	West Jordan	X	X					
Airport Road	New Bingham Highway to 7800 South	West Jordan	X	X	X				

A list of Federal Aid segments in the **West Salt Lake Valley GFA** identified from each of the safety analysis methods is listed in the table at left. An "x" is placed to identify the analysis that flagged the segment:

- **usRAP** Star Ratings (Vehicle, Bicycle, Pedestrian)
- **Crash Profile** Risk Score
- **Network Screening,** applying Critical Crash Rate (CCR) and Significant Crashes (three or more crashes over 5-year period)

The maps on page 18 through 22 depict each of these segments identified by the respective analysis.

Composite Risk Score

High-Risk Network

High-Risk Roadway Segments (Federal Aid Routes), Cont'd

Facility	Limits	City	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	*Crash Profile Risk Score*	CCR Differential Analysis	Significant Crashes	Local Streets Risk Assessment
Federal Aid Routes									
Jordan Landing Blvd/7000 South	7800 South to Redwood Road	West Jordan	X						
2200 West	7420 South to Benion Blvd	West Jordan			X				
Union Park Avenue	I-215 to 6600 South	Murray	X						
Winchester Street	1300 West to Malstrom Lane	Murray	X						
Winchester Street	Malstrom Lane to 725 East	Murray	X	X					
Winchester Street	1300 West to 1300 East	Murray	X						
Fort Union Blvd	State Street to Union Park Avenue	Midvale	X	X	X				
7800 South/Center Street	Redwood Road to Bingham Junction Blvd	Midvale	X						
Center Street	Bingham Junction Blvd to State Street	Midvale	X	X					
1300 West	8745 South to George's Circle	West Jordan	X						
1300 West	South GFA Extents to 8745 South	West Jordan	X	X					
Main Street/7th West	9000 South Center Street	South Salt Lake	X						
Holden Street	Center Street to 7200 South	Midvale	X	X					
700 West	7200 South to Swinley Drive	Midvale	X						
6400 W	Meandor Ave to 3500 S	West Valley City					X	X	
6400 W	Timmerman Pl to 3380 S	West Valley City					X	X	
8000 W	3500 S to Copperfield Pl S	Unincorporated					X	X	
6200 S	Walnut Ridge Dr to 5600 W	Unincorporated					X	X	

A list of Federal Aid segments in the **West Salt Lake Valley GFA** identified from each of the safety analysis methods is listed in the table at left. An "x" is placed to identify the analysis that flagged the segment:

- **usRAP** Star Ratings (Vehicle, Bicycle, Pedestrian)
- **Crash Profile** Risk Score
- **Network Screening,** applying Critical Crash Rate (CCR) and Significant Crashes (three or more crashes over 5-year period)

The maps on page 18 through 22 depict each of these segments identified by the respective analysis.

Composite Risk Score

High-Risk Network

Network Screening – Segments (Local Streets)

Facility	Limits	City	RISK TYPE: *usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	*Crash Profile Risk Score*	CCR Differential Analysis	Significant Crashes	Local Streets Risk Assessment
Federal Aid Routes									
Grizzly Way	8320 S to Hills Middle School	West Jordan					X	X	
6400 W	King Valley Rd to Martin Way	West Valley City					X	X	
6200 S	Woodsborough Way to Walnut Wood Dr	West Valley City					X	X	
6400 W	3100 S to Snow Hollow Dr	West Valley City					X	X	
6400 W	Thor Way to 4100 S	West Valley City					X	X	
4000 W	4700 S to Benview Dr	West Valley City					X	X	
Local Streets									
3595 S	3310 W to 3270 W	West Valley City					X	X	
2200 W	5140 S to Whitaker Dr	Taylorsville					X	X	
3800 S	2700 W to Cheryl St	West Valley City					X	X	
Jeffs Cir	Jeffs Cir to 4100 S	West Valley City					X	X	
230 E	200 E to Vantana Ct	Midvale					X	X	
7602 S	Airport Rd to AASF Parking	West Jordan					X	X	
Holden St	Private Driveway to 7725 S	Midvale					X	X	
6020 S	1820 W to Redwood Rd	Taylorsville					X	X	
2300 S	5650 W to 5600 W	West Valley City					X	X	
4350 S	200 W to ACH	Murray					X	X	

A list of Federal Aid segments in the **West Salt Lake Valley GFA** identified from each of the safety analysis methods is listed in the table at left. An "x" is placed to identify the analysis that flagged the segment:

- **usRAP** Star Ratings (Vehicle, Bicycle, Pedestrian)
- **Crash Profile** Risk Score
- **Network Screening,** applying Critical Crash Rate (CCR) and Significant Crashes (three or more crashes over 5-year period)

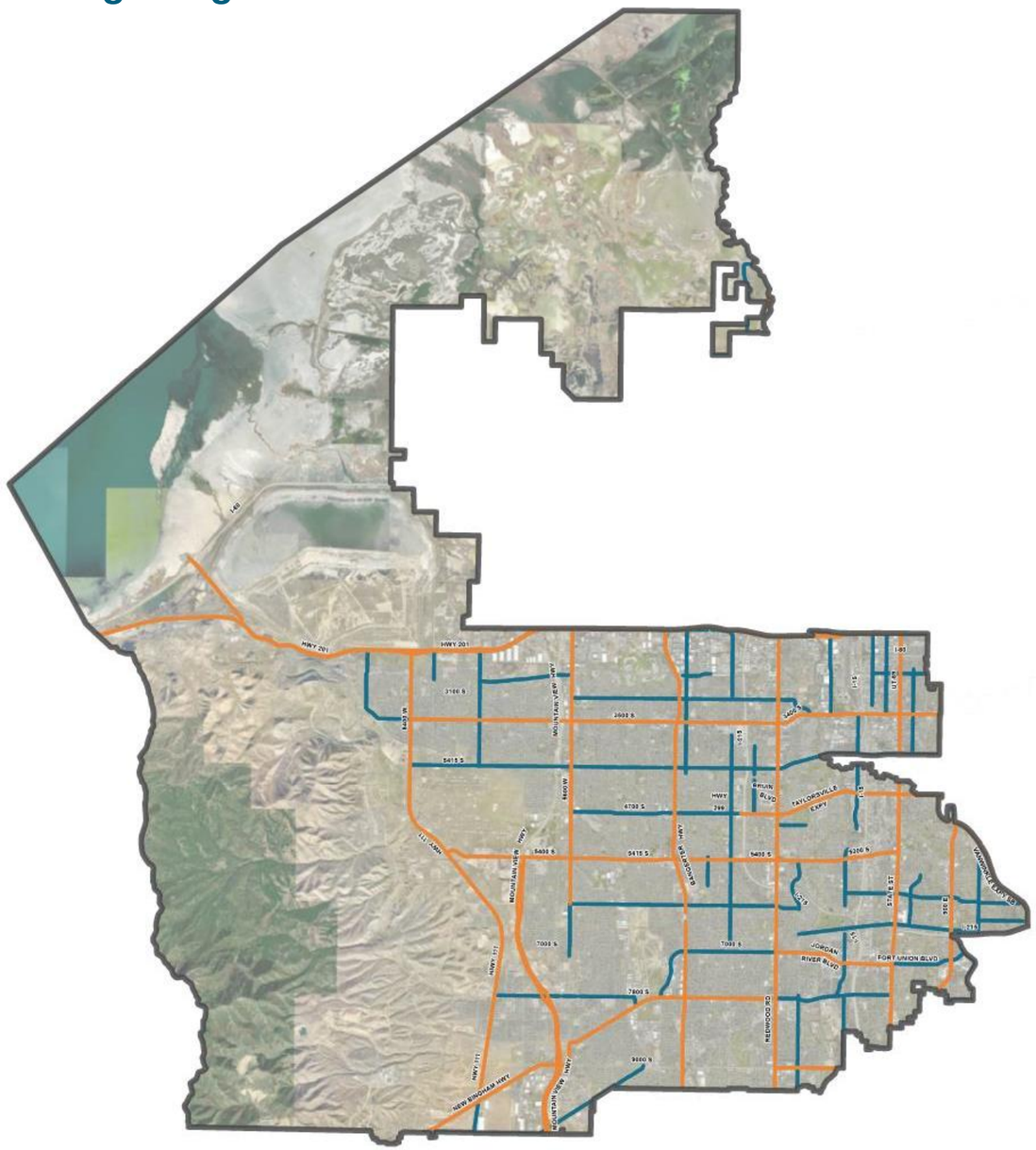
The maps on page 18 through 22 depict each of these segments identified by the respective analysis.

A list of Local Street segments in the **West Salt Lake Valley GFA** identified from Network Screening, applying Critical Crash Rate (CCR) and Significant Crashes (three or more crashes over 5-year period), is shown at left.

Composite Risk Score

High-Risk Network

usRAP Pedestrian Star Rating - Segments



Miles
0 1 2 3 5

N

Legend

- GFA Boundary

Pedestrian Star Rating (1-2)

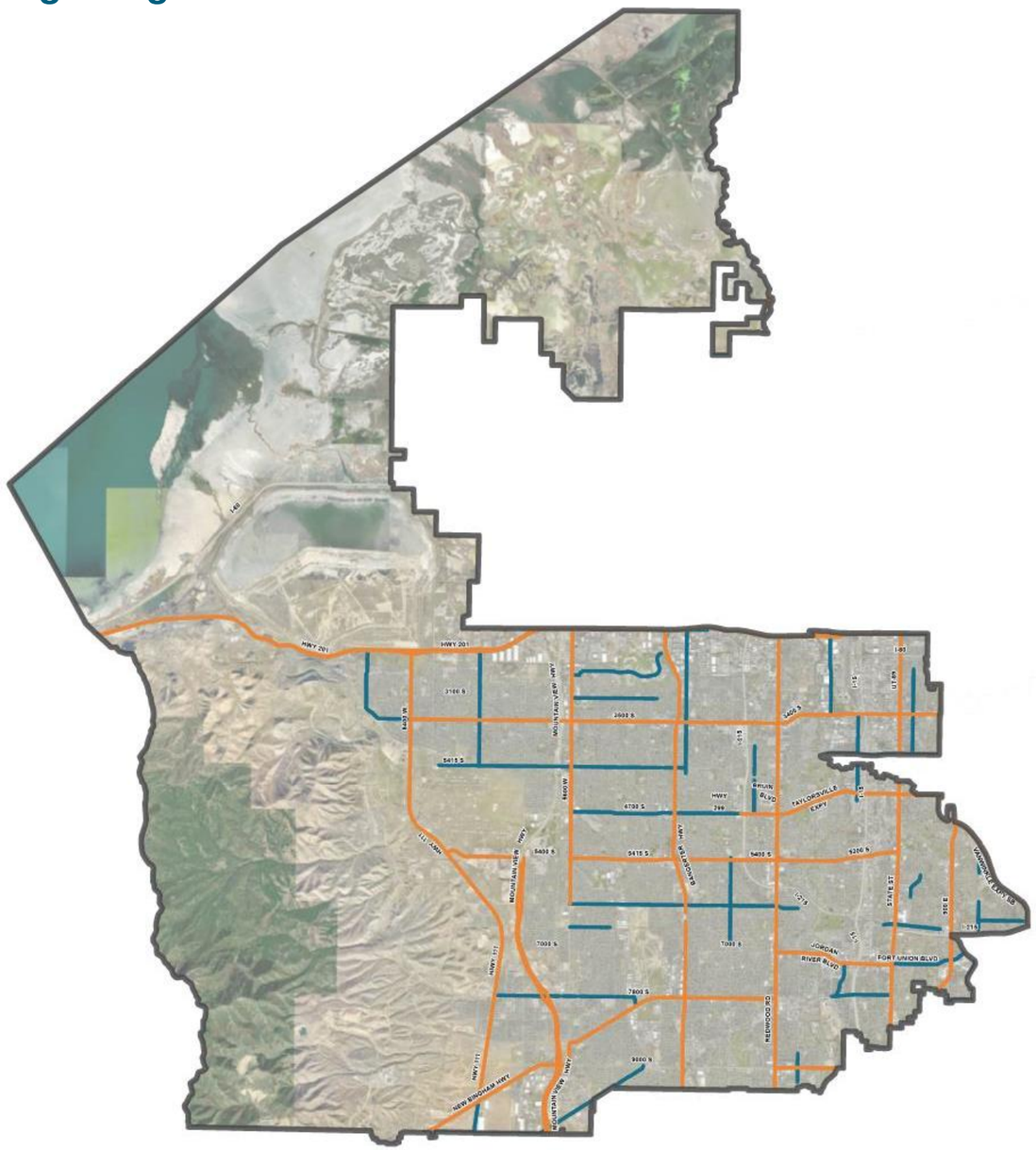
- State Routes
- Federal Aid Routes

West Salt Lake Valley
Wasatch Front Regional Council Area

High-Risk Network Analysis

State Route and Federal Aid Segments	Local Street Segments

usRAP Bicycle Star Rating - Segments



Miles
0 1 2 3 5

N

Legend

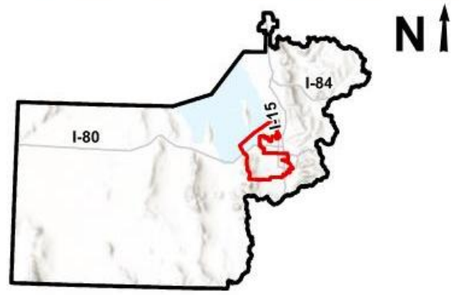
GFA Boundary

Bicycle Star Rating (1-2)

State Routes

Federal Aid Routes

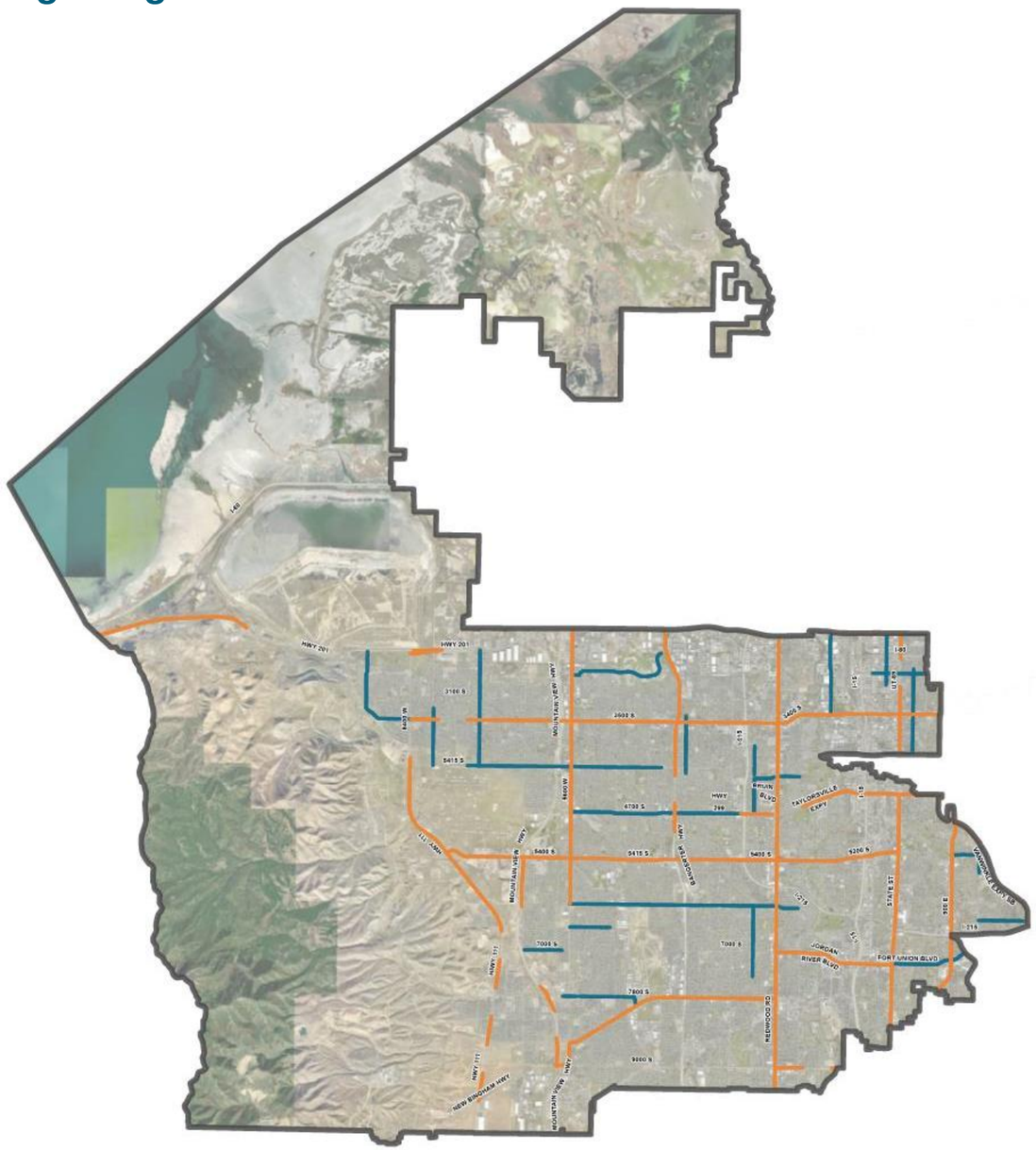
West Salt Lake Valley
Wasatch Front Regional Council Area



High-Risk Network Analysis

State Route and Federal Aid Segments	Local Street Segments

usRAP Vehicle Star Rating - Segments



Miles
0 1 2 3 5

N

Legend

GFA Boundary

Vehicle Star Rating (1-2)

State Routes

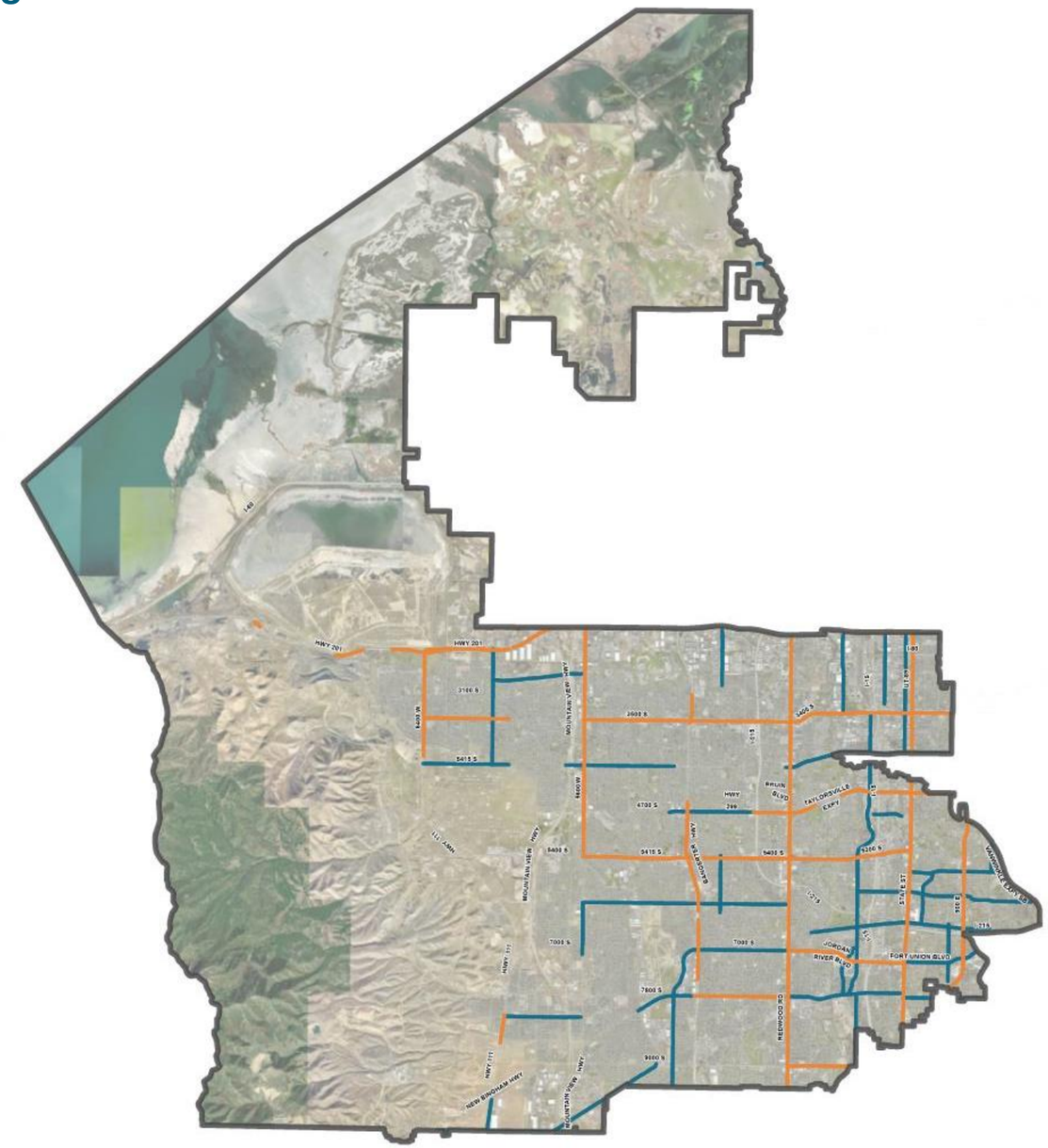
Federal Aid Routes

West Salt Lake Valley
Wasatch Front Regional Council Area

High-Risk Network Analysis

State Route and Federal Aid Segments	Local Street Segments

Crash Profile Risk - Segments



Miles
0 1 2 3 5

N

Legend

- GFA Boundary

Crash Profile Risk (> 20)

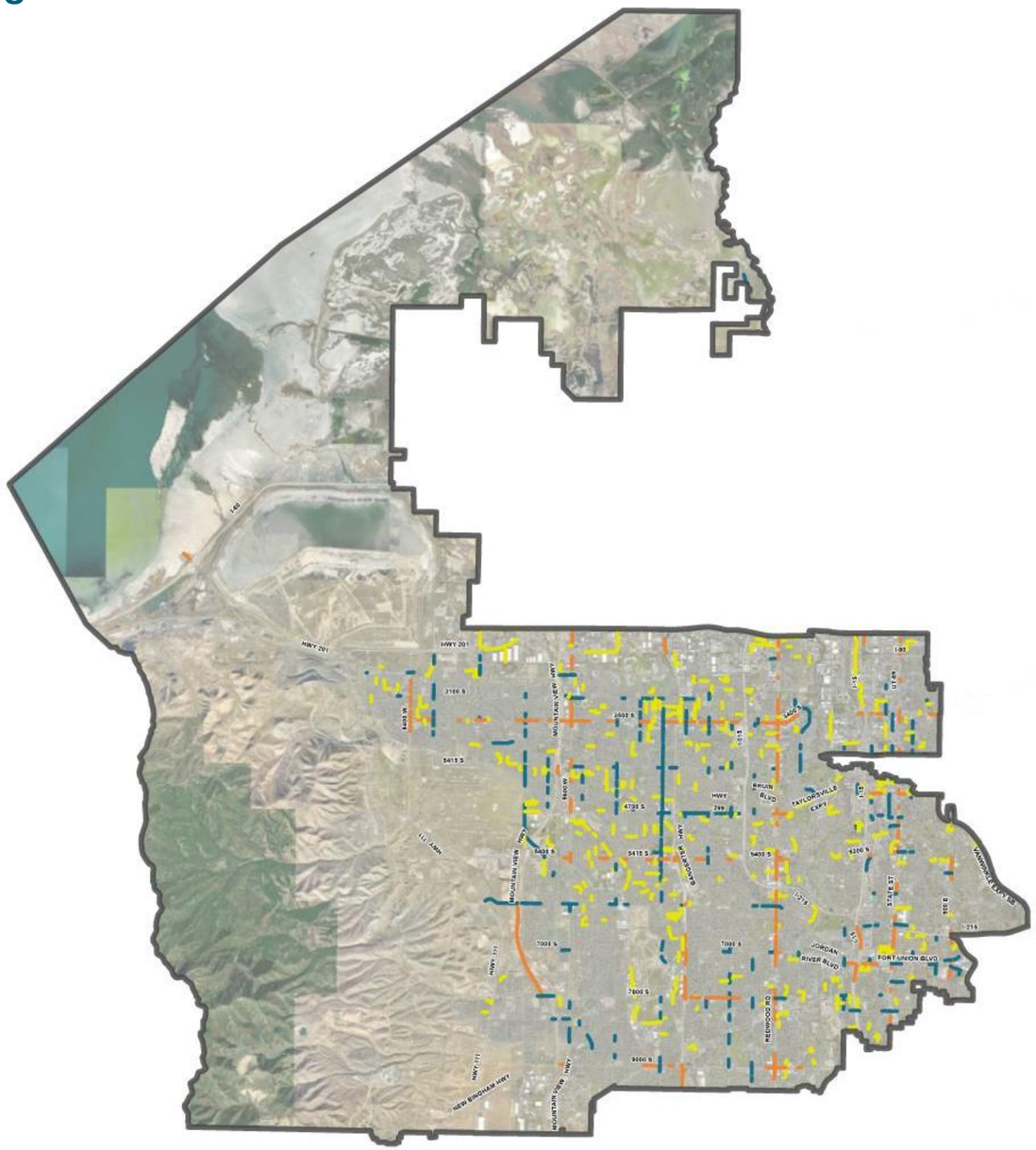
- State Routes
- Federal Aid Routes

West Salt Lake Valley
Wasatch Front Regional Council Area

High-Risk Network Analysis

State Route and Federal Aid Segments	Local Street Segments

Network Screening - Segments



Miles
0 1 2 3 5

N

Legend

GFA Boundary

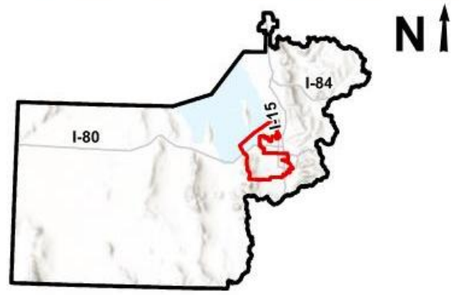
Critical Crash Rate Differential (> 0.0)

State Routes

Federal Aid Routes

Local Streets

West Salt Lake Valley
Wasatch Front Regional Council Area



High-Risk Network Analysis

State Route and Federal Aid Segments	Local Street Segments

WEST SALT LAKE VALLEY TECH MEMO #1
SAFETY ANALYSIS

TECHNICAL MEMORANDUM #1

APPENDIX A7 - WEST SALT LAKE VALLEY GEOGRAPHIC FOCUS AREA ANALYSIS

September 2023

Statutory Notice

23 U.S.C. § 409: US Code - Section 409: Discovery and admission as evidence of certain reports and surveys

Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway- highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

File name: Appendix A7 - West Salt Lake Valley GFA - Safety Analysis.docx

Table of Contents

List of Figures

List of Tables

1. Introduction

Appendix A7 summarizes the safety analysis performed for the West Salt Lake Valley Geographic Focus Area (GFA) for the Wasatch Front Area Comprehensive Safety Action Plan (CSAP).

The analysis of available safety related data informs identification of a potential project locations that may be further considered in the development of safety related projects and project types.

1.1. Safety Analysis

The following safety analysis methodologies were completed for the West Salt Lake Valley GFA:

- Strategic Highway Safety Plan (SHSP) Emphasis Area Analysis
- Historical Crash Analysis
- Roadway Characteristic Risk Analysis
  - Crash Profile Risk Assessment
  - usRAP Risk Factors Analysis
  - Local Street Risk Assessment

An overview on the methodologies used to perform these safety analyses are described in Technical Memorandum #1: Safety Analysis Results Summary. **Appendix A7** summarizes the results of the analyses for the West Salt Lake Valley GFA.

1.2. Appendix Organization

This Appendix is organized into the following sections:

- **Section 1** - Introduction
- **Section 2** - West Salt Lake Valley GFA Study Area and Roadway Network.
- **Section 3** - Strategic Highway Safety Plan (SHSP) Emphasis Area Analysis.
- **Section 4** - Historical Crash Analysis
- **Section 5** - Crash and Network Screening Analysis based on Highway Safety Manual (HSM).
- **Section 6** - Roadway Characteristic Risk Analysis
- **Section 7** - Common Risk Characteristics and Composite High-Risk Roadway Network

2. Study Area

The CSAP study area includes each jurisdiction within the WFRC area. To organize the large number of jurisdictions within the WFRC area into manageable analysis areas, jurisdictions are organized into Geographic Focus Areas (GFA). The West Salt Lake Valley GFA (**Figure 2.1**) is located entirely within Salt Lake County and includes the following agencies and jurisdictions:

- Midvale
- Murray
- South Salt Lake
- Taylorsville
- West Jordan
- West Valley City
- Kearns (Township)
- Magna (Township)

The safety analyses presented in this Technical Memorandum are specific to the West Salt Lake Valley GFA.

Figure 2.2 highlights the roadway network within the West Salt Lake Valley GFA study area. Roadways within the study area are divided into the following three categories:

- State Routes: UDOT-maintained roads
- Federal Aid Routes: Jurisdiction-maintained roads eligible for federal funding
- Local Streets: Local Jurisdiction-maintained roads that are not Federal Aid routes.

NOTE ON CRASH DATA ANALYSIS: All crash data presented in this Technical Memorandum are specific to the West Salt Lake Valley, for the years 2018-2022. Crash data was obtained from the Utah Department of Transportation.

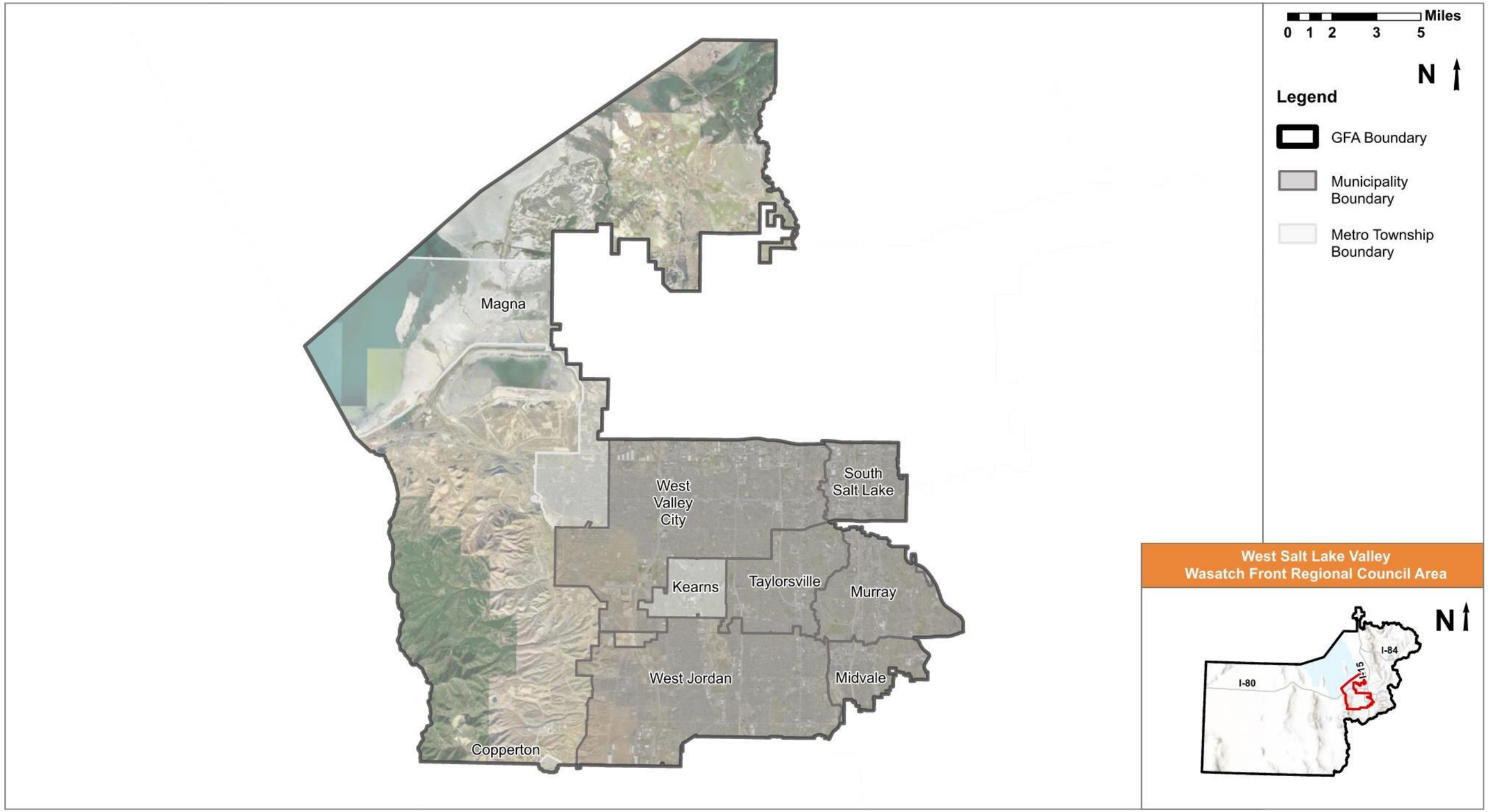


Figure 2.1 – West Salt Lake Valley GFA Study Area

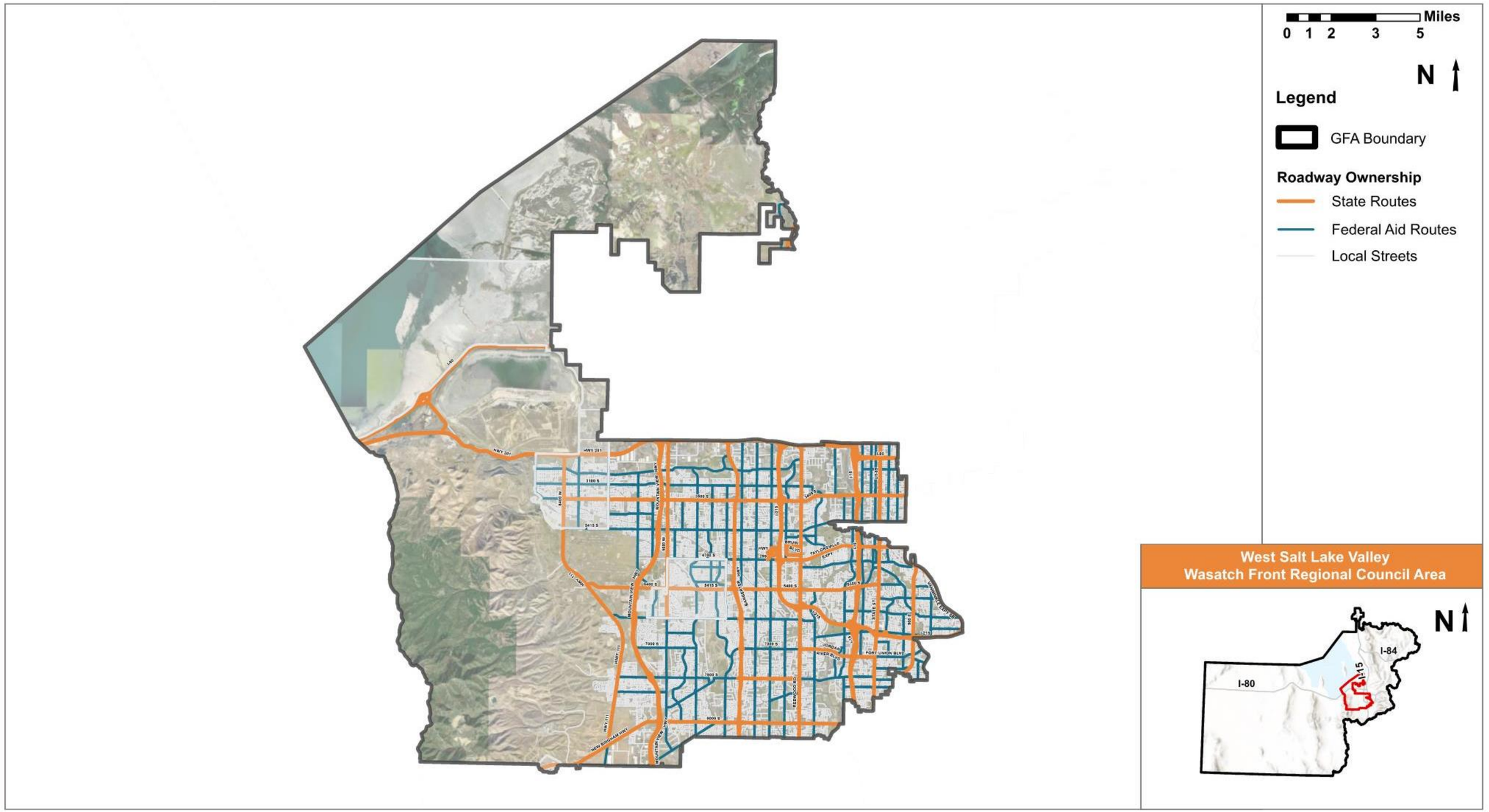


Figure 2.2 – West Salt Lake Valley GFA Roadway Network

3. SHSP Emphasis Area Analysis

The SHSP emphasis area analysis ranks the frequency of fatal and serious injury crashes in West Salt Lake Valley GFA for each of the eleven Utah SHSP emphasis areas. The rankings of the emphasis areas are compared for the West Salt Lake Valley GFA, statewide (all public roads statewide), and the WFRC study area totals. Each reported crash can have more than one emphasis area identified. The results of the SHSP emphasis area analysis are displayed in **Table 3.1**. The top five ranked emphasis areas are highlighted in the table with the top five for the West Salt Lake Valley GFA listed below:

- Intersections
- Speed-Related
- Teen Driver
- Roadway Departure
- Older Driver

Table 3.1 – SHSP Emphasis Areas Analysis

Category	Utah SHSP Safety Emphasis Area	Statewide Totals		WFRC Totals		West Salt Lake Valley Totals		
		Fatal and Serious Injury	Rank	Fatal and Serious Injury	Rank	Fatal and Serious Injury	Rank	Change in Rank From WFRC
Driver	Teen Driver	1,640	**4**	751	4	240	3	1
	Older Driver	1,508	6	700	6	214	5	1
	Speed-Related	2,133	**3**	936	3	249	2	1
	Aggressive Driving	555	11	297	10	82	10	0
	Distracted Driving	718	10	286	11	82	10	1
	Impaired Driving	1,184	8	623	8	192	8	0
	No Safety Restraints	1,542	**5**	599	9	155	9	0
Roadway	Intersection	3,567	**1**	2,163	1	780	1	0
	Roadway Departure	2,931	**2**	1,014	2	234	4	-2
Special Users	Motorcycle	1,457	7	750	5	213	6	-1
	Pedestrian	912	9	636	7	196	7	0
	Bicycle*	280	12	167	12	40	12	0

**Bicyclists aren't one of the eleven Utah SHSP emphasis areas but was included as part of the CSAP safety analysis.*

4. Historical Crash Analysis

A historical crash data analysis was conducted for the most recent complete 5-year period from 2018 to 2022. This historical crash analysis is primarily focused on fatal and serious injury crashes.

