

I-15 INTERCHANGE

SPANISH FORK VILLE

ENVIRONMENTAL ASSESSMENT

Project Number: S-I15-6(239)-259

PIN: 15153

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VOLUME
1

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by UDOT pursuant to 23 USC 327 and a Memorandum of Understanding dated January 17, 2017, and executed by FHWA and UDOT.

ENVIRONMENTAL ASSESSMENT

**I-15 SPRINGVILLE/SPANISH FORK INTERCHANGE
(Interstate 15 between Approximate Milepost 257.3 and 258.8 and
1600 North/2700 South from Main Street in Spanish Fork City
to SR-51 in Springville City)
SPRINGVILLE CITY AND SPANISH FORK CITY, UTAH COUNTY, UTAH
S-I15-6(239)259**

Submitted Pursuant to 42 U.S.C. 4332(2)(c)
and 49 U.S.C. 303 by the

Utah Department of Transportation

Cooperating Agencies:
N/A

TeriAnne S. Newell, P.E. Deputy Director	Date of Approval
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December 2020

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried-out by UDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated January 17, 2017 and executed by FHWA and UDOT. UDOT has fully carried out all responsibilities assumed under the MOU in accordance with the MOU and applicable Federal laws, regulations, and policies.

Comments on this Environmental Assessment are due by **November 13, 2020** and should be sent to
I-15 Springville/Spanish Fork Interchange EA
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Air Quality Memo	
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Noise Analysis	
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Threatened and Endangered Species Evaluation Memo	
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LIST OF ACRONYMS

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ACHP	Advisory Council on Historic Preservation
ACS	American Community Survey
ADA	Americans with Disabilities Act
APE	Area of Potential Effects
ATMS	Advanced Transportation Management System
BMP	Best Management Practices
CFR	Code of Federal Regulations
CAAA	Clean Air Act Amendments
CAFE	Corporate Automobile Fuel Efficiency
CEQ	Council on Environmental Quality
CO	Carbon Monoxide
CO₂	Carbon Dioxide
CWA	Clean Water Act
dBA	A-weighted decibels
DOEFOE	Determination of Eligibility and Finding of Effect
DOT	Department of Transportation
EA	Environmental Assessment
EIA	Energy Information Administration
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FDP	Floodplain Development Permit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
GHG	Green House Gases
GOMB	Governor's Office of Management and Budget
HOV	High Occupancy Vehicle
HUD	United States Department of Housing and Urban Development
I-15	Interstate 15
IPaC	Information for Planning and Consultation
Leq	Equivalent Levels
LOS	Level-of-Service
LWCF	Land and Water Conservation Fund
LRTP	Long Range Transportation Plan
MAG	Mountainland Association of Governments

MBTA	Migratory Bird Treaty Act
mpg	miles per gallon
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxic
NAAQS	National Ambient Air Quality Standards
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NAC	Noise Abatement Criteria
NMFS	National Marine Fisheries Service
NO	Nitric Oxide
NO_x	Nitrogen Oxides
NO₂	Nitrogen Dioxide
NRHP	National Register of Historic Places
OHWM	Ordinary High Water Mark
O₃	Ozone
Pb	Lead
PEM	Palustrine Emergent Wetland
POD	Point of Diversion
PM	Particulate matter
PM₁₀	Particulate matter with a diameter of 10 micrometers or less
PM_{2.5}	Particulate matter with a diameter of 2.5 micrometers or less
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SNAP	Safe Neighborhoods Access Program
SPUI	Single Point Urban Interchange
SO₂	Sulfur Dioxide
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traditional Cultural Properties
TDS	Total Dissolved Solids
TNM	Traffic Noise Model
TSS	Total Suspended Solids
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality
UDDW	Utah Division of Drinking Water
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UDWQ	Utah Division of Water Quality

UDWR	Utah Division of Water Rights
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Survey
UNHP	Utah Natural Heritage Program
UPDES	Utah Pollutant Discharge Elimination System
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UTA	Utah Transit Authority
VMT	Vehicle Miles Traveled
WOTUS	Waters of the United States

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The Utah Department of Transportation (UDOT) has prepared an Environmental Assessment (EA) consistent with the National Environmental Policy Act (NEPA) to evaluate a new interchange on Interstate 15 (I-15) in Springville City and Spanish Fork City at 1600 South/2700 North and improvements to 1600 South/2700 North from Main Street in Spanish Fork City to State Street (SR-51) in Springville City, Utah County, Utah. The EA considers current and future transportation needs while accounting for potential impacts to the natural and built environments.

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by UDOT pursuant to 23 United States Code (USC) 327 and a Memorandum of Understanding dated January 17, 2017, and executed by the Federal Highway Administration (FHWA) and UDOT.

ES.2 PROPOSED ACTION

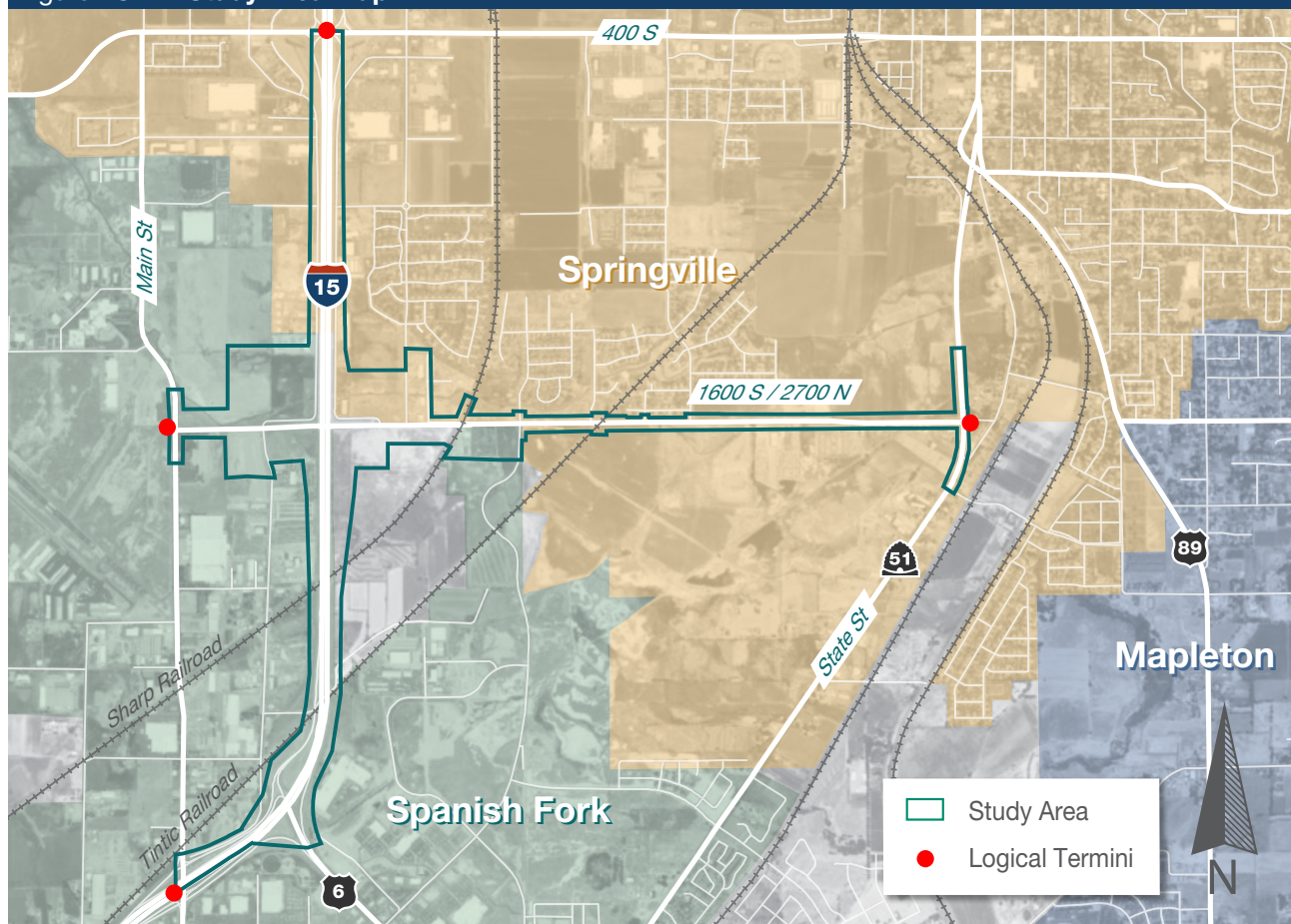
The Proposed Action includes:

- Constructing a new interchange on I-15 at 1600 South/2700 North.
- Widening 1600 South/2700 North to five lanes from Main Street to SR-51.
- Constructing a 10-foot, multiuse trail adjacent to 1600 South/2700 North from Main Street to SR-51.
- Constructing a new grade-separated crossing over the combined Sharp/Tintic Railroad tracks.
- Acquisition of right-of-way.

ES.2.1 STUDY AREA

The study area is located on I-15 and 1600 South/2700 North in Springville City and Spanish Fork City, Utah County, Utah. The portion on I-15 runs from the Spanish Fork City Main Street Interchange to the Springville City 400 South Interchange. The section along 1600 South/2700 North runs from Spanish Fork City Main Street to SR-51 in Springville City (see Figure ES-1).

Figure ES-1 Study Area Map



ES.2.2 LOGICAL TERMINI AND INDEPENDENT UTILITY

The logical termini on I-15 are the I-15 and Spanish Fork City Main Street Interchange on the south and the I-15 and Springville City 400 South Interchange on the north. Along 1600 South/2700 North, logical termini are located at Main Street and SR-51 because these are established north-south routes (see Figure ES-1). Additionally, 1600 South/2700 North currently forms T-intersections at these termini. These termini are an adequate distance apart to assess the environmental impacts on a broad scope and are located at rational end points for proposed transportation improvements.

The project has independent utility since the proposed action would be usable and be a reasonable expenditure, even if no additional transportation improvements in the area are made and do not require other improvements to the transportation system to function. The identified study area is sufficiently broad and does not restrict considerations to the Proposed Action to meet the identified need of the project.

ES.3 PURPOSE AND NEED

ES.3.1 PURPOSE OF THE PROPOSED ACTION

The purpose of this proposed action is to:

- Reduce delay at the I-15 and Springville City 400 South Interchange and on mainline I-15 within the study area.
- Improve safety on I-15 and 1600 South/2700 North within the study area.
- Provide active transportation within the study area.

ES.3.2 SUMMARY OF TRANSPORTATION NEEDS

The need for this proposed action is based on the following:

- Future failing (Level of Service (LOS) E) conditions at the I-15 and Springville City 400 South Interchange, causing future congestion (LOS E) on mainline I-15.
- Unsafe conditions caused by queuing onto southbound mainline I-15 at the 400 South Interchange.
- Safety concerns due to at-grade rail crossings on 1600 South/2700 North.
- Lack of active transportation facilities in the study area.

For additional information, see Chapter 1: Purpose and Need.

ES.4 ALTERNATIVES

ES.4.1 ALTERNATIVES DEVELOPMENT

For an EA, the FHWA Technical Advisory T6640.8A (1987) requires a discussion of the No-action Alternative and one or more Build Alternatives. This section discusses the No-action Alternative and the process by which the study team arrived at one Build Alternative.

No Action Alternative

The No-action Alternative would maintain the current functionality of I-15 as a controlled-access freeway with no entrance or exit ramps provided at 1600 South/2700 North. The No-action Alternative also includes any short-term and minor restoration activities (safety and maintenance improvements, etc.) that would be required to maintain continuing operations of the existing roadways.

Build Alternative

The study team developed and evaluated a range of options for a new I-15 interchange at 1600 South/2700 North (see Phase I Design Summary Memo in Appendix A). A new interchange would result in additional traffic on 1600 South/2700 North, causing intersections on this corridor to operate at failing conditions (see the Build (2050) Traffic and Safety Memo in Appendix A). Therefore, the study team developed options that would widen 1600 South/2700 North to accommodate the additional traffic as a connected action.

I-15 Interchange Options

Two I-15 Interchange Options at 1600 South/2700 North were developed.

Diamond Interchange Option

The Diamond Interchange Option would construct a diamond interchange on I-15 at 1600 South/2700 North. This includes dual left-turn lanes and free right-turn lanes on all legs of the interchange.

Single-Point Urban Interchange Option (SPUI)

The Single-Point Urban Interchange (SPUI) Option would construct a SPUI on I-15 at 1600 South/2700 North. This includes dual left-turn lanes and free right-turn lanes on all legs of the interchange.

Both options also include:

- Realigning the existing frontage roads.
- Constructing a southbound auxiliary lane between the new interchange and US-6, with barrier separation routing traffic entering southbound I-15 from the new interchange through the I-15/US-6 Interchange.
- Constructing an auxiliary lane on northbound I-15 between US-6 and 1600 South/2700 North.

What is a Diamond Interchange?



A basic four-ramp interchange between a freeway and a surface street. The four diagonal ramps, one in each quadrant, suggest a diamond shape, penetrating identifiable neighborhoods.

What is a SPUI Interchange?



A type of diamond where the diagonal ramps are instead placed as close as possible paralleling the freeway, so that ramp traffic in effect meets at a single point on the surface street directly below (or above) the freeway.

1600 South/2700 North Corridor Options

Three options (North, South, and Meander) were developed for widening the 1600 South/2700 North corridor to a five-lane cross-section. Each option would include a grade-separated crossing of the combined Sharp/Tintic Railroad; a 10-foot, multiuse trail adjacent to 1600 South/2700 North between Spanish Fork City Main Street and SR-51; and a sidewalk on the other side.

North Option

The North Option would widen 1600 South/2700 North to the north while keeping the south right-of-way line at its existing location.

South Option

The South Option would widen 1600 South/2700 North to the south while keeping the north right-of-way line at its existing location.

Meander Option

The Meander Option would adjust the side to which 1600 South/2700 North is widened in order to minimize impacts to key environmental resources.

ES.4.2 SCREENING PROCESS

The screening process evaluated the options described in the previous section. The screening process included:

- Level 1 Screening – Purpose and Need: Evaluated the ability of each option to meet the purpose and need.
- Level 2 Screening – Key Environmental Resources: Evaluated each option based on potential impacts to select environmental resources, including wetlands and other waters of the U.S., the number of relocations, and the amount of right-of-way acquisition.
- Level 3 Screening – Additional: Evaluated the Interchange Options based on traffic operations at the proposed 1600 South/2700 North Interchange, the cost to construct the option, and the resiliency of the option or the ability of the interchange to serve a 50% increase in traffic over the 2050 estimate.

I-15 Interchange Options Screening

The SPUI Interchange Option was advanced for detailed analysis because it meets the Purpose and Need; has similar environmental impacts, operational results, and costs as the Diamond Interchange Option; and provides additional capacity beyond 2050.

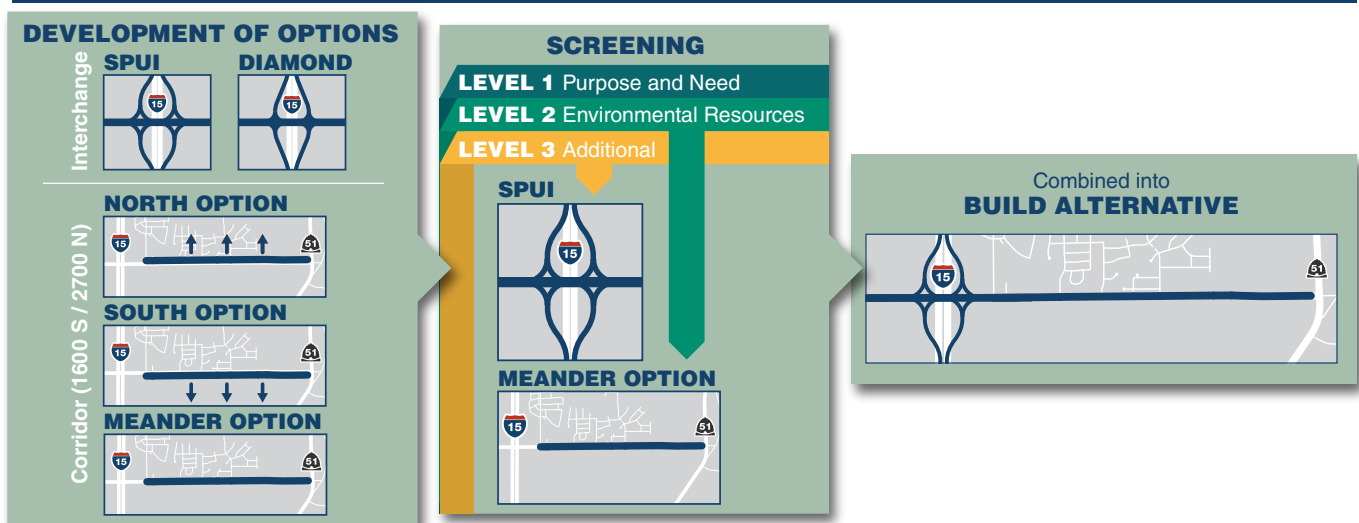
1600 South/2700 North Corridor Options Screening

The Meander Option was advanced for detailed study because it meets the Purpose and Need and will result in fewer relocations and less right-of-way acquisition.

