APPENDIX D6: SOUTH DAVIS COUNTY

Safety Summary

Tech Memo #1 Safety Analysis

Case Study Project Information Sheets

Case Study Project Location Map

Equity Index Map

SOUTH DAVIS COUNTY SAFETY SUMMARY

South Davis County 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.

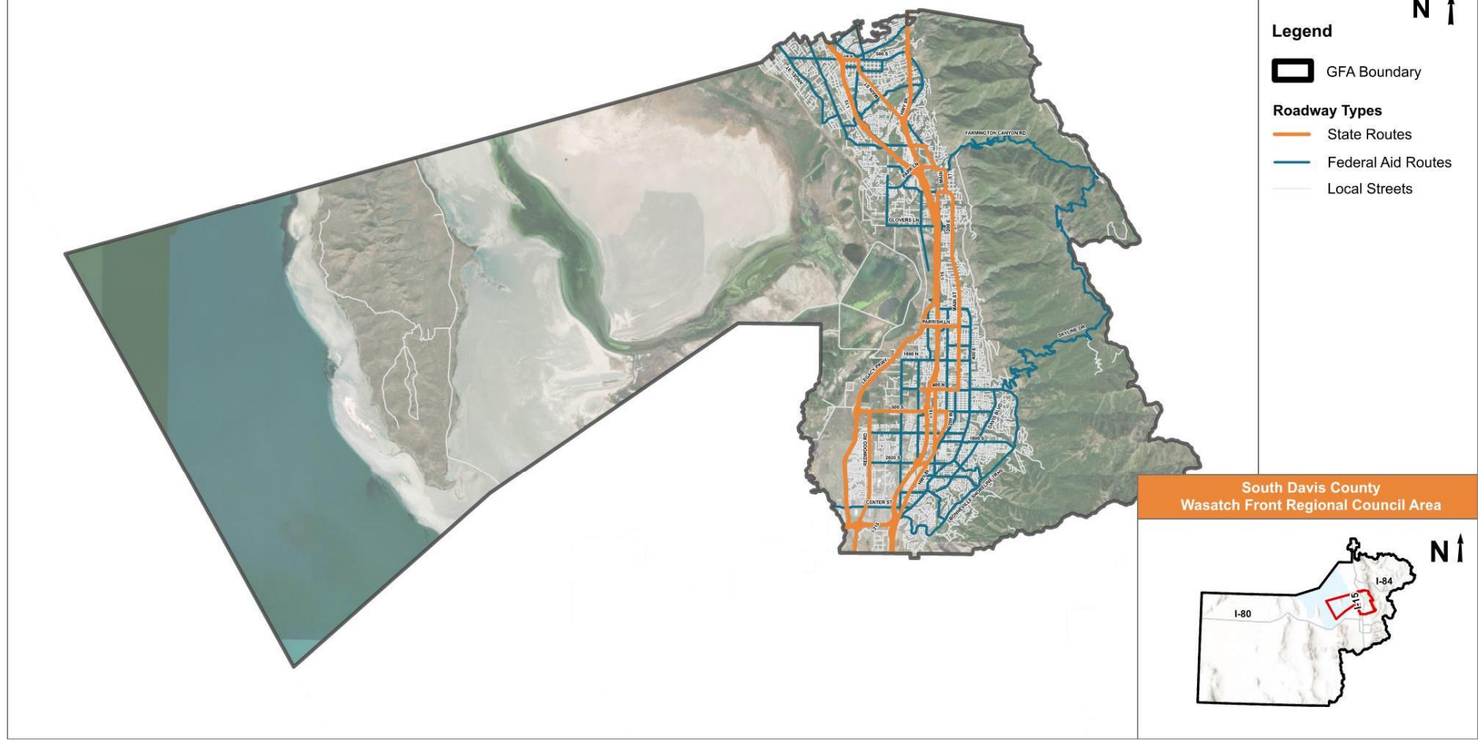
The CSAP will ***analyze*** safety needs, ***identify*** high-risk locations and factors contributing to crashes, and ***prioritize*** strategies to address them.

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

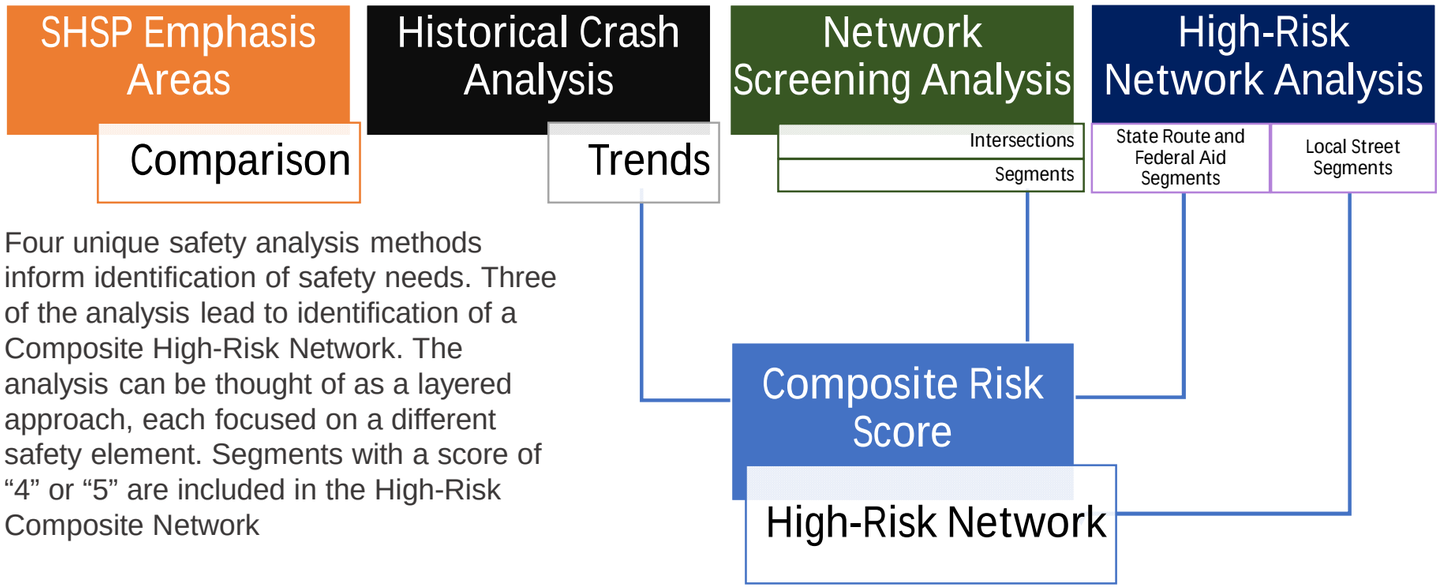
Safe System Approach

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 **South Davis County** GFA.

- Intersection
- Roadway Departure
- Speed-Related
- Teen Driver
- Impaired Driving

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 **South Davis County** GFA, Teen Driver and Impaired Driving are also identified as top emphasis areas.

Strategic Highway Safety Plan Emphasis Area Comparison

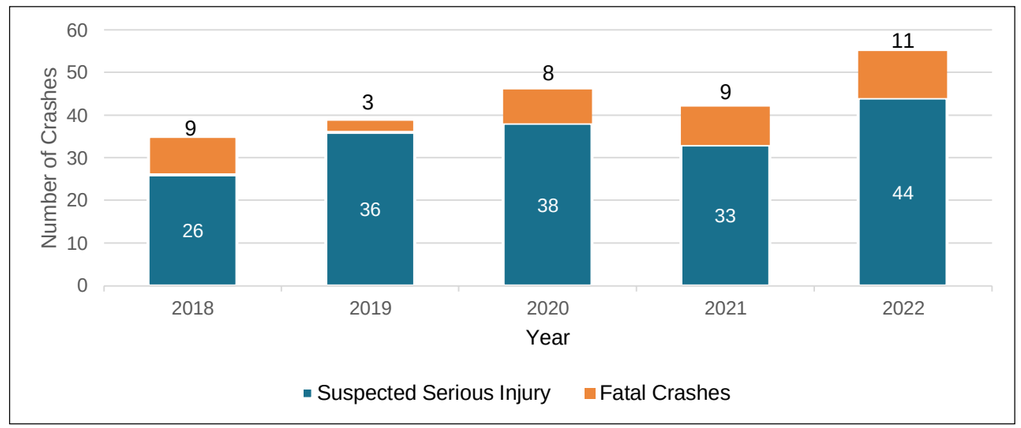
Category	Utah SHSP Safety Emphasis Area	Statewide Totals		WFRC Totals		South Davis County Totals		
		Fatal and Serious Injury	Rank	Fatal and Serious Injury	Rank	Fatal and Serious Injury	Rank	Change in Rank From WFRC
Driver	Teen Driver	1,640	**4**	751	4	49	4	0
	Older Driver	1,508	6	700	6	39	6	0
	Speed-Related	2,133	**3**	936	3	64	3	0
	Aggressive Driving	555	11	297	10	16	10	0
	Distracted Driving	718	10	286	11	10	11	0
	Impaired Driving	1,184	8	623	8	46	5	3
	No Safety Restraints	1,542	**5**	599	9	29	8	1
Roadway	Intersection	3,567	**1**	2,163	1	97	1	0
	Roadway Departure	2,931	**2**	1,014	2	80	2	0
Special Users	Motorcycle	1,457	7	750	5	37	7	-2
	Pedestrian	912	9	636	7	29	8	-1
	Bicycle*	280	12	167	12	9	12	0

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

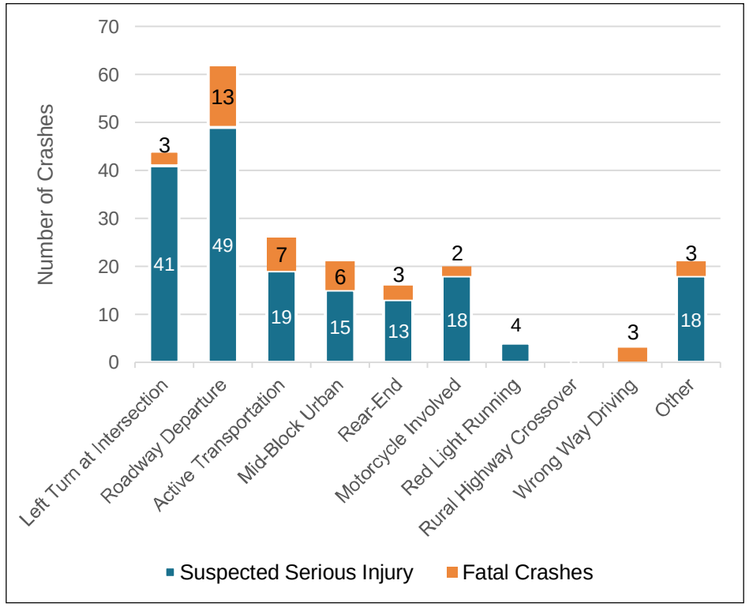
SHSP Emphasis Areas Comparison

5-Year Historical Crash Trends in South Davis County GFA

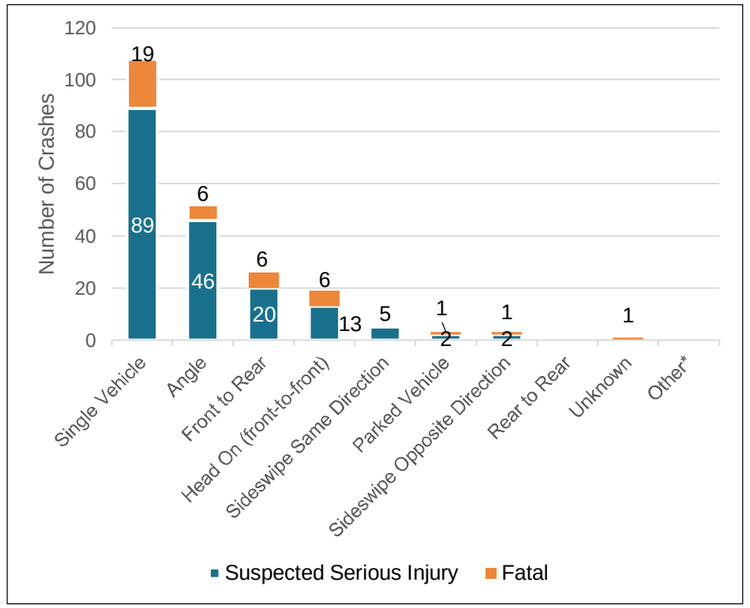
Route Type	State Route		Federal Aid Route		Local Street		Overall Total		% of WFRC
Crash Severity	Crashes		Crashes		Crashes		Crashes		%
	#	%	#	%	#	%	#	%	
Fatal	29	0%	3	0%	1	0%	**33**	**0.2%**	**0.0%**
Suspected Serious Injury	31	0%	6	0%	3	0%	**40**	**0.3%**	**0.0%**
Suspected Minor Injury	102	1%	46	2%	29	2%	**177**	**1.3%**	**0.1%**
Possible Injury	925	10%	291	10%	135	7%	**1,351**	**9.8%**	**0.7%**
No Injury / Property Damage Only	1,450	16%	505	17%	182	10%	**2,137**	**15.5%**	**1.2%**
Route Total	6,455	72%	2,115	71%	1,516	81%	**10,086**	**73.1%**	**5.6%**



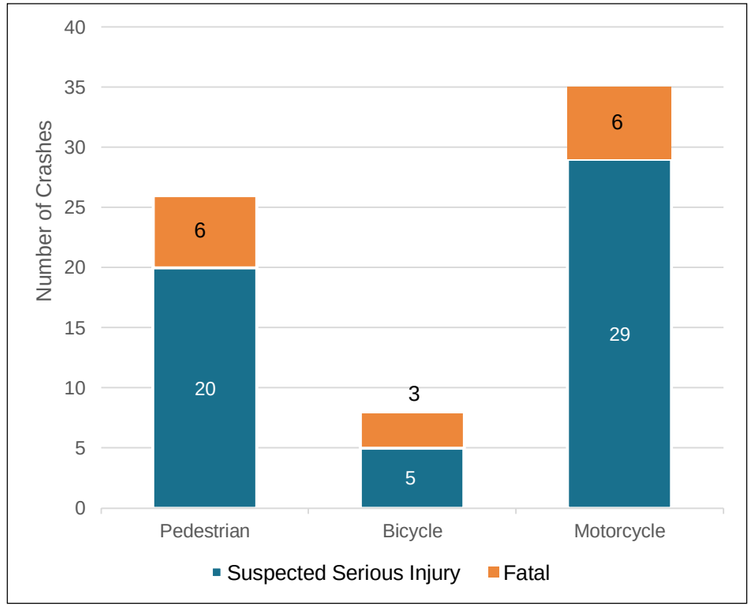
Annual Fatal and Serious Injury Crashes (2018-2022)



Crash Type



Manner of Collision



Active Transportation

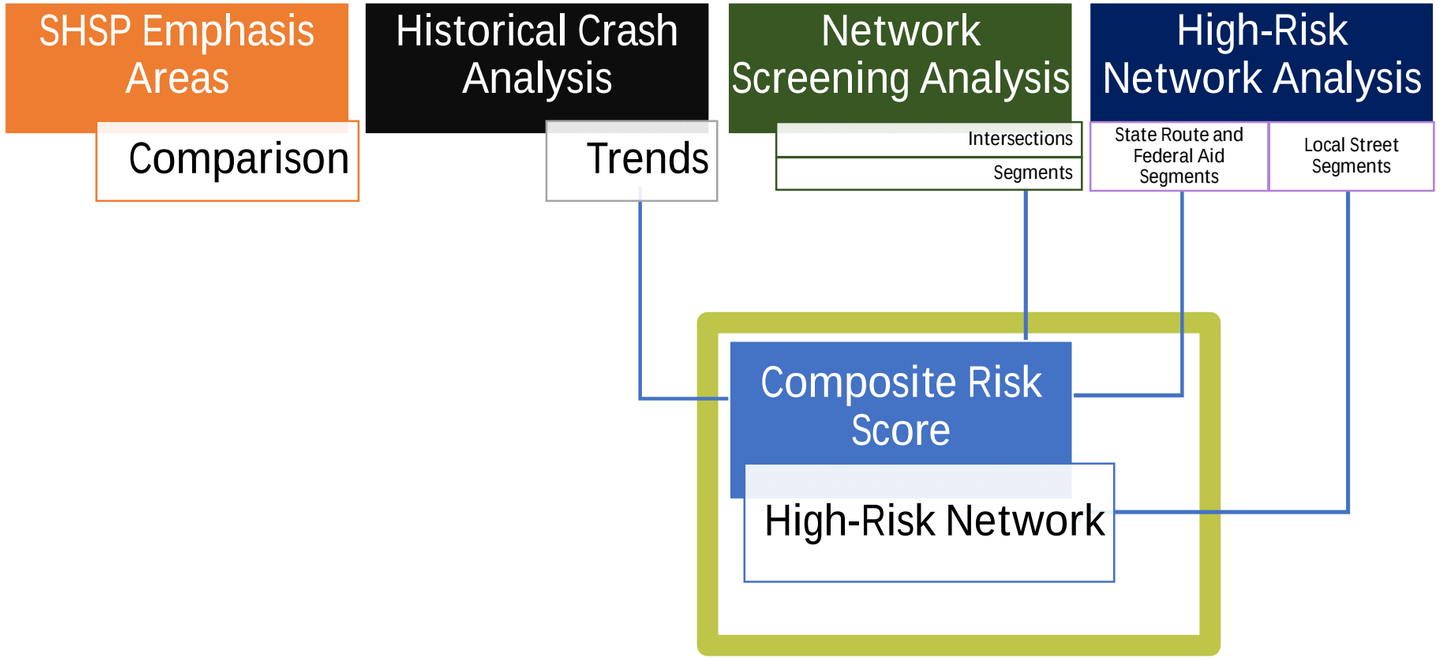
Composite High-Risk Roadway Network

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 risk 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 **South Davis County** 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
High-Risk Network

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											
Main Street (SR-273)	200 North to State Street	Minor Arterial	Farmington, Kaysville	6.0	X	X	X	X		X	
200 West (SR-227)	State Street to Joy Drive	Minor Arterial	Farmington	0.3	X	X	X	X		X	
200 East/ Main Street (SR-106)	200 South to 400 North	Minor Arterial	Farmington, Rosedale, Cen	6.0	X	X	X	X		X	
James V Hansen Hwy	Nicholls Road to State Street	Other Principal Arterial	Fruit Heights	3.5	X	X	X	X		X	
500 West	1000 North to Main Street	Other Principal Arterial	Bountiful, Woods Cross	2.2	X	X	X	X	X	X	
Main Street (Hwy 89)	500 West to I-215	Other Principal Arterial	Val Verda, North Salt Lake	3.0	X	X	X	X	X	X	
200 North	400 West to State Street	Minor Arterial	Kaysville	0.5	X	X	X	X		X	
Parish Lane	1250 West to Main Street	Minor Arterial	Centerville	1.0	X	X	X	X	X	X	
400 North	I-15 to Main Street	Minor Arterial	Bountiful, West Bountiful	0.9	X	X	X	X	X	X	
500 South	I-15 to Main Street	Other Principal Arterial	Bountiful	0.8	X	X	X	X	X	X	
Redwood Road	500 South to South GFA Extent	Other Principal Arterial	North Salt Lake	5.0	X	X	X	X	X	X	
Federal Aid Routes											
Main St	400 W to Crestwood Rd	Minor Arterial	Kaysville	0.5	X	X	X	X		X	
Crestwood Rd	500 E to Brookshire Dr	Minor Collector	Kaysville	0.5	X	X	X	X		X	
200 N	Mountain Vista Rd to Flint St	Minor Arterial	Kaysville	0.2	X	X		X	X	X	
Sunset Dr	Smith Ln to Cottonwood Dr	Major Collector	Kaysville	0.5	X	X	X	X		X	
Main St	US-89 to Foxglove Rd	Minor Arterial	Farmington	0.5	X	X	X		X	X	
Farmington Canyon Rd	100 E to Francis Peak Rd	Local	Farmington	7.7	X	X	X		X	X	
200 N	US-89 to Mountain Rd	Minor Arterial	Fruit Heights	0.1	X	X		X	X	X	

State Route and Federal Aid segments in the **South Davis County 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

High-Risk Network

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											
650 W	State St to Glovers Ln	Minor Collector	Farmington	1.1	X	X	X		X	X	
Market Place Dr	Parrish Ln to Centerville Market Place	Minor Collector	Centerville	0.1	X	X	X		X	X	
Skyline Dr	Gun Range Rd to Access Road	Local	Bountiful	7.0	X	X	X	X		X	
500 S	Main St to 750 E	Minor Arterial	Bountiful	0.8	X	X	X	X		X	
Orchard Dr	550 S to Orchard Pl	Minor Arterial	Bountiful	2.5	X	X	X		X	X	
1100 W	1500 S to 1100 N	Minor Collector	Woods Cross	1.0	X	X	X	X		X	
2600 S	1250 W to 500 W	Minor Arterial	Bountiful, North Salt Lake	1.5	X	X		X	X	X	
500 W	Main St to 2700 S	Minor Arterial	Bountiful	0.5	X	X	X	X	X	X	
Local Streets											Local Street Risk Assessment
200 West	SR-105 to SR-106	Major Collector	Bountiful/Centerville	1.9							X
500 West	2200 South to 2600 South	Minor Arterial	Bountiful	0.3							X
Bountiful Main	400 North to 1000 South	Major Collector	Bountiful	1.0							X
1500 South	I-15 to Main Street	Major Collector	Bountiful/Woods Cross	0.5							X
800 West/Market	700 North to Chase Lane	Minor Collector	Centerville	0.3							X
1000 North	SR-106 to 400 West	Major Collector	Bountiful	0.6							X
Station Parkway/Park Lane	Intersection of the two	Local	Farmington	0.2							X
550 South	200 East to 500 East	Local	Kaysville	0.5							X
Foxboro Drive	Center Street to 800 West	Local	North Salt Lake	1.4							X
100 West	200 South to 500 South	Local	Bountiful	0.2							X

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

Federal Aid segments in the **South Davis County 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. 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

High-Risk Network

Composite High-Risk Roadway Network

Miles
0 1 2 3 5

N

Legend

GFA Boundary

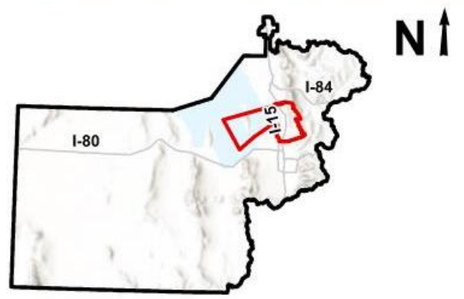
Composite High-Risk Network

State Routes

Federal Aid Routes

Local Streets

South Davis County
Wasatch Front Regional Council Area



Composite Risk Score

High-Risk Network

Network Screening - Intersections

Network Screening is one of the inputs to the Composite High-Risk 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 **South Davis County** 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.

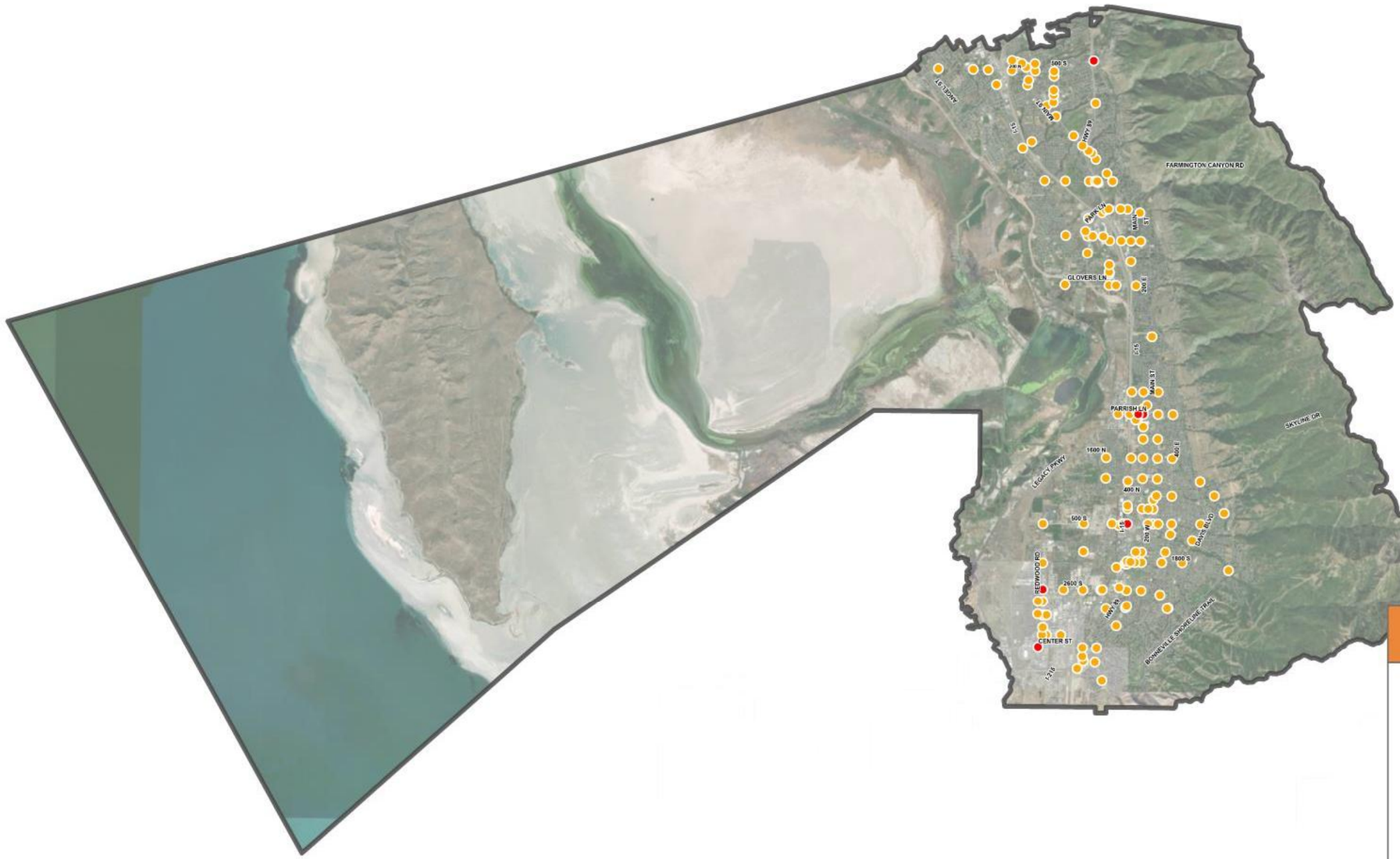
Signalized and unsignalized intersections in the **South Davis County** GFA with a positive Critical Crash Rate Differential (rate exceeds expected rate) are mapped on page 10.

Intersection	City	Crashes	Local CCR Differential[1]	EPDO[2]	*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																						
Park Ln & Station Pkwy	Farmington	82	25.4	438	0	1	8	9	64	13	56	0	1	1	0	0	0	11	0	1	0	2
Mountain Rd & 400 N	Fruit Heights	45	2.5	441	0	2	6	8	29	9	30	3	1	0	0	0	0	2	0	0	0	1
400 W & Parrish Ln	Centerville	90	1.4	248	0	0	4	7	79	38	41	1	3	0	0	0	1	6	0	3	1	0
Market Place Dr & Parrish Ln	Centerville	94	1.3	462	0	0	9	17	68	44	35	6	4	0	0	0	0	3	2	0	1	1
Redwood Rd & Center St	North Salt La	66	0.4	689	0	4	6	12	44	24	30	3	4	0	0	0	0	3	2	1	1	2
500 W & 500 S	Bountiful	110	0.3	622	0	1	9	22	78	46	41	8	1	0	0	0	0	13	1	2	0	0
Redwood Rd & 2600 S	North Salt La	39	0.0	289	0	1	3	9	26	14	15	5	0	0	0	0	2	3	0	0	0	0
500 E & 1100 N	North Salt La	68	0.0	435	0	1	8	10	49	38	22	1	1	0	0	0	1	5	0	0	0	2
500 W & 400 N	Bountiful	67	-0.1	359	0	1	5	9	52	32	24	2	3	0	0	0	0	5	1	0	0	1
Hwy 89 & 2600 S	Bountiful	80	-0.2	787	0	4	9	14	53	28	36	4	4	1	0	0	1	6	0	3	0	2
Unsignalized Intersections																						
Corral Dr & Orchard Ridge Ln	Kaysville	6	55.9	141	0	1	2	0	3	3	0	0	3	0	0	0	0	0	0	1	0	0
400 W & 500 N	North Salt La	6	20.3	16	0	0	0	1	5	1	3	0	2	0	0	0	0	0	0	0	0	0
Crescent Way & West Promontory	Farmington	32	17.9	73	0	0	0	4	28	15	3	0	0	0	0	0	0	14	0	0	0	0
50 W & 100 S	Kaysville	13	12.6	55	0	0	1	2	10	4	7	0	1	0	0	0	0	1	0	0	0	0
400 W & 550 N	Centerville	3	7.8	13	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0
700 W & 200 N	North Salt La	18	6.3	81	0	0	2	2	14	15	1	0	0	0	0	0	0	1	1	0	0	0
650 W & Glovers Ln	Farmington	11	5.1	43	0	0	1	1	9	4	4	0	0	0	0	0	1	2	0	0	0	0
1525 W & Glovers Ln	Farmington	7	4.7	28	0	0	1	0	6	3	2	0	2	0	0	0	0	0	0	0	0	0
500 E & 550 S	Kaysville	3	2.7	3	0	0	0	0	3	2	0	0	0	0	0	0	0	1	0	0	0	0
Fire Break Rd & 900 N	Bountiful	3	2.3	35	0	0	1	1	1	0	0	0	3	0	0	0	0	0	0	0	0	0

2. 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 - Intersections



Miles
0 1 2 3 5

N

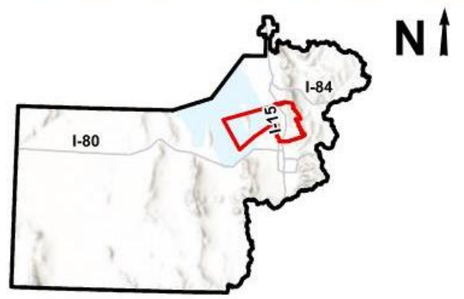
Legend

GFA Boundary

Critical Crash Rate Differential (> 0.0)

- Signalized
- Unsignalized

South Davis County
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									
Skyline Drive	400 North to 600 North	Bountiful	X	X	X				
Angel Street	Smith Lane to North GFA Extents	Kaysville	X	X	X				
Angel Street	Western Drive to Smith Lane	Kaysville	X	X					
200 North	Angel Street to 600 West	Kaysville	X	X					
Flint Street	Old Mill Lane to North GFA Extents	Kaysville	X	X	X				
Western Drive	Angel Street to Santa Anita Drive	Kaysville			X				
Sunset Drive	Shepard Lane to Old Mill Lane	Kaysville	X	X	X				
Shepard Lane	Sunset Drive to US-89	Farmington	X						
Burton lane	Sunset Drive to Main Street	Kaysville	X	X	X				
Main Street	Crestwood Road to North GFA Extents	Kaysville	X	X	X				
Mutton Hollow Road	Main Street to Stone Lane	Kaysville		X	X				
Mutton Hollow Road	Clover Meadow Road to East GFA Extents	Kaysville	X	X	X				
Crestwood Road	Main Street to US-89	Kaysville	X	X	X				
Fairfield Road	200 North to North GFA Extents	Kaysville	X	X	X				
200 North	Main Street to Country Lane	Kaysville	X	X	X				
Center Street	300 West to 100 East	Kaysville			X				
100 South	100 East to 600 East	Kaysville			X				

A list of Federal Aid segments in the **South Davis County 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