4.1. Overall Crashes

Table 4.1 provides an overview of overall crashes by severity and roadway ownership within the West Salt Lake Valley GFA. The data shows the following:

- State Routes recorded 57% of the total crashes in this GFA
- State Routes recorded 115 of 171 fatal crashes in this GFA
- Federal Aid routes recorded 31% of fatal and serious injury crashes in this GFA
- Federal Aid routes recorded 47 of 171 fatal crashes in this GFA
- Local Streets (non-Federal Aid) recorded 12% of fatal and serious injury crashes in this GFA
- Local Streets recorded nine of 171 fatal crashes in this GFA

Table 4.1 – Crashes by Severity by Roadway Ownership

Route Type	State Route		Federal Aid Route		Local Street		Overall Total		% of WFRC
Crash Severity	Crashes		Crashes		Crashes		Crashes		%
	#	%	#	%	#	%	#	%	
Fatal	115	0%	47	0%	9	0%	**171**	**0.3%**	**0.1%**
Suspected Serious Injury	566	2%	374	2%	72	1%	**1,012**	**1.6%**	**0.6%**
Suspected Minor Injury	3,177	9%	2,150	11%	478	6%	**5,805**	**9.4%**	**3.2%**
Possible Injury	7,082	20%	3,778	20%	868	12%	**11,728**	**19.0%**	**6.5%**
No Injury / Property Damage Only	24,274	69%	12,759	67%	6,067	81%	**43,100**	**69.7%**	**23.9%**
Route Total	**35,214**	**100%**	**19,108**	**100%**	**7,494**	**100%**	**61,816**	**100%**	**34.3%**

4.2. Fatal and Serious Injury Crashes by Year

Figure 4.1 through **Figure 4.5** provide an overview of fatal and serious injury crashes by year and roadway ownership for the West Salt Lake Valley GFA. The data shows the following:

- Fatal crashes have remained relatively constant during the most recent 5-year period (2018-2022), with a slight decrease in 2022
- Serious injury crashes have followed a similar pattern during the most recent 5-year period (2018-2022)

4.3. Fatal and Serious Injury Crashes by Location

Error! Reference source not found. shows the locations of the fatal and serious injury crashes within the West Salt Lake Valley GFA. Crashes are largely focused on State Routes.

Error! Reference source not found. is a density map of fatal and serious injury crashes within the West Salt Lake Valley GFA.

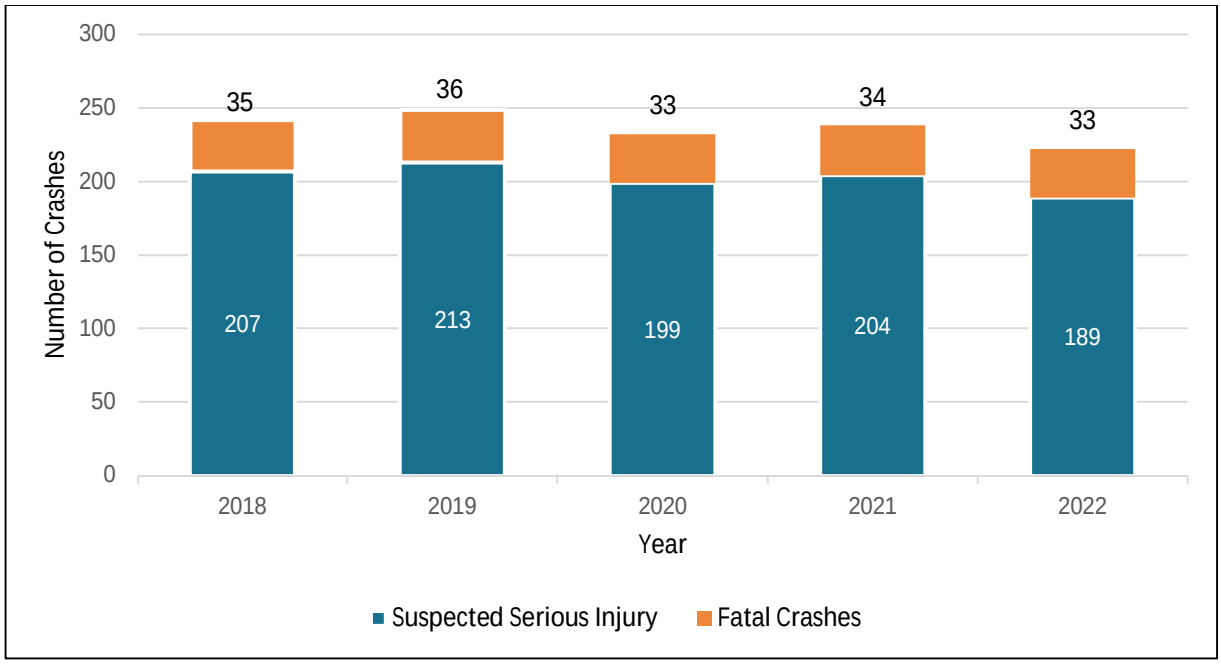


Figure 4.1 – Fatal and Serious Injury Crashes by Year

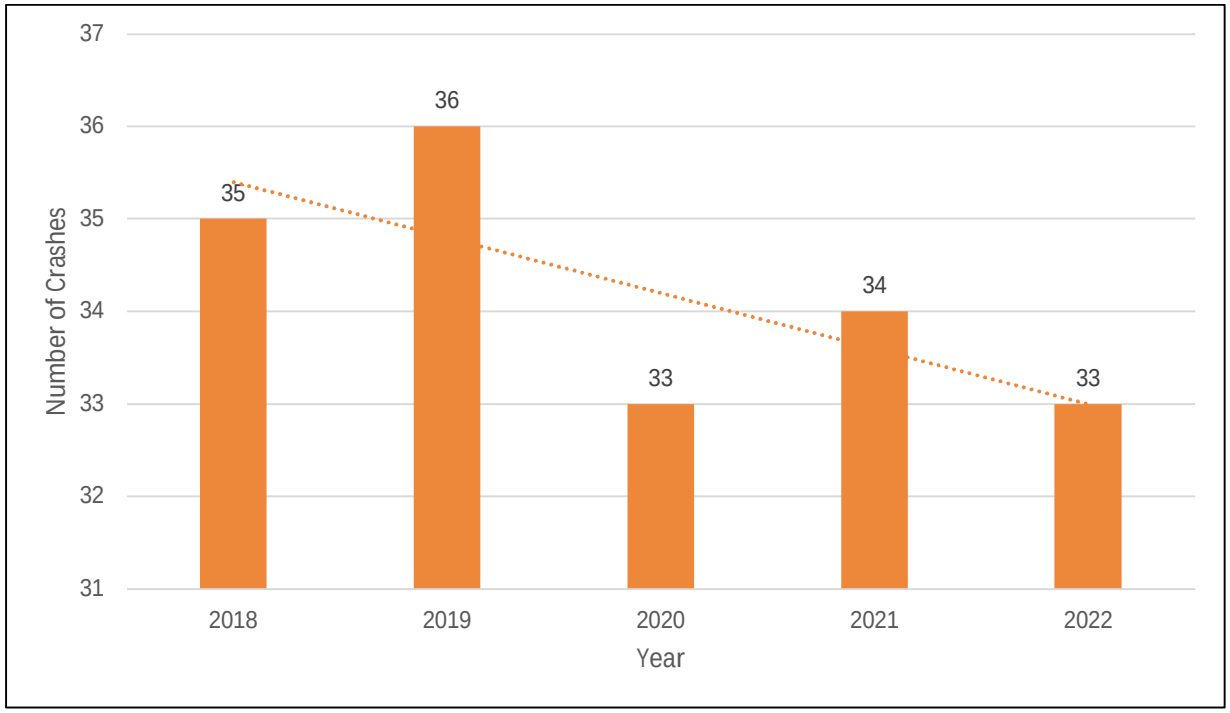


Figure 4.2 – Fatal Crashes by Year

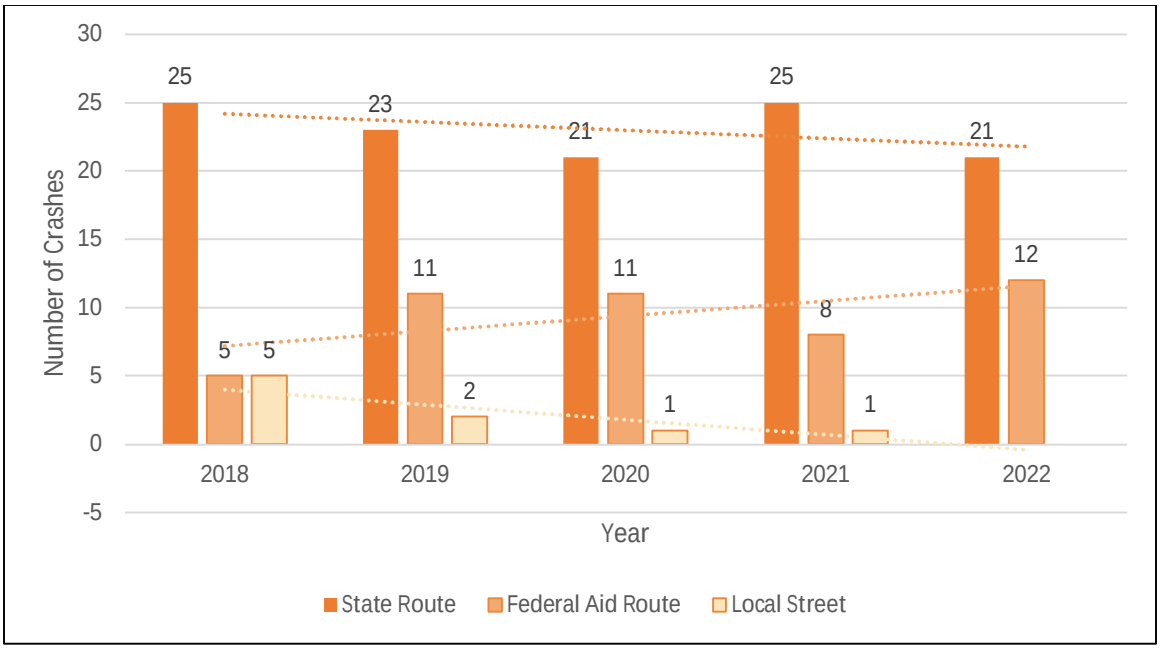


Figure 4.3 – Annual Fatal Crashes by Roadway Ownership

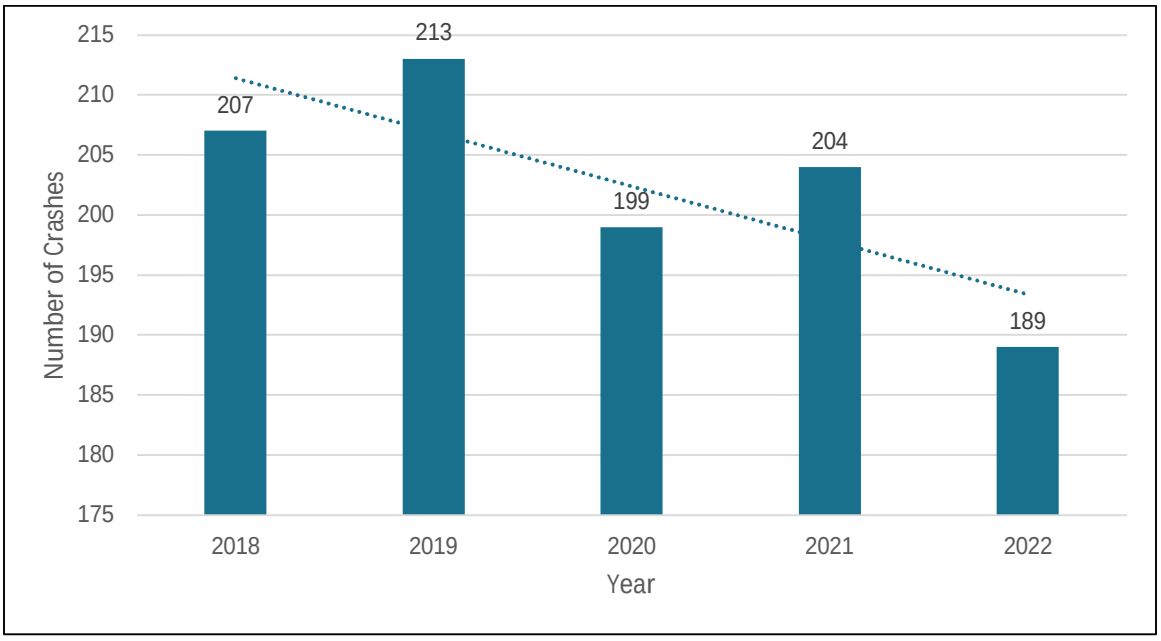


Figure 4.4 – Serious Injury Crashes by Year

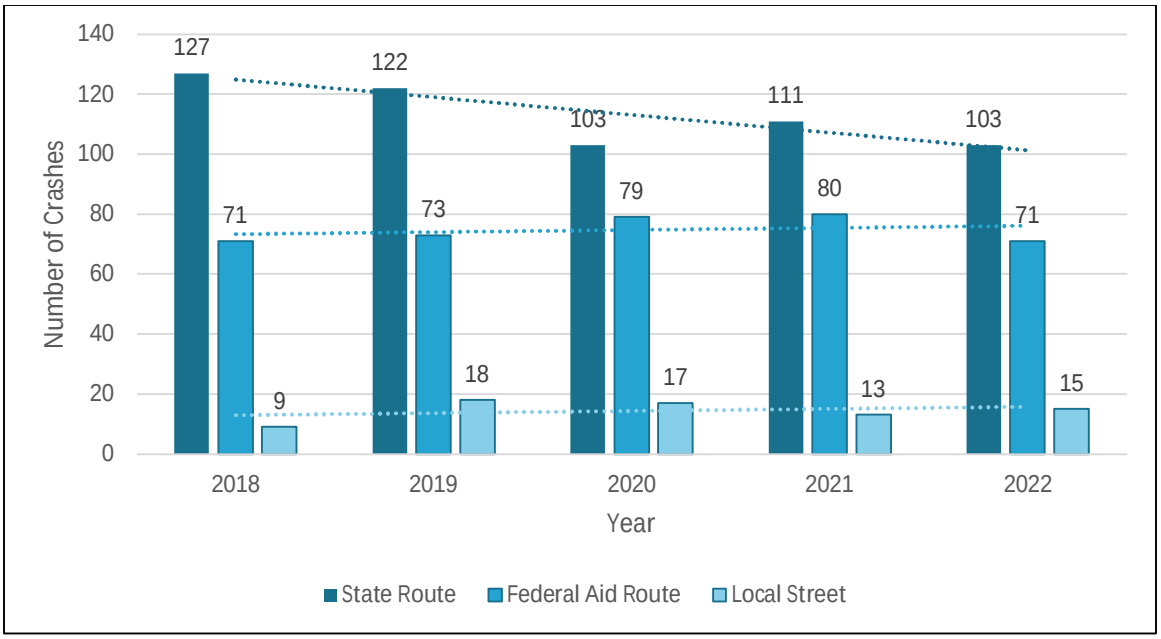


Figure 4.5 – Annual Serious Injury Crashes by Roadway Ownership

4.4. Fatal and Serious Injury Crashes by Location

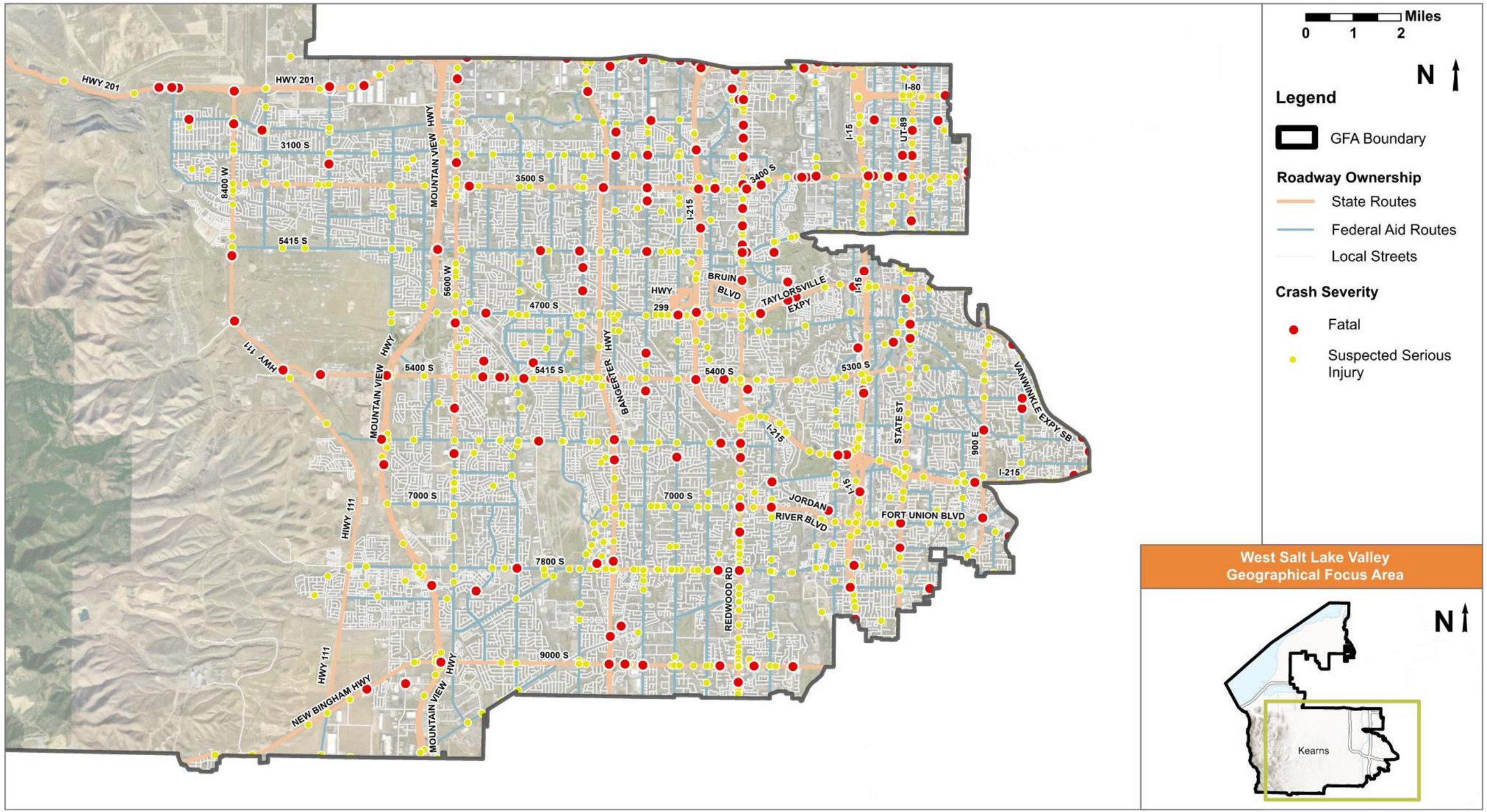


Figure 4.6 – Fatal and Serious Injury Crashes

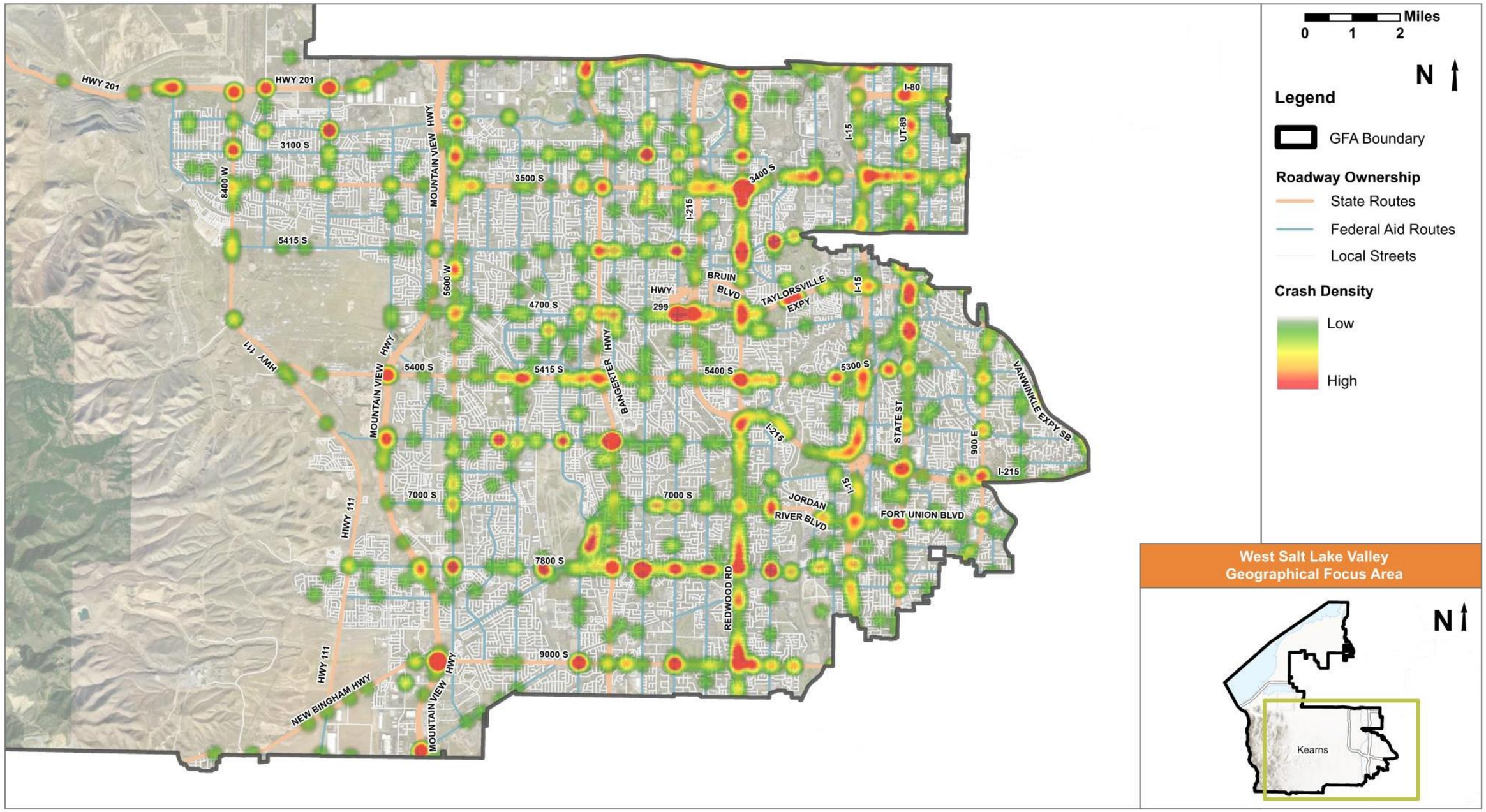


Figure 4.7 – Fatal and Serious Injury Crash Density

4.5. Fatal and Serious Injury Crashes by Crash Type

Figure 4.8 through **Figure 4.10** provide an overview of fatal and serious injury crashes by crash type and roadway ownership for the West Salt Lake Valley GFA. The data shows the following:

- Left turn at intersection crash type has the highest combined total of fatal and serious injuries with 310 crashes, with 10 being fatal
- Active Transportation had the highest number of fatal crashes, with 54 fatal crashes
- Roadway Departure also had a high frequency of fatal crashes, with 37 fatal crashes

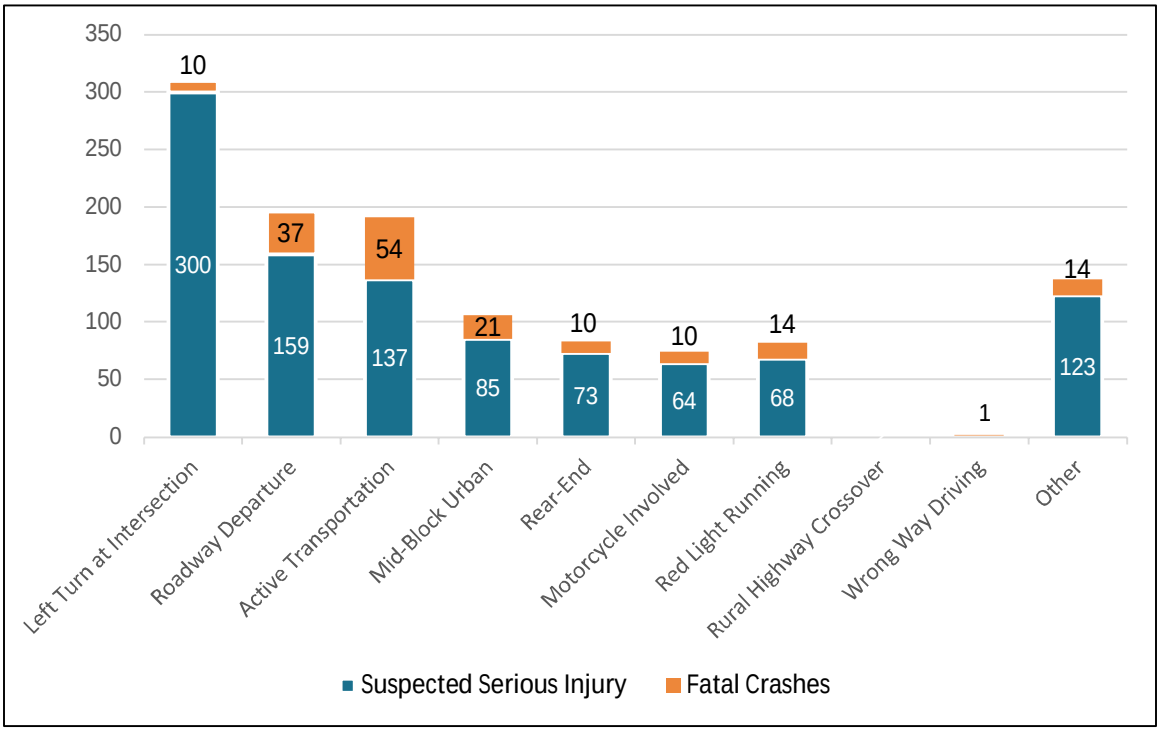


Figure 4.8 – Fatal and Serious Injury Crashes by Crash Type

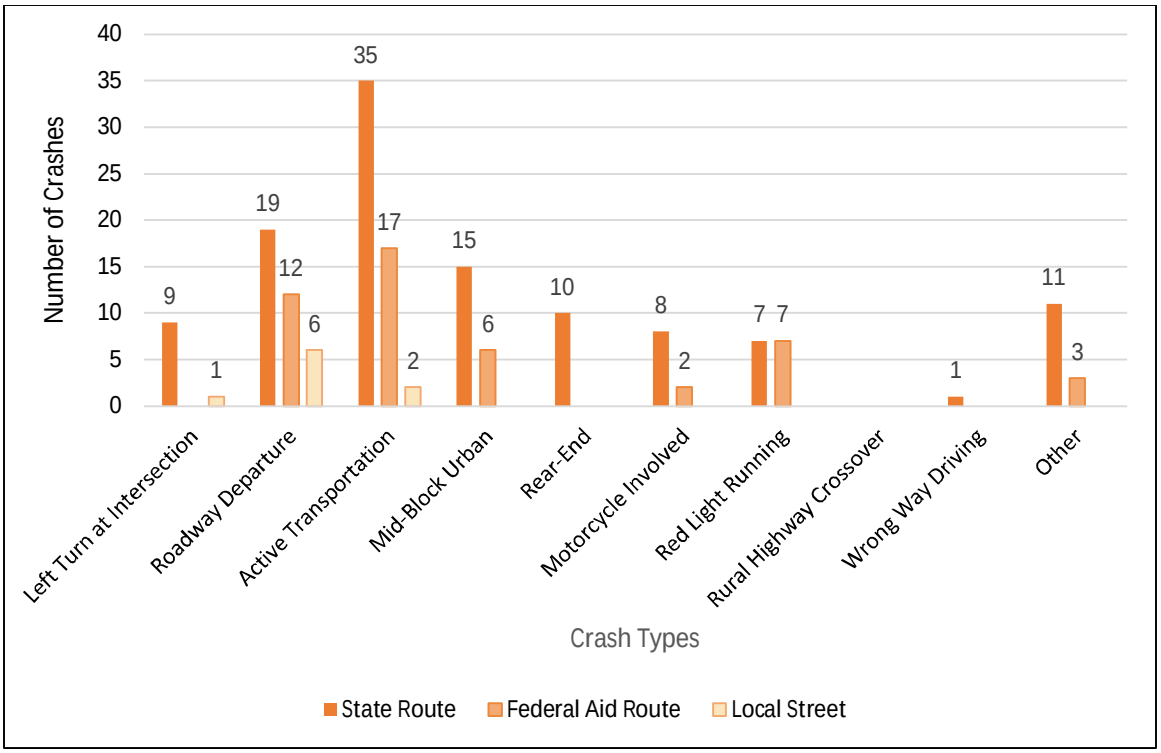


Figure 4.9 – Fatal Crashes by Crash Type and Roadway Ownership

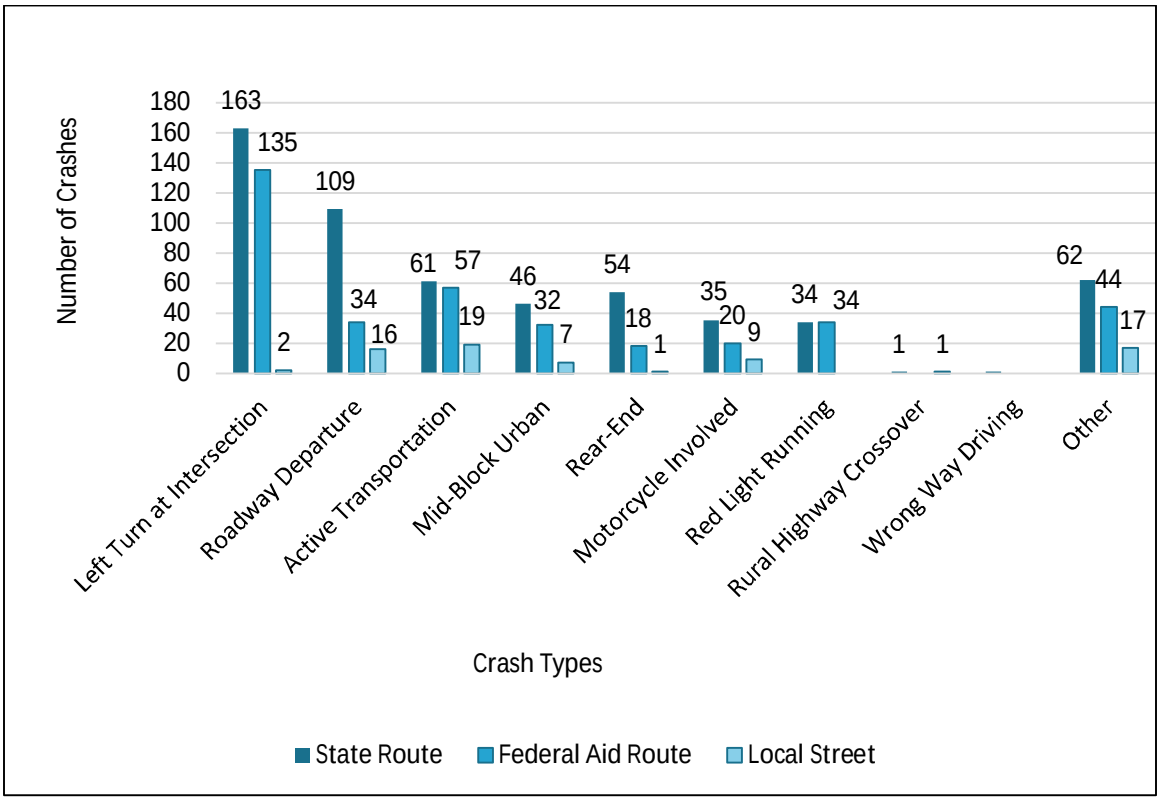


Figure 4.10 – Serious Injury Crashes by Crash Type and Roadway Ownership

4.6. Fatal and Serious Injury Vulnerable User Crashes

Figure 4.11 through **Figure 4.13** provide an overview of fatal and serious injury crashes by vulnerable road user and roadway ownership for the West Salt Lake Valley GFA. The data shows the following:

- There were 50 fatal pedestrian crashes and 6 fatal bicycle crashes within the five-year analysis period
- 34 of the 50 fatal pedestrian crashes occurred on State Routes; 14 occurred on Federal Aid Routes, and two on Local Streets
- There were 27 motorcycle fatal crashes within the five-year analysis period

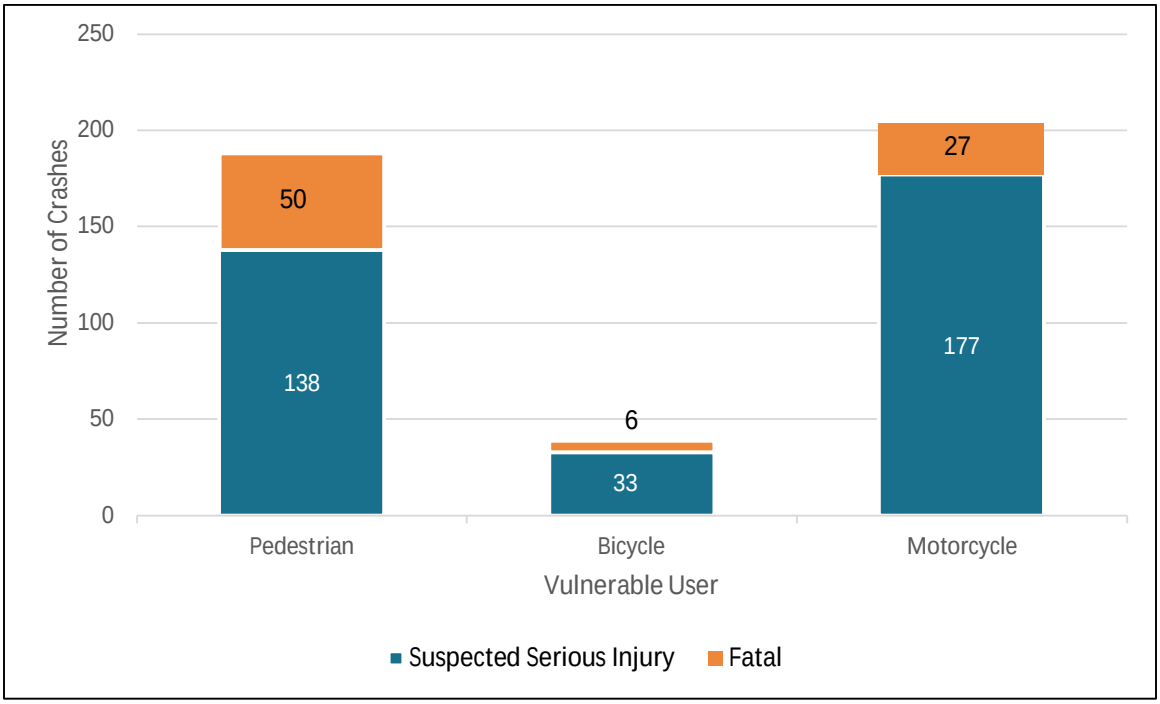


Figure 4.11 – Fatal and Serious Injury Crashes by Vulnerable User

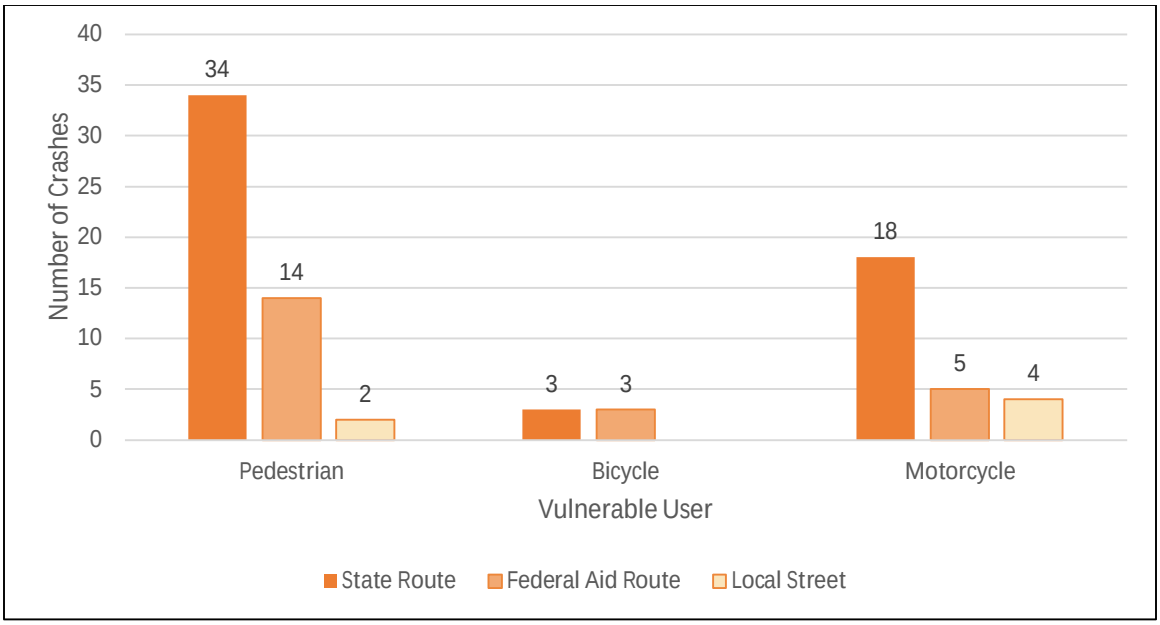


Figure 4.12 – Fatal Crashes by Vulnerable User and Roadway Ownership

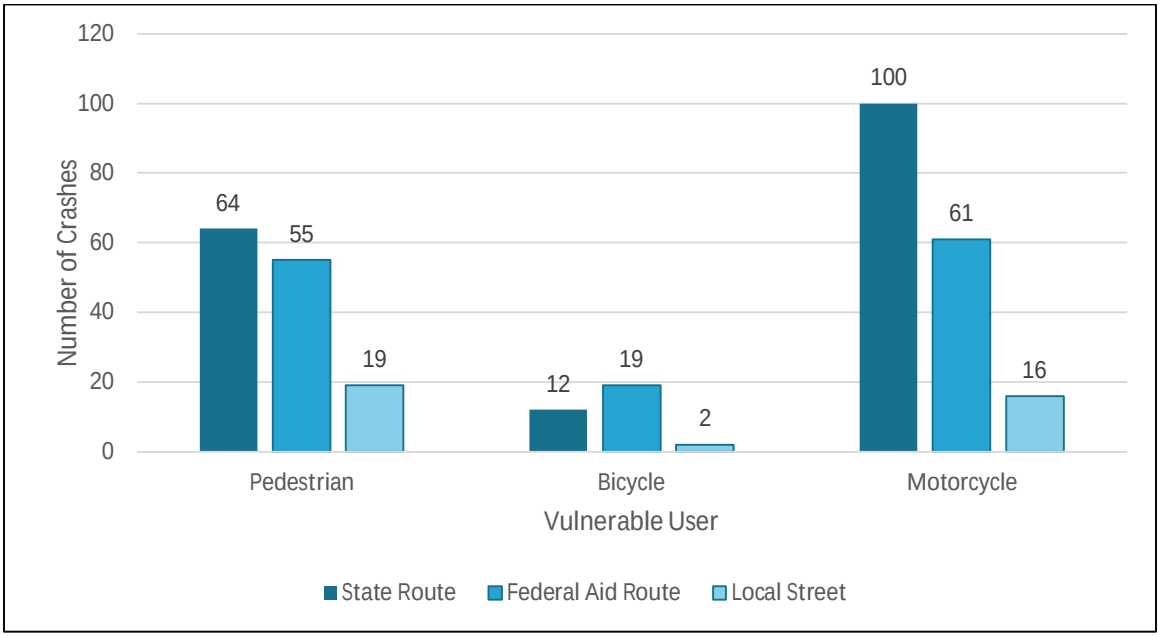


Figure 4.13 – Serious Injury Crashes by Vulnerable User and Roadway Ownership

4.7. Fatal and Serious Injury Crashes by Manner of Collision

Figure 4.14 through **Figure 4.16** provide an overview of fatal and serious injury crashes by manner of collision and roadway ownership for the West Salt Lake Valley GFA. The data shows the following:

- Single vehicle crashes have the highest number of total fatal (90) and serious injuries (375) with total 465 crashes
- Angle crashes had the highest number of serious injury crashes (409), and 42 fatal crashes