Identification of the Build Alternative

One interchange option and one corridor option, the SPUI and Meander Options, were combined to create a single Build Alternative (see Figure ES-2)

Figure ES-2 Development of the Build Alternative



ES.5 ALTERNATIVES SELECTED FOR DETAILED STUDY

The screening process identified the following alternatives that will move forward for detailed study:

ES.5.1 NO-ACTION ALTERNATIVE

The No-action Alternative would not meet the Purpose and Need of the project, but was moved forward for detailed study in order to provide a baseline evaluation with which to compare the Build Alternative.

ES.5.2 BUILD ALTERNATIVE

The Build Alternative includes the following (see Figure ES-3):

- Constructing a new SPUI interchange on I-15 at 1600 South/2700 North.
- Realigning the northwest frontage road to the west to accommodate the new interchange and planned local development.
- Realigning the southwest and northeast frontage roads to accommodate the new interchange.
- Constructing a southbound auxiliary lane between US-6 and the new interchange, with barrier separation routing traffic entering southbound I-15 from the new interchange through the I-15/US-6 interchange.
- Constructing a northbound auxiliary lane between US-6 and the new interchange.
- Grade-separating 1600 South/2700 North over the planned combined Sharp/Tintic Railroad tracks and modifying existing access to adjacent properties.
- Widening 1600 South/2700 North to five lanes with 10-foot shoulders to accommodate bicyclists between Spanish Fork City Main Street and SR-51.
- Constructing sidewalk on the north side and a 10-foot, multiuse trail along the south side of 1600 South/2700 North between Spanish Fork City Main Street and SR-51.

ES.5.3 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

UDOT has identified the Build Alternative as the Preferred Alternative because it meets the Purpose and Need for the project, minimizes impacts to environmental resources, and provides resiliency beyond 2050.

For additional information, see Chapter 2: Alternatives.

ES.6 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A summary of the affected environment, environmental consequences, and mitigation commitments for the various environmental resources analyzed in the EA can be found in Table ES-1. The No-action Alternative is used as the baseline for discussing impacts.

In accordance with the FHWA Technical Advisory T6640.8A for preparation of an EA, resources that do not have a reasonable possibility for individual or cumulative significant environmental impacts need not be discussed. Accordingly, the following resources were initially considered but did not warrant a detailed discussion of impacts:

- Transportation
- Joint Development
- Farmland
- Paleontological
- Soils and Geology
- Section 6(f)
- Floodplains
- Wild and Scenic Rivers
- Hazardous Materials

For additional information, see Chapter 3: Affected Environment and Environmental Consequences.

Figure ES-3 Build Alternative

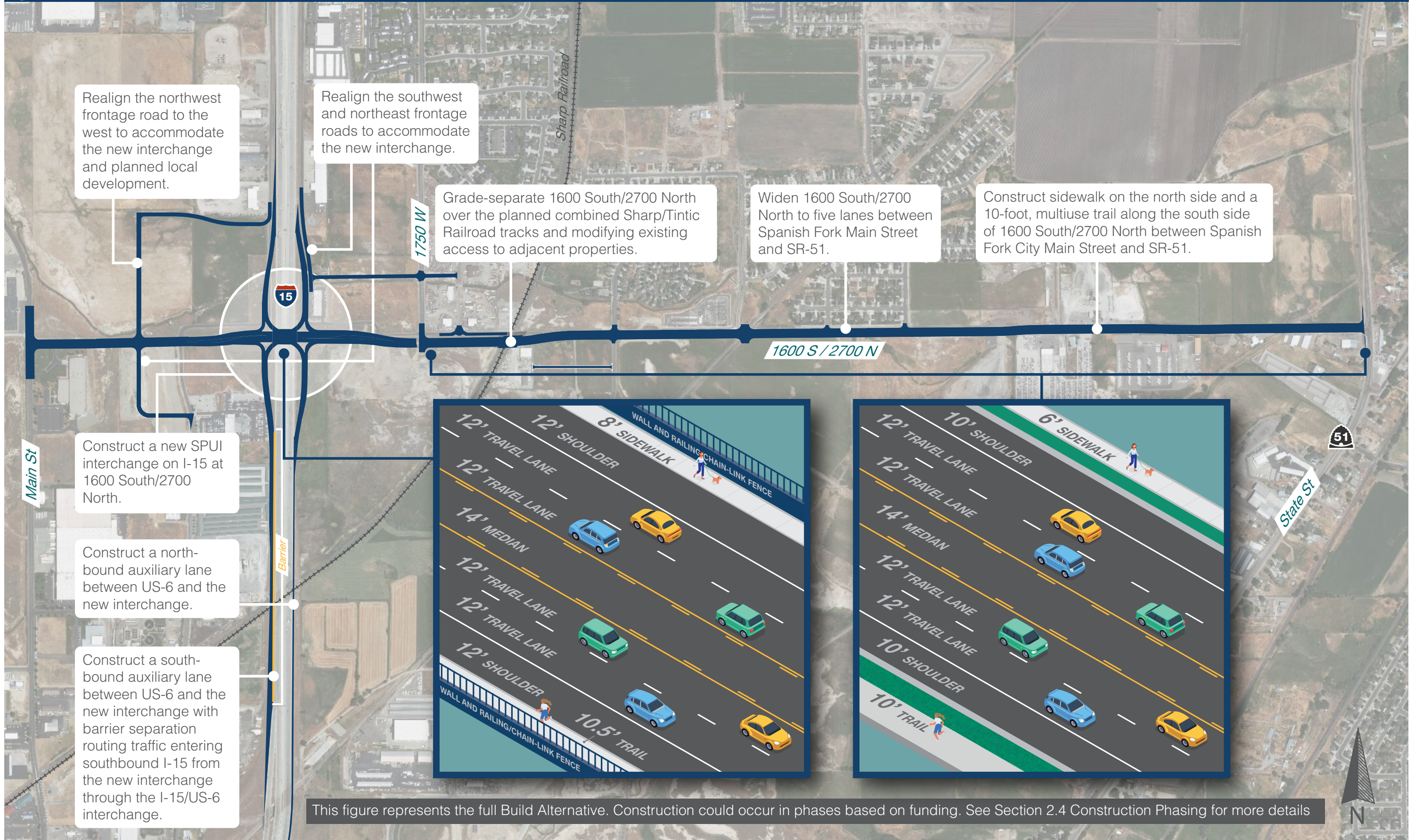


Table ES-1 Comparison Summary of Alternatives		
NO-ACTION ALTERNATIVE	PREFERRED ALTERNATIVE	MITIGATION
LAND USE		
Continued development of undeveloped properties.	<ul style="list-style-type: none"> Conversion of 34.41 acres to roadway use. May influence the type of development that would occur in the study area. Could lead to changes in zoning designations in and near the study area. 	No mitigation.
SOCIAL ENVIRONMENT		
No impact.	<ul style="list-style-type: none"> Relocation of one business that is considered a social gathering location. Change in access to some businesses along 1600 South/2700 North. Addition of the multiuse trail along 1600 South/2700 North could provide social benefits by connecting communities, allowing access to resources for non-vehicle users, and providing additional recreation opportunities. 	No mitigation.
ECONOMIC CONDITIONS		
No impact.	<ul style="list-style-type: none"> Relocation of two commercial properties, impacting a total of three businesses. Modifies business access locations adjacent to Sharp Railroad. Affects visibility of adjacent businesses from some sections of I-15. Affects visibility to businesses adjacent to the current Sharp Railroad crossing. Provides new interstate access to surrounding properties which may change the types of businesses and commercial development, encourage new businesses in the area, and create additional employment opportunities. 	No mitigation.
RIGHT-OF-WAY AND RELOCATIONS		
No impact.	<ul style="list-style-type: none"> Relocation of two commercial properties, impacting a total of three businesses. Acquisition of 34.41 acres from 63 parcels. 	No mitigation.
ENVIRONMENTAL JUSTICE		
No impact.	<ul style="list-style-type: none"> No disproportionately high or adverse effects to environmental justice populations. 	No mitigation.
PEDESTRIANS AND BICYCLISTS		
No impact.	<ul style="list-style-type: none"> Construction of a new, 10-foot, multiuse pathway adjacent to 1600 South/2700 North between Spanish Fork Main Street and SR-51. Construction of 6-foot sidewalks along the north side of 1600 South/2700 North. 	No mitigation.

Table ES-1 Comparison Summary of Alternatives

NO-ACTION ALTERNATIVE	PREFERRED ALTERNATIVE	MITIGATION
AIR QUALITY		
Vehicle emission rates improve due to EPA regulations.	<ul style="list-style-type: none"> Study Area is in attainment area for criteria pollutants. Localized increases in Mobile Source Air Toxins. No new exceedances of the National Ambient Air Quality Standards. 	No mitigation.
NOISE		
No impact.	<ul style="list-style-type: none"> Average noise level increase of 2 dBA. 14 impacted receptors. 	Construct a new 6-foot wall in two segments, if approved through balloting from property owners and residents. The wall would be located on the north side of 1600 South/2700 North, extending west of 1075 West to the west side of 950 West.
CULTURAL RESOURCES		
No impact.	<ul style="list-style-type: none"> No Historic Properties Affected for all archaeological sites and architectural properties. 	No mitigation.
SECTION 4(F) PROPERTIES		
No impact.	<ul style="list-style-type: none"> Avoidance of all Section 4(f) resources and would result in no Section 4(f) use. 	No mitigation.
WATER RESOURCES		
No impact.	<ul style="list-style-type: none"> Increase to impervious ground surface. Quantity and quality of groundwater would not be impacted due to the use of storm drain systems with best management practices. 	<ul style="list-style-type: none"> Coordination with property owners during final design would occur to determine if a well head or other water right point of diversion (POD) is affected. Mitigation could include relocating a well head or surface water diversion to continue to provide irrigation water to any land that is not acquired or abandoning the well and compensating the owner for the value of the associated water right.
WETLANDS AND OTHER WATERS OF THE U.S.		
No impact.	<ul style="list-style-type: none"> Impacts to 1.93 acres of wetlands. Impacts to 0.54 acres of other waters of the U.S. (WOTUS) 	<ul style="list-style-type: none"> It is anticipated that a Clean Water Act (CWA) Section 404 permit authorization would be required for project activities within WOTUS, including wetlands. Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes.

Table ES-1 Comparison Summary of Alternatives

NO-ACTION ALTERNATIVE	PREFERRED ALTERNATIVE	MITIGATION
THREATENED AND ENDANGERED SPECIES AND WILDLIFE		
No impact.	<ul style="list-style-type: none"> No effect on federally listed species or critical habitat. Removal of migratory bird habitat within landscaped commercial and residential areas. 	<ul style="list-style-type: none"> To avoid direct or incidental take of nesting migratory birds, it is recommended that tree or vegetation removal occur before April 15 or after August 31. If tree or vegetation removal cannot occur before or after that time period, a nest survey would be required to identify active migratory bird nests within vegetation scheduled for removal. If active nests are found, construction activities would be suspended within 75 feet of the nests until the nestlings have fledged, and the findings would be coordinated with UDOT Environmental Services.
VISUAL AND AESTHETIC		
No impact.	<ul style="list-style-type: none"> Some views could be impacted by construction of new interchange at 1600 South/2700 North and a new grade-separated rail crossing on 1600 South/2700 North. 	No mitigation.
ENERGY		
No impact.	<ul style="list-style-type: none"> Slightly higher fuel consumption. 	No mitigation.
UTILITIES AND EMERGENCY SERVICES		
No impact.	<ul style="list-style-type: none"> Potential impacts to existing utilities along associated roadways. No impact to Emergency Services. 	No mitigation.
CONSTRUCTION IMPACTS		
No impact.	<ul style="list-style-type: none"> Temporary congestion, delays, detours, dust and particulates, soil erosion. Temporary construction easements. Temporary visual impacts. 	No mitigation would be required for construction impacts beyond implementation of UDOT's Standard Specifications and BMPs, as such impacts are temporary in nature.

Chapter

01. Purpose and Need

1.1 INTRODUCTION

The Utah Department of Transportation (UDOT) has prepared an Environmental Assessment (EA) consistent with the National Environmental Policy Act (NEPA) to evaluate a new interchange on Interstate 15 (I-15) in Springville City and Spanish Fork City at 1600 South/2700 North and improvements to 1600 South/2700 North from Main Street in Spanish Fork City to State Street (SR-51) in Springville City, Utah County, Utah. The EA considers current and future transportation needs while accounting for potential impacts to the natural and built environments.

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by UDOT pursuant to 23 United States Code (USC) 327 and a Memorandum of Understanding dated January 17, 2017, and executed by the Federal Highway Administration (FHWA) and UDOT.

1.2 PROPOSED ACTION

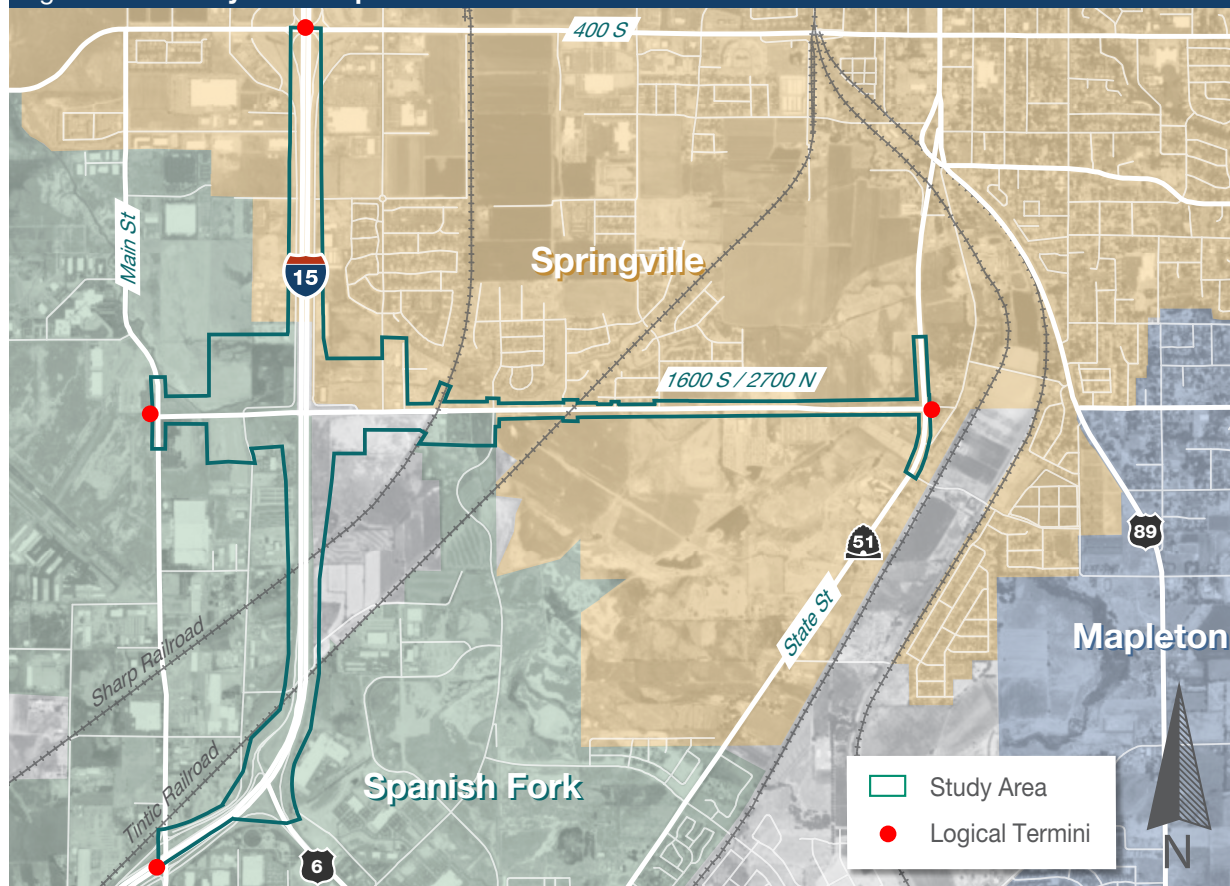
The Proposed Action includes:

- Constructing a new interchange on I-15 at 1600 South/2700 North.
- Widening 1600 South/2700 North to five lanes from Main Street to SR-51.
- Constructing a 10-foot, multiuse trail adjacent to 1600 South/2700 North from Main Street to SR-51.
- Constructing a new grade-separated crossing over the combined Sharp/Tintic Railroad tracks.
- Acquisition of right-of-way.

