

## **Appendix A: Purpose and Need Chapter Supplemental Information**

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This appendix includes supporting information for Chapter 1, *Purpose and Need*, of the Interstate 15 (I-15) Environmental Impact Statement (EIS). Section A.1 includes additional information about existing bicycle and pedestrian facilities, Section A.2 includes a summary of previous studies and recommendations related to I-15 in the needs assessment study area, Section A.3 includes more details regarding other planned projects in the Wasatch Front Regional Council's (WFRC) 2019 to 2050 *Wasatch Front Regional Transportation Plan* (RTP), Section A.4 lists local land use plans, and Section A.5 includes supplemental data for project needs related to roadway safety, outdated design items, bicycle and pedestrian facilities, and structures.

## A.1 Existing Bicycle and Pedestrian Facilities

Numerous bicycle and pedestrian facilities cross over, cross under, or are parallel to I-15 between Salt Lake City and Farmington. There are 25 existing locations where bicyclists and pedestrians can cross I-15, with or without dedicated bicycle or pedestrian facilities. Table A-1 and Figure A-1 on page A-4 show the locations of existing bicycle and pedestrian facilities and routes in the needs assessment study area. Many of these locations are within school district boundaries and connect residents who live on the other side of I-15 and must cross I-15 to get to a school in their district.

**Table A-1. Existing Crossings of I-15 and Description of Bicycle and Pedestrian Facilities**  
(Organized from North to South)

Crossing	City	I-15 Interchange Type	School Crosswalk Present?	Bicycle and Pedestrian Facility Description
Park Lane	Farmington	Full interchange – diamond configuration	No crosswalks are present; however, the road connects residents to Farmington Junior and Senior High Schools	No bicycle lanes; no sidewalks
State Street	Farmington	NA	Yes, Farmington Junior and Senior High Schools	Farmington Creek Trail on south side
925 South / Glovers Lane	Farmington	NA	Yes, Farmington Senior High School	Separate path on north side
Parrish Lane	Centerville	Full interchange – diamond configuration	Yes, Viewmont High School	No bicycle lanes; multi-use path and wide shoulder on north side of the street; however, it does not connect to trail network on south side of Parrish Lane
1600 North / Pages Lane	West Bountiful	NA	Yes, Bountiful Junior High and Viewmont High School	Shoulder bikeway; sidewalks on both side of the street
400 North	West Bountiful	Half interchange – half diamond configuration with southbound onramp and northbound offramp	Yes, Bountiful Junior High, Taylor Elementary, and West Bountiful Elementary Schools	Shoulder bikeway; sidewalk and wide shoulder on north side of the street

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**Table A-1. Existing Crossings of I-15 and Description of Bicycle and Pedestrian Facilities  
(Organized from North to South)**

Crossing	City	I-15 Interchange Type	School Crosswalk Present?	Bicycle and Pedestrian Facility Description
500 South	West Bountiful	Full interchange – diverging diamond configuration	Yes, Bountiful High, Bountiful Junior High, Millcreek Junior High, Viewmont High, Woods Cross Elementary, and Wood Cross High Schools	Bicycle lanes on both sides of street; sidewalks on both sides of the street
1500 South	Woods Cross	NA	Yes, Bountiful High, Millcreek Junior High, Woods Cross Elementary, and Wood Cross High Schools	No bicycle lanes; sidewalks on both side of the street
1100 North / 2600 South	North Salt Lake	Full interchange – modified continuous-flow configuration	Yes, Bountiful High, South Davis Junior High, and Wood Cross High Schools	No bicycle lanes; sidewalks on both side of the street
Main Street	North Salt Lake	NA	Yes, South Davis Junior High, and Wood Cross High Schools	No bicycle lanes; sidewalks on both side of the street
Center Street	North Salt Lake	Quarter interchange – diamond configuration with southbound offramp	Yes, South Davis Junior High, and Wood Cross High Schools	Bicycle lanes on both sides of street; sidewalk on south side of street; incomplete sidewalk on the north side of the street
Beck Street (overpass)	Salt Lake City	NA	Not applicable	No bicycle lanes; no sidewalks
Beck Street (underpass)	Salt Lake City	NA	Not applicable	No bicycle lanes; no sidewalks
Warm Springs Road	Salt Lake City	NA	Not applicable	No bicycle lanes; no sidewalks
900 West	Salt Lake City	Half interchange – diamond configuration with a southbound offramp and northbound onramp	Not applicable	No bicycle lanes; no sidewalks
600 North	Salt Lake City	Full interchange – single-point urban interchange configuration	Yes, Rose Park Elementary and West High Schools	Bicycle lanes on both sides of street; sidewalk on the south side of the street. There is a painted bicycle lane across the I-15 interchange and dedicated bicycle lanes west of the interchange
300 North	Salt Lake City	NA	Yes, Jackson Elementary and West High Schools	Bicycle lanes on both sides of street; sidewalks on both sides of the street
North Temple	Salt Lake City	NA	Yes, Jackson Elementary and West High Schools	Bicycle lanes on both sides of street; sidewalks on both sides of the street
South Temple	Salt Lake City	NA	Yes, Franklin Elementary and Jackson Elementary Schools	No bicycle lanes; sidewalk on the north side of the street

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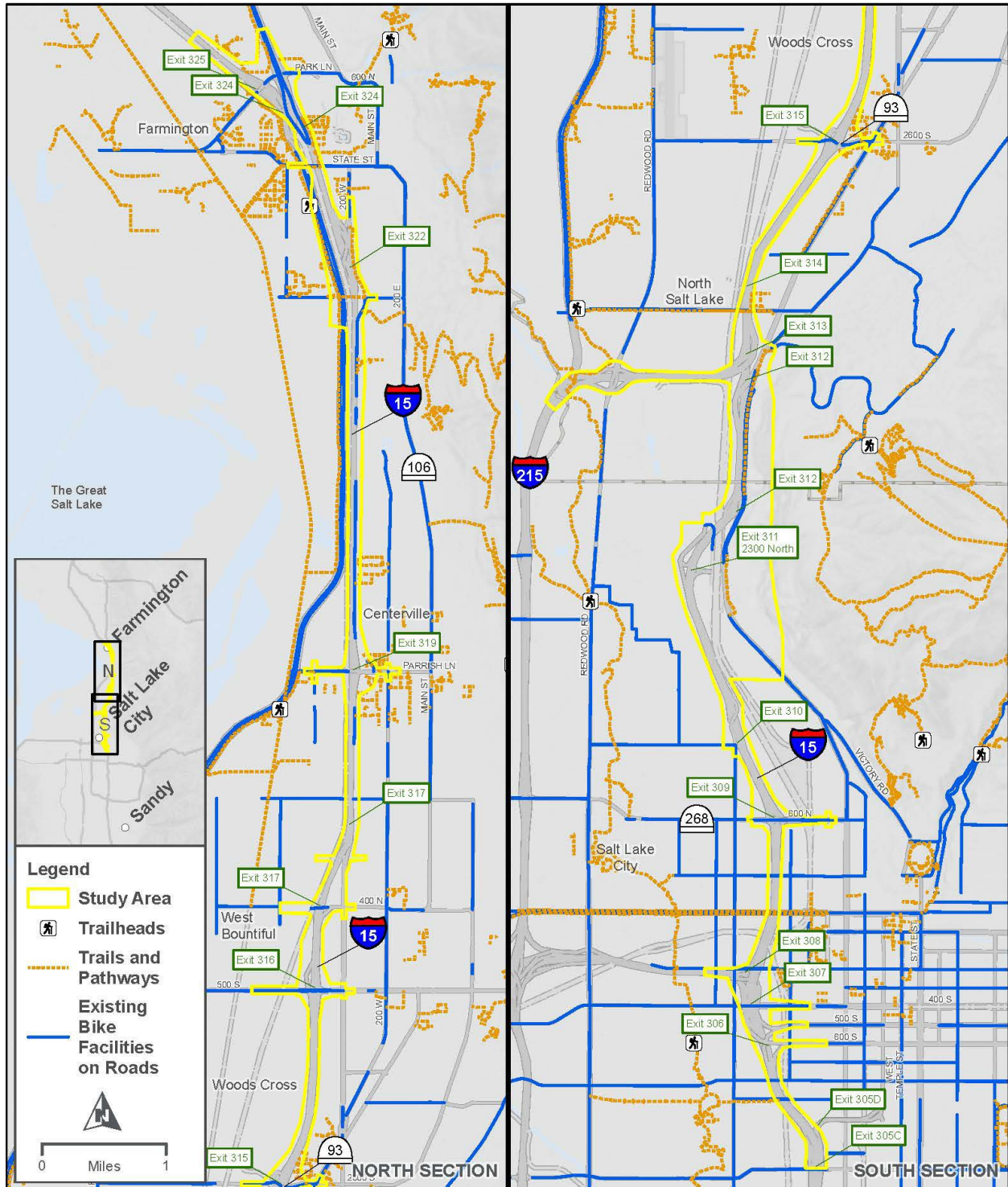
**Table A-1. Existing Crossings of I-15 and Description of Bicycle and Pedestrian Facilities  
(Organized from North to South)**

Crossing	City	I-15 Interchange Type	School Crosswalk Present?	Bicycle and Pedestrian Facility Description
200 South	Salt Lake City	NA	Yes, Franklin Elementary	Bicycle lanes on both sides of street; sidewalks on both sides of the street
400 South	Salt Lake City	Full interchange – modified diamond configuration with southbound offramp and northbound onramp. Southbound onramp and northbound offramps are through center HOV lanes only	Yes, Franklin Elementary	No bicycle lanes; sidewalks on both sides of the street
800 South	Salt Lake City	NA	Not applicable	Bicycle lanes on both sides of street; sidewalks on both sides of the street
900 South	Salt Lake City	NA	Not applicable	Bicycle lanes on both sides of street; sidewalks on both sides of the street
500 West	Salt Lake City	NA	Not applicable	No bicycle lanes; no sidewalks
1300 South	Salt Lake City	Full interchange – diamond configuration	Not applicable	Shared lane on both sides of street; sidewalks on both sides of the street

HOV = high-occupancy vehicle; NA = not applicable



Figure A-1. Bicycle and Pedestrian Facilities



**BICYCLE AND PEDESTRIAN FACILITIES**  
**I-15 EIS: FARMINGTON TO SALT LAKE CITY**

## **A.2 Summary of Prior Studies and Recommendations**

Before the I-15 EIS process was initiated, many transportation planning studies had been conducted for I-15. The 15 studies that are most relevant to the I-15 EIS are summarized below. The Utah Department of Transportation (UDOT) considered these 15 studies as it developed the purpose of and need for the I-15 project. Needs identified in these studies that have not been addressed through a project were reviewed for their relevance to the current I-15 project. Not all needs identified in the studies below would be addressed by the current I-15 project.

### **A.2.1 I-15 North Corridor Downtown Salt Lake City to Kaysville – Draft Environmental Impact Statement**

In 1998, UDOT completed a Draft EIS for I-15 from downtown Salt Lake City to Kaysville (UDOT 1998). The purpose of the Draft EIS consisted of increasing safety and efficiency of the movement of people and goods projected for the year 2020, improving design deficiencies, and improving east-west pedestrian and bicycle connections. The proposed action was an expansion of I-15 from 6 to 10 lanes (5 lanes in each direction) from 600 North in Salt Lake City to 200 North in Kaysville. The proposed action included 4 mixed-flow lanes in each direction and 1 high-occupancy-vehicle (HOV) lane in each direction. In addition, all existing interchanges were to be replaced with high-capacity, operationally efficient facilities. The target level of service for the study was LOS D. The preferred alternative had six categories of improvements: intelligent transportation systems (ITS), transportation system management (TSM), travel demand management strategies (TDM), transit expansion, construction of Legacy Parkway, and capacity improvements to I-15 and existing interchanges in the study area.

Since this Draft EIS was published, many of the ITS, TSM, TDM, and transit strategies have been implemented, Legacy Parkway has been constructed, and I-15 has been widened to the recommended footprint between Center Street in North Salt Lake to State Street in Farmington. Between State Street in Farmington and 200 North in Kaysville, I-15 was widened to 4 travel lanes in each direction, a narrower footprint than what was proposed for the proposed action in the Draft EIS.