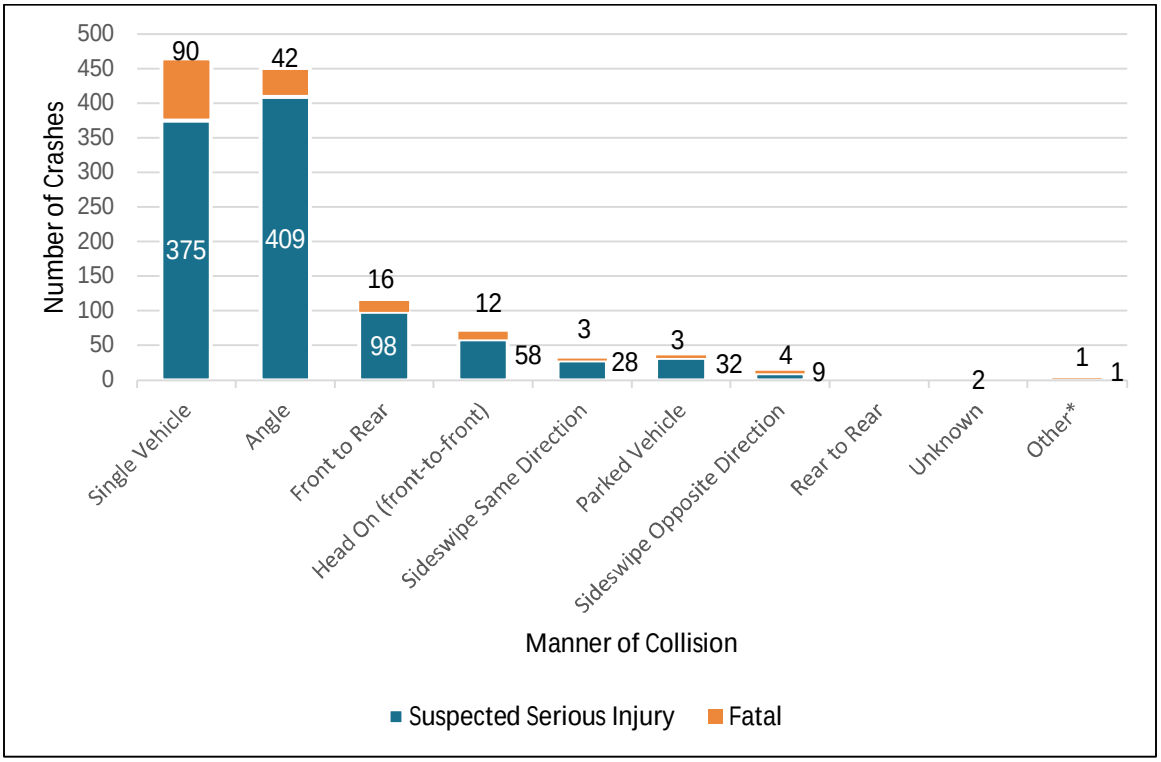


Figure 4.14 – Fatal and Serious Injury Crashes by Manner of Collision

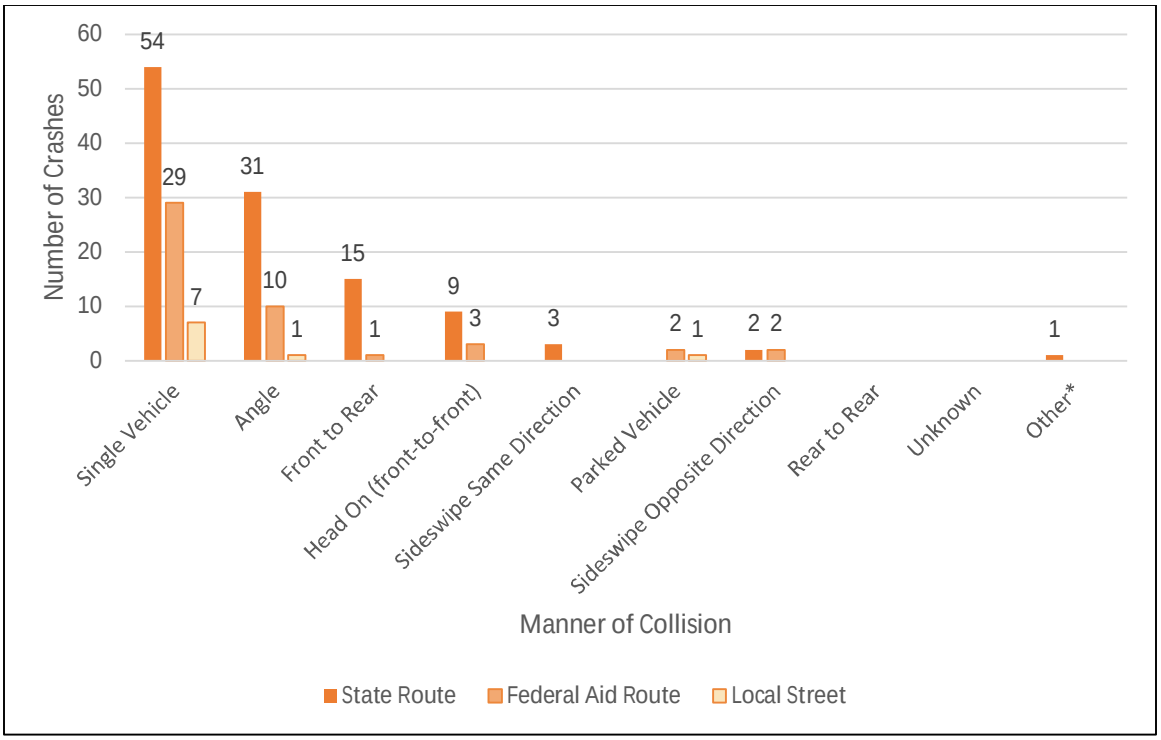


Figure 4.15 – Fatal Crashes by Manner of Collision and Roadway Ownership

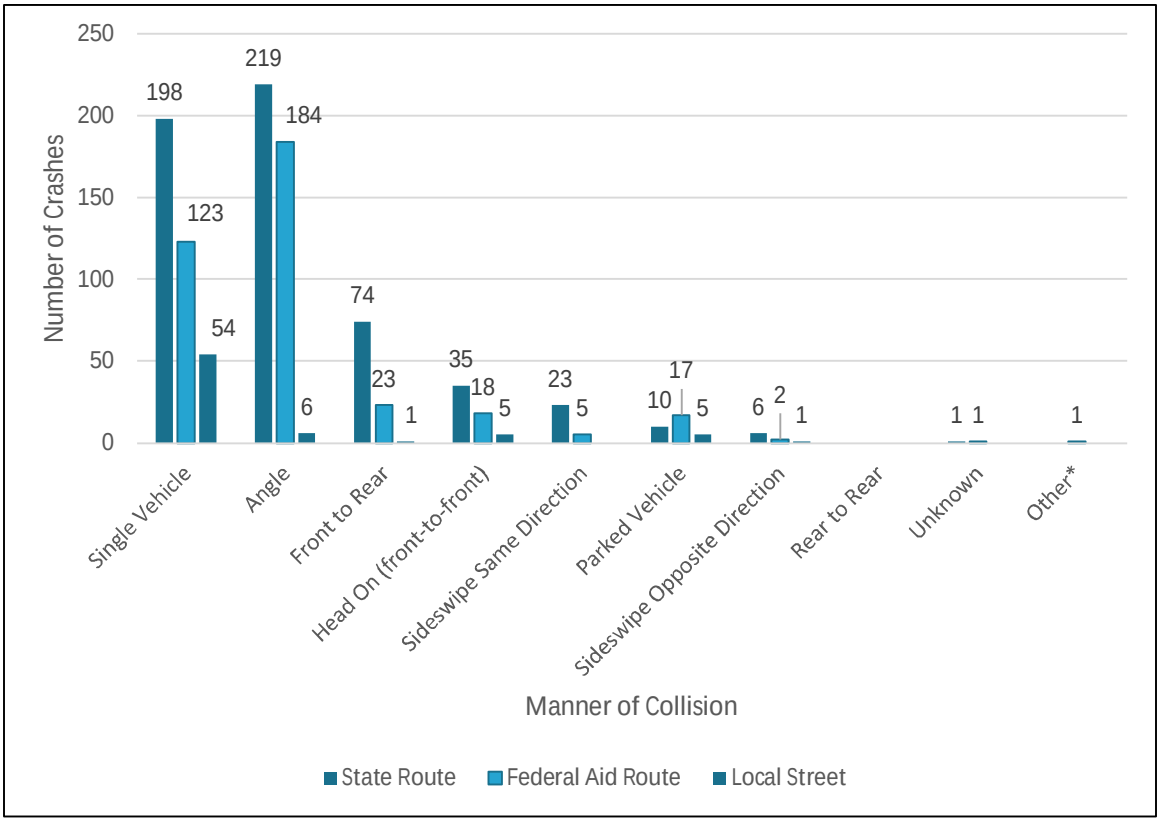


Figure 4.16 – Serious Injury Crashes by Manner of Collision and Roadway Ownership

4.8. Fatal and Serious Injury Intersection Crashes

Figure 4.17 through **Figure 4.19** provide an overview of fatal and serious injury crashes by intersection and roadway ownership for the West Salt Lake Valley GFA. The data shows the following:

- There were more Intersection-Involved crashes than Not-Intersection Involved
- 72 of the 104 Intersection-Involved crashes were on State Routes
- 43 of the 67 Non-Intersection Involved crashes were on State Routes

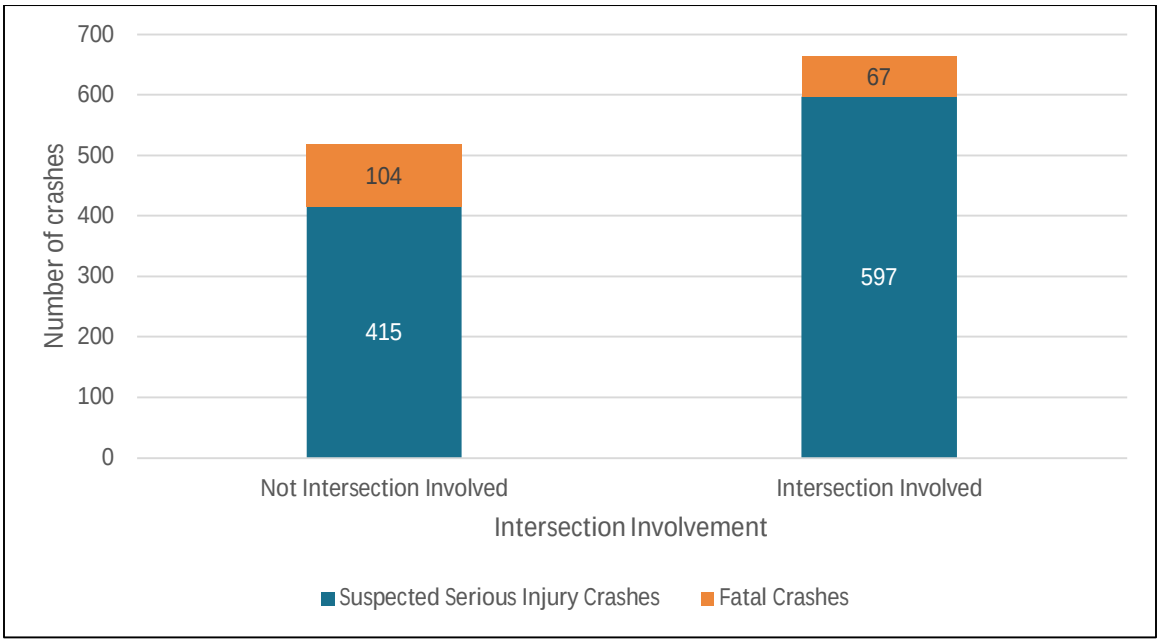


Figure 4.17 – Fatal and Serious Injury Crashes by Intersection

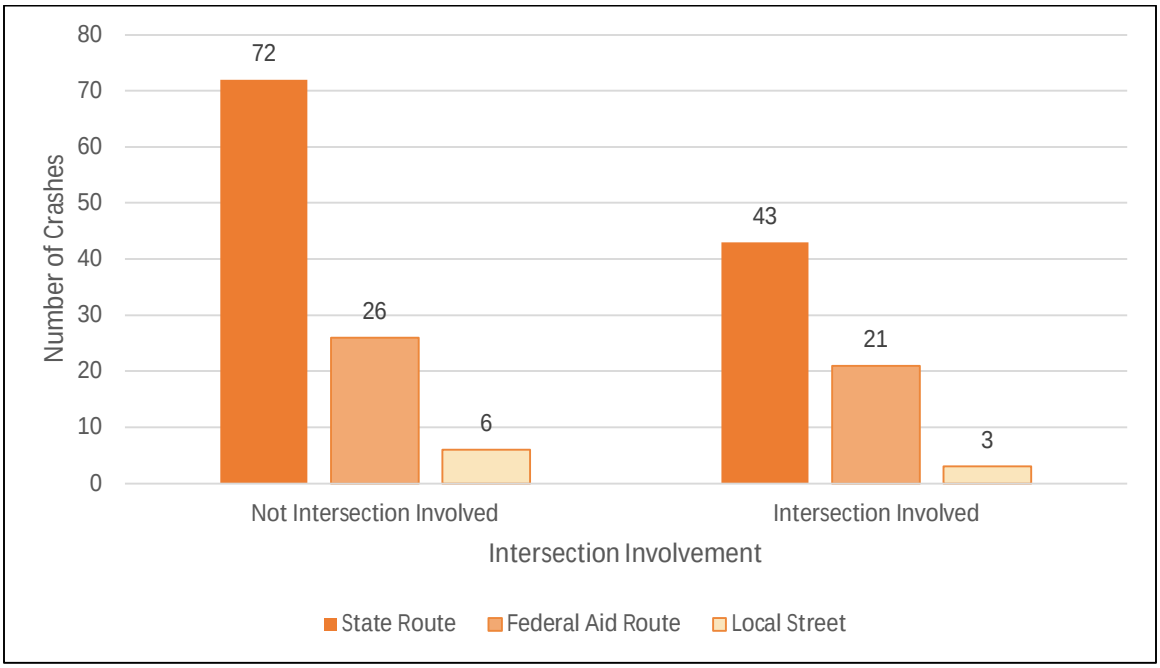


Figure 4.18 – Fatal Crashes by Intersection and Roadway Ownership

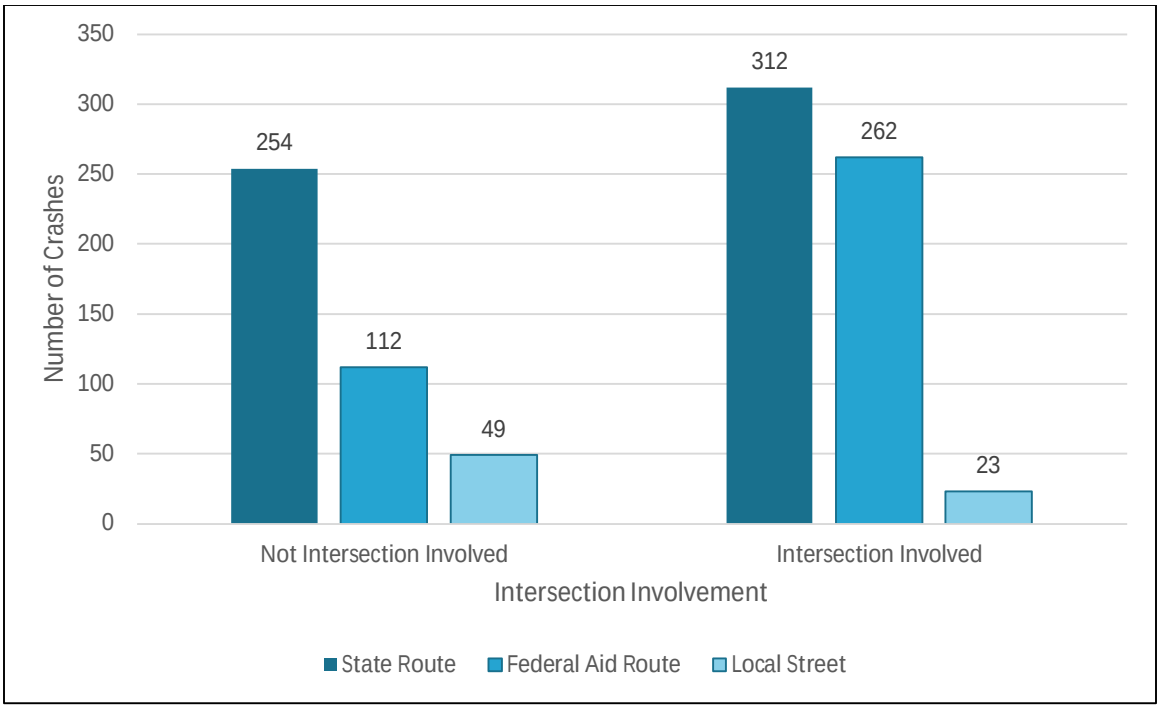


Figure 4.19 – Serious Injury Crashes by Intersection and Roadway Ownership

4.9. Fatal and Serious Injury Crashes by Functional Class

Figure 4.20 through **Figure 4.22** provide an overview of fatal and serious injury crashes by functional class and roadway ownership for the West Salt Lake Valley GFA. The data shows the following:

- Most of the fatal crashes occurred on Principal Arterials, over 4 times that of Major Collector
- Interstates, Minor Arterial, and Collector each had 18-23 fatal crashes during the five-year analysis period
- Local residential streets had 9 fatal crashes

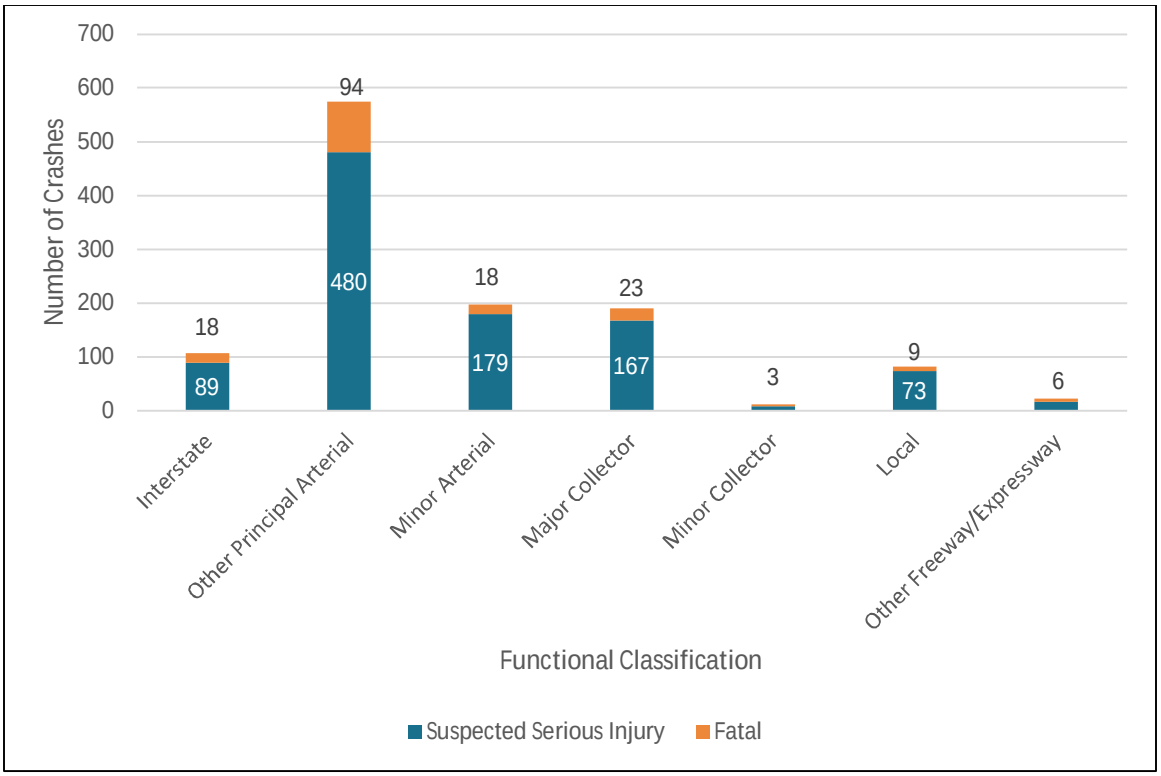


Figure 4.20 – Fatal and Serious Injury Crashes by Functional Class

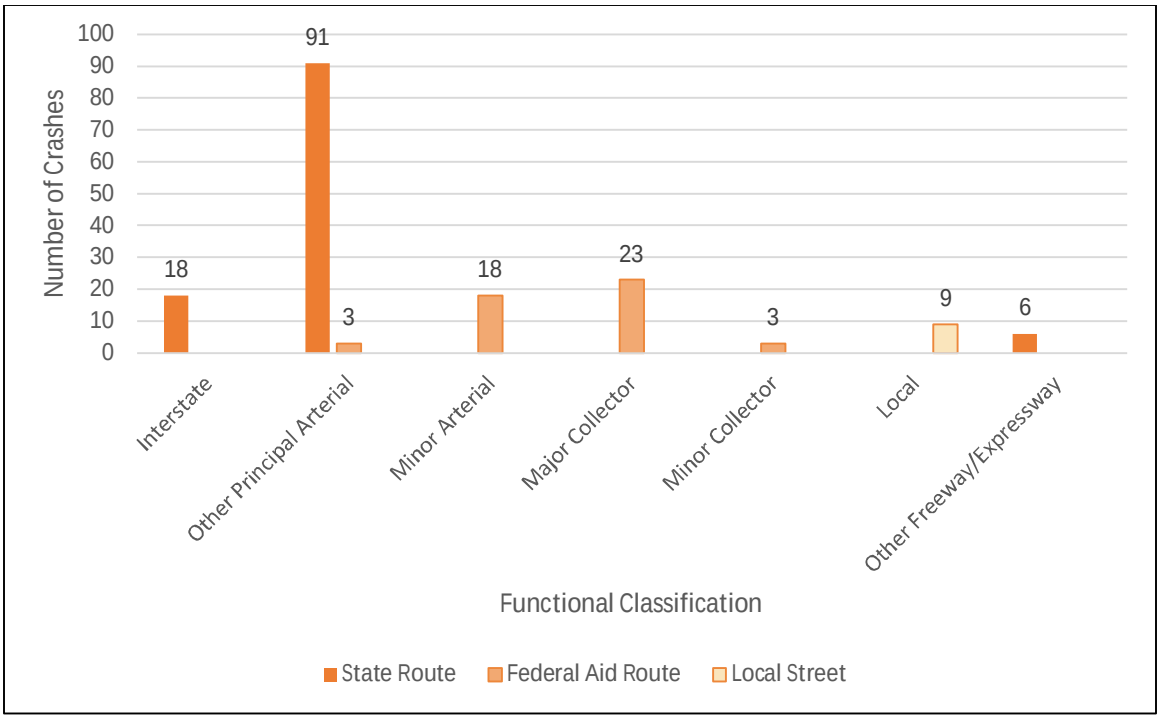


Figure 4.21 – Fatal Injury Crashes by Functional Class and Roadway Ownership

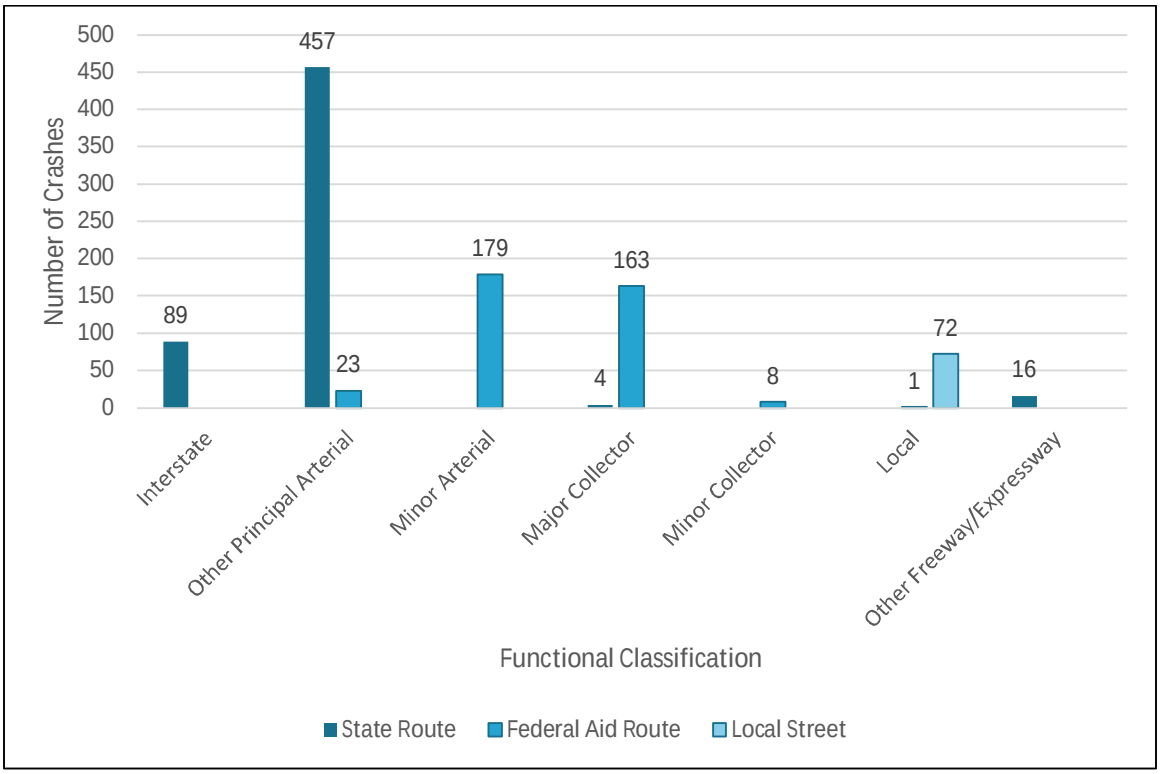


Figure 4.22 – Serious Injury Crashes by Functional Class and Roadway Ownership

4.10. Fatal and Serious Injury Crash Trees Diagrams

Fatal and serious injury crash tree diagrams were generated for the West Salt Lake Valley GFA. These crash tree diagrams are presented in **Figure 4.25** through **Figure 4.24**.

The crash trees are limited to the top 3 categories for crash type and manner of collision. Each crash tree diagram displays the total fatal and serious injury crashes (T), fatal crashes (K), and serious injury crashes (A). The data shows the following:

- State Routes recorded the highest number of crashes (57%), while Federal Aid Routes had 36% of crashes, and Local Streets had 7% of crashes
- On both State Routes and Federal Aid Routes, most prominent crash types are Left-Turn at Intersection, Red-Light Running, Active Transportation, Roadway Departure, and Mid-Block Urban

CRASH TYPE

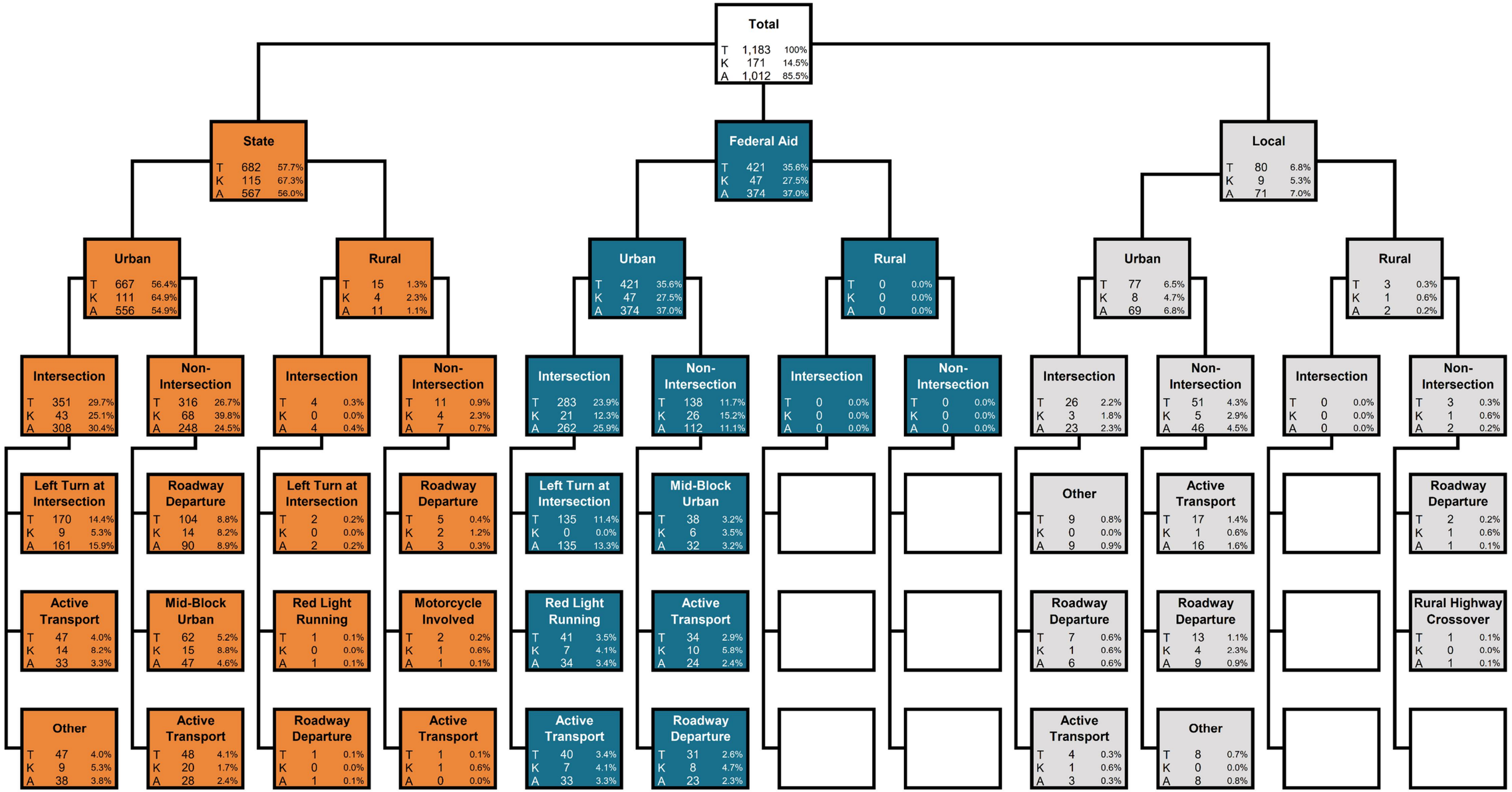


Figure 4.23 – Fatal and Serious Injury Crash Tree Diagram (Crash Type)

MANNER OF COLLISION

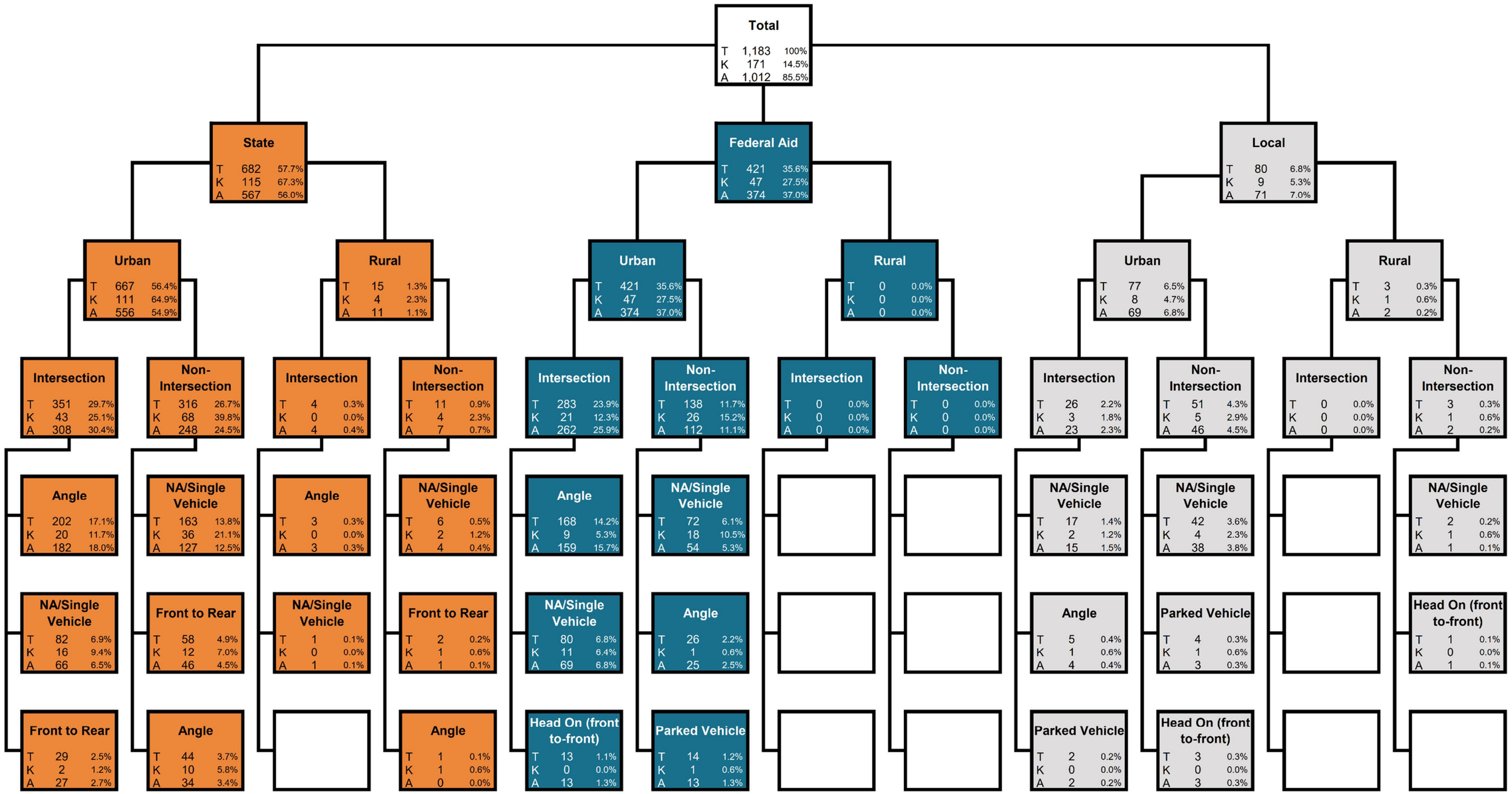


Figure 4.24 – Fatal and Serious Injury Crash Tree Diagram (Manner of Collision)

ACTIVE TRANSPORTATION

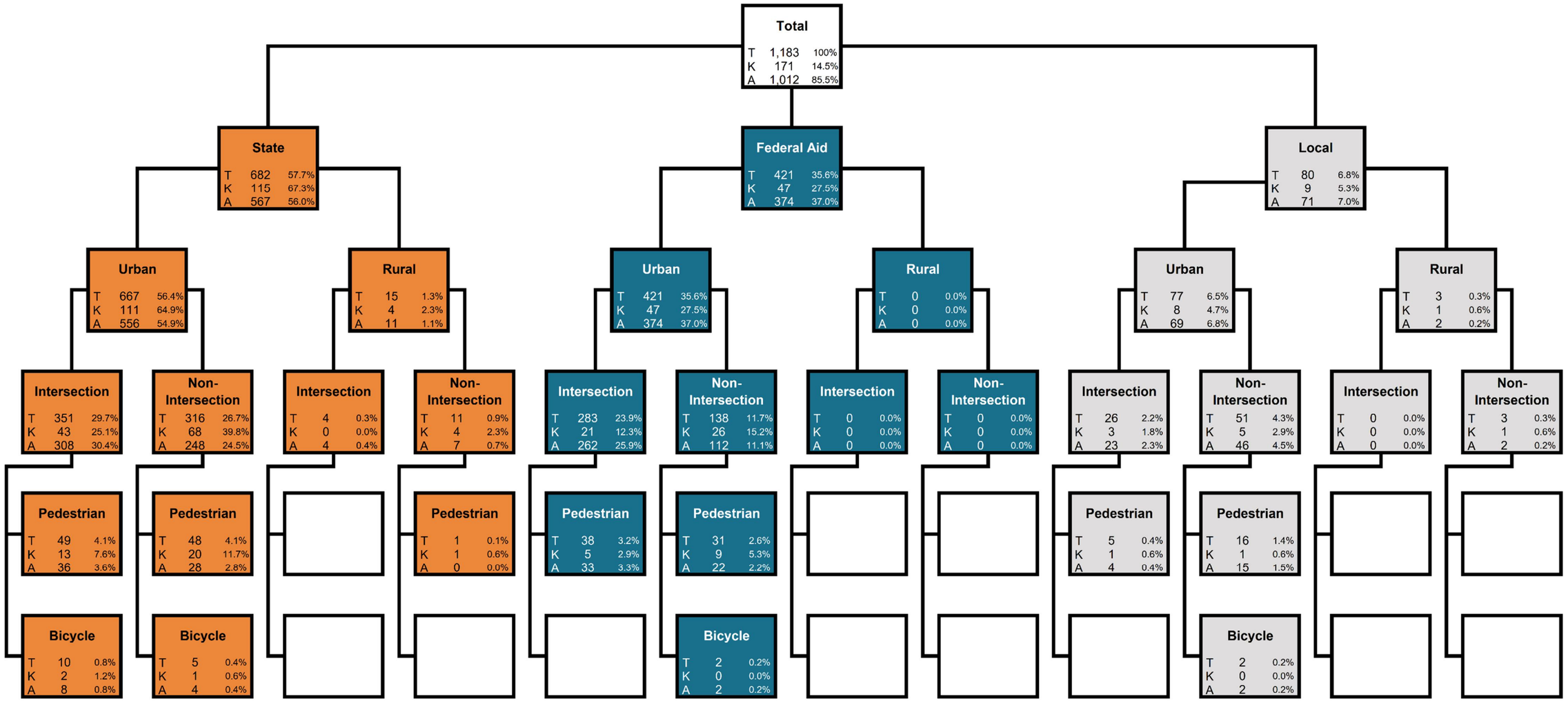


Figure 4.25 – Fatal and Serious Injury Crash Tree Diagram (Active Transportation)

5. Crash and Network Screening Analysis

A crash and network screening analysis was prepared for the West Salt Lake Valley GFA informed by four sub-analyses:

- Number of Crashes
- Critical Crash Rate (CCR)
- Probability of a Specific Crash Type Exceeding Threshold Proportion
- Equivalent Property Damage Only (EPDO)

CCR Differential by roadway ownership are mapped in the following figures:

- **Figure 5.1** – CCR Differential – Segments (State Routes)
- **Figure 5.2** – CCR Differential – Segments (Federal Aid Routes)
- **Figure 5.3** – CCR Differential – Segments (Local Routes)
- **Figure 5.4** – CCR Differential – Intersections (Signalized)
- **Figure 5.5** – CCR Differential – Intersections (Unsignalized)

A positive Local CCR Differential is an indication of a location with a potential for safety improvement (PSI).

A list of the top 10 CCR Differential segments and intersections for the West Salt Lake Valley GFA are located in **Table 5.1** and **Table 5.2** along with their associated number of crashes, probability of a specific crash type exceeding threshold proportion, and EPDO analysis results.

These locations represent those with the highest potential for safety improvements and can be considered as project candidate locations.