			RISK TYPE						
Facility	Limits	City	*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									
600 East	100 South to 200 North	Kaysville			X				
50 West	Fox Pointe Drive to 100 South	Kaysville	X		X				
Frontage Road	Shepherd Lane to Fox Pointe Drive	Farmington	X	X	X				
Nicholls Road	Hollyhock Circle to Mountain Road	Fruit Heights	X		X				
Main Street	Shepard Lane to US-89	Farmington	X	X	X				
Clark Lane	1100 West to Central Avenue	Farmington	X	X	X				
Clark Lane	US-89 to 200 West	Farmington	X	X	X				
650 West	Farmington Bay Storage to Clark Lane	Farmington	X	X	X				
650 West	South Roadway Extents to Farmington Bay S	Farmington	X						
Glovers Lane	Westwood Place to 200 East	Farmington			X				
Frontage Road	620 South to Brookside Drive	Farmington	X		X				
Frontage Road	Jim Bridger Drive to 620 South	Centerville	X		X				
Frontage Road	Creek View Road to Jim Bridger Drive	Centerville	X						
800 West	700 West to Creek View Road	Centerville			X				
Market Place Drive	Frontage Road to 700 West	Centerville	X	X	X				
Frontage Road	1600 North to Market Place Drive	Centerville	X		X				
Chase Lane	670 West to 400 East	Centerville			X				
Porters Lane	400 West to Main Street	Centerville	X						

A list of Federal Aid segments in the **South Davis County 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									
Porters Lane	Main Street to 400 East	Centerville		X	X				
400 West	Jeffery Drive to 950 North	Centerville	X		X				
200 West	400 South to Country Spring Drive	Bountiful	X						
400 East	1400 North to Chase Lane	Centerville		X	X				
Pages Lane	150 West to 350 East	Centerville			X				
Pages Lane	1100 West to 400 West	Centerville	X	X	X				
1250 West	Porters Lane to 1275 North	Centerville	X	X	X				
600 West	Pages Lane to 2125 North	Centerville		X	X				
400 North	100 East to Bountiful Blvd	Centerville	X	X	X				
Bountiful Blvd	700 South to Skyline Drive	Bountiful	X		X				
Bountiful Blvd	Skyline Drive to 700 South	Bountiful			X				
North Canyon Road	Davis Blvd to 400 East	Bountiful	X	X	X				
Davis Blvd	South Roadway Extents to 400 North	Bountiful			X				
500 South	200 West to 1000 East	Bountiful	X	X	X				
400 East/Orchard Drive	200 West to 1400 North	Bountiful	X	X	X				
2600 South	Main Street to Orchard Drive	Bountiful	X	X					
1500 South	Howard Street to Orchard Drive	Bountiful	X	X	X				

A list of Federal Aid segments in the **South Davis County 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									
200 West	400 South to Aliwood Way	Bountiful	X						
500 West	450 West to Main Street	Bountiful	X	X	X				
Main Street	500 West to 1800 South	Woods Cross	X	X	X				
Main Street	1800 South to 400 North	Bountiful	X						
Howard Street	1100 North to Pages Lane	Bountiful	X	X	X				
Main Street	Pacific Avenue to 1100 North	Bountiful	X	X					
1100 North	Redwood Road to 260 East	North Salt Lake	X	X					
800 West	1100 North to 700 South	North Salt Lake	X	X	X				
Onion Stret	500 South to 400 North	West Bountiful	X						
Center Street	Jordan River Drive to Orchard Drive	North Salt Lake	X						
Howard Street	I-15 to Pages Lane	West Bountiful				X			
Angel Street	Smith Lane to Peach Blossom Drive	Kaysville				X			
500 South	200 West to 1000 East	West Bountiful				X			
Flint Street	Old Mill Lane to 200 North	Kaysville				X			
1100 North / 2600 South	Redwood Road to Orchard Drive	Bountiful				X			
Crestwood Road	500 East to US-89	Kaysville				X			
Orchard Drive	Eagle Ridge Road to 3800 South	Kaysville				X			

A list of Federal Aid segments in the **South Davis County 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. & Network Screening – Segments (Local Streets)

			RISK TYPE						
Facility	Limits	City	*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									
Center Street	Legacy Parkway to Orchard Drive	Kaysville				X			
200 North	Angel Street to I-15	Kaysville				X			
400 East	500 South to 300 South	Bountiful				X			
Orchard Drive	200 South to Center Street	Kaysville				X			
Skyline Drive*	400 North to Buckland Flats Campground	Bountiful				X			
400 W	Parish Ln to 550 N	Centerville					X	X	
Pages Ln	550 W to Frontage Rd	Bountiful					X	X	
Park Ln	Station Way to I-15	Farmington					X	X	
400 W	Parrish Ln to Market Place Dr	Centerville					X	X	
650 W	500 S to 550 S	Farmington					X	X	
Glovers Ln	650 W to Doberman Ln	Farmington					X	X	
Park Ln	Cabela's Dr to Station Pkwy	Farmington					X	X	
650 W	925 S to Miller Way	Farmington					X	X	
Market Place Dr	Parrish Ln to Centerville Market Place	Centerville					X	X	
Park Ln	1100 W to Belmont Dr	Farmington					X	X	

A list of Federal Aid segments in the **South Davis County 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. & Network Screening – Segments (Local Streets)

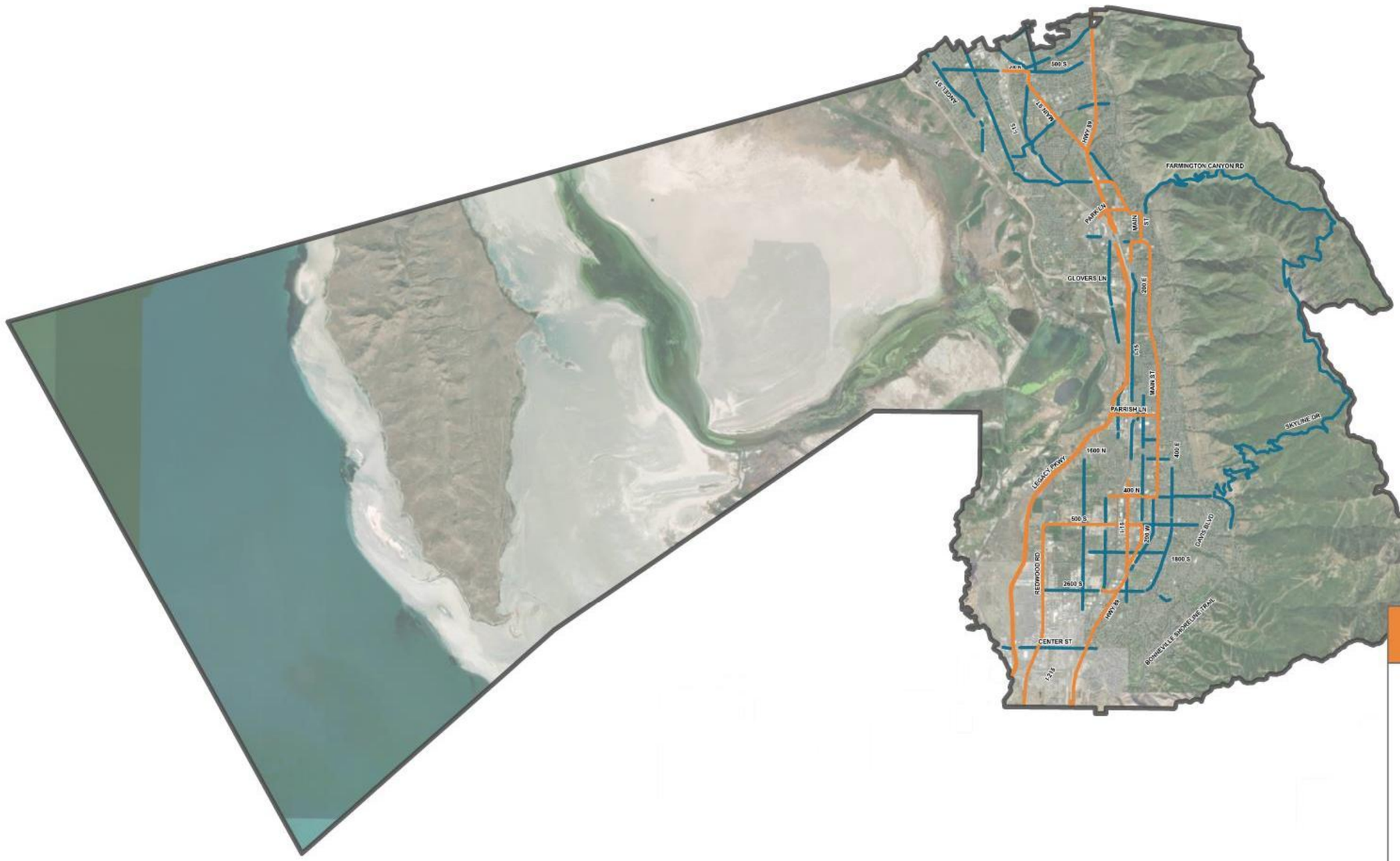
			RISK TYPE						
Facility	Limits	City	*usRAP- Pedestrian Star Rating*	*usRAP - Bicycle Star Rating*	*usRAP- Vehicle Star Rating*	*Crash Profile Risk Score*	CCR Differential Analysis	Significant Crashes	Local Streets Risk Assessment
Local Streets									
2200 S	Orchard Pine Loop to 200 E	Bountiful					X	X	
400 W	200 N to Main St	Kaysville					X	X	
400 W	175 S to 100 S	Kaysville					X	X	
West Promontory	Richards St to Forbush Pl	Farmington					X	X	
Porters Ln	600 W to I-15	Centerville					X	X	
Center St	200 W to Peregrine Ln	Bountiful					X	X	
200 W	Main St to 1050 S	Bountiful					X	X	
1600 S	160 E to 200 E	Farmington					X	X	
200 E	200 N to 300 N	Farmington					X	X	
Legacy Crossing Blvd	Legacy Crossing to 1250 W	Centerville					X	X	

A list of Local Street segments in the **South Davis County 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

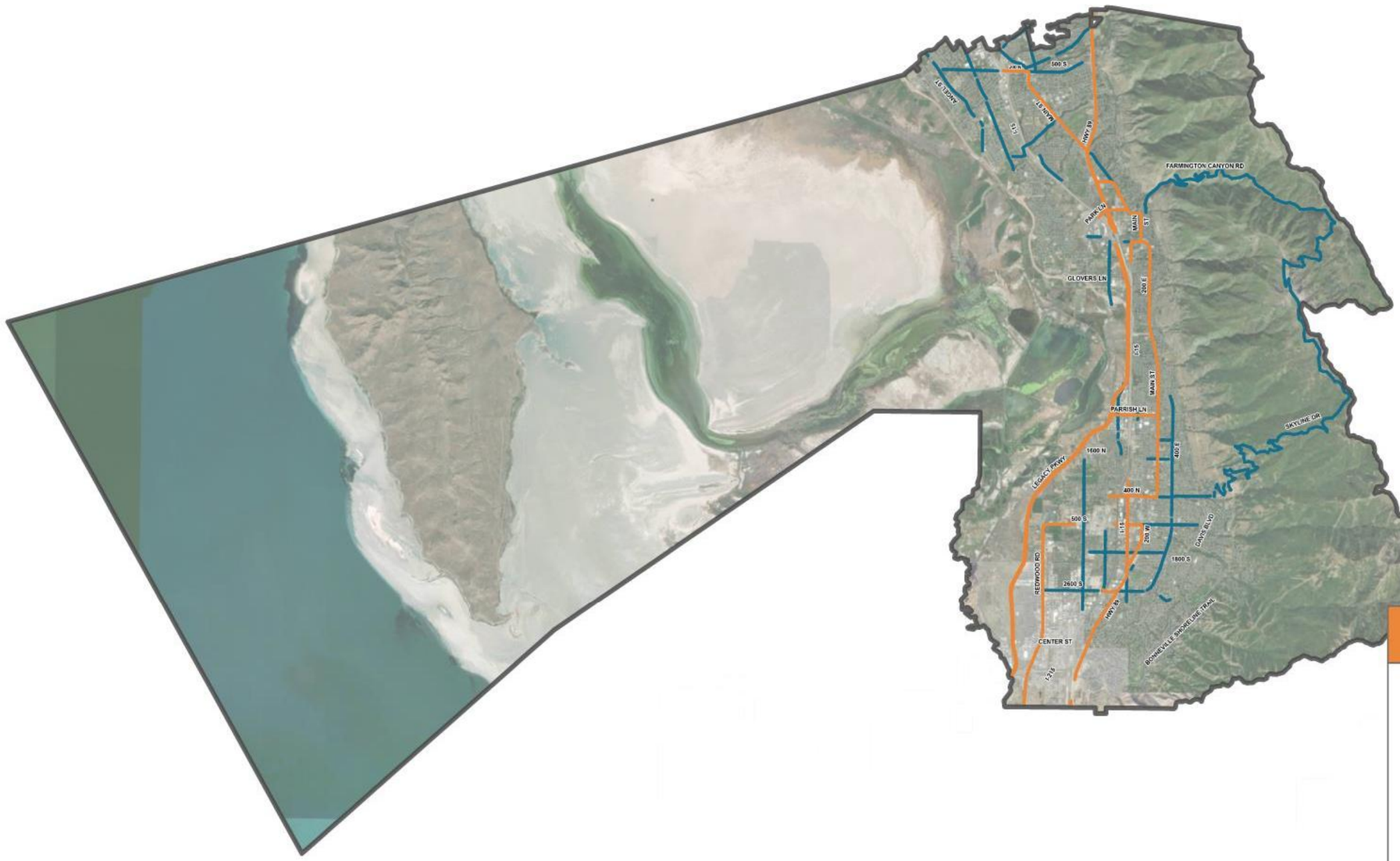
Federal Aid Routes

South Davis County
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

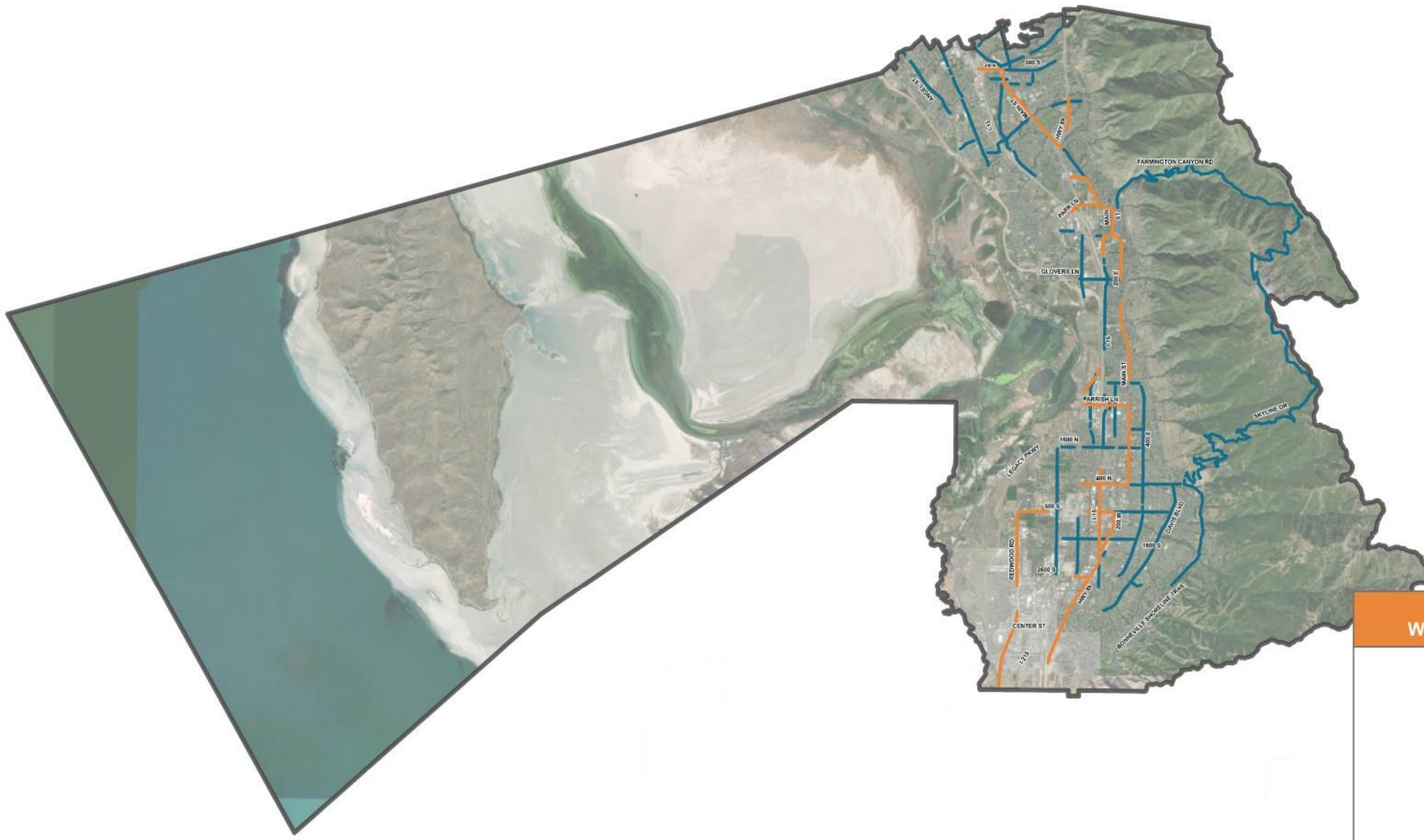
Federal Aid Routes

South Davis County
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

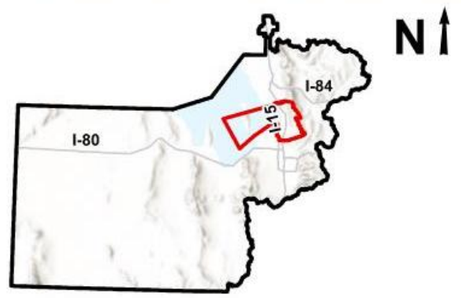
GFA Boundary

Vehicle Star Rating (1-2)

State Routes

Federal Aid Routes

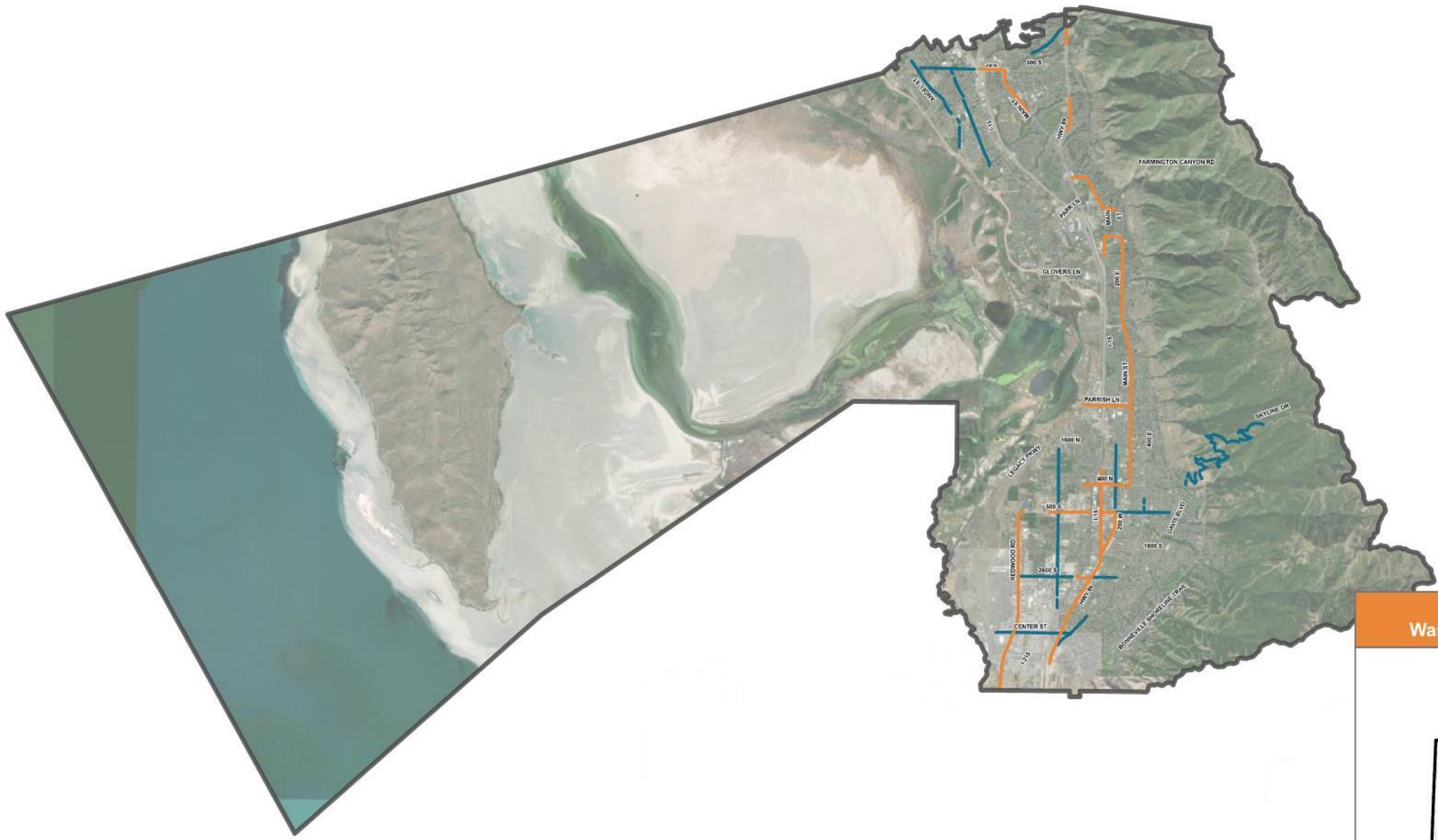
South Davis County
Wasatch Front Regional Council Area



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

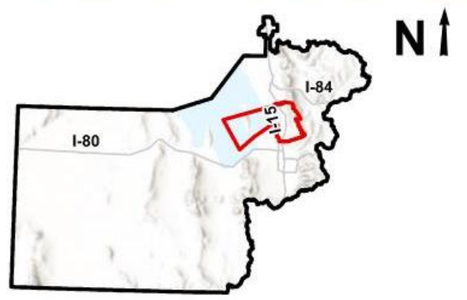
GFA Boundary

Crash Profile Risk (> 20)

State Routes

Federal Aid Routes

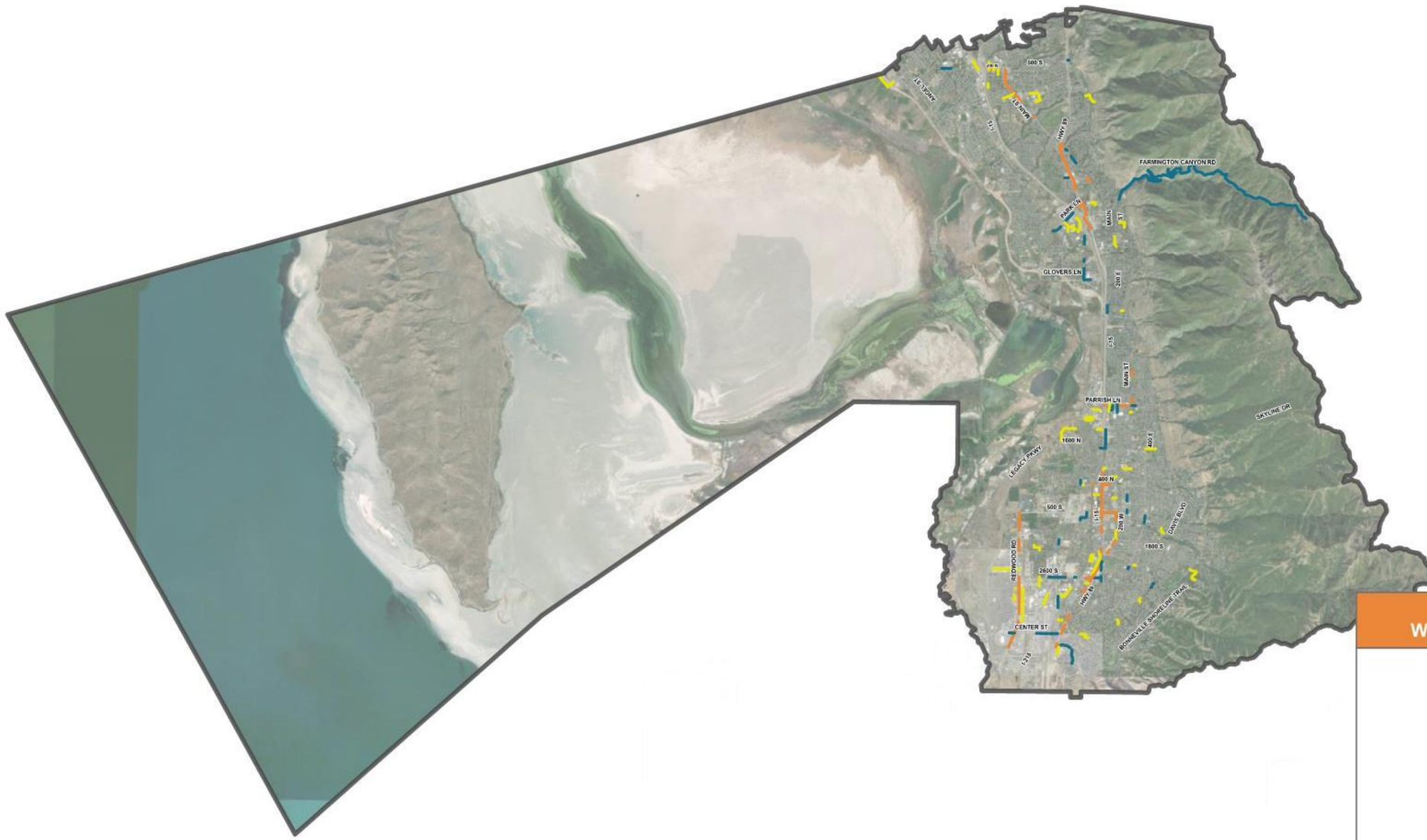
South Davis County
Wasatch Front Regional Council Area



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

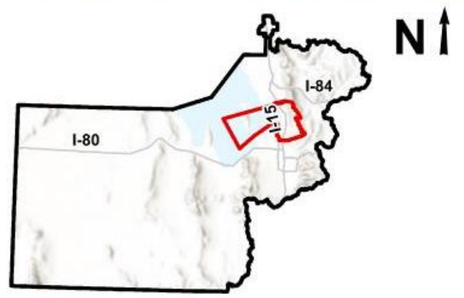
Critical Crash Rate Differential (> 0.0)

State Routes

Federal Aid Routes

Local Streets

South Davis County
Wasatch Front Regional Council Area



High-Risk Network Analysis

State Route and Federal Aid Segments	Local Street Segments

SOUTH DAVIS COUNTY TECH MEMO #1
SAFETY ANALYSIS

TECHNICAL MEMORANDUM #1

APPENDIX A6 - SOUTH DAVIS COUNTY 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 A6 - South Davis County GFA - Safety Analysis

Table of Contents

List of Figures

List of Tables

1. Introduction

Appendix A6 summarizes the safety analysis performed for the South Davis County 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 South Davis County GFA:

- Strategic Highway Safety Plan (SHSP) Emphasis Area Analysis
- Historical Crash Analysis
- Crash and Network Screening 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 A6** summarizes the results of the analyses for the South Davis County GFA.

1.2. Appendix Organization

This Appendix is organized into the following sections:

- **Section 1** - Introduction
- **Section 2** - South Davis County GFA study area and roadway network.
- **Section 3** - Strategic Highway Safety Plan (SHSP) Emphasis Area Analysis for fatal and serious injuries.
- **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** - Safety analysis 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 South Davis County GFA (**Figure 2.1**) is located entirely within Davis County and includes the following agencies and jurisdictions:

- Bountiful
- Centerville
- Farmington
- Fruit Heights
- Kaysville
- North Salt Lake
- West Bountiful
- Woods Cross

The safety analyses presented in this Technical Memorandum are specific to the South Davis County GFA.

Figure 2.2 highlights the roadway network within the South Davis County 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 South Davis County, for the years 2018-2022. Crash data was obtained from the Utah Department of Transportation.

Figure 2.1 – South Davis County GFA Study Area

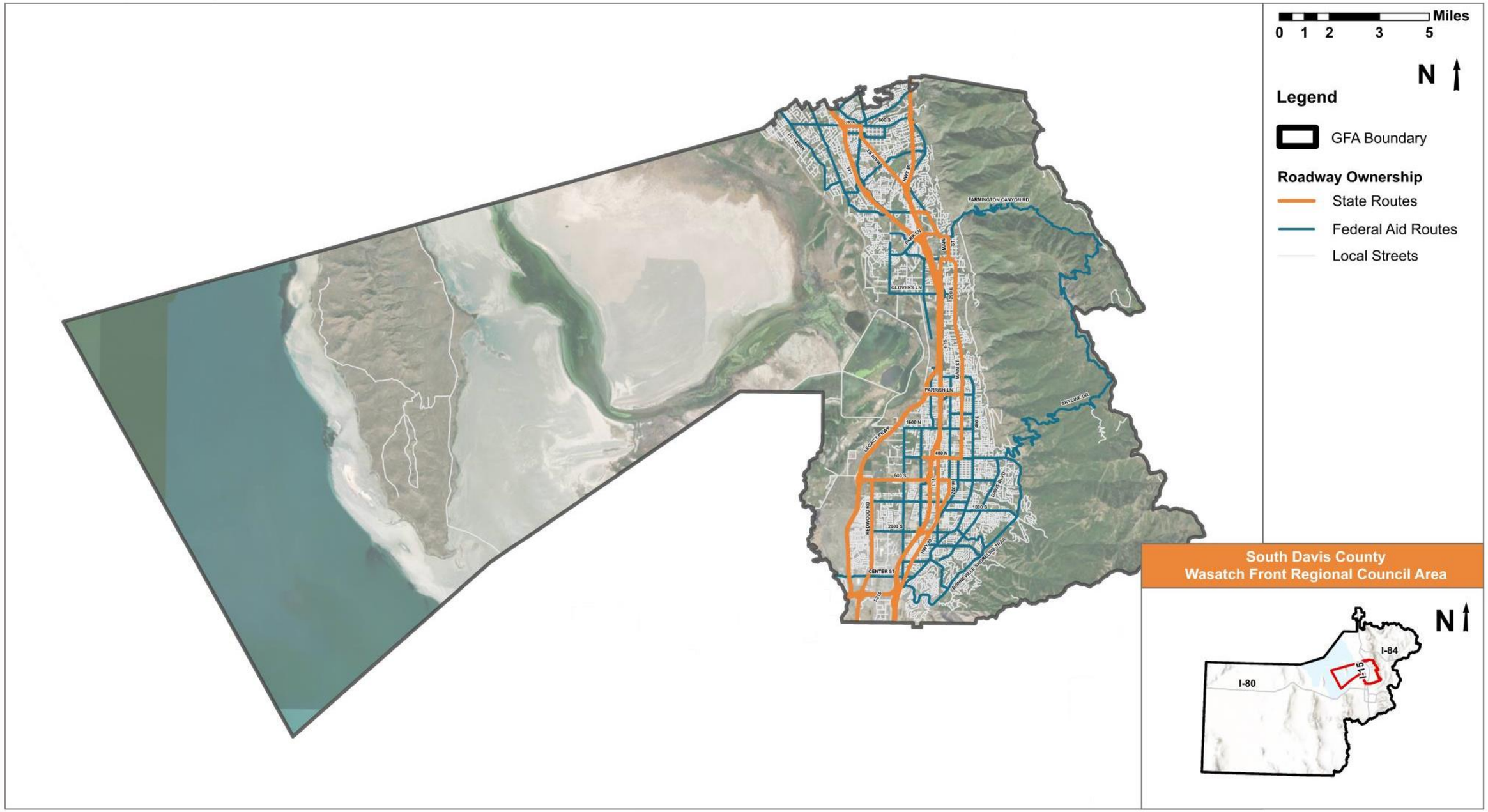


Figure 2.2 – South Davis County GFA Roadway Network

3. SHSP Emphasis Area Analysis

The SHSP emphasis area analysis ranks the frequency of fatal and serious injury crashes in the South Davis County GFA for each of the eleven Utah SHSP emphasis areas. The rankings of the emphasis areas are compared for the South Davis County 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 South Davis County GFA listed below:

- Intersection
- Roadway Departure
- Speed-Related
- Teen Driver
- Impaired Driving

Table 3.1 – SHSP Emphasis Areas Analysis

Category	Utah SHSP Safety Emphasis Area	Statewide Totals		WFRC Totals		South Davis County 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	49	4	0
	Older Driver	1,508	6	700	6	39	6	0
	Speed-Related	2,133	**3**	936	3	64	3	0
	Aggressive Driving	555	11	297	10	16	10	0
	Distracted Driving	718	10	286	11	10	11	0
	Impaired Driving	1,184	8	623	8	46	5	3
	No Safety Restraints	1,542	**5**	599	9	29	8	1
Roadway	Intersection	3,567	**1**	2,163	1	97	1	0
	Roadway Departure	2,931	**2**	1,014	2	80	2	0
Special Users	Motorcycle	1,457	7	750	5	37	7	-2
	Pedestrian	912	9	636	7	29	8	-1
	Bicycle*	280	12	167	12	9	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 South Davis County GFA. The data shows the following:

- State Routes recorded 65% of the total crashes in this GFA
- State Routes recorded 31 of 40 fatal crashes in this GFA
- Federal Aid routes recorded 21% of fatal and serious injury crashes in this GFA
- Federal Aid routes recorded 6 of 40 fatal crashes in this GFA
- Local Streets (non-Federal Aid) recorded 14% of fatal and serious injury crashes in this GFA
- Local Streets recorded three of 40 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	31	0%	6	0%	3	0%	**40**	**0.3%**	**0.0%**
Suspected Serious Injury	102	1%	46	2%	29	2%	**177**	**1.3%**	**0.1%**
Suspected Minor Injury	925	10%	291	10%	135	7%	**1,351**	**9.8%**	**0.7%**
Possible Injury	1,450	16%	505	17%	182	10%	**2,137**	**15.5%**	**1.2%**
No Injury / Property Damage Only	6,455	72%	2,115	71%	1,516	81%	**10,086**	**73.1%**	**5.6%**
Route Total	**8,963**	**100%**	**2,963**	**100%**	**1,865**	**100%**	**13,791**	**100%**	**7.6%**

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 South Davis County GFA. The data shows the following:

The following are key observations base on the historical crash analysis:

- Fatal crashes have increased during the most recent 5-year period (2018-2022), with a high of 11 fatal crashes in 2022
- Serious injury crashes have increased 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 South Davis County 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 South Davis County GFA.