### **A.2.2 I-15 North and Proposed Commuter Rail Collaborative Design Planning Study**

In 2009, UDOT and the Utah Transit Authority (UTA) completed the I-15 North and Commuter Rail Collaborative Design Planning Study (UDOT and UTA 2009) in response to the Utah state legislature's request for the agencies to work collaboratively to identify and transfer property owned by UDOT along the Union Pacific Railroad (UP) mainline corridor to UTA. The purpose of the land transfer was to preserve a corridor wide enough for future passenger rail projects. The study also analyzed expected conflicts between the future I-15 north reconstruction and commuter rail projects. Specifically, the study identified and resolved conflicts between the current (single-track) and future (double-track) UTA commuter rail projects and the proposed I-15 North Reconstruction project, which will widen and reconstruct I-15 in Davis County as described in the 1998 Draft I-15 North Corridor EIS (and now in this current I-15 EIS). The study summarizes roadway and rail conflicts and resolutions, barrier and retaining wall needs to resolve roadway and rail conflicts, drainage engineering issues and proposed detention ponds, structure conflicts, conveyance and easement issues and needs, and utility issues and resolutions. The study includes the



*UTA Commuter Rail and UDOT I-15 Interface Agreement* that describes the responsibility of UDOT and UTA in each “conflict zone” identified for the corridor.

### **A.2.3 Salt Lake City Pedestrian and Bicycle Master Plan**

In 2015, Salt Lake City completed the *Salt Lake City Pedestrian and Bicycle Master Plan* (Salt Lake City 2015). The vision for the plan was to create safe, convenient, comfortable, and viable transportation options that connect people to places, foster recreational and economic development opportunities, improve personal health and the environment, and elevate quality of life for residents and visitors of Salt Lake City. The following pedestrian priority corridors crossing I-15 were identified in the needs assessment study area: 600 North, 300 North, 400 South, 1300 South, and 1700 South. These pedestrian corridors were identified as locations important to east-west connectivity. The Transvalley Corridor, an east-west multi-use path, was also identified in the plan; it crosses I-15 in the needs assessment study area at 900 South. At this location, the Transvalley Corridor is known as the 9-Line Trail and has since been partially constructed.

### **A.2.4 Wasatch Front Central Corridor Study**

In 2015, Utah’s four largest transportation agencies came together to conduct the Wasatch Front Central Corridor Study (UDOT and others 2015). These agencies are the Mountainland Association of Governments, UDOT, UTA, and WFRC. The goal of the study was to develop an integrated range of solutions along the I-15/FrontRunner corridor to serve Utahns through 2050. The I-15/FrontRunner corridor includes the entire needs assessment study area. The study evaluated three scenarios that integrated I-15, side streets, transit, active transportation, and other transportation-related improvements. The study recommended a Hybrid Mobility Scenario that is a combination of managing the existing transportation system on I-15 and side streets and building more transit and active transportation facilities. Specific I-15 recommendations included an expanded collector-distributor (C-D) system; enhanced variable pricing on all non-carpool lanes during rush hours to reduce congestion; and new, barrier-separated lanes exclusively for carpooling and premium variable pricing to help reduce congestion. These recommendations will be reviewed as part of the I-15 EIS.

### **A.2.5 West Davis Corridor Final Environmental Impact Statement and Section 4(f) Evaluation**

In 2017, UDOT finalized the West Davis Corridor EIS and Section 4(f) evaluation (UDOT 2017). The proposed action was to improve regional mobility and enhance peak-period mobility in western Davis and Weber Counties. The primary purposes of the project were to reduce delay and congestion in western Davis and Weber Counties in the West Davis Corridor study area. The West Davis Corridor preferred alternative is currently under construction and includes a new system-to-system interchange on I-15 south of Glovers Lane in Farmington. Construction is anticipated to be completed in 2024.

### **A.2.6 I-15; 400 South, SLC and 2600 South, Woods Cross Traffic Study**

In 2018, UDOT completed a traffic study that analyzed I-15 between 400 South in Salt Lake City and 2600 South in Woods Cross. This study determined that the northbound direction of I-15 currently experiences delay in the PM peak period between Warm Springs Road in North Salt Lake and 2600 South

in Woods Cross. This segment of I-15 congestion is due to the heavy ramp volumes entering I-15 from the Beck Street on-ramp. This is further exacerbated by the major system-to-system merge of Interstate 215 (I-215) traffic near the on-ramp. This study determined that the southbound direction of I-15 currently experiences delays during the AM peak hour at the south end of the study corridor for this study between 1000 North in North Salt Lake and Interstate 80 (I-80) in Salt Lake City. This is due to closely spaced interchanges of 1000 North, 600 North, I-80 off-ramps, and 400 South. Congestion due to heavy on-ramp volumes from 600 North and the traffic positioning in the outside lanes to exit at I-80 and 400 South causes slowdowns on I-15. This portion of I-15 is a major corridor for commuting traffic. Various analyses were performed to determine appropriate improvements that would alleviate traffic congestion for the short and middle terms in both northbound and southbound directions. Improvements that were analyzed include widening, C-D ramps, additional lanes on ramps, ramp metering, and more. Based on this analysis, three alternatives were recommended:

- **Widening 400 South to I-215:** Add a general-purpose lane in both the southbound and northbound directions on I-15 between 400 South and I-215.
- **Widening Beck Street to I-215:** Add a general-purpose lane in both the southbound and northbound directions on I-15 between Beck Street and I-215.
- **Widening at 400 South with U.S. Highway 89 C-D Ramp:** Add a general-purpose lane in both the southbound and northbound directions on I-15 between 400 South and I-215. Also add a C-D ramp for traffic entering I-15 at I-215 and exiting I-15 at 2600 North.

## **A.2.7 Future of FrontRunner Report**

In 2018, UTA conducted a study that looked at the long-range needs of its FrontRunner commuter rail service (UTA 2018). The study evaluated several improvement and expansion scenarios. The scenarios ranged from “low investment” to “high investment” and modeled ridership outcomes. Investments include station and platform improvements, additional track, double track, electrification of operations, higher speeds, and more. The High Investment with Infill Stations scenario showed the highest projected ridership. The High Investment Scenario with Infill Stations includes additional infrastructure to expand service and increase reliability, electric infrastructure improvements, further extensions to the north and south, and additional stations. Elements of this scenario are listed in the RTP and include the electric infrastructure and double track.

## **A.2.8 U.S. 89 Farmington to I-84 State Environmental Study**

In 2018, UDOT finalized the U.S. 89 State Environmental Study: Farmington to I-84 (UDOT 2018). The study area encompassed U.S. 89 from Shepard Lane in Farmington, Davis County, to Interstate 84 (I-84) in South Weber, Weber County, Utah. The intent of the project is to improve regional and local mobility, enhance the linkage between I-15 and I-84 on U.S. 89, address current and future travel demand, and improve safety. The preferred alternative includes widening U.S. 89 from a four-lane arterial to a six-lane freeway from Shepard Lane to I-84 with limited access, and grade-separating or adding new interchanges at all intersections. The project is under construction and is anticipated to be completed in 2023.

### A.2.9 I-15 Northbound; I-215 South Interchange Murray and 600 North Traffic Study

In 2019, UDOT completed a traffic study that analyzed I-15 from the I-215 interchange in Murray to 600 North in Salt Lake City (UDOT 2019). This study determined that the northbound direction of I-15 experiences delays during the AM peak hours (from 7 to 9 AM) throughout the study area for that study. This segment of I-15 provides regional connectivity from Murray to Salt Lake City and serves as a major corridor for commuter traffic. The goal of the study was to evaluate anticipated traffic growth in 2040, identify solutions to improve northbound traffic, and mitigate traffic deficiencies. Improvements that were analyzed included widening I-15, C-D ramps, additional lanes and reconfiguration of ramps, braided ramps, and more. Based on this analysis, two alternatives were recommended.

#### What is a flyover ramp?

A flyover ramp is a grade-separated ramp that crosses above another road.

- **Widening I-15 from I-215 South to 600 North:** Add a general-purpose lane in the northbound direction on I-15 between I-215 and 600 North.
- **Widening I-15 with 1300 Braid, I-80 Left Access, and 5400 South Auxiliary Lane.** Add a general-purpose lane in the northbound direction on I-15 between I-215 and 600 North. Also add a flyover ramp from northbound I-15 to eastbound I-80 that would merge onto I-80 on the left. Construct a single-lane braided ramp between the 1300 South on-ramp and the westbound I-80 off-ramp. Add an auxiliary lane between the I-215 on-ramp and the 5400 South off-ramp along with adjusted lane change distances for northbound I-15 to eastbound I-80 and 600 South.

### A.2.10 Davis County I-15 Study

In 2020, UDOT completed a traffic study that analyzed I-15 from 400 South in Salt Lake City to 31st Street in Ogden (UDOT 2020a). The purpose of the study was to evaluate the I-15 corridor using an updated traffic model that included the West Davis Corridor, U.S. 89 grade separation, HOV lanes on I-15, and several other long-range plan projects that were not included in a previous analysis of the area. The study divided the I-15 study area into four segments and evaluated each segment with a proposed cross section of five general-purpose lanes and one HOV lane in each direction and interchange improvements. The study concluded that widening I-15 between 400 South in Salt Lake City and U.S. 89 in Farmington and replacing several interchanges (Center Street, 2600 South, 500 South, 400 North, and Parrish Lane) would provide the greatest benefit to the I-15 corridor in the study area for that study. The study analysis predicted that widening and updating interchanges in this segment would save the traveling public 10,600 hours of delay per day.

### A.2.11 Shepard Lane Interchange Environmental Assessment

In 2020, UDOT finalized the Shepard Lane Interchange Environmental Assessment (UDOT 2020b), which evaluated a new interchange on I-15 at Shepard Lane. The goal was to identify an alternative that reduces congestion and improves safety on mainline I-15 and U.S. 89 by decreasing travel demand on Park Lane in 2050. Park Lane is within the I-15 needs assessment study area. The preferred alternative is a diamond interchange on I-15 at Shepard Lane with a multi-use trail on the north side of Shepard Lane and a sidewalk on the south side of Shepard Lane. As part of the project, UDOT will also build a new pedestrian crossing of

I-15 and U.S. 89 on Park Lane that will improve multimodal access to the Lagoon amusement park, Farmington Station Park, and the Farmington FrontRunner station. Streets immediately adjacent to the interchange will be realigned to improve connections and traffic flow at the new interchange, improve bicycle and pedestrian connections, and accommodate future FrontRunner plans. The Shepard Lane interchange is funded, and construction is planned for 2024.

## A.2.12 South Davis County Active Transportation Plan

In 2020, the Cities of Bountiful, Centerville, and North Salt Lake adopted the *South Davis County Active Transportation Plan* (APD and TR 2020). The plan's goals are to improve connectivity, improve safety, increase recreation opportunities, improve sustainability by improving air quality, and increase partnerships in the community to realize shared interests in active transportation. The study identified several barriers to bicycle and pedestrian travel and made several infrastructure improvement recommendations in the I-15 needs assessment study area (Table A-2).

**Table A-2. Barriers and Recommendations in the Needs Assessment Study Area Identified in the *South Davis County Active Transportation Plan***

I-15 or Cross Street	City	Barrier Description	Recommendation from Plan
925 South / Glovers Lane	Farmington	No connections across I-15 between the frontage road and Legacy Parkway trail between Glovers Lane and Parrish Lane	Not applicable <sup>a</sup>
Parrish Lane	Centerville	Street is a barrier to accessing Legacy Parkway trail and to walkability in downtown Centerville	Connectivity improvements across Parrish Lane east of I-15
400 North	West Bountiful	Street is a barrier due to lack of facilities	Not applicable <sup>a</sup>
500 South	West Bountiful	High traffic and high speeds are a barrier to bicycling; poor pavement quality	Not applicable <sup>a</sup>
1100 North / 2600 South	North Salt Lake	Yes, the street, rail crossings, and I-15 crossing are all barriers	Study proposed; and railroad crossing improvement
Main Street	North Salt Lake	Railroad crossings are barriers	New bicycle lanes; and railroad crossing improvement
Center Street	North Salt Lake	Yes, rail and I-15 crossings are a barrier	New pathway parallel to Center Street
Warm Springs	Salt Lake City	Road is a low-stress facility for bicyclists; however, it is frequently blocked by trains	Not applicable <sup>a</sup>

Source: APD and TR 2020

<sup>a</sup> No recommendations were identified in the plan for this crossing location.