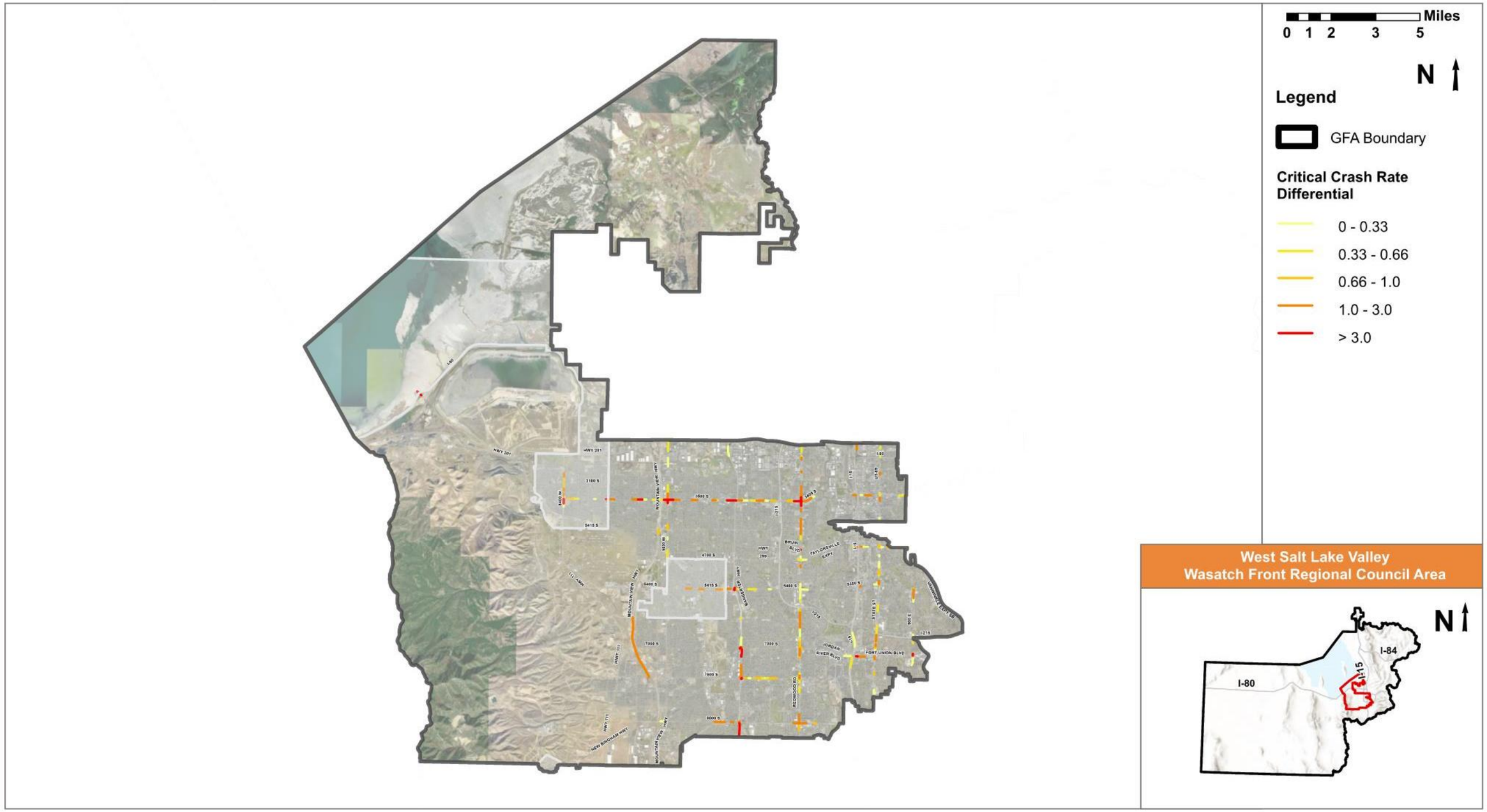


Figure 5.1 – CCR Differential – Segments (State Routes)

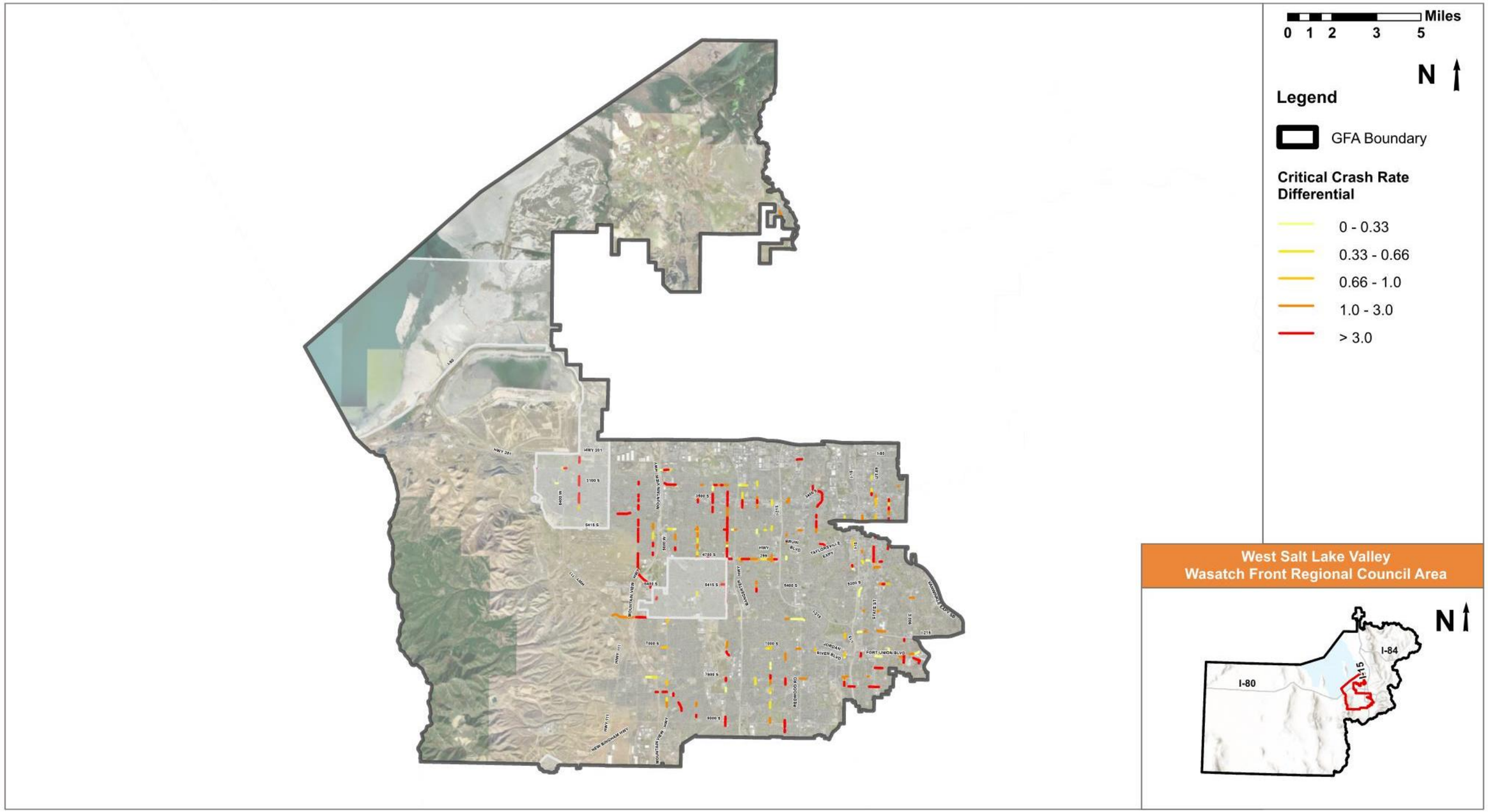


Figure 5.2 – CCR Differential – Segments (Federal Aid Routes)

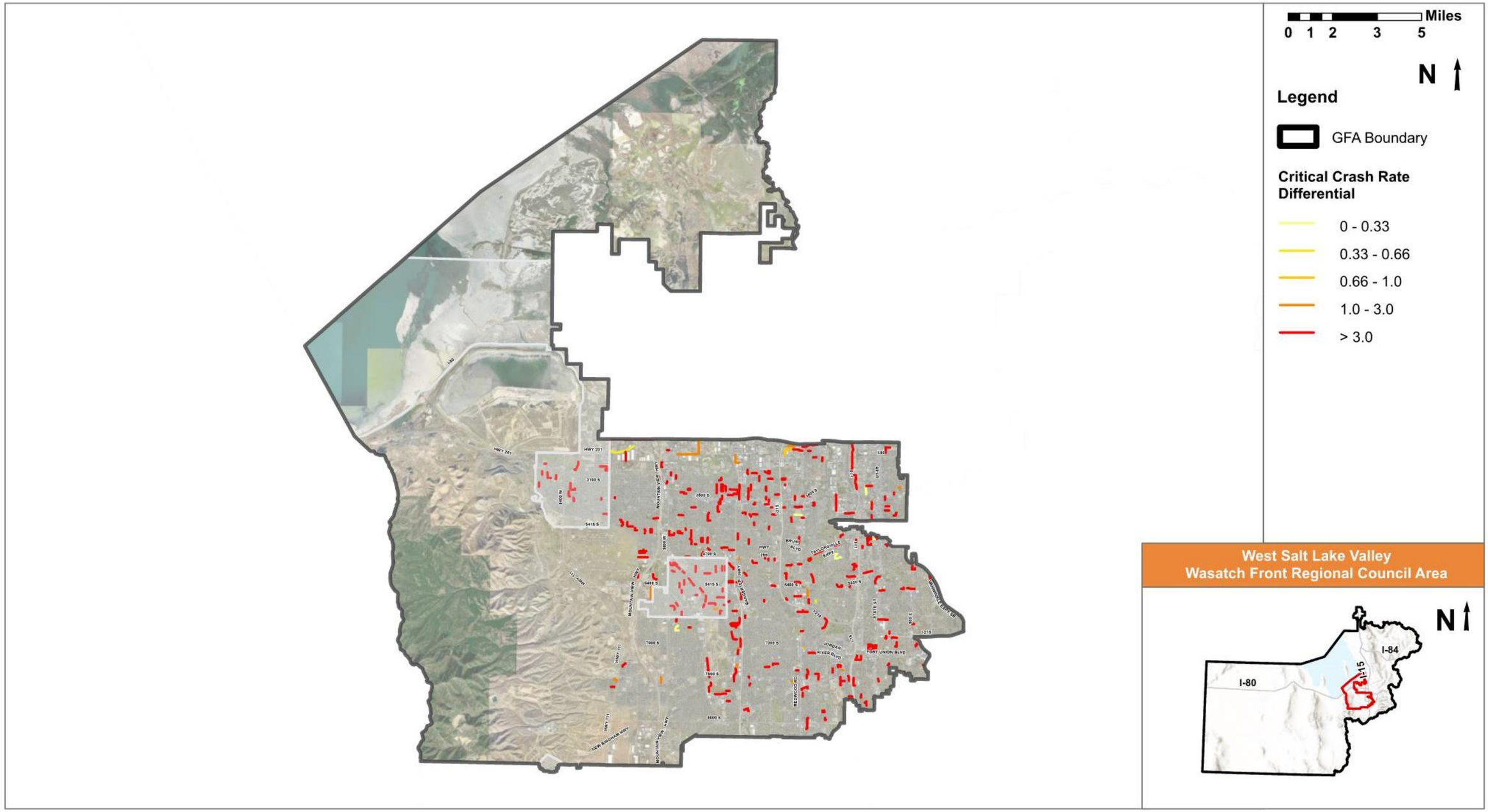


Figure 5.3 – CCR Differential – Segments (Local Routes)

Table 5.1 – Crash and Network Screening Analysis Results - Segments

Facility	Limits	Functional Classification	City	Crashes	Critical Crash Rate Differential	EPDO[1]	*Fatal*	*Suspected Serious Injury*	*Suspected Minor Injury*	*Possible Injury*	*No Injury/PDO*	Angle	Front to Rear	Head On	Single Vehicle	Parked Vehicle	Rear to Rear	Rear to Side	Sideswipe (Same Direction)	Sideswipe (opposite Direction)	Other/Unknown	Pedestrian	Bicycle	Motorcycle
State Routes																								
SR-154	SB Ramp to 5400 S	Other Principal Arterial	Taylorsville	11	104.9	32	0	0	1	0	10	0	2	0	5	0	0	0	0	2	2	0	0	0
SR-154	Jordan Landing Blvd to SB Ramp	Other Principal Arterial	West Jordan	20	26.6	136	0	0	3	5	12	1	19	0	0	0	0	0	0	0	0	0	0	0
SR-154	NB Ramp to 7800 S	Other Principal Arterial	West Jordan	17	22.4	69	0	0	0	5	12	0	16	0	1	0	0	0	0	0	0	1	0	0
3500 S (SR-171)	5600 W to Caddy Hill Ln	Other Principal Arterial	West Valley City	55	10.8	223	0	0	4	8	43	26	16	4	1	0	0	0	1	7	0	0	0	1
SR-154	5400 S to SB Ramp	Other Principal Arterial	Taylorsville	13	9.7	55	0	0	1	2	10	2	7	0	3	0	0	0	0	1	0	0	0	0
3500 S (SR-171)	5700 W to 5600 W	Other Principal Arterial	West Valley City	33	7.7	127	0	0	2	5	26	10	12	1	2	0	0	0	2	6	0	0	0	1
Redwood Rd (SR-68)	3500 S to 3395 S	Other Principal Arterial	West Valley City	52	6.1	1097	1	0	4	7	40	15	23	0	3	2	0	0	0	9	0	2	0	2
SR-202	Saltair Dr to I-80 SB Ramp	Major Collector		3	5.8	13	0	0	0	1	2	0	0	0	1	1	0	0	0	1	0	0	0	0
3500 S (SR-171)	Caddy Hill Ln to Sunshade Dr	Other Principal Arterial	West Valley City	27	5.8	90	0	0	1	4	22	12	8	2	1	1	0	0	1	2	0	0	0	1
SR-154	NB Ramp to 9000 S	Other Principal Arterial	West Jordan	11	5.3	85	0	0	2	3	6	1	4	0	5	0	0	0	0	1	0	0	0	1
Federal Aid Routes																								
6400 W	Meandor Ave to 3500 S	Local	West Valley City	7	110.0	7	0	0	0	0	7	4	3	0	0	0	0	0	0	0	0	0	0	0
6400 W	Timmerman Pl to 3380 S	Local	West Valley City	6	96.3	16	0	0	0	1	5	0	4	0	1	0	0	0	0	1	0	0	0	1
8000 W	3500 S to Copperfield Pl S	Major Collector		16	57.7	182	0	1	1	5	9	7	6	0	2	0	0	0	0	1	0	0	1	3
6200 S	Walnut Ridge Dr to 5600 W	Minor Arterial		9	50.2	51	0	0	1	2	6	4	2	0	1	0	0	0	1	1	0	0	0	0
Grizzly Way	8320 S to Hills Middle School	Major Collector	West Jordan	4	47.1	14	0	0	0	1	3	0	0	0	2	0	0	0	0	2	0	1	0	0
6400 W	King Valley Rd to Martin Way	Local	West Valley City	9	45.9	19	0	0	0	1	8	0	2	0	2	3	0	1	0	1	0	0	0	0
6200 S	Woodsborough Way to Walnut Wood D	Minor Arterial	West Valley City	5	43.5	37	0	0	1	1	3	4	1	0	0	0	0	0	0	0	0	0	0	0
6400 W	3100 S to Snow Hollow Dr	Local	West Valley City	4	42.6	36	0	0	1	1	2	0	0	0	0	4	0	0	0	0	0	0	0	0
6400 W	Thor Way to 4100 S	Major Collector	West Valley City	4	42.1	14	0	0	0	1	3	1	1	0	0	2	0	0	0	0	0	0	0	0
4000 W	4700 S to Benview Dr	Major Collector	West Valley City	64	37.8	262	0	0	2	15	47	30	14	5	5	0	0	0	0	10	0	2	0	1
Local Streets																								
3595 S	3310 W to 3270 W	Local	West Valley City	3	3268.2	13	0	0	0	1	2	0	0	0	0	2	1	0	0	0	0	0	0	0
2200 W	5140 S to Whitaker Dr	Local	Taylorsville	4	2645.7	25	0	0	1	0	3	0	0	0	3	1	0	0	0	0	0	0	0	0
3800 S	2700 W to Cheryl St	Local	West Valley City	5	2326.9	26	0	0	1	0	4	2	1	0	1	0	0	0	0	1	0	0	0	0
Jeffs Cir	Jeffs Cir to 4100 S	Local	West Valley City	4	1862.5	4	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0
230 E	200 E to Vantana Ct	Local	Midvale	3	1433.2	3	0	0	0	0	3	0	0	0	2	1	0	0	0	0	0	0	0	0
7602 S	Airport Rd to AASF Parking	Local	West Jordan	3	1383.0	45	0	0	1	2	0	0	2	0	1	0	0	0	0	0	0	0	0	0
Holden St	Private Driveway to 7725 S	Local	Midvale	4	980.6	4	0	0	0	0	4	0	0	0	2	2	0	0	0	0	0	0	0	0
6020 S	1820 W to Redwood Rd	Local	Taylorsville	7	871.9	7	0	0	0	0	7	0	3	0	2	1	0	0	0	1	0	0	0	0
2300 S	5650 W to 5600 W	Local	West Valley City	6	852.9	6	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0
4350 S	200 W to ACH	Local	Murray	3	826.8	13	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	0	0

1. Equivalent Property Damage Only Crashes

= Local CCR Differential > 3.0
= Local CCR Differential 1.0 - 3.0
= Local CCR Differential 0.66 - 1.0
= Local CCR Differential 0.33 - 0.66
= Local CCR Differential 0.0 - 0.33

= 90 - 100% probability that crash type is over-represented
= 80 - 90% probability that crash type is over-represented
= 70 - 80% probability that crash type is over-represented

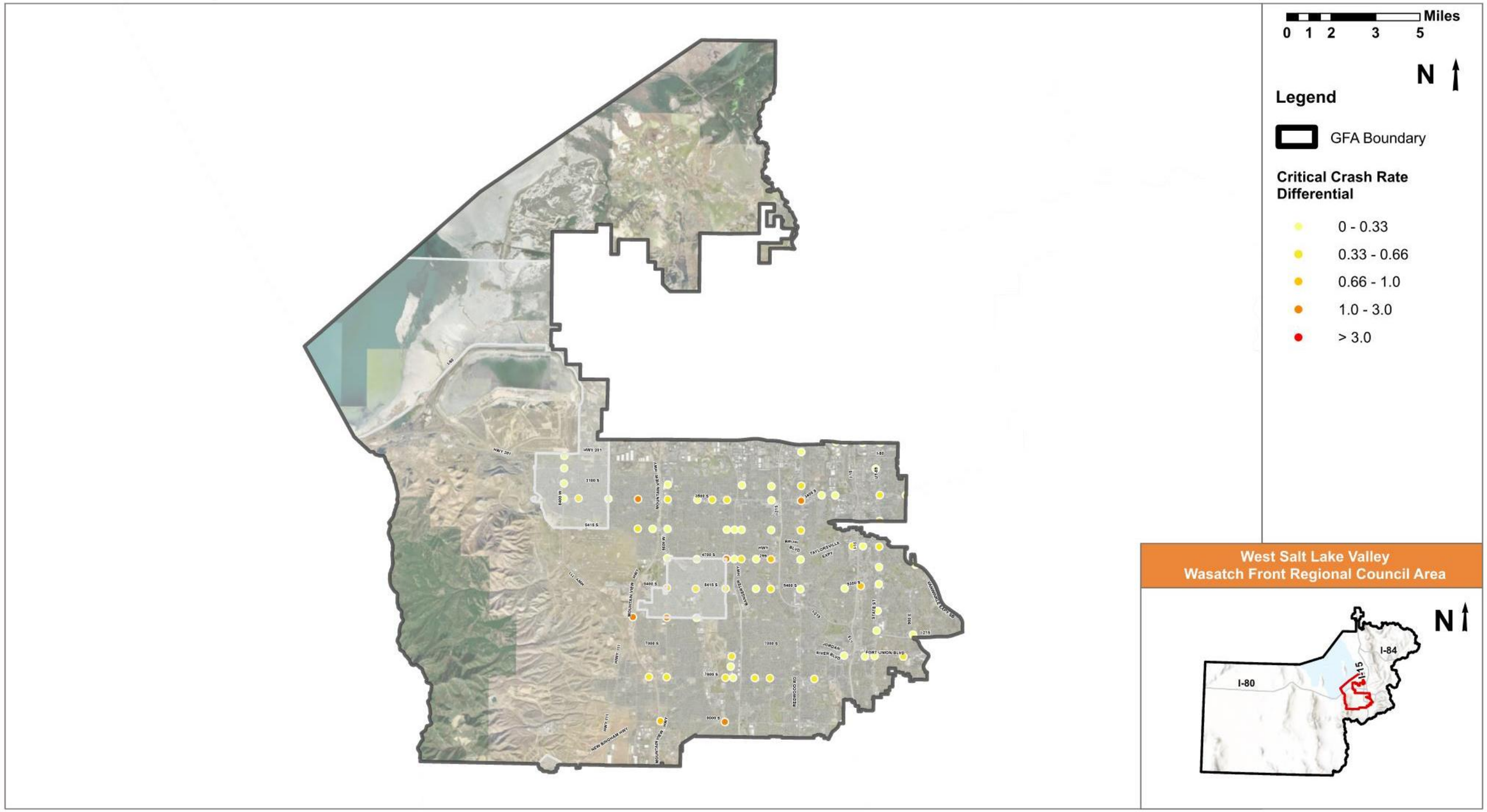


Figure 5.4 – CCR Differential – Intersections (Signalized)

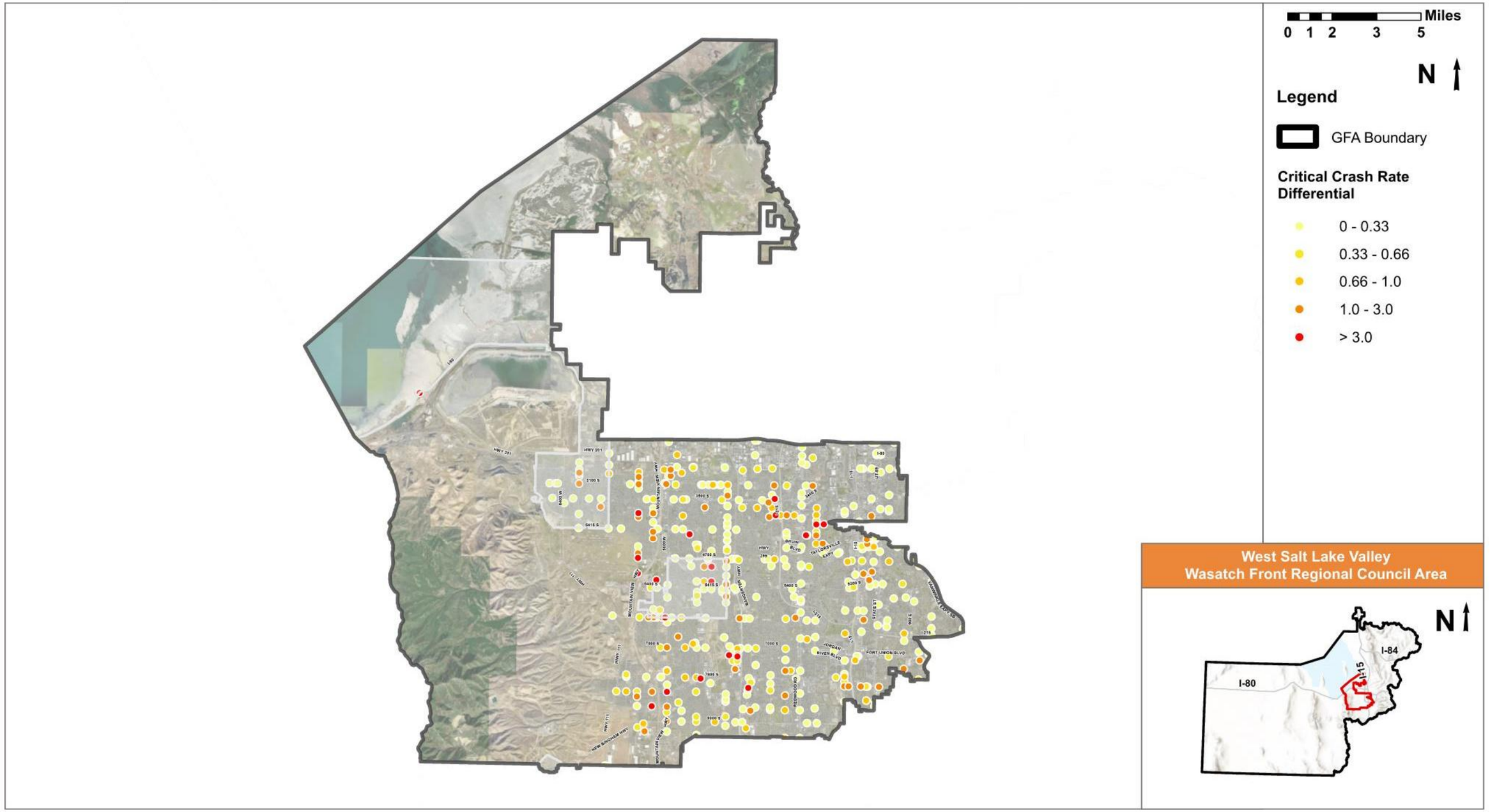


Figure 5.5 – CCR Differential – Intersections (Unsignalized)

Table 5.2 – Crash and Network Screening Analysis Results - Intersections

Intersection	City	Crashes	Critical Crash Rate Differential	EPDO[1]	*Fatal*	*Suspected Serious Injury*	*Suspected Minor Injury*	*Possible Injury*	*No Injury/PDO*	Angle	Front to Rear	Head On	Parked Vehicle	Single Vehicle	Rear to Rear	Rear to Side	Sideswipe (Same Direction)	Sideswipe (opposite Direction)	Other/Unknown	Pedestrian	Bicycle	Motorcycle
Signalized Intersections																						
Redwood Rd & 3500 S	West Valley (	351	1.9	2490	0	6	33	85	227	171	101	23	21	0	0	0	9	22	4	12	5	6
6400 W & 3500 S	West Valley (	76	1.7	611	0	1	12	18	45	31	30	3	6	1	1	0	1	3	0	4	0	1
Mountain View Sb Hwy & 6200 S	West Valley (	43	1.7	1173	1	0	7	9	26	17	19	0	4	0	0	0	0	3	0	0	0	0
4000 W & 9000 S	West Jordan	126	1.2	1316	0	5	20	29	72	72	37	3	3	0	0	0	0	10	1	0	0	4
4000 W & 4700 S	West Valley (	137	1.1	880	0	2	15	23	97	75	32	6	12	0	0	0	1	11	0	2	2	1
5600 W & 6200 S	Kearns	115	1.1	947	0	1	25	20	69	70	24	4	6	0	0	0	1	9	1	3	0	2
5600 W & 5400 S	Kearns	146	0.8	773	0	1	11	29	105	59	65	4	6	0	0	0	3	8	1	1	1	1
Mountain View Nb Hwy & 9000 S	West Jordan	68	0.8	1944	1	6	13	15	33	27	21	0	14	0	0	0	0	6	0	0	1	0
Constitution Blvd & 4700 S	Taylorsville	216	0.8	4091	3	4	23	34	152	99	63	6	5	1	0	0	4	34	4	3	0	3
Commerce Dr & 5300 S	Murray	111	0.7	372	0	0	4	17	90	34	52	4	2	0	0	0	1	17	1	0	0	0
Unsignalized Intersections																						
200 W & 4500 Frontage Rd	Murray	8	61.0	18	0	0	0	1	7	1	6	0	1	0	0	0	0	0	0	0	0	0
Angelsea Dr & Brandy Cir	West Jordan	3	24.1	3	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0
Peak Dr & 7800 S	West Jordan	6	14.4	38	0	0	1	1	4	3	3	0	0	0	0	0	0	0	0	0	0	0
Cheryl St & 3800 S	West Valley (	7	10.7	71	0	0	3	0	4	6	0	1	0	0	0	0	0	0	0	0	0	0
Swallow Ave & Clubhouse Dr	Taylorsville	5	8.2	48	0	0	2	0	3	3	0	1	1	0	0	0	0	0	0	0	1	0
6400 W & 4700 S	West Valley (	6	5.9	16	0	0	0	1	5	3	0	0	2	0	0	1	0	0	0	0	0	0
1300 W & Pharaoh Rd	West Valley (	12	5.7	75	0	0	1	4	7	4	6	0	0	0	0	0	0	2	0	0	0	1
Plaza Center Dr & Center Park Dr	West Jordan	21	5.5	303	0	1	5	8	7	16	3	0	0	0	0	0	1	1	0	0	0	0
Old Bingham Hwy & 8070 S	West Jordan	4	5.4	36	0	0	1	1	2	2	0	0	1	1	0	0	0	0	0	0	0	0
4420 W & 4865 S	Kearns	11	5.2	342	0	3	2	1	5	9	0	0	1	1	0	0	0	0	0	1	0	1

1. Equivalent Property Damage Only Crashes

= Local CCR Differential > 3.0
= Local CCR Differential 1.0 - 3.0
= Local CCR Differential 0.66 - 1.0
= Local CCR Differential 0.33 - 0.66
= Local CCR Differential 0.0 - 0.33

= 90 - 100% probability that crash type is over-represented
= 80 - 90% probability that crash type is over-represented
= 70 - 80% probability that crash type is over-represented

6. Roadway Characteristic Risk Analysis

A roadway characteristic risk analysis was performed using the following three sub-analysis:

- Crash Profile Risk Assessment
- usRAP Risk Assessment
- Local Street Risk Assessment

6.1. Crash Profile Risk Assessment

This risk assessment sub-analysis identifies common roadway characteristics for fatal and serious injury crashes that occurred within the WFRC study area. Based on the scoring of the various roadway characteristic risks identified from analysis of crash reports, a risk score was assigned to all state and federal aid routes within the West Salt Lake Valley GFA consistent with the methodology described in Tech Memo #1 Section 3.4. The results of the Crash Profile Risk Assessment are mapped in the following figures:

- **Figure 6.1** – WFRC Risk Assessment Results (State Routes)
- **Figure 6.2** – WFRC Risk Assessment Results (Federal Aid Routes)

Error! Not a valid bookmark self-reference. provides an overview of urban and rural segments with the highest risk scoring. Up to ten urban and rural segments are listed if the segment received at least 67% of the overall total risk score.

Table 6.1 – WFRC Risk Segments (Federal Aid Routes)

Area Type	Road Segment	Extents	Risk Score
Urban	Holden Street / Center Street	Center Street to 7200 South	27.5
Urban	7800 South	Redwood Road to State Street	26.7 to 27
Urban	7000 South / Jordan Landing Boulevard	7800 South to Redwood Road	25 to 27
Urban	6200 South	5600 West to Redwood Road	25 to 27
Urban	6600 South / Winchester Street	Malstrom Lane to 900 East	24.3 to 25.6
Urban	Fort Union Boulevard / 7000 South	State Street to East GFA Extents	25
Urban	Bingham Junction Boulevard / River Gate Drive	7800 South to 700 West	25
Urban	500 West / 700 West	6600 South to 3300 South	24.5 to 25
Urban	4100 South	8000 West to 6820 West	24
Urban	5900 South	700 West to 725 East	24
Rural	900 West	3300 South to North GFA Extents	24.1
Rural	Main Street / 7th Street	South GFA Extents to Center Street	24
Rural	Old Bingham Highway	New Bingham Highway to 9000 South	21.7 to 23.5
Rural	4700 South	4000 West to I-215	21.6
Rural	7200 West	4100 South to SR-201	21.1 to 21.5

Area Type	Road Segment	Extents	Risk Score
Rural	Bacchus Highway	Old Bingham Highway to New Bingham Highway	20.6
Rural	2700 South	7200 West to 5600 West	20.1

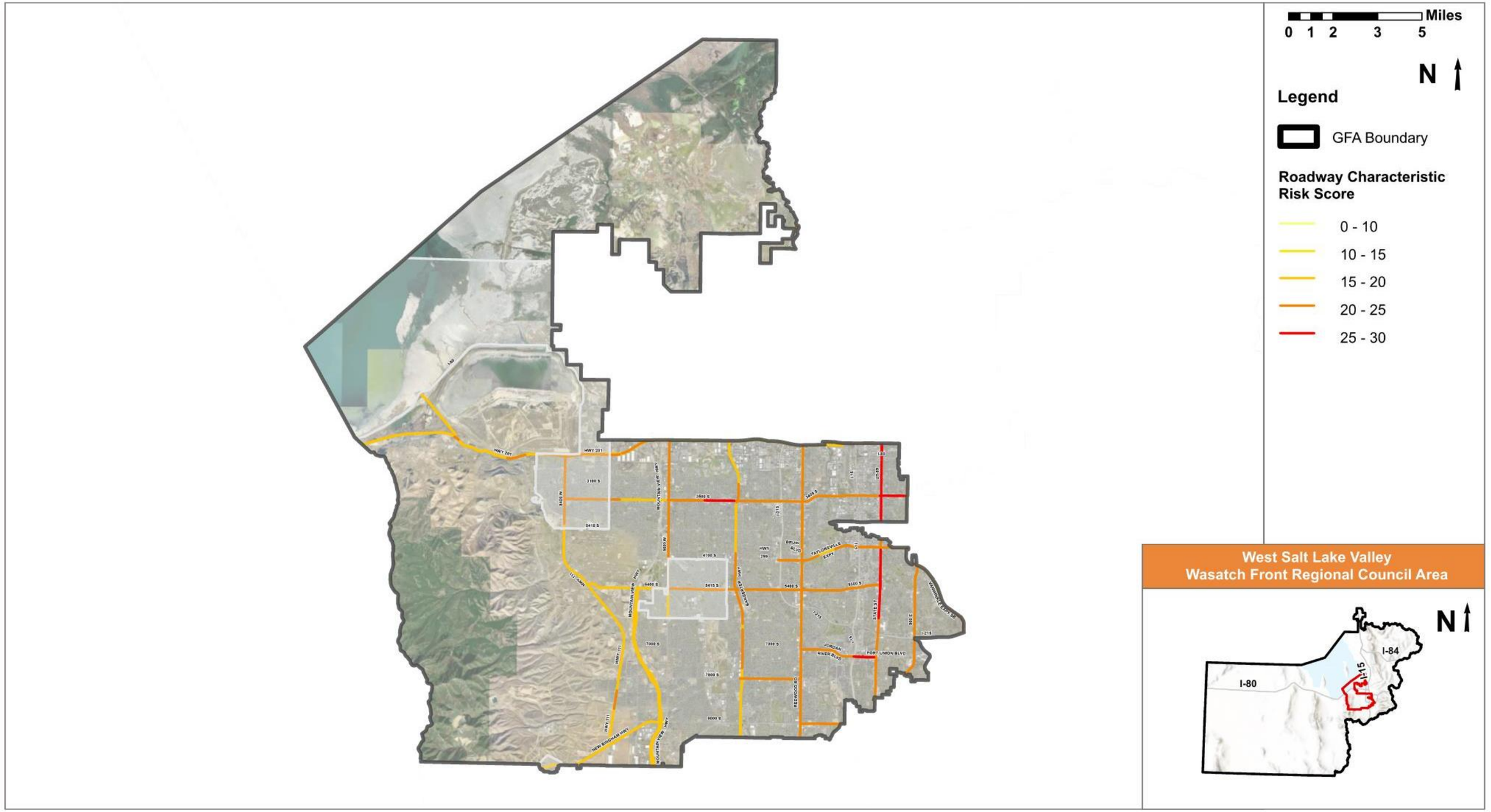


Figure 6.1 – WFRC Risk Assessment Results (State Routes)

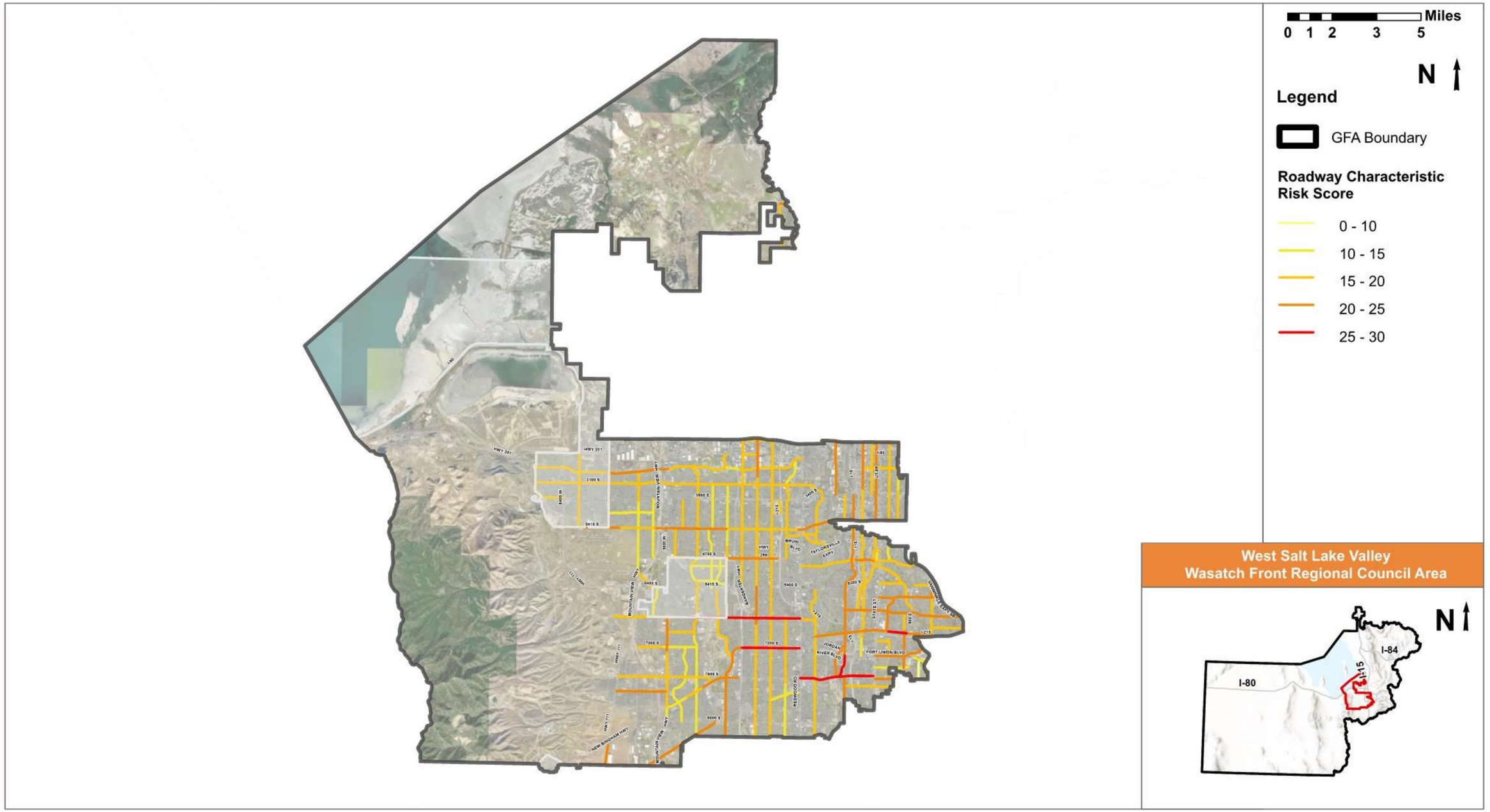


Figure 6.2 – WFRC Risk Assessment Results (Federal Aid Routes)

6.2. usRAP Risk Assessment

A roadway characteristic risk assessment was performed using roadway feature data collected for Utah state and federal aid routes. The risk assessment was performed using the usRAP tool. The output of the usRAP tool is a star rating or risk rating for vehicle, pedestrian, and bicyclist features. The results of the usRAP risk assessment by star rating are mapped in the following figures:

- **Figure 6.3** – Vehicle Star Rating (State Routes)
- **Figure 6.4** – Vehicle Star Rating (Federal Aid Routes)
- **Figure 6.5** – Pedestrian Star Rating (State Routes)
- **Figure 6.6** – Pedestrian Star Rating (Federal Aid Routes)
- **Figure 6.7** – Bicycle Star Rating (State Routes)
- **Figure 6.8** – Bicycle Star Rating (Federal Aid Routes)

A summary of the highest risk segments (1-2 Stars) for federal aid routes in the West Salt Lake Valley GFA are located in **Table 6.2**.