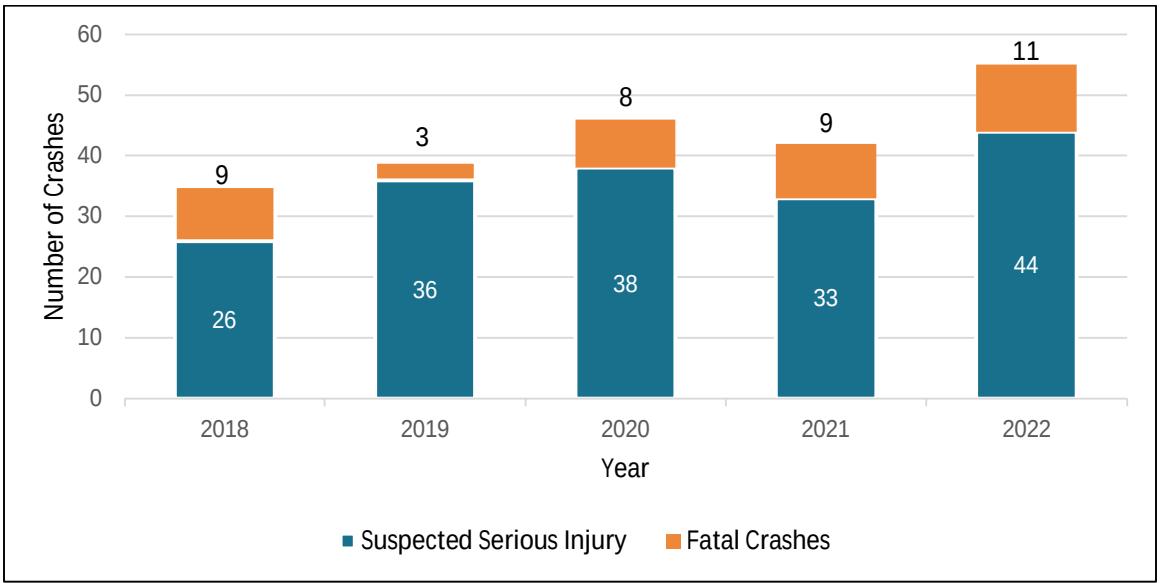


Figure 4.1 – Fatal and Serious Injury Crashes by Year

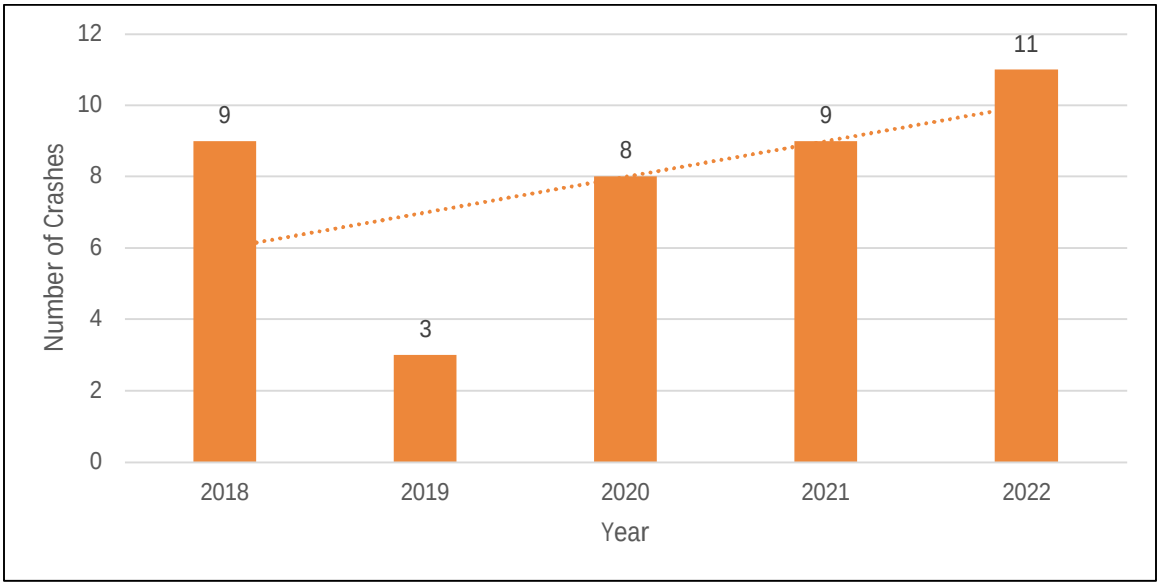


Figure 4.2 – Fatal Crashes by Year

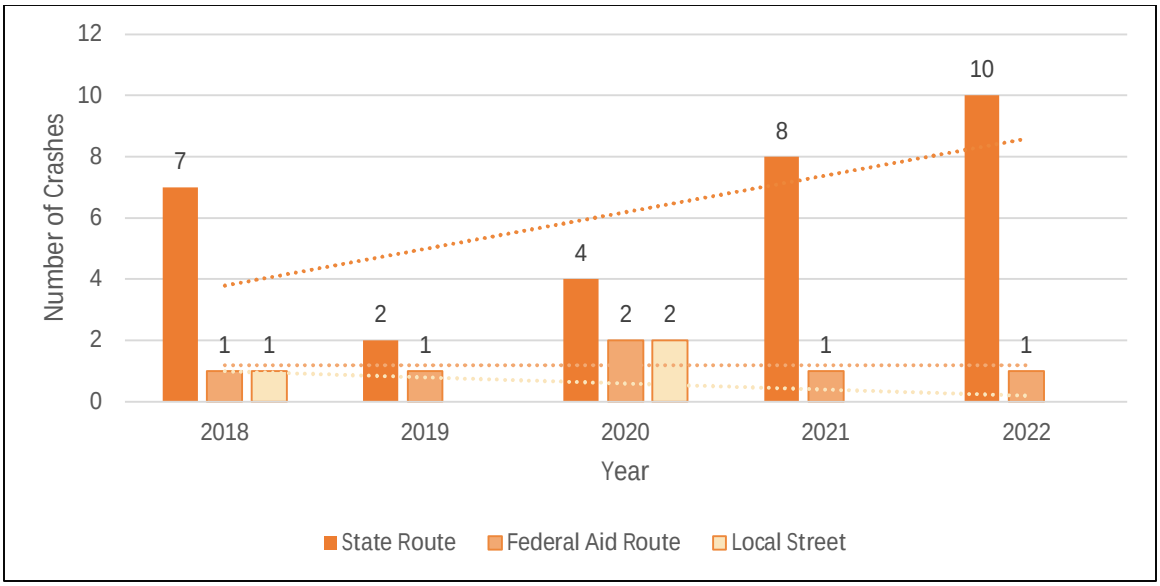


Figure 4.3 – Annual Fatal Crashes by Roadway Ownership

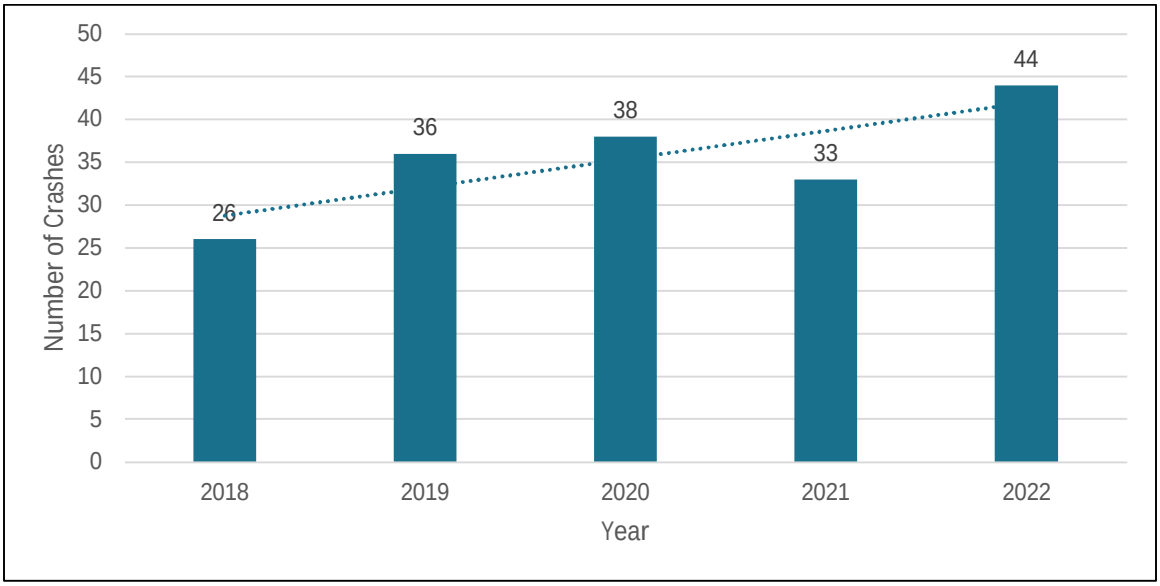


Figure 4.4 – Serious Injury Crashes by Year

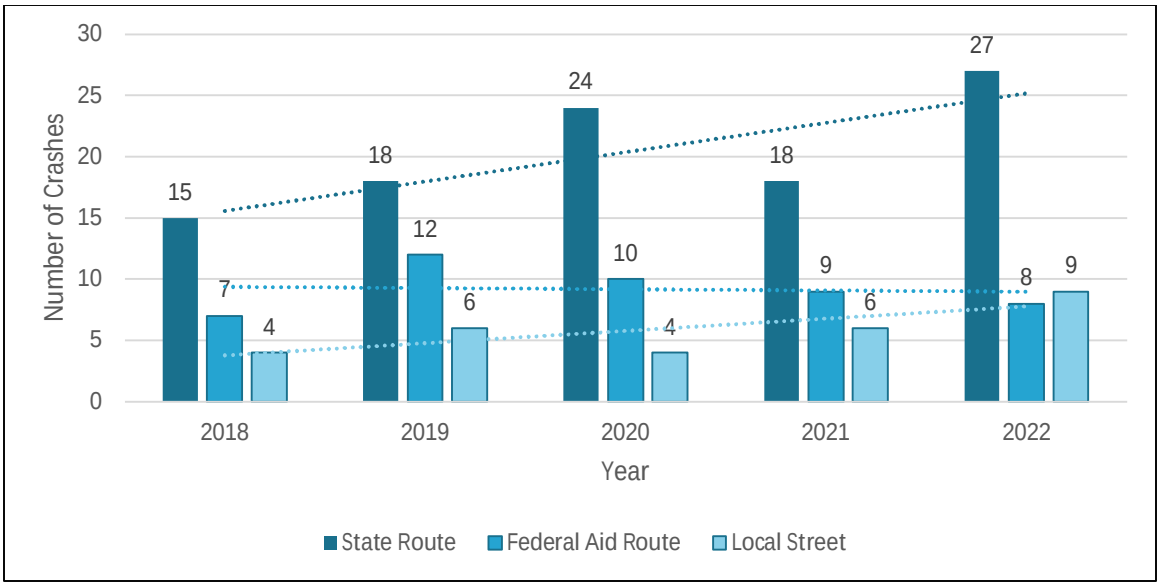


Figure 4.5 – Annual Serious Injury Crashes by Roadway Ownership

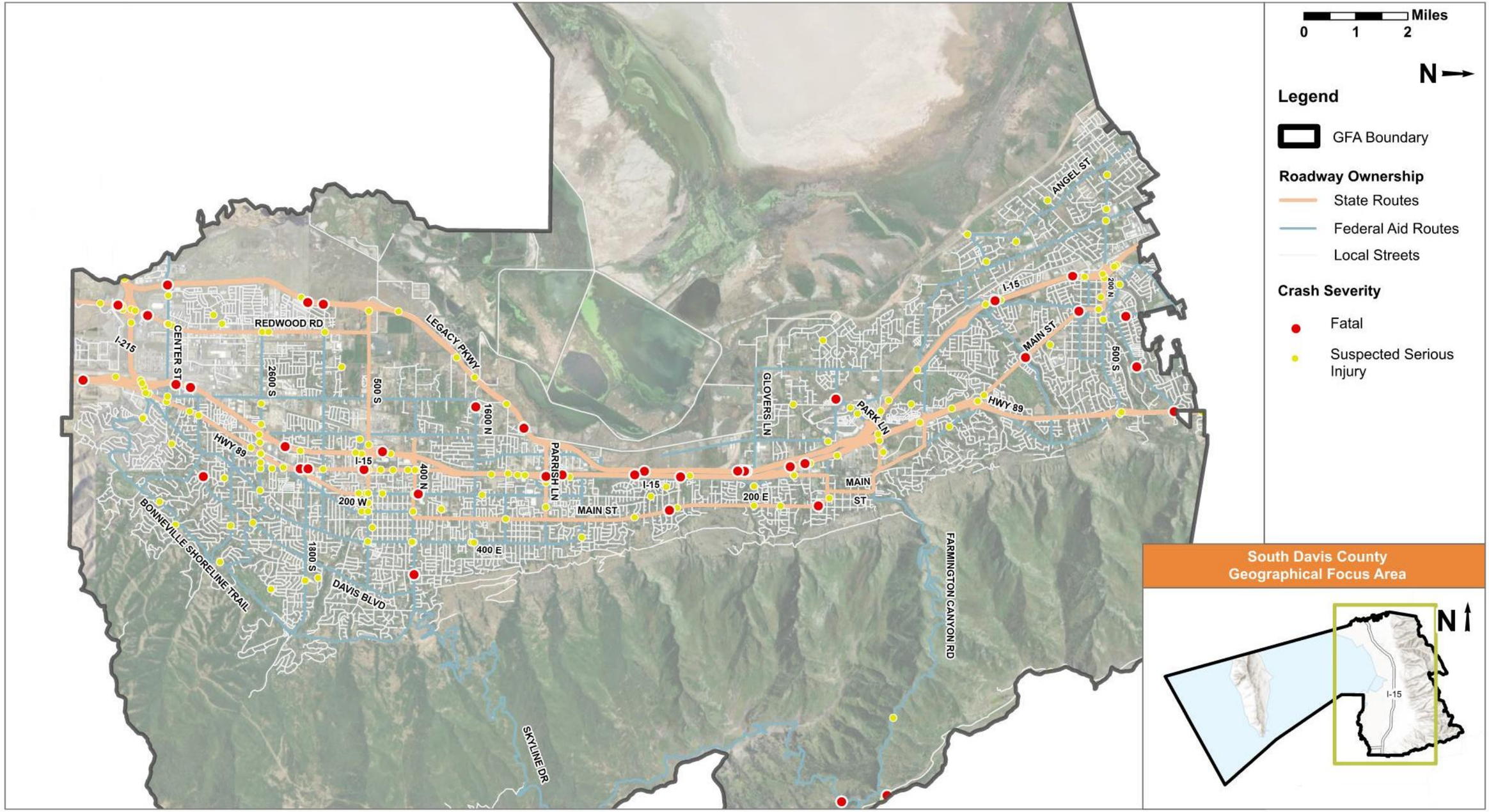


Figure 4.6 – Fatal and Serious Injury Crashes

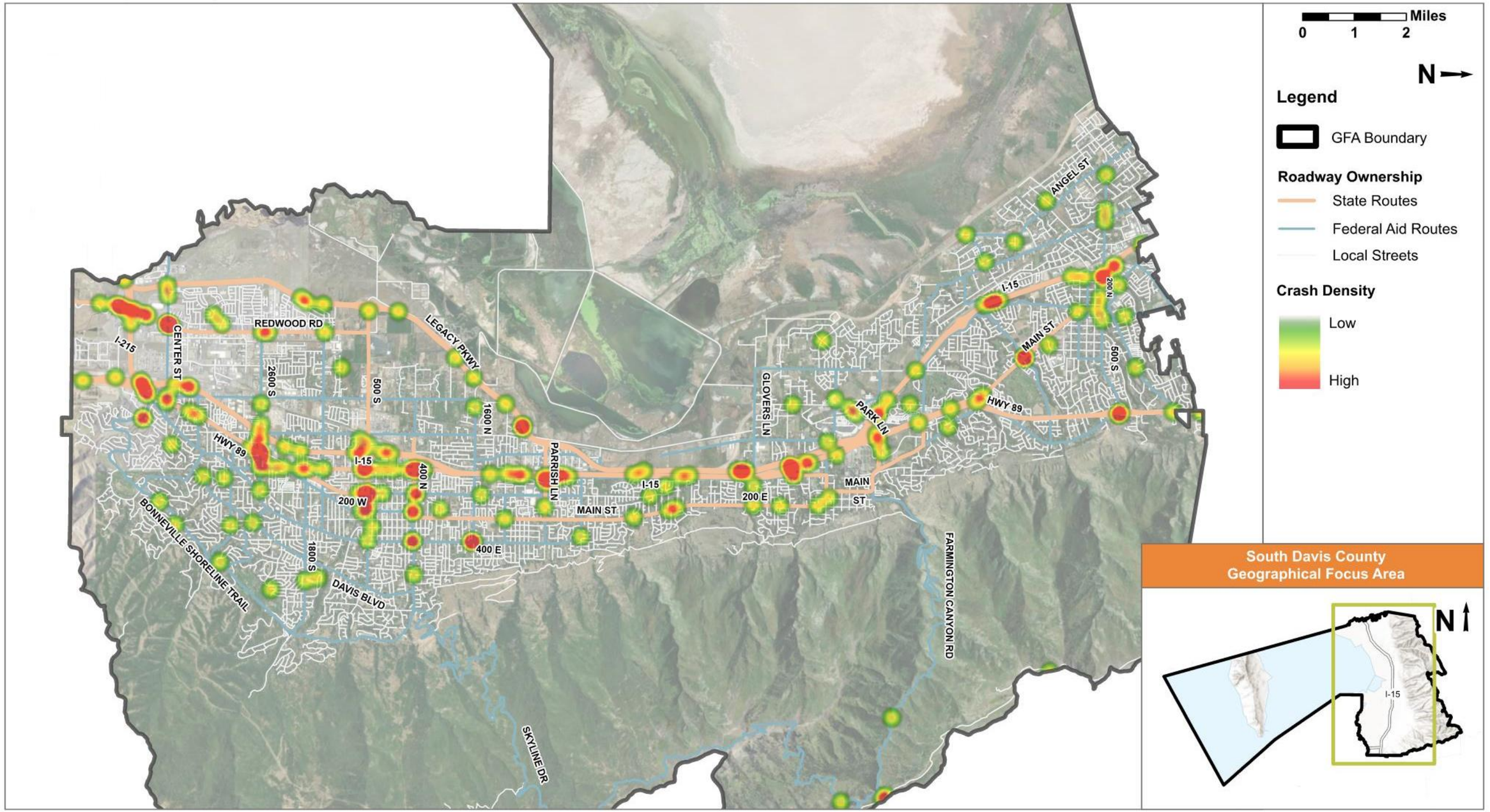


Figure 4.7 – Fatal and Serious Injury Crash Density

4.4. 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 South Davis County GFA. The data shows the following:

- Roadway Departure crash type has the highest number of total fatal and serious injuries with 62 crashes
- Left-Turn at Intersection represents the second highest serious injury crash type frequency
- Active Transportation fatal crashes had the second highest fatal crash type frequency

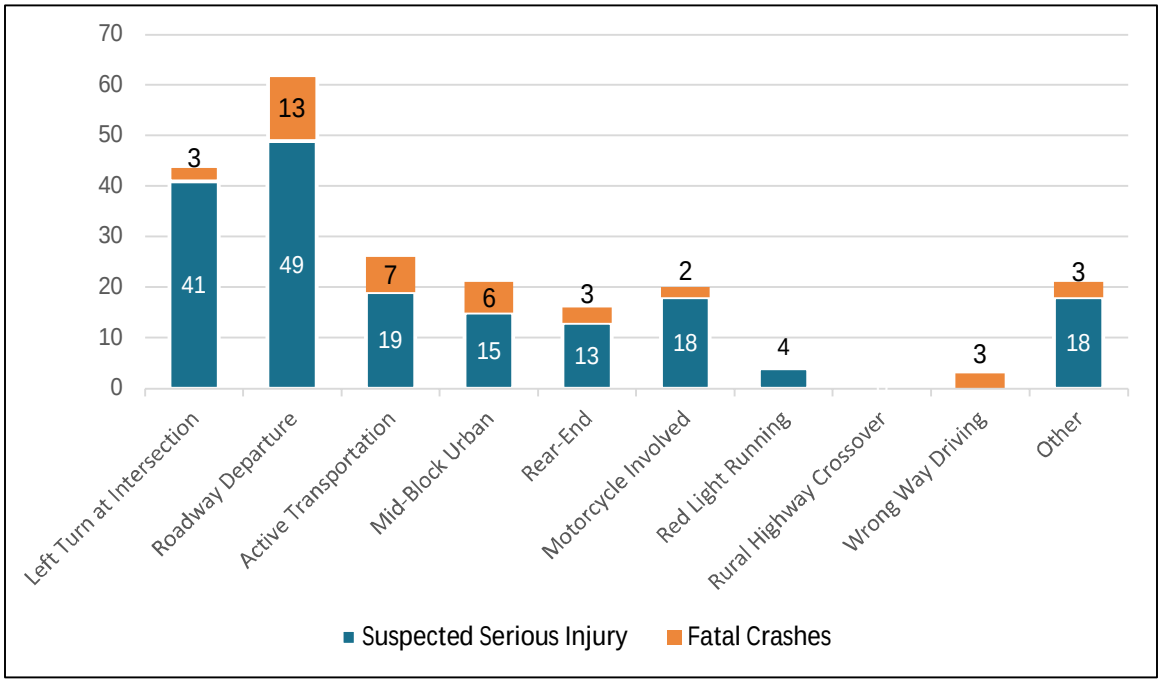


Figure 4.8 – Fatal and Serious Injury Crashes by Crash Type

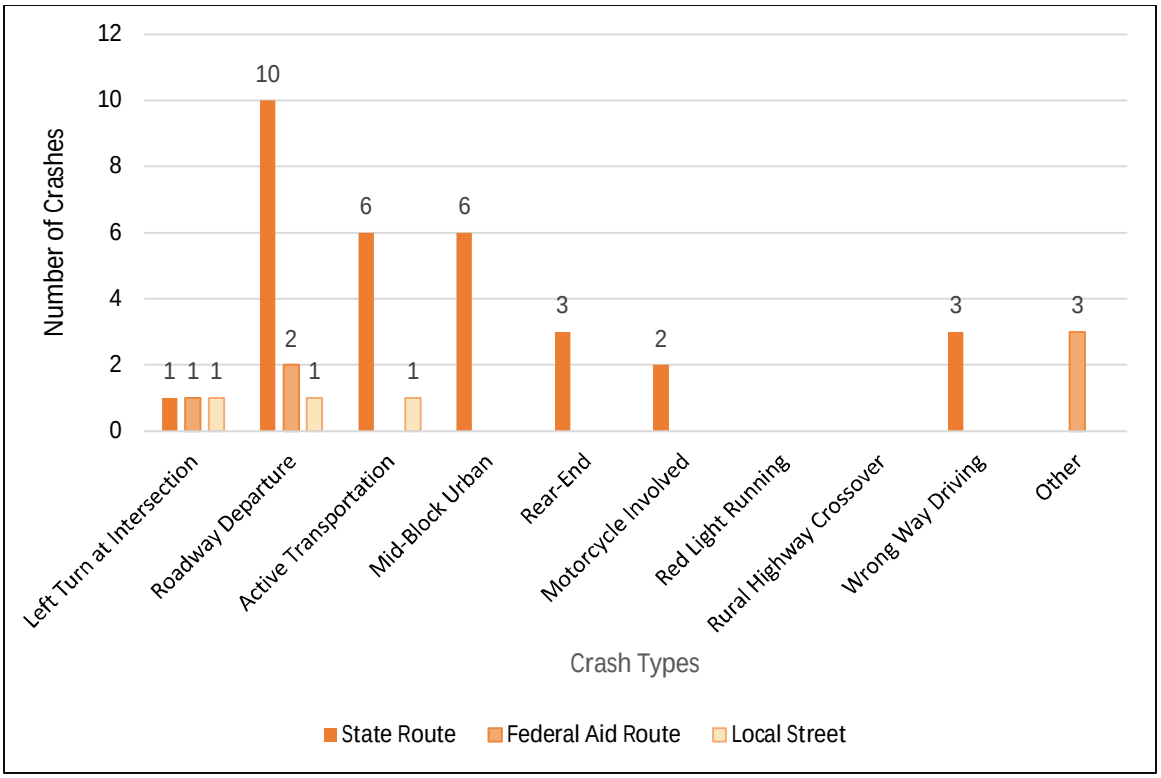


Figure 4.9 – Fatal Crashes by Crash Type and Roadway Ownership

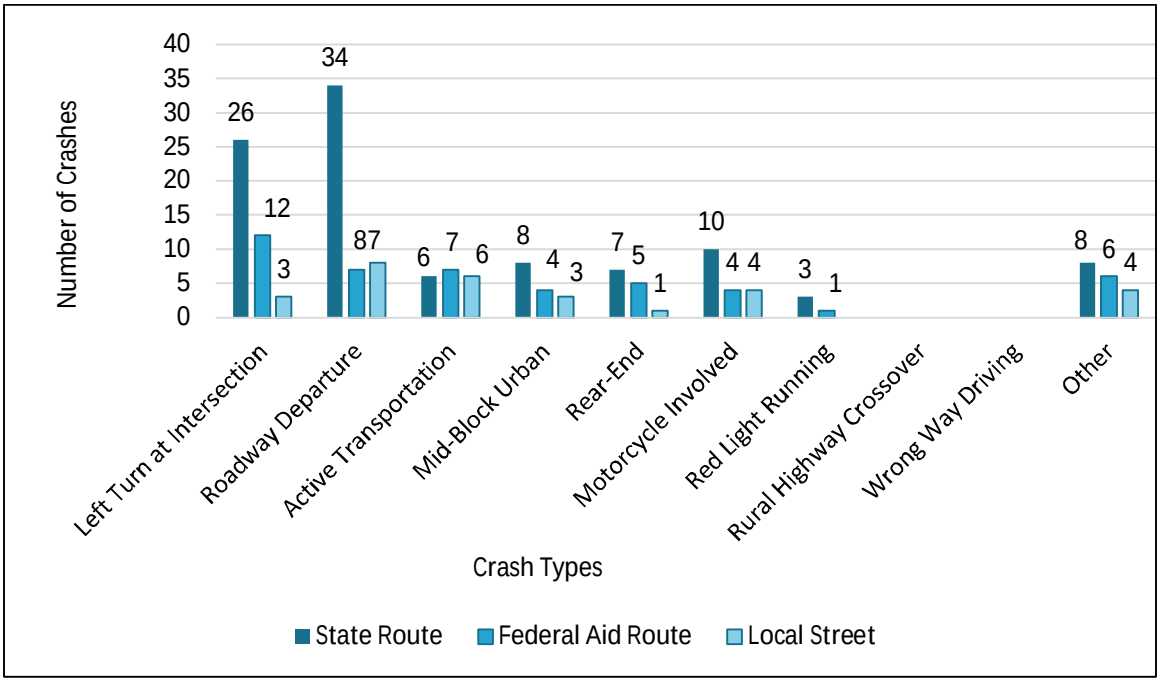


Figure 4.10 – Serious Injury Crashes by Crash Type and Roadway Ownership

4.5. 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 South Davis County GFA. The data shows the following:

- There were 26 fatal and serious injury pedestrian crashes in this GFA
- All the pedestrian fatal crashes occurred on State Routes
- All the bicycle fatal crashes occurred on Federal Aid routes
- There were 35 fatal and serious injury motorcycle crashes in this GFA