1.2.1 STUDY AREA

The study area is located on I-15 and 1600 South/2700 North in Springville City and Spanish Fork City, Utah County, Utah. The portion on I-15 runs from the Spanish Fork City Main Street Interchange to the Springville City 400 South Interchange. The section along 1600 South/2700 North runs from Spanish Fork City Main Street to SR-51 in Springville City (see Figure 1-1).

Figure 1-1 Study Area Map



1.3 EXISTING CONDITIONS

In the study area, northbound I-15 has four general-purpose lanes and one high occupancy vehicle (HOV) lane between US-6 and 400 South. At 400 South, southbound I-15 has four general-purpose lanes and one HOV lane. Near the 1600 South/2700 North overpass, the HOV lane becomes a general-purpose lane, and two general-purpose lanes become exit lanes for the US-6/Spanish Fork City Main Street exit.

1600 South/2700 North is a two-lane roadway between Spanish Fork City Main Street and SR-51. Local roads and businesses have access to 1600 South/2700 North. The road has limited shoulders, which are mostly unpaved. There is a structure carrying 1600 South/2700 North over I-15, but no access to the interstate at this location. There are a few block-long stretches of sidewalk, and one short segment of asphalt trail across the structure over I-15.

1.3.1 LOGICAL TERMINI

The end points, or termini, of a transportation project must be an adequate distance apart to assess the environmental impacts on a broad scope and be located at rational end points. Rational end points can include major crossroads, population centers, major traffic generators, and major highway control elements.

The logical termini on I-15 are the I-15 and Spanish Fork City Main Street Interchange on the south and the I-15 and Springville City 400 South Interchange on the north. Along 1600 South/2700 North, logical termini are located at Main Street and SR-51 because these are established north-south routes (see Figure 1-1). Additionally, 1600 South/2700 North currently forms T-intersections at these termini.

1.4 PROJECT BACKGROUND

Past and projected increases in population, employment, and development within and near the study area have led to and will lead to greater traffic demand on the roadway network.

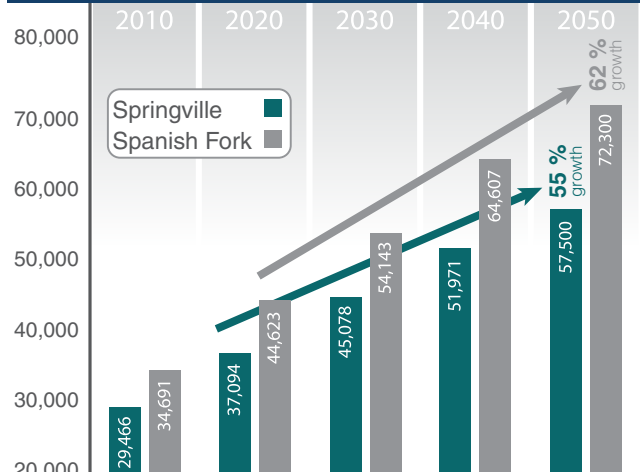
1.4.1 POPULATION GROWTH

According to data from the U.S. Census Bureau (2020) and the Governor's Office of Management and Budget (GOMB) 2012 projections (n.d.), Springville City and Spanish Fork City are anticipated to experience a steady population increase between 2020 and 2050, with an estimated growth of 55 percent and 62 percent, respectively (see Figure 1-2).

1.4.2 TRANSPORTATION PLANS

Increased growth of an area requires continual transportation planning to identify projects that would maintain mobility of the transportation system. The Mountainland Association of Governments (MAG), UDOT, Springville City, and Spanish Fork City are

Figure 1-2 Expected Population Growth in the Study Area



Source: U.S. Census Bureau (2020); GOMB (n.d.)

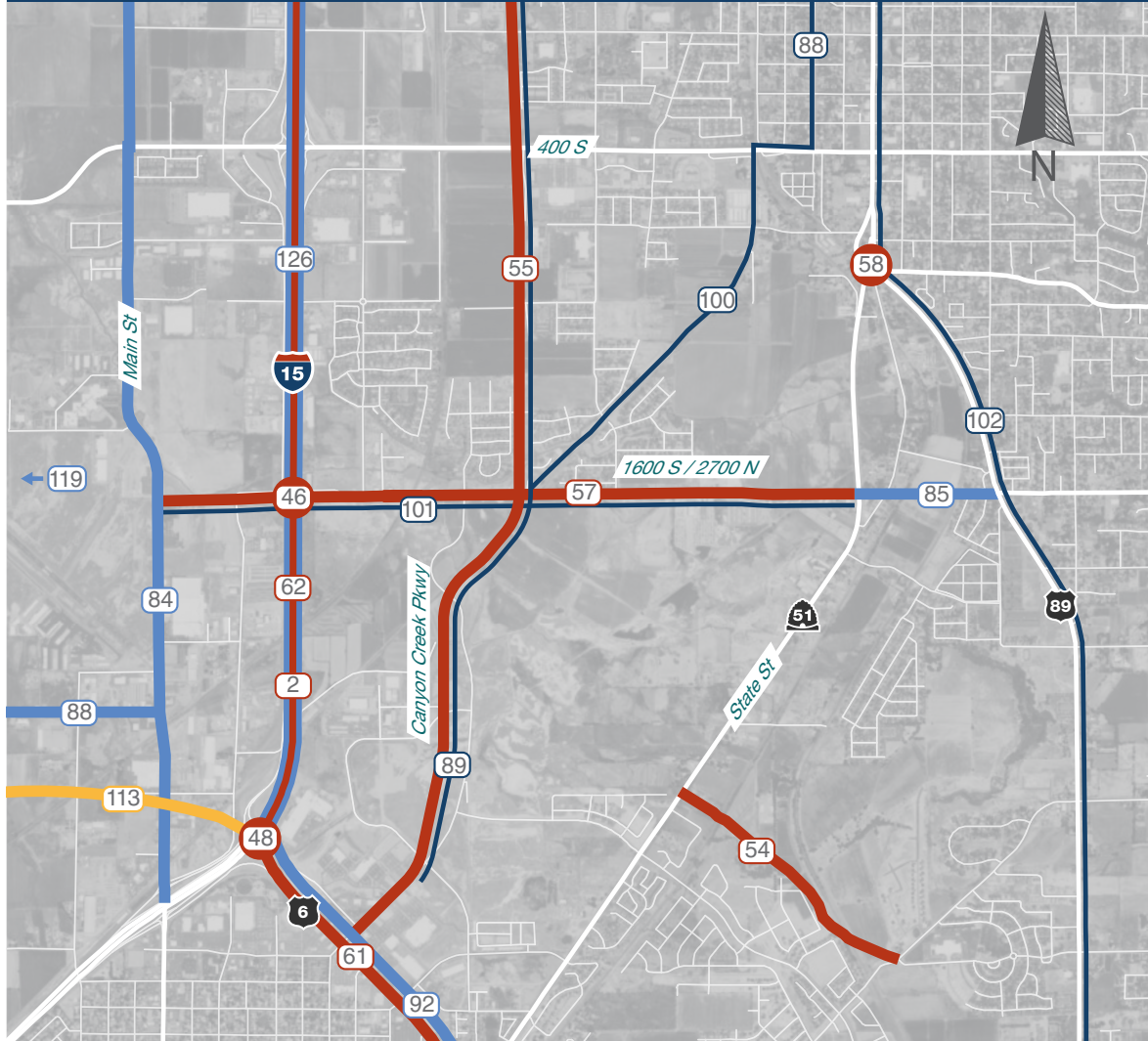
responsible for transportation planning within the study area. UDOT and the cities are responsible for implementing recommended improvements within their jurisdictions.

MAG Regional Transportation Plan

MAG is responsible for developing a 30-year fiscally constrained regional transportation plan (RTP) based on a comprehensive, regionwide transportation systems analysis. The RTP analysis addresses all modes of transportation, including highways, transit, truck, pedestrian, and bicycle (see Figure 1-3). The MAG TransPlan50 RTP (MAG, 2019) identifies a new I-15 interchange at 1600 South/2700 North (Project 46) and widening of 1600 South/2700 North from Spanish Fork City Main Street to SR-51 (Project 57) as new construction projects scheduled for Phase 1 (2019-2030) funding. The MAG RTP (2019) and Amendment 2-2020 (2020) also identifies widening I-15 from Payson City 800 South to University Parkway in the City of Orem (Project 126), extending 1600 South/2700 North to US-89 (Project 85), widening Spanish Fork City Main Street (Project 84), constructing Canyon Creek Parkway (Project 55), and building an I-15 parallel corridor between Payson City to University Parkway in the City of Orem (Project 119).

MAG has prepared an active transportation plan for South Utah Valley, including Springville City and Spanish Fork City (MAG, 2016). This plan includes a hard surface trail along 1600 South/2700 North between Spanish Fork City Main Street and SR-51 (Project 101), an Intercity Connector Trail along Canyon Creek Parkway (Project 89), and a trail along the Tintic Rail Line (Project 100) (see Figure 1-3).

Figure 1-3 MAG Regional Transportation Plan Projects Within the Study Area



Phase 1 (2019-30)

- 2 I-15 Freeway**
US-6 to Salt Lake County
Operational improvements
- 46 I-15/Springville 1600 S Interchange**
New interchange
- 48 I-15/US-6 Interchange**
Interchange improvements
- 54 Spanish Fork Parkway**
Mapleton Slant Rd to SR-51
New 3-lane road
- 55 Springville 1200 W/Canyon Creek Parkway**
Market Place Dr to US-89
New 5-lane road
- 57 Springville 1600 S/Spanish Fork 2700 N**
Spanish Fork Main St to SR-51
Widen to 5 lanes
- 58 Springville Main St/US-89**
Interchange reconstruction
- 61 US-6**
I-15 to Spanish Fork Center St
Widen to 7 lanes
- 62 I-15/Alternatives**
Payson to Salt Lake County,
Study

Phase 2 (2031-40)

- 84 Spanish Fork Main St/Provo 500 W**
Spanish Fork 1400 N to Provo 300 S
New and widen to 5 lanes
- 85 Springville 1600 S**
SR-51 to US-89
New 5-lane road
- 88 UC 5600 S/Spanish Fork 1900N**
UC 3200 W to Spanish Fork Main St
New and widen to 3 lanes
- 92 US-6 Freeway**
I-15 to Spanish Fork 2300 E
Convert to freeway
- 119 I-15 Parallel Corridor***
Provo to Payson
Add capacity (location TBD)
- 126 I-15 Freeway**
University Pkwy to US-6
Widen to 12 lanes

Future Vision

- 113 US-6 to Cedar Valley**
Proposed freeway

Active Transportation

- 88 Springville - Hobbie Creek Trail**
- 89 InterCity Connector Trail**
- 100 Springville - Tintic Rails Trail**
- 101 Springville 1600 S/Spanish Fork 2700 N Trail**
- 102 Springville 400 E Trail**

**For the purposes of this analysis, Project 119 is assumed to be operational by 2050.
Source: MAG (2020); MAG (2019)*

Municipal Transportation Planning

Springville City and Spanish Fork City are responsible for local transportation planning within their municipalities, and both have adopted transportation master plans (Spanish Fork City, 2014; Springville City, 2018). Both plans show a new interchange on I-15 at 1600 South/2700 North. Spanish Fork City shows 1600 South/2700 North as being a minor arterial, while Springville City designates it as a major arterial.

Spanish Fork City and Springville City have both incorporated planned trail projects into their general plans (Spanish Fork City, 2014; Springville City, 2018). Spanish Fork City shows a trail along 1600 South/2700 North from Canyon Creek Parkway to Spanish Fork City Main Street as well as trails along Canyon Creek Parkway and Main Street. Springville City's plan does not show any trails in the study area.

What is a major and minor arterial?

Major Arterial – Serves the major centers of activity of metropolitan areas and provides for long trips.

Minor Arterial – Connects and serves the urban major arterial system, provides trips of moderate length with emphasis on land access, and offers movement within communities without penetrating identifiable neighborhoods.

1.5 INDEPENDENT UTILITY

To demonstrate independent utility, a project must have a purpose or function, even if no further transportation projects are constructed. An independent utility analysis focuses on whether a particular project is a “stand-alone” project and whether or not the project serves a distinct purpose or function. The Council on Environmental Quality (CEQ) uses the term “unconnected single actions” to describe this concept. According to 40 Code of Federal Regulations (CFR) 1508.25(a), a project is connected if it meets one of the following:

1. Automatically triggers other actions which may require environmental impact statements.
2. Cannot or will not proceed unless other actions are taken previously or simultaneously.
3. Is an interdependent part of a larger action and depends on the larger action for its justification.

1.5.1 AUTOMATICALLY TRIGGERS OTHER ACTIONS

Traffic studies indicate that the 1600 South/2700 North corridor currently operates and will operate at acceptable conditions (see Existing and No-Build (2050) Traffic Report in Appendix A). However, the proposed action includes constructing a new interchange on I-15. This connection would result in additional traffic on 1600 South/2700 North, causing

intersections on this corridor to operate at failing conditions (see the Build (2050) Traffic and Safety Memo in Appendix A). Therefore, 1600 South/2700 North will be evaluated in this EA as a connected action.

What is a connected action?

Connected actions are those proposed Federal actions that are “closely related” and “should be discussed” in the same NEPA document (40 CFR 1508.25 (a)(1)).

Improvements to the 1600 South/2700 North corridor would connect Spanish Fork City Main Street and SR-51 in Springville City. Providing these connections would not increase traffic on Main Street and SR-51 to the point where additional improvements (widening, etc.) would be required. Therefore, the proposed action would not automatically trigger other actions or improvements.

1.5.2 PREVIOUS OR SIMULTANEOUS ACTIONS

Other planned projects within or near the study area are shown in Figure 1–3.

On the west, the proposed action would tie into Spanish Fork City Main Street. On the east, it would tie into SR-51. These connections would not require the construction of any other actions. Therefore, the proposed action can proceed without other previous or simultaneous actions.

1.5.3 LARGER ACTION

The 1600 South/2700 North Interchange and 1600 South/2700 North corridor widening are included on the MAG RTP (2019) as independent construction projects scheduled for Phase 1: 2019-2030 funding (Projects 46 and 57 on Figure 1–3). The proposed action is not dependent on any other projects to justify its utility and could fully operate in the absence of any other transportation improvement. Therefore, the proposed action is not part of a larger action and does not depend on a larger action for its justification.

1.6 REASONABLY FORESEEABLE TRANSPORTATION IMPROVEMENTS

Reasonably foreseeable transportation projects include those projects listed on the MAG RTP (2019) and Amendment 2-2020 (2020) (see Figure 1–3). Projects adjacent to the study area include widening I-15, building an I-15 parallel corridor, modifying US-6, constructing Canyon Creek Parkway, widening Spanish Fork City Main Street, and extending 1600 South/2700 North to US-89 (see Figure 1–3). The proposed action does not restrict the consideration of alternatives for any of these future projects. All future projects will be evaluated in independent environmental reviews.

1.7 PURPOSE AND NEED

1.7.1 PURPOSE

The purpose of this proposed action is to:

- Reduce delay at the I-15 and Springville City 400 South Interchange and on mainline I-15 within the study area.
- Improve safety on I-15 and 1600 South/2700 North within the study area.
- Provide active transportation within the study area.

1.7.2 NEED

The need for this proposed action is based on the following:







- Future failing (Level of Service (LOS) E) conditions at the I-15 and Springville City 400 South Interchange, causing future congestion (LOS E) on mainline I-15.
- Unsafe conditions caused by queuing onto southbound mainline I-15 at the 400 South Interchange.
- Safety concerns due to at-grade rail crossings on 1600 South/2700 North.
- Lack of active transportation facilities in the study area.