Table 6.2 – usRAP Risk Segments (Federal Aid Route)

Road Segment	Extents	Vehicle Risk	Pedestrian Risk	Bicycle Risk
Bacchus Highway	Old Bingham Highway to New Bigham Highway		X	X
Old Bingham Highway	New Bingham Highway to 9000 South		X	X
9180West/9200West/3500 South	8400 West to SR-201	X	X	X
8000 West	2820 South to SR-201		X	
8000 West	4100 South to Breeze Drive	X		
7200 West	4100 South to SR-201	X	X	X
4100 South	3600 West to East GFA Extents		X	
4100 South	4000 West to 3600 West		X	X
4100 South	7200 West to 4000 West	X	X	X
4100 South	8000 West to 7200 West		X	X
4100 South	8400 West to 8000 West		X	
2820 South/Parkway Blvd	7200 West to 5600 West		X	
Lake Park Blvd	5600 West to Bangerter Highway	X		X
Parkway Blvd	Lake Erie Drive to 3200 West		X	
2100 South	3500 West to 3200 West		X	X
2100 South	3200 West to 2700 West		X	
3500 West	Christy Avenue to 2100 South		X	X
3500 West	Badwen Avenue to Christy Avenue	X	X	X

Road Segment	Extents	Vehicle Risk	Pedestrian Risk	Bicycle Risk
2700 West	3100 South to 2100 South		X	
3100 South	5600 West to 4100 West		X	X
3100 South	4100 West to Cultural Center Drive		X	
Cultural Center Drive	3300 South to 3100 South		X	
4700 South	5600 West to I-215	X	X	X
2200 West	4700 South to 3800 South	X	X	X
Mantle Avenue/4200 South	2200 West to 1300 West	X		
Murray Taylorsville Road	Redwood Road to 1175 West		X	
3200 West	Bernina Drive to Royalwood Drive		X	
2700 West	5400 South to 3650 South		X	
2700 West	6865 South to 5400South		X	X
500 West/Murray Blvd	Cherry Street to 3300 South		X	X
500 West/Murray Blvd	Vine Street to Cherry Street		X	
900 West	3300 South to SR-201	X	X	X
300 West	Louise Avenue to 2100 South		X	
West Temple	3300 South to Louise Avenue	X	X	
West Temple	3300 South to 2100 South		X	
2700 South	300 West to 500 East	X	X	
300 East	3900 South to Vidas Avenue	X	X	X
5290 South	900 East to 1300 East	X		
1300 East	5600 South to Van Winkle Expressway	X	X	
1300 East	Vine Street to 5600 South		X	X
1300 East	I-215 to Vine Street		X	
6400 South	1300 East to Highland Drive	X	X	X
5900 South/Vine Street	700 West to Van Winkle Expressway		X	
Fashion Blvd	5900 South to 5600 South		X	X
Fashion Blvd	Winchester Street to 5900 South		X	
700 West/Murray Blvd	River Glen Drive to Allendale Drive		X	
7000 South	Traveler Lane to Adventure Way	X		
6600 South	5600 West to Cougar Lane	X		X
5600 West	7000 South to 6200 South		X	

Road Segment	Extents	Vehicle Risk	Pedestrian Risk	Bicycle Risk
6200 South/Benion Blvd	5600 West to 1300 West	X	X	X
1300 West	Benion Blvd to 5400 South		X	
7800 South	Highlands Loop Road to Airport Road	X	X	X
7800 South	SR-111 to Highlands Loop Road		X	X
Airport Road	New Bingham Highway to 7800 South	X	X	X
Jordan Landing Blvd/7000 South	7800 South to Redwood Road		X	
2200 West	7420 South to Benion Blvd	X		
Union Park Avenue	I-215 to 6600 South		X	
Winchester Street	1300 West to Malstrom Lane		X	
Winchester Street	Malstrom Lane to 725 East		X	X
Winchester Street	1300 West to 1300 East		X	
Fort Union Blvd	State Street to Union Park Avenue	X	X	X
7800 South/Center Street	Redwood Road to Bingham Junction Blvd		X	
Center Street	Bingham Junction Blvd to State Street		X	X
1300 West	8745 South to George's Circle		X	
1300 West	South GFA Extents to 8745 South		X	X
Main Street/7th West	9000 South Center Street		X	
Holden Street	Center Street to 7200 South		X	X
700 West	7200 South to Swinley Drive		X	

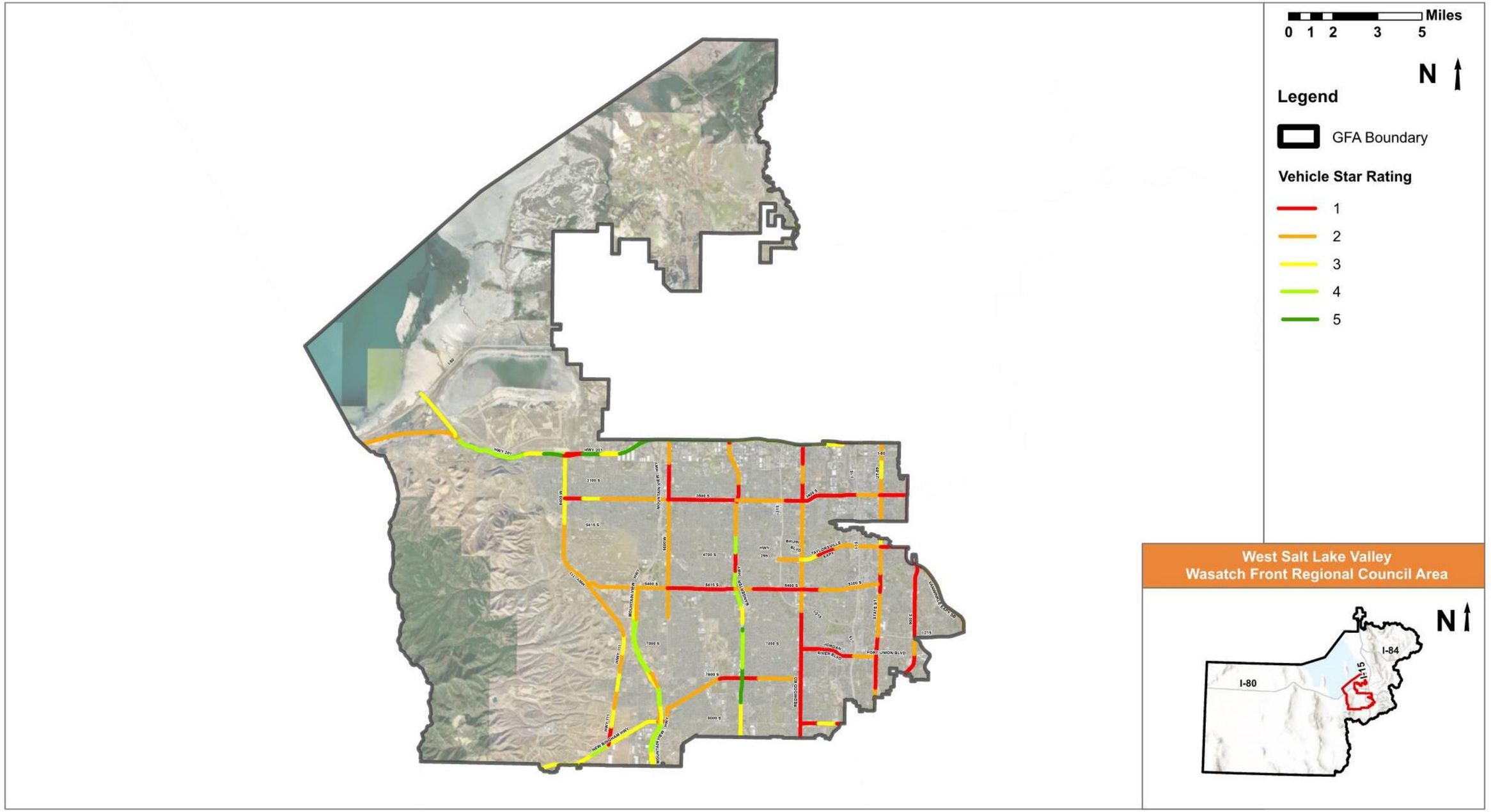


Figure 6.3 – Vehicle Star Rating (State Routes)

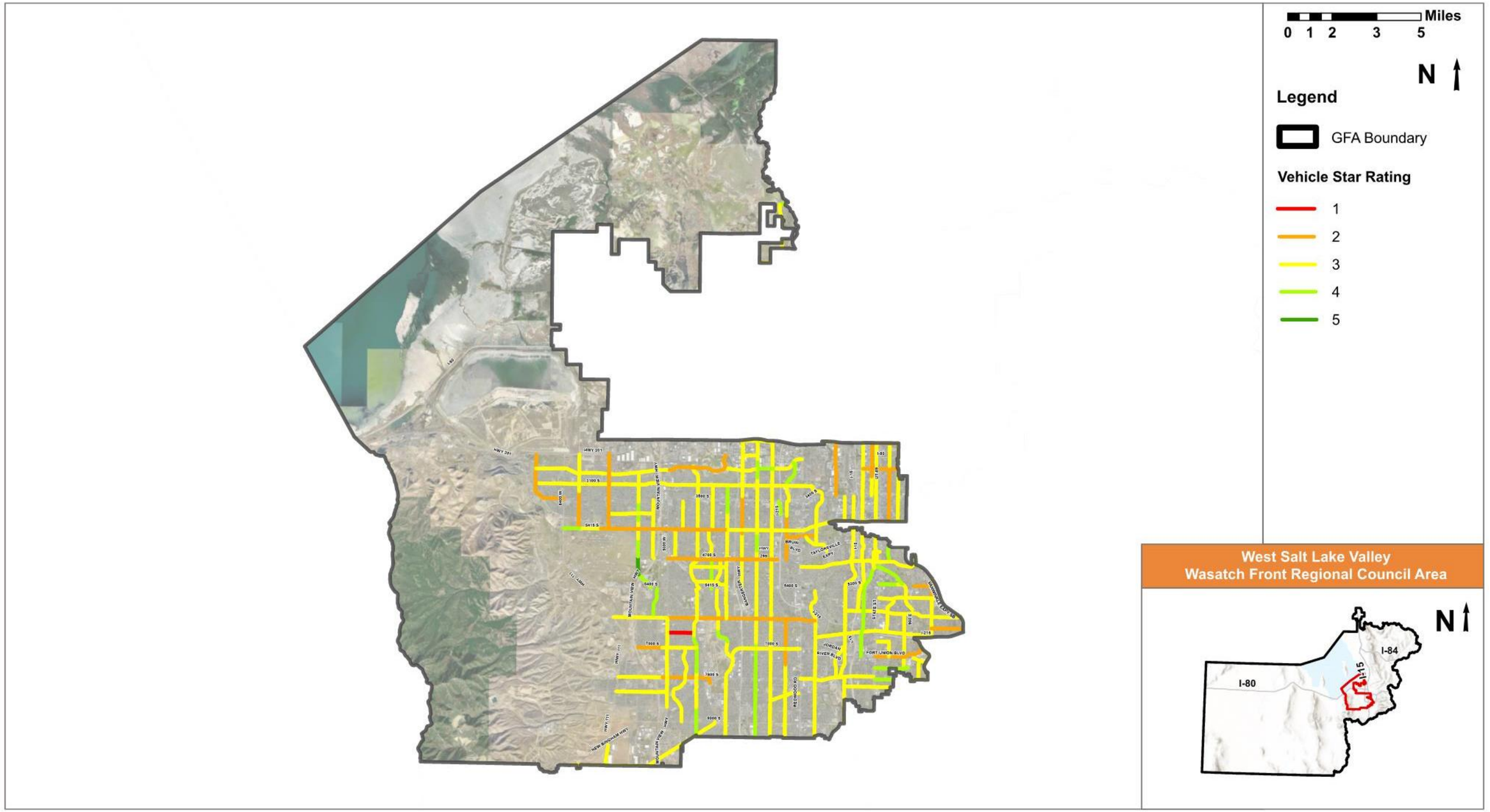


Figure 6.4 – Vehicle Star Rating (Federal Aid Routes)

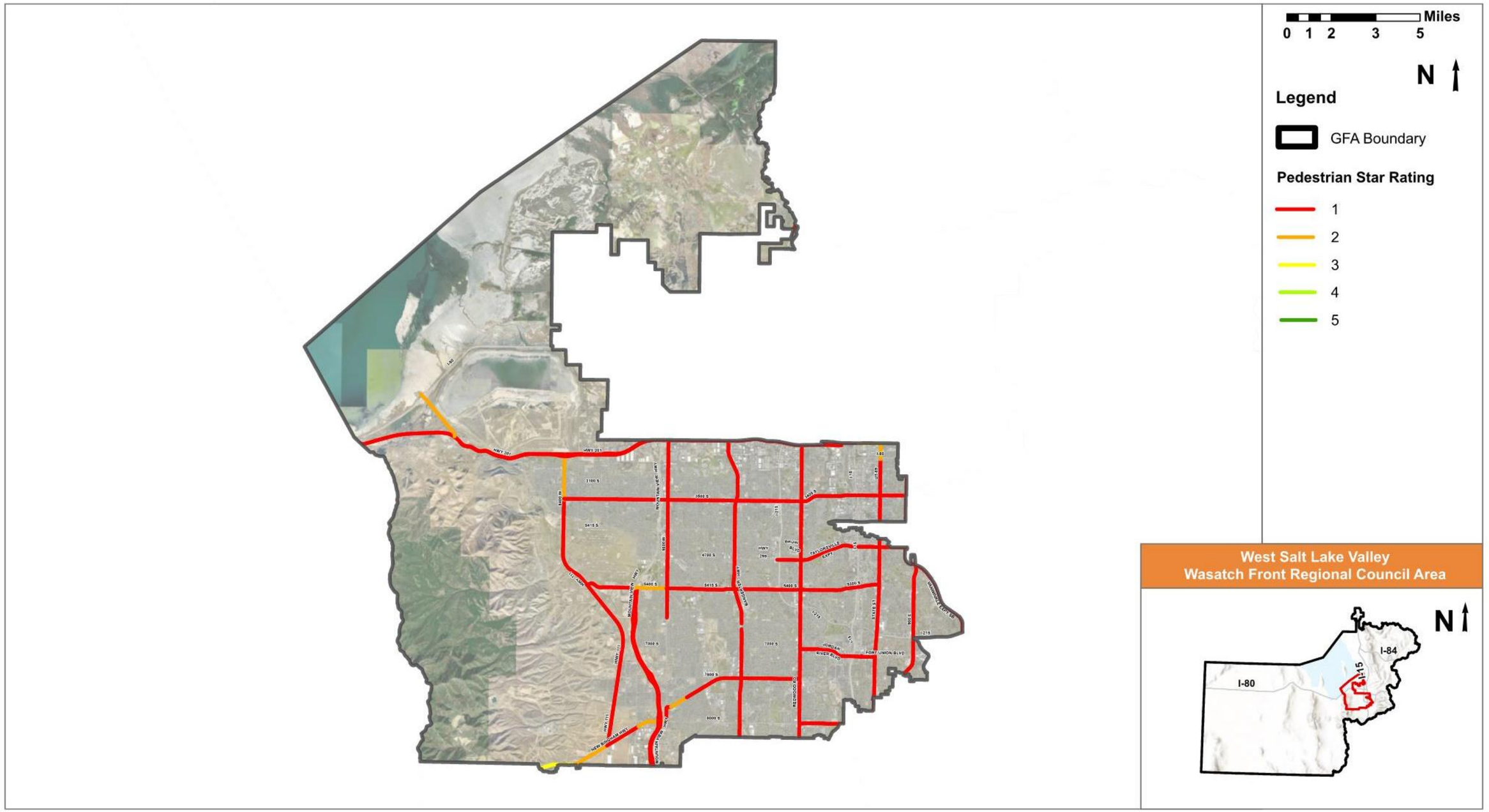


Figure 6.5 – Pedestrian Star Rating (State Routes)

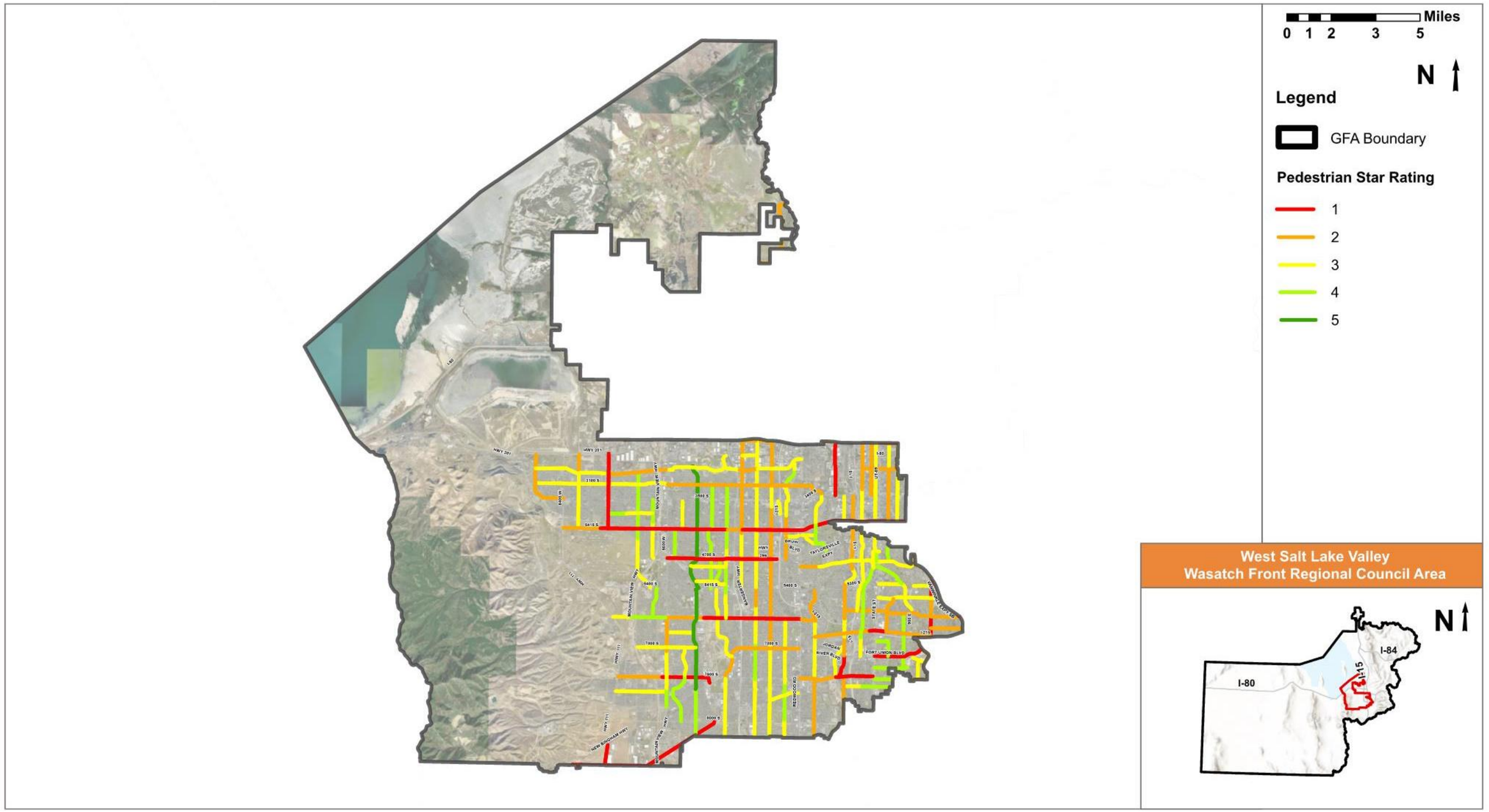


Figure 6.6 – Pedestrian Star Rating (Federal Aid Routes)

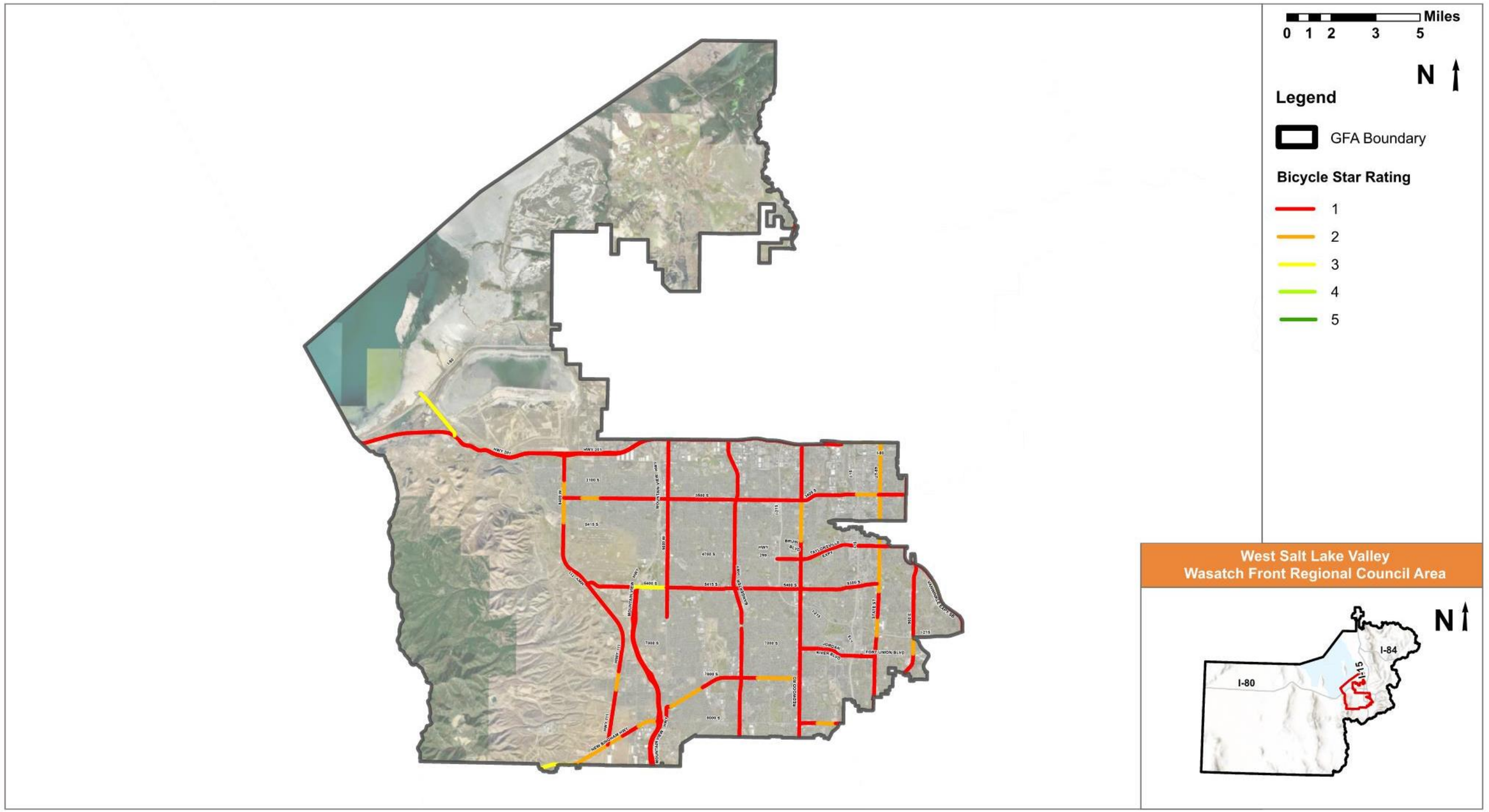


Figure 6.7 – Bicycle Star Rating (State Routes)

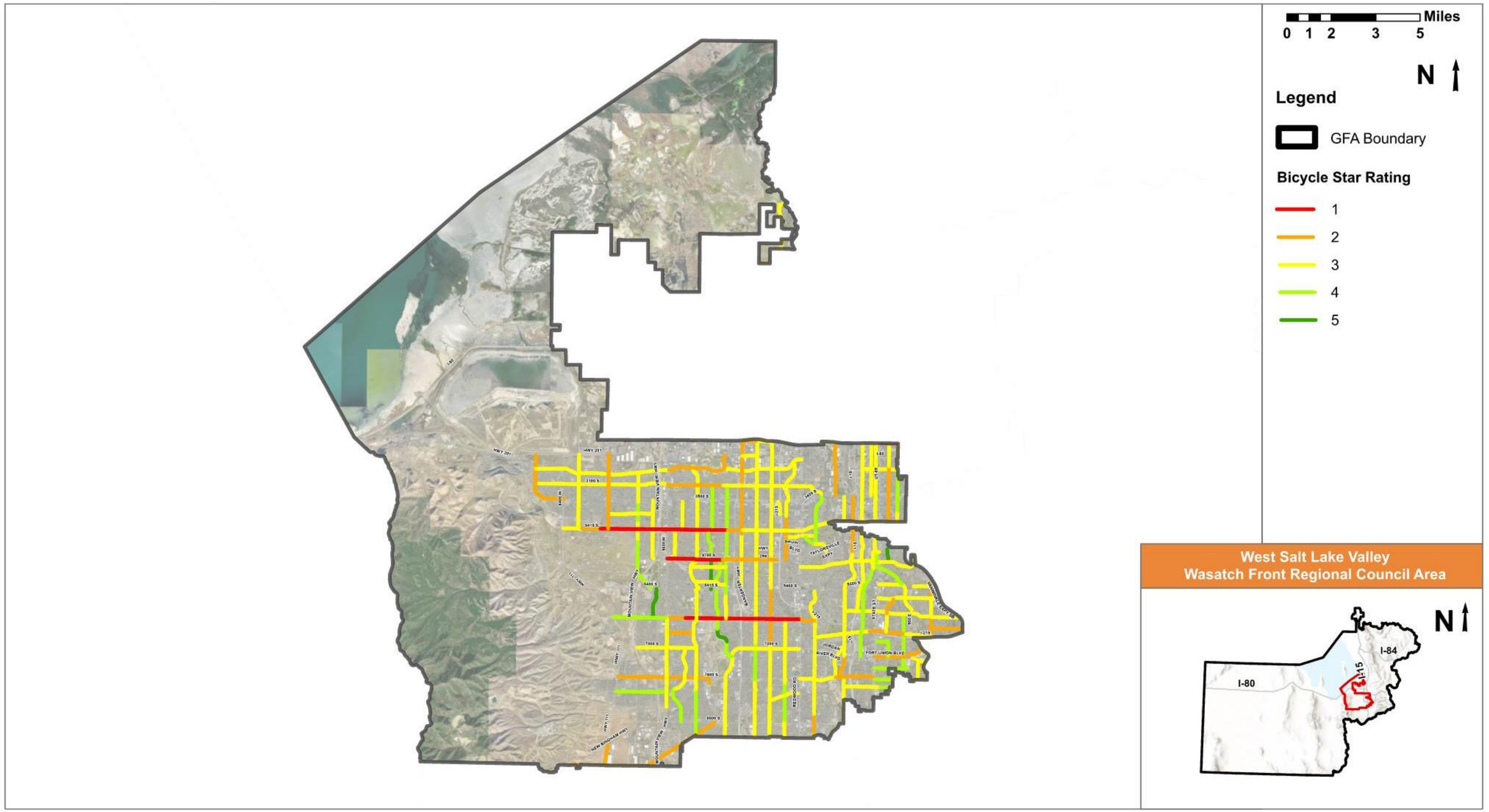


Figure 6.8 – Bicycle Star Rating (Federal Aid Routes)

6.3. Local Street Risk Assessment

A local street risk assessment was performed for all local roads within WFRC that are not included in the usRAP network. The results of the local street risk assessment are summarized in **Table 6.3** and **Figure 6.9**. Mapped segments include the top 5% risk segments within the WFRC study area and the top 10 segments or high priority segments within the West Salt Lake Valley GFA.

Table 6.3 – Local Street High Priority Segments

Road Segment	Extents
Jordan Landing	7800 South – Bangerter Highway
1300 West	3850 South – Olive Street
Campus View Drive	Center Park Drive – 8000 South
Atherton Drive	1300 West – River Grand Way
Dixie Drive	Ft Sumpter Drive – 6200 South
Cougar Lane	6000 South – 7000 South
West Temple	3100 South – 3900 South
8000 West	2100 South – 3700 South
7000 South	6100 West – 5400 West
3100 South	7200 West – 8800 West

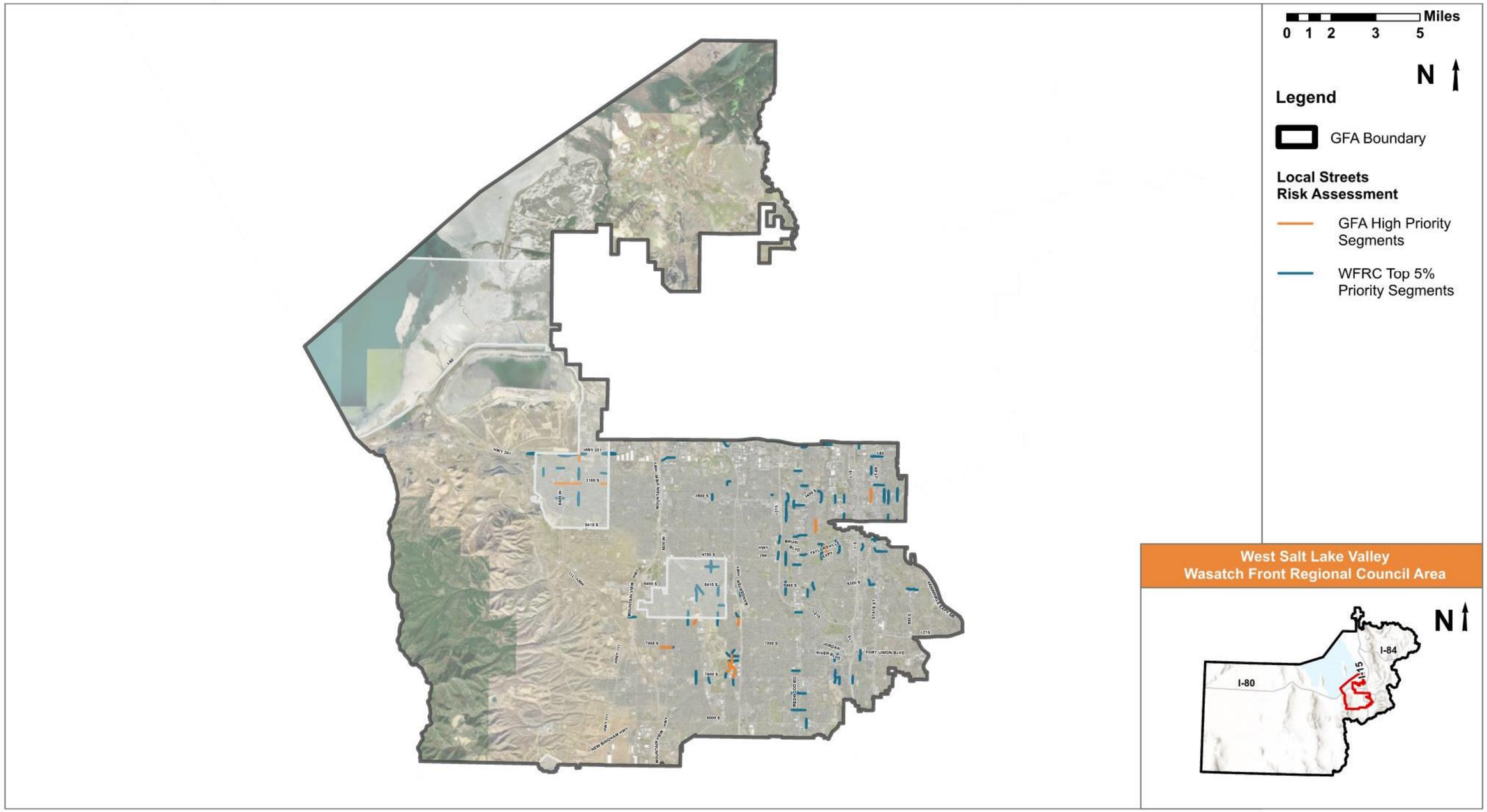


Figure 6.9 – Local Street Risk Assessment Results

7. Safety Analysis Summary

This section summarizes the safety analysis performed for the West Salt Lake Valley GFA by identifying common risk characteristics and a composite high-risk roadway network.

7.1. Common Risk Characteristics

Based on the SHSP Emphasis Area Analysis and the Historical Crash Analysis summarized above, the following are common risk characteristics that should be considered when developing safety improvement projects specific to the West Salt Lake Valley GFA.

- Intersections
  - 56.8% of all fatal and serious injuries
- Speed-Related
  - 18.1% of all fatal and serious injury crashes
- Teen Driver
  - 17.5% of all fatal and serious injuries
- Roadway Departure
  - 17.0% of all fatal and serious injuries
  - 16.6% of all fatal and serious injury crashes
- Older Driver
  - 15.6% of all fatal and serious injuries
- Active Transportation
  - 16.1% of all fatal and serious injury crashes
- Left Turn at Intersection
  - 26.2% of all fatal and serious injury crashes

7.2. Composite High-Risk Roadway Network

Each of the safety analysis methodologies completed identified segments that can be improved to reduce fatalities and serious injuries.

To identify an overall high-risk roadway network and provide focused information for jurisdictional decisions regarding prioritization of safety improvements, an analysis was performed to identify overlapping segments from each of the analysis methodologies. A composite score, from zero to five, was determined using the approach in **Table 7.1**. The high-risk roadway network is a composite of the various risks as presented in **Section 4** through **Section 6** of Tech Memo #1. The top 10% of roadway segments for the entire WFRC area are included in the Composite High-Risk Network. These segments have a composite risk value of four or higher.

The West Salt Lake Valley GFA Composite High-Risk Network for Federal Aid routes is summarized in **Table 7.2**.

The results are also mapped in **Figure 7.1** (State Routes) and **Figure 7.2** (Federal Aid Routes).