### **A.2.13 Davis–SLC Community Connector**

UTA is working in partnership with city and regional representatives to plan for public transportation improvements to support growth between southern Davis County and northern Salt Lake County. Building on the successes of routes 455 and 470, and aligning with the RTP, the Davis–SLC Community Connector is a proposed bus rapid transit (BRT) system connecting communities to opportunities such as jobs, entertainment, and recreation (UTA 2021). The proposed Davis–SLC Community Connector would connect Park Lane in Farmington to the University of Utah in Salt Lake City. The proposed alignment would generally be east of I-15 and would cross I-15 in Farmington to access the Farmington FrontRunner station. This study is ongoing.

### **A.2.14 600/700 North Mobility, Safety, and Transit Improvements Study**

Salt Lake City initiated a study (Salt Lake City 2021) to create a plan for the 600 North and 700 North corridor that connects Capitol Hill near downtown Salt Lake City with the west-side neighborhoods. The purpose of the study is to identify specific projects that can be implemented to promote safety, enable mobility for active modes and transit, and better serve the surrounding neighborhoods. The study will review options for the 600 North interchange on I-15 and transit service in the needs assessment study area. This study is ongoing.

### **A.2.15 I-15 and Parrish Lane SPUI Concept Report**

UDOT prepared a concept report (UDOT 2016) for a new single-point urban interchange (SPUI) at the Parrish Lane interchange on I-15 in Centerville. The concept report included a traffic analysis that evaluated several other interchange concepts in addition to the recommended SPUI concept. The concept report also included preliminary design and evaluation of potential environmental and community impacts.

## A.3 Regional Transportation Planning Project List

Table A-3 lists the planned highway and transit projects in WFRC's 2019–2050 RTP in the needs assessment study area. The current I-15 project is identified in the RTP as I-15 widening from Farmington to Salt Lake County line (project R-D-53) and I-15 widening in Davis County to 600 North (project R-S-137). Maps and tables with more information about these projects are available on the WFRC's 2019–2050 RTP website at <https://wfrc.org/vision-plans/regional-transportation-plan/2019-2050-regional-transportation-plan/>. An updated RTP is expected for 2023. WFRC and UDOT will coordinate on revisions and updates to project phasing.

Table A-3. Planned Transportation Improvements in the 2019–2050 RTP in the Needs Assessment Study Area

Facility	RTP Identification Number(s)	Limits	Description	Phase <sup>a</sup> (Need/Fund)
<b>Highway Projects</b>				
I-15	R-D-53	I-15 Widening: Farmington to Salt Lake County border	Widening (add 1 high-occupancy/transit [HOT] lane northbound and southbound)	1/3
I-15	R-S-137	I-15 Widening Davis County to 600 North	Widening (to 8 general-purpose lanes + 4 HOT lanes)	1/3
Park Lane	R-D-22	Park Lane	Operational	1
500 South	R-D-23	500 South: I-15 to Main Street	Operational	2
Center Street	R-D-24	Center Street: Legacy to U.S. 89	Operational	1
I-15	R-D-40; R-S-132	I-15/Managed Motorways	Operational	1/2
I-15	R-D-41	I-15 Widening: Weber County to Farmington	Widening (add 1 general-purpose lane northbound and southbound)	1/U
Legacy Parkway	R-D-42	Legacy Parkway from I-15/U.S. 89 to I-215	Widening (add 1 HOT northbound and southbound)	1/2
Redwood Road	R-D-46	Redwood Rd.: 500 South to 2600 South Widening	Widening to 5 lanes	2/3
1250 West/650 West	R-D-52	1250 West/650 West: New road Glovers to 1275 North	New construction	1/1
Farmington frontage road	R-D-54	Farmington Frontage Road Connection: Lagoon Drive to 200 West	New construction	3/3
U.S. 89	R-D-56	U.S. 89: widen to 6 lanes between I-15 and U.S. 89	Widening	1/1
U.S. 89	R-D-57	500 West (U.S. 89): I-15 to 2600 South.	Operational	1/2
Davis Boulevard	R-D-58	Davis Boulevard. Extension: Davis Boulevard to 400 North	New construction	3/3

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Table A-3. Planned Transportation Improvements in the 2019–2050 RTP in the Needs Assessment Study Area

Facility	RTP Identification Number(s)	Limits	Description	Phase <sup>a</sup> (Need/Fund)
I-15/Parrish Lane	R-D-73	I-15 Parrish Lane interchange	Interchange Improvement	2/2
Porter Lane	R-D-74	Porter Lane overpass of I-15	Grade-separated crossing	1/2
500 South	R-D-75	500 South crossing of rail line at 800 West	Grade-separated crossing	1/1
1500 South	R-D-76	1500 South crossing of rail line at 900 West	Grade-separated crossing	2/2
2600 South/1100 North	R-D-77	2600 South/1100 North rail crossing at 1050 West	Grade-separated crossing	1/1
Center Street	R-D-78	Center St. Overpass Rail crossing at 300 West	Grade-separated crossing	1/1
I-215/I-15/U.S. 89	R-D-79	I-215/I-15/U.S. 89 interchange	Interchange Improvement	3/U
I-215/Legacy Parkway	R-D-80	I-215/Legacy Pkwy. Interchange	Interchange Improvement	3/U
I-15	R-S-136	I-15 HOT Ramps and Reversible Lanes: Davis County to Utah County	Widening	1/3
I-15	R-S-138	I-15 variable-price freeway lanes Davis County to Utah county	Operational	1/U
<b>Transit Projects</b>				
FrontRunner	T-D-1/T-S-1	Doubletrack FrontRunner: Davis and Salt Lake Counties	Upgrade	1/2
FrontRunner	T-D-2/T-S-2	Electrify FrontRunner	Upgrade	2/U
Bus	T-D-3/T-S-3 <sup>b</sup>	Davis-SLC Community Connector Bus Rapid Transit (BRT) <sup>b</sup>	BRT <sup>b</sup>	1/1
	T-D-4	North Redwood Corridor Core Service	Core Service	1/2
Bus	T-D-5/T-S-5	East Davis Express Bus: Weber to Salt Lake County	Express Bus	3/U
	T-D-9	Clearfield to Woods Cross Core Service 15	Core Service 15	1/2
	T-D-12 <sup>b</sup>	Centerville FrontRunner Station on Parrish Lane <sup>b</sup>	New FrontRunner station <sup>b</sup>	2/U
<b>Active Transportation Projects</b>				
Legacy Parkway Trail	A-D-42	Legacy Parkway Trail extension between Shepard Lane and Red Barn Lane	Shared-use path	1/1
Park Lane	A-D-44	Park Lane from Clark Lane to Main Street	Shared-use path	1/1
Gentile Trail	A-D-108	Gentile Trail from Legacy Parkway Trail to Preserve Park Trail	Shared-use path	1/1

(continued on next page)

**Table A-3. Planned Transportation Improvements in the 2019–2050 RTP in the Needs Assessment Study Area**

Facility	RTP Identification Number(s)	Limits	Description	Phase <sup>a</sup> (Need/Fund)
Park Lane	A-D-153	Overpass at Park Lane in Farmington	Overpass	1/1
Legacy Parkway	A-D-155	Overpass at Legacy Parkway in Farmington	Overpass	1/1
200 West	A-D-120	200 West from State Street to frontage road	Bicycle lane	1/1
State Street	A-D-48	State Street from Station Parkway to 185 East	Bicycle lane	1/1
Glovers Lane	A-D-50	Glovers Lane from West Davis Corridor Trail to 200 East	Bicycle lane	1/1
2025 North	A-D-51	2025 North from frontage road to Main Street	Bicycle lane	3/3
Union Pacific Railroad tracks	A-D-156	Overpass to cross Union Pacific Railroad line at 2025 North	Overpass	3/3
Chase Lane	A-D-53	Chase Lane from frontage road to 700 East	Bicycle lane	2/2
Parrish Lane	A-D-54	Parrish Lane from Legacy Parkway Trail to 400 East	Bicycle lane	1/1
Porter Lane	A-D-55 A-D-157	Porter Lane from Legacy Parkway Trail to 400 West	Bicycle lane and overpass	2/2
Lagoon Drive	A-D-109	Lagoon Drive from Park Lane to 400 West	Shared use path	1/1
Lagoon Drive	A-D-115	Lagoon Drive from Park Lane to State Street	Bicycle lane	1/1
Frontage road	A-D-121	Frontage Road from Parrish Lane to Pages Lane	Bicycle lane	2/2
Pages Lane	A-D-58	Pages Lane from Legacy Parkway Trail to 400 East	Bicycle lane	1/1
400 North	A-D-58	400 North from 1100 West to Main Street	Bicycle lane	1/1
500 South	A-D-61	500 South /U.S. 89 intersection bicycle lane	Bicycle lane	1/1
700 West and 800 West	A-D-112	700 West to 800 West Centerville from 500 South to 1500 South	Bicycle lane	1/1
1500 South	A-D-63	1500 South from Mountain View Boulevard to Main Street	Bicycle lane	1/1
Overland Road/Pacific Avenue	A-D-173	Overland Road/Pacific Avenue from 2600 South and Main Street	Side path	2/2

(continued on next page)

**Table A-3. Planned Transportation Improvements in the 2019–2050 RTP in the Needs Assessment Study Area**

Facility	RTP Identification Number(s)	Limits	Description	Phase <sup>a</sup> (Need/Fund)
2600 South/1100 North	A-D-178	2600 South/1100 North from U.S. 89 to 1100 West/Main Street	Bicycle and pedestrian improvements; further study needed	3/U
U.S. 89/State Street	A-D-171	U.S. 89 from 925 North to 2600 South	Bicycle and pedestrian improvements; side path	2/2
Main Street	A-D-162	Main Street from 1100 North to U.S. 89	Bicycle lane	1/1
I-15 Trail	A-D-166	I-15 Trail from Center Street to U.S. 89 in North Salt Lake	Side path	1/1
Beck Street/frontage road	A-S-179	Beck Street/Frontage Road from U.S. 89 Trail to 400 West	Shared-use trail	2/2
Warm Springs Road	A-S-328	Warm Springs Road from 1800 North to 900 West	Shared lane	1/1
900 West	A-S-313	900 West between 1000 North and Warm Springs Road	Bicycle lane	1/1
600 North	A-S-3	600 North between 800 West and 300 West	600 North in its current configuration might not support the addition of a bicycle lane. Additional review and coordination are needed	2/2
300 North	A-S-309	300 North from 200 West to Oakley Street	Bicycle lane	1/1
Folsom Rail Corridor	A-S-6	Folsom Rail Corridor from Jordan River Parkway to 500 West	Shared-use path	1/1
400 South Viaduct Trail	A-S-308	400 South Viaduct Trail from 900 West to 500 West	Shared-use path	1/1
9-Line Trail	A-S-334	9-Line Trail from 750 West to Lincoln Street	Shared-use path	1/1
1300 South	A-S-10	1300 South from 700 West to 700 East	Bicycle lane	1/1

Source: WFRC 2019

<sup>a</sup> Phase 1 includes projects planned between 2019 and 2030. Phase 2 includes projects planned between 2031 and 2040, and Phase 3 includes projects planned between 2041 and 2050. “U” identifies projects that are unfunded and might not be built until after 2050. Unfunded projects are not included in the 2050 no-action conditions.

<sup>b</sup> WFRC and UTA have provided comments that the Centerville FrontRunner Station project might not be included in the 2023–2050 RTP and that the BRT project might be modified to be an enhanced bus and have different limits in the 2023–2050 RTP. UDOT will work with WFRC and UTA to update the assumptions for these planned projects once the 2023–2050 RTP is approved.

## A.4 Local Land Use Plans

Table A-8 lists the local land use plans that were reviewed and considered in the I-15 project. Local land use plans informed the travel demand model used to describe the conditions in 2050 in the needs assessment study area.