1.8 DETAILED DESCRIPTION OF TRANSPORTATION NEEDS

This section provides a discussion of the transportation deficiencies, or “needs,” for the proposed action. Needs are established in part by analyzing existing and future roadway performance. Future roadway performance is analyzed as if the proposed action were not constructed (No-action condition). The existing and future conditions of the roadways are also analyzed for safety by identifying potential conflict points and performance issues that contribute to crashes.

The 2050 traffic conditions were estimated using the MAG travel demand model. The travel demand model assumed a current analysis year of 2018, and compared current traffic conditions to a 2050 model year for future conditions using MAG model inputs. The No-action condition assumes that all planned projects on the RTP would be completed by 2050 except for the proposed improvements that are the subject of this EA (see Figure 1–3). The No-action condition also includes short-term and minor restoration activities (safety and maintenance improvements, etc.) that maintain continuing operations of the existing roadways. For more detailed information on traffic modeling and operations, see the Existing and No-Build (2050) Traffic Report (Avenue Consultants, 2020a) in Appendix A.

Figure 1–4 Level of Service (LOS)

A	≤10 sec delay	FREE FLOW. Low volumes and no delays. 
B	>10 – 20 sec delay	STABLE FLOW. Speeds restricted by travel conditions, minor delays. 
C	>20 – 35 sec delay	STABLE FLOW. Speeds and maneuverability closely controlled because of higher volumes. 
D	>35 – 55 sec delay	STABLE FLOW. Speeds considerably affected by change in operation conditions. High-density traffic restricts maneuverability, volume near capacity. 
E	>55 – 80 sec delay	UNSTABLE FLOW. Low speeds, considerable delay, volume at or slightly over capacity. 
F	>80 sec delay	FORCED FLOW. Very low speeds, volumes exceed capacity, long delays with stop-and-go traffic. 

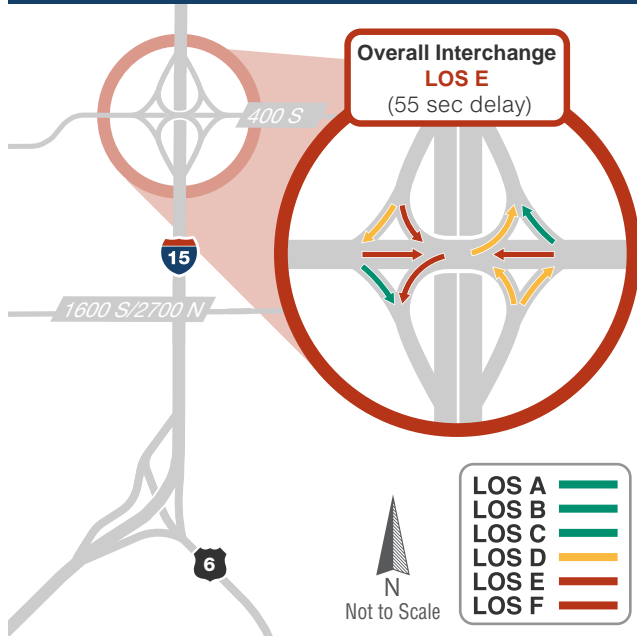
1.8.1 TRAFFIC CONDITIONS

Transportation agencies use a qualitative measurement known as LOS to identify the operational performance of a road or intersection. LOS characterizes the traffic operations of a facility by looking at factors such as speed, average travel delay, travel times, and freedom to maneuver. LOS ranges from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions (see Figure 1–4). UDOT’s standard is to meet or exceed LOS D in urban areas.

I-15 and 400 South Interchange No-action Level of Service

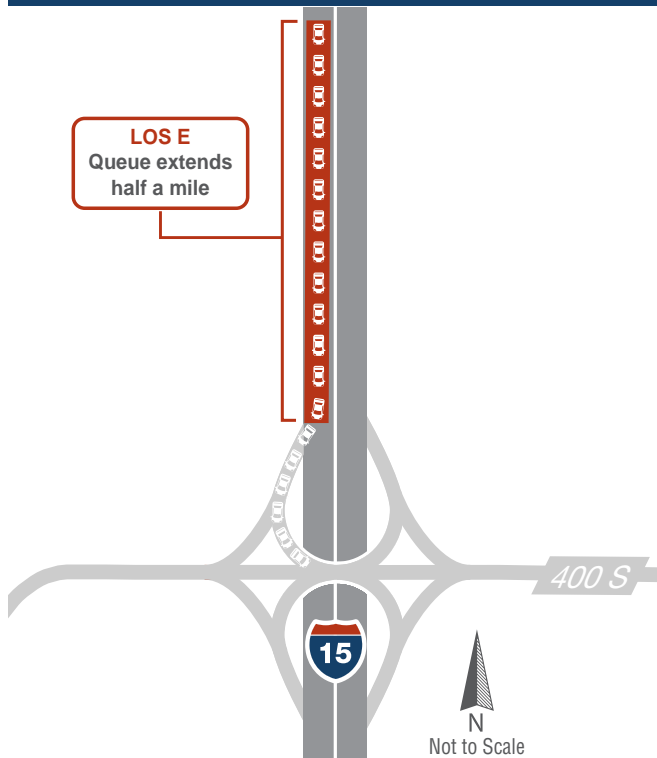
By 2050, the 400 South Interchange would operate at an overall LOS E with an average delay of 55 seconds during the PM Peak Hour. The southbound left-turn, westbound left-turn, and westbound thru movements would operate at LOS F, and the eastbound thru movement would operate at LOS E (see Figure 1–5) (Avenue Consultants, 2020a).

Figure 1-5 400 South Interchange 2050 No-action Level of Service - PM Peak Hour



Anticipated 2050 delays at the 400 South Interchange southbound off-ramp would result in queuing (a line of vehicles waiting to pass through the interchange) that extends approximately half a mile onto mainline I-15 during the PM Peak Hour. This queuing would cause failing conditions (LOS E) on the southbound I-15 mainline near 400 South (see Figure 1-6).

Figure 1-6 I-15 Mainline 2050 No-action Level of Service - PM Peak Hour



1.8.2 SAFETY

Safety was analyzed by examining the study area for existing and future conditions that do not meet UDOT standards. These include safety issues caused by congestion, at-grade railroad crossings, and insufficient active transportation facilities.

Safety on Mainline I-15

In 2050, the queuing at the 400 South Interchange discussed in Section 1.8.1 would also cause safety issues. The queuing would extend approximately half a mile onto mainline I-15. Traffic queuing beyond the off-ramp onto the I-15 southbound mainline travel lanes results in unsafe travel conditions. Stopped and/or substantially slowed vehicles in the high-speed travel lanes result in unsafe driving maneuvers, sudden and unanticipated lane changes, and increased rear-end collisions. Unexpected traffic conditions are among the contributing factors for crashes.

Safety at 1600 South/2700 North Rail Crossings

There are currently two existing railroad crossings (Tintic Railroad and Sharp Railroad) on 1600 South/2700 North east of I-15. Each of these rail lines carries freight traffic. Current railroad plans call for the two rail lines to be consolidated, leaving a single crossing (combined Sharp/Tintic Railroad) with up to three tracks at approximately 1500 West (MAG, 2019). The MAG RTP also currently calls for the extension of Utah Transit Authority (UTA) FrontRunner commuter rail service south from Provo to Payson along this consolidated rail line. This would increase both the frequency and the speed of rail traffic across 1600 South/2700 North.

The consolidated crossing was analyzed using the U.S. Department of Transportation (USDOT) Federal Railroad Administration (FRA) and FHWA Highway-Rail Crossing Handbook – Third Edition (2019), which provides Grade Separation Criteria for freight and passenger train crossings. Grade separation is advised if one or more criteria are met by the crossing, one of which is use of the crossing by more than 30 trains per day.

The future railroad crossing would have 64 trains per day. Therefore, grade separation is encouraged according to FRA and FHWA guidelines (USDOT FRA & USDOT FHWA, 2019).

1.8.3 ACTIVE TRANSPORTATION

Facilities for pedestrians and cyclists are limited in the study area. There is one section of asphalt trail across the 1600 South/2700 North overpass at I-15 and a few short sections of sidewalk along 1600 South/2700 North. The limited shoulders on 1600 South/2700 North force cyclists to ride in the travel lanes.

The RTP identifies a planned multiuse trail along 1600 South/2700 North for Phase 1, 2019-2030 (Project 101) (see Figure 1-3).

1.9 ADDITIONAL GOALS AND OBJECTIVES

1.9.1 ACCOMMODATE FUTURE RAILROAD OPERATIONS

Along with the consolidation of the two rail lines in the study area, the RTP identifies the extension of the UTA FrontRunner line from Provo to Payson as a Phase 1, 2019-2030 project. It is a goal of this EA to accommodate this extension.

This additional goal is not central to the purpose and need, but is important and will be considered as part of the overall development of alternatives. This goal was developed based on comments received from stakeholders as part of the EA scoping process.

1.10 SUMMARY OF PURPOSE AND NEED

The purpose and supporting needs of this EA are summarized in Table 1-1.

Table 1-1 Summary of Purpose and Need

PURPOSE	SUPPORTING NEEDS
Reduce delay at the I-15 and Springville City 400 South Interchange and on mainline I-15 within the study area.	Future failing (LOS E) conditions at the I-15 and Springville City 400 South Interchange, causing future congestion (LOS E) on mainline I-15.
Improve safety on I-15 and 1600 South/2700 North within the study area.	Unsafe conditions caused by queuing onto southbound mainline I-15 at the 400 South Interchange.
	Safety concerns due to at-grade rail crossings on 1600 South/2700 North.
Provide active transportation within the study area.	Lack of active transportation facilities in the study area.
GOAL	SUPPORTING NEEDS
Accommodate future UTA FrontRunner operations.	UTA plans to operate an extension of FrontRunner in the study area.

Chapter

02. Alternatives

2.1 INTRODUCTION

For an EA, the FHWA Technical Advisory T6640.8A (1987) requires a discussion of the No-action Alternative and one or more Build Alternatives. This chapter discusses the No-action Alternative and the process by which the study team arrived at one Build Alternative.

2.2 ALTERNATIVES DEVELOPMENT AND SCREENING

Except for the improvements that are the subject of this EA, each alternative assumes that the identified projects in the MAG RTP and the Springville City and Spanish Fork City Transportation Master Plans would be operational by 2050 (see Chapter 1 Figure 1–3).

2.2.1 NO-ACTION ALTERNATIVE

The No-action Alternative would maintain the current functionality of I-15 as a controlled-access freeway with no entrance or exit ramps provided at 1600 South/2700 North. The No-action Alternative also includes any short-term and minor restoration activities (safety and maintenance improvements, etc.) that would be required to maintain continuing operations of the existing roadways.

2.2.2 BUILD ALTERNATIVE

The study team developed and evaluated a range of options for a new I-15 interchange at 1600 South/2700 North (see Phase I Design Summary Memo in Appendix A). A new interchange would result in additional traffic on 1600 South/2700 North, causing intersections on this corridor to operate at failing conditions (see the Build (2050) Traffic and Safety Memo in Appendix A). Therefore, the study team developed options that would widen 1600 South/2700 North to accommodate the additional traffic as a connected action (see Chapter 1 Section 1.5.1).

I-15 Interchange Options

Two I-15 Interchange Options at 1600 South/2700 North were developed.

Diamond Interchange Option

The Diamond Interchange Option would construct a diamond interchange on I-15 at 1600 South/2700 North. This includes dual left-turn lanes and free right-turn lanes on all legs of the interchange.

Single-Point Urban Interchange Option (SPUI)

The Single-Point Urban Interchange (SPUI) Option would construct a SPUI on I-15 at 1600 South/2700 North. This includes dual left-turn lanes and free right-turn lanes on all legs of the interchange.

Both options also include:

- Realigning the existing frontage roads.
- Constructing a southbound auxiliary lane between the new interchange and US-6, with barrier separation routing traffic entering southbound I-15 from the new interchange through the I-15/US-6 Interchange.
- Constructing an auxiliary lane on northbound I-15 between US-6 and 1600 South/2700 North.

What is a Diamond Interchange?



A basic four-ramp interchange between a freeway and a surface street. The four diagonal ramps, one in each quadrant, suggest a diamond shape, penetrating identifiable neighborhoods.

What is a SPUI Interchange?



A type of diamond where the diagonal ramps are instead placed as close as possible paralleling the freeway, so that ramp traffic in effect meets at a single point on the surface street directly below (or above) the freeway.

1600 South/2700 North Corridor Options

A sensitivity study of the 1600 South/2700 North corridor indicated that a five-lane cross-section would be required between Spanish Fork City Main Street and SR-51 (see the Build (2050) Traffic and Safety Memo in Appendix A). This five-lane cross-section (two travel lanes in each direction and a center turn lane) would provide a minimum of LOS D at all intersections along 1600 South/2700 North and is consistent with the MAG RTP and the Springville City and Spanish Fork City Transportation Master Plans (see the Build (2050) Traffic and Safety Memo in Appendix A).

Three options (North, South, and Meander) were developed for widening the 1600 South/2700 North corridor to a five-lane cross-section. Each option would include a grade-separated crossing of the combined Sharp/Tintic Railroad; a 10-foot, multiuse trail adjacent to 1600 South/2700 North between Spanish Fork City Main Street and SR-51; and a sidewalk on the other side.

North Option

The North Option would widen 1600 South/2700 North to the north while keeping the south right-of-way line at its existing location.

South Option

The South Option would widen 1600 South/2700 North to the south while keeping the north right-of-way line at its existing location.

Meander Option

The Meander Option would adjust the side to which 1600 South/2700 North is widened in order to minimize impacts to key environmental resources.

I-15 Interchange Options Screening

The study team evaluated Interchange Options based on their ability to meet the Purpose and Need, impacts to key environmental resources, and additional issues.

Level 1 Screening – Purpose and Need

Level 1 Screening evaluated the ability of each Interchange Option to meet the Purpose and Need, as described in Chapter 1 and Table 1–1. This evaluation included three measures of effectiveness applicable to the Interchange Options. As shown in Table 2–1, Figure 2–1, and Figure 2–2 both Interchange Options met the following measures of effectiveness and advanced to Level 2 Screening (Avenue Consultants, 2020b).

Figure 2–1 New Interchange at 1600 South/2700 North Results in LOS D at 400 South Interchange

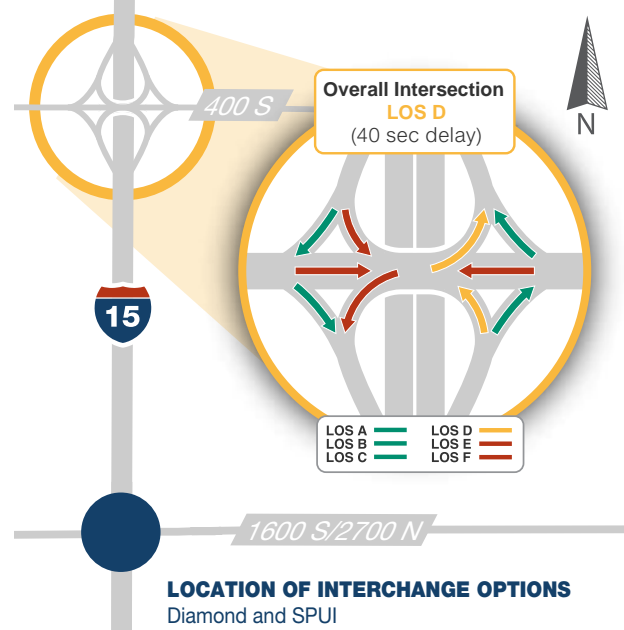


Figure 2–2 400 South Interchange Ramp Queuing

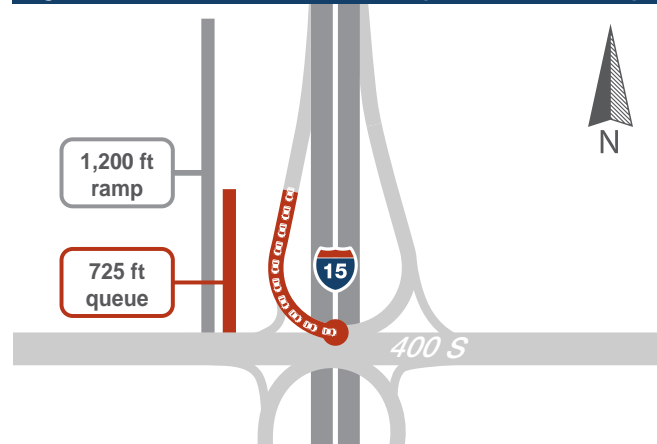


Table 2–1 Level 1 Interchange Screening			
NEED	MEASURE OF EFFECTIVENESS	DIAMOND	SPUI
Future failing (LOS E) conditions at the I-15 and Springville City 400 South Interchange, causing future congestion (LOS E) on mainline I-15.	Provides LOS D or better at the 400 South Interchange.	Yes*/LOS D	Yes*/LOS D
Unsafe conditions caused by queuing onto southbound mainline I-15 at the 400 South Interchange.	Prevents queue from extending onto mainline I-15.	Yes*/725-foot queue on 1,200-foot ramp (see Figure 2–2)	Yes*/725-foot queue on 1,200-foot ramp (see Figure 2–2)
Lack of active transportation facilities in the study area.	Improves active transportation facilities in the study area.	Yes/Includes multiuse trail	Yes/Includes multiuse trail

*See the Build (2050) Traffic and Safety Memo in Appendix A

Level 2 Screening – Key Environmental Resources

Level 2 Screening evaluated the interchange options based on potential impacts to select environmental resources including wetlands and other waters of the U.S., the number of relocations, and the amount of right-of-way acquisition. Both Interchange Options had similar impacts and were advanced to Level 3 Screening. See Table 2–2, Figure 2–3, and Figure 2–4.