Table 7.1 – Composite High-Risk Roadway

Analysis	Risk Type	Approach	Value
Historical Crash Analysis	Historical Crash Risk	5-Year Crash Totals ≥ 3 Crashes	1
Crash and Network Screening Analysis	Systemic Crash Risk	Positive Local CCR Differential	1
WFRC Risk Assessment	Roadway Risk	Risk Score ≥ 20	1
usRAP Risk Assessment	Vehicle Risk	Vehicle Star Rating = 1-2 Stars	1
usRAP Risk Assessment	Pedestrian Risk	Pedestrian Star Rating = 1-2 Stars	0.5
usRAP Risk Assessment	Bicycle Risk	Bicycle Star Rating = 1-2 Stars	0.5
		Total Possible Composite Risk Score	**5**

Table 7.2 – West Salt Lake Valley High-Risk Roadway Network (Federal Aid Routes)

Facility	Limits	Functional Classification	City	Composite Risk Score	Length (miles)	*usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	Crash Profile Risk Score	CCR Differential Analysis	Significant Crashes
Federal Aid Routes											
7200 W	2400 S to 4100 S	Minor Arterial	West Valley City, Magna	4	2.5	X	X	X	X		X
4100 S	7200 W to 400 W	Minor Arterial	West Valley City	4	4.0	X	X	X	X		X
3900 S	2100 W to 500 E	Minor Arterial	South Salt Lake, Millcreek	4	1.1	X	X	X	X		X
3600 W	Christy Ave to 3650 S	Major Collector	West Valley City	4	0.5	X	X	X		X	X
900 W	2100 S to 3300 S	Major Collector	South Salt Lake	4	1.7	X	X	X	X		X
300 E	Newsome Park Ln to 3900 S	Major Collector	South Salt Lake	4	0.8	X	X	X		X	X
4700 S	4140 W to I-15	Other Principal Arterial	Taylorsville	4	3.5	X	X	X	X		X
2200 W	Kirkham Way to 4700 S	Major Collector	Taylorsville	4	1.3	X	X	X		X	X
500 W	4350 S to 4500 S	Major Collector	Murray	4	0.2	X	X		X	X	X
1300 E	El Sendero St to 5360 S	Minor Arterial	Murray	4	0.3	X	X	X	X		X
6200 S	5600 W to Cannon Wood Dr	Minor Arterial	Taylorsville	4	4.8	X	X	X	X		X
Winchester St	State St to Fashion Blvd	Minor Arterial	Murray	4	0.3	X	X		X	X	X
Main St	7200 S to 7250 S	Minor Arterial	Midvale	4	0.1	X	X		X	X	X
Fort Union Blvd	State St to Union Park Ave	Minor Arterial	Midvale	4	2.0	X	X	X	X		X
7800 S	Norfolk Pine Way to White Pine Way	Major Collector	Midvale	4	0.1	X	X		X	X	X
Center St	Stagg St to Center Sq	Minor Arterial	Midvale	4	1.4	X	X		X	X	X
New Bingham Hwy, 7800 S	4800 W to Bangerter Hwy	Other Principal Arterial	West Jordan	4	2.5	X	X	X	X		X
2700 S	9200 W to 9180 W	Major Collector	Magna	4	0.1	X	X	X		X	X

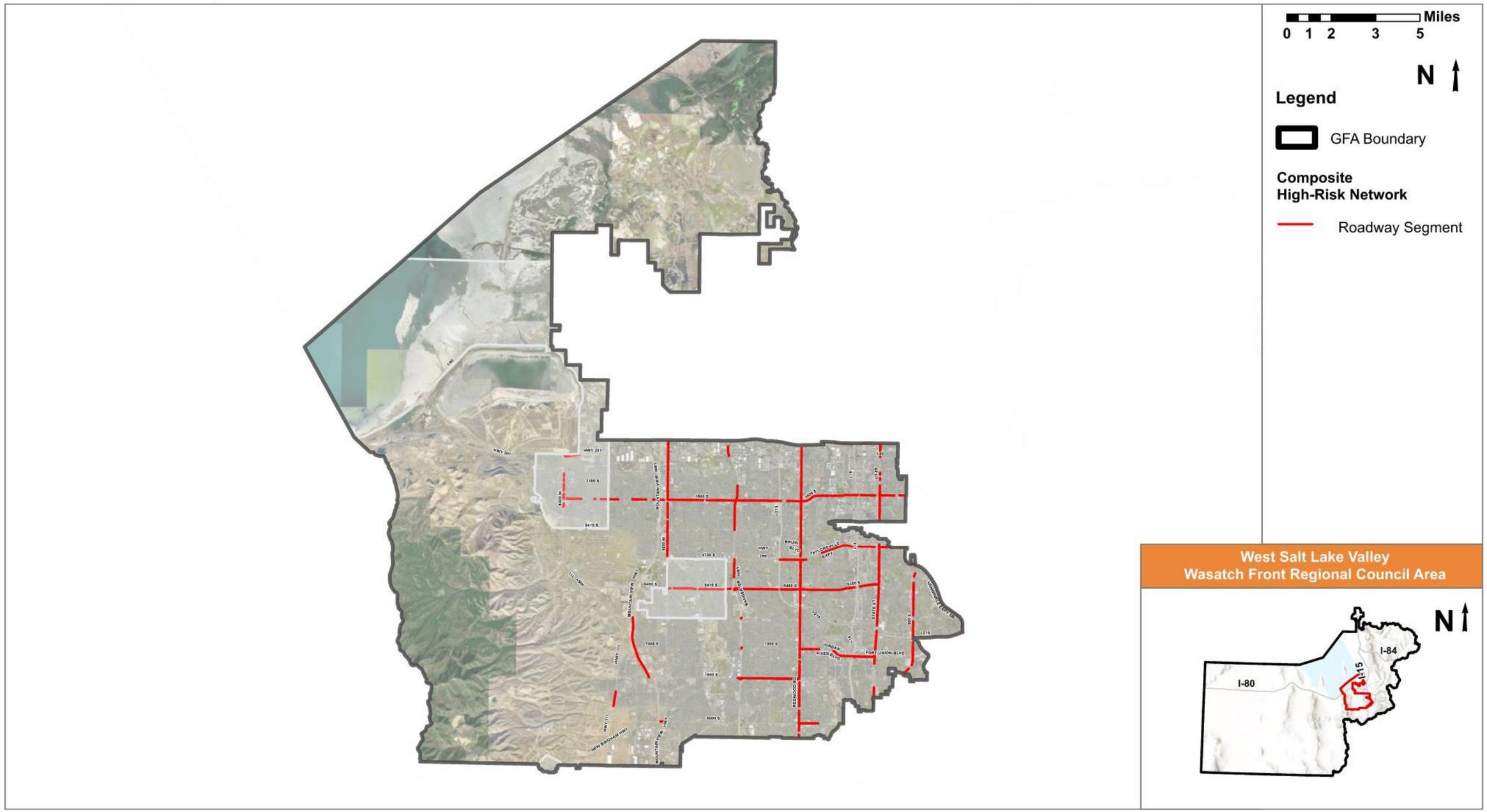


Figure 7.1 – West Salt Lake Valley High-Risk Roadway Network (State Routes)

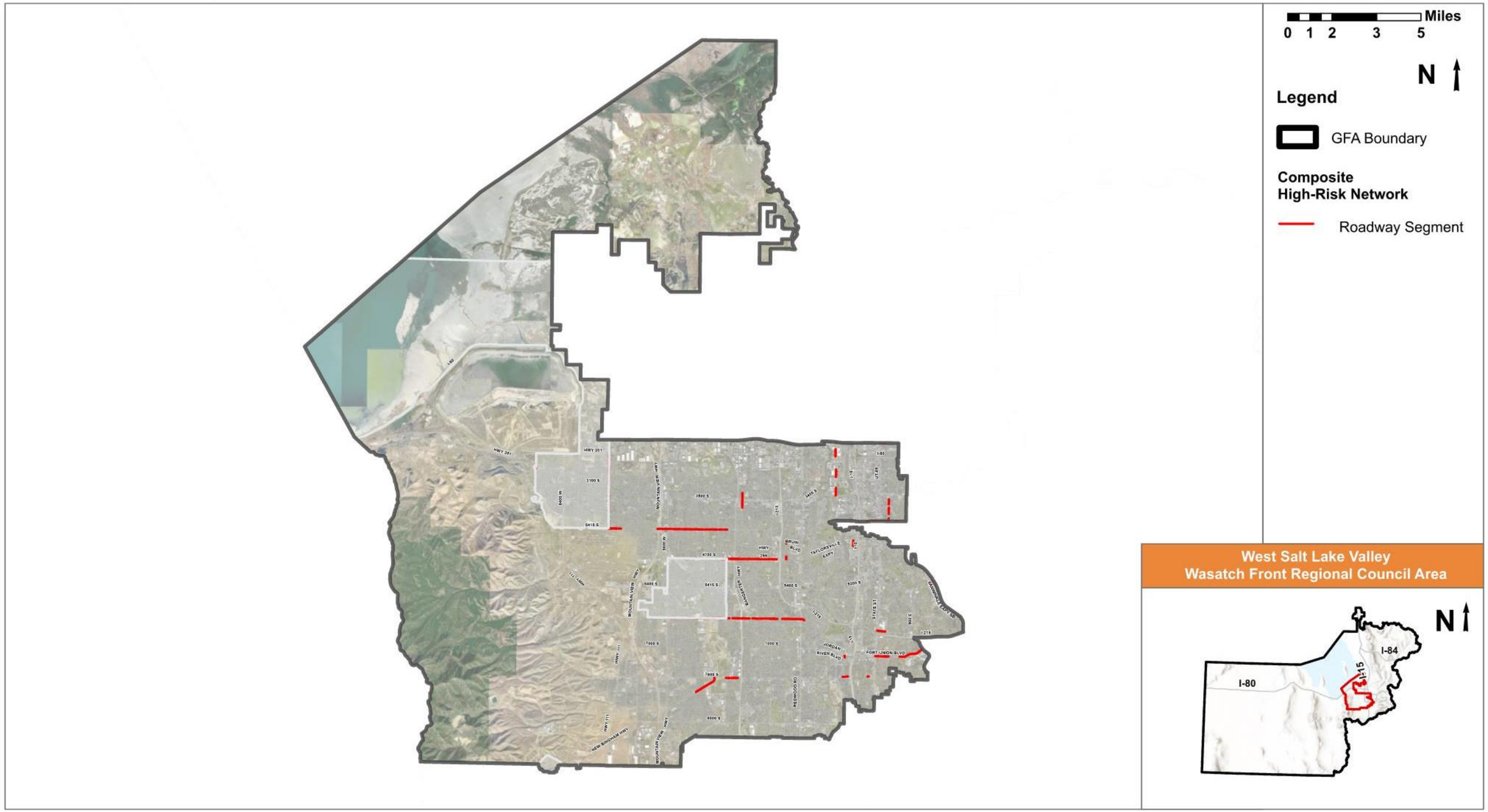


Figure 7.2 – West Salt Lake Valley High-Risk Roadway Network (Federal Aid Routes)

APPENDIX

WEST SALT LAKE VALLEY CASE STUDY
PROJECT INFORMATION SHEETS

West Salt Lake Valley

Project ID	Jurisdictions	Project Name
9.44.1.1	Midvale, West Jordan	7200 South from Redwood Road to State Street
9.44.2	Midvale	Fort Union Boulevard from State Street to Union Park Avenue
9.44.3.1	Midvale, Sandy	900 East (SR 71) from I-215 to 7800 South
9.45.1.1	Murray, Millcreek, South Salt Lake, Salt Lake City	US 89 from 2100 South to 6850 South
9.45.2	Murray	5300 South (SR 173) from Canal Street to Vine Street
9.45.3	Murray	900 East (SR 71) from Van Winkle (SR 152/SR 71) to I-215
9.46.1.1	South Salt Lake, Salt Lake City, Murray, Millcreek	US 89 from 2100 South to 6850 South
9.46.2	South Salt Lake	West Temple from 2100 South to 3900 South
9.46.3	South Salt Lake	3300 South (SR 171) from 1200 West to 700 East
9.47.1.1	Taylorsville, Kearns, West Jordan, West Valley	6200 South from Mountain View Corridor to Redwood Road
9.47.2	Taylorsville	Redwood Road (SR 68) from 4100 South to Cole Lane
9.48.1	West Jordan	7000 South (SR 48) from Bangerter Highway to Redwood Road
9.48.2	West Jordan	Redwood Road (SR 68) from Cole Lane to 9400 South
9.48.3	West Jordan	Jordan Landing Commercial Area Intersection Improvements
9.48.4.1	West Jordan, Midvale	7200 South from Redwood Road to State Street
9.49.1.1	West Valley City, Kearns	5600 West from 5400 South (SR 173) to SR 201
9.49.2.1	West Valley City, Kearns	4000/4015 West from 3100 South to 3200 South
9.49.3	West Valley City, Kearns	4100 South from 7200 West to Bangerter Highway
9.50.1.1	Kearns, Taylorsville, West Jordan, West Valley	6200 South from Mountain View Corridor to Redwood Road
9.50.2.1	Kearns, West Valley City	4000/4015 West from 3100 South to 3200 South
9.50.3	Kearns	5400 South (SR 173) from 5600 West to 4000 West
9.51.1	Magna	7200 West from SR 201 to 4100 South
9.51.2	Magna	8000 West from 2400 South to 4100 South

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**7200 South from Redwood Road to State Street**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Midvale, West Jordan**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	7200 South	**Key Intersection Locations:**	
From:	Redwood Road	River Gate Drive	400 West
To:	State Street	700 West	High Tech Drive
Length:	2.60 miles	Catalpa Road	State Street

Project Location Map

Map ID: 9.44.1.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.60**
Average Daily Traffic (vehicles per day)	**32,568**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**6**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**4**
Suspected Minor Injury Crashes (B)	**13**
Possible Injury Crashes (C)	**41**
No Injury/PDO Crashes (O)	**199**
Total Crashes	**257**
Total EPDO Crashes	**1,329**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	
Bicycle (Bike)	✓	Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle		Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
River Gate Drive & 7200 South	✓	0	0	1	17	13	31	228		✓			✓			
700 West & 7200 South	✓	0	1	18	82	41	142	1,468								
Catalpa Road & 7200 South		0	0	2	16	1	19	227						✓		
400 West & 7200 South		0	0	5	23	10	38	383					✓	✓		
High Tech Drive & 7200 South	✓	0	0	11	54	20	85	879								✓
State Street & 7200 South	✓	1	4	25	107	20	157	3,056	✓	✓					✓	

Project Description/How is safety improved?

This project includes median installation (Redwood Rd. - 1300 W.), eliminating left turn movements from access driveways and sidestreets, upgrading traffic signals, and crosswalk improvements. There improvements address an over representation of head on collisions, front to rear collision, and parked vehicles collisions. It is proposed the 400 West become a right-in/right-out only access and all locations where median is installed that are unsignalized would become right-in/right-out or 3/4 access. Signal upgrades to flashing yellow arrows are recommended at 1300 West and 180 West. The school crossing at Westheather Drive should be upgraded to be a high-visibility crossing and include a Pedestrian Hybrid Beacon/HAWK signal.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Pedestrian Hybrid Beacons


Reduced Left-Turn Conflict Intersections

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	0.69	MILE	$ 928,000	$ 640,320
Traffic Calming - Lane Narrowing	0.68	All Crashes	2.60	MILE	$ 39,000	$ 101,400
Convert Traditional/Buffered Bike Lane to Separated Lane with Flexible I	0.468	Bicycle	2.60	MILE	$ 45,000	$ 117,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Right-in-Right-out Access Treatment	0.55	All Crashes	1.00	DRIVEW	$ 50,000	$ 50,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	2.00	INT	$ 8,000	$ 16,000
Install Pedestrian Hybrid Beacons (PHB) or HAWK	0.453	Pedestrian	1.00	EACH	$ 200,000	$ 200,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	1.00	XING	$ 37,000	$ 37,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	2.00	INT	$ 4,000	$ 8,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,169,720
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 58,486
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 350,916
Estimated Construction Cost:		$ 1,654,122

Local Match†: 20% $ 420,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 198,495
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 248,118
Estimated Project Total:		$ 2,101,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

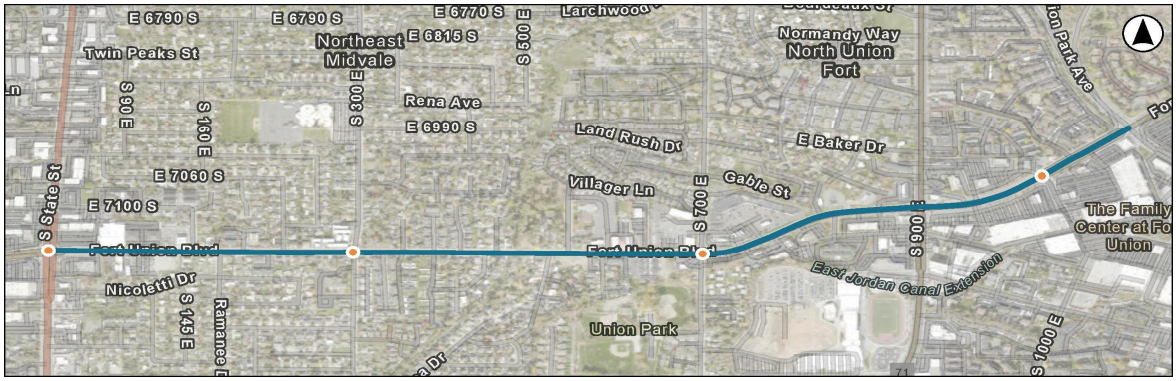
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**Fort Union Boulevard from State Street to Union Park Avenue**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Midvale**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	Fort Union Boulevard	**Key Intersection Locations:**	
From:	State Street	State Street	995 East
To:	Union Park Avenue	300 East	
Length:	1.68 miles	700 East	

Project Location Map

Map ID: 9.44.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.68**
Average Daily Traffic (vehicles per day)	**26,690**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**4**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**0**
Suspected Minor Injury Crashes (B)	**9**
Possible Injury Crashes (C)	**15**
No Injury/PDO Crashes (O)	**122**
Total Crashes	**146**
Total EPDO Crashes	**493**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury		Parked Vehicle (PV)	
Pedestrian (Ped)	✓	Single Vehicle	
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle		Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
State Street & Fort Union Boulevard	✓	1	4	25	107	20	157	3,056	✓	✓					✓	
300 East & Fort Union Boulevard	✓	0	2	3	21	13	39	506		✓						
700 East & Fort Union Boulevard	✓	0	1	15	42	41	99	946								
995 East & Fort Union Boulevard	✓	0	0	6	23	10	39	405		✓				✓		✓

Project Description/How is safety improved?

This project includes installing medians with pedestrian refuge islands, narrowing the travel lane to slow vehicle traffic and to accomodate a bicycle lane (Standard - State Street to 700 East, Buffered - 700 East to 900 East). Medians will restrict left-turn movements from side streets and allow for right-in/right-out or 3/4 access. Bicycle treatments are recommended at the intersection of 900 East, 700 East, and 300 East along with leading pedestrian intervals. The 700 East will be upgraded to flashing yellow arrow signal heads.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Corridor Access Management


Leading Pedestrian Interval


Bicycle Lanes

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	1.31	LE (URBA	$ 958,000	$ 1,254,980
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.29	MILE	$ 39,000	$ 50,310
Install Bicycle Lane	0.51 - 0.694	Bicycle	0.94	MILE	$ 21,000	$ 19,740
Convert Traditional/Buffered Bike Lane to Separated Lane with Flexible I	0.468	Bicycle	0.33	MILE	$ 45,000	$ 14,850
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Add Bicycle Treatments at Intersections	NA	All Crashes	2.00	INT	$ 9,000	$ 18,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Include a Leading Pedestrian Interval (LPI)	0.87	Pedestrian	2.00	INT	$ 3,000	$ 6,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	2.00	INT	$ 4,000	$ 8,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,379,880
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 68,994
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 413,964
Estimated Construction Cost:		$ 1,937,838

Local Match†: 20% $ 492,400

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 232,541
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 290,676
Estimated Project Total:		$ 2,462,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**900 East (SR 71) from I-215 to 7800 South**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Midvale, Sandy**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

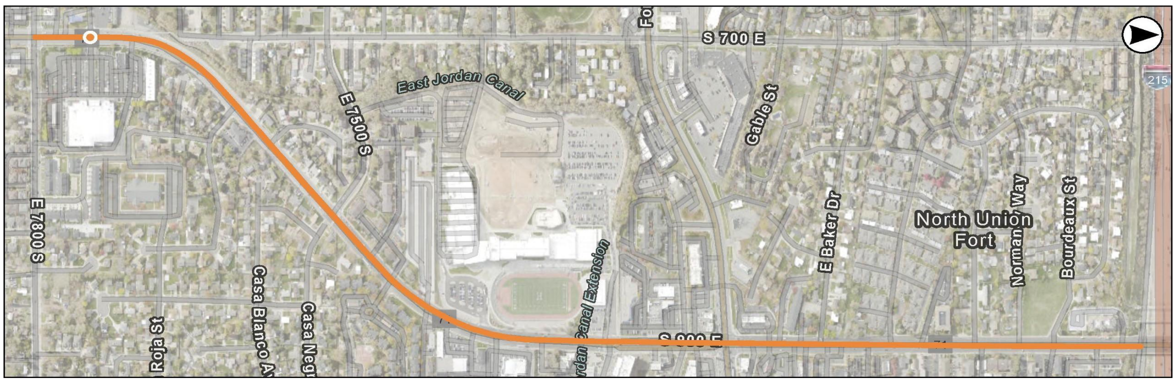
Location Description

Roadway: 900 East (SR 71)
From: I-215
To: 7800 South
Length: 1.50 miles

Key Intersection Locations:
7800 South

Project Location Map

Map ID: 9.44.3.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.50**
Average Daily Traffic (vehicles per day)	**26,703**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**1**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**4**
Suspected Minor Injury Crashes (B)	**9**
Possible Injury Crashes (C)	**10**
No Injury/PDO Crashes (O)	**90**
Total Crashes	**113**
Total EPDO Crashes	**779**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle		Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
7800 South & 700 East		0	0	3	7	4	14	150				✓				

Project Description/How is safety improved?

This project installs medians that willl provide pedestrian refuge islands near Hillcrest High School. Full access will be limited to signalized intersections. Other locations will be limited to right-in/right-out driveways or intersections. 7745 South is proposed to become a right-in/right-out access. Lane narrowing, medians, and buffered bicycle lanes will act as traffic calming and help reduce vehicle speeds. Leading pedestrian intervals are recommended at intersections with school crossings (South Union Ave., Hillcrest High Dr., 7800 S.) and bicycle treatments be added at key intersection (Fort Union Blvd., 7800 S.). Install flashing yellow arrow signals at 7800 S.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Bicycle Lanes


Leading Pedestrian Interval


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Reduced Left-Turn Conflict Intersections

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	1.34	LE (URBA	$ 958,000	$ 1,283,720
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.50	MILE	$ 39,000	$ 58,500
Convert Traditional/Buffered Bike Lane to Separated Lane with Flexible I	0.468	Bicycle	1.50	MILE	$ 45,000	$ 67,500
Install Driver Feedback Speed Limit Signs	NA	All Crashes	2.00	EACH	$ 10,000	$ 20,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Right-in-Right-out Access Treatment	0.55	All Crashes	1.00	DRIVEW	$ 50,000	$ 50,000
Include a Leading Pedestrian Interval (LPI)	0.87	Pedestrian	3.00	INT	$ 3,000	$ 9,000
Add Bicycle Treatments at Intersections	NA	All Crashes	2.00	INT	$ 9,000	$ 18,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	4.00	INT	$ 4,000	$ 16,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,530,720
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 76,536
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 459,216
Estimated Construction Cost:		$ 2,141,472

Local Match†: 20% $ 544,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 256,977
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 321,221
Estimated Project Total:		$ 2,720,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

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Project Information Sheet

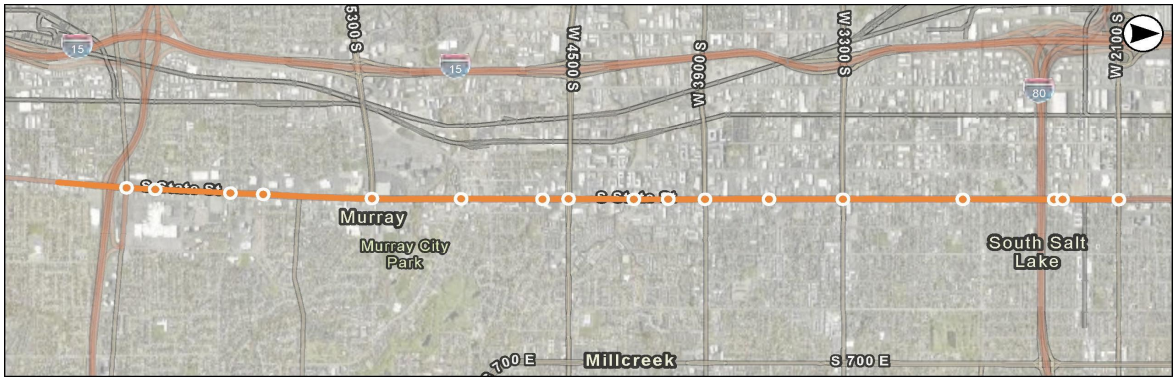
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**US 89 from 2100 South to 6850 South**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Murray, Millcreek, South Salt Lake, Salt Lake City**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

Roadway:	US 89		**Key Intersection Locations:**					
From:	2100 South		2100 South	4500 South	5770 South	Vine Street	Claybourne Avenue	Creek Drive
To:	6850 South		3300 South	4600 South	5900 South	Gordon Lane	Burton Avenue	
Length:	6.85	miles	3900 South	5300 South	Baird Avenue	Hill Avenue	Truman Avenue	

Project Location Map

Map ID: 9.45.1.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**6.85**
Average Daily Traffic (vehicles per day)	**35,197**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**17**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**3**
Suspected Serious Injury Crashes (A)	**13**
Suspected Minor Injury Crashes (B)	**68**
Possible Injury Crashes (C)	**100**
No Injury/PDO Crashes (O)	**568**
Total Crashes	**752**
Total EPDO Crashes	**7,102**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
2100 South & US 89	✓	1	3	21	47	54	126	2,225								
3300 South & US 89	✓	0	3	54	117	80	254	2,893								
3900 South & US 89	✓	0	3	37	110	106	256	2,461								
4500 South & US 89	✓	0	4	45	173	82	304	3,425	✓		✓					
4600 South & US 89		0	2	4	11	7	24	409	✓							
5300 South & US 89	✓	0	3	24	97	26	150	1,944		✓						✓
5770 South & US 89		0	0	0	15	15	30	185								✓
5900 South & US 89	✓	0	3	20	83	67	173	1,737								
Baird Avenue & US 89	✓	0	0	3	9	4	16	173		✓				✓		
Vine Street & US 89		0	3	11	75	44	133	1,423								✓
Gordon Lane & US 89		0	1	5	6	10	22	283	✓		✓					✓
Hill Avenue & US 89		0	1	4	12	14	31	333			✓		✓			
Claybourne Avenue & US 89		0	1	3	8	6	18	257	✓	✓						✓
Burton Avenue & US 89		0	0	2	12	3	17	184		✓						
Truman Avenue & US 89		0	1	2	11	9	23	272	✓					✓		
Creek Drive & US 89		0	0	2	18	13	33	262						✓		

Project Description/How is safety improved?

This project reduces angled, left-turn, and active transportation crashes. This includes reevaluating the existing medians along the entire corridor to determine which openings in the median can be reconstructed to restrict access. unsignalized locations will be reconstructed to a right-in/right-out or 3/4 access. On-street parking will be be removed from 2100 South to 5300 South and lane widths narrowed to allow for a buffered bicycle lane through this portion of the corridor. Bicycle treatments at signalized intersections are also recommended on this portion of the corridor.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Reduced Left-Turn Conflict Intersections


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Bicycle Lanes

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	3.00	MILE	$ 928,000	$ 2,784,000
Install Buffered Bicycle Lane	NA	Bicycle	4.77	MILE	$ 26,000	$ 124,020
Traffic Calming - Lane Narrowing	0.68	All Crashes	4.77	MILE	$ 39,000	$ 186,030
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Add Bicycle Treatments at Intersections	NA	All Crashes	15.00	INT	$ 9,000	$ 135,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 3,229,050
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 161,453
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 968,715
Estimated Construction Cost:		$ 4,434,218

Local Match†: 20% $ 1,126,400

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 532,106
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 665,133
Estimated Project Total:		$ 5,632,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

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Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**5300 South (SR 173) from Canal Street to Vine Street**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Murray**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium, Low**		

Location Description

Roadway:	5300 South (SR 173)	
From:	Canal Street	
To:	Vine Street	
Length:	2.99	miles

Key Intersection Locations:

700 West	Intermountain Drive	Murray Park Lane
Allendale Drive	Commerce Drive	Vine Street
Green Street	State Street	

Project Location Map

Map ID: 9.45.2

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.99**
Average Daily Traffic (vehicles per day)	**25,624**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**8**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**5**
Suspected Minor Injury Crashes (B)	**12**
Possible Injury Crashes (C)	**20**
No Injury/PDO Crashes (O)	**133**
Total Crashes	**170**
Total EPDO Crashes	**1,096**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)		Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
700 West & 5300 South	✓	0	3	21	73	48	145	1,627		✓						
Allendale Drive & 5300 South		0	1	4	15	17	37	370	✓	✓						✓
Green Street & 5300 South	✓	0	0	11	25	16	52	545		✓			✓			✓
Intermountain Drive & 5300 South		0	0	4	20	6	30	322						✓		✓
Commerce Drive & 5300 South	✓	0	0	17	90	34	141	1,436								
State Street & 5300 South	✓	0	3	24	97	26	150	1,944		✓						✓
Murray Park Lane & 5300 South		0	0	1	8	5	14	118		✓						
Vine Street & 5300 South	✓	0	0	7	13	3	23	307		✓						

Project Description/How is safety improved?

This project includes systemic safety improvements to reduce angled, left-turn, and active transportation crashes. The project includes installation of a median, bicycle lane, and narrowing lane width from Canal Street to 700 West and from Murray Park Lane to Vine Street. A pedestrian refuge island is proposed at the existing crossing at Murray Park Lane along with the installation of two additional RRFB signals. Green Street and Canal Street are proposed to be upgraded to flashing yellow arrow signals. Vine Street requires retroreflective backplates.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Bicycle Lanes


Backplates with Retroreflective Borders


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.68	MILE	$ 39,000	$ 65,520
Install Bicycle Lane	0.51 - 0.694	Bicycle	1.68	MILE	$ 21,000	$ 35,280
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	1.68	MILE	$ 928,000	$ 1,559,040
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	1.00	XING (2)	$ 15,000	$ 15,000
Install Pedestrian Refuge Island	0.54	Pedestrian	1.00	EACH	$ 30,000	$ 30,000
Install Retroreflective Backplates/Boarders	0.85	All Crashes	9.00	EACH	$ 275	$ 2,475
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	3.00	INT	$ 4,000	$ 12,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	2.00	INT	$ 8,000	$ 16,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,735,315
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 86,766
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 520,595
Estimated Construction Cost:		$ 2,417,675

Local Match†: 20% $ 614,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 290,121
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 362,651
Estimated Project Total:		$ 3,071,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**900 East (SR 71) from Van Winkle (SR 152/SR 71) to I-215**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Murray**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

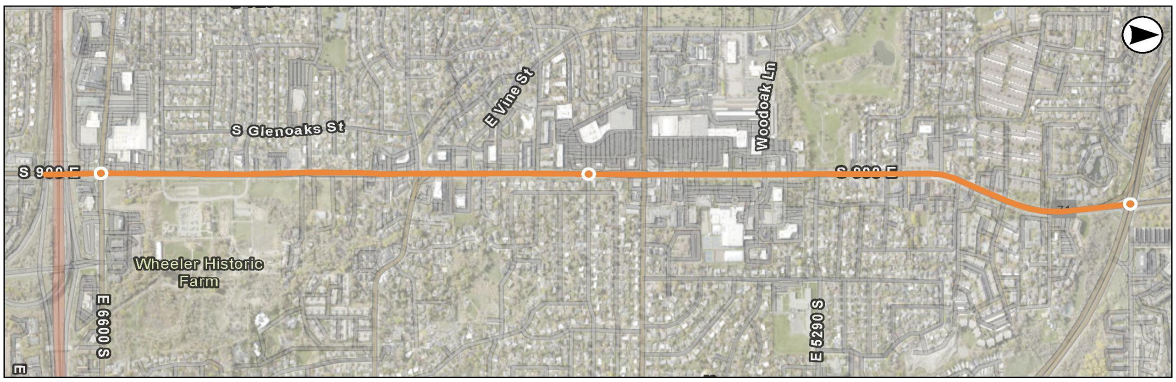
Location Description

Roadway: 900 East (SR 71)
From: Van Winkle (SR 152/SR 71)
To: I-215
Length: 2.50 miles

Key Intersection Locations:
6600 South
5700 South
Van Winkle Expressway

Project Location Map

Map ID: 9.45.3



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	2.50
Average Daily Traffic (vehicles per day)	27,590
Functional Classification	Other Principal Arteria
Roadway Ownership	State
Urban/Rural Designation	Urban
Number of Key Intersections	3

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	0
Suspected Serious Injury Crashes (A)	1
Suspected Minor Injury Crashes (B)	18
Possible Injury Crashes (C)	23
No Injury/PDO Crashes (O)	106
Total Crashes	**148**
Total EPDO Crashes	**862**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	✓
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
6600 South & 900 East	✓	0	4	15	62	53	134	1,467								
5700 South & 900 East		0	0	4	6	7	17	164					✓			✓
Van Winkle Expressway & 900 Ea	✓	0	0	20	67	26	113	1,233				✓	✓			

Project Description/How is safety improved?

This project includes median installation to reduce head on crashes, traffic calming through lane narrowing, buffered bicycle lanes, and installing sidewalks at locations without sidewalks. This project also recommends upgrading the intersection at 5900 South to flashing yellow arrow signal heads.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions to reduce the frequency of angle crashes and front to rear crashes. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Bicycle Lanes


Walkways

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	2.39	LE (URBA	$ 958,000	$ 2,289,620
Traffic Calming - Lane Narrowing	0.68	All Crashes	2.50	MILE	$ 39,000	$ 97,500
Install Buffered Bicycle Lane	NA	Bicycle	2.50	MILE	$ 26,000	$ 65,000
Install Sidewalk or Walkways	NA	Pedestrian	0.22	MILE	$ 634,000	$ 139,480
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	1.00	INT	$ 4,000	$ 4,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,603,600
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 130,180
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 781,080
Estimated Construction Cost:		$ 3,589,860

Local Match†: 20% $ 912,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 430,783
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 538,479
Estimated Project Total:		$ 4,560,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

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Project Information Sheet

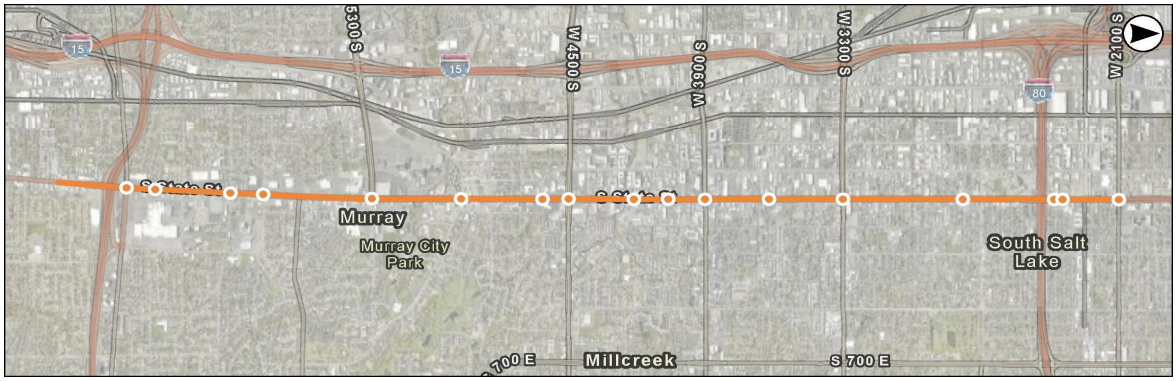
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**US 89 from 2100 South to 6850 South**	**Prepared By:**	**JSF**
Jurisdiction(s):	**South Salt Lake, Salt Lake City, Murray, Millcreek**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

Roadway:	US 89		**Key Intersection Locations:**					
From:	2100 South		2100 South	4500 South	5770 South	Vine Street	Claybourne Avenue	Creek Drive
To:	6850 South		3300 South	4600 South	5900 South	Gordon Lane	Burton Avenue	
Length:	6.85	miles	3900 South	5300 South	Baird Avenue	Hill Avenue	Truman Avenue	

Project Location Map

Map ID: 9.46.1.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**6.85**
Average Daily Traffic (vehicles per day)	**35,197**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**17**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**3**
Suspected Serious Injury Crashes (A)	**13**
Suspected Minor Injury Crashes (B)	**68**
Possible Injury Crashes (C)	**100**
No Injury/PDO Crashes (O)	**568**
Total Crashes	**752**
Total EPDO Crashes	**7,102**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
2100 South & US 89	✓	1	3	21	47	54	126	2,225								
3300 South & US 89	✓	0	3	54	117	80	254	2,893								
3900 South & US 89	✓	0	3	37	110	106	256	2,461								
4500 South & US 89	✓	0	4	45	173	82	304	3,425	✓		✓					
4600 South & US 89		0	2	4	11	7	24	409	✓							
5300 South & US 89	✓	0	3	24	97	26	150	1,944		✓						✓
5770 South & US 89		0	0	0	15	15	30	185								✓
5900 South & US 89	✓	0	3	20	83	67	173	1,737								
Baird Avenue & US 89	✓	0	0	3	9	4	16	173		✓				✓		
Vine Street & US 89		0	3	11	75	44	133	1,423								✓
Gordon Lane & US 89		0	1	5	6	10	22	283	✓		✓					✓
Hill Avenue & US 89		0	1	4	12	14	31	333			✓		✓			
Claybourne Avenue & US 89		0	1	3	8	6	18	257	✓	✓						✓
Burton Avenue & US 89		0	0	2	12	3	17	184		✓						
Truman Avenue & US 89		0	1	2	11	9	23	272	✓					✓		
Creek Drive & US 89		0	0	2	18	13	33	262						✓		

Project Description/How is safety improved?

This project reduces angled, left-turn, and active transportation crashes. This includes reevaluating the existing medians along the entire corridor to determine which openings in the median can be reconstructed to restrict access. unsignalized locations will be reconstructed to a right-in/right-out or 3/4 access. On-street parking will be be removed from 2100 South to 5300 South and lane widths narrowed to allow for a buffered bicycle lane through this portion of the corridor. Bicycle treatments at signalized intersections are also recommended on this portion of the corridor.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Reduced Left-Turn Conflict Intersections


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Bicycle Lanes

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	3.00	MILE	$ 928,000	$ 2,784,000
Install Buffered Bicycle Lane	NA	Bicycle	4.77	MILE	$ 26,000	$ 124,020
Traffic Calming - Lane Narrowing	0.68	All Crashes	4.77	MILE	$ 39,000	$ 186,030
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Add Bicycle Treatments at Intersections	NA	All Crashes	15.00	INT	$ 9,000	$ 135,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 3,229,050
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 161,453
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 968,715
Estimated Construction Cost:		$ 4,434,218

Local Match†: 20% $ 1,126,400

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 532,106
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 665,133
Estimated Project Total:		$ 5,632,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

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Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**West Temple from 2100 South to 3900 South**	**Prepared By:**	**MA**
Jurisdiction(s):	**South Salt Lake**	**Checked By:**	**EMF**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High**		

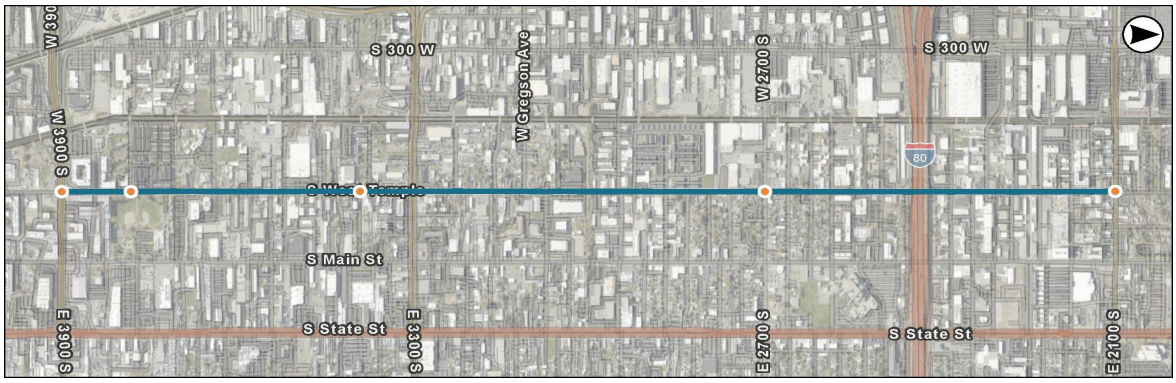
Location Description

Roadway: West Temple
From: 2100 South
To: 3900 South
Length: 2.65 miles

Key Intersection Locations:
2100 South Plymouth Avenue
2700 South 3900 South
3400 South

Project Location Map

Map ID: 9.46.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.65**
Average Daily Traffic (vehicles per day)	**8,398**
Functional Classification	**Major Collector**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**5**

Why Was This Location Identified?	
Composite Safety Score	
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	✓

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**2**
Suspected Minor Injury Crashes (B)	**4**
Possible Injury Crashes (C)	**14**
No Injury/PDO Crashes (O)	**53**
Total Crashes	**73**
Total EPDO Crashes	**489**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
2100 South & West Temple	✓	0	0	6	12	20	38	290			✓		✓			
2700 South & West Temple	✓	0	1	1	8	8	18	215	✓							
3400 South & West Temple		0	0	0	2	1	3	24						✓		✓
Plymouth Avenue & West Temple		0	0	2	1	2	5	58								
3900 South & West Temple	✓	0	0	7	19	15	41	387			✓	✓				

Project Description/How is safety improved?

This project recommends the following improvements to address an overrepresentation of fatal/serious injury, pedestrian, angle, rear-end, parked vehicle, single vehicle and sideswipe collisions: reduce speed from 30 mph to 25 mph; reduce lane widths by increasing size of lane lines; RRFB's with high visibility, raised crossing, island and bulbouts at key unsignalized east-west intersections and marked crossings; median along corridor; fill sidewalk gaps where they exist; Shift parking at least 50 ft from all intersections; upgrade or install left-turn phasing to flashing yellow arrow on all approaches of identified signals; right-in right-out at Plymouth Ave intersection; high visibility crossings at all intersections flagged.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures

Appropriate Speed Limits for All Road Users


Crosswalk Visibility Enhancements


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Rectangular Rapid Flashing Beacons (RRFB)


Walkways


Wider Edge Lines

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Traffic Calming - Lane Narrowing	0.68	All Crashes	2.65	MILE	$ 39,000	$ 103,350
Traffic Calming - Wider Lane Lines	0.68	All Crashes	2.65	MILE	$ 21,000	$ 55,650
Traffic Calming - Medians (Back-To-Back Curb)	0.68	All Crashes	2.65	MILE	$ 264,000	$ 699,600
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	6.00	XING (2)	$ 15,000	$ 90,000
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	0.50	LE (URBA	$ 958,000	$ 479,000
Traffic Calming - Bulbouts	0.68	All Crashes	12.00	EACH	$ 36,000	$ 432,000
Install Raised Crosswalk	NA	Pedestrian	6.00	EACH	$ 71,000	$ 426,000
Upgrade Crosswalk to High-Visibility Crosswalk at Midblock	0.6 - 0.75	Pedestrian	6.00	XING	$ 37,000	$ 222,000
Install 6" Edge line (Both Sides of Road)	0.64 - 0.88	All Crashes	2.65	MILE	$ 7,000	$ 18,550
Install Sidewalk or Walkways	NA	Pedestrian	1.00	MILE	$ 634,000	$ 634,000
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install High Visibiity Crosswalk Markings	0.6	Pedestrian	18.00	XING	$ 2,500	$ 45,000
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	12.00	INT	$ 8,000	$ 96,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 3,301,150
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 165,058
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 990,345
Estimated Construction Cost:		$ 4,531,553

Local Match†: 20% $ 1,151,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 543,786
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 679,733
Estimated Project Total:		$ 5,756,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

ADDITIONAL INFORMATION

This project recommends the following improvements to address an overrepresentation of fatal/serious injury, pedestrian, angle, rear-end, parked vehicle, single vehicle and sideswipe collisions:
-Reduce speed from 30 mph to 25 mph
-Shrink lane widths by increasing size of lane lines
-RRFB's with high visibility, raised crossing, island and bulbouts at key unsignalized east-west intersections and marked crossings
-Median
-Parking at least 50 ft from intersections.