Table A-4. Local Land Use Plans in the Needs Assessment Study Area

Jurisdiction	Land Use Plan Name	Source
Davis County	<ul style="list-style-type: none"> <li>Davis County General Plan, adopted 2006</li> </ul>	<a href="https://www.daviscountyutah.gov/docs/librariesprovider29/planning-docs---davis-county-general-plan/general_plan_introduction.pdf?sfvrsn=98184353_2">https://www.daviscountyutah.gov/docs/librariesprovider29/planning-docs---davis-county-general-plan/general_plan_introduction.pdf?sfvrsn=98184353_2</a>
Davis County	<ul style="list-style-type: none"> <li>Resource Management Plan, adopted 2017</li> </ul>	<a href="http://www.daviscountyutah.gov/docs/librariesprovider28/default-document-library/davis-rmp---final-aproved-8-1-17.pdf">http://www.daviscountyutah.gov/docs/librariesprovider28/default-document-library/davis-rmp---final-aproved-8-1-17.pdf</a>
City of Bountiful	<ul style="list-style-type: none"> <li>Land Use Master Plan, adopted 2009</li> </ul>	<a href="https://www.bountifulutah.gov/file/cea33974-ca78-4843-8aa6-f5f6905581ea">https://www.bountifulutah.gov/file/cea33974-ca78-4843-8aa6-f5f6905581ea</a>
City of Centerville	<ul style="list-style-type: none"> <li>Centerville City General Plan, adopted 1995</li> </ul>	<a href="https://www.centervilleutah.gov/154/General-Plan">https://www.centervilleutah.gov/154/General-Plan</a>
City of Farmington	<ul style="list-style-type: none"> <li>Farmington General Plan, adopted 2016</li> </ul>	<a href="http://www.farmington.utah.gov/departments/community-development/code-enforcement/general-plan-ordinances-development/">http://www.farmington.utah.gov/departments/community-development/code-enforcement/general-plan-ordinances-development/</a>
City of North Salt Lake	<ul style="list-style-type: none"> <li>North Salt Lake General Plan, adopted 2013</li> </ul>	<a href="https://www.nslcity.org/162/Plans-Ordinances">https://www.nslcity.org/162/Plans-Ordinances</a>
City of West Bountiful	<ul style="list-style-type: none"> <li>West Bountiful City General Plan, adopted 2019</li> </ul>	<a href="https://westbountiful.municipalcodeonline.com/book?type=plan#name=ACKNOWLEDGMENTS">https://westbountiful.municipalcodeonline.com/book?type=plan#name=ACKNOWLEDGMENTS</a>
City of Woods Cross	<ul style="list-style-type: none"> <li>Woods Cross City General Plan, updated 2019 and adopted 2020</li> </ul>	<a href="https://www.woodscross.com/index.asp?SEC=D0D746AD-2A71-4F42-87C7-460CE4382955">https://www.woodscross.com/index.asp?SEC=D0D746AD-2A71-4F42-87C7-460CE4382955</a>
Salt Lake City	<ul style="list-style-type: none"> <li>Capitol Hill Master Plan, amended 2001</li> <li>Northwest Master Plan, adopted 1992 and amended 2004</li> <li>Downtown Plan, adopted 2016</li> <li>Westside Plan, adopted 2014</li> </ul>	<a href="https://www.slc.gov/planning/master-plans/">https://www.slc.gov/planning/master-plans/</a>

## A.5 Supplemental Data for I-15 Project Needs

### A.5.1 Safety Data

The crash data and associated analysis in this EIS are protected under 23 United States Code Section 409. The crash analysis conducted for the needs assessment study shows that the crash rate and characteristics in the study area are comparable with those on I-15 throughout the urban Wasatch Front (that is Salt Lake, Davis, and Weber Counties) (Table A-5).

#### What are the levels of crash severity?

UDOT classifies crash severity in five levels:

1. No injury (property damage only)
2. Possible injury
3. Minor injury
4. Serious injury
5. Fatality

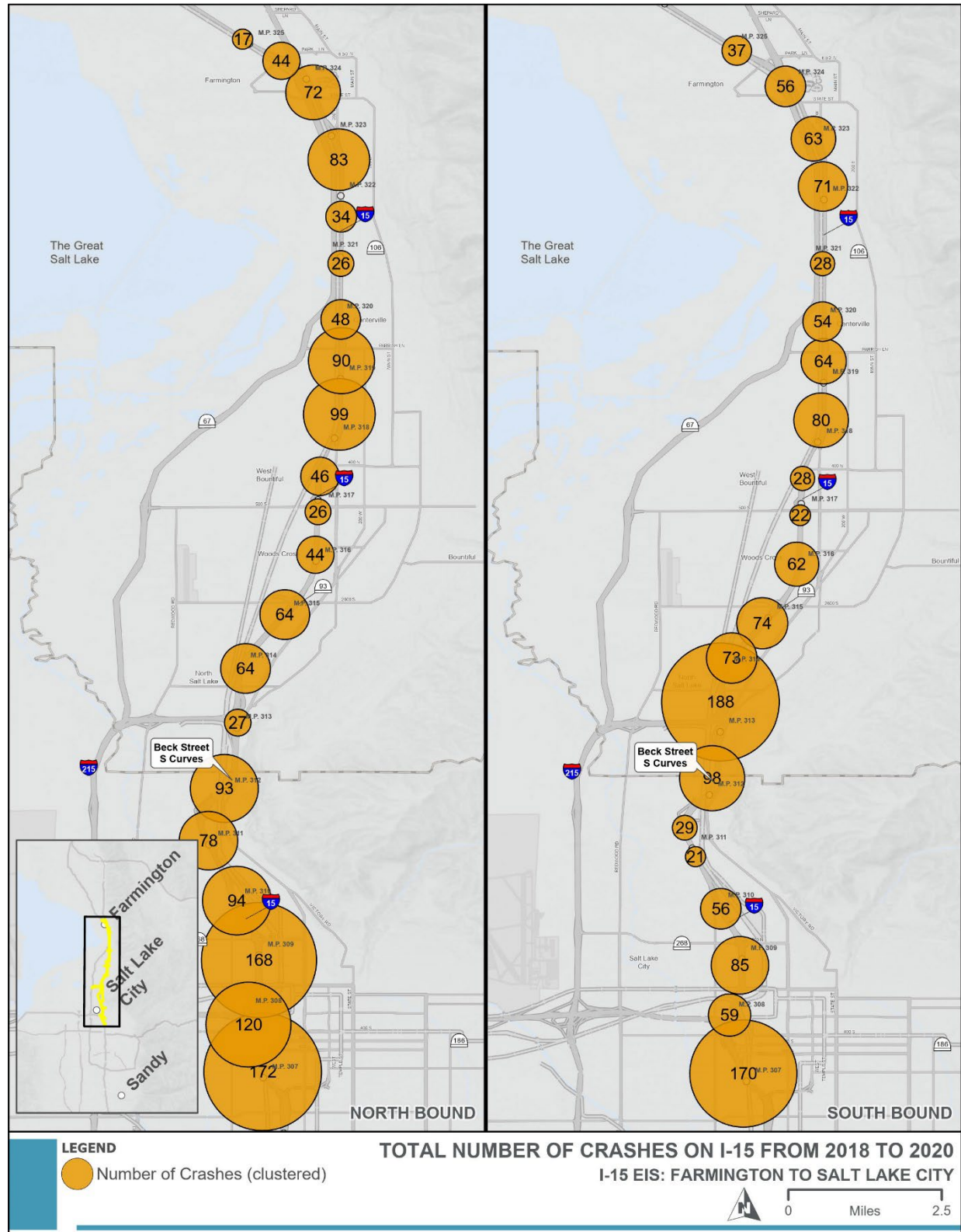
Table A-5. Crash Rate and Characteristics Comparison for I-15

I-15 Segment	No Injury	Possible Injury	Suspected Minor Injury	Suspected Serious Injury	Fatal	Total by Segment
<b>Southbound Travel</b>						
Study Area segment total	1,071	237	114	12	3	1,437
Study Area segment per mile	63.0	13.9	6.7	0.7	0.2	84.5
Urban Wasatch Front total	4,641	1,043	424	56	10	6,174
Urban Wasatch Front per mile	70.7	15.9	6.5	0.9	0.2	94.1
Study Area percent of crashes	23%	23%	27%	21%	30%	23%
<b>Northbound Travel</b>						
Study Area segment total	1,092	292	133	12	2	1,531
Study Area segment per mile	64.2	17.2	7.8	0.7	0.1	90.1
Urban Wasatch Front total	5,379	1,560	548	59	12	7,558
Urban Wasatch Front per mile	82.0	23.8	8.4	0.9	0.2	115.2
Study Area percent of crashes	20%	19%	24%	20%	17%	20%

Within the needs assessment study area, the crash analysis identified 15 “hot spot” locations where there were crashes with a severity level of 4 or greater (serious injury or fatality) between 2018 and 2020. In general, more crashes occur in Salt Lake County than Davis County, where there is higher average annual daily traffic (AADT). There are also a directional and temporal pattern to crashes: southbound travel has more crashes during the morning hours (6 AM to 9 AM), and northbound travel has more crashes during the evening hours (3 PM to 6 PM). This pattern follows rush-hour traffic characteristics between Davis and Salt Lake Counties, and it aligns with project needs to support travel demand, reduce congestion, and standardize road elements such as shoulder widths (road shoulders benefit safety by adding a buffer between traffic and fixed objects and by providing room for disabled vehicles and emergency response). Figure A-2 shows the crash data by direction of travel for 2018 to 2020.



Figure A-2. I-15 Crash Data by Travel Direction (2018–2020)





### A.5.1.1 I-15 Southbound Crash Summary

In the southbound direction on I-15, there are seven hot spots with suspected serious-injury-severity crashes and/or fatalities. The top three types of southbound crashes are front to rear (n=528), single vehicle (n=499), and sideswipe in same direction (n=352) crashes. A high number of front-to-rear and sideswipe crashes is often associated with congestion. The top four first harmful events for crashes are collisions with other motor vehicles (n=923), collisions with concrete barriers (n=306), collisions with a non-fixed object (n=28), and collisions with a thrown or fallen object (n=28). Most single-vehicle crashes are with a concrete barrier or other object or animal in the road.

Table A-6. Crash Severity by Segment for Southbound Travel on I-15

Southbound Travel From/To	No Injury	Possible Injury	Suspected Minor Injury	Suspected Serious Injury	Fatal	Total Number of Crashes by Location <sup>a</sup>	Percent of All Southbound Crashes
Park Lane to U.S. 89	55	3	10	—	—	68	4.7%
U.S. 89 to 200 West	39	5	5	—	—	49	3.4%
200 West to Parrish Lane	138	26	20	1	—	185	12.9%
Parrish Lane to 500 West	77	14	10	2	1	104	7.2%
500 West to 500 South	67	11	3	—	—	81	5.6%
500 South to 2600 South	70	11	3	2	—	86	6.0%
2600 South to I-215	129	34	17	—	—	180	12.5%
I-215 <sup>b</sup> to Warm Springs	179	38	19	1	—	237	16.5%
Warm Springs to 600 North	84	22	8	1	2	117	8.1%
600 North to 400 South	97	28	9	1	—	135	9.4%
400 South to 1300 South	136	45	10	4	—	195	13.6%
<b>Total crashes by type<sup>a</sup></b>	<b>1,071</b>	<b>237</b>	<b>114</b>	<b>12</b>	<b>3</b>	<b>1,437</b>	
<b>Percent of crashes</b>	<b>74.5%</b>	<b>16.5%</b>	<b>7.9%</b>	<b>0.8%</b>	<b>0.2%</b>		

Pink denotes hot spot location for southbound travel.

<sup>a</sup> Three-year period 2018–2020 and for southbound travel only.

<sup>b</sup> Location of the first curve on the I-15 S-curve at Beck Street when traveling southbound.

### A.5.1.2 I-15 Northbound Crash Summary

In the northbound direction, there are eight hot spots with suspected serious-injury-severity crashes and/or fatalities. The top three types of southbound crashes are front to rear (n=666), single vehicle (n=494), and sideswipe in same direction (n=309) crashes. A high number of front-to-rear and sideswipe crashes is often associated with congestion. The top three first harmful events for crashes are collisions with other motor vehicles (n=1,027), collisions with concrete barriers (n=259), and collisions with a thrown or fallen object (n=41). Most single-vehicle crashes are with a concrete barrier or other object or animal in the road.