Table 2–2 Level 2 Interchange Screening

RESOURCE	DIAMOND	SPUI
Wetlands and other Waters of the U.S.	2.1 acres	2.1 acres
Relocations	2 businesses in 1 building	2 businesses in 1 building
Right-of-Way	19.74 acres	20.00 acres

Level 3 Screening – Additional

Level 3 Screening evaluated the Interchange Options based on traffic operations at the proposed 1600 South/2700 North Interchange, the cost to construct the option, and the resiliency of the option or the ability of the interchange to serve a 50% increase in traffic over the 2050 estimate. Both Interchange Options operate at LOS C. While the SPUI would be 3.5% more expensive, it would perform better after 2050 (see Table 2–3) (Avenue Consultants, 2020b). The Diamond Interchange Option was eliminated because it would have limited capacity to serve additional demand beyond 2050 (Avenue Consultants, 2020b).

What is resiliency?

The ability of a transportation system to continue to function acceptably with disruptive or unexpected conditions.

Table 2–3 Level 3 Interchange Screening

CRITERIA	DIAMOND	SPUI
LOS/Delay at 1600 South/2700 North	LOS C/20 seconds*	LOS C/22 seconds*
Cost	\$73M	\$75.6M
LOS and % demand served for 50% increase in traffic over 2050 estimate	LOS F/59%*	LOS D/96%*
Advanced for Detailed Study?	No	Yes

*See the Build (2050) Traffic and Safety Memo in Appendix A

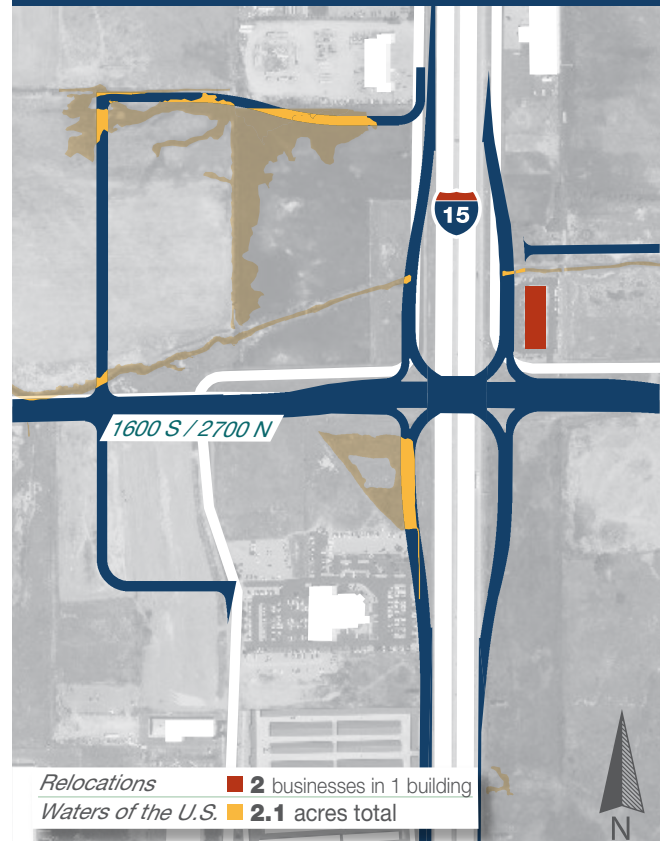
Result of Interchange Options Screening

The SPUI Interchange Option was advanced for detailed analysis because it meets the Purpose and Need; has similar environmental impacts, operational results, and costs as the Diamond Interchange Option; and provides additional capacity beyond 2050.

Figure 2–3 Diamond Interchange Environmental Resources



Figure 2–4 SPUI Interchange Environmental Resources



1600 South/2700 North Corridor Options Screening

The study team evaluated Corridor Options based on their ability to meet the Purpose and Need and impacts to key environmental resources.

Level 1 Screening – Purpose and Need

Level 1 Screening evaluated the ability of each Corridor Option to meet the Purpose and Need as described in Chapter 1 and Table 2–4. This evaluation included two measures of effectiveness applicable to the Corridor Options. All three Corridor Options met both measures of effectiveness by providing a grade-separated rail crossing and providing a multiuse trail the length of the corridor. Therefore, all three corridor options advanced to Level 2 Screening (see Table 2–4).

NEED	MEASURE OF EFFECTIVENESS	NORTH	SOUTH	MEANDER
Safety concerns due to at-grade rail crossings on 1600 South/2700 North.	Provides grade-separated rail crossing.	Yes	Yes	Yes
Lack of active transportation facilities in the study area.	Improves active transportation facilities in the study area.	Yes/ Multiuse trail	Yes/ Multiuse trail	Yes/ Multiuse trail

Level 2 Screening – Key Environmental Resources

Level 2 Screening evaluated the Corridor Options based on impacts to select environmental resources including wetlands and other Waters of the U.S., the number of potential relocations, and the amount of right-of-way acquisition. The Corridor Options' impact to wetlands and other waters of the U.S. varies from 0.15 acres to 0.32 acres. The North and South Corridor Options were eliminated because they would require more right-of-way and more potential relocations. See Table 2–5 and Figure 2–5 to Figure 2–7.

RESOURCE	NORTH	SOUTH	MEANDER
Wetlands and other Waters of the U.S.	0.15 acres	0.2 acres	0.32 acres
Relocations	6 businesses 13 homes	5 businesses	1 business
Right-of-Way	30.85 acres	20.92 acres	14.41 acres
Advanced for Detailed Study?	No	No	Yes

Figure 2–5 1600 South/2700 North: North Option Environmental Resources



Figure 2–6 1600 South/2700 North: South Option Environmental Resources



Figure 2–7 1600 South/2700 North: Meander Option Environmental Resources



Result of Corridor Options Screening

The Meander Option was advanced for detailed study because it meets the Purpose and Need and will result in fewer relocations and less right-of-way acquisition.

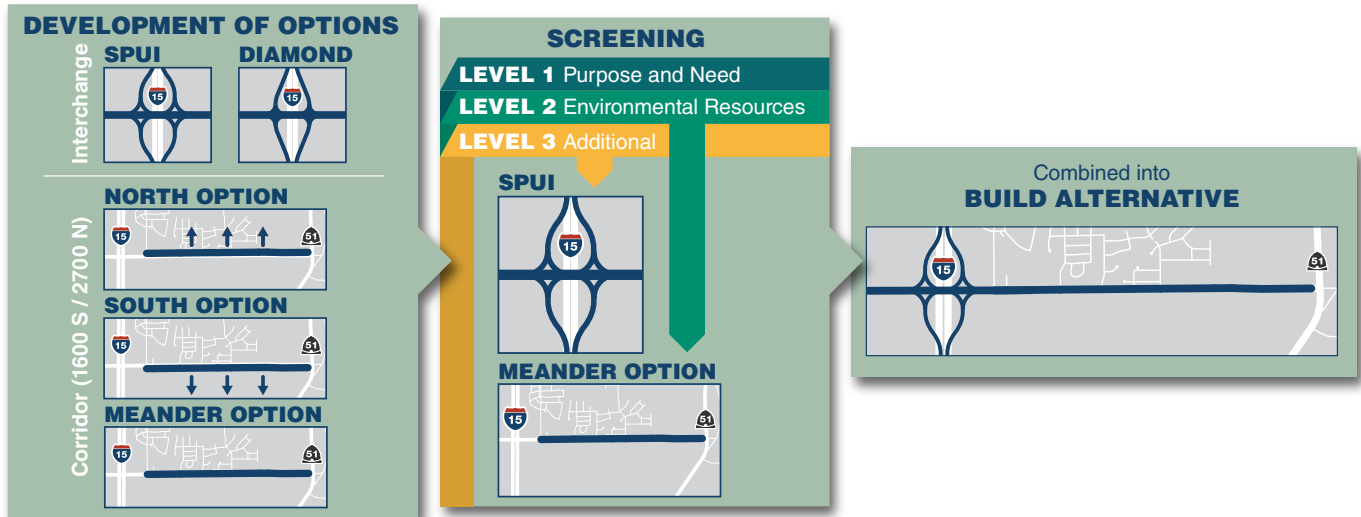
Identification of the Build Alternative

One interchange option and one corridor option, the SPUI and Meander Options, were combined to create a single Build Alternative. A summary of the Build Alternative development process is shown in Figure 2–8.

Alternatives Screening

The Build and No-action Alternatives were evaluated using the same criteria used to screen the Interchange and Corridor Options. The results of this screening are listed in Table 2–6.

Figure 2–8 Development of the Build Alternative



2.3 ALTERNATIVES SELECTED FOR DETAILED STUDY

The screening process identified the following alternatives that will move forward for detailed study.

2.3.1 NO-ACTION ALTERNATIVE

The No-action Alternative would not meet the Purpose and Need of the project, but was moved forward for detailed study in order to provide a baseline evaluation with which to compare the Build Alternative. For additional information on the No-action Alternative, please see Section 2.2.1.

2.3.2 BUILD ALTERNATIVE

The Build Alternative includes the following (see Figure 2–9):

- Constructing a new SPUI interchange on I-15 at 1600 South/2700 North.
- Realigning the northwest frontage road to the west to accommodate the new interchange and planned local development.
- Realigning the southwest and northeast frontage roads to accommodate the new interchange.
- Constructing a southbound auxiliary lane between US-6 and the new interchange, with barrier separation routing traffic entering southbound I-15 from the new interchange through the I-15/US-6 interchange.
- Constructing a northbound auxiliary lane between US-6 and the new interchange.
- Grade-separating 1600 South/2700 North over the planned combined Sharp/Tintic Railroad tracks and modifying existing access to adjacent properties.
- Widening 1600 South/2700 North to five lanes with 10-foot shoulders to accommodate bicyclists between Spanish Fork City Main Street and SR-51.
- Constructing sidewalk on the north side and a 10-foot, multiuse trail along the south side of 1600 South/2700 North between Spanish Fork City Main Street and SR-51.

2.3.3 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

UDOT has identified the Build Alternative as the Preferred Alternative because it meets the Purpose and Need for the project, minimizes impacts to environmental resources, and provides resiliency beyond 2050.

2.4 CONSTRUCTION PHASING

If the Preferred Alternative is selected, it is anticipated that it could be constructed in multiple phases as funding becomes available. Some improvements could occur within five years, while others could happen over the next 15 to 20 years (see Construction Phasing Memo in Appendix A).

2.4.1 PHASE I

Based on anticipated traffic demand, some of the earliest improvements (2020-2030) may include:

- Constructing a new diamond interchange on I-15 at 1600 South/2700 North to utilize the existing structure over I-15.
- Realigning the northwest frontage road to the west to accommodate the new interchange and planned local development.
- Realigning the southwest and northeast frontage roads to accommodate the new interchange.
- Providing adequate lane and shoulder widths to accommodate bicyclists on 1600 South/2700 North from Main Street to 1750 West.

2.4.2 PHASE II

Based on the availability of funding, additional improvements may be built between 2030 and 2040. These may include:

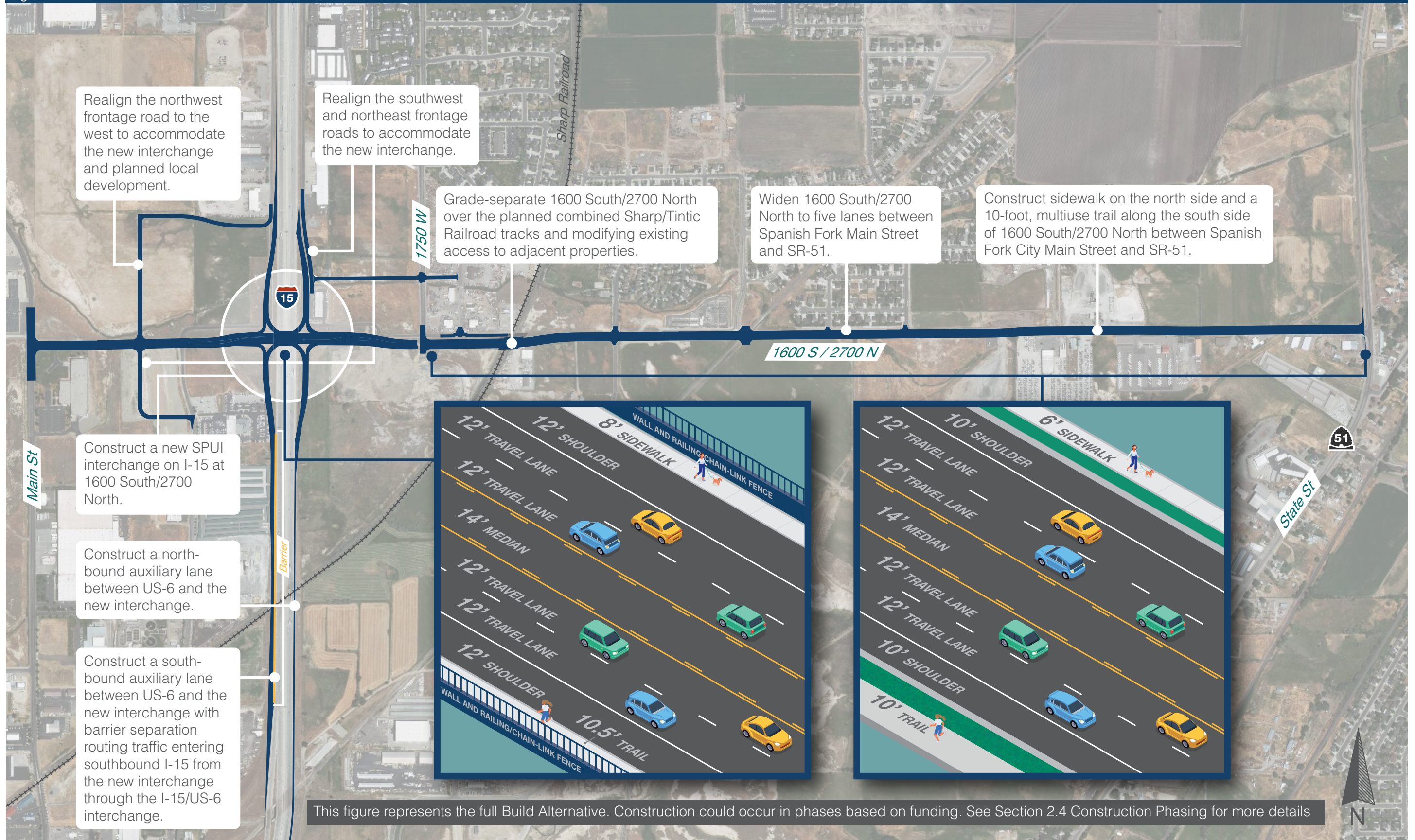
- Grade-separating 1600 South/2700 North over the planned combined Sharp/Tintic Railroad tracks and modifying existing access to adjacent properties.

2.4.3 PHASE III

As funding is available, the remainder of the proposed improvements in the Preferred Alternative will be constructed by 2050. These include:

- Constructing a new SPUI on I-15 at 1600 South/2700 North (replacing the existing structure over I-15).
- Constructing a northbound auxiliary lane between US-6 and the new interchange.
- Constructing a southbound auxiliary lane between US-6 and the new interchange, with barrier separation routing traffic entering southbound I-15 from the new interchange through the I-15/US-6 interchange.
- Widening 1600 South/2700 North to five lanes with 10-foot shoulders to accommodate bicyclists between Spanish Fork City Main Street and SR-51.
- Constructing a sidewalk on the north side and a 10-foot, multiuse trail along the south side of 1600 South/2700 North between Spanish Fork City Main Street and SR-51.