Intersection improvements:
-2100 S/West Temple: FYA on all approaches
-2700 S/West Temple: FYA on all approaches; striping clean up
-3400 S/West Temple: Right-in Right-out
-Plymouth Ave/West Temple: [Addressed by segment improvements]
-3900 S/West Temple: FYA on all aproaches

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**3300 South (SR 171) from 1200 West to 700 East**	**Prepared By:**	**JSF**
Jurisdiction(s):	**South Salt Lake**	**Checked By:**	
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

Roadway:	3300 South (SR 171)	**Key Intersection Locations:**	
From:	1200 West	1200 West	300 East
To:	700 East	900 West	700 East
Length:	2.86 miles	State Street	

Project Location Map

Map ID: 9.46.3

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.86**
Average Daily Traffic (vehicles per day)	**35,695**
Functional Classification	**Other Principal Arterial**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**5**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**4**
Suspected Serious Injury Crashes (A)	**4**
Suspected Minor Injury Crashes (B)	**17**
Possible Injury Crashes (C)	**53**
No Injury/PDO Crashes (O)	**183**
Total Crashes	**261**
Total EPDO Crashes	**5,092**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
1200 West & 3300 South	✓	0	2	26	45	37	110	1,315					✓			
900 West & 3300 South	✓	0	2	24	54	42	122	1,378		✓						
State Street & 3300 South	✓	0	3	54	117	80	254	2,893								
300 East & 3300 South	✓	0	0	12	21	20	53	526		✓						✓
700 East & 3300 South	✓	1	1	25	109	66	202	2,844	✓		✓					

Project Description/How is safety improved?

This project is focused on pedestrian and overall systemic safety improvements. Median Installation with pedestrian refuge islands is recommended due to the number of midblock pedestrian crashes. Non-signalized intersection and driveways should be considered for right-in/right-out access or 3/4 access. Leading pedestrian intervals should be considered at 1200 West and 700 East. The existing crosswalk at 1000 West should be upgraded to included a pedestrian refuge island and high-visibility enhancements. Signalized intersections (900 W., West Temple, Main St., State St.) should also be upgraded to include flashing yellow arrow signal heads.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Crosswalk Visibility Enhancements


Leading Pedestrian Interval

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	1.45	LE (URBA	$ 958,000	$ 1,389,100
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Include a Leading Pedestrian Interval (LPI)	0.87	Pedestrian	2.00	INT	$ 3,000	$ 6,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	7.00	INT	$ 4,000	$ 28,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	1.00	XING	$ 37,000	$ 37,000
Install Pedestrian Refuge Island	0.54	Pedestrian	1.00	EACH	$ 30,000	$ 30,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	4.00	INT	$ 8,000	$ 32,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,522,100
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 76,105
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 456,630
Estimated Construction Cost:		$ 2,129,835

Local Match†: 20% $ 541,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 255,580
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 319,475
Estimated Project Total:		$ 2,705,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

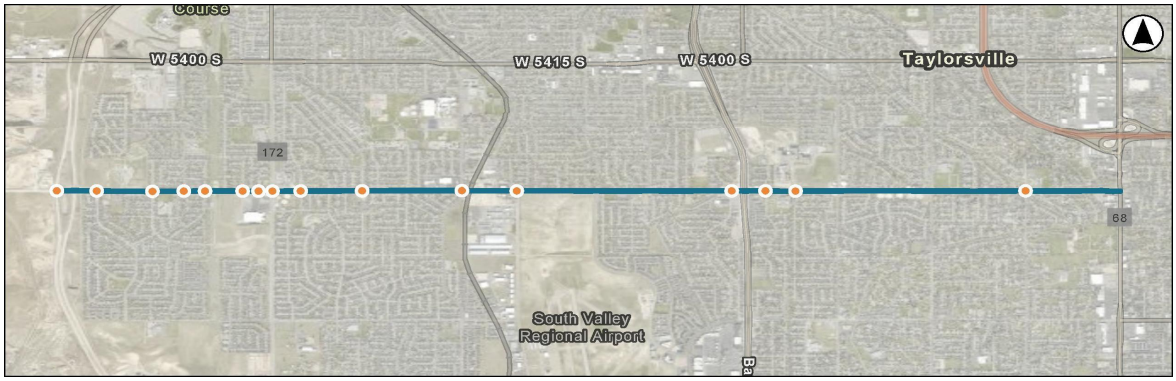
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**6200 South from Mountain View Corridor to Redwood Road**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Taylorsville, Kearns, West Jordan, West Valley**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

		Key Intersection Locations:			
Roadway:	6200 South	Foxhills Drive	High Bluff Drive	Walnut Ridge Drive	Copper City Drive
From:	Mountain View Corridor	6105 West	Prairie View Drive	Dewdrops Drive	2200 West
To:	Redwood Road	Airport Road	Impressions Drive	Cougar Lane	Summit View Boulevard
Length:	5.66 miles	Mountain View Corridor	5600 West	Woodsborough Way	Wakefield Way

Project Location Map

Map ID: 9.47.1.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**5.66**
Average Daily Traffic (vehicles per day)	**22,893**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**16**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**1**
Suspected Serious Injury Crashes (A)	**5**
Suspected Minor Injury Crashes (B)	**42**
Possible Injury Crashes (C)	**56**
No Injury/PDO Crashes (O)	**279**
Total Crashes	**383**
Total EPDO Crashes	**3,208**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle		Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
Foxhills Drive & 6200 South		0	4	24	45	56	129	1,477								
6105 West & 6200 South		0	1	1	2	4	8	143	✓					✓		
Airport Road & 6200 South	✓	0	0	10	21	19	50	480		✓			✓	✓		
Mountain View Corridor & 6200 S	✓	1	0	9	26	17	53	1,401								
High Bluff Drive & 6200 South		0	0	1	4	3	8	71								
Prairie View Drive & 6200 South		0	0	4	17	13	34	295								✓
Impressions Drive & 6200 South		0	0	3	16	20	39	269					✓			
5600 West & 6200 South	✓	0	1	20	69	70	160	1,393								
Walnut Ridge Drive & 6200 South		0	0	2	5	4	11	105								
Dewdrops Drive & 6200 South		0	0	1	8	6	15	119								
Cougar Lane & 6200 South	✓	0	2	24	47	55	128	1,311		✓						
Woodsborough Way & 6200 Sout		0	0	1	5	7	13	86								
Copper City Drive & 6200 South		0	0	1	6	4	11	94								
2200 West & 6200 South	✓	0	0	9	18	16	43	421								
Summit View Boulevard & 6200 S	✓	0	1	4	16	8	29	373	✓							
Wakefield Way & 6200 South		0	0	1	4	0	5	68						✓		

Project Description/How is safety improved?

This project includes installation of medians with pedestrian refuge islands along the entire length of the corridor. An evaluation should be performed to determine which current unsignalized full accesses can be converted to right-in/right-out or 3/4 accesses. All intersections with "doghouse" signal heads will be be replaced with a flashing yellow arrow signal head (5600 W., 4800 W., Airport Rd., Center Park Dr., 4000 W., Summit Vista Blvd., 3200 W., 2700 W., 2200 W.)

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Reduced Left-Turn Conflict Intersections


Crosswalk Visibility Enhancements

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	4.94	LE (URBA	$ 958,000	$ 4,732,520
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	9.00	INT	$ 8,000	$ 72,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	9.00	INT	$ 4,000	$ 36,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 4,840,520
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 242,026
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 1,452,156
Estimated Construction Cost:		$ 6,609,702

Local Match†: 20% $ 1,679,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 793,164
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 991,455
Estimated Project Total:		$ 8,395,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**Redwood Road (SR 68) from 4100 South to Cole Lane**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Taylorsville**	**Checked By:**	
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

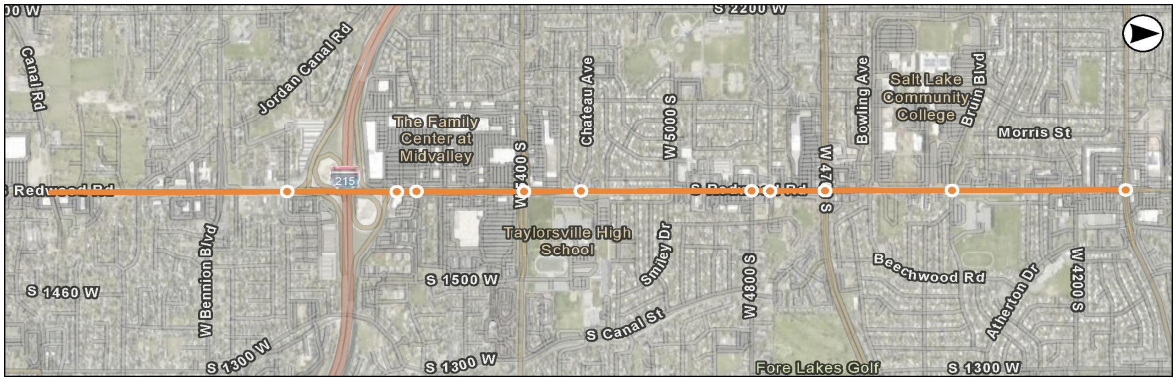
Roadway:	Redwood Road (SR 68)		
From:	4100 South		
To:	Cole Lane		
Length:	3.57 miles		

Key Intersection Locations:

6020 South	5400 South	4805 South	4100 South
5680 South	Chateau Avenue	4700 South	
I-215 WB Ramp	4800 South	Teakwood Drive	

Project Location Map

Map ID: 9.47.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**3.57**
Average Daily Traffic (vehicles per day)	**52,023**
Functional Classification	**Other Principal Arterial**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**10**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**2**
Suspected Serious Injury Crashes (A)	**7**
Suspected Minor Injury Crashes (B)	**60**
Possible Injury Crashes (C)	**97**
No Injury/PDO Crashes (O)	**441**
Total Crashes	**607**
Total EPDO Crashes	**5,312**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	✓
Serious Injury	✓	Parked Vehicle (PV)	
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)	✓	Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
6020 South & Redwood Road		0	2	7	25	15	49	642					✓			
5680 South & Redwood Road		0	0	6	15	10	31	314		✓						
I-215 WB Ramp & Redwood Road	✓	0	0	6	19	8	33	358								
5400 South & Redwood Road	✓	0	5	32	146	61	244	2,902								
Chateau Avenue & Redwood Road	✓	0	0	7	18	17	42	377					✓			✓
4800 South & Redwood Road	✓	0	0	6	19	12	37	362								
4805 South & Redwood Road		0	1	4	9	10	24	295	✓	✓			✓			
4700 South & Redwood Road	✓	0	3	30	110	48	191	2,247								
Teakwood Drive & Redwood Road	✓	0	0	9	19	7	35	423		✓						
4100 South & Redwood Road	✓	0	2	51	119	85	257	2,761								

Project Description/How is safety improved?

This project is focused on systemic corridor improvements through median installation, access control, school crossing improvements, and signal upgrades. It is purposed that medians with pedestrian refuge islands be installed along the entire corridor. All non-signalized access locations should be considered for right-in/right-out or 3/4 access. It is also purposed that all school crossing locations be upgraded to have a leading pedestrian interval and high visibility crosswalk markings. It is also purposed that all intersections with a "doghouse" signal heads (5600 S., 5225 S., 4800 S., Community Blvd., Bruin Blvd.) be upgraded to flashing yellow arrow signal heads.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Crosswalk Visibility Enhancements


Leading Pedestrian Interval


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	2.52	LE (URBA	$ 958,000	$ 2,414,160
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	2.00	INT	$ 8,000	$ 16,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	3.00	INT	$ 4,000	$ 12,000
Include a Leading Pedestrian Interval (LPI)	0.87	Pedestrian	3.00	INT	$ 3,000	$ 9,000
Install High Visibility Crosswalk Markings	0.6	Pedestrian	10.00	XING	$ 2,500	$ 25,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,476,160
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 123,808
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 742,848
Estimated Construction Cost:		$ 3,417,816

Local Match†: 20% $ 868,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 410,138
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 512,672
Estimated Project Total:		$ 4,341,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

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Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**7000 South (SR 48) from Bangerter Highway to Redwood Road**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Jordan**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	7000 South (SR 48)
From:	Bangerter Highway
To:	Redwood Road
Length:	1.92 miles

Key Intersection Locations:
3420 South
3200 West
2200 West

Project Location Map

Map ID: 9.48.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.92**
Average Daily Traffic (vehicles per day)	**24,199**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**3**

Why Was This Location Identified?	
Composite Safety Score	
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**3**
Suspected Minor Injury Crashes (B)	**19**
Possible Injury Crashes (C)	**22**
No Injury/PDO Crashes (O)	**79**
Total Crashes	**123**
Total EPDO Crashes	**1,033**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	✓
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle		Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
3420 South & 7000 South		0	1	5	10	2	18	321	✓	✓			✓	✓	✓	✓
3200 West & 7000 South	✓	0	0	12	20	17	49	512								
2200 West & 7000 South	✓	0	2	10	18	14	44	629		✓						

Project Description/How is safety improved?

This project includes traffic calming, active transportation, access management, and traffic signal modifications. Improvements include median installation, lane narrowing, buffered bicycle lanes, and driver speed feedback signs. Other improvement include crosswalk upgrades to high visibility pavement markings at all school crossings and the installation of a HAWK signal at 2400 West. Signal upgrades include flashing yellow arrow signal heads (3200 W, 2700 W, 2200 W) and retroreflection backplates (2700 W, 2200 W).

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Bicycle Lanes


Corridor Access Management


Crosswalk Visibility Enhancements


Pedestrian Hybrid Beacons

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	1.76	LE (URBA	$ 958,000	$ 1,686,080
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.76	MILE	$ 39,000	$ 68,640
Install Buffered Bicycle Lane	NA	Bicycle	1.46	MILE	$ 26,000	$ 37,960
Install Driver Feedback Speed Limit Signs	NA	All Crashes	4.00	EACH	$ 10,000	$ 40,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	3.00	INT	$ 8,000	$ 24,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	4.00	INT	$ 4,000	$ 16,000
Install High Visibility Crosswalk Markings	0.6	Pedestrian	8.00	XING	$ 2,500	$ 20,000
Install Retroreflective Backplates/Boarders	0.85	All Crashes	16.00	EACH	$ 275	$ 4,400
Install Pedestrian Hybrid Beacons (PHB) or HAWK	0.453	Pedestrian	1.00	EACH	$ 200,000	$ 200,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,097,080
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 104,854
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 629,124
Estimated Construction Cost:		$ 2,906,058

Local Match†: 20% $ 738,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 348,727
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 435,909
Estimated Project Total:		$ 3,691,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

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Project Information Sheet

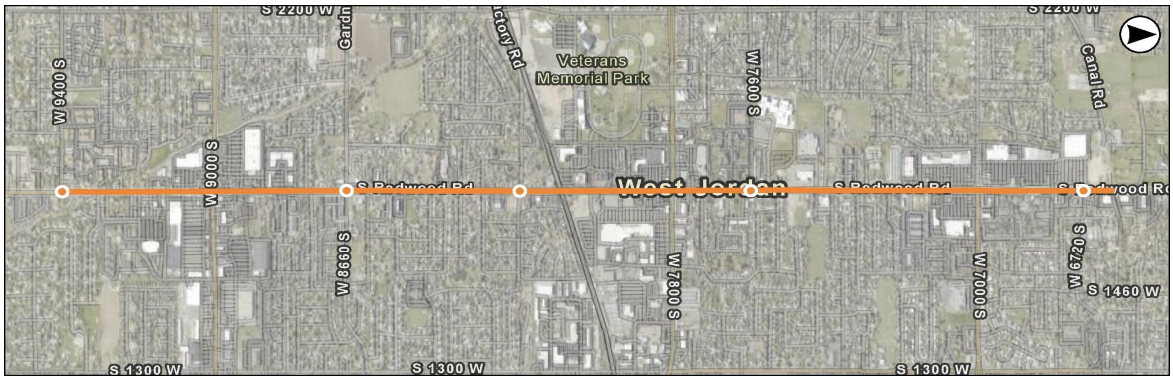
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**Redwood Road (SR 68) from Cole Lane to 9400 South**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Jordan**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

Roadway:	Redwood Road (SR 68)	**Key Intersection Locations:**	
From:	Cole Lane	9400 South	7600 South
To:	9400 South	Gardner Lane	6720 South
Length:	3.45 miles	8200 South	

Project Location Map

Map ID: 9.48.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**3.45**
Average Daily Traffic (vehicles per day)	**40,925**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**5**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**1**
Suspected Serious Injury Crashes (A)	**12**
Suspected Minor Injury Crashes (B)	**74**
Possible Injury Crashes (C)	**111**
No Injury/PDO Crashes (O)	**334**
Total Crashes	**532**
Total EPDO Crashes	**5,257**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
9400 South & Redwood Road	✓	0	0	2	10	9	21	167		✓						
Gardner Lane & Redwood Road		0	2	5	10	18	35	430	✓				✓			
8200 South & Redwood Road		0	2	9	19	21	51	625	✓							✓
7600 South & Redwood Road		0	1	8	20	23	52	522	✓							✓
6720 South & Redwood Road		0	0	7	10	13	30	283								✓

Project Description/How is safety improved?

This project includes median installation, access control, school crossing improvements, and signal upgrades. Medians with pedestrian refuge islands are proposed along the entire corridor to reduce the frequency of angle and sideswipe crashes. All non-signalized access locations should be considered for right-in/right-out or 3/4 access. The school crossing at South Valley School is recommended to be impoved to include a pedestrian refuge island. 8200 South should be upgraded to include flashing yellow arrow signal heads.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Reduced Left-Turn Conflict Intersections


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	2.83	LE (URBA	$ 958,000	$ 2,711,140
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Pedestrian Refuge Island	0.54	Pedestrian	1.00	EACH	$ 30,000	$ 30,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	1.00	INT	$ 4,000	$ 4,000
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Adequate Number/Visibility of Signal Heads	0.85	All Crashes	1.00	INT	$ 24,000	$ 24,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,777,140
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 138,857
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 833,142
Estimated Construction Cost:		$ 3,824,139

Local Match†: 20% $ 971,400

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 458,897
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 573,621
Estimated Project Total:		$ 4,857,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**Jordan Landing Commercial Area Intersection Improvements**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Jordan**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

		Key Intersection Locations:	
Roadway:	NA	3800 West & 7800 South	Center View Way & Plaza Center Drive
From:	NA	Jordan Landing Boulevard & 7800 South	Center Park Drive & Jordan Landing Boulevard
To:	NA	Campus View Drive & Plaza Center Drive	Center Park Drive & Plaza Center Drive
Length:	NA	Campus View Drive & Jordan Landing Boulevard	Center Park Drive & Campus View Drive
		Center View Way & Jordan Landing Boulevard	7180 South & Plaza Center Drive

Project Location Map

Map ID: 9.48.3

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	NA
Average Daily Traffic (vehicles per day)	NA
Functional Classification	NA
Roadway Ownership	NA
Urban/Rural Designation	NA
Number of Key Intersections	NA

Why Was This Location Identified?	
Composite Safety Score	NA
Historic Crashes	NA
Critical Crash Rate Differential	NA
Crash Profile Risk Score	NA
usRAP - Star Rating (Veh, Ped, Bike)	NA
Local Street Assessment	NA

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	NA
Suspected Serious Injury Crashes (A)	NA
Suspected Minor Injury Crashes (B)	NA
Possible Injury Crashes (C)	NA
No Injury/PDO Crashes (O)	NA
Total Crashes	NA
Total EPDO Crashes	NA

What Crash Types are Over-Represented?			
Fatal	NA	Head On (HO)	NA
Serious Injury	NA	Parked Vehicle (PV)	NA
Pedestrian (Ped)	NA	Single Vehicle	NA
Bicycle (Bike)	NA	Rear to Rear (RR)	NA
Motorcycle	NA	Rear to Side (RS)	NA
Angle	NA	Sideswipe (SS)	NA
Front to Rear (FR)	NA	Other/Unknown	NA

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
3800 West & 7800 South	✓	0	1	31	59	62	153	1,517								
Jordan Landing Boulevard & 7800	✓	0	2	37	77	54	170	1,941		✓						
Campus View Drive & Plaza Cent	✓	0	0	5	9	11	25	225						✓		
Campus View Drive & Jordan Lan	✓	0	4	13	29	38	84	1,032								
Center View Way & Jordan Landi		0	3	9	14	20	46	661								
Center View Way & Plaza Center		0	0	1	2	3	6	48								
Center Park Drive & Jordan Landi	✓	0	1	16	29	40	86	820								
Center Park Drive & Plaza Center		0	1	8	7	16	32	367								
Center Park Drive & Campus Viev		0	0	8	11	21	40	324								
7180 South & Plaza Center Drive		0	0	1	3	3	7	59								
Cobble Ridge Drive & Jordan Lan		0	0	3	12	17	32	220								
7060 South & Plaza Center Drive		0	0	1	4	0	5	68								
Plaza Center Drive & 7000 South		0	0	10	25	21	56	528								
Dixie Drive & 7000 South		0	0	5	17	2	24	307								

Project Description/How is safety improved?

This project is focused on improving safety at intersections within the Jordan Landing Area. This includes performing safety studies to determine what improvements are needed including Road Safety Audits (RSA) and Intersection Control Evalations (ICE). The RSA will identify low cost improvements while the ICE studies at each intersection will determine the ideal traffic control type for the various intersection. Based on the ICE analyses it is anticipated that modification to intersections will be needed based on safety and capacity analysis and could included roundabouts.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Road Safety Audit


Roundabouts

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Perform Road Safety Audits	0.4-0.9	All Crashes	3.00	INT	$ 5,000	$ 15,000
Perform an Intersection Control Evaluation and Implement	NA	All Crashes	10.00	INT	$ 225,000	$ 2,250,000
Convert Existing Intersection to Modern Roundabout	0.18 - 0.59	All Crashes	3.00	INT	$ 2,500,000	$ 7,500,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 9,765,000
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 488,250
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 2,929,500
Estimated Construction Cost:		$ 13,257,750

Local Match†: 20% $ 3,367,600

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 1,590,930
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 1,988,663
Estimated Project Total:		$ 16,838,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**7200 South from Redwood Road to State Street**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Jordan, Midvale**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	7200 South	**Key Intersection Locations:**	
From:	Redwood Road	River Gate Drive	400 West
To:	State Street	700 West	High Tech Drive
Length:	2.60 miles	Catalpa Road	State Street

Project Location Map

Map ID: 9.48.4.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.60**
Average Daily Traffic (vehicles per day)	**32,568**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**6**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**4**
Suspected Minor Injury Crashes (B)	**13**
Possible Injury Crashes (C)	**41**
No Injury/PDO Crashes (O)	**199**
Total Crashes	**257**
Total EPDO Crashes	**1,329**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	
Bicycle (Bike)	✓	Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle		Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
River Gate Drive & 7200 South	✓	0	0	1	17	13	31	228		✓			✓			
700 West & 7200 South	✓	0	1	18	82	41	142	1,468								
Catalpa Road & 7200 South		0	0	2	16	1	19	227						✓		
400 West & 7200 South		0	0	5	23	10	38	383					✓	✓		
High Tech Drive & 7200 South	✓	0	0	11	54	20	85	879								✓
State Street & 7200 South	✓	1	4	25	107	20	157	3,056	✓	✓					✓	

Project Description/How is safety improved?

This project include raised medians (Redwood Rd. - 1300 W.), eliminating left turns from access driveways and sidestreets, upgrading traffic signals, and crosswalk improvements. It is proposed the 400 West become a right-in/right-out only access and all locations with new median installation that are unsignalized be considered for right-in/right-out or 3/4 access. Traffic signal upgrades to flashing yellow arrows are recommended at 1300 West and 180 West. The school crossing at Westheather Drive should be upgraded to be a high-visibility crossing and include a HAWK signal.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Pedestrian Hybrid Beacons


Reduced Left-Turn Conflict Intersections

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	0.69	MILE	$ 928,000	$ 640,320
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Right-in-Right-out Access Treatment	0.55	All Crashes	1.00	DRIVEW	$ 50,000	$ 50,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	2.00	INT	$ 8,000	$ 16,000
Install Pedestrian Hybrid Beacons (PHB) or HAWK	0.453	Pedestrian	1.00	EACH	$ 200,000	$ 200,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	1.00	XING	$ 37,000	$ 37,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 943,320
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 47,166
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 282,996
Estimated Construction Cost:		$ 1,348,482

Local Match†: 20% $ 342,600

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 161,818
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 202,272
Estimated Project Total:		$ 1,713,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2: Aquire funding for pedestrian bridge at Heartland Elementary
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**5600 West from 5400 South (SR 173) to SR 201**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Valley City, Kearns**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

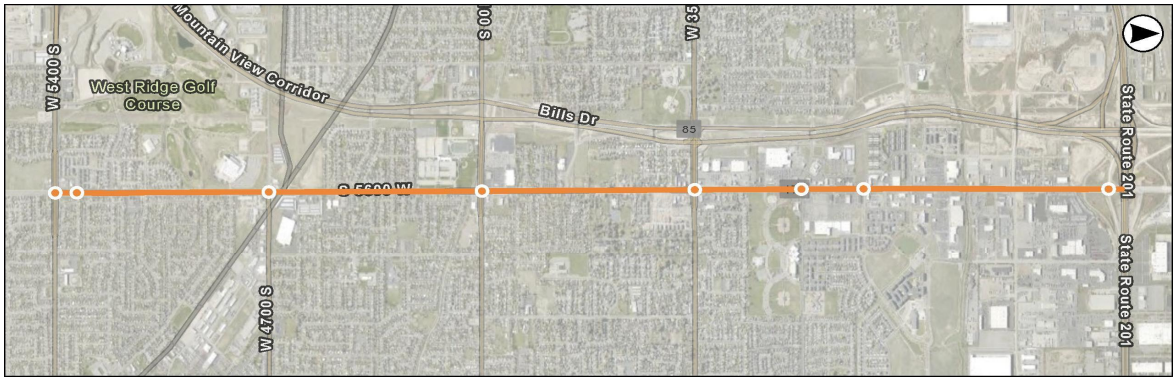
Roadway:	5600 West	
From:	5400 South (SR 173)	
To:	SR 201	
Length:	5.01	miles

Key Intersection Locations:

5400 South	4100 South	Lake Ridge Drive
Highbury Parkway	3500 South	2100 South
4700 South	3100 South	

Project Location Map

Map ID: 9.49.1.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**5.01**
Average Daily Traffic (vehicles per day)	**38,629**
Functional Classification	**Other Principal Arteria**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**8**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**3**
Suspected Serious Injury Crashes (A)	**11**
Suspected Minor Injury Crashes (B)	**47**
Possible Injury Crashes (C)	**103**
No Injury/PDO Crashes (O)	**429**
Total Crashes	**593**
Total EPDO Crashes	**6,342**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	✓
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle		Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
5400 South & 5600 West	✓	0	1	29	105	59	194	1,992								
Highbury Parkway & 5600 West		0	0	8	12	13	33	328		✓				✓		✓
4700 South & 5600 West	✓	0	3	24	58	36	121	1,511								
4100 South & 5600 West	✓	0	0	25	83	18	126	1,518							✓	
3500 South & 5600 West	✓	0	0	28	115	46	189	1,977								
3100 South & 5600 West	✓	0	3	27	89	54	173	1,948							✓	
Lake Ridge Drive & 5600 West		0	0	7	16	16	39	354		✓						
2100 South & 5600 West	✓	0	0	3	9	0	12	169		✓						✓

Project Description/How is safety improved?

This project is focused on systemic corridor access and bicycle safety improvements. A raised median is proposed along the entire length of the corridor to improve overall vehicle safety and to reduce left-turn and angled crashes. Unsignalized intersections and access driveways should be evaluated for right-in/right-out and 3/4 access. Buffered bicycle lanes (5400 S - 3100 S)are recommended along with intersection bicycle improvements at signalized intersections (5400 S, 4700 S, 4100 S, 3500 S, 3100 S, Parkway Blvd, 2400 S). Upgrading to flashing yellow arrow signal heads is also recommended at Parkway Boulevard and 4700 South.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Reduced Left-Turn Conflict Intersections


Bicycle Lanes

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	5.01	MILE	$ 928,000	$ 4,649,280
Traffic Calming - Lane Narrowing	0.68	All Crashes	5.01	MILE	$ 39,000	$ 195,390
Install Buffered Bicycle Lane	NA	Bicycle	3.50	MILE	$ 26,000	$ 91,000
			0.00			$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Add Bicycle Treatments at Intersections	NA	All Crashes	7.00	INT	$ 9,000	$ 63,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	2.00	INT	$ 8,000	$ 16,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	2.00	INT	$ 4,000	$ 8,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 5,022,670
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 251,134
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 1,506,801
Estimated Construction Cost:		$ 6,855,605

Local Match†: 20% $ 1,741,400

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 822,673
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 1,028,341
Estimated Project Total:		$ 8,707,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**4000/4015 West from 3100 South to 3200 South**	**Prepared By:**	**MA**
Jurisdiction(s):	**West Valley City, Kearns**	**Checked By:**	**EMF**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High**		

Location Description

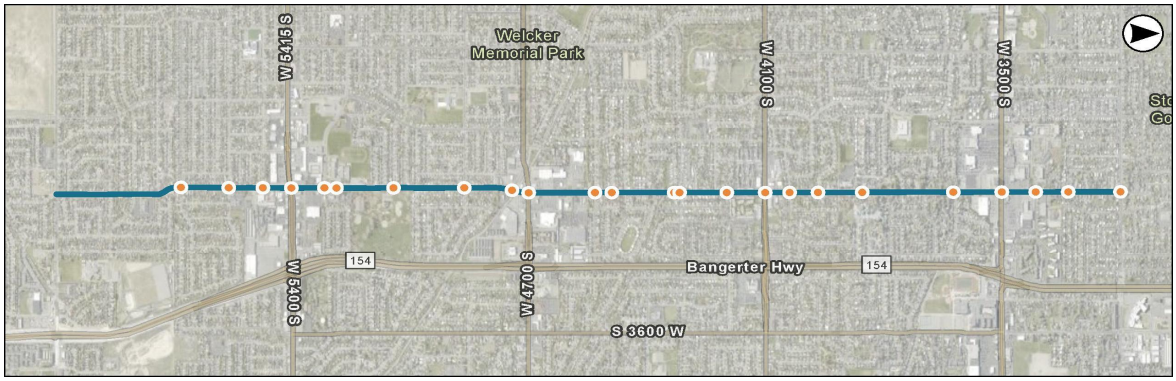
Roadway:	4000/4015 West	
From:	3100 South	
To:	3200 South	
Length:	4.51	miles

Key Intersection Locations:

3100 South	4700 South	Rockwood Way
3500 South	5615 South	Rawhide Drive
4100 South	5500 South	Volta Avenue

Project Location Map

Map ID: 9.49.2.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**4.51**
Average Daily Traffic (vehicles per day)	**3,000**
Functional Classification	**Major Collector**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**23**

Why Was This Location Identified?	
Composite Safety Score	
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	
usRAP - Star Rating (Veh, Ped, Bike)	
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**2**
Suspected Serious Injury Crashes (A)	**2**
Suspected Minor Injury Crashes (B)	**30**
Possible Injury Crashes (C)	**66**
No Injury/PDO Crashes (O)	**238**
Total Crashes	**338**
Total EPDO Crashes	**3,620**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
3100 South & 4000 West	✓	0	2	15	26	21	64	838		✓			✓			✓
3500 South & 4000 West	✓	0	2	25	74	34	135	1,619								
4100 South & 4000 West	✓	0	1	14	64	31	110	1,164								
4700 South & 4000 West	✓	0	2	23	97	75	197	1,877								
5615 South & 4015 West		0	0	0	10	5	15	119						✓		
5500 South & 4015 West		0	0	2	3	2	7	81					✓	✓		
Rockwood Way & 4000 West		0	1	3	9	9	22	272	✓	✓				✓		
Rawhide Drive & 4000 West		0	0	2	3	2	7	81		✓		✓				✓
Volta Avenue & 4000 West		0	0	1	3	1	5	57					✓			
Westhaven Drive & 4000 West		0	0	2	5	3	10	104						✓		
Basils Lane & 4000 West		0	0	0	3	0	3	34						✓	✓	
4490 South & 4000 West		0	1	1	1	1	4	128	✓				✓	✓		
Benview Avenue & 4000 West		0	0	5	8	12	25	214		✓				✓		
4715 South & 4015 West		0	0	0	8	6	14	97								✓
Ridgecrest Drive & 4015 West		0	0	0	4	3	7	48						✓		✓
Squire Crest Drive & 4015 West		0	0	2	5	3	10	104						✓		

Project Description/How is safety improved?

This project recommends improvements to address fatal/serious injury, angle, pedestrian, rear-end, parked vehicle, single vehicle, and sideswipe collisions: Road diets at locations that exceed 3 total lanes; lane narrowing; TWLTL to raised median; on-street parking at least 100 ft away from all intersections; speed limit reduction, including speed feedback signs; RRFB's, raised crossing, pedestrian refuge islands, and bulbouts at Rockwood Way, Rawhide Dr, Benview Ave, and Ridgecrest Dr intersections and other key locations; Fill all sidewalk gaps; Intersection control evaluations for roundabouts at all four-leg unsignalized intersections identified; flashing yellow arrow where warranted; protected left-turn at 4100 S and 3500 S intersections on east/west approaches; right-in right-out at 4715 S and Basils Ln intersections.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Traffic Calming - Lane Narrowing	0.68	All Crashes	4.51	MILE	$ 39,000	$ 176,003
Traffic Calming - Wider Lane Lines	0.68	All Crashes	4.51	MILE	$ 21,000	$ 94,771
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	4.51	MILE	$ 928,000	$ 4,187,967
4-Lane to 3-Lane Road Diet Conversion	0.53 - 0.81	All Crashes	0.40	MILE	$ 22,000	$ 8,800
Install Driver Feedback Speed Limit Signs	NA	All Crashes	6.00	EACH	$ 10,000	$ 60,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	12.00	XING (2)	$ 15,000	$ 180,000
Install Raised Crosswalk	NA	Pedestrian	12.00	EACH	$ 71,000	$ 852,000
Traffic Calming - Bulbouts	0.68	All Crashes	24.00	EACH	$ 36,000	$ 864,000
Install Sidewalk or Walkways	NA	Pedestrian	0.50	MILE	$ 634,000	$ 317,000
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Perform an Intersection Control Evaluation and Implement	NA	All Crashes	5.00	INT	$ 225,000	$ 1,125,000
Convert Existing Intersection to Modern Roundabout	0.18 - 0.59	All Crashes	5.00	INT	$ 2,500,000	$ 12,500,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	8.00	INT	$ 8,000	$ 64,000
Change Permissive Left-Turn to Protected or Protected/Permissive	0.79 - 0.95	Left-Turn	4.00	INT	$ 8,000	$ 32,000
Right-in-Right-out Access Treatment	0.55	All Crashes	2.00	DRIVEW	$ 50,000	$ 100,000
Corridor Access Management-Driveway Consolidation (Urban)	0.69 - 0.75	Fatal & Injury	6.00	DRIVEW	$ 7,000	$ 42,000
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 20,603,541
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 1,030,177
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 6,181,062
Estimated Construction Cost:		$ 27,889,781

Local Match†: 20% $ 7,084,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 3,346,774
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 4,183,467
Estimated Project Total:		$ 35,421,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2: Co-Locate Bus Stops and Pedestrian Crossings
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

ADDITIONAL INFORMATION

This project recommends the following segment improvements to address an overrepresentation of fatal/serious injury, angle, pedestrian, rear-end, parked vehicle, single vehicle, and sideswipe collisions:
-Road diet from Rockwood Way to 3500 S, Benview Dr to 4700 S, 5615 to 5400 S
-Lane Narrowing and lane line widening
-Median transition for TWLTL, and implement median island where not existing (repurpose on-street parking where needed)
-Move on-street parking at least 50 ft away from all intersections
-Speed feedback signs along corridor
-Reduce speed from 35 mph to 25 mph
-RRFB's, Raised crossing, pedestrian refuge islands, bulbouts and high visibility at major bus stops and any marked unsignalized crossings.
-Fill all sidewalk gaps along corridor

Intersection Improvements: Roundabouts at all four-leg unsignalized intersections.
-3100 S/4000 W: FYA on all approaches, protected intersection improvements.
-3500 S/4000 W: E/W protected LT if warranted; driveway consolidation
-4100 S/4000 W: Protected LT W approach; driveway consolidation
-4700 S/4000 W: Updated striping, FYA on all approaches.
-5615 S/4015 W: Roundabout (see above note)
-5500 S/4015 W: Right-in right-out conversion
-Rockwood Way/4000 W: E/W RRFB with bulbouts raised crossing, visibility and island. Roundabout (see above note)
-Rawhide Dr/4000 W: E/W RRFB with bulbouts, raised crossing, visibility and island.
-Volta Ave/4000 W: [Median control will address issue]
-Westhaven Dr/4000 W: Roundabout (see above note)
-Basils Ln/4000 W: Right-in right-out conversion. [would consider closure of this roadway and consolidation onto 4330 S, if possible].
-4490 S/4000 W: [Median control and parking updates will address issue]
-Benview Ave/4000 W: E/W RRFB with bulbouts, raised crossing, visibility and island. Roundabout (see above note)
-4715 S/4015 W: Right-in right-out conversion.
-Ridgecrest Dr/4015 W: E/W RRFB with bulbouts, raised crossing, visibility and island. Roundabout (see above note)
-Squire Crest Dr/4015 W: [Median control and parking updates will address issue]

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**4100 South from 7200 West to Bangerter Highway**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Valley City, Kearns**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

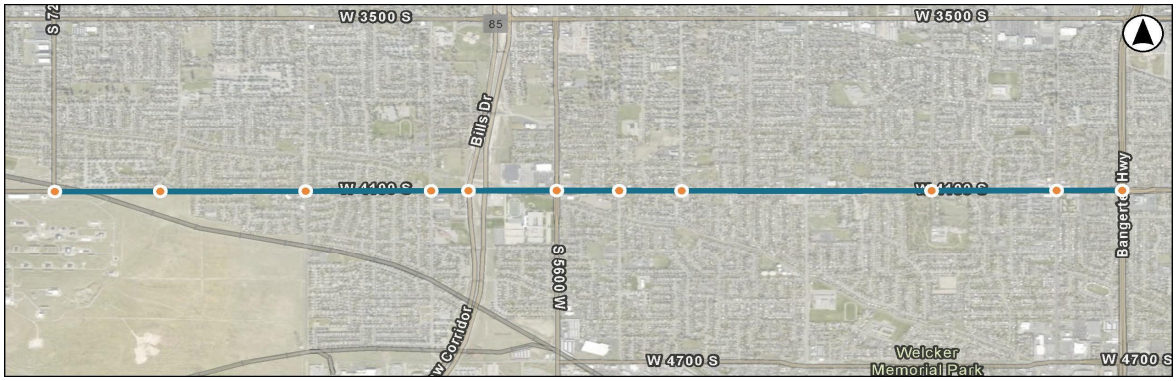
Roadway:	4100 South
From:	7200 West
To:	Bangerter Highway
Length:	4.28 miles

Key Intersection Locations:

3100 South	4700 South	Rockwood Way	Westhaven Drive
3500 South	5615 South	Rawhide Drive	Basils Lane
4100 South	5500 South	Volta Avenue	

Project Location Map

Map ID: 9.49.3



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**4.28**
Average Daily Traffic (vehicles per day)	**21,134**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**11**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**2**
Suspected Serious Injury Crashes (A)	**3**
Suspected Minor Injury Crashes (B)	**18**
Possible Injury Crashes (C)	**42**
No Injury/PDO Crashes (O)	**196**
Total Crashes	**261**
Total EPDO Crashes	**3,132**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
3100 South & 4000 West	✓	0	2	15	26	21	64	838		✓			✓			✓
3500 South & 4000 West	✓	0	2	25	74	34	135	1,619								
4100 South & 4000 West	✓	0	1	14	64	31	110	1,164								
4700 South & 4000 West	✓	0	2	23	97	75	197	1,877								
5615 South & 4015 West		0	0	0	10	5	15	119						✓		
5500 South & 4015 West		0	0	2	3	2	7	81					✓	✓		
Rockwood Way & 4000 West		0	1	3	9	9	22	272	✓	✓				✓		
Rawhide Drive & 4000 West		0	0	2	3	2	7	81		✓		✓				✓
Volta Avenue & 4000 West		0	0	1	3	1	5	57					✓			
Westhaven Drive & 4000 West		0	0	2	5	3	10	104						✓		
Basils Lane & 4000 West		0	0	0	3	0	3	34						✓	✓	

Project Description/How is safety improved?