Table A-7. Crash Severity by Segment for Northbound Travel on I-15

Northbound Travel From/To	No Injury	Possible Injury	Suspected Minor Injury	Suspected Serious Injury	Fatal	Total Number of Crashes by Location <sup>a</sup>	Percent of All Northbound Crashes
U.S. 89 to Park Lane	47	15	4	1	—	67	4.4%
200 West to U.S. 89	63	13	10	—	—	86	5.6%
Parrish Lane to 200 West	119	29	13	—	—	161	10.5%
500 West to Parrish Lane	111	19	16	1	1	148	9.7%
500 South to 500 West	60	20	12	—	—	92	6.0%
2600 South to 500 South	73	8	9	1	—	91	5.9%
I-215 to 2600 South	82	13	13	—	1	109	7.1%
Warm Springs to I-215	55	19	9	1	—	84	5.5%
600 North to Warm Springs <sup>b</sup>	149	50	17	1	—	217	14.2%
400 South to 600 North	142	54	18	4	—	218	14.2%
1300 South to 400 South	191	52	12	3	—	258	16.9%
<b>Total crashes by type<sup>a</sup></b>	<b>1,092</b>	<b>292</b>	<b>133</b>	<b>12</b>	<b>2</b>	<b>1,531</b>	
<b>Percent of crashes</b>	<b>71.3%</b>	<b>19.1%</b>	<b>8.7%</b>	<b>0.8%</b>	<b>0.1%</b>		

Pink denotes hotspot location for southbound travel.

<sup>a</sup> Three-year period 2018–2020 and for northbound travel only.

<sup>b</sup> Location of the first curve on the I-15 S-curve at Beck Street when travelling northbound.

## **A.5.2 Outdated Roadway Features and Design Summary**

The project team analyzed the horizontal and vertical alignments of I-15 and identified several outdated roadway geometric features that contribute to congestion and safety issues. The definition of standard roadway geometry is based on the current highway design standards established by the American Association of State Highway and Transportation Officials (AASHTO 2018). Design standards have been updated over time. Although I-15 met design standards when it was originally constructed, many elements of I-15 are now outdated and do not meet current design standards. Roadway geometry includes the horizontal alignment (how the roadway curves left and right) and vertical alignment (changes in grade or how the roadway curves up and down) and their effects on stopping sight distance. Stopping sight distance is the distance that it takes for a driver to see an obstruction and safely stop their vehicle without hitting the object. AASHTO requires that drivers have an unobstructed view down the road that is at least as long as the stopping sight distance.

### **A.5.2.1 Barriers**

The barriers along I-15 do not meet the 2016 *Manual for Assessing Safety Hardware* (MASH) requirements (AASHTO 2016). For example, MASH requires F-shape concrete barriers for high-speed facilities such as I-15, whereas the existing barriers along I-15 are “New Jersey”-shaped.

### **A.5.2.2 Interchange and Ramp Needs**

There are a few features at on- and off-ramps in the needs assessment study area that do not meet current design standards. Ramp meter storage is insufficient at many ramps, which has contributed to some ramps, such as 600 North, having traffic volumes that exceed capacity during peak periods. In addition to the items listed below in Table A-8, shoulder widths are inconsistent and do not meet current design standards along several ramps, and there are several locations where the on-ramp lane taper is half the distance of standard. The lane taper standard is 600 feet long and a 50:1 ratio; however, in many locations in the study area, it is 300 feet and 25:1. Table A-8 lists the locations of lengths, divergence angles, spacing, and design speeds that do not meet current design standards.

Table A-8. Interchange and Ramp Needs

Location	Design Element	UDOT Standard	Existing Conditions
500 West southbound offramp (exit 317)	Exit is located on the opposite side of standard	Right exit	Left exit
500 South to 400 North southbound ramps (exits 316 and 317)	The weaving distance between the entrance and exit ramps is too short	1,600 ft	1,205 ft
500 South to 400 North northbound ramps (exits 316 and 317)	The weaving distance between the entrance and exit ramps is too short	1,600 ft	1,320 ft
400 North southbound on-ramp (exit 317)	Acceleration length is too short	1,790 ft (0 to 75 mph)	1,565 ft (0 to 65 mph)
500 South southbound off-ramp (exit 316)	Divergence angle is greater than standard	2–5 degrees	12 degrees
I-15 to I-215 southbound (exit 313)	Free-flow terminal design speed is lower than standard	65 mph	55 mph
I-15 to I-215 southbound (exit 313)	Divergence angle is greater than standard	2–5 degrees	10 degrees
I-15 to I-215 southbound (exit 313)	Divergence angle is greater than standard	2–5 degrees	10 degrees
I-15 and I-215 interchange	Ramp terminal spacing is too short. Between the southbound exit ramps, there should be 1,000 ft	1,000 ft	900 ft
I-15 to Beck Street southbound (exit 312)	Free-flow terminal design speed is lower than standard	65 mph	40 mph
I-15 to Beck Street southbound (exit 312)	Divergence angle is greater than standard	2–5 degrees	7 degrees
I-15 to Beck Street southbound (exit 312)	Divergence angle is greater than standard	2–5 degrees	7 degrees
2100 North southbound off-ramp (exit 311)	Free-flow terminal design speed is lower than standard	65 mph	25 mph
2100 North Southbound off-ramp (exit 311)	Ramp deceleration length is too short	700 ft	475 ft
2100 North northbound on-ramp (exit 311)	Ramp design speed is lower than standard and inconsistent with other ramps in study area	40 mph	30 mph
2100 North northbound off-ramp (exit 311)	Free-flow terminal design speed is lower than standard	65 mph	40 mph
1000 North/900 West southbound on-ramp (exit 310)	Weaving distance between the on- and off-ramps is too short	1,600 ft	1,500 ft
1000 North/900 West southbound off-ramp (exit 310)	Intersection skew of off-ramp and 900 West intersection is below standard	90–75 degrees	55 degrees
1000 North/900 West northbound on-ramp (exit 310)	Gap acceptance length is too short based on lane traffic volume projections	1,200 ft	700 ft

### **A.5.2.3 Mainline Horizontal Curvature**

There are two locations on the I-15 mainline with horizontal curves that do not meet current design standards. On I-15 northbound at 500 West in Bountiful is a horizontal curve with a radius of 1,585 feet. The standard minimum curve radius is 2,500 feet. On I-15 near Beck Street is an area referred to as the “S-curve.” There are two curves in this location, and they connect without the proper transition spacing of 710 feet between the curves. One radius of the S-curve, north of the bridge, is smaller than standard at 2,250 feet. Minimizing tight curves and short transitions between curves improves safety.

### **A.5.2.4 Shoulder Widths and HOV Lane Buffers**

Shoulder widths are inconsistent in the needs assessment study area. Adding an additional 4 feet of shoulder at most locations in the study area would increase safety by providing areas for vehicles to pull over and extra space for vehicles to maneuver around crashes.

The HOV lane does not have a buffer between it and the parallel general-purpose lane. The standard is to have a 4-foot buffer between the HOV lane and the neighboring lane. To meet the standards for shoulder widths and HOV lane buffer, a wider footprint is necessary.

### **A.5.2.5 Vertical Clearance**

There are five structures that are less than the minimum vertical clearance of 16.5 feet: the underpasses for Center Street and Main Street (both in North Salt Lake), the northbound off-ramp to U.S. 89 North at exit 312, the southbound off-ramp for 500 West at exit 317, and 1600 North/Pages Lane.

### **A.5.2.6 Vertical Sight Distance**

There are some locations along I-15 where the vertical curves of the mainline do not allow adequate sight distance for vehicles to stop when traveling at freeway speeds. Table A-9 lists these locations.

**Table A-9. Locations on I-15 with Stopping Sight Distances That Do Not Meet Current Design Standards**

Location	UDOT Standard	Existing Conditions
I-15 north of State Street (near exit 324)	820 ft (75 mph)	615 ft (60 mph)
Glovers Lane to flyover (near exit 322)	820 ft (75 mph)	670 ft (~65 mph)
500 West northbound (near exit 317)	820 ft (75 mph)	380 ft (45 mph)
I-15 southbound at Beck Street	820 ft (75 mph)	570 ft (60 mph)
I-15 northbound at Beck Street	820 ft (75 mph)	645 ft (65 mph)
I-15 at North Temple	820 ft (75 mph)	645 ft (65 mph)

### A.5.3 Bicycle and Pedestrian Needs

The following bicycle and pedestrian needs have been identified in the *Salt Lake City Pedestrian and Bicycle Master Plan* (Salt Lake City 2015), the *South Davis County Active Transportation Plan* (APD and TR 2020), and the Smart Growth America workshops (SGA 2021) and by reviewing StreetLight Data (Table A-10). StreetLight Data is a dataset that aggregates cellular phone data to summarize travel patterns and demographics. StreetLight Data were analyzed to better understand the travel behavior of people walking, riding bicycles, and accessing transit in the study area. The data were used to determine trip mode, origins and destinations of nonmotorized travel, demographics such as the race or income level of users, trip directness, short vehicle trips to FrontRunner stations, and frequency of use at each I-15 crossing. Travel patterns were different for each crossing of I-15. Many of the locations in Table A-10 have bicycle and pedestrian improvement projects identified in WFRC's 2019–2050 RTP.

Table A-10. Bicycle and Pedestrian Needs Identified in Previous Studies

Crossing	City	Source(s) <sup>a</sup>	Needs
Farmington Station Park Area	Farmington	SGA	The Farmington Station Park area does not have any bicycle or pedestrian facilities that connect across I-15 and U.S. 89. This location needs facilities to provide better connections to regional trail system and the Lagoon amusement park. Lagoon is a large employer, and many employees do not drive or own vehicles.
		StreetLight Data	This crossing was analyzed to determine the number of short vehicle trips (trips that start or end within a 3-mile radius of the crossing) that use this crossing. Park Lane has a high number of short trips compared to other crossings in the area, indicating that there is a need for better nonmotorized facilities to encourage a mode shift to walking or biking for close destinations.
State Street	Farmington	SGA	Traffic noise is loud on the overpass, and lighting is insufficient. Pedestrian facilities are narrow and difficult to navigate in some locations. Pedestrian facilities are disconnected and end abruptly. There is a need to provide better and more direct multimodal connections to the Farmington FrontRunner station, Station Park development, regional trail system, and Lagoon amusement park. Lagoon is a large employer, and many Lagoon employees do not drive but instead use transit to commute to work. There is a need to address safety concerns due to pedestrians and bicyclists using a separate and constrictive facility.
		StreetLight Data	Three crossings in the study area have significant use by people walking and biking to FrontRunner stations (State Street in Farmington, 500 South in Bountiful, and North Temple in Salt Lake City). State Street has the highest use by bicyclists in the study area for accessing a FrontRunner station, tied with North Temple. State Street currently has a high number of pedestrian and bicycle trips due to the adjacent destinations and land uses. These trips are expected to continue to increase as the Station Park area adds housing, mixed-use development, and office space in the next decade. The State Street crossing is also one of the top crossings for trip circuitry for pedestrians, meaning that there is significant out-of-direction travel by foot to access east-west destinations since the State Street connection is not adjacent to most of the destinations.