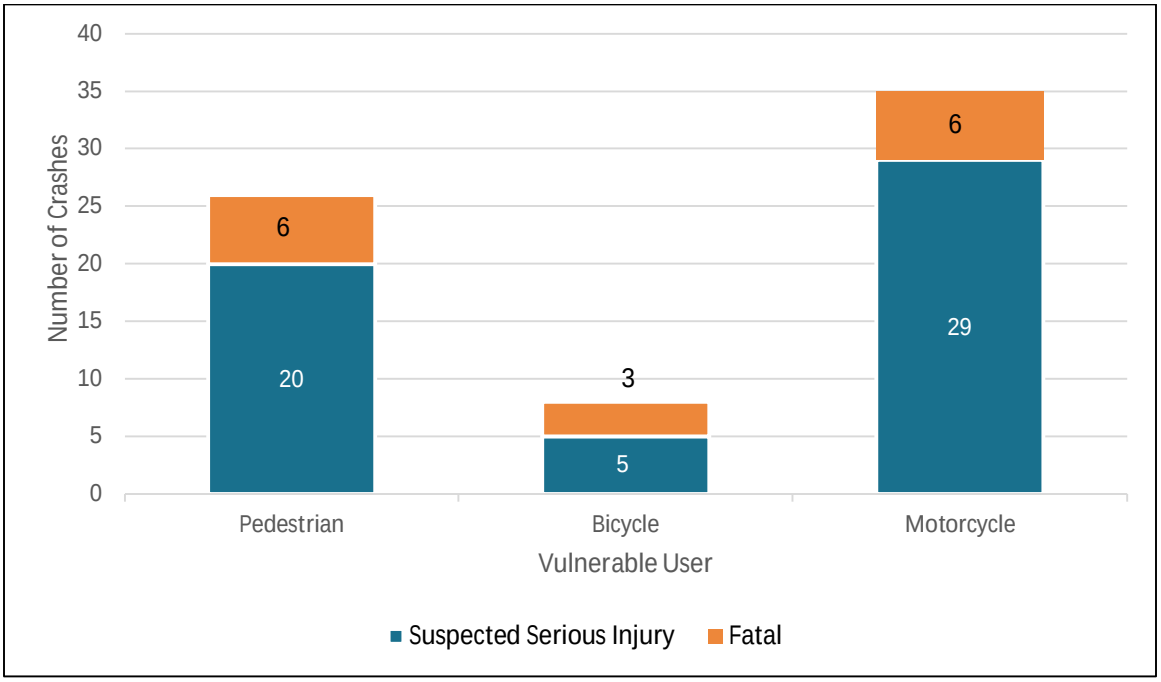


Figure 4.11 – Fatal and Serious Injury Crashes by Vulnerable User

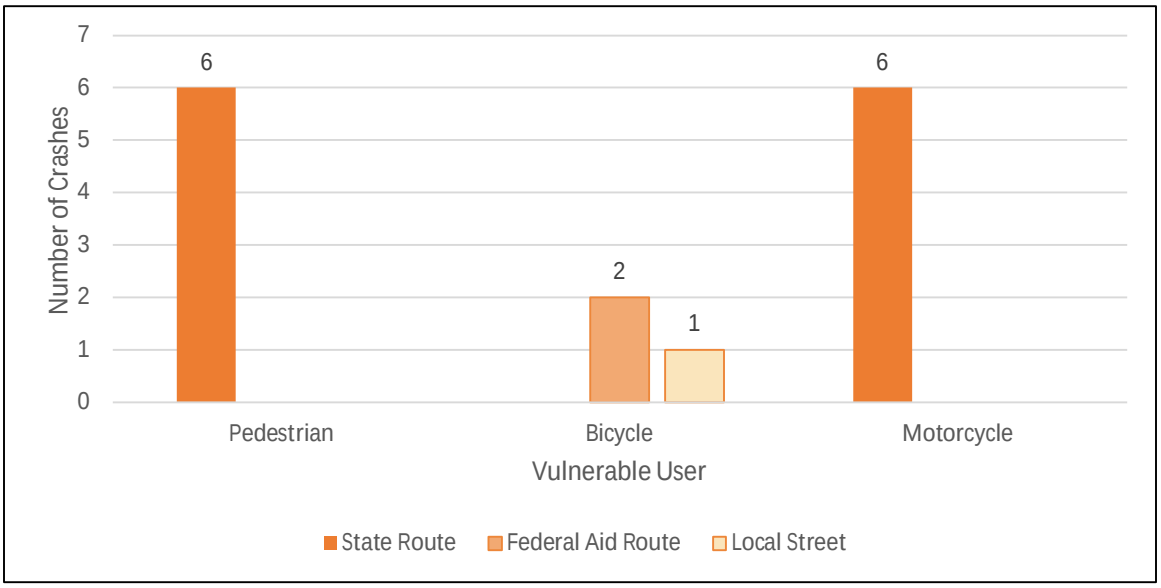


Figure 4.12 – Fatal Crashes by Vulnerable User and Roadway Ownership

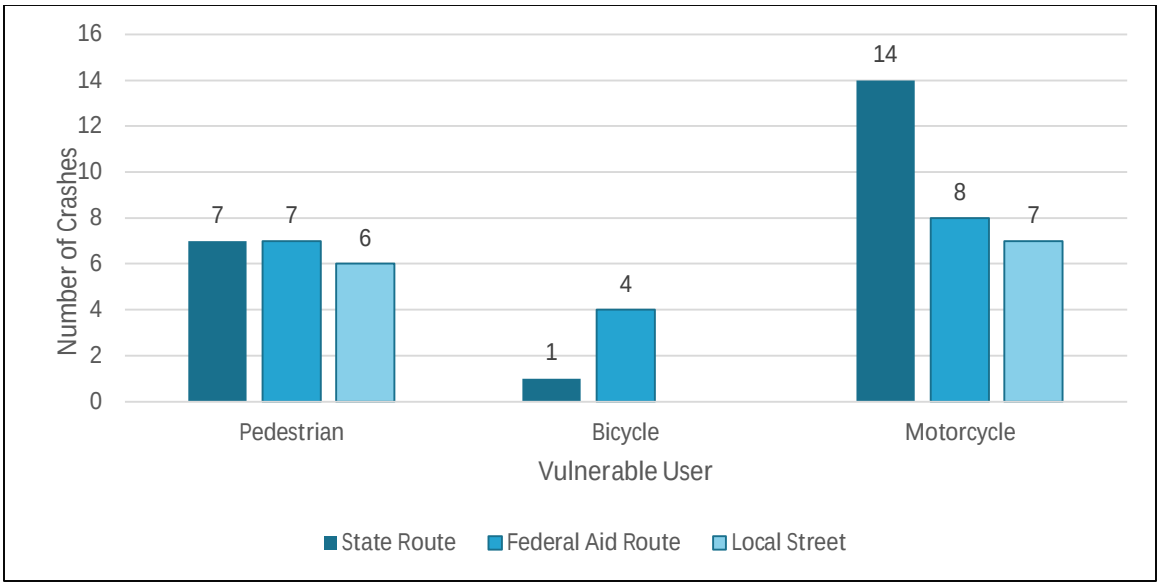


Figure 4.13 – Serious Injury Crashes by Vulnerable User and Roadway Ownership

4.6. 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 South Davis County GFA. The data shows the following:

- Single vehicle crashes have the highest number of total fatal and serious injuries with 108 crashes
- Angle crashes represents the second most frequent crash type (52 crashes) with most being serious injury crashes
- Front to Rear, Head-on, and Angle each had six fatal crashes

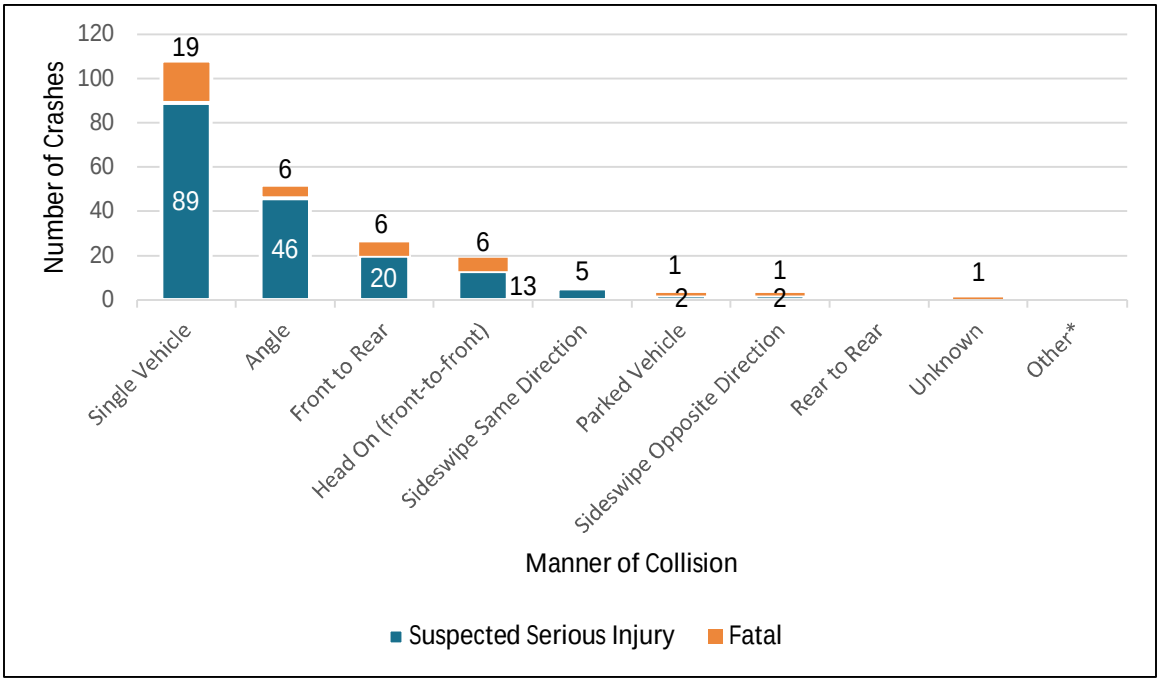


Figure 4.14 – Fatal and Serious Injury Crashes by Manner of Collision

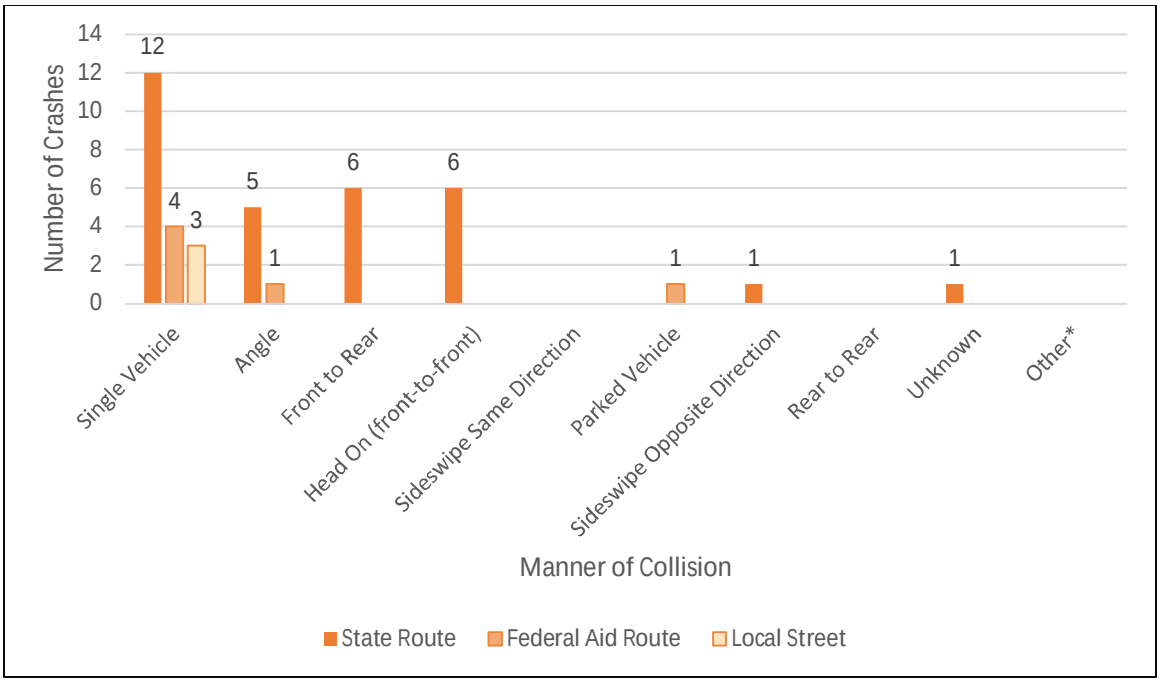


Figure 4.15 – Fatal Crashes by Manner of Collision and Roadway Ownership

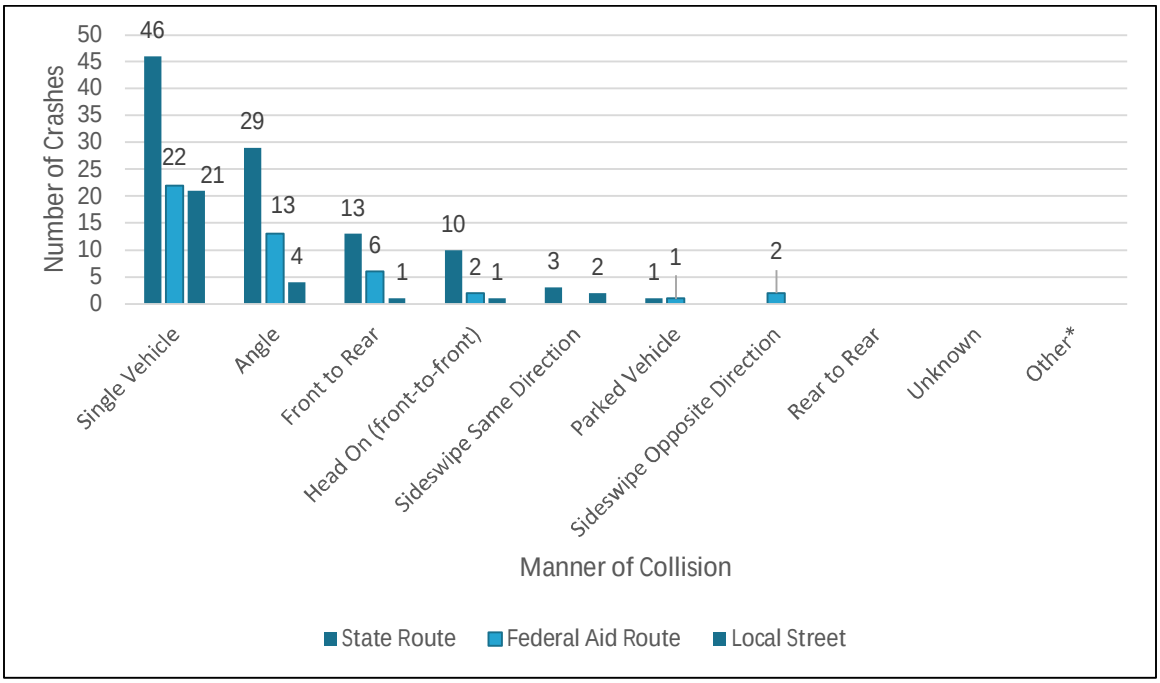


Figure 4.16 – Serious Injury Crashes by Manner of Collision and Roadway Ownership

4.7. 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 South Davis County GFA. The data shows the following:

- Not-Intersection-Involved crashes outnumbered Intersection-Involved crashes
- Of the 33 fatal crashes for Not-Intersection involved, 27 occurred on State Routes

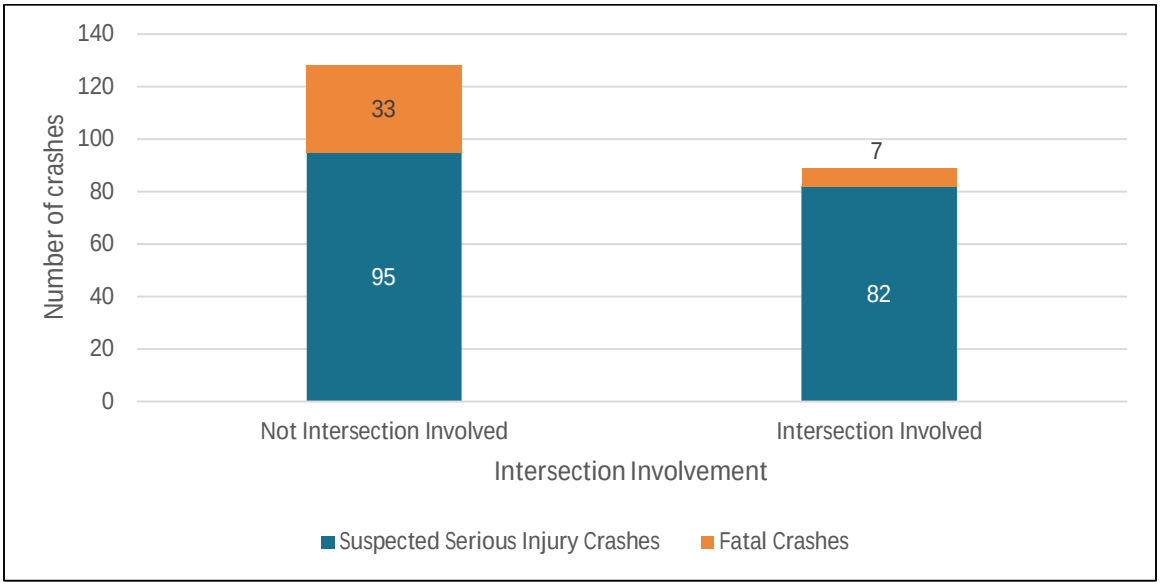


Figure 4.17 – Fatal and Serious Injury Crashes by Intersection

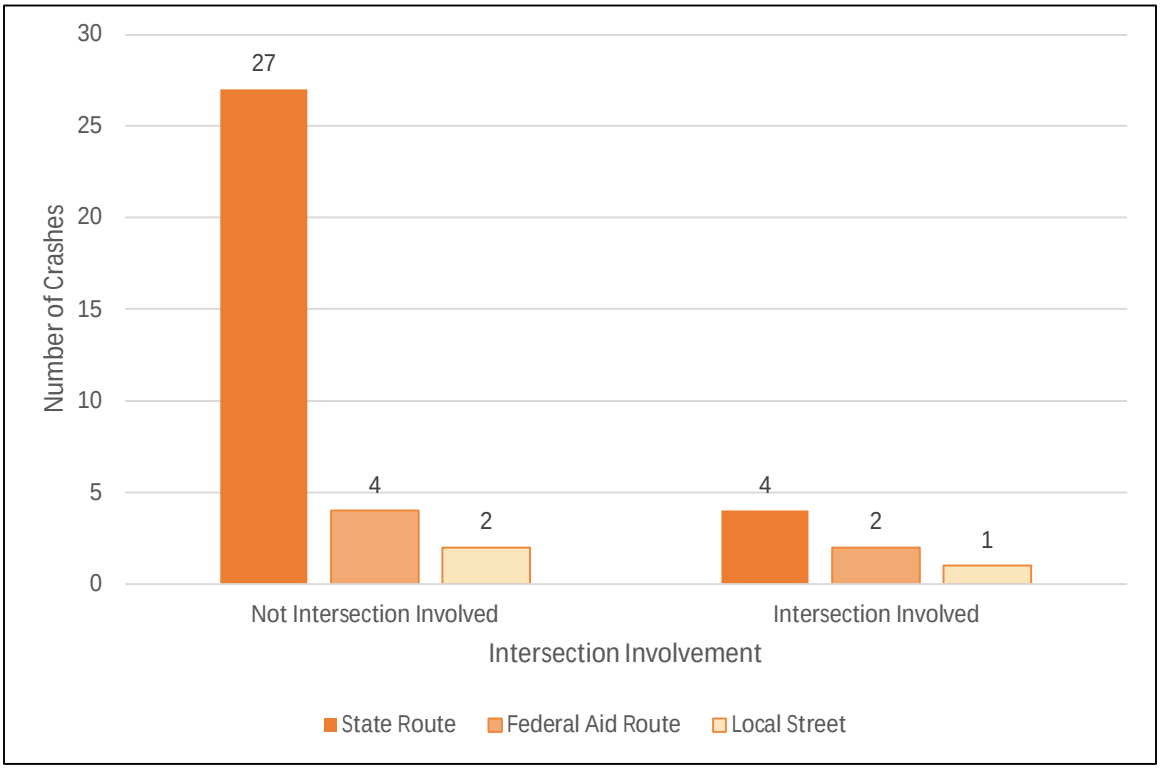


Figure 4.18 – Fatal Crashes by Intersection and Roadway Ownership

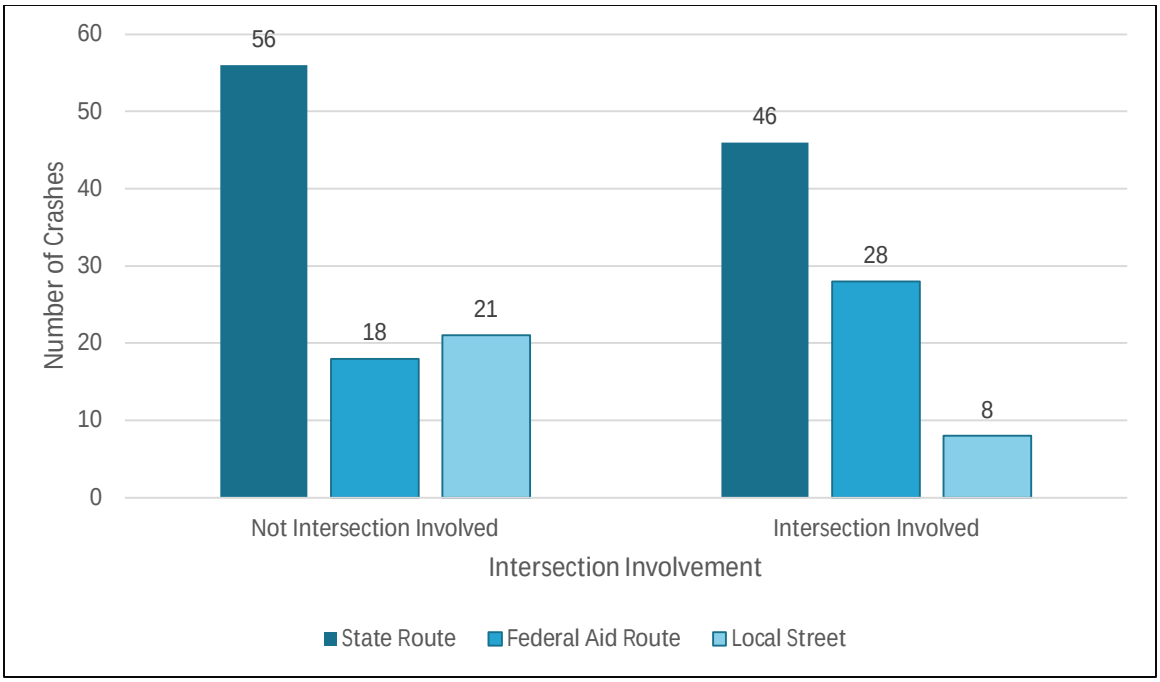


Figure 4.19 – Serious Injury Crashes by Intersection and Roadway Ownership

4.8. 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 South Davis County GFA. The data shows the following:

- Interstate had the highest number of fatal crashes (13), Principal Arterial had five fatal crashes, and Minor Arterial had four fatal crashes
- All of the fatal crashes on Principal Arterials were on State Routes
- Local Streets had 31 serious injury crashes and three fatal crashes

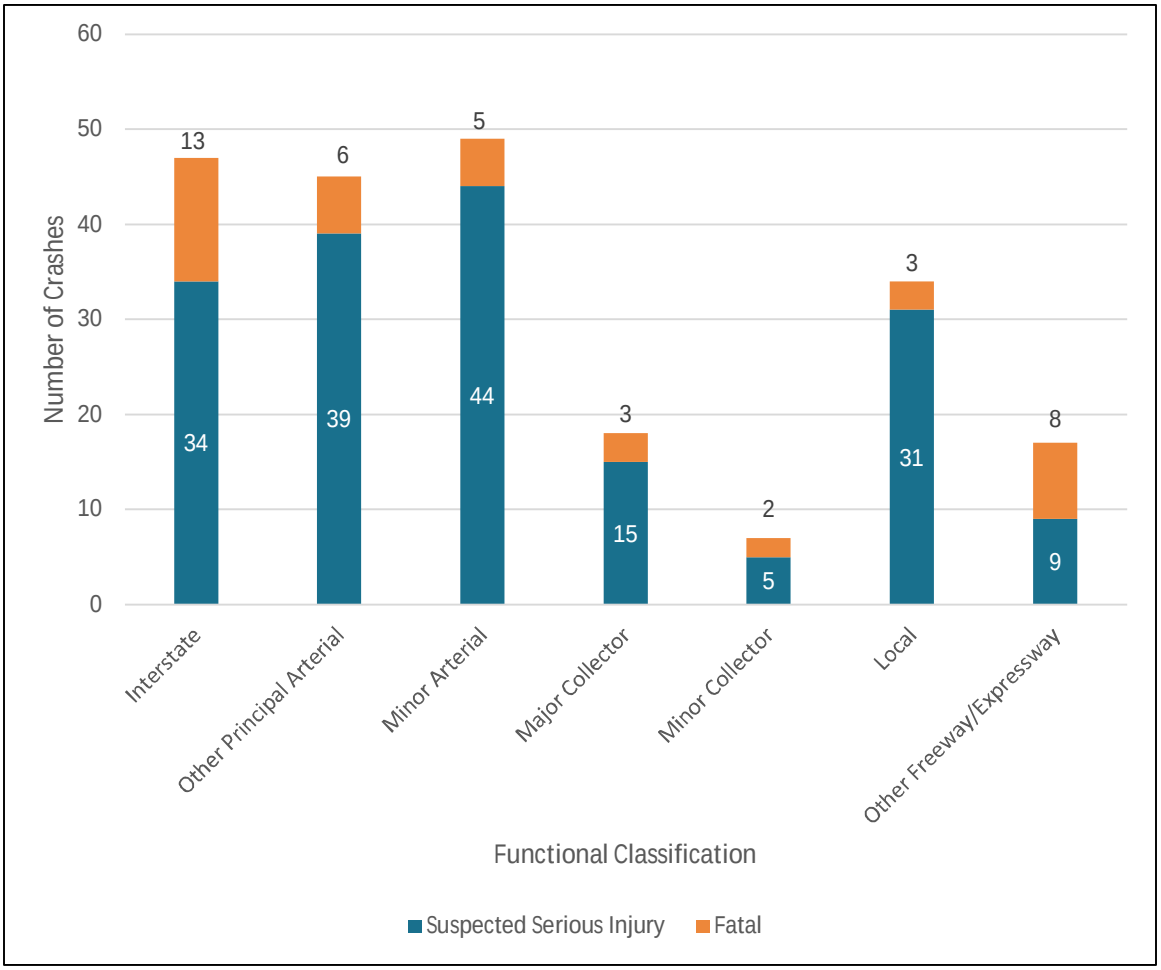


Figure 4.20 – Fatal and Serious Injury Crashes by Functional Class

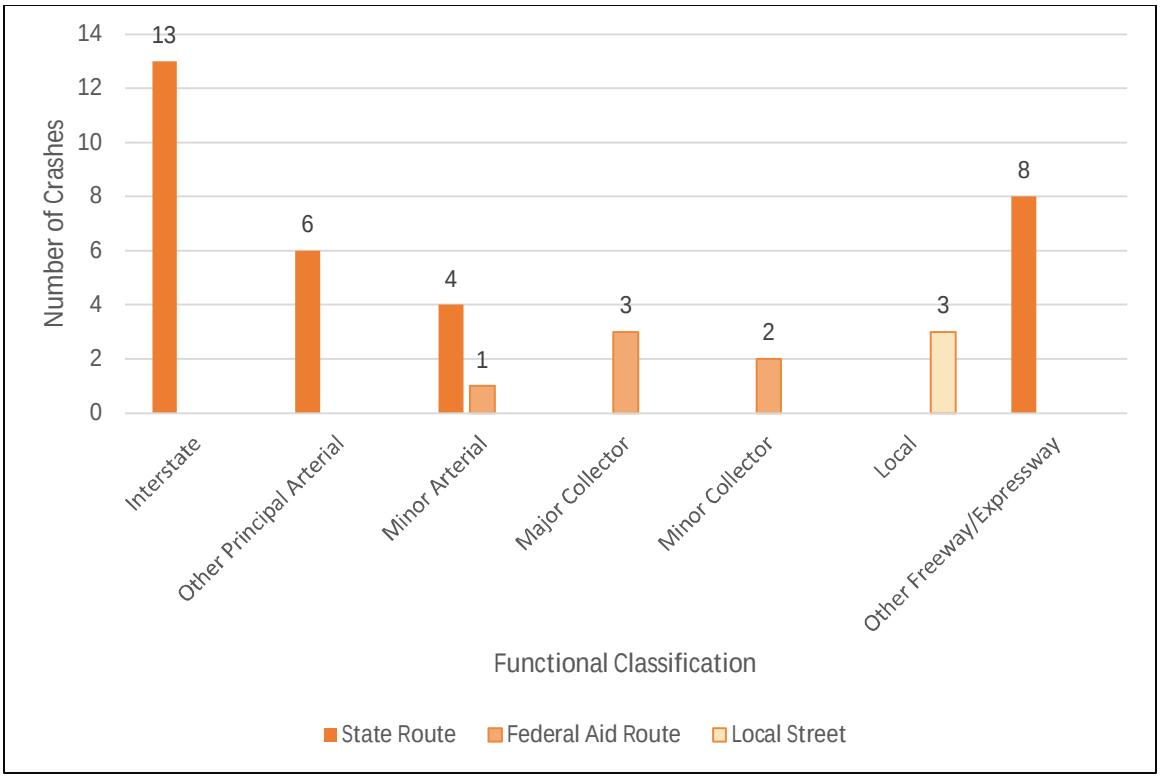


Figure 4.21 – Fatal Injury Crashes by Functional Class and Roadway Ownership

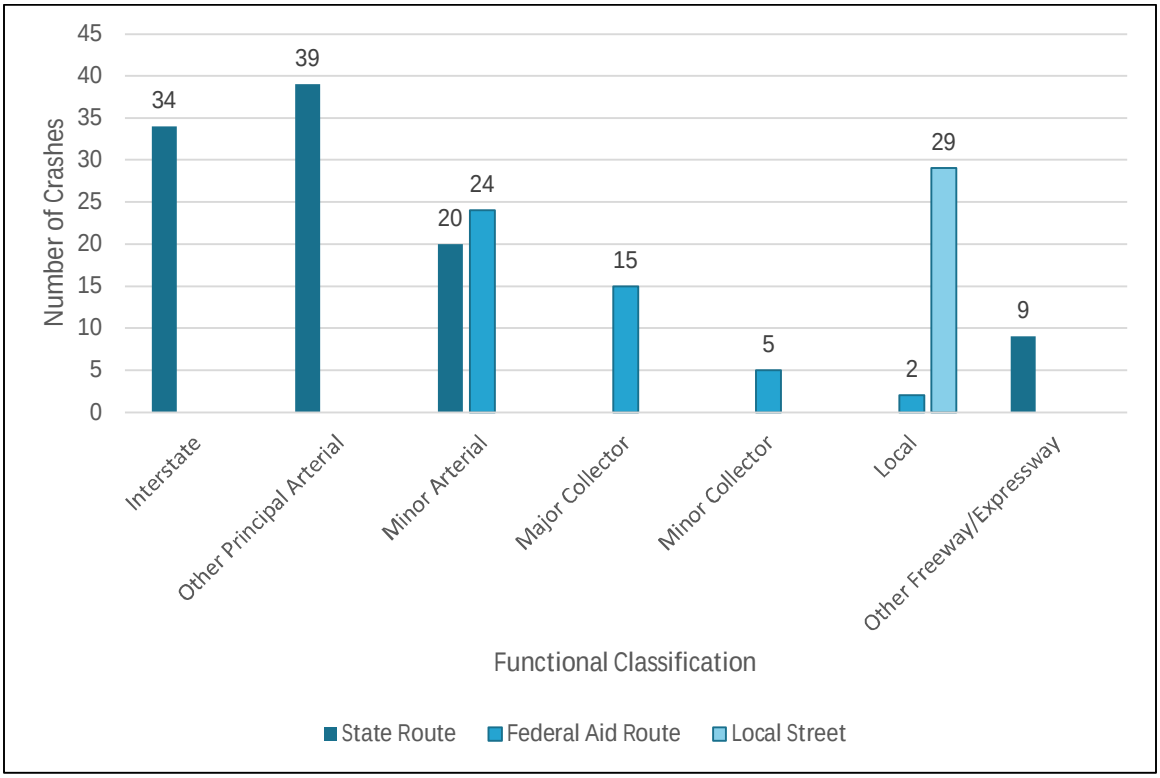


Figure 4.22 – Serious Injury Crashes by Functional Class and Roadway Ownership

4.9. Fatal and Serious Injury Crash Trees Diagrams

Fatal and serious injury crash tree diagrams were generated for the South Davis County 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 (61%)
- Federal Aid routes had 24% of fatal and serious injury crashes
- Local Routes had 14% of fatal and serious injury crashes
- On Federal Aid Routes, for intersection-related crashes the most prevalent crash types are Left-Turn at Intersection and Active Transportation

CRASH TYPE

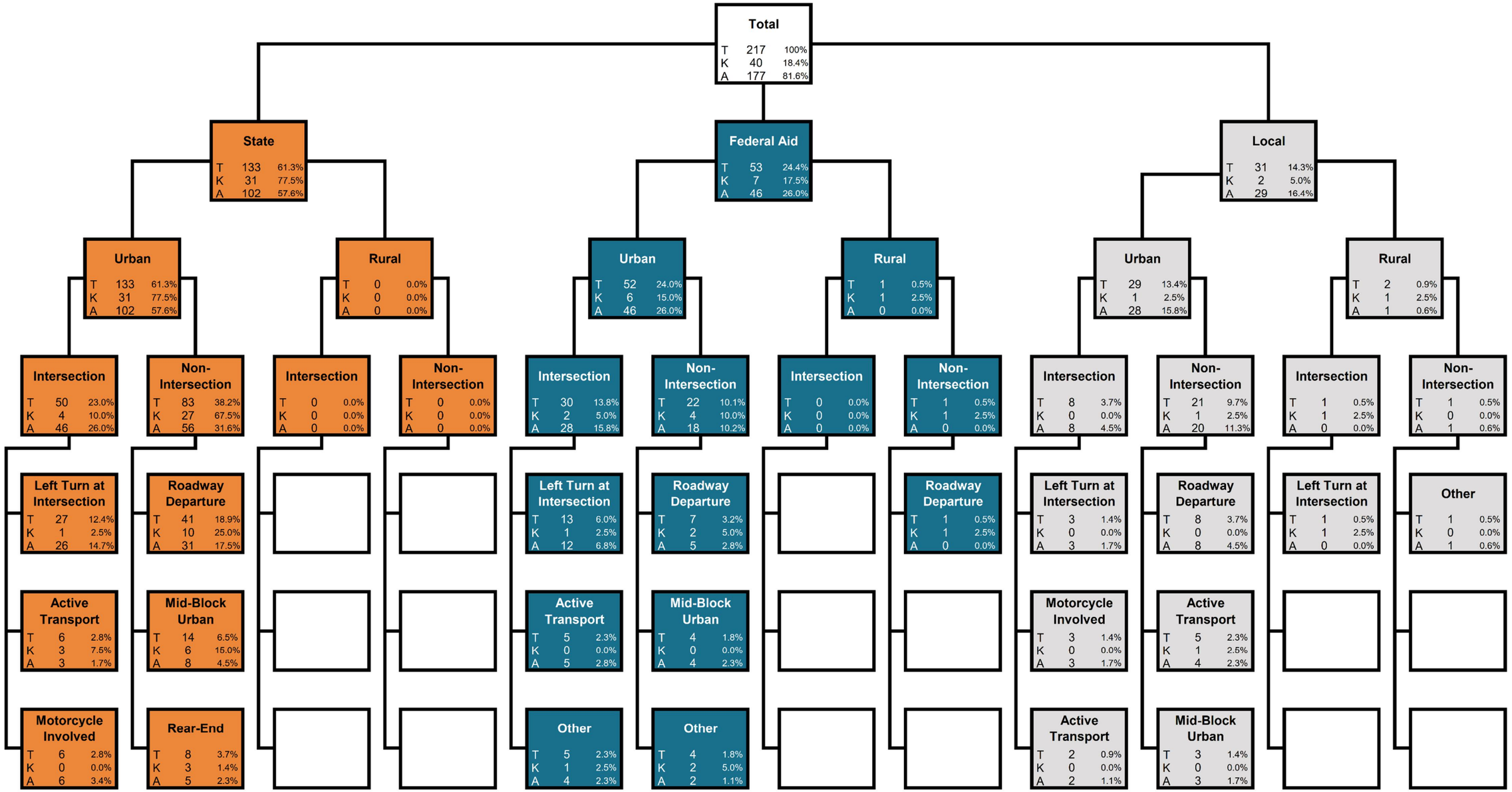


Figure 4.23 – Fatal and Serious Injury Crash Tree Diagram (Crash Type)