Figure 2-9 Build Alternative



Chapter

03

Affected Environment and Environmental Consequences

3.1 INTRODUCTION

This chapter describes the existing environmental, social, and economic conditions within the study area and how these conditions would be affected by the No-action Alternative and the Preferred Alternative. Existing conditions were identified based on literature and data file searches; coordination with federal, state, and local agencies; and field investigations. Other technical research used to inform the EA, but not discussed in the document, are included in the project records.

Environmental resources were evaluated for direct, indirect, and cumulative impacts. Appropriate measures for avoidance, minimization, and mitigation to address impacts were provided, as applicable. Types of impacts are explained in the following definitions and illustrated in Figure 3-1:

Direct impacts — Impacts to the environment caused by the action and occur at the same time and place (40 CFR §1508.8). These impacts are discussed in each resource area section.

Indirect impacts — Impacts to the environment caused by the action and are later in time or farther removed in physical distance, but are still reasonably foreseeable (40 CFR §1508.8). Indirect impacts are generally not quantifiable but can be reasonably predicted to occur. These impacts are discussed in each resource area section.

Cumulative impacts — Impacts to the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions (40 CFR §1508.7). These impacts are discussed in Section 3.21 of this chapter.

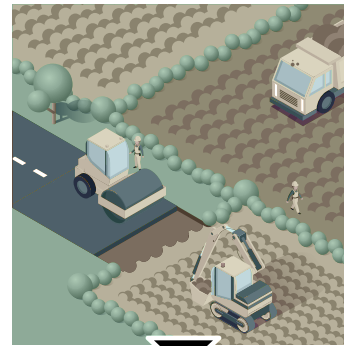
The study area may vary for individual resources as noted in each resource subsection, when applicable. Unless noted, the study area for each resource is the study area defined in Chapter 1 of this EA.

3.2 RESOURCES CONSIDERED BUT NOT EVALUATED IN DETAIL

In accordance with the FHWA Technical Advisory T6640.8A for preparation of an EA, resources that do not have a reasonable possibility for individual or cumulative significant environmental impacts need not be discussed. Accordingly, the following resources were initially considered but did not warrant a detailed discussion of impacts:

Figure 3-1 Examples of Impacts

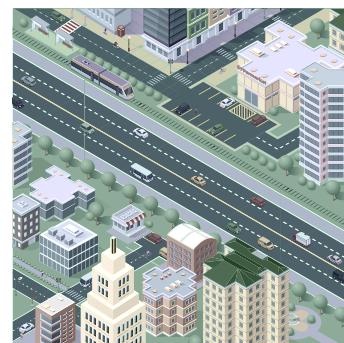
Direct Impacts - Several acres of farmland are removed to make room for construction of a new road.



Indirect Impacts - As a result of improved access, a commercial development replaces much of the farmland along the corridor a few years after the construction of the new road.



Cumulative Impacts - The combined impacts of construction of the new road, construction of other roadway projects, and private development transforms this rural, agricultural town into an urban, commercial center.



Transportation — Potential impacts to transportation facilities specifically related to transit services provided by the UTA were assessed using the 2019 UTA Utah County System Map (Utah Transit Authority, 2019), the MAG TransPlan50 RTP (MAG, 2019), and comments received from UTA during scoping (see Chapter 4). The Preferred Alternative improves the overall transportation system, accommodating both existing and planned transit services within the study area, including a grade-separated crossing of the combined Sharp/Tintic Railroad tracks that is planned to be used for a commuter rail extension by 2030.

Joint Development — Joint development projects aim to preserve or enhance the surrounding community's social, economic, environmental, and visual values and are often accomplished through a public/private partnership. There are no current or planned joint development projects within or near the study area. Additionally, the Preferred Alternative does not preclude potential joint development opportunities.

Farmland — The study area lies within the 2010 Provo-Orem Urbanized Area and is considered to be land already in or committed to urban development. Therefore, no prime or unique farmland or statewide important farmland exists within the study area. In addition, no State of Utah Agricultural Protection Areas were identified within the study area.

Paleontological — Through coordination with the Utah Geological Survey (UGS) Office of the State Paleontologist, it was determined that the study area has a low potential to yield significant fossil localities and that the Preferred Alternative should have no effect on paleontological resources (see Chapter 4).

Soils and Geology — Possible geological hazards in the study area include a high potential for liquefaction during an earthquake. If the Preferred Alternative is selected, a geotechnical report would be completed for the study area prior to completion of final design. The report would identify potential soil and geotechnical hazards. Additionally, the report would provide design recommendations to address the hazards that would be incorporated into the final design of the Preferred Alternative.

Section 6(f) — Section 6(f) of the Land and Water Conservation Fund (LWCF) Act protects property (often parks) acquired or developed with LWCF assistance. There are no Section 6(f) properties within the study area.

Floodplains — Communities participating in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) are required to review proposed development projects to determine if they are in identified FEMA floodplains. If a project is located in a mapped Special Flood Hazard Area, the project must obtain a Floodplain Development Permit (FDP) from the community prior to construction to ensure

compliance with the NFIP. Dry Creek is a perennial stream that crosses through the study area. Floodplains for this stream have not been mapped. Therefore, FEMA-designated floodplains are not present in or near the study area.

Wild and Scenic Rivers — Certain rivers are protected under the Wild and Scenic Rivers Act for their wild and/or scenic nature. There are no designated wild and/or scenic rivers in or near the study area.

Hazardous Materials — Records from the Environmental Protection Agency (EPA) and Utah Department of Environmental Quality (UDEQ) were examined to identify hazardous material sites in or near the study area that have the potential to impact or be impacted by the Preferred Alternative (see Hazardous Materials Memo in Appendix A). No hazardous material sites were found in or near the study area that would lead to any specific concern. If hazardous materials are found during construction, UDOT Standard Specification 01355 will be followed.

3.3 NO-ACTION ALTERNATIVE

The No-action Alternative was carried forward for analysis in this chapter to provide a baseline comparison for impacts caused by the Preferred Alternative. The No-action Alternative would not have direct or indirect impacts to the following resources:

- Social Environment
- Economic Conditions
- Right-of-Way and Relocations
- Environmental Justice
- Pedestrians and Bicyclists
- Noise
- Cultural Resources
- Section 4(f)
- Water Resources
- Wetlands and Other Waters of the U.S.
- Threatened and Endangered Species and Wildlife
- Visual and Aesthetic
- Construction Impacts

Resources that would have direct or indirect impacts resulting from the No-action Alternative are discussed in the specific resource section.

3.4 LAND USE

Zoning maps, general plans, and master plans are used to show current and planned land uses. Zoning maps are used to show how the land within each municipality is currently zoned, while general plans and master plans are used to show proposed future land uses. Local governments develop these maps and plans and use them to document community goals and priorities and to assist in decision-making. This chapter includes a review of existing and future land uses within the study area and describes potential land use impacts resulting from the No-action Alternative and the Preferred Alternative.

3.4.1 AFFECTED ENVIRONMENT

The study area is located within Springville City, Spanish Fork City, and unincorporated Utah County. The study team reviewed the 2011 Springville City and 2018 Spanish Fork City General Plans for current zoning and future land use goals and objectives relative to the study area. Land use designations used within this document are consistent with those found in the General Plans.

Existing Land Uses

Existing land uses within the Springville City portion of the study area are primarily commercial, industrial, public use, single family residential, and vacant or agricultural land. Commercial areas are located along I-15 north of 1600 South/2700 North and along SR-51. Industrial locations are scattered along 1600 South/2700 North between I-15 and SR-51. Residential areas occur north of 1600 South/2700 North and east of SR-51. A majority of the study area within Springville City is currently vacant or undeveloped/agricultural land, specifically to the south of 1600 South/2700 North between I-15 to 600 West and on the north of 1600 South/2700 North between 600 West and SR-51.

The Spanish Fork City portion of the study area includes industrial, public facilities, and vacant land. The vacant or undeveloped land is primarily located on the north side of 1600 South/2700 North and between CSB Nutrition Corporation on Main Street and I-15. Commercial and industrial facilities are primarily located south of 1600 South/2700 North along I-15.

Existing Zoning

Existing zoning within the Springville City portion of the study area is industrial, commercial, with some single family residential and agricultural zoning (see Figure 3-2) (Springville City, 2011).

Zoning in Spanish Fork City within the study area consists of industrial and public facilities near the I-15 corridor and along 1600 South/2700 North (see Figure

3-2) (Spanish Fork, 2018).

Future Land Uses

The Springville City General Plan (2011) indicates that portions of the study area are designated for use as residential, commercial, industrial, and agricultural properties, which is consistent with their current zoning. The differences between current zoning and future land uses are an increase in commercial and low density residential land uses, as well as a shift from industrial to mixed-use land use (see Figure 3-3). These shifts in land use could lead to greater development capabilities.

The Spanish Fork City General Plan Map (2018) identifies the future land uses in the study area as industrial, public facilities, business park, and commercial, replacing currently zoned industrial areas (see Figure 3-3).

3.4.2 ENVIRONMENTAL CONSEQUENCES

No-action Alternative

Direct Impacts

Undeveloped properties within the study area would continue to develop into commercial and residential properties, as envisioned in the cities' future land use plans.

Indirect Impacts

The No-action Alternative would not result in any indirect impacts.

Preferred Alternative

Direct Impacts

The Preferred Alternative would result in the conversion of 34.41 acres of land currently zoned as commercial, industrial, or agricultural into a roadway. These actions would not affect the land use characteristics within the study area because adjacent areas would continue to be used according to established zoning and general plan designations.

The Preferred Alternative would be consistent with existing and future land use plans for Springville City and Spanish Fork City.

Indirect Impacts

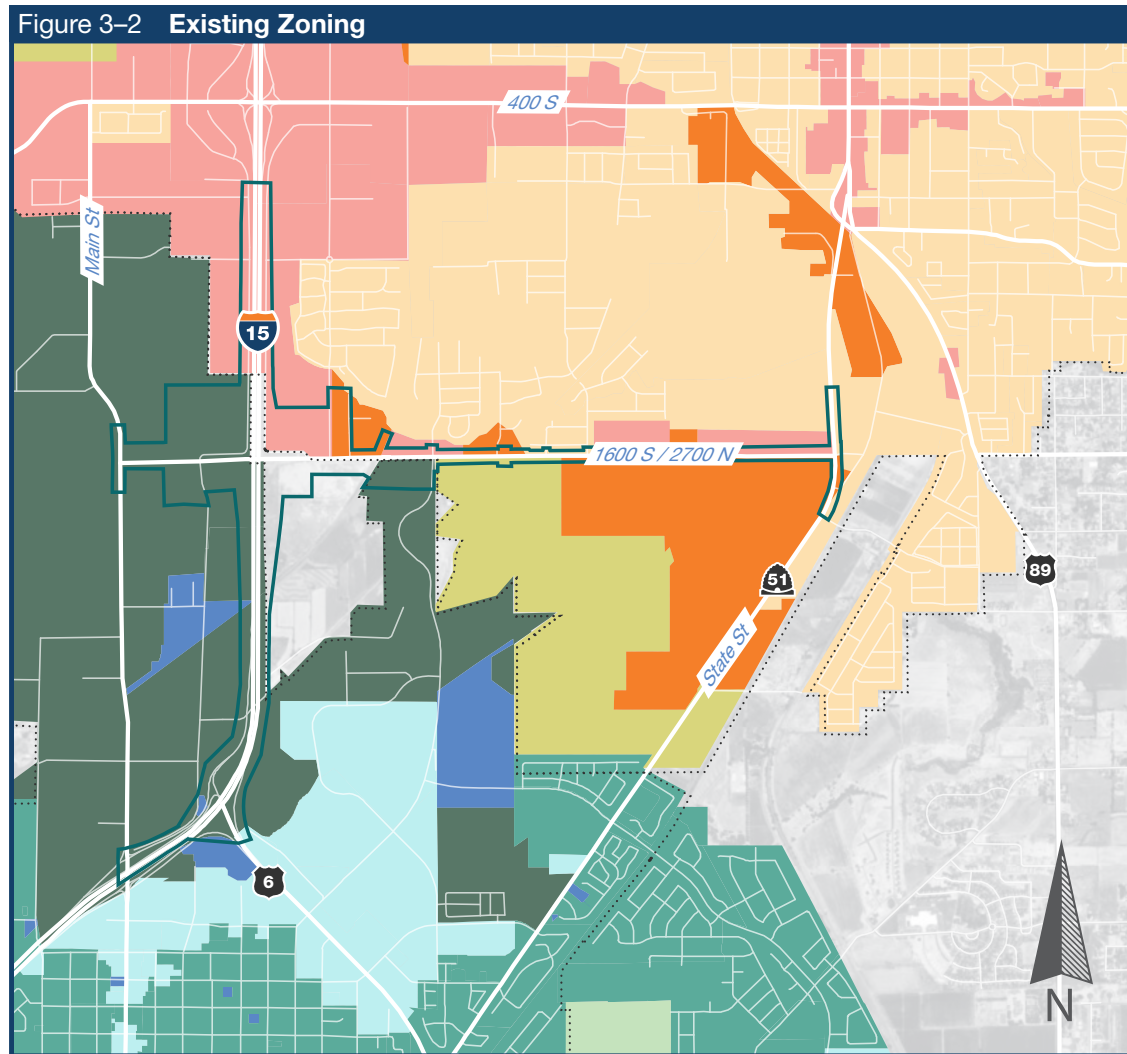
Construction of an interchange on I-15 at 1600 South/2700 North may influence the type of development that would occur in the study area. Businesses that rely on access from the interstate or pass-by customers may find the area more attractive if an interchange were built at this location.

The construction of a new interchange at 1600 South/2700 North could lead Springville City and Spanish Fork City to change zoning designations in and near the study area, for example, shifting industrial

or agricultural properties to residential or commercial. Any changes to land uses in the area would be made by elected officials through a public process.

3.4.3 MITIGATION

No mitigation would be required.



Study Area

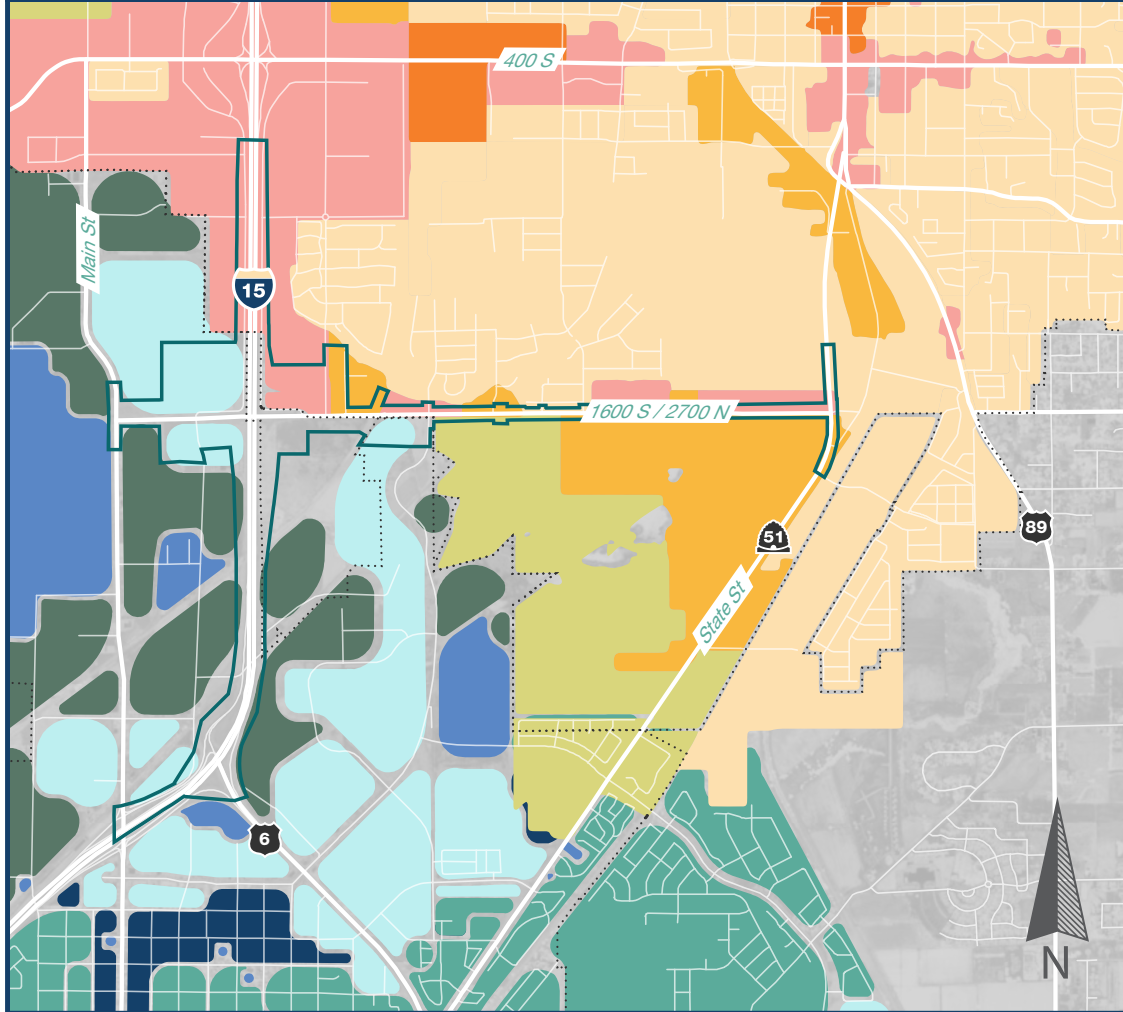
SPANISH FORK

- Residential
- Business/Commercial
- Industrial
- Public Facilities
- Agricultural

SPRINGVILLE

- Residential
- Business/Commercial
- Industrial
- Agricultural

Figure 3-3 Future Land Uses



Study Area

SPANISH FORK

- Residential
- Business/Commercial
- Industrial
- Mixed Use
- Public Facilities

SPRINGVILLE

- Residential
- Business/Commercial
- Industrial
- Mixed Use
- Agricultural

3.5 SOCIAL ENVIRONMENT

Existing social and demographic characteristics of the population in the study area were analyzed to determine potential impacts to the community from the Preferred Alternative and also to identify the presence of populations that could be most susceptible to those impacts.