(continued on next page)



Table A-10. Bicycle and Pedestrian Needs Identified in Previous Studies

Crossing	City	Source(s) <sup>a</sup>	Needs
925 South/ Glovers Lane	Farmington	SDCATP	There are no east-west connections across I-15 between the frontage road and Legacy Parkway trail between Glovers Lane and Parrish Lane.
		StreetLight Data	Demographic data at the census block level from the 2020 Census are tied to nonmotorized trips in the study area. Trips originating and terminating adjacent to the Glovers Lane crossing were tied to census block groups that have a higher-than-average ratio of families with children under 18. Farmington High School and Canyon Creek Elementary School are adjacent to or accessible via Glovers Lane, and many nonmotorized trips are likely by school-aged children who do not drive.
Pages Lane/ 1600 North	Centerville	StreetLight Data	<p>This crossing is highly utilized by bicyclists and pedestrians, since it provides a grade-separated crossing of I-15. Bicycle activity has doubled from 2019 to 2020; 40% of bicycle trips crossing here have a trip length of at least 10 miles, suggesting that this is a good connection to the Legacy Parkway Trail and the regional trail network. This crossing also has the most out-of-direction travel for bicyclists; over 39% of trips score a trip circuitry number of 4 or higher (the scale is 0–6+; the higher the number, the less direct the trip).</p> <p>This crossing was used by pedestrians making short trips that were not work-based trips. These trips originate from residential zones on the west of I-15 to commercial zones on the east side of I-15. This suggests that many people are waking to access goods and services on the opposite side of the interstate from where they live.</p>
Parrish Lane/ 400 North	Centerville	SDCATP and SGA	<p>The street is a barrier to the communities divided by I-15. This location needs facilities to accommodate a range of abilities and connectivity to the fast-growing west side of I-15 and to provide better connections to regional trails.</p> <p>Existing pedestrian facilities provide separation from traffic but do not provide visibility to drivers. Pedestrian facilities are minimally designed, and the timing of the crossing signals is too short for many users to cross safely in time. I-15 is a barrier between residential development west of I-15 and retail centers east of I-15. Without connections to regional trails, such as the Legacy Parkway Trail, pedestrians and bicyclists often jaywalk and create their own paths and informal parking areas within UDOT's right of way to access the regional trail system.</p> <p>There is a need to accommodate a range of abilities and improve connectivity to the fast-growing west side of Centerville and provide better connections to the regional trails (Legacy Parkway and D&amp;RGW trail systems) west of I-15 and across I-15.</p>
		StreetLight Data	Parrish Lane is one of the top-utilized crossings in the study area by people on bicycles. This is due to the access Parrish Lane provides to the regional trail network. This crossing also has the highest trip circuitry in the study area because the crossing at I-15 is on the north side of the interchange, while the trail access is on the south side of Parrish Lane.

(continued on next page)

Table A-10. Bicycle and Pedestrian Needs Identified in Previous Studies

Crossing	City	Source(s) <sup>a</sup>	Needs
500 South	Bountiful	SDCATP and SGA	<p>High traffic, high speeds, lack of protection, and out-of-direction travel are a barrier to bicycling, and the pavement quality is poor. This location needs improvements to existing facilities and to provide better connections to the Legacy Trail system. Facility improvements should separate bicycles from vehicles in locations with poor visibility for drivers.</p> <p>The diverging diamond interchange is difficult to navigate as a pedestrian or bicyclist. Many pedestrians and bicyclists avoid crossing I-15 at 500 South and instead cross at 400 North or 1500 South. The rail line on the west side of I-15 is also a barrier to east-west travel.</p> <p>There is a need to provide better connections to the Legacy Parkway trail system west of I-15 and improve active transportation infrastructure, and separate bicycles from vehicles in locations with poor visibility. There is also a need to improve access to the Woods Cross FrontRunner station on the west side of I-15.</p>
		StreetLight Data	This crossing had high bicycle and pedestrian usage and is used by pedestrians accessing the Woods Cross FrontRunner station. Access to the station from the west side of I-15 is not direct or comfortable and requires crossing the rail corridor and using substandard pedestrian facilities to access transit.
1500 South	Bountiful	StreetLight Data	This crossing has the highest number of short vehicle trips of all crossings in the study area. Short vehicle trips are 3 miles or less—a length that is considered a comfortable and reasonable bicycle trip for accessing amenities and destinations. Adding multimodal facilities might encourage a mode shift from vehicle to bicycle or foot.
1100 North/ 2600 South	Woods Cross	SDCATP and SGA	<p>This location has several barriers between the diverging diamond intersection (DDI), I-15, and the rail line. Bicyclists must dismount and walk through the DDI. This location needs better connections to 2600 South and improvements to pedestrian and bicycle facilities on Main Street, an important north-south route connecting to 2600 South.</p> <p>Lighting under I-15 is insufficient, pedestrian facilities are difficult to navigate, and pedestrian visibility is poor for drivers. Vehicles exiting I-15 are traveling fast when crossing pedestrian facilities.</p> <p>There is a need to provide better connections to 1100 North/2600 South and improve pedestrian and bicyclist facilities on Main Street, an important north-south route connecting to 1100 North/2600 South east of I-15. There is also a need to include a pedestrian and bicyclist crossing as part of the new rail crossing west of I-15.</p>
		StreetLight Data	This crossing had the highest pedestrian trip <i>growth</i> from 2019 to 2021 and is the second-most-utilized crossing by pedestrians in the study area after the North Temple crossing.

(continued on next page)

Table A-10. Bicycle and Pedestrian Needs Identified in Previous Studies

Crossing	City	Source(s) <sup>a</sup>	Needs
Main Street	North Salt Lake	SDCATP	The sidewalk on the north side of I-15 and the east side of Main Street ends without providing a marked crossing to the sidewalks on the west side of Main Street. The west sidewalk does not have marked crossings of local road intersections. This street is important for network connectivity to 1100 North/2600 South, its numerous destinations, and the low-income neighborhoods on either side of I-15.
		StreetLight Data	Nonmotorized trips are low in this area. 50% of pedestrian trips at this crossing are home-based work trips originating from residential areas on the east side and traveling to the industrial zones on the west side of I-15.
Center Street	North Salt Lake	StreetLight Data	This crossing is adjacent to North Salt Lake's redeveloping downtown area; it has the second-highest crash rate for pedestrian-involved crashes within a 0.3-mile radius. It also has the second-highest trip circuitry of all crossings in the study area; over 38% of trips through this crossing have a trip circuitry of 4 or more (the scale is 0–6+; the higher the number, the more out-of-direction the travel).
Warm Springs Road	Salt Lake City	SDCATP	The road is a low-stress facility for bicyclists; however, it is frequently blocked by trains.
		StreetLight Data	This road currently has low bicycle and pedestrian activity since it is not a very direct or reliable route (trains often block this access).
Beck Street	Salt Lake City	StreetLight Data	Due to lack of facilities, Beck Street does not have significant nonmotorized use. The nonmotorized trips that are taken using this crossing are generally made by racial minorities, low-income (less than \$50,000) individuals, and households with children under 18.
900 West	Salt Lake City	StreetLight Data	This crossing does not have significant bicycle or pedestrian activity because it lacks multimodal facilities. Nearly 64% of bicyclists and 68% of pedestrians who use this crossing have an income below \$50,000.
600 North	Salt Lake City	SGA and SLCPBMP	<p>This street has high truck traffic, high vehicle speeds, and multiple pedestrian crossings of roads that are not easy for motorists to see. This area was recommended for traffic calming, improved lighting, and better pavement markings to help drivers slow down and transition from the freeway speeds of I-15 to the slower speeds of neighborhood streets and help increase the visibility of bicyclists and pedestrians. Route is identified as an east-west pedestrian priority corridor.</p> <p>Traffic noise is loud, landscaping and walkways are not maintained, pedestrian facilities are difficult to navigate, vehicles are traveling fast, and truck volumes are high.</p> <p>There is a need to provide traffic calming to help drivers slow down and transition from freeway speeds on I-15 to slower speeds in the neighborhoods east and west of I-15. Connectivity in this area might be improved by an additional crossing of I-15 at the bridge over the rail line at 1800 North and/or at 600 North. There is a desire for better maintenance of pedestrian and bicycle facilities, such as sweeping debris, removing snow, and maintaining landscaping.</p>

Table A-10. Bicycle and Pedestrian Needs Identified in Previous Studies

Crossing	City	Source(s) <sup>a</sup>	Needs
		StreetLight Data	Nonmotorized trip data are tied to census data; demographic trends can be extrapolated based on origin and destination information tied to census block groups. This crossing is most utilized by racial minorities; over 46% of people riding bicycles and over 55% of people walking here are of a racial minority. This is a similar trend for all crossings in the study area located within Salt Lake City boundaries. This crossing has the highest use of all crossings in the study area by those with lower incomes; data suggest that nearly 64% of people walking and biking across 600 North make less than \$50,000 per year.
300 North	Salt Lake City	SLCPBMP	Route is identified as an east-west pedestrian priority corridor.
		StreetLight Data	Aside from North Temple, which is a well-utilized commuting connection for nonmotorized users, 300 North has the highest bicycle and pedestrian activity for early-morning trips (6 AM–10 AM) on weekdays, suggesting that it is a top route for multimodal commuters.
North Temple	Salt Lake City	StreetLight Data	This crossing is the most utilized by bicyclists and pedestrians in the project area due in large part to comfortable and connected bicycle and pedestrian facilities, proximity to downtown Salt Lake City, and direct access to FrontRunner and local TRAX rail services. This is a good example of how well a crossing can be utilized by multimodal system users if the right facilities and connections exist.
South Temple	Salt Lake City	StreetLight Data	South Temple has low utilization rates by people riding bikes and walking. This crossing does provide access to both sides of I-15; however, the connection ends west of the interstate at 600 West, forcing users to go north or south to connect to a different east-west facility. Most nonmotorized travelers default to North Temple as the preferred, comfortable, and connected crossing in this area.
200 South	Salt Lake City	StreetLight Data	Trip circuitry for bicyclists is high at this crossing, and a lot of out-of-direction travel is prevalent. Pedestrians crossing on 200 South are often accessing the Salt Lake Central FrontRunner station.
400 South	Salt Lake City	SLCPBMP	Route is identified as an east-west pedestrian priority corridor.
		StreetLight Data	This crossing has low utilization rates by people walking and biking and a higher trip circuitry rating by bicyclists. Adjacent land uses do not warrant many short trips by foot or bike in the area.

<sup>a</sup> Sources:

SLCPBMP – 2015 *Salt Lake City Pedestrian and Bicycle Master Plan* (Salt Lake City 2015)

SGA – 2021 *Smart Growth America Workshops* (SGA 2021)

SDCATP – 2020 *South Davis County Active Transportation Plan* (APD and TR 2020)

StreetLight Data – bicycle and pedestrian trips in the study area

## A.5.4 Structures Needs Assessment

The majority of the structures on I-15 in the needs assessment study area are nearing the end of their lifecycle and need to be replaced or have other maintenance work to extend their lifespan. Of the 35 existing structures, 9 are recommended for replacement, 1 is recommended for a deck replacement, and 19 are recommended for preservation work by the UDOT Structures Group for the 2050 no-action conditions (meaning these improvements would be needed if there would be no improvements to I-15). The other 6 are not identified as needing any condition-based work. See Table A-11 for a list of all structures in the needs assessment study area.