MANNER OF COLLISION

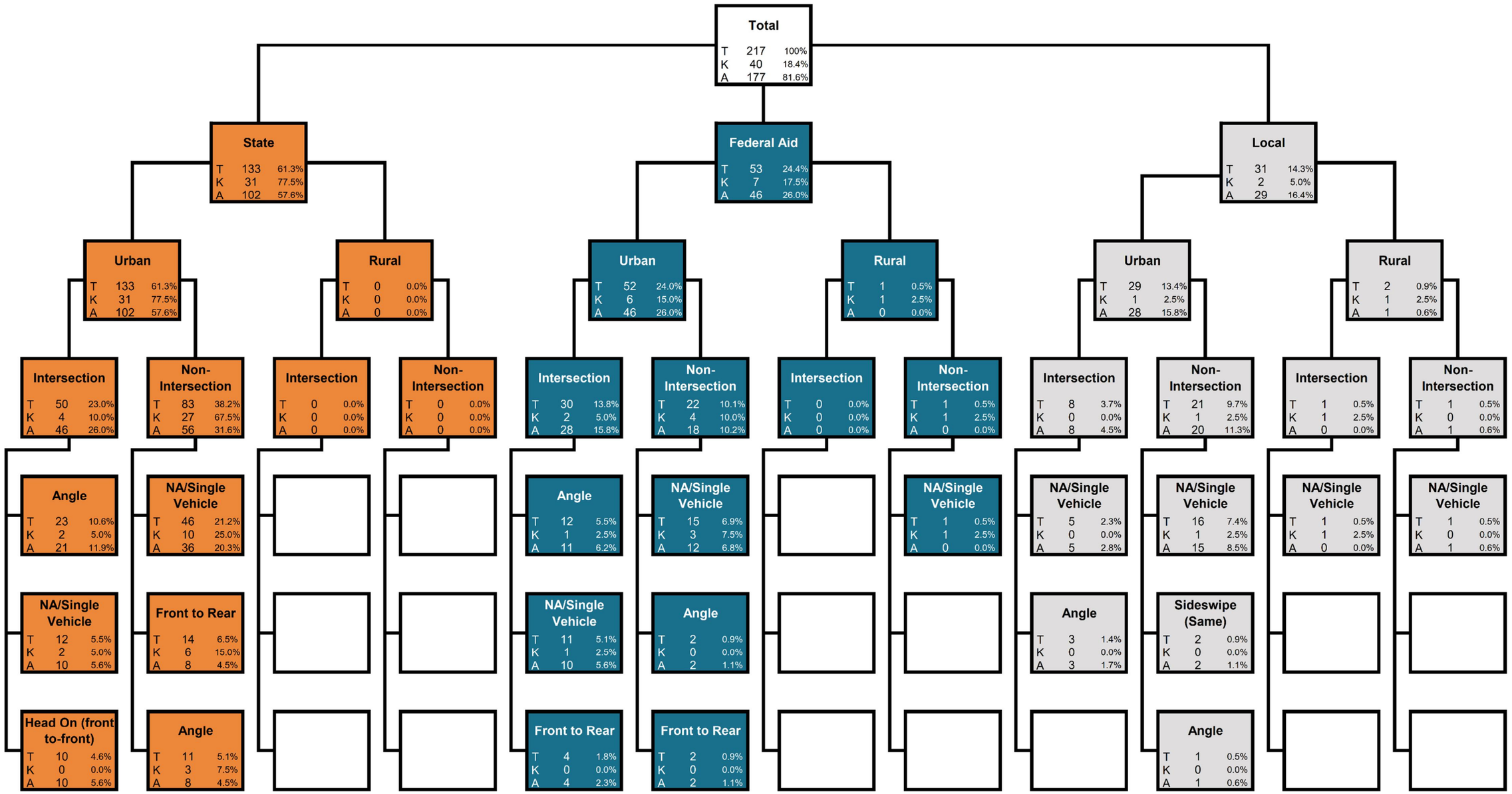


Figure 4.24 – Fatal and Serious Injury Crash Tree Diagram (Manner of Collision)

ACTIVE TRANSPORTATION

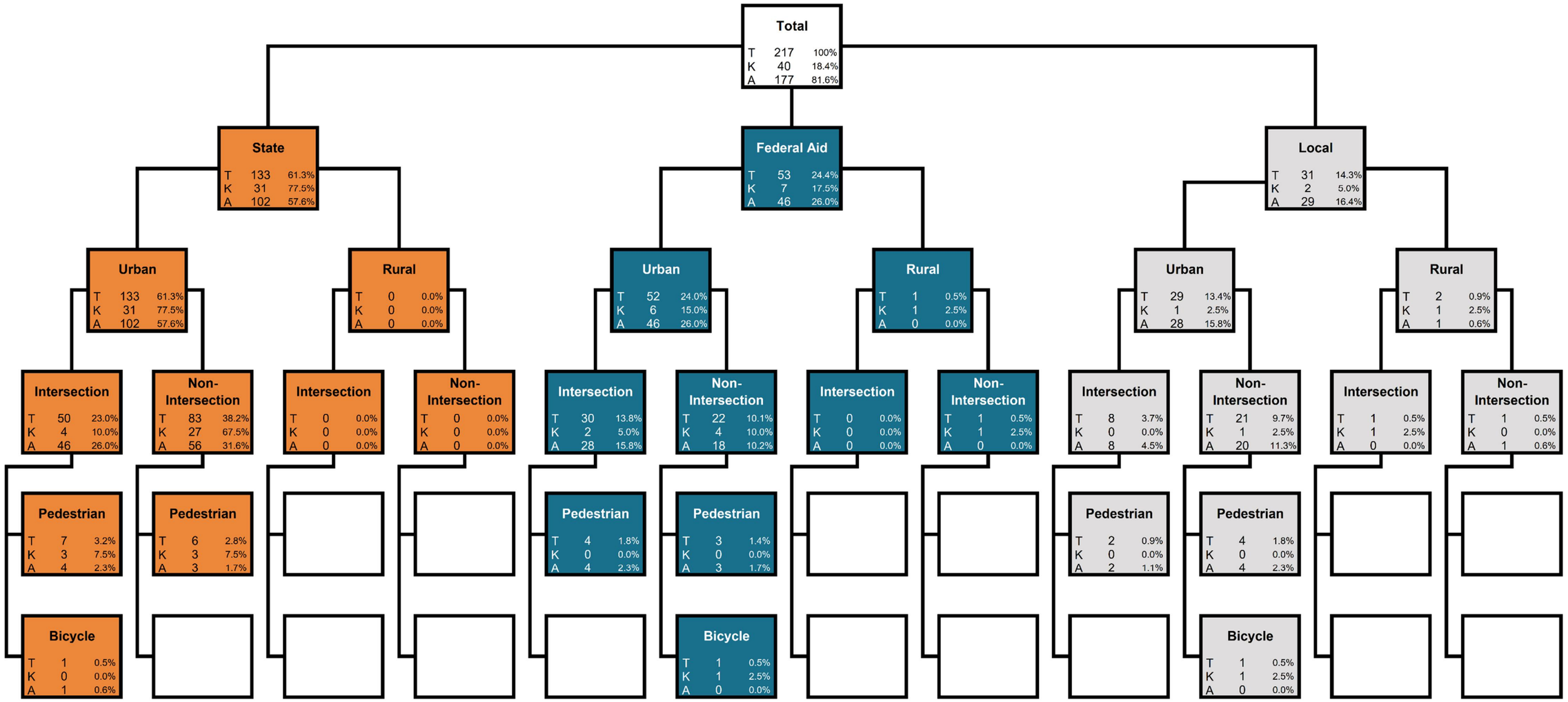


Figure 4.25 – Fatal and Serious Injury Crash Tree Diagram (Active Transportation)

5. Crash and Network Screening Analysis

A crash and network screening analysis was prepared for the South Davis County 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 South Davis County 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)

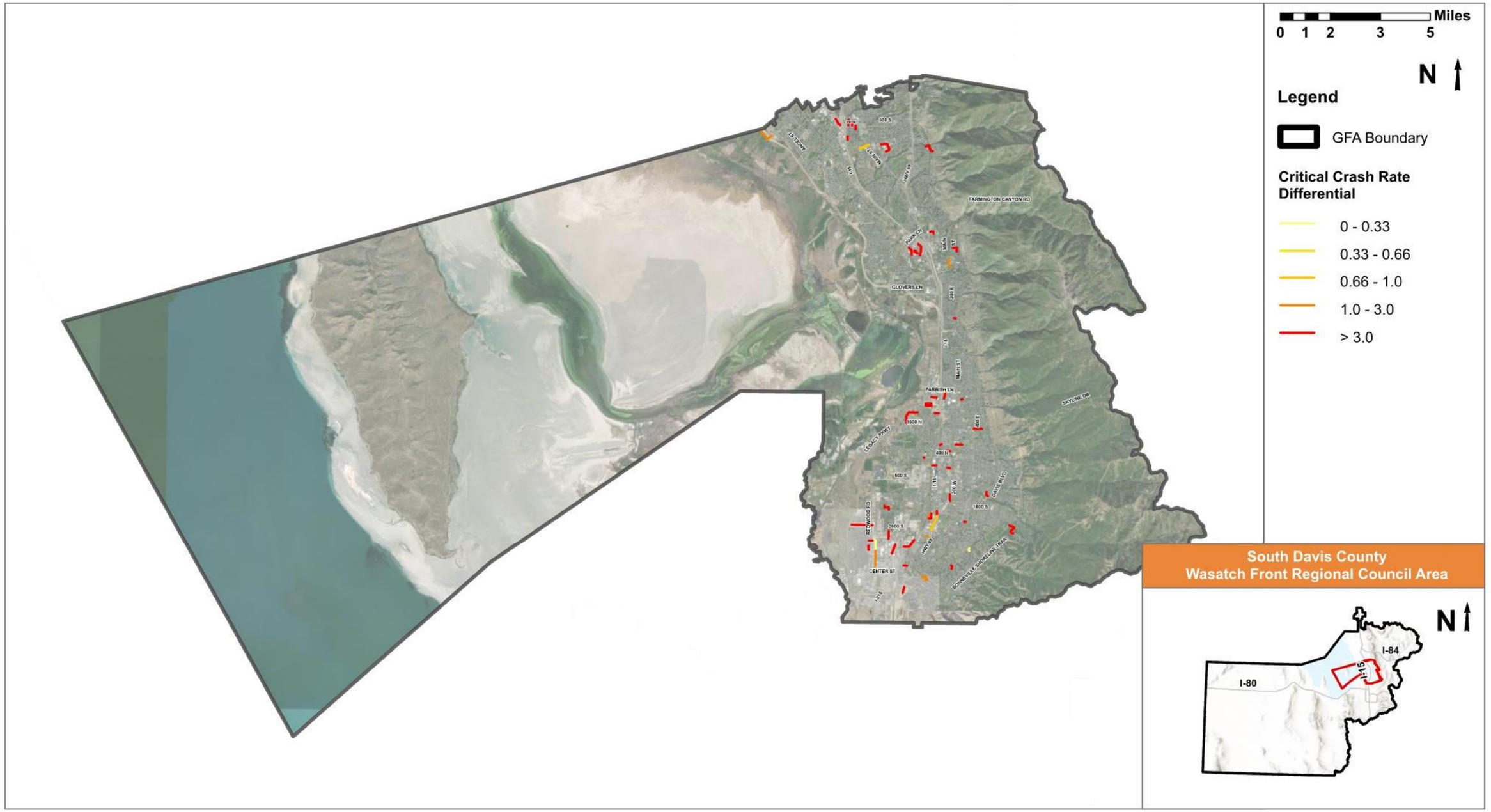


Figure 5.3 – CCR Differential – Segments (Local Routes)

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																								
US 89	NB Ramp to Shepard Ln	Other Principal Arterial	Farmington	5	30.8	15	0	0	0	1	4	0	4	0	0	0	0	0	0	1	0	0	0	0
US-89	Park In to State St	Other Principal Arterial	Farmington	18	22.3	60	0	0	1	2	15	1	0	0	14	1	0	0	0	2	0	0	0	0
US-89	US 89 SB Ramp to Main St	Other Principal Arterial	Farmington	5	13.7	15	0	0	0	1	4	0	1	0	4	0	0	0	0	0	0	0	0	0
Main St (SR-273)	US 89 NB Ramp to US 89 SB Ramp	Minor Arterial	Farmington	3	9.0	3	0	0	0	0	3	0	1	0	2	0	0	0	0	0	0	0	0	0
500 S (500 S)	500 W to I-15 Ramps	Other Principal Arterial	Bountiful	47	8.6	247	0	0	6	7	34	15	22	2	2	0	0	0	0	5	1	0	0	0
US 89 Ramp	US 89 to Main St	Other Principal Arterial	Farmington	3	7.4	3	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
Main St (SR-68)	Country Ln to Nicholls Rd	Minor Arterial	Kaysville	4	6.0	25	0	0	0	2	2	1	2	0	1	0	0	0	0	0	0	0	0	0
US-89	Shepard Church Dr to US 89 Ramps	Other Principal Arterial	Farmington	4	5.5	14	0	0	0	1	3	0	2	0	1	0	0	0	0	1	0	0	0	0
500 S (SR-68)	500 W to I-15 Ramps	Other Principal Arterial	West Bountiful	20	4.8	94	0	0	2	3	15	13	6	0	1	0	0	0	0	0	0	0	0	0
500 W (US-89)	400 N to 550 N	Other Principal Arterial	Bountiful	24	4.8	201	0	1	2	4	17	13	6	0	2	0	0	0	0	2	1	0	0	0
Federal Aid Routes																								
400 W	Parish Ln to 550 N	Minor Collector	Centerville	11	209.3	11	0	0	0	0	11	4	3	0	2	0	0	0	0	2	0	0	0	0
Pages Ln	550 W to Frontage Rd	Minor Collector	Bountiful	4	185.1	4	0	0	0	0	4	0	2	0	1	0	0	0	0	1	0	0	0	0
Park Ln	Station Way to I-15	Minor Arterial	Farmington	14	76.0	14	0	0	0	0	14	2	4	0	1	0	0	0	1	6	0	0	0	0
400 W	Parrish Ln to Market Place Dr	Major Collector	Centerville	10	68.5	41	0	0	0	3	7	8	0	0	0	0	0	0	0	2	0	0	0	1
650 W	500 S to 550 S	Minor Collector	Farmington	4	62.3	25	0	0	1	0	3	0	3	0	0	0	0	0	0	1	0	0	0	0
Glovers Ln	650 W to Doberman Ln	Minor Collector	Farmington	6	30.2	16	0	0	0	1	5	2	1	0	1	1	0	0	0	1	0	0	0	0
Park Ln	Cabela's Dr to Station Pkwy	Minor Arterial	Farmington	5	29.7	140	0	1	2	0	2	1	2	0	0	0	0	0	1	1	0	0	0	0
650 W	925 S to Miller Way	Minor Collector	Farmington	8	25.6	82	0	0	2	3	3	3	3	0	2	0	0	0	0	0	0	0	0	0
Market Place Dr	Parrish Ln to Centerville Market Place	Minor Collector	Centerville	11	20.5	21	0	0	0	1	10	2	1	0	0	1	0	1	0	6	0	0	0	0
Park Ln	1100 W to Belmont Dr	Minor Collector	Farmington	5	16.8	48	0	0	2	0	3	0	2	0	2	0	0	0	0	1	0	2	0	0
Local Streets																								
2200 S	Orchard Pine Loop to 200 E	Local	Bountiful	3	855.7	24	0	0	1	0	2	1	0	0	1	1	0	0	0	0	0	0	0	0
400 W	200 N to Main St	Local	Kaysville	6	546.6	37	0	0	0	3	3	3	1	0	1	0	0	0	0	1	0	0	0	0
400 W	175 S to 100 S	Local	Kaysville	3	420.6	3	0	0	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0
West Promontory	Richards St to Forbush Pl	Local	Farmington	3	363.8	3	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0
Porters Ln	600 W to I-15	Local	Centerville	4	348.4	4	0	0	0	0	4	1	0	0	1	2	0	0	0	0	0	0	0	0
Center St	200 W to Peregrine Ln	Local	Bountiful	4	228.6	4	0	0	0	0	4	0	1	0	0	2	0	0	0	1	0	0	0	0
200 W	Main St to 1050 S	Local	Bountiful	4	188.3	4	0	0	0	0	4	1	0	0	0	2	0	0	0	1	0	0	0	0
1600 S	160 E to 200 E	Local	Farmington	3	184.5	13	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0
200 E	200 N to 300 N	Local	Farmington	3	176.1	3	0	0	0	0	3	0	0	0	1	2	0	0	0	0	0	0	0	0
Legacy Crossing Blvd	Legacy Crossing to 1250 W	Local	Centerville	3	151.3	3	0	0	0	0	3	3	0	0	0	0	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)

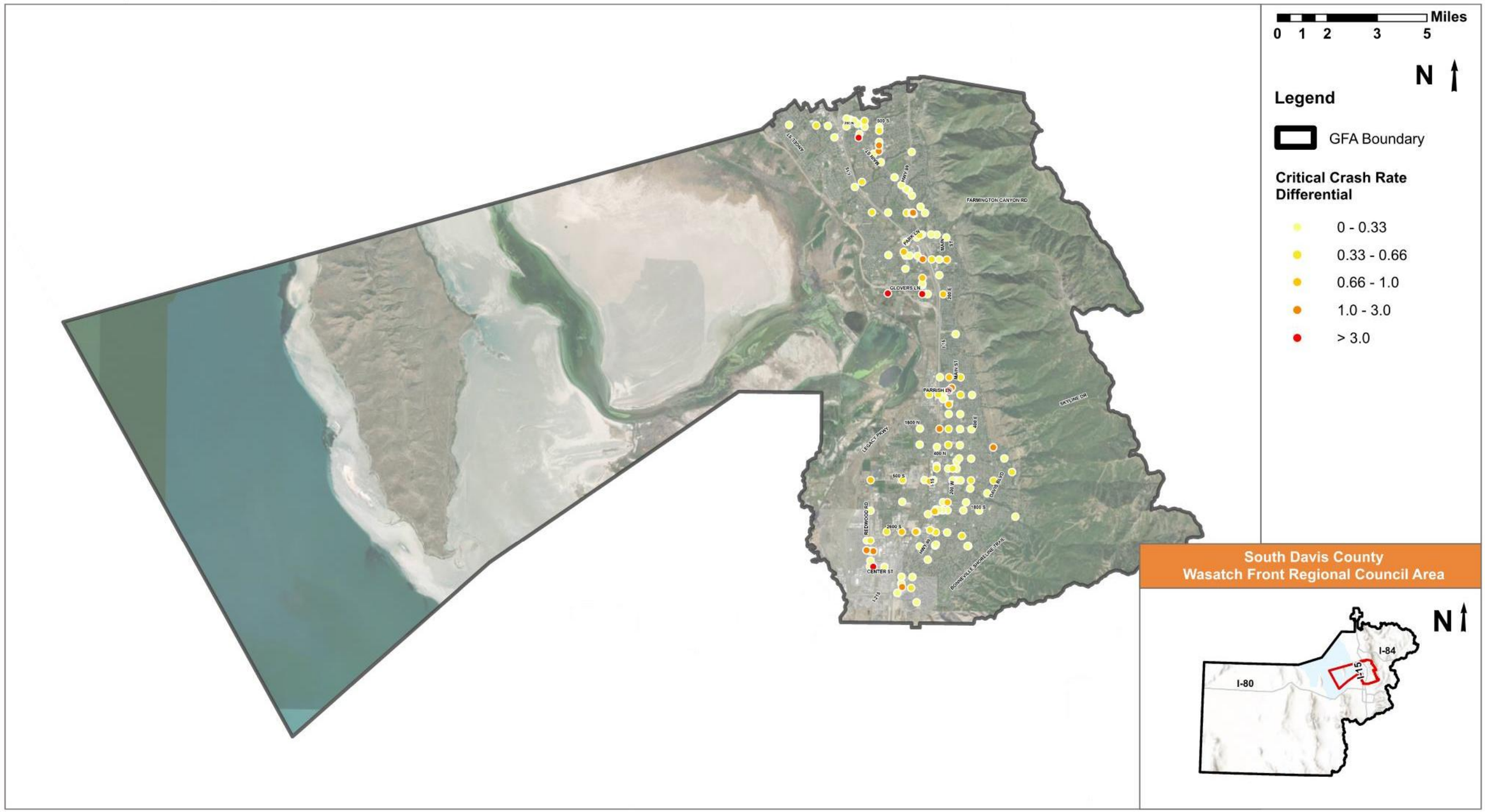


Figure 5.5 – CCR Differential – Intersections (Unsignalized)

Table 5.2 – Crash and Network Screening Analysis Results - Intersections

Intersection	City	Crashes	Local CCR Differential[1]	EPDO[2]	*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																						
Park Ln & Station Pkwy	Farmington	82	25.4	438	0	1	8	9	64	13	56	0	1	1	0	0	0	11	0	1	0	2
Mountain Rd & 400 N	Fruit Heights	45	2.5	441	0	2	6	8	29	9	30	3	1	0	0	0	0	2	0	0	0	1
400 W & Parrish Ln	Centerville	90	1.4	248	0	0	4	7	79	38	41	1	3	0	0	0	1	6	0	3	1	0
Market Place Dr & Parrish Ln	Centerville	94	1.3	462	0	0	9	17	68	44	35	6	4	0	0	0	0	3	2	0	1	1
Redwood Rd & Center St	North Salt La	66	0.4	689	0	4	6	12	44	24	30	3	4	0	0	0	0	3	2	1	1	2
500 W & 500 S	Bountiful	110	0.3	622	0	1	9	22	78	46	41	8	1	0	0	0	0	13	1	2	0	0
Redwood Rd & 2600 S	North Salt La	39	0.0	289	0	1	3	9	26	14	15	5	0	0	0	0	2	3	0	0	0	0
500 E & 1100 N	North Salt La	68	0.0	435	0	1	8	10	49	38	22	1	1	0	0	0	1	5	0	0	0	2
500 W & 400 N	Bountiful	67	-0.1	359	0	1	5	9	52	32	24	2	3	0	0	0	0	5	1	0	0	1
Hwy 89 & 2600 S	Bountiful	80	-0.2	787	0	4	9	14	53	28	36	4	4	1	0	0	1	6	0	3	0	2
Unsignalized Intersections																						
Corral Dr & Orchard Ridge Ln	Kaysville	6	55.9	141	0	1	2	0	3	3	0	0	3	0	0	0	0	0	0	1	0	0
400 W & 500 N	North Salt La	6	20.3	16	0	0	0	1	5	1	3	0	2	0	0	0	0	0	0	0	0	0
Crescent Way & West Promontory	Farmington	32	17.9	73	0	0	0	4	28	15	3	0	0	0	0	0	0	14	0	0	0	0
Cabelas Dr & Park Ln	Farmington	17	14.8	90	0	0	1	5	11	11	5	0	0	0	0	0	0	1	0	0	0	0
50 W & 100 S	Kaysville	13	12.6	55	0	0	1	2	10	4	7	0	1	0	0	0	0	1	0	0	0	0
400 W & 550 N	Centerville	3	7.8	13	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0
700 W & 200 N	North Salt La	18	6.3	81	0	0	2	2	14	15	1	0	0	0	0	0	0	1	1	0	0	0
& Glovers Ln	Farmington	11	5.1	43	0	0	1	1	9	4	4	0	0	0	0	0	1	2	0	0	0	0
1525 W & Glovers Ln		7	4.7	28	0	0	1	0	6	3	2	0	2	0	0	0	0	0	0	0	0	0
500 E & 550 S	Kaysville	3	2.7	3	0	0	0	0	3	2	0	0	0	0	0	0	0	1	0	0	0	0

2. 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 South Davis County 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** – Crash Profile Risk Assessment Results (State Routes)
- **Figure 6.2** – Crash Profile Risk Assessment Results (Federal Aid Routes)

Table 6.1 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 – Crash Profile Risk Segments (Federal Aid Routes)

Area Type	Road Segment	Extents	Risk Score
Urban	Howard Street	I-15 to Pages Lane	22.6 to 26
Urban	Angel Street	Smith Lane to Peach Blossom Drive	20.6 to 23
Urban	500 South	200 West to 1000 East	22.3
Urban	Flint Street	Old Mill Lane to 200 North	21 to 21.5
Urban	1100 North / 2600 South	Redwood Road to Orchard Drive	20.7 to 21.1
Urban	Crestwood Road	500 East to US-89	20.8
Urban	Orchard Drive	Eagle Ridge Road to 3800 South	20.8
Urban	Center Street	Legacy Parkway to Orchard Drive	20.7
Urban	200 North	Angel Street to I-15	20.7
Urban	400 East	500 South to 300 South	20.5
Rural	Orchard Drive	200 South to Center Street	22.5
Rural	Skyline Drive*	400 North to Buckland Flats Campground	20.4 to 21.9

Figure 6.1 – Crash Profile Risk Assessment Results (State Routes)

Figure 6.2 – Crash Profile 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 South Davis County 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
Skyline Drive	400 North to 600 North	X	X	X
Angel Street	Smith Lane to North GFA Extents	X	X	X
Angel Street	Western Drive to Smith Lane		X	X
200 North	Angel Street to 600 West		X	X
Flint Street	Old Mill Lane to North GFA Extents	X	X	X
Western Drive	Angel Street to Santa Anita Drive	X		
Sunset Drive	Shepard Lane to Old Mill Lane	X	X	X
Shepard Lane	Sunset Drive to US-89		X	
Burton lane	Sunset Drive to Main Street	X	X	X
Main Street	Crestwood Road to North GFA Extents	X	X	X
Mutton Hollow Road	Main Street to Stone Lane	X		X
Mutton Hollow Road	Clover Meadow Road to East GFA Extents	X	X	X
Crestwood Road	Main Street to US-89	X	X	X
Fairfield Road	200 North to North GFA Extents	X	X	X
200 North	Main Street to Country Lane	X	X	X
Center Street	300 West to 100 East	X		
100 South	100 East to 600 East	X		
600 East	100 South to 200 North	X		
50 West	Fox Pointe Drive to 100 South	X	X	
Frontage Road	Shepherd Lane to Fox Pointe Drive	X	X	X
Nicholls Road	Hollyhock Circle to Mountain Road	X	X	

Road Segment	Extents	Vehicle Risk	Pedestrian Risk	Bicycle Risk
Main Street	Shepard Lane to US-89	X	X	X
Clark Lane	1100 West to Central Avenue	X	X	X
Clark Lane	US-89 to 200 West	X	X	X
650 West	Farmington Bay Storage to Clark Lane	X	X	X
650 West	South Roadway Extents to Farmington Bay Storage		X	
Glovers Lane	Westwood Place to 200 East	X		
Frontage Road	620 South to Brookside Drive	X	X	
Frontage Road	Jim Bridger Drive to 620 South	X	X	
Frontage Road	Creek View Road to Jim Bridger Drive		X	
800 West	700 West to Creek View Road	X		
Market Place Drive	Frontage Road to 700 West	X	X	X
Frontage Road	1600 North to Market Place Drive	X	X	
Chase Lane	670 West to 400 East	X		
Porters Lane	400 West to Main Street		X	
Porters Lane	Main Street to 400 East	X		X
400 West	Jeffery Drive to 950 North	X	X	
200 West	400 South to Country Spring Drive		X	
400 East	1400 North to Chase Lane	X		X
Pages Lane	150 West to 350 East	X		
Pages Lane	1100 West to 400 West	X	X	X
1250 West	Porters Lane to 1275 North	X	X	X
600 West	Pages Lane to 2125 North	X		X
400 North	100 East to Bountiful Blvd	X	X	X
Bountiful Blvd	700 South to Skyline Drive	X	X	
Bountiful Blvd	Skyline Drive to 700 South	X		
North Canyon Road	Davis Blvd to 400 East	X	X	X
Davis Blvd	South Roadway Extents to 400 North	X		
500 South	200 West to 1000 East	X	X	X
400 East/Orchard Drive	200 West to 1400 North	X	X	X
2600 South	Main Street to Orchard Drive		X	X
1500 South	Howard Street to Orchard Drive	X	X	X
200 West	400 South to Aliwood Way		X	
500 West	450 West to Main Street	X	X	X
Main Street	500 West to 1800 South	X	X	X

Road Segment	Extents	Vehicle Risk	Pedestrian Risk	Bicycle Risk
Main Street	1800 South to 400 North		X	
Howard Street	1100 North to Pages Lane	X	X	X
Main Street	Pacific Avenue to 1100 North		X	X
1100 North	Redwood Road to 260 East		X	X
800 West	1100 North to 700 South	X	X	X
Onion Stret	500 South to 400 North		X	
Center Street	Jordan River Drive to Orchard Drive		X	

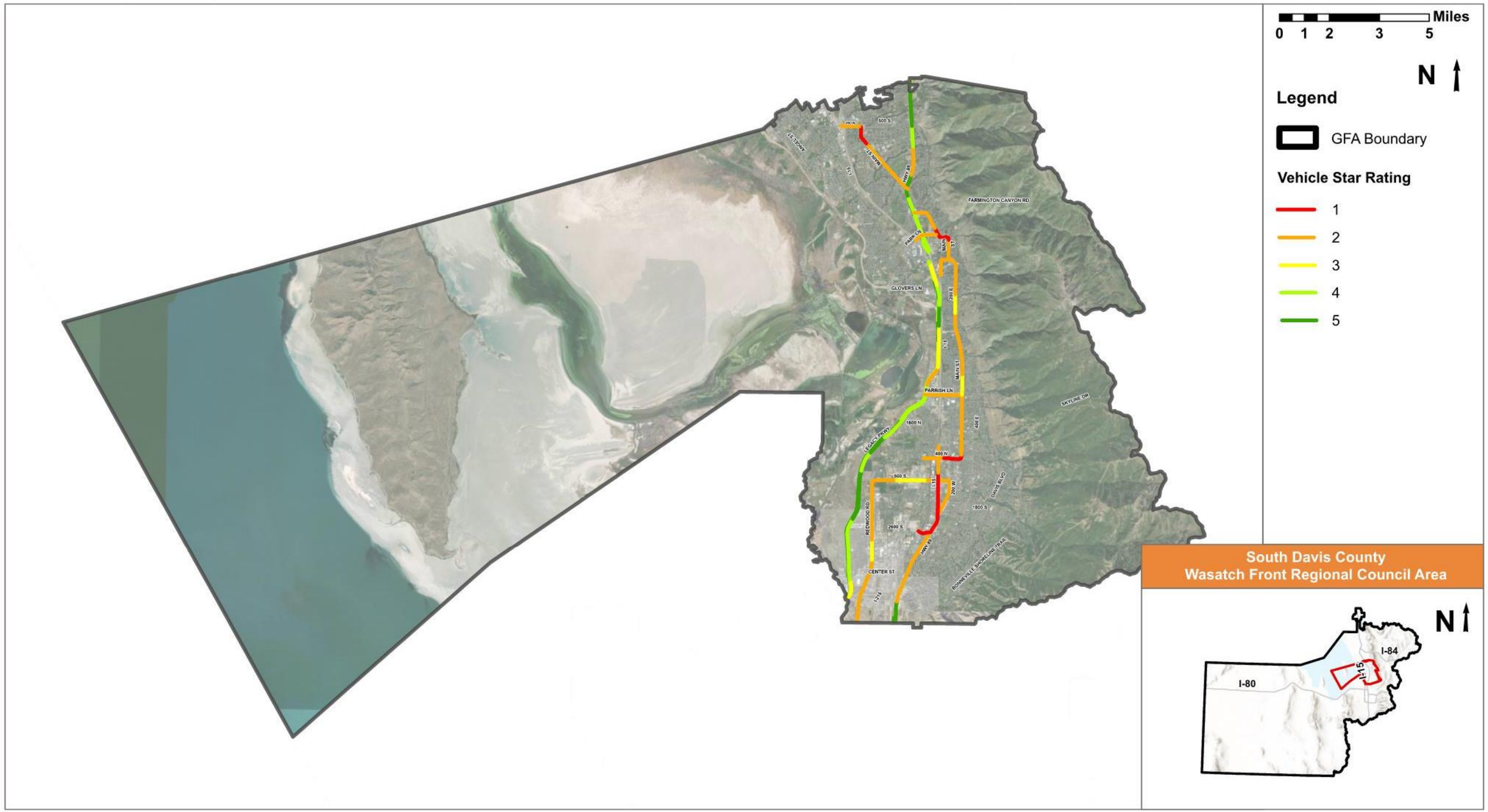


Figure 6.3 – Vehicle Star Rating (State Routes)