3.5.1 METHODOLOGY

American Community Survey 5-Year Estimates

The U.S. Census Bureau collects data for the national census once every 10 years and continuously for the American Community Survey (ACS). The ACS has replaced the traditional long form of the national census and asks the basic questions found on the national census along with detailed questions about housing and population characteristics. Collecting continuous data about our communities allows federal, state, and local agencies to make educated decisions regarding the population. This EA utilizes data from the ACS rather than the national census because the national census data is over ten years old.

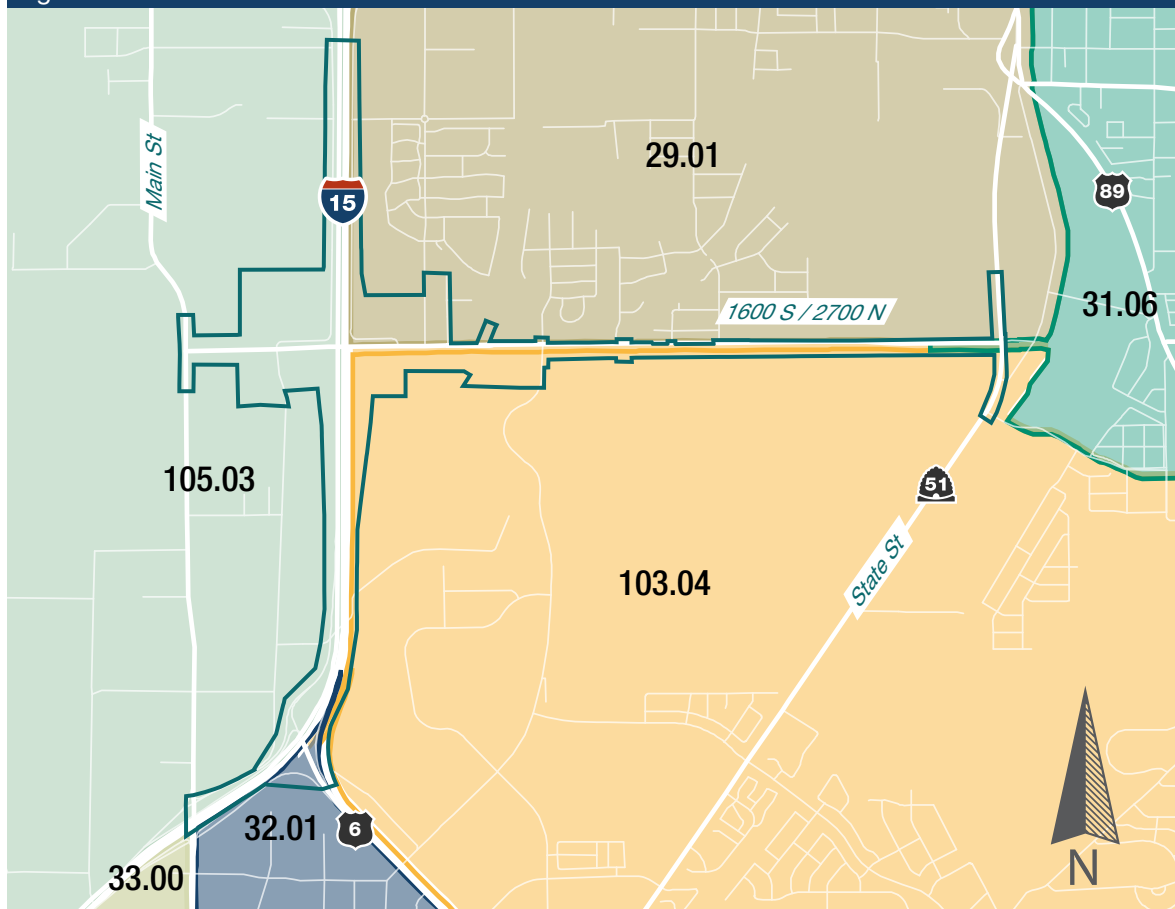
The ACS provides 1-year or 5-year estimates. The U.S. Census Bureau uses survey data collected over a 12-month time frame for the ACS 1-year

estimates, capturing the most up-to-date demographic information. The 1-year estimates are useful for geographic areas with populations larger than 65,000 that experience rapid demographic changes. The ACS 5-year estimates use 60-months of data and provide information for geographic areas of all population sizes. The data are less current because the 5-year estimates cover a longer range of time, but the data are more reliable, especially for geographic areas with smaller populations.

For this analysis, the ACS 5-year estimates were used, due to population sizes, in order to understand the social and demographic characteristics of residents in the study area and surrounding areas. The most recent ACS 5-year estimates use data collected from January 1, 2014, to December 31, 2018, which provides the most accurate and current information for the U.S. population and population characteristics for the year 2020.

The U.S. Census Bureau establishes geographies used for the census and ACS data collection. At the local level, these geographies are defined by state, county, census tract, and block group. For this analysis, the study team evaluated data for census tract 29.01, census tract 31.06, census tract 103.04, census tract 105.03, census tract 32.01, census tract 33.00, Utah County, and the State of Utah. Census tracts 29.01, 103.04, and 105.03 make up a majority of the study area (see Figure 3-4).

Figure 3-4 Census Tracts



3.5.2 AFFECTED ENVIRONMENT

Social and Community Characteristics

The study area consists of a combination of developed and undeveloped land. The developed land within the study area includes commercial/industrial operations along I-15 and SR-51 and along 1600 South/2700 North. Residential areas include neighborhoods along 1600 South/2700 North and homes on SR-51 near the 1600 South/2700 North intersection (see Section 3.4 Land Use).

Social gathering places in close proximity to the study area include two churches, several restaurants, an arcade, a rodeo arena, three parks, a movie theatre, and various businesses. Two Church of Jesus Christ of Latter-day Saints buildings lie within 0.5 miles of the study area, each containing three English-speaking

congregations or wards. Several restaurants in or near the study area may serve as social gathering places. These restaurants are located on SR-51 by the 1600 South/2700 North intersection, near the I-15 US-6 Interchange, and near the I-15 400 South Interchange. The arcade is located on the northeast quadrant of the 1600 South/2700 North bridge across I-15.

General demographic characteristics of the population in the study area are non-Hispanic whites with a median age of mid-20s and an education level of some college or an associate degree (U.S. Census Bureau, 2018a). The persons below poverty in the study area census tracts are between 2.1% and 15.1%, averaging 8.2%, which is lower than the state and country percentages. (see Table 3–1) (U.S. Census Bureau, 2018d).

Table 3–1 Demographics by Census Tract (2014-2018 ACS 5-Year Estimates)								
CHARACTERISTICS (TOTAL POPULATION STATS)	TRACT 29.01	TRACT 31.06	TRACT 103.04	TRACT 105.03	TRACT 32.01	TRACT 33.00	UTAH COUNTY	STATE OF UTAH
Population	6,978	2,841	9,958	3,723	2,841	6,353	590,440	3,045,350
RACE AND ETHNICITY								
White	90.8%	93.0%	88.6%	89.7%	93.8%	94.3%	91.9%	86.4%
Black or African-American	1.5%	0.0%	0.4%	0.5%	0.0%	0.2%	0.6%	1.2%
American Indian and Alaskan Native	0.6%	0.0%	0.9%	0.5%	0.0%	0.3%	0.5%	1.1%
Asian	1.0%	0.2%	0.3%	3.1%	0.5%	0.1%	1.5%	2.3%
Native Hawaiian or other Pacific Islander	0.2%	0.0%	2.6%	0.5%	0.0%	0.8%	0.8%	0.9%
Some Other Race	3.7%	2.6%	4.2%	2.6%	0.8%	1.4%	1.8%	5.2%
Hispanic or Latino	16.3%	22.8%	10.3%	8.8%	22.2%	16.4%	11.6%	13.9%
AGE DISTRIBUTION								
Under 18 years	44.4%	38.6%	45.0%	18.4%	37.5%	39.3%	34.2%	30.2%
18 years and over	55.6%	61.4%	55.0%	81.6%	62.5%	60.7%	63.8%	69.8%
65 years and over	6.5%	7.8%	4.8%	10.5%	7.1%	6.0%	7.4%	10.5%
Median age (years)	23.7	25.7	22.8	31.4	26.8	25.3	24.6	30.7
EDUCATION LEVEL								
Less than a high school diploma	6.1%	14.7%	6.2%	10.4%	15.5%	6.2%	5.8%	8.1%
High school graduate	17.9%	31.6%	12.9%	24.5%	32.0%	28.8%	16.3%	22.9%
Some college or an associate degree	37.7%	33.7%	40.6%	42.7%	37.3%	39.9%	37.8%	35.9%
Bachelor's degree	27.2%	14.8%	23.3%	15.3%	12.7%	18.7%	27.6%	22.0%
Graduate or professional degree	11.2%	5.2%	17.0%	7.2%	2.5%	6.4%	12.5%	11.3%
POVERTY								
Persons below poverty level	8.1%	10.0%	2.1%	5.1%	15.1%	9.0%	11.2%	10.3%

Data indicate that approximately 90% of workers living in the study area census tracts either commute or carpool to work in a car, truck, or van. This data suggest that vehicles are accessible for most households (U.S. Census Bureau, 2020).

3.5.3 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would result in the relocation of one business that is considered a social gathering location, the Nickel Mania arcade (see Map 7 in Volume 2). The arcade is located in the northeast quadrant of the proposed 1600 South/2700 North Interchange. Right-of-way acquisitions would occur in accordance with federal and state relocation policies. The acquisition and relocation program would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources would be available without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.).

Change in access to some businesses along 1600 South/2700 North would be required to accommodate the grade-separated railroad crossing structure. Traffic along 1600 South/2700 North would increase and could influence the development of the land. Traffic increases would not cause social separation between communities because residential areas are primarily located along the north side of 1600 South/2700 North and along the east side of SR-51, which are already separated by roads.

The addition of the multiuse trail along 1600 South/2700 North could provide social benefits by connecting communities, allowing access to resources for non-vehicle users, and providing additional recreation opportunities (USDOT, 2015).

Indirect Impacts

The Preferred Alternative would not result in any indirect impacts.

3.5.4 MITIGATION

No mitigation would be required.

3.6 ECONOMIC CONDITIONS

3.6.1 AFFECTED ENVIRONMENT

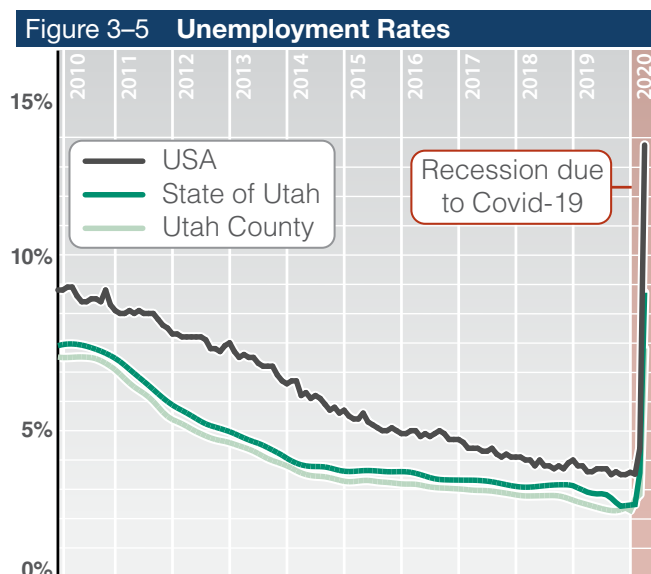
Regional Setting

Utah County's labor market conditions follow state and national trends with year-to-year increases over the last nine years. Labor market conditions in 2020 are currently projecting drastic decreases due to the COVID-19 pandemic. In May 2020, Utah County experienced -4.6% non-farm employment growth over the past year, which is comparable to the state average of -4.9% but higher than the national average of -11.8% (Department of Workforce Services, 2020a).

Job loss occurred in all Utah industries between May 2019 and May 2020 with the exception of the construction and financial activity sectors (Department of Workforce Services, 2020b). Utah County eliminated approximately 12,024 jobs from May 2019 to May 2020 (Department of Workforce Services, 2020a). Unemployment rates are lower in Utah County compared to the state and nation (see Table 3-2 and Figure 3-5) (Department of Workforce Services, 2020c).

Table 3-2 Unemployment Rate May 2020	
COUNTY	UNEMPLOYMENT RATE
Utah County	6.2%
State of Utah	8.5%
United States	13.3%

Source: Department of Workforce Services (2020c)



According to the U.S. Census Bureau (n.d.), there are approximately 14,192 businesses in Utah County. Housing construction in Utah County has continued to improve since the end of the 2008 recession, and the number of new dwelling units for both the State of Utah and Utah County have increased.

Property and sales taxes are the county's main sources of revenue. When combined, they represent approximately 70% of the county's total general fund revenue. Gross taxable sales have been rising in Utah County since the last recession. The amount of sales tax collected in 2018-2019 increased 4.3% over the previous year, while property tax collections increased 5.3%.

Employment

Major employers in Utah County include two universities, two school districts, the State of Utah, and private businesses (see Table 3-3) (Department of Workforce Services, 2018).

Table 3-3 Major Employers in Utah County, 2018

EMPLOYER	TYPE OF BUSINESS	EMPLOYEE RANGE
Brigham Young University	Higher Education	15,000-19,999
Alpine School District	Public Education	7,000-9,999
Utah Valley University	Higher Education	7,000-9,999
State of Utah	State Government	5,000-6,999
Vivint	Building Equipment Contractors	3,000-3,999
Nebo School District	Public Education	3,000-3,999
Utah Valley Regional Medical Center	Health Care	3,000-3,999
Wal-Mart	Warehouse Clubs/Supercenters	3,000-3,999
Sykes Enterprises	Technical Services	2,000-2,999
Young Living Essential Oils	Direct Selling Establishments	2,000-2,999
doTERRA International	Direct Selling Establishments	2,000-2,999

Source: Department of Workforce Services (2018)

Income

Income levels within the study area vary compared to Utah County and the State of Utah (see Table 3–4). Some census tracts have lower median household incomes, while others are higher (see Figure 3–4 in Section 3.5 Social Environment for census tract locations) (U.S. Census Bureau, 2020).