Table A-11. UDOT Structures Information for the I-15 EIS Needs Assessment Study Area

Structure Type	Structure Number	Feature Carried	Feature Crossed	Does Structure Meet Current Seismic Design Standards? <sup>a</sup>	Recommendation from UDOT Structures for No-Action Condition <sup>b</sup>
Bridge	C-1024	I-15	2600 South (1100 North)	Yes	Preservation
Bridge	C-1025	I-15	1500 South	Yes	Preservation
Pedestrian bridge	C-1029	Parrish Lane	I-15	Yes	No condition-based work needed
Bridge	C-302	I-15	1000 North	No	Replacement
Bridge	C-448	Glovers Lane	I-15	No	Replacement
Bridge	C-449	State Street	I-15	No	Replacement
Bridge	C-514	I-215	I-15	No	Replacement
Bridge	C-521	Walker Lane	I-15	No	Replacement
Bridge	C-596	Parrish Lane	I-15	No	Replacement
Bridge	C-598	Shepard Lane	I-15	No	Replacement
Bridge	C-803	I-15	Main Street	Met prior standard	Deck replacement
Bridge	C-804	I-15	Center Street	Met prior standard	Preservation with approach slab replacements
Bridge	C-816	600 North	I-15	Met prior standard	Preservation
Bridge	C-863	Legacy Parkway	I-15, UP, UTA	Met prior standard	Preservation
Bridge	C-864	I-15	Legacy Parkway	Met prior standard	Preservation
Bridge	C-866	S.R. 67	I-15, UP, UTA	Met prior standard	Preservation
Bridge	C-867	Legacy Parkway	I-15, UP, UTA	Met prior standard	Preservation
Bridge	C-869	U.S. 89	I-15	Met prior standard	Preservation
Pedestrian bridge	C-948	Glovers Lane	I-15	Met prior standard	No condition-based work needed
Bridge	D-613	I-15	Pages Lane	No	Replacement
Bridge	D-631	400 North	UP	No	Replacement
Bridge	D-672	U.S. 89	I-15 northbound off-ramp	No	No condition-based work needed. Structure cannot be widened

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Table A-11. UDOT Structures Information for the I-15 EIS Needs Assessment Study Area

Structure Type	Structure Number	Feature Carried	Feature Crossed	Does Structure Meet Current Seismic Design Standards? <sup>a</sup>	Recommendation from UDOT Structures for No-Action Condition <sup>b</sup>
Culvert	E-2490	Not applicable	Not applicable	Not applicable	No condition-based work needed
Bridge	F-296	I-15	Walker Lane	No	No condition-based work needed
Pedestrian bridge	F-583	State Street	I-15	Not applicable	Preservation
Bridge	F-668	Glovers Lane	Legacy Parkway	Met prior standard	Preservation
Bridge	F-669	State Street	Legacy Parkway	Met prior standard	Preservation with approach slab replacements
Bridge	F-714	Park Lane	UP	Met prior standard	Preservation
Bridge	F-715	SR-225	I-15	Met prior standard	Preservation with approach slab replacements
Bridge	F-774	I-15	U.S. 89, FrontRunner, Beck Street	Met prior standard	Preservation
Bridge	F-780	U.S. 89	I-15	Met prior standard	Preservation
Bridge	F-791	1000 North	I-15	Met prior standard	Preservation
Bridge	F-855	I-15	500 South	Met prior standard	Preservation with approach slab replacements
Bridge	F-856	400 North	I-15	Met prior standard	Preservation with approach slab replacements
Culvert	V-2071	Not applicable	Not applicable	Not applicable	No condition-based work needed

Source: UDOT 2022

<sup>a</sup> Structures built in 2015 or later meet the current seismic design standards. Structures built between 1995 and 2015 were built to the prior seismic design standards. Structures built before 1995 do not meet seismic design standards.

<sup>b</sup> Preservation includes replacing and/or placing overlay, painting superstructures, sealing columns and parapets, replacing joints, making minor substructure repairs, and repairing and/or replacing fences.



## **A.6 UTA FrontRunner Forward Technical Memorandum**

The full technical memorandum sent by the UTA to UDOT on December 13, 2021, is included below for reference.

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## FrontRunner Forward Technical Memorandum

To: Tiffany Pocock, UDOT

From: Janelle Robertson, UTA FRF Program Manager

Date: December 13, 2021

Subject: Input to Davis County EIS, 600 N (Salt Lake City) to Park Lane (Farmington)

Utah Transit Authority (UTA) appreciates the opportunity to provide input to the recently initiated I-15 Davis County Environmental Impact Statement, 600 N (Salt Lake City) to Park Lane (Farmington).

UTA is initiating strategic investments in FrontRunner to improve the reliability, travel time, and frequency of commuter rail. If constructed, these projects would provide both immediate and long-term benefits to the system, including peak limited stop express trains.

UTA identified three strategic investment projects in the north (between Salt Lake City and Ogden), and five projects between Salt Lake City and Provo. These projects, referred to as Initial Investment Projects, are in various stages of preliminary design and environmental analysis. In addition, UTA is evaluating the need for at-grade crossing, grade separation, signaling, communications, and station improvements.

Within the limits of the I-15 Davis County EIS, UTA is planning the following Initial Investment improvements:

- Beck Yard Double Track
- Centerville to Woods Cross Double Track
- West Davis Corridor Double Track Embankment (allow for future double track); this project is a partnership with the Utah Department of Transportation (UDOT) to design and construct embankment for future UTA double tracking as part of the on-going West Davis Corridor (WDC) Project

Continued collaboration with UDOT will be required to achieve UTA's long-term vision to increase the number of miles of FrontRunner double tracked segments. For example, when new bridges or interchanges are constructed over the FrontRunner corridor, they should be constructed to accommodate a second UTA mainline track. Examples within the I-15 Davis County EIS include needed bridge widening at State Street over I-15 and at Parrish Lane over I-15.

UTA desires to bring to the attention of UDOT the following analysis completed in 2009:

- I-15 North and Proposed Commuter Rail, Collaborative Design Planning Study, Summary Report, Volume I, September 2009

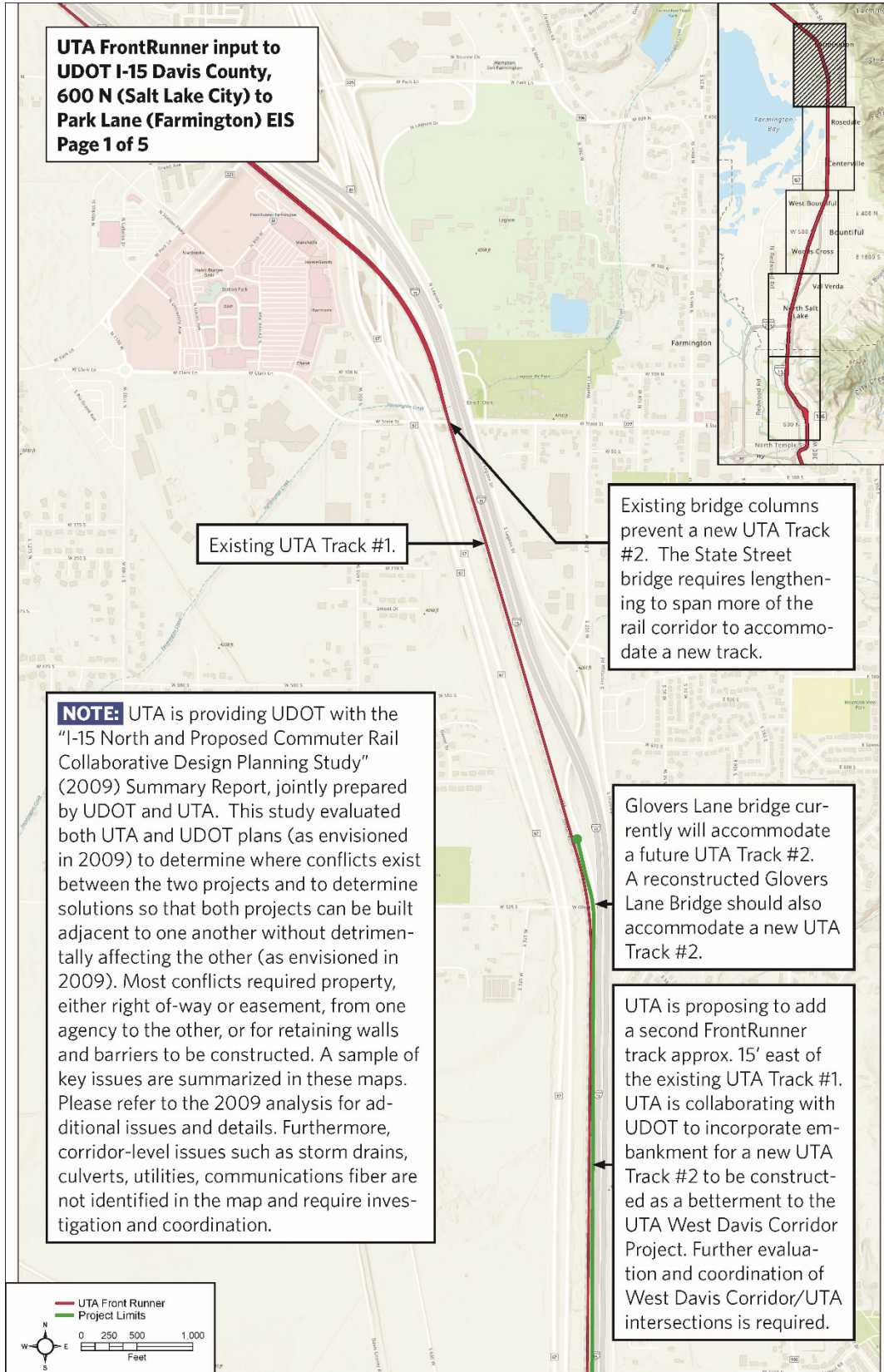


- I-15 North and Proposed Commuter Rail Collaborative Design Planning Study, Summary Report, Volume II – Figures, September 2009

The study identified conflicts between the UTA current (single-track) and future (double-track) projects and the then-proposed (as of 2009) I-15 North Reconstruction project which will widen and reconstruct I-15 in Davis County. The analysis was based on I-15 improvements as described in the Draft I-15 North Corridor Environmental Impact Statement.

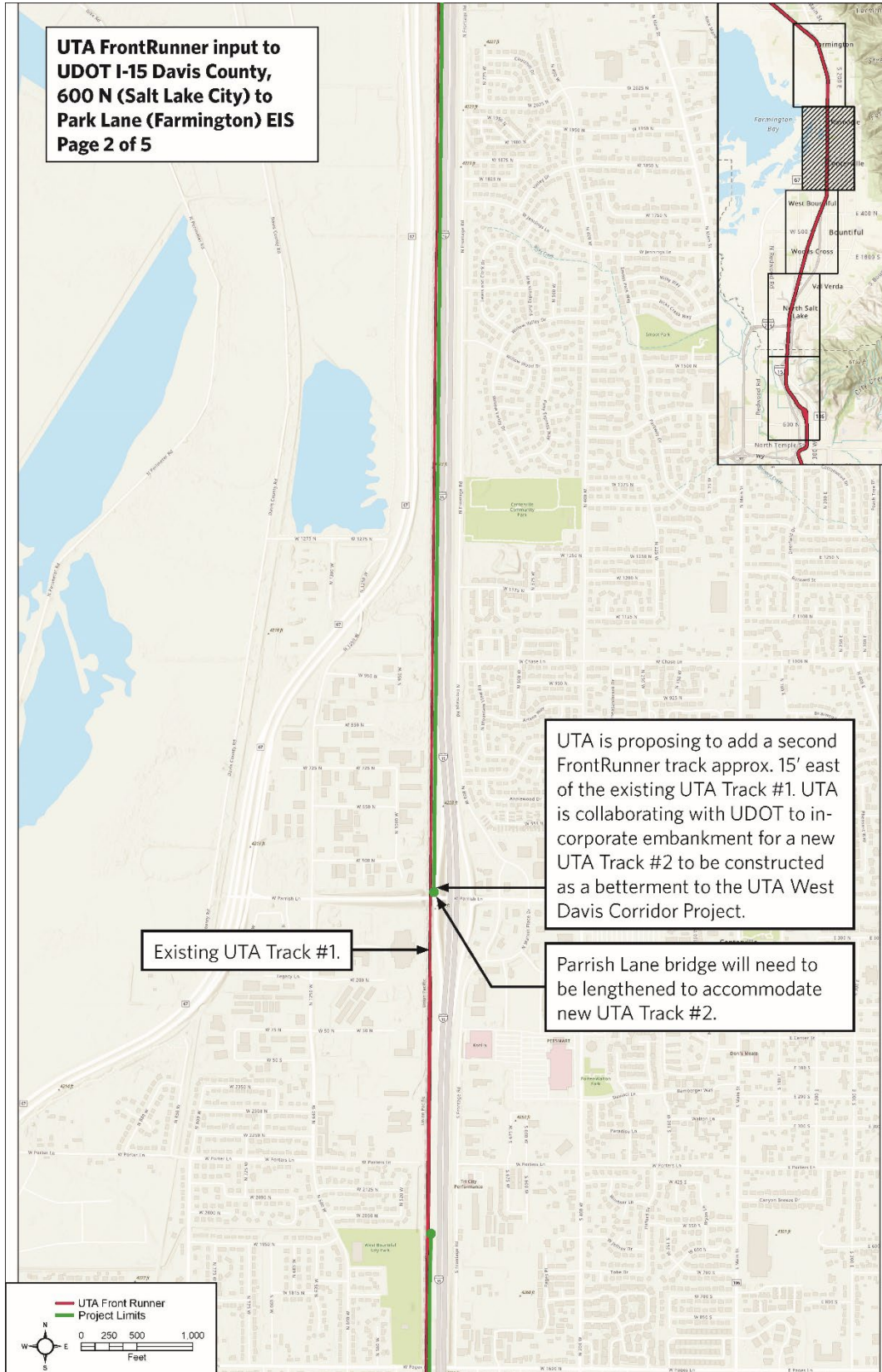
We look forward to continued collaboration to improve Utah's transportation system. Please don't hesitate to contact me with any questions, at [jarobertson@rideuta.com](mailto:jarobertson@rideuta.com), or 801-237-1951.