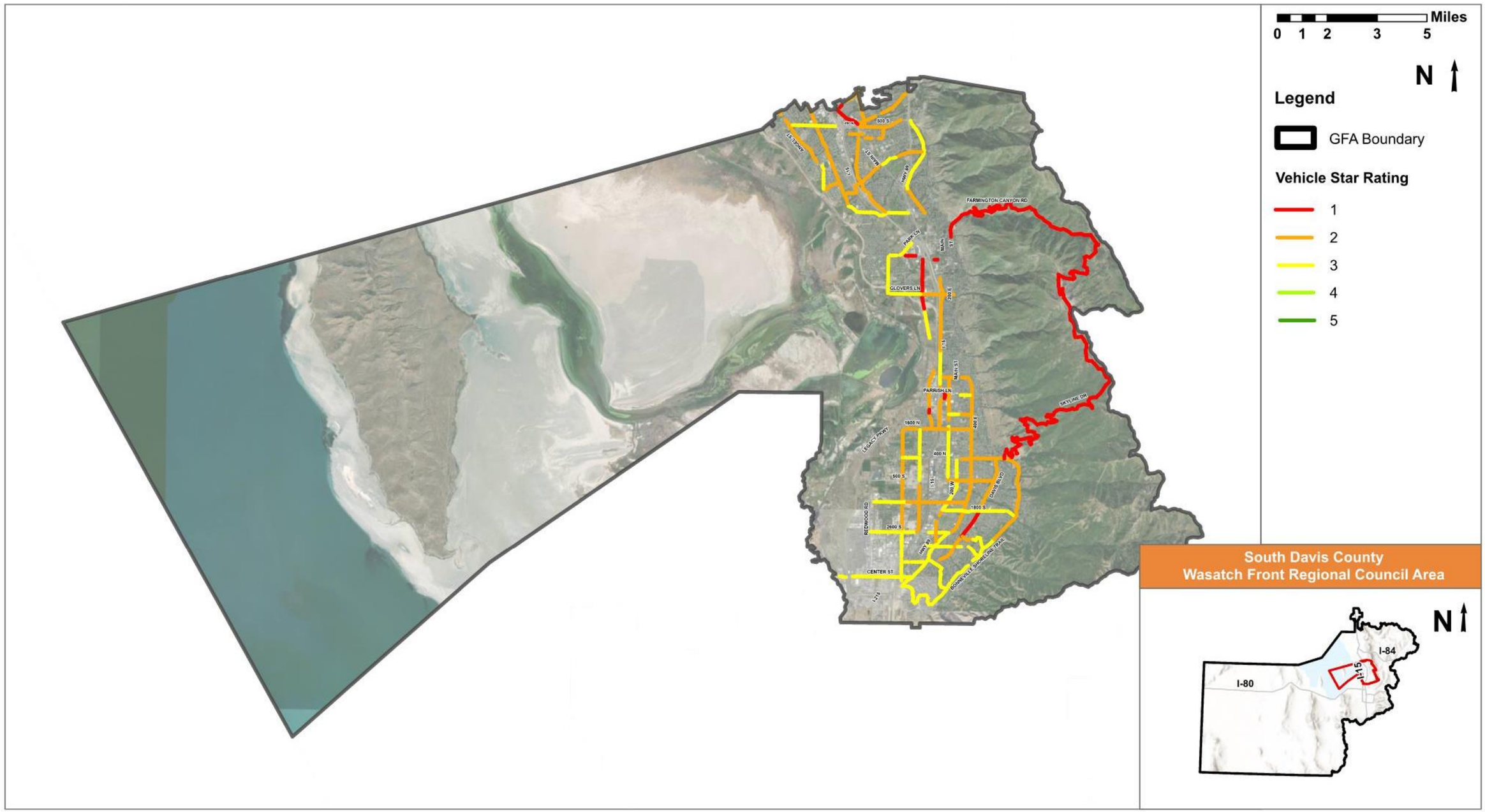


Figure 6.4 – Vehicle Star Rating (Federal Aid Routes)

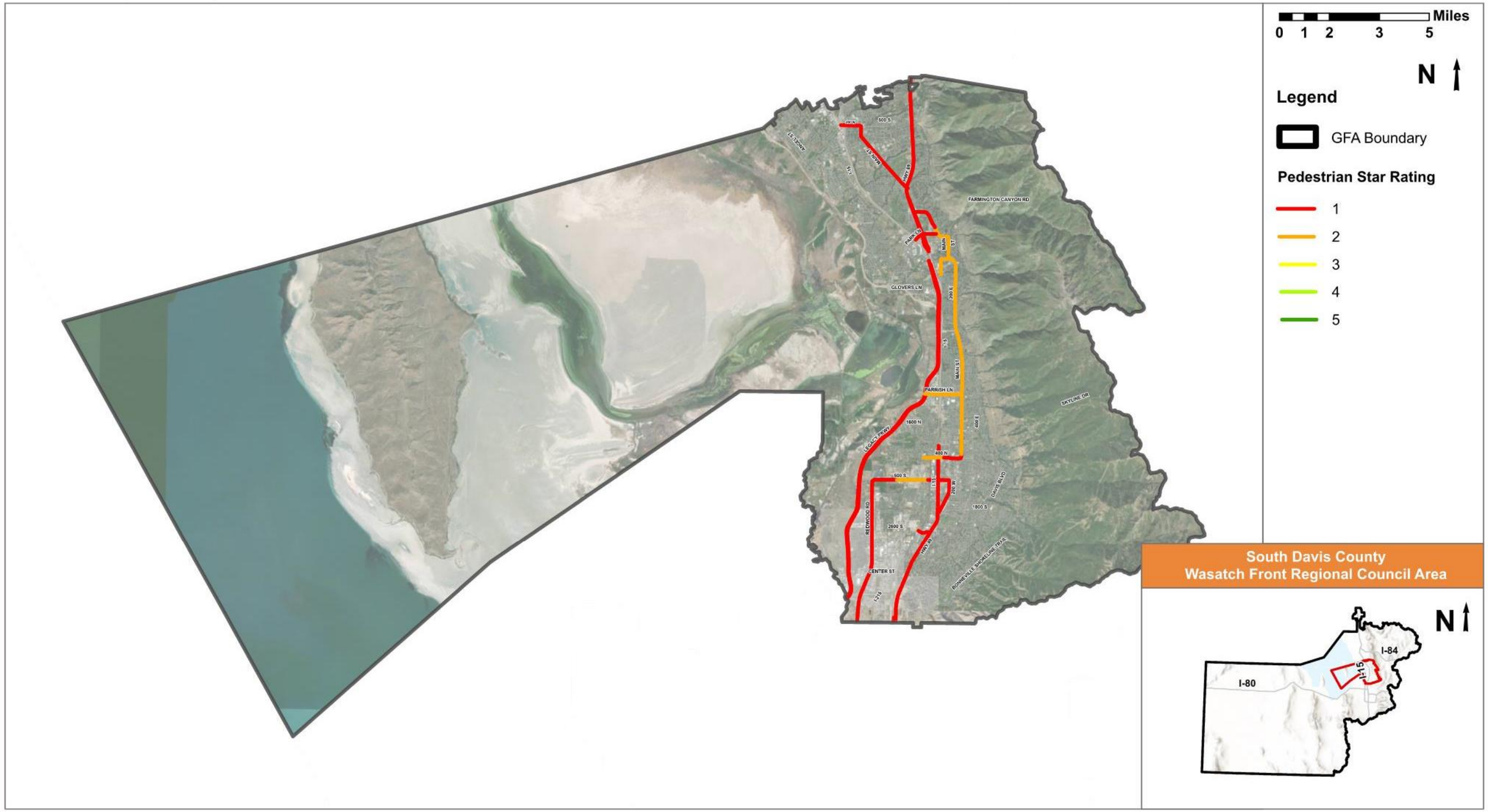


Figure 6.5 – Pedestrian Star Rating (State Routes)

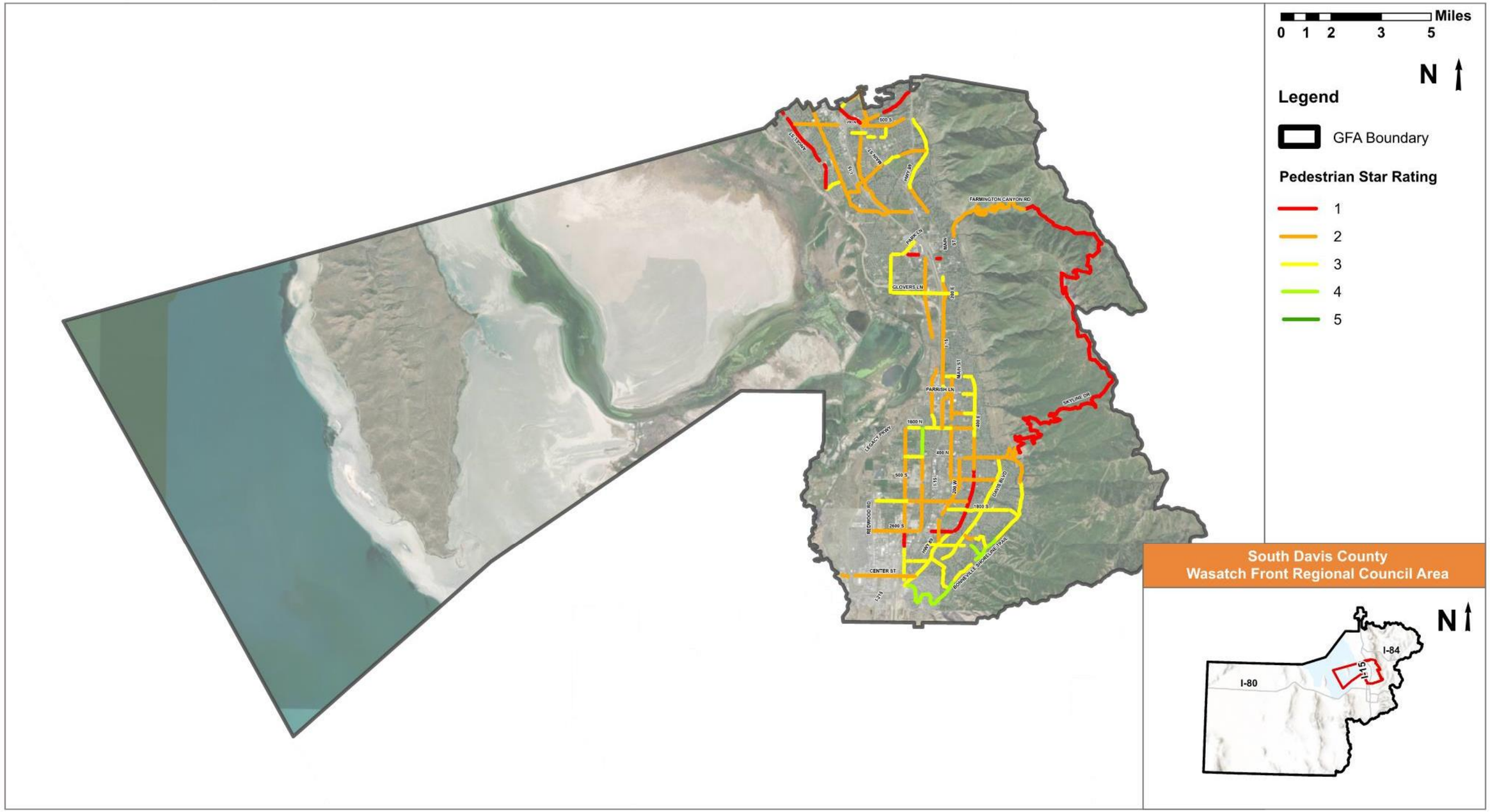


Figure 6.6 – Pedestrian Star Rating (Federal Aid Routes)

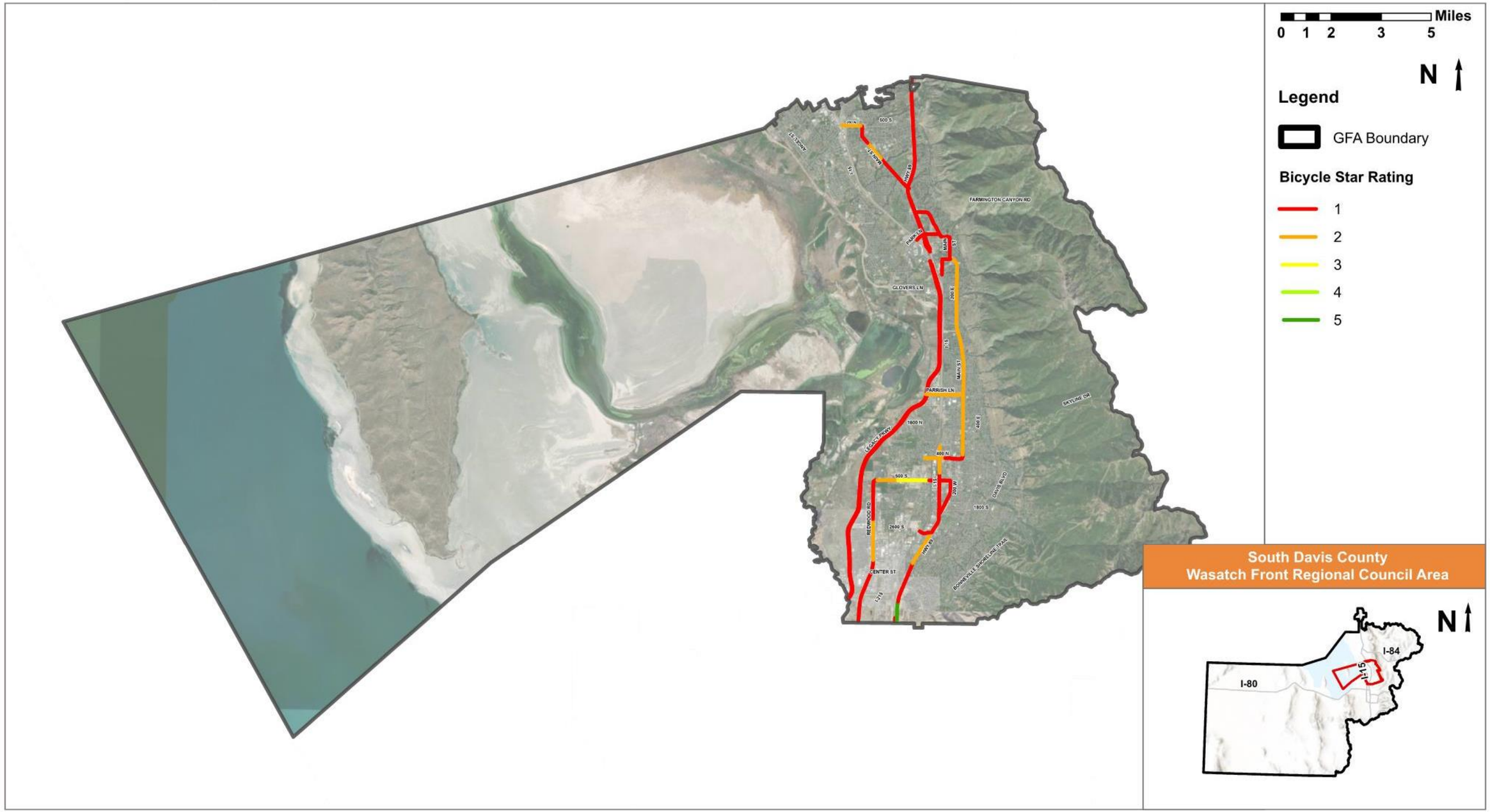


Figure 6.7 – Bicycle Star Rating (State Routes)

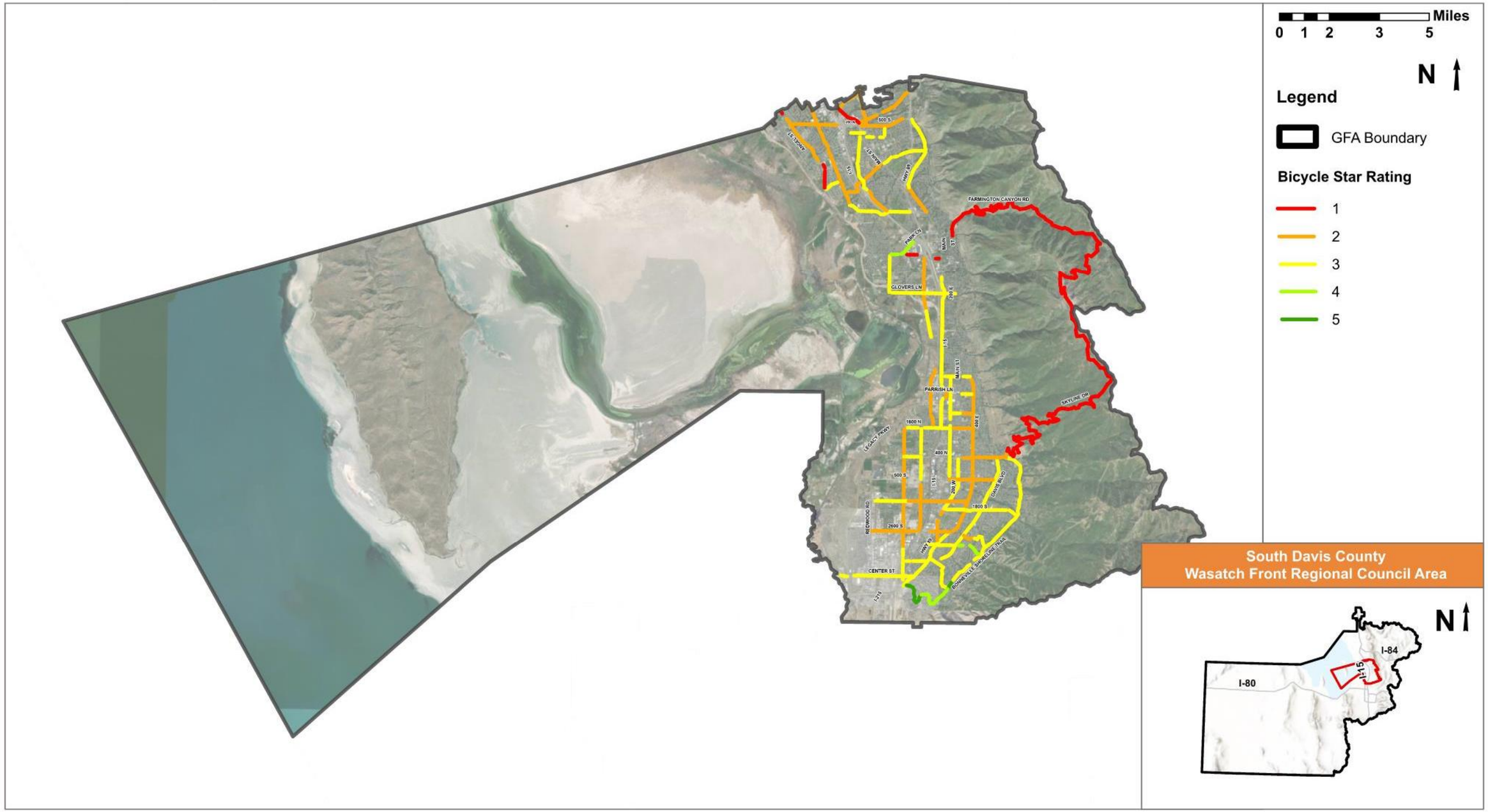


Figure 6.8 – Bicycle Star Rating (Federal Aid Routes)

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 South Davis County GFA.

Table 6.3 – Local Street High Priority Segments

Road Segment	Extents
200 West:	SR-105 – SR-106
500 West:	2200 South – 2600 South
Bountiful Main:	400 North – 1000 South
1500 South:	I-15 – Main Street
800 West/Market:	700 North – Chase Lane
1000 North:	SR-106 – 400 West
Station Parkway/Park Lane:	Intersection of the two
550 South:	200 East – 500 East
Foxboro Drive:	Center Street – 800 West
100 West:	200 South – 500 South

Figure 6.9 – Local Street Risk Assessment Results

7. Safety Analysis Summary

This section summarizes the safety analysis performed for the South Davis County 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 South Davis County GFA.

- Intersections
  - 37.7% of all fatal and serious injuries
- Roadway Departure
  - 31.1% of all fatal and serious injuries
  - 28.6% of all fatal and serious injury crashes
- Speed-Related
  - 24.9% of all fatal and serious injuries
- Teen Driver
  - 19.1% of all fatal and serious injuries
- Impaired Driving
  - 17.9% of all fatal and serious injuries
- Active Transportation
  - 12.0% of all fatal and serious injury crashes
- Left Turn at Intersection
  - 20.3% 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 South Davis County 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 – South Davis County 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
Main St	400 W to Crestwood Rd	Minor Arterial	Kaysville	4	0.5	X	X	X	X		X
Crestwood Rd	500 E to Brookshire Dr	Minor Collector	Kaysville	4	0.5	X	X	X	X		X
200 N	Mountain Vista Rd to Flint St	Minor Arterial	Kaysville	4	0.2	X	X		X	X	X
Sunset Dr	Smith Ln to Cottonwood Dr	Major Collector	Kaysville	4	0.5	X	X	X	X		X
Main St	US-89 to Foxglove Rd	Minor Arterial	Farmington	4	0.5	X	X	X		X	X
Farmington Canyon Rd	100 E to Francis Peak Rd	Local	Farmington	4	7.7	X	X	X		X	X
200 N	US-89 to Mountain Rd	Minor Arterial	Fruit Heights	4	0.1	X	X		X	X	X
650 W	State St to Glovers Ln	Minor Collector	Farmington	4	1.1	X	X	X		X	X
Market Place Dr	Parrish Ln to Centerville Market Place	Minor Collector	Centerville	4	0.1	X	X	X		X	X
Skyline Dr	Gun Range Rd to Access Road	Local	Bountiful	4	7.0	X	X	X	X		X
500 S	Main St to 750 E	Minor Arterial	Bountiful	4	0.8	X	X	X	X		X
Orchard Dr	550 S to Orchard Pl	Minor Arterial	Bountiful	4	2.5	X	X	X		X	X
1100 W	1500 S to 1100 N	Minor Collector	Woods Cross	4	1.0	X	X	X	X		X
2600 S	1250 W to 500 W	Minor Arterial	Bountiful, North Salt Lake	4	1.5	X	X		X	X	X
500 W	Main St to 2700 S	Minor Arterial	Bountiful	5	0.5	X	X	X	X	X	X

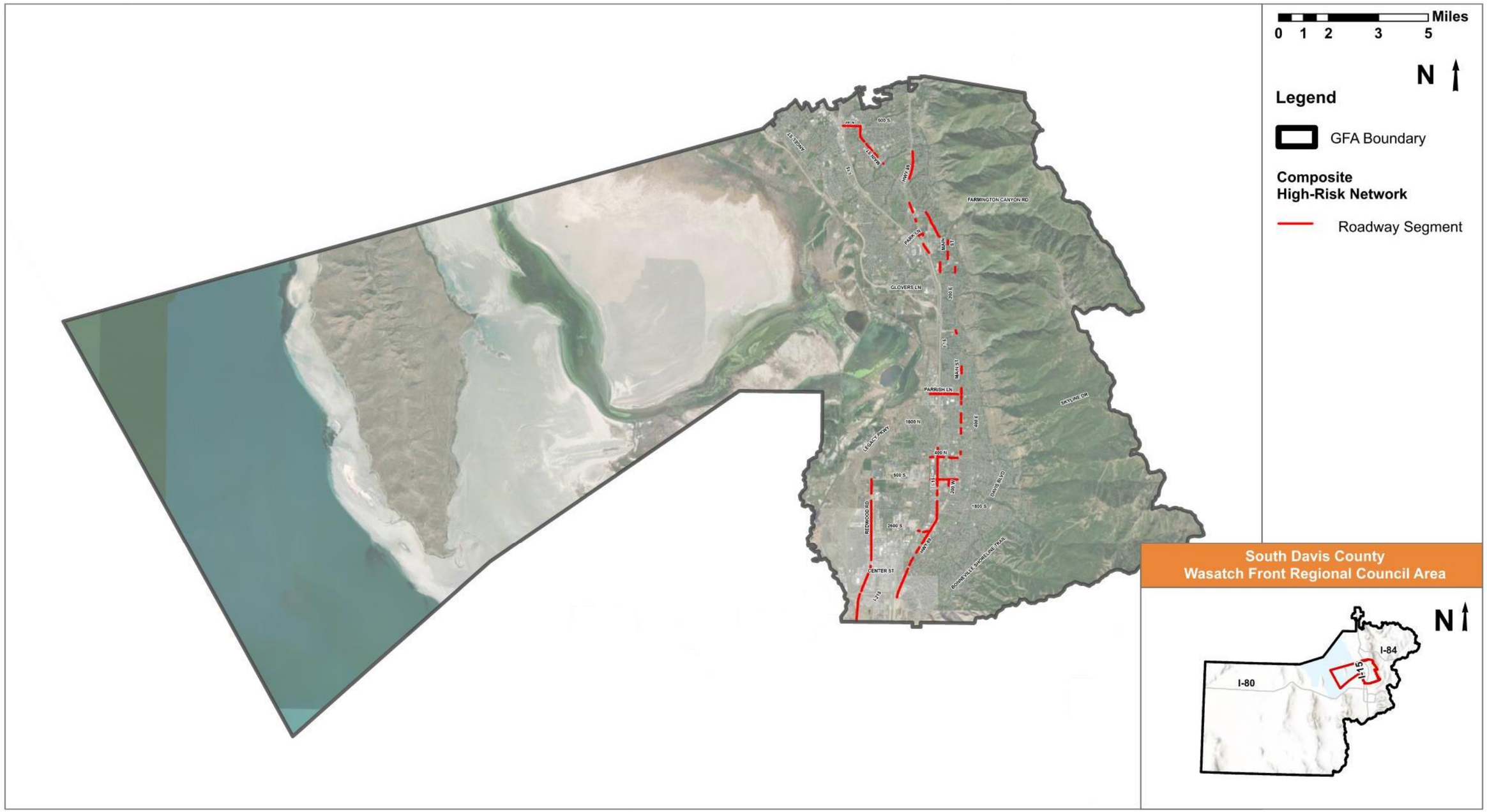


Figure 7.1 – South Davis County High-Risk Roadway Network (State Routes)

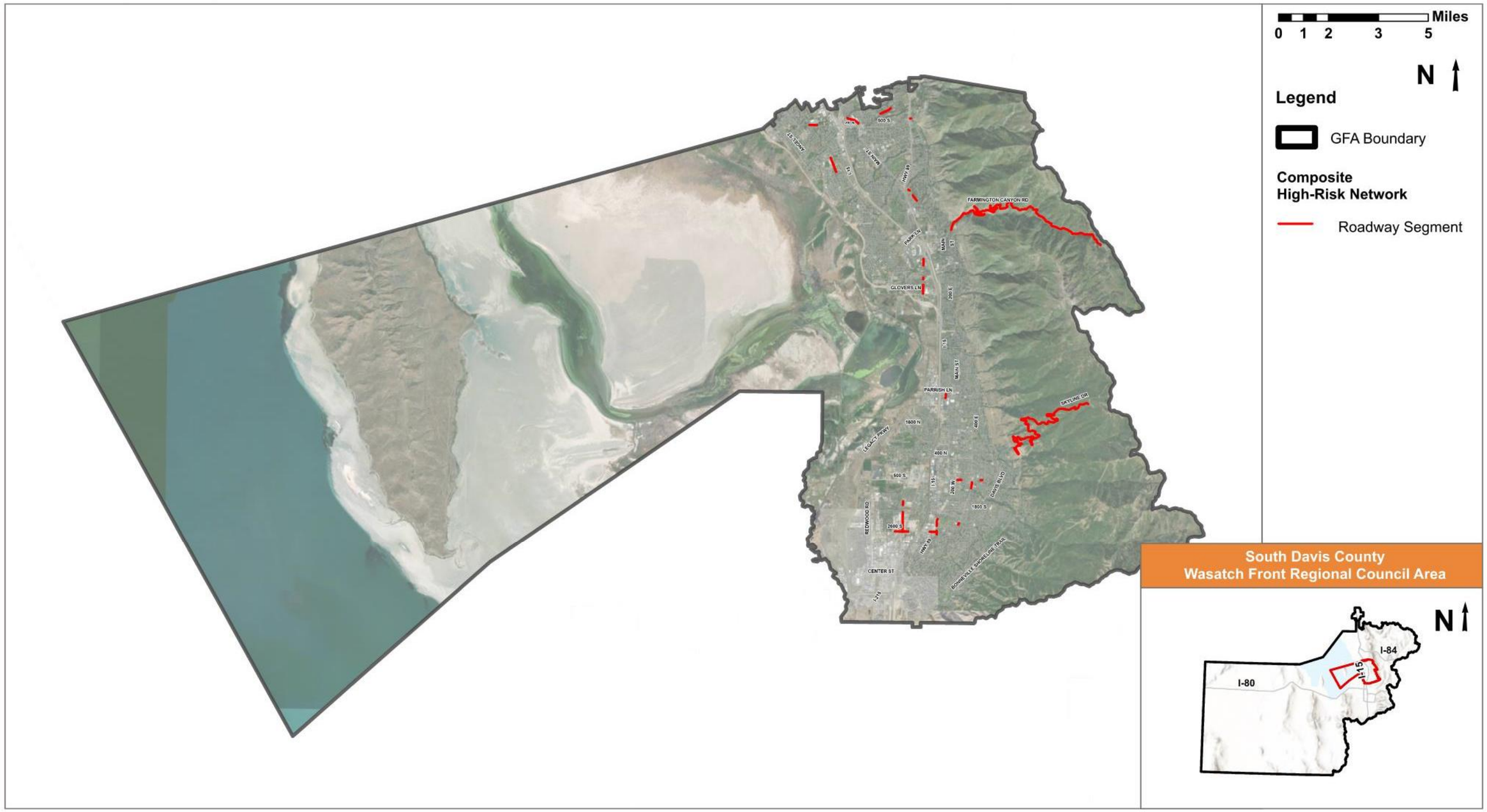


Figure 7.2 – South Davis County High-Risk Roadway Network (Federal Aid Routes)

APPENDIX

SOUTH DAVIS COUNTY CASE STUDY
PROJECT INFORMATION SHEETS

South Davis County

Project ID	Jurisdictions	Project Name
7.28.1	Bountiful	200 West from 2600 South to Lyman Lane
7.28.2	Bountiful	Main Street/400 North from Pages Lane/1600 North to 500 Wesy
7.28.3	Bountiful	500 South (SR 68) from 500 West to Orchard Drive
7.29.1	Centerville	Main Street (SR 106) from 1700 South to Pages Lane
7.30.1	Farmington	650 West from State Street to Glovers Lane
7.30.2	Farmington	Main Street (SR 106) from US 89 to 1700 South
7.30.3	Farmington	200 West/Frontage Road from State Street to Glovers Lane
7.31.1	Fruit Heights	Eastoaks Drive from Mountain Road to 1800 East
7.32.1	Kaysville	200 North from Angel Street to 600 West
7.32.2	Kaysville	Main Street (SR 273)/200 North from Burton Lane to 600 West
7.32.3	Kaysville	Main Street from 200 North to 400 West
7.33.1	North Salt Lake	US 89 from 1100 North/2600 South to Frontage Road
7.33.2	North Salt Lake	1100 North/2600 South from Redwood Road to 800 West
7.33.3	North Salt Lake	Redwood Road (SR 68) from 1100 North to I-215
7.34.1	West Bountiful	500 South (SR 68) from 1100 West to I-15
7.35.1	Woods Cross	Redwood Road from 500 South to 1100 North
7.35.2	Woods Cross	1100 West from 1500 South to 1100 North
7.35.3.1	Woods Cross, Bountiful	500 West from 500 South to Main Street

Project Information Sheet

GFA(s):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**200 West from 2600 South to Lyman Lane**	**Prepared By:**	**MA**
Jurisdiction(s):	**Bountiful**	**Checked By:**	**EMF**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

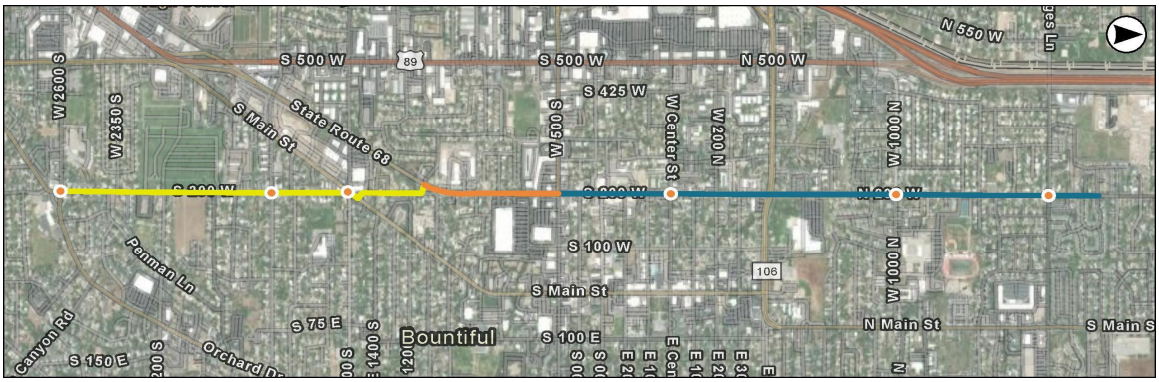
Roadway: 200 West
From: 2600 South
To: Lyman Lane
Length: 3.33 miles

Key Intersection Locations:

1600 North	1500 South
1000 North	1800 South
Center Street	2600 South

Project Location Map

Map ID: 7.28.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**3.33**
Average Daily Traffic (vehicles per day)	**9,751**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
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)	**1**
Suspected Serious Injury Crashes (A)	**3**
Suspected Minor Injury Crashes (B)	**3**
Possible Injury Crashes (C)	**12**
No Injury/PDO Crashes (O)	**47**
Total Crashes	**66**
Total EPDO Crashes	**1,420**

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
1600 North & 200 West	✓	0	0	3	6	12	21	147		✓	✓					
1000 North & 200 West	✓	0	0	2	3	17	22	96				✓				
Center Street & 200 West	✓	0	0	0	1	9	10	20			✓					
1500 South & 200 West		0	0	2	13	5	20	197								✓
1800 South & 200 West	✓	0	0	1	9	8	18	133			✓		✓			
2600 South & 200 West	✓	0	0	6	13	14	33	295			✓					

Project Description/How is safety improved?