This project includes a raised median along the entire length of the corridor to reduce left-turn and angled crashes. Unsignalized intersection and access driveways should be evaluated for right-in/right-out and 3/4 access. Lane narrowing and bicycle lanes are proposed west of 6000 West. A leading pedestrian interval is recommended at 5600 West. All school crossings are recommended to be upgraded with high visibility markings.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Reduced Left-Turn Conflict Intersections


Bicycle Lanes


Crosswalk Visibility Enhancements


Leading Pedestrian Interval

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	3.39	MILE	$ 928,000	$ 3,145,920
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.25	MILE	$ 39,000	$ 48,750
Install Bicycle Lane	0.51 - 0.694	Bicycle	1.25	MILE	$ 21,000	$ 26,250
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Include a Leading Pedestrian Interval (LPI)	0.87	Pedestrian	1.00	INT	$ 3,000	$ 3,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	1.00	INT	$ 4,000	$ 4,000
Install High Visibility Crosswalk Markings	0.6	Pedestrian	12.00	XING	$ 2,500	$ 30,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 3,257,920
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 162,896
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 977,376
Estimated Construction Cost:		$ 4,473,192

Local Match†: 20% $ 1,136,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 536,783
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 670,979
Estimated Project Total:		$ 5,681,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

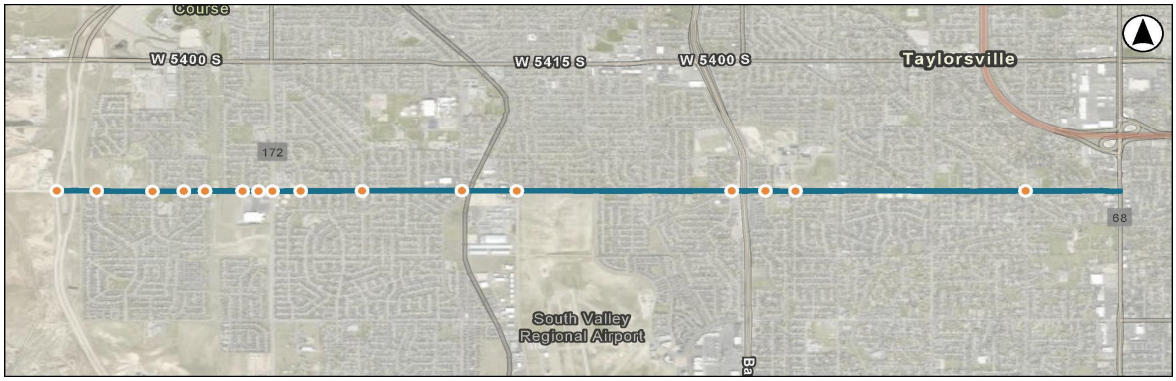
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**6200 South from Mountain View Corridor to Redwood Road**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Kearns, Taylorsville, West Jordan, West Valley**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

		Key Intersection Locations:			
Roadway:	6200 South	Foxhills Drive	High Bluff Drive	5600 West	Copper City Drive
From:	Mountain View Corridor	6105 West	Prairie View Drive	Dewdrops Drive	2200 West
To:	Redwood Road	Airport Road	Impressions Drive	Cougar Lane	Summit View Boulevard
Length:	5.66 miles	Mountain View Corridor	5600 West	Woodsborough Way	Wakefield Way

Project Location Map

Map ID: 9.50.1.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**5.66**
Average Daily Traffic (vehicles per day)	**22,893**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**16**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**1**
Suspected Serious Injury Crashes (A)	**5**
Suspected Minor Injury Crashes (B)	**42**
Possible Injury Crashes (C)	**56**
No Injury/PDO Crashes (O)	**279**
Total Crashes	**383**
Total EPDO Crashes	**3,208**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle		Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
Foxhills Drive & 6200 South		0	4	24	45	56	129	1,477								
6105 West & 6200 South		0	1	1	2	4	8	143	✓					✓		
Airport Road & 6200 South	✓	0	0	10	21	19	50	480		✓			✓	✓		
Mountain View Corridor & 6200 S	✓	1	0	9	26	17	53	1,401								
High Bluff Drive & 6200 South		0	0	1	4	3	8	71								
Prairie View Drive & 6200 South		0	0	4	17	13	34	295								✓
Impressions Drive & 6200 South		0	0	3	16	20	39	269					✓			
5600 West & 6200 South	✓	0	1	20	69	70	160	1,393								
5600 West & 6200 South	✓	0	1	20	69	70	160	1,393								
Dewdrops Drive & 6200 South		0	0	1	8	6	15	119								
Cougar Lane & 6200 South	✓	0	2	24	47	55	128	1,311		✓						
Woodsborough Way & 6200 Sout		0	0	1	5	7	13	86								
Copper City Drive & 6200 South		0	0	1	6	4	11	94								
2200 West & 6200 South	✓	0	0	9	18	16	43	421								
Summit View Boulevard & 6200 S	✓	0	1	4	16	8	29	373	✓							
Wakefield Way & 6200 South		0	0	1	4	0	5	68						✓		

Project Description/How is safety improved?

This project includes installation of medians with pedestrian refuge islands along the entire length of the corridor. An evaluation should be performed to determine which current unsignalized full accesses can be converted to right-in/right-out or 3/4 accesses. All intersections with "doghouse" signal heads will be be replaced with a flashing yellow arrow signal head (5600 W., 4800 W., Airport Rd., Center Park Dr., 4000 W., Summit Vista Blvd., 3200 W., 2700 W., 2200 W.)

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Reduced Left-Turn Conflict Intersections


Crosswalk Visibility Enhancements

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Medians and Pedestrian Refuge Islands in Urban Areas	0.44	Pedestrian	4.94	LE (URBA	$ 958,000	$ 4,732,520
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	9.00	INT	$ 8,000	$ 72,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	9.00	INT	$ 4,000	$ 36,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 4,840,520
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 242,026
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 1,452,156
Estimated Construction Cost:		$ 6,609,702

Local Match†: 20% $ 1,679,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 793,164
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 991,455
Estimated Project Total:		$ 8,395,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s): West Salt Lake Valley
Project Name: 4000/4015 West from 3100 South to 3200 South
Jurisdiction(s): Kearns, West Valley City
Emphasis Areas: Intersections, Roadway Departures, Impaired Driving
Equity Priority: High

Date Prepared: 3/13/2024
Prepared By: MA
Checked By: EMF

Location Description

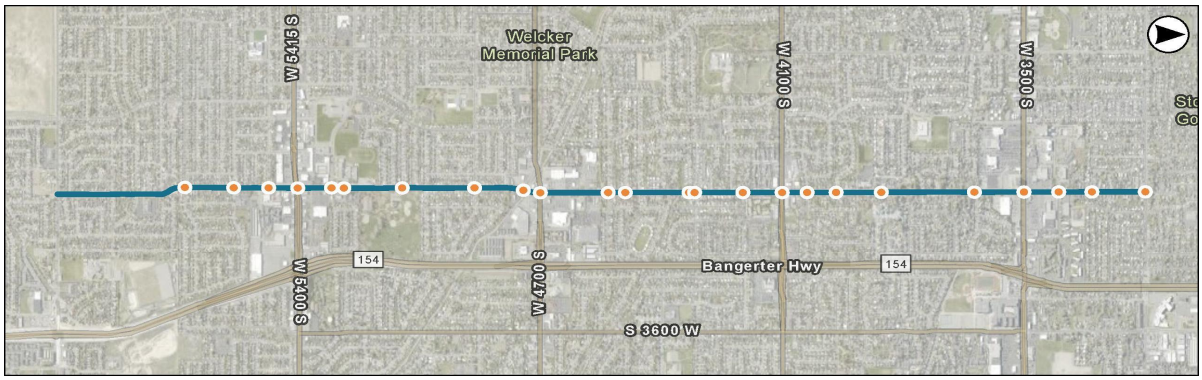
Roadway: 4000/4015 West
From: 3100 South
To: 3200 South
Length: 4.51 miles

Key Intersection Locations:

3100 South	4700 South	Rockwood Way
3500 South	5615 South	Rawhide Drive
4100 South	5500 South	Volta Avenue

Project Location Map

Map ID: 9.50.2.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	4.51
Average Daily Traffic (vehicles per day)	3,000
Functional Classification	Major Collector
Roadway Ownership	Federal Aid - Local
Urban/Rural Designation	Urban
Number of Key Intersections	23

Why Was This Location Identified?	
Composite Safety Score	
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	
usRAP - Star Rating (Veh, Ped, Bike)	
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	2
Suspected Serious Injury Crashes (A)	2
Suspected Minor Injury Crashes (B)	30
Possible Injury Crashes (C)	66
No Injury/PDO Crashes (O)	238
Total Crashes	338
Total EPDO Crashes	3,620

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)	✓	Single Vehicle	✓
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	Signal	K	A	B	C	O	Total	EPDO	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
3100 South & 4000 West	✓	0	2	15	26	21	64	838		✓			✓			✓
3500 South & 4000 West	✓	0	2	25	74	34	135	1,619								
4100 South & 4000 West	✓	0	1	14	64	31	110	1,164								
4700 South & 4000 West	✓	0	2	23	97	75	197	1,877								
5615 South & 4015 West		0	0	0	10	5	15	119						✓		
5500 South & 4015 West		0	0	2	3	2	7	81					✓	✓		
Rockwood Way & 4000 West		0	1	3	9	9	22	272	✓	✓				✓		
Rawhide Drive & 4000 West		0	0	2	3	2	7	81		✓		✓				✓
Volta Avenue & 4000 West		0	0	1	3	1	5	57					✓			
Westhaven Drive & 4000 West		0	0	2	5	3	10	104						✓		
Basils Lane & 4000 West		0	0	0	3	0	3	34						✓	✓	
4490 South & 4000 West		0	1	1	1	1	4	128	✓				✓	✓		
Benview Avenue & 4000 West		0	0	5	8	12	25	214		✓				✓		
4715 South & 4015 West		0	0	0	8	6	14	97								✓
Ridgecrest Drive & 4015 West		0	0	0	4	3	7	48						✓		✓
Squire Crest Drive & 4015 West		0	0	2	5	3	10	104						✓		

Project Description/How is safety improved?

This project includes road diets at locations that exceed 3 total lanes; lane narrowing; TWLTL to raised median; on-street parking at least 100 ft away from intersections; speed limit reduction, speed feedback signs; RRFB's, raised crossing, pedestrian refuge islands, and bulbouts at Rockwood Way, Rawhide Dr, Benview Ave, and Ridgecrest Dr intersections and other key locations; fill sidewalk gaps; intersection control evaluations for roundabouts at all four-leg unsignalized intersections; flashing yellow arrow where warranted; protected left-turn at 4100 S and 3500 S intersections on east/west approaches; right-in right-out at 4715 S and Basils Ln intersections.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Traffic Calming - Lane Narrowing	0.68	All Crashes	4.51	MILE	$ 39,000	$ 176,003
Traffic Calming - Wider Lane Lines	0.68	All Crashes	4.51	MILE	$ 21,000	$ 94,771
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	4.51	MILE	$ 928,000	$ 4,187,967
4-Lane to 3-Lane Road Diet Conversion	0.53 - 0.81	All Crashes	0.40	MILE	$ 22,000	$ 8,800
Install Driver Feedback Speed Limit Signs	NA	All Crashes	6.00	EACH	$ 10,000	$ 60,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	12.00	XING (2)	$ 15,000	$ 180,000
Install Raised Crosswalk	NA	Pedestrian	12.00	EACH	$ 71,000	$ 852,000
Traffic Calming - Bulbouts	0.68	All Crashes	24.00	EACH	$ 36,000	$ 864,000
Install Sidewalk or Walkways	NA	Pedestrian	0.50	MILE	$ 634,000	$ 317,000
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Perform an Intersection Control Evaluation and Implement	NA	All Crashes	5.00	INT	$ 225,000	$ 1,125,000
Convert Existing Intersection to Modern Roundabout	0.18 - 0.59	All Crashes	5.00	INT	$ 2,500,000	$ 12,500,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	8.00	INT	$ 8,000	$ 64,000
Change Permissive Left-Turn to Protected or Protected/Permissive	0.79 - 0.95	Left-Turn	4.00	INT	$ 8,000	$ 32,000
Right-in-Right-out Access Treatment	0.55	All Crashes	2.00	DRIVEW	$ 50,000	$ 100,000
Corridor Access Management-Driveway Consolidation (Urban)	0.69 - 0.75	Fatal & Injury	6.00	DRIVEW	$ 7,000	$ 42,000
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 20,603,541
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 1,030,177
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 6,181,062
Estimated Construction Cost:		$ 27,889,781

Local Match†: 20% $ 7,084,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 3,346,774
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 4,183,467
Estimated Project Total:		$ 35,421,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2: Co-Locate Bus Stops and Pedestrian Crossings
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

ADDITIONAL INFORMATION

This project recommends the following segment improvements to address an overrepresentation of fatal/serious injury, angle, pedestrian, rear-end, parked vehicle, single vehicle, and sideswipe collisions:
-Road diet from Rockwood Way to 3500 S, Benview Dr to 4700 S, 5615 to 5400 S
-Lane Narrowing and lane line widening
-Median transition for TWLTL, and implement median island where not existing (repurpose on-street parking where needed)
-Move on-street parking at least 50 ft away from all intersections
-Speed feedback signs along corridor
-Reduce speed from 35 mph to 25 mph
-RRFB's, Raised crossing, pedestrian refuge islands, bulbouts and high visibility at major bus stops and any marked unsignalized crossings.
-Fill all sidewalk gaps along corridor

Intersection Improvements: Roundabouts at all four-leg unsignalized intersections.
-3100 S/4000 W: FYA on all approaches, protected intersection improvements.
-3500 S/4000 W: E/W protected LT if warranted; driveway consolidation
-4100 S/4000 W: Protected LT W approach; driveway consolidation
-4700 S/4000 W: Updated striping, FYA on all approaches.
-5615 S/4015 W: Roundabout (see above note)
-5500 S/4015 W: Right-in right-out conversion
-Rockwood Way/4000 W: E/W RRFB with bulbouts raised crossing, visibility and island. Roundabout (see above note)
-Rawhide Dr/4000 W: E/W RRFB with bulbouts, raised crossing, visibility and island.
-Volta Ave/4000 W: [Median control will address issue]
-Westhaven Dr/4000 W: Roundabout (see above note)
-Basils Ln/4000 W: Right-in right-out conversion. [would consider closure of this roadway and consolidation onto 4330 S, if possible].
-4490 S/4000 W: [Median control and parking updates will address issue]
-Benview Ave/4000 W: E/W RRFB with bulbouts, raised crossing, visibility and island. Roundabout (see above note)
-4715 S/4015 W: Right-in right-out conversion.
-Ridgecrest Dr/4015 W: E/W RRFB with bulbouts, raised crossing, visibility and island. Roundabout (see above note)
-Squire Crest Dr/4015 W: [Median control and parking updates will address issue]

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**5400 South (SR 173) from 5600 West to 4000 West**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Kearns**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High**		

Location Description

Roadway:	5400 South (SR 173)		
From:	5600 West		
To:	4000 West		
Length:	1.99 miles		

Key Intersection Locations:

5600 West & 5400 South	4420 West & 5415 South
Cougar Lane & 5400 South	4120 West & 5415 South
4620 West & 5415 South	4015 West & 5400 South

Project Location Map

Map ID: 9.50.3

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.99**
Average Daily Traffic (vehicles per day)	**19,477**
Functional Classification	**Other Principal Arterial**
Roadway Ownership	**State**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**6**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**3**
Suspected Serious Injury Crashes (A)	**3**
Suspected Minor Injury Crashes (B)	**11**
Possible Injury Crashes (C)	**11**
No Injury/PDO Crashes (O)	**122**
Total Crashes	**150**
Total EPDO Crashes	**3,438**

What Crash Types are Over-Represented?			
Fatal	✓	Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
5600 West & 5400 South	✓	0	1	29	105	59	194	1,992								
Cougar Lane & 5400 South	✓	0	1	12	75	40	128	1,253								
4620 West & 5415 South		0	1	5	9	11	26	318	✓							
4420 West & 5415 South	✓	0	0	7	14	19	40	334		✓					✓	
4120 West & 5415 South		0	1	0	10	7	18	214	✓				✓	✓		
4015 West & 5400 South	✓	0	1	18	72	34	125	1,347								

Project Description/How is safety improved?

This project improves safety through access management and installation of a median along the corridor. Unsignalized intersection and access driveways should be evaluated for right-in/right-out and 3/4 access. The existing signalized crosswalks should be upgraded to a HAWK signal (Kearns Improvement District, 5160 W). The intersections of 4220 West and 4420 West should be upgraded to include flashing yellow arrow signal heads.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Reduced Left-Turn Conflict Intersections


Pedestrian Hybrid Beacons

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	1.71	MILE	$ 928,000	$ 1,586,880
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Pedestrian Hybrid Beacons (PHB) or HAWK	0.453	Pedestrian	1.00	EACH	$ 200,000	$ 200,000
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	2.00	INT	$ 8,000	$ 16,000
Adequate Number/Visibility of Signal Heads	0.85	All Crashes	2.00	INT	$ 24,000	$ 48,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,850,880
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 92,544
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 555,264
Estimated Construction Cost:		$ 2,573,688

Local Match†: 20% $ 653,800

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 308,843
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 386,053
Estimated Project Total:		$ 3,269,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

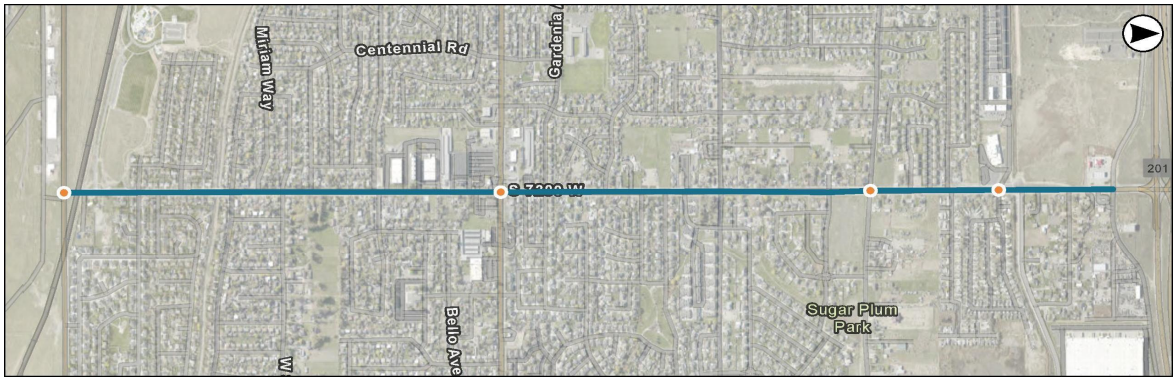
GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**7200 West from SR 201 to 4100 South**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Magna**	**Checked By:**	**BCC**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**High, Medium**		

Location Description

Roadway:	7200 West	**Key Intersection Locations:**	
From:	SR 201	Apaloosa Drive	4100 South
To:	4100 South	2820 South	
Length:	2.40 miles	3500 South	

Project Location Map

Map ID: **9.51.1**



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.40**
Average Daily Traffic (vehicles per day)	**16,009**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**4**

Why Was This Location Identified?	
Composite Safety Score	✓
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	✓
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**3**
Suspected Minor Injury Crashes (B)	**9**
Possible Injury Crashes (C)	**19**
No Injury/PDO Crashes (O)	**88**
Total Crashes	**119**
Total EPDO Crashes	**786**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	✓
Serious Injury	✓	Parked Vehicle (PV)	
Pedestrian (Ped)		Single Vehicle	
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle		Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	
Front to Rear (FR)	✓	Other/Unknown	✓

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
Apaloosa Drive & 7200 West		0	0	3	7	5	15	151								
2820 South & 7200 West	✓	0	4	9	22	24	59	849								
3500 South & 7200 West	✓	0	0	17	51	39	107	997		✓						✓
4100 South & 7200 West		0	0	3	6	5	14	140								

Project Description/How is safety improved?

This project is focused on active transportation and vehicle safety improvements. The project installs medians along the entire corridor to improve safety for all road users, lane narrowing to calm traffic, and buffered bicycle lanes (South of 3500 South) to calm to improve the safety for bicycles. Pedestrian crossings will be enhanced with with driver speed feedback signs, RRFBs (Jefferson Rd, 3800 S), and a HAWK signal (Gardenia Ave). Traffic signals will be upgraded to have flashing yellow arrow signal heads at 3500 South and 2820 South).

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures


Corridor Access Management


Bicycle Lanes


Pedestrian Hybrid Beacons


Rectangular Rapid Flashing Beacons (RRFB)

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	2.25	MILE	$ 928,000	$ 2,088,000
Traffic Calming - Lane Narrowing	0.68	All Crashes	0.85	MILE	$ 39,000	$ 33,150
Install Buffered Bicycle Lane	NA	Bicycle	0.85	MILE	$ 26,000	$ 22,100
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	2.00	XING (2)	$ 15,000	$ 30,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	2.00	INT	$ 8,000	$ 16,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	2.00	INT	$ 4,000	$ 8,000
Install Pedestrian Hybrid Beacons (PHB) or HAWK	0.453	Pedestrian	1.00	EACH	$ 200,000	$ 200,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,397,250
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 119,863
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 719,175
Estimated Construction Cost:		$ 3,311,288

Local Match†: 20% $ 841,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 397,355
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 496,693
Estimated Project Total:		$ 4,206,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

Project Information Sheet

GFA(s):	**West Salt Lake Valley**	**Date Prepared:**	**3/13/2024**
Project Name:	**8000 West from 2400 South to 4100 South**	**Prepared By:**	**MA**
Jurisdiction(s):	**Magna**	**Checked By:**	**EMF**
Emphasis Areas:	**Intersections, Roadway Departures, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

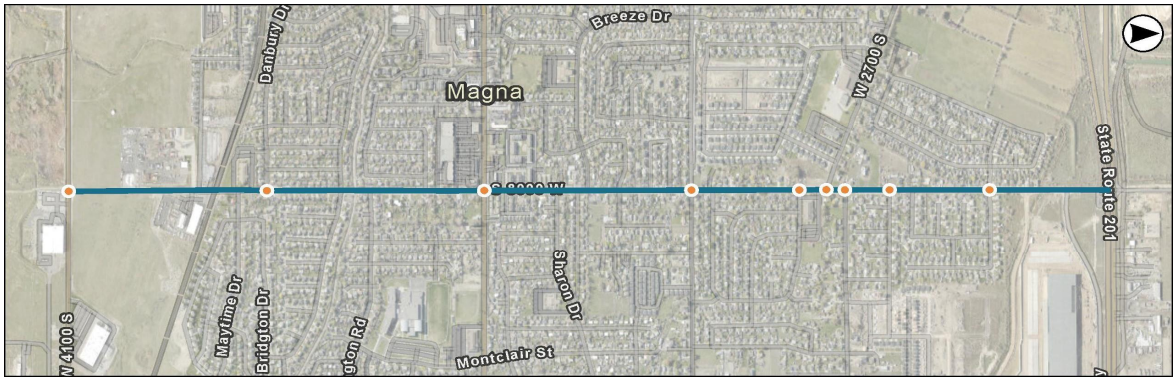
Roadway:	8000 West	
From:	2400 South	
To:	4100 South	
Length:	2.50	miles

Key Intersection Locations:

3500 South	Danbury Drive	2820 South
3100 South	Dalesend Drive	Marwari Road
4100 South	2700 South	Thoreau Drive

Project Location Map

Map ID: 9.51.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.50**
Average Daily Traffic (vehicles per day)	**1,993**
Functional Classification	**Major Collector**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**9**

Why Was This Location Identified?	
Composite Safety Score	
Historic Crashes	✓
Critical Crash Rate Differential	✓
Crash Profile Risk Score	
usRAP - Star Rating (Veh, Ped, Bike)	✓
Local Street Assessment	✓

Segment Crash History

Crash History (2018 - 2022)	# of crashes
Fatal Crashes (K)	**0**
Suspected Serious Injury Crashes (A)	**2**
Suspected Minor Injury Crashes (B)	**6**
Possible Injury Crashes (C)	**17**
No Injury/PDO Crashes (O)	**45**
Total Crashes	**70**
Total EPDO Crashes	**559**

What Crash Types are Over-Represented?			
Fatal		Head On (HO)	
Serious Injury	✓	Parked Vehicle (PV)	✓
Pedestrian (Ped)		Single Vehicle	
Bicycle (Bike)		Rear to Rear (RR)	
Motorcycle	✓	Rear to Side (RS)	
Angle	✓	Sideswipe (SS)	✓
Front to Rear (FR)	✓	Other/Unknown	

Intersection Crash History

									What Crash Types are Over-Represented?							
Intersections	**Signal**	**K**	**A**	**B**	**C**	**O**	**Total**	**EPDO**	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
3500 South & 8000 West	✓	0	1	12	45	32	90	904								
3100 South & 8000 West	✓	0	0	1	15	11	27	204		✓						✓
4100 South & 8000 West		0	0	3	3	4	10	105						✓		✓
Danbury Drive & 8000 West		0	0	1	2	1	4	46								
Dalesend Drive & 8000 West		0	0	2	2	2	6	69								
2700 South & 8000 West		0	0	3	8	4	15	162								
2820 South & 8000 West		0	1	2	10	7	20	259								
Marwari Road & 8000 West		0	0	1	2	0	3	45								
Thoreau Drive & 8000 West		0	1	0	2	0	3	116	✓	✓				✓		✓

Project Description/How is safety improved?

This project recommends improvements to address an overrepresentation of fatal/serious injury, angle, rear-end, parked vehicle, and sideswipe collisions: lower speed limit from 40 mph to 25 mph; install flex delineators to prevent parking within bicycle lane; install median along whole segment; narrow travel lanes with medians and wider lane lines, centerline rumble strip on rural segments. Intersection improvements are also recommended: high visibility crossings, sidewalks and flashing yellow arrow phasing all approaches of 3500 S and 3100 S intersections; intersection control evaluations to consider roundabouts at all unsignalized intersections flagged; RRFB with raised crossing, bulbouts and high visibility improvements at Thoreau Dr intersection.

This project description represents potential safety improvement strategies that could be implemented at this location, as well as other locations with similar conditions. Additional improvement strategies could be considered subject to engineering analysis.

Proposed Proven Safety Countermeasures

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Traditional/Buffered Bike Lane to Separated Lane with Flex Delineator	0.468	Bicycle	2.10	MILE	$ 45,000	$ 94,500
Traffic Calming - Medians (Back-To-Back Curb)	0.68	All Crashes	2.20	MILE	$ 264,000	$ 580,800
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	0.30	MILE	$ 928,000	$ 278,400
Traffic Calming - Lane Narrowing	0.68	All Crashes	2.50	MILE	$ 39,000	$ 97,500
Traffic Calming - Wider Lane Lines	0.68	All Crashes	2.50	MILE	$ 21,000	$ 52,500
Install Centerline Rumble Strips	0.36 - 0.56	Head-on (FI)	1.00	MILE	$ 5,000	$ 5,000
Traffic Calming - Bulbouts	0.68	All Crashes	2.00	EACH	$ 36,000	$ 72,000
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	2.00	XING	$ 37,000	$ 74,000
Add Sidewalk	0.2	Pedestrian	1.00	INT	$ 4,500	$ 4,500
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	8.00	INT	$ 8,000	$ 64,000
Perform an Intersection Control Evaluation and Implement	NA	All Crashes	7.00	INT	$ 225,000	$ 1,575,000
Convert Existing Intersection to Modern Roundabout	0.18 - 0.59	All Crashes	7.00	INT	$ 2,500,000	$ 17,500,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	1.00	XING (2)	$ 15,000	$ 15,000
Raised Intersection/Raised Crossing	0.64	All Crashes	1.00	EACH	$ 30,000	$ 30,000
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 20,443,200
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 1,022,160
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 6,132,960
Estimated Construction Cost:		$ 27,673,320

Local Match†: 20% $ 7,029,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 3,320,798
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 4,150,998
Estimated Project Total:		$ 35,146,000

*Mobilization is 10% +/- of the subtotal with a minimum of $2,500 and a maximum of $75,000
**To be evaluated during feasibility study/design

Additional Potential Improvements

Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: Set Appropriate Speed Limits for All Road Users
Additional Improvements #2:
Additional Improvements #3:
Additional Improvements #4:
Additional Improvements #5:

Disclaimer:

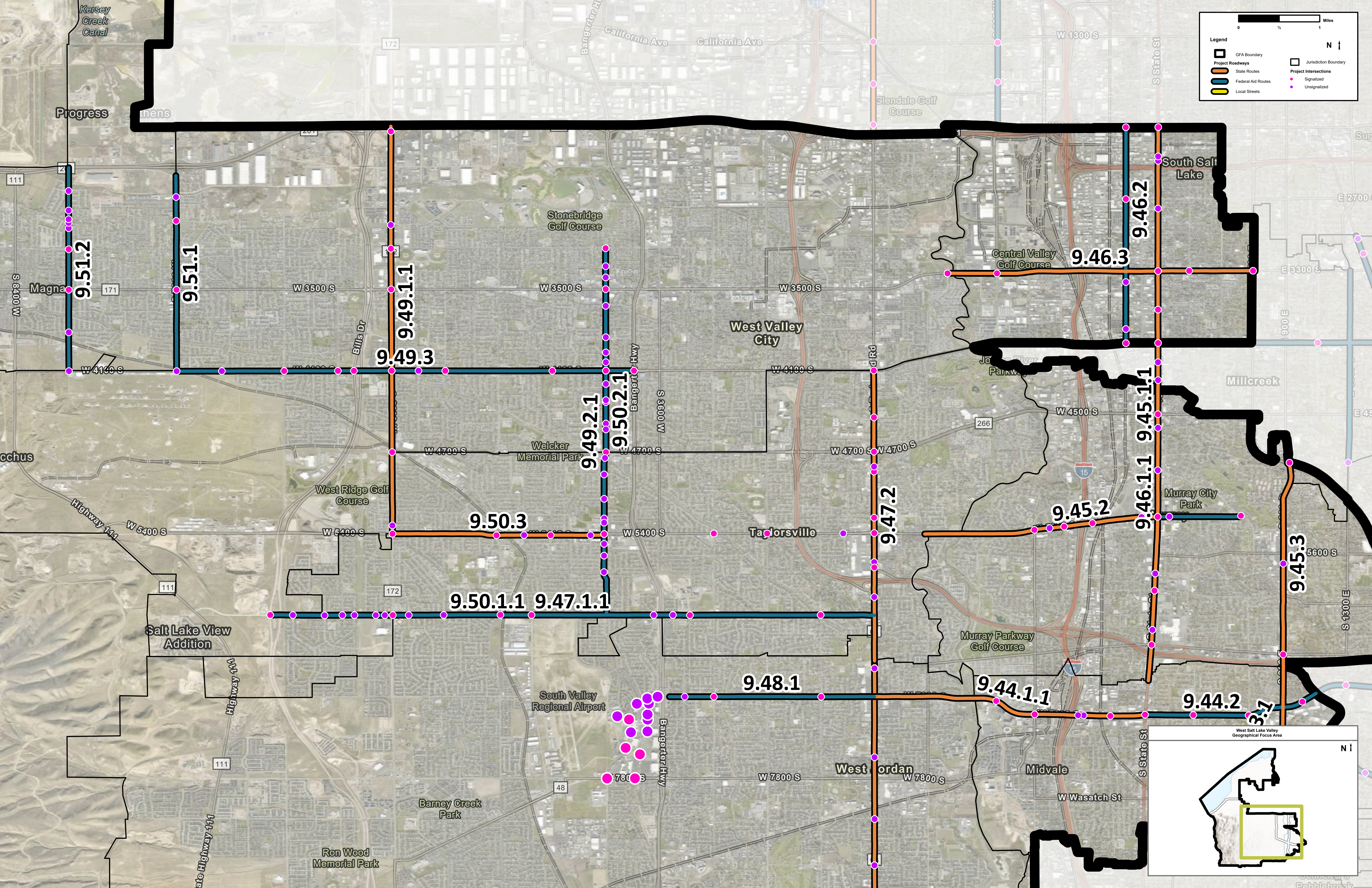
Disclaimer: The cost estimates provided in this document are for comparison purposes only. Actual project costs will vary. The recommended safety improvement strategies were based on available data and reasonable engineering judgment and a more detailed assessment may suggest additional safety strategies that could be considered.

ADDITIONAL INFORMATION

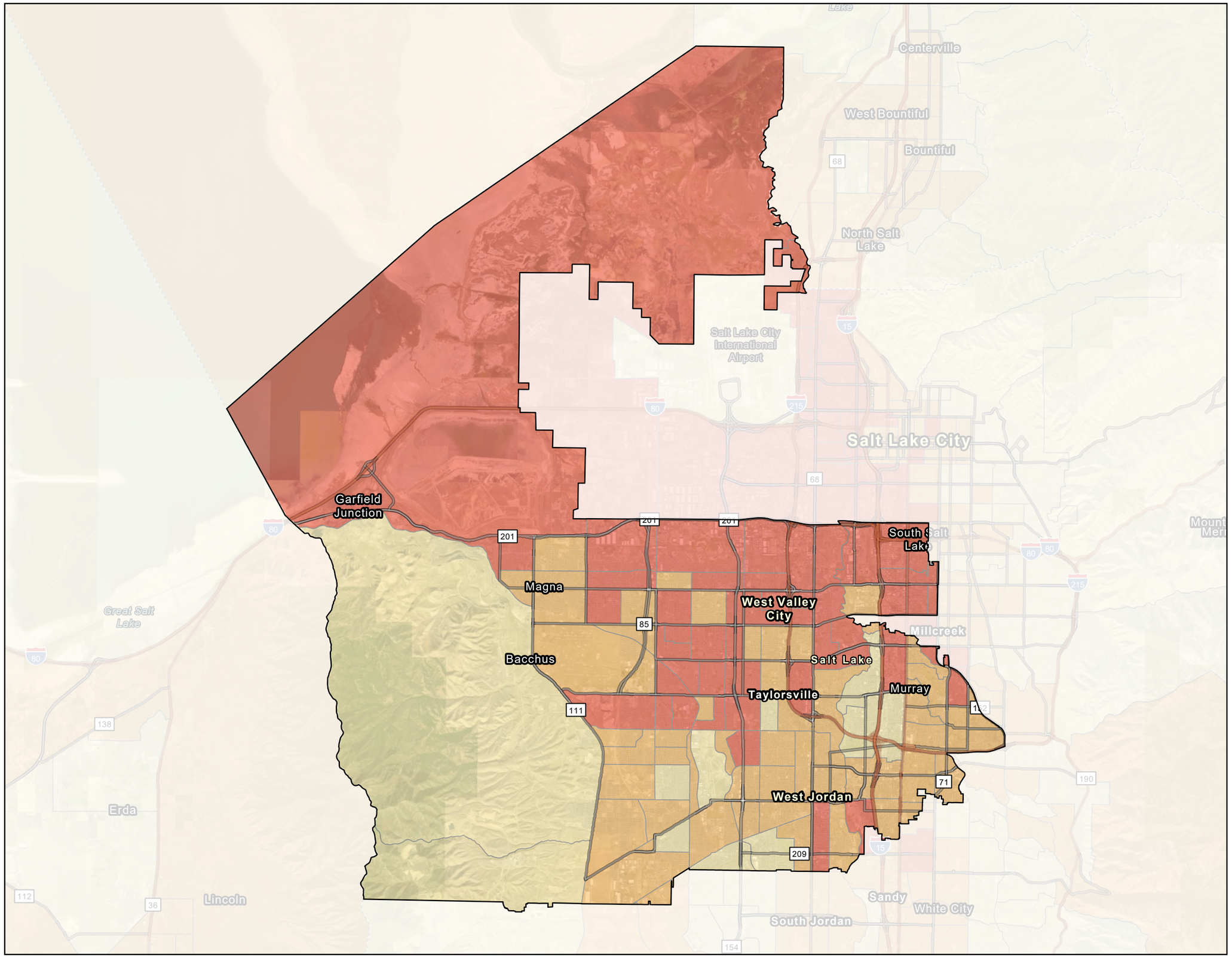
This project recommends the following segment improvements to address an overrepresentation of fatal/serious injury, angle, rear-end, parked vehicle, and sideswipe collisions:
-Where there is not a separate on-street parking shoulder, install flex delineators to prevent parking within the bicycle lane.
-Install median and transition TWLTL (where existing) to median island
-Narrow the travel lanes with medians and wider lane lines.
-Lower speed limit from 40 mph to 25 mph

Intersection Improvements:
-3500 S/8000 W: High visibility crossing, dog house to FYA for N/S approaches
-3100 S/8000 W: High Visibility crossing, sidewalks on N/W approaches, FYA on all approaches where warranted.
-4100 S/8000 W: Intersection control evaluation to assess the offset between north approach and south access; consider roundabout
-Danbury Dr/8000 W: Intersection control evaluation for traffic circle/roundabout
-Dalesend Dr/8000 W: Intersection control evaluation for traffic circle/roundabout
-2700 S/8000 W: Intersection control evaluation for traffic circle/roundabout
-2820 S/8000 W: Intersection control evaluation for traffic circle/roundabout
-Marwari Rd/8000 W: Intersection control evaluation for traffic circle/roundabout
-Thoreau Dr/8000 W: Intersection control evaluation for traffic circle/roundabout; RRFB with raised crossing, bulbouts and high visibility improvements

WEST SALT LAKE VALLEY CASE STUDY
PROJECT LOCATION MAP


Legend
GFA Boundary
Project Roadways
State Routes
Federal Aid Routes
Local Streets
Jurisdiction Boundary
Project Intersections
Signalized
Unsignalized
Miles
0
½
1
N
9.51.2
9.51.1
9.49.1.1
9.49.3
9.49.2.1
9.50.2.1
9.50.3
9.50.1.1
9.47.1.1
9.47.2
9.48.1
9.46.2
9.46.3
9.45.1.1
9.46.1.1
9.45.2
9.45.3
9.44.1.1
9.44.2
Kersey Creek Canal
Progress
Magna
Stonebridge Golf Course
West Valley City
Central Valley Golf Course
South Salt Lake
Millcreek
Welcker Memorial Park
West Ridge Golf Course
Taylorsville
Murray City Park
Murray Parkway Golf Course
Salt Lake View Addition
South Valley Regional Airport
Barney Creek Park
Ron Wood Memorial Park
West Jordan
Midvale
Glendale Golf Course
California Ave
W 1300 S
W 3500 S
W 4100 S
W 4500 S
W 4700 S
W 5400 S
W 7800 S
W Wasatch St
E 3300 S
5600 S
S State St
S 3600 W
S 8400 W
S 1300 E
900 E
Bangerter Hwy
Bills Dr
Highway 111
West Salt Lake Valley Geographical Focus Area

WEST SALT LAKE VALLEY EQUITY INDEX MAP



West Salt Lake Valley

Equity Need Areas

- High
- Medium
- Low