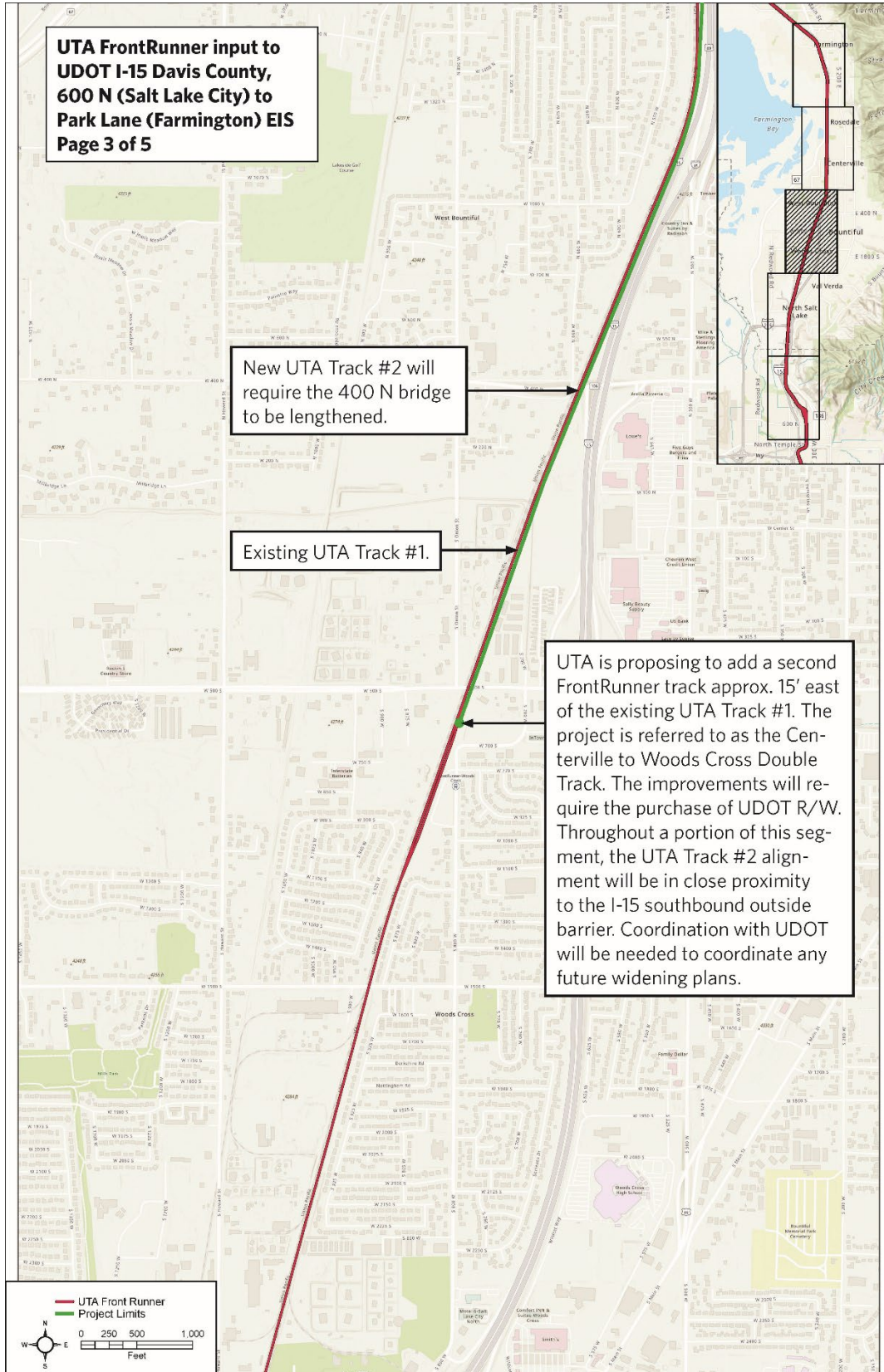
**UTA FrontRunner input to  
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Park Lane (Farmington) EIS**  
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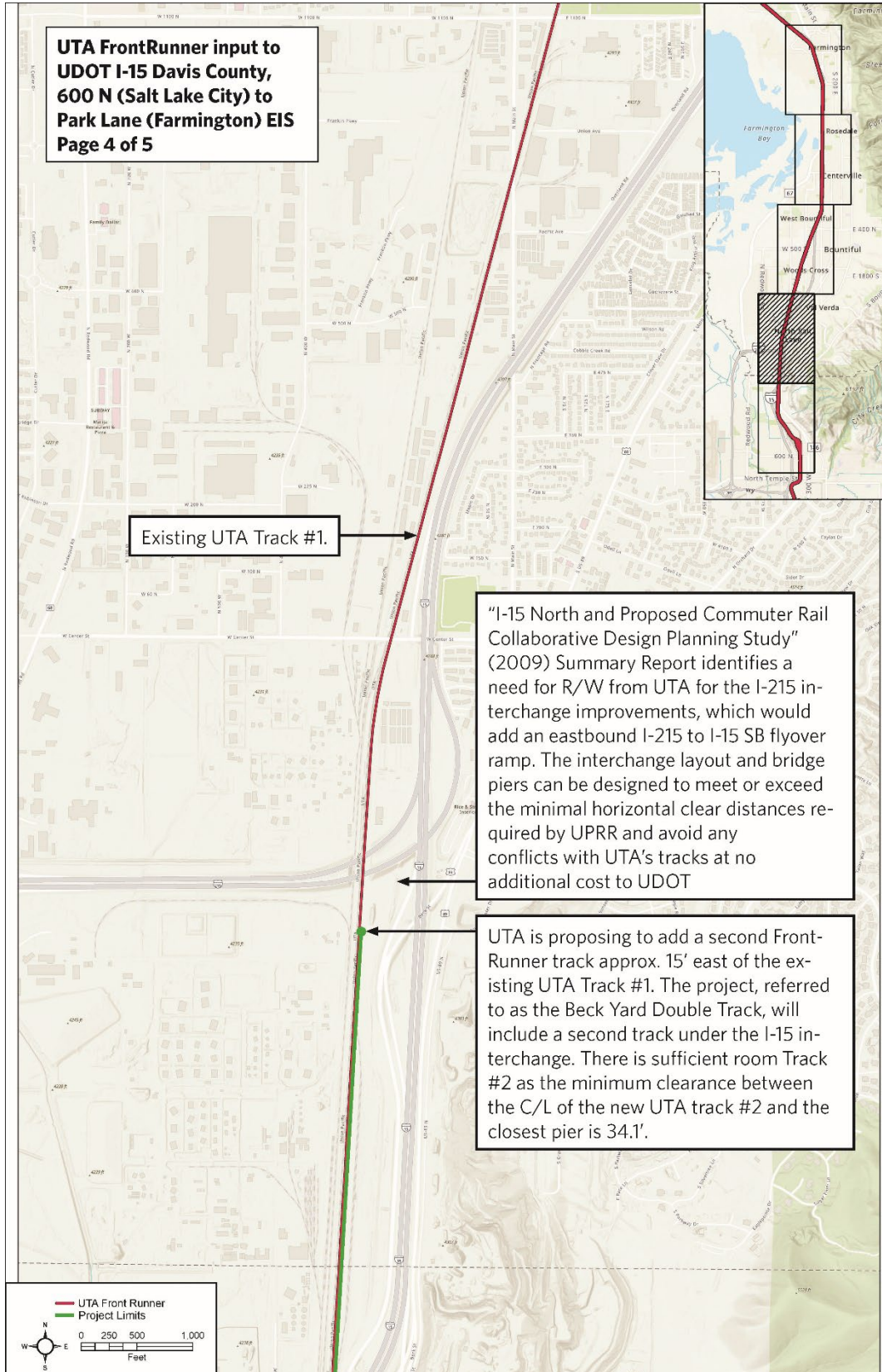


**UTA FrontRunner input to  
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600 N (Salt Lake City) to  
Park Lane (Farmington) EIS  
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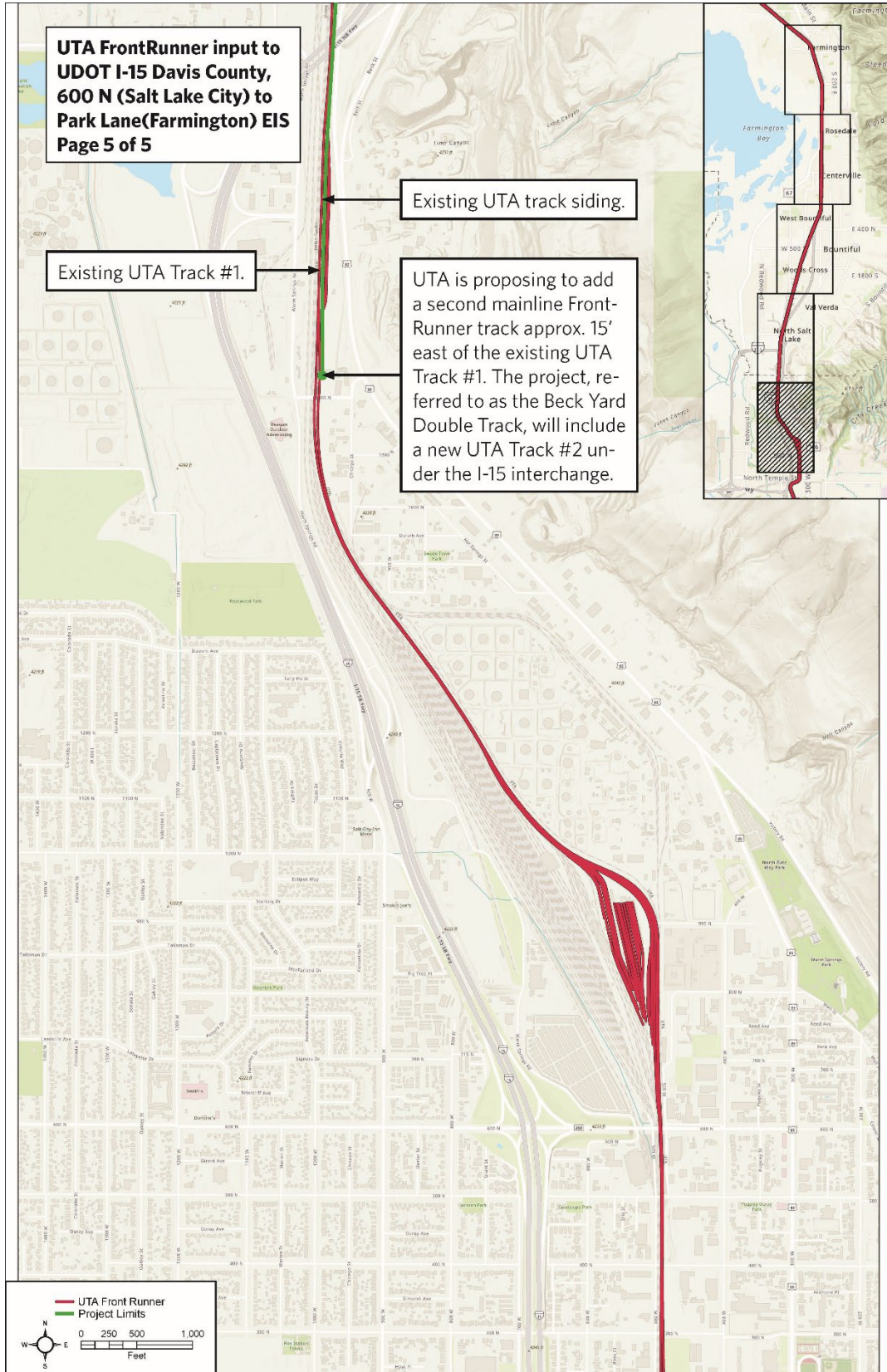












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