This project includes the following segment improvements on 200 W to address an overrepresentation of rear-end, parked vehicle and sideswipe collisions: reduce speed limit from 30 mph to 25 mph; install RRFB's, bulbouts, raised crosswalks and refuge islands at existing crossings and key areas near schools; widen pavement marking lane lines and construct sections of raised medians in place of existing TWLTL. The following intersection improvements are recommended to address angle, ped/bike and sideswipe collisions: 1600 N/200 W, upgrade all doghouse signals to flashing yellow arrow and implement protected intersection improvements; 1000 N/200 W, provide left-turn lanes on the east/west approaches; Center St/200 W: upgrade all doghouse signals to flashing yellow arrow, and implement protected permitted phasing and left turn storage lanes for east/west approaches.

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


Dedicated Left and Right-Turn Lanes at Intersections


Rectangular Rapid Flashing Beacons (RRFB)


Wider Edge Lines

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Traffic Calming - Bulbouts	0.68	All Crashes	8.00	EACH	$ 36,000	$ 288,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	4.00	XING (2)	$ 15,000	$ 60,000
Install Raised Crosswalk	NA	Pedestrian	4.00	EACH	$ 71,000	$ 284,000
Traffic Calming - Wider Lane Lines	0.68	All Crashes	1.70	MILE	$ 21,000	$ 35,700
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	1.70	MILE	$ 928,000	$ 1,577,600
Install Buffered Bicycle Lane	NA	Bicycle	1.14	MILE	$ 26,000	$ 29,640
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Protected Intersection	NA	All Crashes	1.00	INT	$ 650,000	$ 650,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	6.00	INT	$ 8,000	$ 48,000
Provide Left-Turn Lanes	0.52 - 0.72	Rural	4.00	LANE	$ 300,000	$ 1,200,000
Change Permissive Left-Turn to Protected or Protected/Permissive	0.79 - 0.95	Left-Turn	2.00	INT	$ 8,000	$ 16,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 4,188,940
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 209,447
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 1,256,682
Estimated Construction Cost:		$ 5,730,069

Local Match†: **20%** **$ 1,455,600**

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 687,608
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 859,510
Estimated Project Total:		$ 7,278,000

*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: Safe Routes to School
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 INFORMATIO

This project includes the following segment improvements along 200 W to address an overrepresentation of fatal/serious injury collisions, rear-end collisions, parked vehicle collisions and sideswipes, largely focused on encouraging slower speeds along the corridor:
-Reduce speed limit from 30 mph to 25 mph between 1000 N and 500 S
-Install RRFB's, bulbouts, raised crosswalks and refuge islands at currently existing crossings, in addition to key crossing areas near the elementary and high schools.
-Implement wider lane lines and install raised medians in place of the existing two-way left-turn lanes to encourage slower speeds.

The following intersection improvements are also recommended to address an overrepresentation of angle, ped/bike and sideswipe collisions:
-1600 N/200 W: Upgrade all doghouse left-turn signals to flashing yellow arrow signals, and implement protected intersection improvements at this intersection.
-1000 N/200 W: Provide left-turn lanes on the east and west approaches to the intersection to separate left-turn movements on these approaches.
-Center St/200 W: Upgrade all doghouse left-turn signals to flashing yellow arrow signals, an implement protected permitted phasing for the east/west approaches to the intersection, including providing left turn storage lanes.

Project Information Sheet

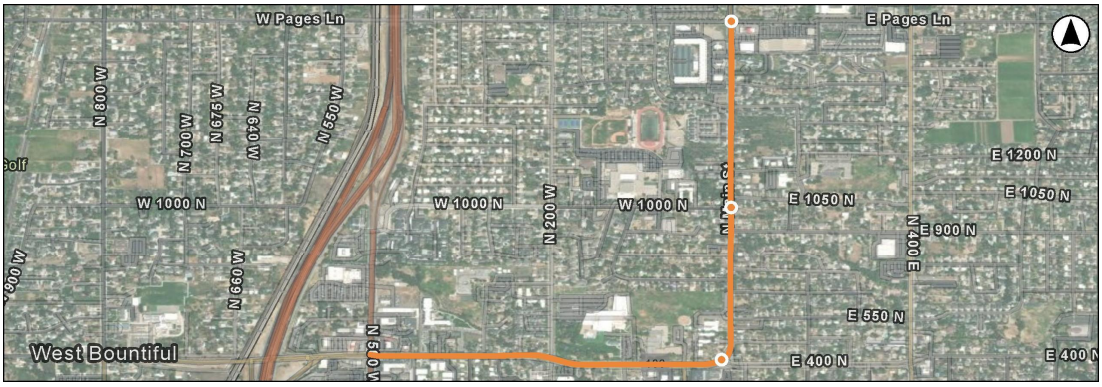
GFA(s):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Main Street/400 North from Pages Lane/1600 North to 500 West**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Bountiful**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	Main Street/400 North	**Key Intersection Locations:**	
From:	Pages Lane/1600 North	400 North	
To:	500 West	1000 North	
Length:	1.57 miles	Pages Lane	

Project Location Map

Map ID: 7.28.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.57**
Average Daily Traffic (vehicles per day)	**16,149**
Functional Classification	**Minor Arterial**
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)	**0**
Suspected Minor Injury Crashes (B)	**4**
Possible Injury Crashes (C)	**9**
No Injury/PDO Crashes (O)	**42**
Total Crashes	**55**
Total EPDO Crashes	**233**

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
400 North & Main Street	✓	0	0	2	18	15	35	264			✓					
1000 North & Main Street	✓	0	0	1	6	3	10	93				✓				✓
Pages Lane & Main Street	✓	0	0	4	8	8	20	188			✓		✓			

Project Description/How is safety improved?

This project includes access management, crosswalk upgrades, traffic calming, bicycle lane, and traffic signal upgrades. Medians are proposed on 400 North to mitigate angled/left-turn crashes. Full access should be limited to signalized intersections with all other location considered for right-in/right-out or 3/4 access. Main Street improvements include lane narrowing, buffered bicycle lane, and driver speed feedback signs. Crosswalks at 1000 N. and 650 N. should be upgraded to high-visibility crossings with RRFBs at 650 N. High-visibility crosswalk pavement markings should be considered at Main St. and 200 W. Signal upgrades to flashing yellow arrow (FYA) signal heads are recommended at Pages Ln. and 200 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


Rectangular Rapid Flashing Beacons (RRFB)


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	0.55	MILE	$ 928,000	$ 510,400
Traffic Calming - Lane Narrowing	0.68	All Crashes	0.83	MILE	$ 39,000	$ 32,370
Install Buffered Bicycle Lane	NA	Bicycle	0.83	MILE	$ 26,000	$ 21,580
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	2.00	INT	$ 8,000	$ 16,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	2.00	XING	$ 37,000	$ 74,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	1.00	XING (2)	$ 15,000	$ 15,000
Install High Visibiity Crosswalk Markings			4.00			$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 709,350
*Mobilization: (% +/-)**	*10%*	$ 70,940
Traffic Control: (% +/-)	*5%*	$ 35,468
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 212,805
Estimated Construction Cost:		$ 1,028,563

Local Match†: **20%** **$ 261,400**

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 123,428
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 154,284
Estimated Project Total:		$ 1,307,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**500 South (SR 68) from 500 West to Orchard Drive**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Bountiful**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

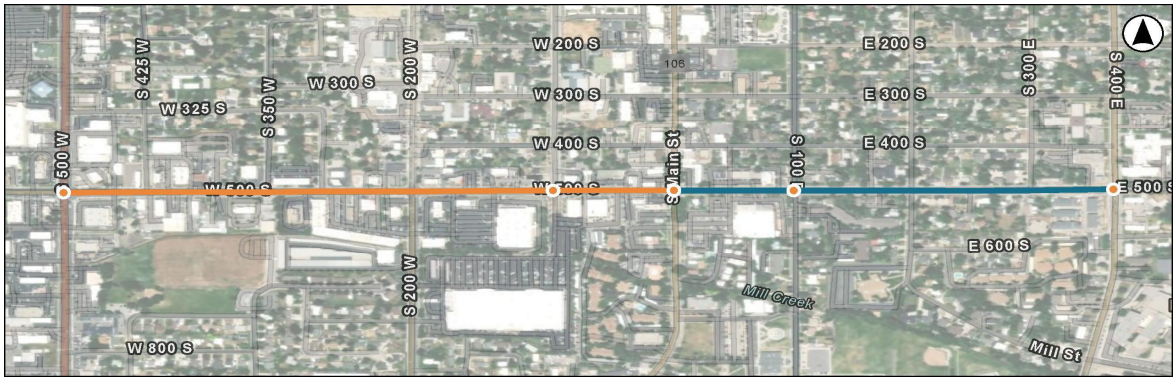
Location Description

Roadway: 500 South (SR 68)
From: 500 West
To: Orchard Drive
Length: 1.04 miles

Key Intersection Locations:
500 West 100 East
100 West Orchard Drive
Main Street

Project Location Map

Map ID: 7.28.3



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.04**
Average Daily Traffic (vehicles per day)	**23,095**
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)	**0**
Suspected Serious Injury Crashes (A)	**0**
Suspected Minor Injury Crashes (B)	**4**
Possible Injury Crashes (C)	**13**
No Injury/PDO Crashes (O)	**47**
Total Crashes	**64**
Total EPDO Crashes	**284**

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
500 West & 500 South	✓	0	1	22	78	46	147	1,516					✓			✓
100 West & 500 South	✓	0	1	7	23	22	53	533			✓					
Main Street & 500 South	✓	0	1	4	17	14	36	390	✓		✓		✓			
100 East & 500 South	✓	0	0	1	11	10	22	157		✓	✓					
Orchard Drive & 500 South	✓	0	1	12	21	21	55	621			✓					

Project Description/How is safety improved?

This project is intended to reduce the number of angled and left turning crashes along the corridor by restricting and eliminating locations at which vehicles can make a left turn from business access and minor streets. This is accomplished throught median installation and reduced left-turn conflict intersection control types. 3/4 access intersection may be considered at unsignalized intersections (425 West, 350 West, 285 West, 100 East, 200 East, & 300 East). Systemic intersection improvements include replacing existing "doghouse" signal heads with Flashing Yellow Arrow (FYA) signal heads (Orchard Dr., Main St., & 100 West) and upgrading existing crosswalks to high-visibility crosswalks (100 East & 200 East)

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


Crosswalk Visibility Enhancements

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	1.04	MILE	$ 928,000	$ 965,120
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

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 Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	3.00	XING	$ 37,000	$ 111,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,100,120
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 55,006
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 330,036
Estimated Construction Cost:		$ 1,560,162

Local Match†: 20% $ 396,400

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 187,219
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 234,024
Estimated Project Total:		$ 1,982,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Main Street (SR 106) from 1700 South to Pages Lane**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Centerville**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium, Low**		

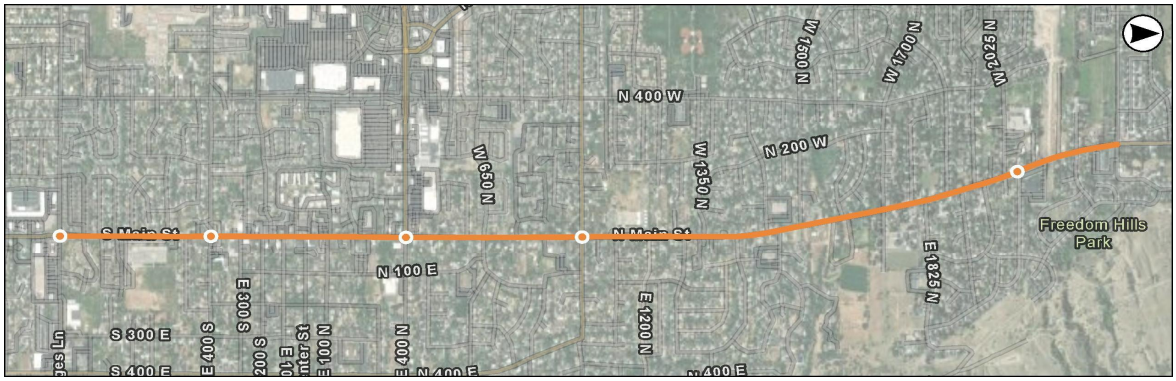
Location Description

Roadway: Main Street (SR 106)
From: 1700 South
To: Pages Lane
Length: 3.17 miles

Key Intersection Locations:
Porter Lane
2050 North
Pages Lane
Parrish Lane
Chase Lane

Project Location Map

Map ID: 7.29.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**3.17**
Average Daily Traffic (vehicles per day)	**12,382**
Functional Classification	**Minor 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)	**0**
Suspected Serious Injury Crashes (A)	**0**
Suspected Minor Injury Crashes (B)	**2**
Possible Injury Crashes (C)	**12**
No Injury/PDO Crashes (O)	**58**
Total Crashes	**72**
Total EPDO Crashes	**239**

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
Porter Lane & Main Street		0	1	1	8	7	17	214	✓	✓	✓					
2050 North & Main Street		1	0	1	5	2	9	969	✓	✓		✓				
Pages Lane & Main Street	✓	0	0	4	8	8	20	188			✓		✓			
Parrish Lane & Main Street	✓	0	0	7	25	11	43	451				✓			✓	
Chase Lane & Main Street	✓	0	0	3	15	4	22	241		✓		✓				

Project Description/How is safety improved?

Multiple destinations (schools/churches/parks) along this corridor generate active transportation road users. Systemic countermeasures are focused on reducing vehicle speeds and improving active transportation users safety. These countermeasures include lane narrowing, bicycle lanes, and driver feedback speed limit signs nearschools, chruches, and parks. Otherimprovements include upgrading existing crossings to high visibility crosswalks (2025 N. & Cenerville JHS), with bulbout (2025 N., Stewart Elementary, 1100 N., Chase Ln., Centerville JHS), pedestrian refuge islands (Stewart Elementry, Centerville JHS), and RRFB installation at Centerville JHS.

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


Crosswalk Visibility Enhancements


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


Rectangular Rapid Flashing Beacons (RRFB)

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	3.17	MILE	$ 39,000	$ 123,630
Install Bicycle Lane	0.51 - 0.694	Bicycle	3.17	MILE	$ 21,000	$ 66,570
Install Driver Feedback Speed Limit Signs	NA	All Crashes	16.00	EACH	$ 10,000	$ 160,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Intersection Lighting	0.62 - 0.67	Nighttime	1.00	INT	$ 31,000	$ 31,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	2.00	XING	$ 37,000	$ 74,000
Traffic Calming - Bulbouts	0.68	All Crashes	12.00	EACH	$ 36,000	$ 432,000
Install Pedestrian Refuge Island	0.54	Pedestrian	2.00	EACH	$ 30,000	$ 60,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	1.00	XING (2)	$ 15,000	$ 15,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 962,200
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 48,110
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 288,660
Estimated Construction Cost:		$ 1,373,970

Local Match†: 20% $ 349,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 164,876
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 206,096
Estimated Project Total:		$ 1,745,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**650 West from State Street to Glovers Lane**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Farmington**	**Checked By:**	
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Low**		

Location Description

Roadway: 650 West
From: State Street
To: Glovers Lane
Length: 1.06 miles

Key Intersection Locations:
Miller Way — Glovers Lane
Rigby Road — State Street
500 South

Project Location Map

Map ID: 7.30.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.06**
Average Daily Traffic (vehicles per day)	**509**
Functional Classification	**Minor 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)	**0**
Suspected Minor Injury Crashes (B)	**5**
Possible Injury Crashes (C)	**4**
No Injury/PDO Crashes (O)	**13**
Total Crashes	**22**
Total EPDO Crashes	**170**

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
Miller Way & 650 West		0	0	0	4	1	5	46				✓	✓			
Rigby Road & 650 West		0	0	2	1	0	3	56				✓				
500 South & 650 West		0	0	0	7	0	7	80				✓				
Glovers Lane & 650 West	✓	0	0	1	9	4	14	129				✓				✓
State Street & 650 West	✓	0	1	9	18	7	35	506				✓				

Project Description/How is safety improved?

This project implements speed management to reduce the higher than anticipated number of rear-end collisions, and considering the community-focused land uses (residential, high school, athletic fields). These countermeasures include lane narrowing, wider lane pavement marking lines, driver feedback signs, and mini roundabout installation (250 South, 500 South, and Miller Way). Itersection improvements include upgraded signal heads to flashing yellow arrow (FYA) signal heads (State Street & Glover Lane). Sidewalk infill is also included in the project.

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

Roundabouts

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Sidewalk or Walkways	NA	Pedestrian	0.31	MILE	$ 634,000	$ 196,540
Install Driver Feedback Speed Limit Signs	NA	All Crashes	4.00	EACH	$ 10,000	$ 40,000
Traffic Calming - Wider Lane Lines	0.68	All Crashes	1.06	MILE	$ 21,000	$ 22,260
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.06	MILE	$ 39,000	$ 41,340
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Convert Existing Intersection to Modern Roundabout	0.18 - 0.59	All Crashes	1.00	INT	$ 2,500,000	$ 2,500,000
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	1.00	INT	$ 8,000	$ 8,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,816,140
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 140,807
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 844,842
Estimated Construction Cost:		$ 3,876,789

Local Match†: 20% $ 984,800

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 465,215
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 581,518
Estimated Project Total:		$ 4,924,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Main Street (SR 106) from US 89 to 1700 South**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Farmington**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Low**		

Location Description

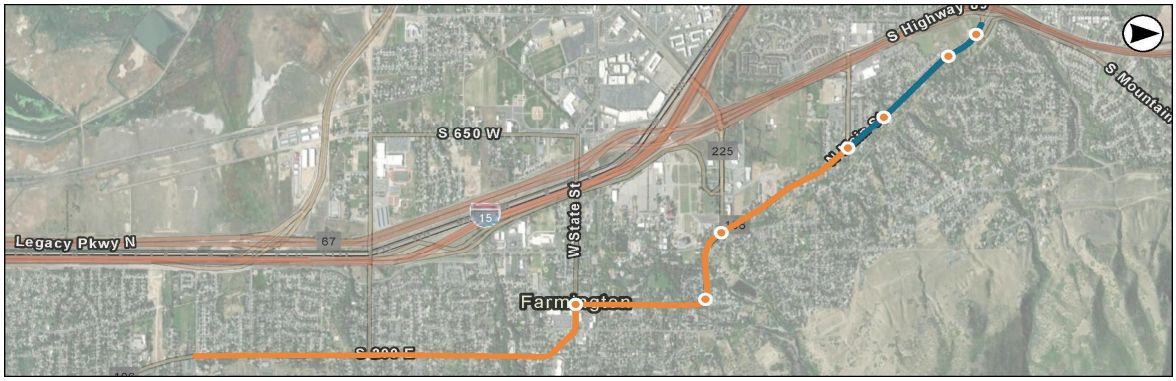
Roadway:	Main Street (SR 106)		
From:	US 89		
To:	1700 South		
Length:	4.73	miles	

Key Intersection Locations:

600 North	Park Lane	Mountain Road
1400 North	Shepard Lane	
State Street	Somerset Street	

Project Location Map

Map ID: 7.30.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**4.73**
Average Daily Traffic (vehicles per day)	**9,271**
Functional Classification	**Minor Arterial**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**7**

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)	**0**
Suspected Minor Injury Crashes (B)	**8**
Possible Injury Crashes (C)	**12**
No Injury/PDO Crashes (O)	**78**
Total Crashes	**99**
Total EPDO Crashes	**1,281**

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
600 North & Main Street		0	0	0	6	0	6	68						✓		
1400 North & Main Street		0	0	3	3	3	9	104						✓		
State Street & Main Street	✓	0	0	7	17	11	35	360				✓	✓			
Park Lane & Main Street	✓	0	0	1	12	7	20	166				✓	✓			
Shepard Lane & Main Street	✓	0	0	3	9	7	19	176		✓			✓			
Somerset Street & Main Street	✓	0	0	0	12	2	14	138						✓		
Mountain Road & Main Street		0	0	2	4	4	10	94					✓			✓

Project Description/How is safety improved?

This project will reduce lane wideth to encourage slower vehicle speeds, to address over representatation of front to rear crashes and sideswipe crashes. This also enables bicycle lanes to be installed along the entire length of the corridor. Driver feedback speed limit signs (State St. - 500 North) also encourage slower speeds. Sidewalk infill and shoulder widening are identified at locations that they currently do not exist. Signal upgrades include upgrading to flashing yellow arrow (FYA) signal heads (State Street, Park Lane, Somerset Street).

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


Walkways

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Sidewalk or Walkways	NA	Pedestrian	0.76	MILE	$ 634,000	$ 481,840
Traffic Calming - Lane Narrowing	0.68	All Crashes	4.67	MILE	$ 39,000	$ 182,130
Install Bicycle Lane	0.51 - 0.694	Bicycle	4.67	MILE	$ 21,000	$ 98,070
Provide 2-Ft Paved Shoulder on Rural 2-Lane Roadways	0.66 - 0.89	All Crashes	0.64	MILE	$ 298,000	$ 190,720
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	1.00	INT	$ 8,000	$ 8,000
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	1.00	INT	$ 8,000	$ 8,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,008,760
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 50,438
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 302,628
Estimated Construction Cost:		$ 1,436,826

Local Match†: 20% $ 365,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 172,419
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 215,524
Estimated Project Total:		$ 1,825,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**200 West/Frontage Road from State Street to Glovers Lane**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Farmington**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Low**		

Location Description

Roadway:	200 West/Frontage Road	**Key Intersection Locations:**	
From:	State Street	Frontage Road & 200 West	
To:	Glovers Lane	Glovers Lane & Frontage Road	
Length:	1.10 miles	State Street & 200 West	

Project Location Map

Map ID: 7.30.3

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.10**
Average Daily Traffic (vehicles per day)	**5,301**
Functional Classification	**Minor Collector**
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)	**0**
Suspected Minor Injury Crashes (B)	**4**
Possible Injury Crashes (C)	**1**
No Injury/PDO Crashes (O)	**11**
Total Crashes	**16**
Total EPDO Crashes	**111**

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
Frontage Road & 200 West		0	1	3	5	6	15	223	✓		✓					
Glovers Lane & Frontage Road		0	0	2	4	3	9	93		✓				✓		
State Street & 200 West	✓	0	0	1	7	1	9	103				✓				✓

Project Description/How is safety improved?

This project will implement bicycle and pedestrian improvements along the corridor, as it was identified as a high-risk bicycle segment. The improvements include upgrading the existing midblock crossing at the Jr. High School to have bulbouts, pedestrian refuge island, and high visibility crosswalk markings. Upgrading existing crosswalks to high-visibility crosswalk (Glovers Lane, Frontage Road/200 West). Installing a bicycle lane on the east side of Frontage Road along with shoulder widening is proposed. Other intersection improvements include flashing yellow arrow (FYA) signal heads at State Street.

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


Crosswalk Visibility Enhancements


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 - Bulbouts	0.68	All Crashes	2.00	EACH	$ 36,000	$ 72,000
Install Bicycle Lane	0.51 - 0.694	Bicycle	0.30	MILE	$ 21,000	$ 6,300
Provide 2-Ft Paved Shoulder on Rural 2-Lane Roadways	0.66 - 0.89	All Crashes	0.08	MILE	$ 298,000	$ 23,840
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Install High Visibiity Crosswalk Markings			1.00			$ -
Install Pedestrian Refuge Island	0.54	Pedestrian	1.00	EACH	$ 30,000	$ 30,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	3.00	XING	$ 37,000	$ 111,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 251,140
*Mobilization: (% +/-)**	*10%*	$ 25,120
Traffic Control: (% +/-)	*5%*	$ 12,557
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 75,342
Estimated Construction Cost:		$ 364,159

Local Match†: 20% $ 92,600

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 43,699
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 54,624
Estimated Project Total:		$ 463,000

*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): South Davis County
Project Name: Eastoaks Drive from Mountain Road to 1800 East
Jurisdiction(s): Fruit Heights
Emphasis Areas: Roadway Departures, Intersections, Impaired Driving
Equity Priority: Low

Date Prepared: 3/14/2024
Prepared By: MA
Checked By: EMF

Location Description

Roadway: Eastoaks Drive
From: Mountain Road
To: 1800 East
Length: 0.33 miles

Key Intersection Locations:

Project Location Map

Map ID: 7.31.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	0.33
Average Daily Traffic (vehicles per day)	732
Functional Classification	Local Street
Roadway Ownership	Local
Urban/Rural Designation	Urban
Number of Key Intersections	0

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)	0
Possible Injury Crashes (C)	1
No Injury/PDO Crashes (O)	3
Total Crashes	**4**
Total EPDO Crashes	**14**

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

Project Description/How is safety improved?

This project includes the following segment improvements along Eastoaks Drive to encourage slower speeds and improve the visibility of parked vehicles along this corridor: provide street-level lighting between 1800 E and Mountain Rd; Install driver feedback speed limit signs and widen lane lines along this segment; install high friction surfacing on curves along segment.

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


Lighting


Roadside Design Improvements at Curves


Wider Edge Lines

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Provide Highway Lighting	0.72	Nighttime	0.33	MILE	$ 300,000	$ 98,031
Install Driver Feedback Speed Limit Signs	NA	All Crashes	2.00	EACH	$ 10,000	$ 20,000
Traffic Calming - Wider Lane Lines	0.68	All Crashes	0.33	MILE	$ 21,000	$ 6,862
Install High Friction Surface Treatment (HFST) on Curve	0.515	Fatal & Injury	2.00	CURVE	$ 53,000	$ 106,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

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

Improvements Subtotal:		$ 230,893
*Mobilization: (% +/-)**	*10%*	$ 23,090
Traffic Control: (% +/-)	*5%*	$ 11,545
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 69,268
Estimated Construction Cost:		$ 334,795

Local Match†: 20% $ 85,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 40,175
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 50,219
Estimated Project Total:		$ 426,000

*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: Neighborhood Slow Zones
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 includes the following segment improvements along Eastoaks Drive to encourage slower speeds and improve the visibility of parked vehicles along this corridor: Provide street-level lighting between 1800 E and Mountain Rd; Install driver feedback speed limit signs and widen lane lines along this segment; Install high friction surfacing on curves along segment.

Project Information Sheet

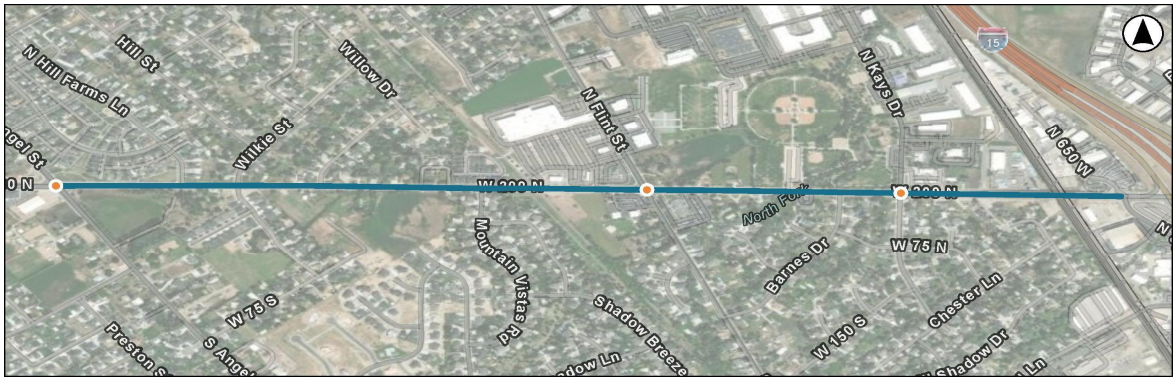
GFA(s):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**200 North from Angel Street to 600 West**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Kaysville**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Low**		

Location Description

Roadway:	200 North	**Key Intersection Locations:**	
From:	Angel Street	Flint Street	
To:	600 West	Angel Street	
Length:	1.48 miles	Kays Drive	

Project Location Map

Map ID: 7.32.1



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.48**
Average Daily Traffic (vehicles per day)	**9,010**
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)	**1**
Suspected Minor Injury Crashes (B)	**1**
Possible Injury Crashes (C)	**4**
No Injury/PDO Crashes (O)	**29**
Total Crashes	**35**
Total EPDO Crashes	**190**

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
Flint Street & 200 North	✓	0	0	3	11	8	22	200		✓			✓			
Angel Street & 200 North	✓	0	0	4	4	4	12	139		✓			✓			
Kays Drive & 200 North	✓	0	0	5	12	15	32	263			✓					

Project Description/How is safety improved?

This project includes installation a medians along the entire length of the corridor to address over-represenation of head on collisions, and raised median improvements to address high-risk bicycle and pedestrian rating. Full access should be limited to signalized intersections: Wilkie Street, and Barnes Park. All other access drives or roadways should be right-in/right-out or 3/4 access. Include a pedestrian refuge island at the Rio Grand Rail Trail crossing and recofigure the access drive to the east is a right-in/right-out access. Also include is sidewalk infill at location where no sidewalk is present.

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


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	1.48	MILE	$ 958,000	$ 1,417,840
Install Sidewalk or Walkways	NA	Pedestrian	0.30	MILE	$ 634,000	$ 190,200
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	1.00	XING	$ 36,000	$ 36,000
			1.00			$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,644,040
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 82,202
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 493,212
Estimated Construction Cost:		$ 2,294,454

Local Match†: 20% $ 582,800

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 275,334
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 344,168
Estimated Project Total:		$ 2,914,000

*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: Shared use path along the entire corridor
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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Main Street (SR 273)/200 North from Burton Lane to 600 West**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Kaysville**	**Checked By:**	
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway: Main Street (SR 273)/200 North
From: Burton Lane
To: 600 West
Length: 1.95 miles

Key Intersection Locations:
Center Street 400 West
Burton Lane
350 East

Project Location Map

Map ID: 7.32.2

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.95**
Average Daily Traffic (vehicles per day)	**19,648**
Functional Classification	**Minor Arterial**
Roadway Ownership	**State**
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)	**1**
Suspected Serious Injury Crashes (A)	**1**
Suspected Minor Injury Crashes (B)	**6**
Possible Injury Crashes (C)	**20**
No Injury/PDO Crashes (O)	**78**
Total Crashes	**106**
Total EPDO Crashes	**1,421**

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
Center Street & Main Street		0	0	2	10	1	13	159				✓				
Burton Lane & Main Street		0	0	2	7	6	15	130			✓		✓			
350 East & Main Street	✓	0	0	2	12	4	18	185		✓		✓	✓			
400 West & 200 North		0	0	6	13	12	31	293			✓				✓	

Project Description/How is safety improved?

This project includes installation a raised median along the entire length of the corridor. Full access should be limited to signalized intersections and all other access drives or roadways should be considered for right-in/right-out or 3/4 access. Lane narrow and on-street parking removal are propsoed to provide room for a buffered bicycle lane along the majority of Main Street. The segment between Center Street and 100 North will maintain on-street parking to provide parking for local businesses and will not have a bicycle lane. The intersection of 350 South should include leading pedestrian intervals as this intersection provides access to the Jr. High School and High School in the area.

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


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	1.95	MILE	$ 928,000	$ 1,809,600
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.31	MILE	$ 39,000	$ 51,090
Install Buffered Bicycle Lane	NA	Bicycle	1.20	MILE	$ 26,000	$ 31,200
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

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
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 1,894,890
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 94,745
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 568,467
Estimated Construction Cost:		$ 2,633,102

Local Match†: 20% $ 669,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 315,972
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 394,965
Estimated Project Total:		$ 3,345,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Main Street from 200 North to 400 West**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Kaysville**	**Checked By:**	
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	Main Street	
From:	200 North	
To:	400 West	
Length:	0.48	miles

Key Intersection Locations:

100 West	300 West
200 West	
400 West	

Project Location Map

Map ID: 7.32.3

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**0.48**
Average Daily Traffic (vehicles per day)	**14,371**
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)	**1**
Suspected Minor Injury Crashes (B)	**2**
Possible Injury Crashes (C)	**4**
No Injury/PDO Crashes (O)	**10**
Total Crashes	**17**
Total EPDO Crashes	**194**

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
100 West & Main Street		0	0	3	9	11	23	180			✓					
200 West & Main Street		0	0	2	5	6	13	107			✓					
400 West & Main Street		0	0	2	4	3	9	93		✓				✓		
300 West & Main Street	✓	0	0	5	13	13	31	272			✓		✓			

Project Description/How is safety improved?

This project installs a medians along the entire length of the corridor. Full access should only be allowed at signalized intersection and all other access drives or roadways should be considered for right-in/right-out or 3/4 access. Lane narrow and on-street parking removal are recommended to support a buffered bicycle lane along the corridor length. Bicycle treatment improvements are recommended at the intersection of 200 North.

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


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	0.48	MILE	$ 928,000	$ 445,440
Traffic Calming - Lane Narrowing	0.68	All Crashes	0.48	MILE	$ 39,000	$ 18,720
Install Buffered Bicycle Lane	NA	Bicycle	0.48	MILE	$ 26,000	$ 12,480
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Add Bicycle Treatments at Intersections	NA	All Crashes	1.00	INT	$ 9,000	$ 9,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 485,640
*Mobilization: (% +/-)**	*10%*	$ 48,570
Traffic Control: (% +/-)	*5%*	$ 24,282
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 145,692
Estimated Construction Cost:		$ 704,184

Local Match†: **20%** **$ 179,000**

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 84,502
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 105,628
Estimated Project Total:		$ 895,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**US 89 from 1100 North/2600 South to Frontage Road**	**Prepared By:**	**JSF**
Jurisdiction(s):	**North Salt Lake**	**Checked By:**	**EJS**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium, Low**		

Location Description

Roadway: US 89
From: 1100 North/2600 South
To: Frontage Road
Length: 2.36 miles

Key Intersection Locations:
400 East & US 89
Main Street & US 89
Eaglegate Drive & US 89
Eagle Ridge Drive & Orchard Drive

Project Location Map

Map ID: 7.33.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**2.36**
Average Daily Traffic (vehicles per day)	**19,257**
Functional Classification	**Other Principal Arterial**
Roadway Ownership	**State**
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)	**1**
Suspected Minor Injury Crashes (B)	**14**
Possible Injury Crashes (C)	**20**
No Injury/PDO Crashes (O)	**63**
Total Crashes	**98**
Total EPDO Crashes	**696**

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
400 East & US 89		0	0	2	8	1	11	136				✓				
Main Street & US 89		0	0	3	9	0	12	169				✓				✓
Eaglegate Drive & US 89		0	0	3	8	10	21	168			✓					
Eagle Ridge Drive & Orchard Driv		0	0	0	17	9	26	202			✓					✓

Project Description/How is safety improved?

This project installs a median along the entire corridor. Full access should be limited to signalized intersections and all other access drives or roadways should be considered for right-in/right-out or 3/4 type access. Lane narrowing and on-street parking removal are proposed to support the installation of a bicycle lane from 3800 S. to 2600 S. It is recommended that pedestrian crossings (3600 S., 800 W.) be upgraded to high-visibility crosswalks, bulbouts, HAWK signal (3600 S.), refuge island (800 W.), and speed feedback signs. It is also recommended ICE studies be conducted and recommendations implemented at the unsignalized intersections (400 E., Main St.). Install FYA signal heads at Center St.

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


Medians and Pedestrian Refuge Islands in Urban & Suburban Areas


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	2.06	MILE	$ 928,000	$ 1,911,680
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.04	MILE	$ 39,000	$ 40,560
Install Bicycle Lane	0.51 - 0.694	Bicycle	1.04	MILE	$ 21,000	$ 21,840
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
Traffic Calming - Bulbouts	0.68	All Crashes	4.00	EACH	$ 36,000	$ 144,000
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	2.00	XING	$ 37,000	$ 74,000
Install Pedestrian Hybrid Beacons (PHB) or HAWK	0.453	Pedestrian	1.00	EACH	$ 200,000	$ 200,000
Install Pedestrian Refuge Island	0.54	Pedestrian	1.00	EACH	$ 30,000	$ 30,000
Perform an Intersection Control Evaluation and Implement	NA	All Crashes	2.00	INT	$ 225,000	$ 450,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	1.00	INT	$ 8,000	$ 8,000
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,920,080
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 146,004
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 876,024
Estimated Construction Cost:		$ 4,017,108

20%	**$ 1,020,400**

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 482,053
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 602,566
Estimated Project Total:		$ 5,102,000

*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: Shared use path along the entire corridor
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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**1100 North/2600 South from Redwood Road to 800 West**	**Prepared By:**	**MA**
Jurisdiction(s):	**North Salt Lake**	**Checked By:**	**EMF**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium, Low**		

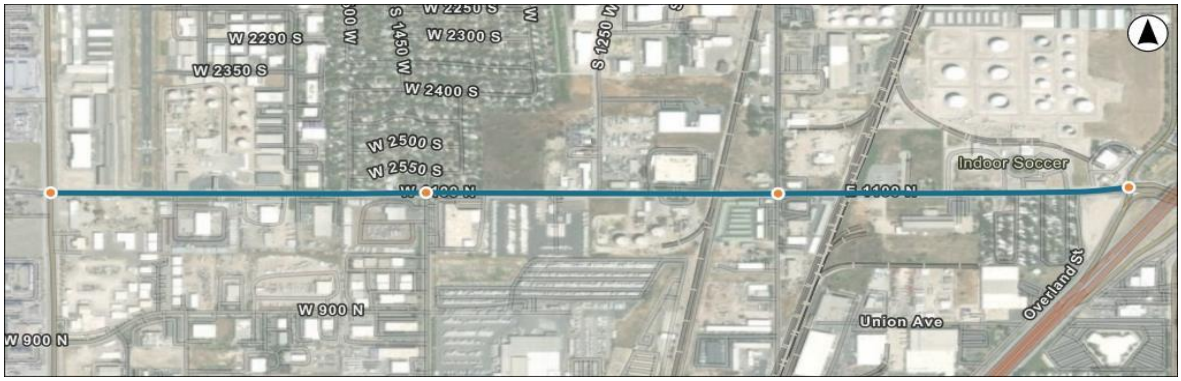
Location Description

Roadway: 1100 North/2600 South
From: Redwood Road
To: 800 West
Length: 1.40 miles

Key Intersection Locations:
Redwood Road 1100 West
400 West
800 West (Interc

Project Location Map

Map ID: 7.33.2



Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.40**
Average Daily Traffic (vehicles per day)	**10,774**
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)	**1**
Suspected Minor Injury Crashes (B)	**2**
Possible Injury Crashes (C)	**9**
No Injury/PDO Crashes (O)	**47**
Total Crashes	**59**
Total EPDO Crashes	**288**

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
Redwood Road & 1100 North	✓	0	1	3	9	26	39	289					✓			✓
400 West & 1100 North		0	0	1	1	13	15	47								✓
800 West (Interchange) & 1100 N	✓	0	1	4	5	36	46	276								✓
1100 West & 1100 North		0	0	1	4	23	28	91			✓					

Project Description/How is safety improved?

This project includes the following improvements on 1100 N to address overrepresentation of angle, parked vehicle and single vehicle collisions: Widen and increase visibility of edge line pavement markings, narrow travel lanes to 11 ft; convert center turn lane to raised median; consolidate redundant business driveways; install street lighting. The following intersection improvements are recommended, consistent with overrepresentation of angle, head-on and sideswipe collisions: intersection control evaluations at 400 W/1100 N, 800 W/1100 N, and 1100 W/1100 N for potential roundabout or signal (with necessary storage lane improvements), in addition to driveway consolidation and site distance improvements; Redwood Rd/1100 N, conversion to protected left-turn phasing for north/south approaches and additional right turn lane for west approach.

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
Corridor Access Management-Driveway Consolidation (Urban)	0.69 - 0.75	Fatal & Injury	10.00	DRIVEW	$ 7,000	$ 70,000
Install Raised Medians on Roadways with Existing TWLTL	0.29	All Crashes	1.40	MILE	$ 928,000	$ 1,299,200
Traffic Calming - Wider Lane Lines	0.68	All Crashes	1.40	MILE	$ 21,000	$ 29,400
Provide Highway Lighting	0.72	Nighttime	1.40	MILE	$ 300,000	$ 420,000
Traffic Calming - Lane Narrowing	0.68	All Crashes	1.40	MILE	$ 39,000	$ 54,600
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Change Permissive Left-Turn to Protected or Protected/Permissive	0.79 - 0.95	Left-Turn	3.00	INT	$ 8,000	$ 24,000
Provide Right-Turn Lanes	0.74 - 0.86	All Crashes	2.00	LANE	$ 150,000	$ 300,000
Perform an Intersection Control Evaluation and Implement	NA	All Crashes	3.00	INT	$ 225,000	$ 675,000
Convert Existing Intersection to Modern Roundabout	0.18 - 0.59	All Crashes	2.00	INT	$ 2,500,000	$ 5,000,000
Systemic Low-Cost Countermeasures at Stop-Control Intersection	0.73 - 0.9	All Crashes	1.00	INT	$ 19,000	$ 19,000
Corridor Access Management-Driveway Consolidation (Urban)	0.69 - 0.75	Fatal & Injury	2.00	DRIVEW	$ 7,000	$ 14,000
Install Intersection Lighting	0.62 - 0.67	Nighttime	2.00	INT	$ 31,000	$ 62,000
Provide Left-Turn Lanes	0.52 - 0.72	Rural	2.00	LANE	$ 300,000	$ 600,000
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 8,567,200
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 428,360
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 2,570,160
Estimated Construction Cost:		$ 11,640,720

Local Match†: 20% $ 2,956,800

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 1,396,886
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 1,746,108
Estimated Project Total:		$ 14,784,000

*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 includes the following segment improvements along 2600 S between Redwood Road and 800 West to encourage slower speeds address overrepresentation of angle, parked vehicle and single vehicle collisions:
-Widening and increasing the visibility of edge line striping, in addition to narrowing travel lanes to 11 ft
-Conversion of center turn lane to raised median
-Where possible, consolidation of redundant driveways at commercial/retail/industrial/manufacturing sites
-Installation of pedestrian-level street lighting along the corridor.

The following intersection improvements are also recommended, consistent with overrepresentation of angle, head-on and sideswipe collisions at each location:
-Redwood Rd/1100 N: Conversion of protected permitted to protected left-turn phasing for north and south approaches. Addition of a right turn lane for west approach.
-400 W/1100 N: Perform an intersection control evaluation to evaluate the potential for a roundabout. Consider sight distance improvements for the north and south approaches.
-800 W/1100 N: Perform an intersection control evaluation to evaluate the potential for a roundabout. Consider consolidation of driveways that are within 100 ft of intersection.
-1100 W/1100 N: Perform an intersection control evaluation to evaluate the potential for a signal. If signal is warranted, install left-turn storage lanes on east and west approaches, with protected permitted (flashing yellow arrow) phasing.

Project Information Sheet

GFA(s):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Redwood Road (SR 68) from 1100 North to I-215**	**Prepared By:**	**JSF**
Jurisdiction(s):	**North Salt Lake**	**Checked By:**	**EJS**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway: Redwood Road (SR 68)
From: 1100 North
To: I-215
Length: 1.75 miles

Key Intersection Locations:
200 North — Center Street
Cambridge Drive — Foxboro Drive
900 North

Project Location Map

Map ID: 7.33.3

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.75**
Average Daily Traffic (vehicles per day)	**11,468**
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)	**1**
Suspected Serious Injury Crashes (A)	**2**
Suspected Minor Injury Crashes (B)	**11**
Possible Injury Crashes (C)	**19**
No Injury/PDO Crashes (O)	**52**
Total Crashes	**85**
Total EPDO Crashes	**1,589**

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
200 North & Redwood Road		0	0	3	5	2	10	126								✓
Cambridge Drive & Redwood Roa		0	0	3	7	6	16	152			✓	✓				
900 North & Redwood Road		0	0	5	16	11	32	304			✓	✓				✓
Center Street & Redwood Road	✓	0	4	12	44	24	84	1,166	✓	✓		✓		✓		
Foxboro Drive & Redwood Road	✓	0	0	5	12	4	21	252				✓		✓		✓
2600 South & Redwood Road	✓	0	1	9	26	14	50	604					✓			✓

Project Description/How is safety improved?

This project implements raised medians in the existing TWLTL to limit access at driveways and intersections by eliminate left-turning vehicles when possible through using medians to create right-in/right-out and 3/4 access locations. This project also recommends sidewalks at locations that currently have no sidewalk. Intersection improvements include stop-control countermeasures at unsignalized intersections (Robinson Dr., Cambridge Dr., and 900 N.). Signalized intersection improvements include changing permitted left-turn phasing signal heads to flashing yellow arrow type signal heads (600 N.) and bicycle and pedestrian improvements (Center St. and 600 N.)

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


Walkways


Stop-Controlled Intersection Systemic Countermeasures

Appropriate Speed Limits for All Road Users

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	1.75	MILE	$ 928,000	$ 1,624,000
Install Sidewalk or Walkways	NA	Pedestrian	0.50	MILE	$ 634,000	$ 317,000
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
Systemic Low-Cost Countermeasures at Stop-Control Intersection	0.73 - 0.9	All Crashes	3.00	INT	$ 19,000	$ 57,000
Change a permissive only to Flashing Yellow Arrow	0.5 - 0.6	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Upgrade pedestrian push buttons to Audible Pedestrian Signals (APS)	NA	Pedestrian	2.00	INT	$ 4,000	$ 8,000
Add Bicycle Treatments at Intersections	NA	All Crashes	2.00	INT	$ 9,000	$ 18,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 2,072,000
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 103,600
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 621,600
Estimated Construction Cost:		$ 2,872,200

Local Match†: **20%** **$ 729,600**

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 344,664
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 430,830
Estimated Project Total:		$ 3,648,000

*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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**500 South (SR 68) from 1100 West to 700 West**	**Prepared By:**	**JSF**
Jurisdiction(s):	**West Bountiful**	**Checked By:**	**EJS**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	500 South (SR 68)	**Key Intersection Locations:**
From:	1100 West	1100 West
To:	700 West	700 West
Length:	0.66 miles	

Project Location Map

Map ID: 7.34.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	0.66
Average Daily Traffic (vehicles per day)	12,111
Functional Classification	Other Principal Arteria
Roadway Ownership	State
Urban/Rural Designation	Urban
Number of Key Intersections	2

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)	0
Possible Injury Crashes (C)	2
No Injury/PDO Crashes (O)	12
Total Crashes	**14**
Total EPDO Crashes	**35**

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
1100 West & 500 South	✓	0	0	8	9	16	33	296			✓					
700 West & 500 South		0	1	2	15	8	26	317	✓			✓				

Project Description/How is safety improved?

This project is focused on improving bicycle safety along the corridor to address the low bicycle rating (usRAP). This is accomplished by upgrading the existing bicycle lane to a buffered bicycle lane. It is also recommended that an RSA be performed along this corridor to discover addition systemic safety countermeasures that can be implemented.

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


Road Safety Audit

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Install Buffered Bicycle Lane	NA	Bicycle	0.66	MILE	$ 26,000	$ 17,160
Perform Road Safety Audits	0.4-0.9	All Crashes	1.00	LOC	$ 25,000	$ 25,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Systemic Low-Cost Countermeasures at Stop-Control Intersection	0.73 - 0.9	All Crashes	4.00	INT	$ 19,000	$ 76,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 118,160
*Mobilization: (% +/-)**	*10%*	$ 11,820
Traffic Control: (% +/-)	*5%*	$ 5,908
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 35,448
Estimated Construction Cost:		$ 171,336

Local Match†: 20% $ 43,600

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 20,560
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 25,700
Estimated Project Total:		$ 218,000

*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: _____
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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**Redwood Road from 500 South to 1100 North**	**Prepared By:**	**JSF**
Jurisdiction(s):	**Woods Cross**	**Checked By:**	**EJS**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium, Low**		

Location Description

Roadway:	Redwood Road	**Key Intersection Locations:**	
From:	500 South	1100 North	
To:	1100 North	1950 South	
Length:	1.54 miles	500 South	

Project Location Map

Map ID: 7.35.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**1.54**
Average Daily Traffic (vehicles per day)	**10,614**
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)	**0**
Suspected Minor Injury Crashes (B)	**4**
Possible Injury Crashes (C)	**7**
No Injury/PDO Crashes (O)	**20**
Total Crashes	**31**
Total EPDO Crashes	**189**

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
1100 North & Redwood Road	✓	0	1	9	26	14	50	604					✓			✓
1950 South & Redwood Road		0	0	1	3	1	5	57				✓				
500 South & Redwood Road	✓	0	0	5	4	7	16	164					✓			

Project Description/How is safety improved?

This project infills missing sidewalk and shoulders along the corridor. The project includes upgrading existing permitted only left-turn signal heads to flashing yellow arrow type signal heads at 1500 South. A Road Safety Audit (RSA) should be completed along the corridor to determine other safety countermeasures that should be considered for implementation.

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


Walkways


Stop-Controlled Intersection Systemic Countermeasures

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Provide 2-Ft Paved Shoulder on Rural 2-Lane Roadways	0.66 - 0.89	All Crashes	0.64	MILE	$ 298,000	$ 190,720
Shoulder Widening on Rural Roads	0.771	All Crashes	0.63	MILE	$ 32,000	$ 20,160
Install Sidewalk or Walkways	NA	Pedestrian	0.98	MILE	$ 634,000	$ 621,320
Perform Road Safety Audits	0.4-0.9	All Crashes	1.00	LOC	$ 25,000	$ 25,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Intersection Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
Systemic Low-Cost Countermeasures at Stop-Control Intersection	0.73 - 0.9	All Crashes	1.00	INT	$ 19,000	$ 19,000
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:		$ 912,200
*Mobilization: (% +/-)**	*10%*	$ 75,000
Traffic Control: (% +/-)	*5%*	$ 45,610
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 273,660
Estimated Construction Cost:		$ 1,306,470

Local Match†: 20% $ 332,000

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 156,776
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 195,971
Estimated Project Total:		$ 1,660,000

*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: _____
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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**1100 West from 1500 South to 1100 North**	**Prepared By:**	**EJS**
Jurisdiction(s):	**Woods Cross**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium, Low**		

Location Description

Roadway: 1100 West
From: 1500 South
To: 1100 North
Length: 0.90 miles

Key Intersection Locations:
2600 South
1500 South

Project Location Map

Map ID: 7.35.2

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	**0.90**
Average Daily Traffic (vehicles per day)	**5,084**
Functional Classification	**Minor Collector**
Roadway Ownership	**Federal Aid - Local**
Urban/Rural Designation	**Urban**
Number of Key Intersections	**2**

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)	**3**
Possible Injury Crashes (C)	**1**
No Injury/PDO Crashes (O)	**5**
Total Crashes	**9**
Total EPDO Crashes	**83**

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

Intersections	Signal	K	A	B	C	O	Total	EPDO	K/A	Ped/Bike	Angle	FR	HO	PV	RR/RS	SS
									What Crash Types are Over-Represented?							
2600 South & 1100 West		0	0	4	23	18	45	368			✓					
1500 South & 1100 West		0	0	3	3	3	9	104				✓				

Project Description/How is safety improved?

This project focuses on safety and active transportation improvements along the corridor by building out the cross section to address the high risk score for this corridor. From 1100 North/2600 South north to 1950 South, this project installs edge line pavement markings, shoulder widening, sidewalks, and bicycle lanes. From 1950 South to 1500 South, the project adds bicycle lanes (accomodated by lane narrowing). The existing marked crosswalk and signage is upgraded to a high-visibility crosswalk with RRFBs.

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


Walkways


Bicycle Lanes


Crosswalk Visibility Enhancements


Rectangular Rapid Flashing Beacons (RRFB)

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	0.32	MILE	$ 39,000	$ 12,480
Install Bicycle Lane	0.51 - 0.694	Bicycle	0.90	MILE	$ 21,000	$ 18,900
Install Sidewalk or Walkways	NA	Pedestrian	0.58	MILE	$ 634,000	$ 367,720
Shoulder Widening on Rural Roads	0.771	All Crashes	0.58	MILE	$ 32,000	$ 18,560
Install 6" Edge line (Both Sides of Road)	0.64 - 0.88	All Crashes	0.58	MILE	$ 7,000	$ 4,060
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

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	1.00	XING	$ 37,000	$ 37,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	1.00	XING (2)	$ 15,000	$ 15,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 473,720
*Mobilization: (% +/-)**	*10%*	$ 47,380
Traffic Control: (% +/-)	*5%*	$ 23,686
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 142,116
Estimated Construction Cost:		$ 686,902

Local Match†: 20% $ 174,600

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 82,428
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 103,035
Estimated Project Total:		$ 873,000

*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: Evaluate signalization at warranted intersections
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):	**South Davis County**	**Date Prepared:**	**3/14/2024**
Project Name:	**500 West from 500 South to Main Street**	**Prepared By:**	**EJS**
Jurisdiction(s):	**Woods Cross, Bountiful**	**Checked By:**	**BCC**
Emphasis Areas:	**Roadway Departures, Intersections, Impaired Driving**		
Equity Priority:	**Medium**		

Location Description

Roadway:	500 West	
From:	500 South	
To:	Main Street	
Length:	1.25	miles

Key Intersection Locations:
1950 South
1880 South
500 South

Project Location Map

Map ID: 7.35.3.1

Segment Information and Safety Analysis Areas Summary

Roadway Characteristics	Value
Length (miles)	1.25
Average Daily Traffic (vehicles per day)	17,476
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)	2
Suspected Serious Injury Crashes (A)	0
Suspected Minor Injury Crashes (B)	2
Possible Injury Crashes (C)	14
No Injury/PDO Crashes (O)	43
Total Crashes	**61**
Total EPDO Crashes	**2,023**

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
1950 South & 500 West		0	0	3	8	4	15	162				✓				✓
1880 South & 500 West		1	0	2	9	7	19	1,042	✓	✓						✓
500 South & 500 West	✓	0	1	22	78	46	147	1,516					✓			✓

Project Description/How is safety improved?

This project addresses over-represented fatal and front to rear crashes. Proposed countermeasures at the existing marked crosswalk at 1880 South (which shows high risk and one recent pedestrian fatality) include upgrading to a high-visibility crosswalk and installing RRFBs. A right-turn lane is proposed for 1950 South. Also proposed is changing existing doghouse style signal heads at 1500 South to flashing yellow arrow type signal heads. Speed feedback signs are proposed to help address speeding along the corridor and the over representation of front to rear crashes.

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

Rectangular Rapid Flashing Beacons (RRFB)

Opinion of Probable Construction Cost

Segment Improvements

Item Description	CMF	Applicable Crashes	Quantity	Unit	Unit Price	Item Cost
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
Upgrade Existing Crosswalk to High-Visibility Crosswalk	0.6 - 0.75	Pedestrian	1.00	XING	$ 37,000	$ 37,000
Install a Rectangular Rapid Flashing Beacons (RRFB)	0.526	Pedestrian	1.00	XING (2)	$ 15,000	$ 15,000
Change a 5-section "Doghouse" to Flashing Yellow Arrow	0.75 - 0.93	Left-Turn	1.00	INT	$ 8,000	$ 8,000
Provide Right-Turn Lanes	0.74 - 0.86	All Crashes	1.00	LANE	$ 150,000	$ 150,000
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -
						$ -

Improvements Subtotal:		$ 250,000
*Mobilization: (% +/-)**	*10%*	$ 25,000
Traffic Control: (% +/-)	*5%*	$ 12,500
Items Not Estimated / Contingency: (% +/-)	*30%*	$ 75,000
Estimated Construction Cost:		$ 362,500

Local Match†: 20% $ 92,200

† *Toward SS4A Implementation Grants*

Preconstruction Engineering/Design	*12%*	$ 43,500
*Utilities***		$ -
*ROW***		$ -
Construction Engineering/Management	*15%*	$ 54,375
Estimated Project Total:		$ 461,000

*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

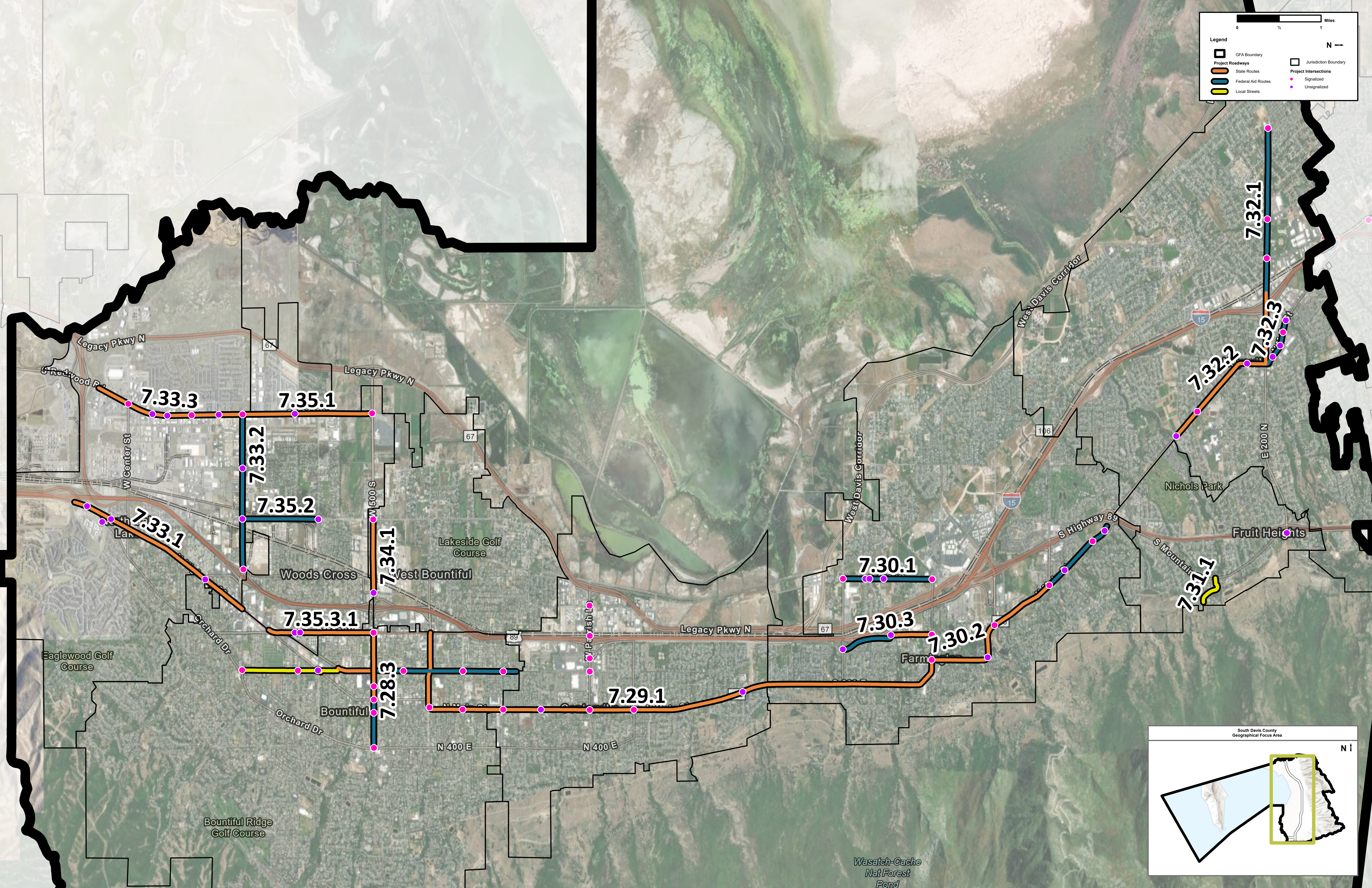
Additional safety improvements could be considered that were not included due to availability of data, need for site-specific information, and/or agency/jurisdiction input. Potential additional countermeasures are listed below. Refer to the ***Countermeasure Toolbox*** for a complete list of safety countermeasures.

Additional Improvements #1: _____
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.

SOUTH DAVIS COUNTY CASE STUDY
PROJECT LOCATION MAP


Miles
0
½
1
Legend
N
GFA Boundary
Project Roadways
State Routes
Federal Aid Routes
Local Streets
Jurisdiction Boundary
Project Intersections
Signalized
Unsignalized
7.33.3
7.35.1
7.33.2
7.35.2
7.33.1
7.34.1
7.35.3.1
7.28.3
7.29.1
7.30.1
7.30.3
7.30.2
7.31.1
7.32.1
7.32.2
7.32.3
Legacy Pkwy N
Redwood Rd
W Center St
W 500 S
Woods Cross
West Bountiful
Lakeside Golf Course
Eaglewood Golf Course
Orchard Dr
Bountiful
N 400 E
Bountiful Ridge Golf Course
N Parrish Ln
West Davis Corridor
S Highway 89
S Mountain Rd
Nichols Park
Fruit Heights
E 200 N
Farmington
Wasatch-Cache Nat Forest Pond
67
89
106
15
South Davis County Geographical Focus Area

SOUTH DAVIS COUNTY EQUITY INDEX MAP

South Davis County

Equity Need Areas

- High
- Medium
- Low

Clearfield
Syracuse
Layton
Kaysville
Farmington
Centerville
West Bountiful
Bountiful
North Salt Lake
Davis
Antelope Island State Park
Great Salt Lake
Salt Lake City International Airport
Salt Lake City
Garfield Junction
South Salt Lake
Milton
Littleton
Great Salt Lake