Table 3–4 Income in Study Area, Utah County, and State of Utah

LOCATION	CENSUS TRACT	MEDIAN HOUSEHOLD INCOME	PER CAPITA INCOME	MEDIAN FAMILY INCOME
Study Area	29.01	\$70,272	\$19,103	\$70,163
	31.06	\$60,865	\$22,197	\$61,154
	103.04	\$87,188	\$25,019	\$89,531
	105.03	\$57,500	\$25,318	\$59,828
	32.01	\$48,548	\$18,463	\$54,375
	33.00	\$65,703	\$21,483	\$70,696
Utah County		\$70,408	\$24,528	\$76,626
State of Utah		\$68,374	\$28,239	\$77,732

Source: U.S. Census 2014-2018 American Community Survey

Study Area

The study area is located in a partially developed commercial and residential area. Businesses located in or adjacent to the study area include retail, industrial, and other commercial operations. It is likely that these areas will continue to develop and that additional businesses will be located in and near the study area.

3.6.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would require the relocation of one commercial building that houses two businesses at the northeast quadrant of the proposed interchange and one business adjacent to 1700 West (see Table 3–5 and Map 7 in Volume 2).

Table 3–5 Business Acquisitions

BUSINESS	ADDRESS
Nickel Mania	1575 1950 W Springville, UT
Take-A-Break Spa & Billiards	1575 1950 W Springville, UT
Express Towing	1452 S 1700 W Springville, UT

Grade-separating the 1600 South/2700 North crossing over the future combined Sharp/Tintic Railroad would require modifying the access to properties adjacent to the current Sharp Railroad crossing (see Map 11 in Volume 2). Modified access locations would change the way customers access the adjacent businesses.

The new interchange ramps would affect visibility of adjacent businesses from some sections of I-15. Since there is an existing overpass at this location, this effect would be more limited than would be the case with a new structure.

The new grade separation over the combined Sharp/Tintic Railroad would affect visibility to businesses adjacent to the current Sharp Railroad crossing. Generally, these types of businesses do not rely on pass-by traffic (e.g., custom woodworking, diesel engine repair service) and would likely not see reduced numbers of customers as a result of the grade separation.

Indirect Impacts

A new interchange at 1600 South/2700 North would provide new interstate access to surrounding properties. This could result in increased traffic to existing and future businesses. This may change the types of businesses and commercial development that would find the study area attractive, which could encourage new businesses to move to the area and create additional employment opportunities.

3.6.3 MITIGATION

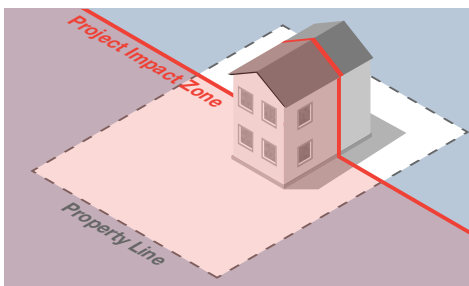
No mitigation would be required.

3.7 RIGHT-OF-WAY AND RELOCATIONS

When property acquisition is necessary, and state and/or federal funds are used, land owners are compensated under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. If an individual is required to move as a result of a federal or federally assisted program, assistance is provided. Relocation resources are available for each individual without regard to race, color, national origin, or sex in compliance with Title IV of the Civil Rights Act (42 USC 2000d, et seq.).

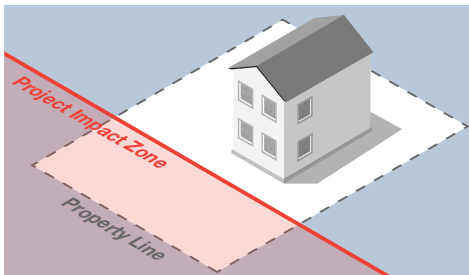
This Right-of-Way and Relocations section will use the following definitions to analyze the impacts of relocations (see Figure 3–6):

Figure 3–6 Relocation Definitions



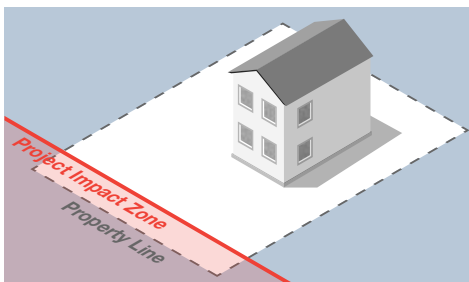
Relocation: Direct Impact

The right-of-way required for the project goes through the structure.



Potential Relocation: Proximity Impact

The right-of-way required for the project impacts the property and is close to the structure.



Partial Acquisition

The right-of-way required for the project impacts the property but is farther away from the structure.

- **Relocation** – This occurs when an existing structure is in the project impact zone and the entire property would need to be acquired. In this case, the residents or businesses would need to relocate.
- **Potential Relocation** – This occurs when a property would be directly affected by the Preferred Alternative and (1) an existing structure (excluding porches and garages) would be close to the proposed right-of-way or (2) the project would impair driveway access, but it is not clear whether the entire property would need to be acquired. By the end of the right-of-way acquisition phase, it would be determined whether each potential relocation is a full relocation or a partial acquisition. This determination depends on an independent evaluation of the property that includes any project-related damage to buildings.
- **Partial Acquisition** – This occurs when a property is located within the proposed right-of-way, but the right-of-way is farther away from an existing structure. For this type of impact, only a strip of land would need to be acquired. Partial acquisitions may be refined during the right-of-way acquisition phase.

3.7.1 AFFECTED ENVIRONMENT

The areas within and adjacent to the study area include residential, agricultural, industrial, commercial, and public land uses. The current zoning for areas within and adjacent to the study area includes industrial/manufacturing, agricultural, commercial, low-density residential, and public facilities. See Section 3.4 Land Use for more information.

3.7.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would require the relocation of two commercial properties, impacting a total of three businesses (see Table 3–6 and Map 7 in Volume 2). One commercial building houses two businesses, Nickel Mania and Take-A-Break Spa & Billiards. The proximity of this building to the potential interchange northbound on-ramp causes it to be in the project impact zone. The other commercial parcel is owned by Express Towing, who utilizes the space for a tow yard.

In total, the Preferred Alternative would require the acquisition of 34.41 acres from 63 parcels.

Indirect Impacts

The Preferred Alternative would have no indirect right-of-way impacts.

3.7.3 MITIGATION

No mitigation would be required.

Table 3–6 Relocations		
BUSINESS	ADDRESS	ACQUISITION TYPE
Nickel Mania	1575 S 1950 W Springville, UT	Relocation
Take-A-Break Spa & Billiards	1575 S 1950 W Springville, UT	Relocation
Express Towing	1452 S 1700 W Springville, UT	Relocation

3.8 ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects from federal projects on the health or environment of minority and low-income populations to the greatest extent possible and permitted by law.

Fundamental environmental justice principles include the following:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or substantial delay in the receipt of benefits by minority and low-income populations.

Environmental justice populations are defined by FHWA guidelines as any of the following groups:

- **Black** – A person having origins in any of the black racial groups of Africa.
- **Hispanic/Latino** – A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- **American Indian and Alaskan Native** – A person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.
- **Asian** – A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.
- **Native Hawaiian or Other Pacific Islander** – A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- **Low-Income** – A person whose household income (or in the case of a community or group, whose median household income) is at or below the poverty guidelines from the U.S. Department of Health and Human Services (HHS).

3.8.1 AFFECTED ENVIRONMENT

Census tracts within the study area were compared to the overall ACS 5-year estimates in Utah County and the State of Utah. Selected social and demographic characteristics of the population are summarized in Table 3–7. Methodology used for this analysis can be found in Section 3.5 Social Environment. Census tracts

29.01, 103.04, and 105.03 contain the majority of the study area population (see Figure 3–4 in Section 3.5 Social Environment).

Census-Based Data Relating to Environmental Justice

Minority and Hispanic/Latino Populations

The census tracts in the study area have a majority of non-Hispanic white inhabitants. Census tracts 29.01, 31.06, 103.04, and 105.03 have higher percentages of some minority race groups compared to Utah County. All census tracts have higher percentages of Hispanic or Latino populations compared to Utah County and the State of Utah, except census tract 103.04 and 105.03 (see Table 3–7) (U.S. Census Bureau, 2018a).

Low-Income Populations

The percentage of persons below the poverty level in Utah County is 11.2% and in the State of Utah it is 10.3%. All census tracts have poverty levels lower than Utah County and the State of Utah with the exception of census tract 32.01, which has 15.1% of persons living below the poverty level (see Table 3–7) (U.S. Census Bureau, 2018d).

Summary of Census-Based Data Relating to Environmental Justice

The analysis of demographic information from the census tracts, Utah County, and the State of Utah indicates that there is a potential presence of environmental justice populations in or near the study area.

Additional Research Relating to Environmental Justice

Due to the potential presence of environmental justice populations in or near the study area indicated by the census-based data research, further research was conducted. The U.S. Department of Housing and Urban Development (HUD) assists low-income tenants with reduced rent for housing and is a good indicator of low-income populations in or near the study area. The HUD website (n.d.) shows that there is no subsidized housing within the study area, but there are two subsidized apartment complexes within 1.5 miles of the study area. One is located on the corner of Main Street and 400 South in Springville City, and the other is located next to US-6 adjacent to 400 North in Spanish Fork City.

Table 3–7 Selected Population Characteristics (2014-2018 ACS 5-year Estimates)

CHARACTERISTICS (TOTAL POPULATION STATS)	TRACT 29.01	TRACT 31.06	TRACT 103.04	TRACT 105.03	TRACT 32.01	TRACT 33.00	UTAH COUNTY	STATE OF UTAH
Population	6,978	2,841	9,958	3,723	2,841	6,353	590,440	3,045,350
RACE AND ETHNICITY								
White	90.8%	93.0%	88.6%	89.7%	93.8%	94.3%	91.9%	86.4%
Black or African-American	1.5%	0.0%	0.4%	0.5%	0.0%	0.2%	0.6%	1.2%
American Indian and Alaskan Native	0.6%	0.0%	0.9%	0.5%	0.0%	0.3%	0.5%	1.1%
Asian	1.0%	0.2%	0.3%	3.1%	0.5%	0.1%	1.5%	2.3%
Native Hawaiian or other Pacific Islander	0.2%	0.0%	2.6%	0.5%	0.0%	0.8%	0.8%	0.9%
Some Other Race	3.7%	2.6%	4.2%	2.6%	0.8%	1.4%	1.8%	5.2%
Hispanic or Latino	16.3%	22.8%	10.3%	8.8%	22.2%	16.4%	11.6%	13.9%
POVERTY								
Persons below poverty level	8.1%	10.0%	2.1%	5.1%	15.1%	9.0%	11.2%	10.3%

3.8.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

Environmental justice impacts due to the implementation of a proposed action are analyzed using the principles listed in Section 3.8.

First Environmental Justice Principle

The study team evaluated the Preferred Alternative by considering the first environmental justice principle, which is to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects. The Preferred Alternative would have minimal effects, which would include the relocation of two commercial properties that house a total of three businesses. Additionally, it would include acquisition of right-of-way from multiple businesses and land owners mostly located on 1600 South/2700 North. Relocations and right-of-way acquisition are not considered adverse effects, as right-of-way acquisitions would occur in accordance with federal and state relocation policies.

Where property acquisition is necessary, land owners are compensated under the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. If an individual or business is required to move due to implementation of the Preferred Alternative, assistance would be provided. Relocation resources would be available to each relocated residence or business without regard

to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC §2000d, et seq.). Therefore, the Preferred Alternative would not have disproportionately high or adverse effects to environmental justice populations.

Second Environmental Justice Principle

The second environmental justice principle is the full and fair participation by all potentially affected communities in the transportation decision-making process. Public involvement efforts have been ongoing through the entirety of this EA (see Chapter 4 for complete public involvement details). General public involvement efforts have included:

- Postcards, flyers, public notices, website, email, and hotline
- Agency, stakeholder, and public meetings
- Individual meetings as requested

To date, one public meeting, a public scoping meeting, has been held. The scoping meeting informed the community of the environmental study process and gathered public input related to transportation needs and environmental concerns within the study area.

To accommodate any Spanish language needs, Spanish-speaking team members were in attendance at the meeting.

Third Environmental Justice Principle

The third environmental justice principle is to prevent the denial of, reduction in, or substantial delay in the receipt of benefits by minority and low-income populations. Right-of-way acquisitions would occur in accordance with federal and state relocation policies. The acquisition and relocation program would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources would be available to each relocated business or residence without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.).

Indirect Impacts

The Preferred Alternative would not result in any indirect impacts to environmental justice populations.

3.8.3 MITIGATION

No mitigation would be required.

3.9 PEDESTRIANS AND BICYCLISTS

Considerations for pedestrians and bicyclists were analyzed in accordance with the U.S. Department of Transportation (USDOT) Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure, which states that “bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas.” Pedestrian facilities are required to comply with the Americans with Disabilities Act (ADA) of 1990. Other applicable laws and regulations were also considered for this analysis.

Bicycle facilities are classified as Class I, II, and III facilities. Class I facilities consist of a paved trail separated from a roadway. Class II facilities consist of dedicated bike lanes. Class III facilities consist of a shared travel lane with vehicles.

3.9.1 AFFECTED ENVIRONMENT

Information on existing and planned pedestrian facilities and trails within the study area was obtained from the South Utah County Active Transportation Plan (MAG, 2016), the Springville City and Spanish Fork City planned trail maps (Spanish Fork City 2014; Springville City, 2016), and the MAG TransPlan50 Bike/Ped plan (MAG, 2019). Safe Neighborhoods Access Program (SNAP) maps were evaluated for Meadow Brook Elementary School and Sage Creek Elementary School. Neither identified safe routes within the study area.

Existing Pedestrian and Bicyclist Facilities In or Near the Study Area

Class I Facilities

Three multiuse trails currently exist within or near the study area. These include a very short segment of trail at the existing crossing of 1600 South/2700 North over I-15, a trail adjacent to I-15 and US-6 in Spanish Fork, and several short segments of a trail in the residential neighborhood north of 1600 South/2700 North (see Trail X, Trail S, and Trail R in Figure 3–7).

Trail X was constructed when the bridge over I-15 was built and presently does not connect to any other trail or sidewalk.

Class II Facilities

No dedicated bike lanes are present in the study area.

Class III Facilities

No roadways in the study area have been officially designated as bicycle facilities. However, several roadways have wide shoulders or may be otherwise used by cyclists.

Sidewalks

Sidewalks are intermittently present but are inconsistent and disconnected throughout the study area. Sidewalks are located in the residential area along the north side of 1600 South/2700 North from 950 West to approximately 1150 West and from 1200 West to approximately 1250 West. On the south side of 1600 South/2700 North sidewalks are located in front of the Nebo School District Bus Facility.

Planned Bicyclist and Pedestrian Facilities in or Near the Study Area

All planned bicyclist and pedestrian facilities in and near the study area can be found in Figure 3–7. The MAG TransPlan50 Bike/Ped plan (MAG, 2019) shows Class I facilities:

- Trail A: Springville - 1600/Sp Fork 2700 N Trail
- Trail B: Springville - Tintic Rails Trail
- Trail C: Springville 400 E Trail
- Trail D: InterCity Connector Trail
- Trail E: Springville - Hobble Creek Trail
- Trail F: Springville - 2600 W Trail

The South Utah County Active Transportation Plan (MAG, 2016) shows additional Class I Facilities:

- Trail G: Spanish Fork - InterCity Connector Trail
- Trail H: Spanish Fork - 300 West Trail
- Trail I: Spanish Fork - Railroad Trail

The South Utah County Active Transportation Plan (MAG, 2016) shows Class II Facilities:

- Trail J: Springville - 700 South Separated Bike Lanes
- Trail K: Spanish Fork - 300 West Separated Bike Lanes

Springville City shows proposed trails:

- Trail L: Springville - Dry Creek Connections

Spanish Fork City shows additional proposed trails:

- Trail M: Spanish Fork - InterCity Connector Trail, Canyon Creek Parkway Segment
- Trail N: Spanish Fork - US-6 to Canyon Creek Parkway Connection
- Trail O: Spanish Fork - 900 N Shared Use Path

3.9.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would construct a new, 10-foot, multiuse pathway adjacent to 1600 South/2700 North between Spanish Fork Main Street and SR-51. The multiuse pathway would be located on the south side of 1600 South/2700 North and would be a segment of Trail A (see Figure 3-7). The Preferred Alternative would also construct a 6-foot sidewalk along the north side of 1600 South/2700 North.

These pedestrian and bicyclist facilities would provide improved connectivity between existing and planned trails and would provide an important link for pedestrians and bicyclists across I-15.

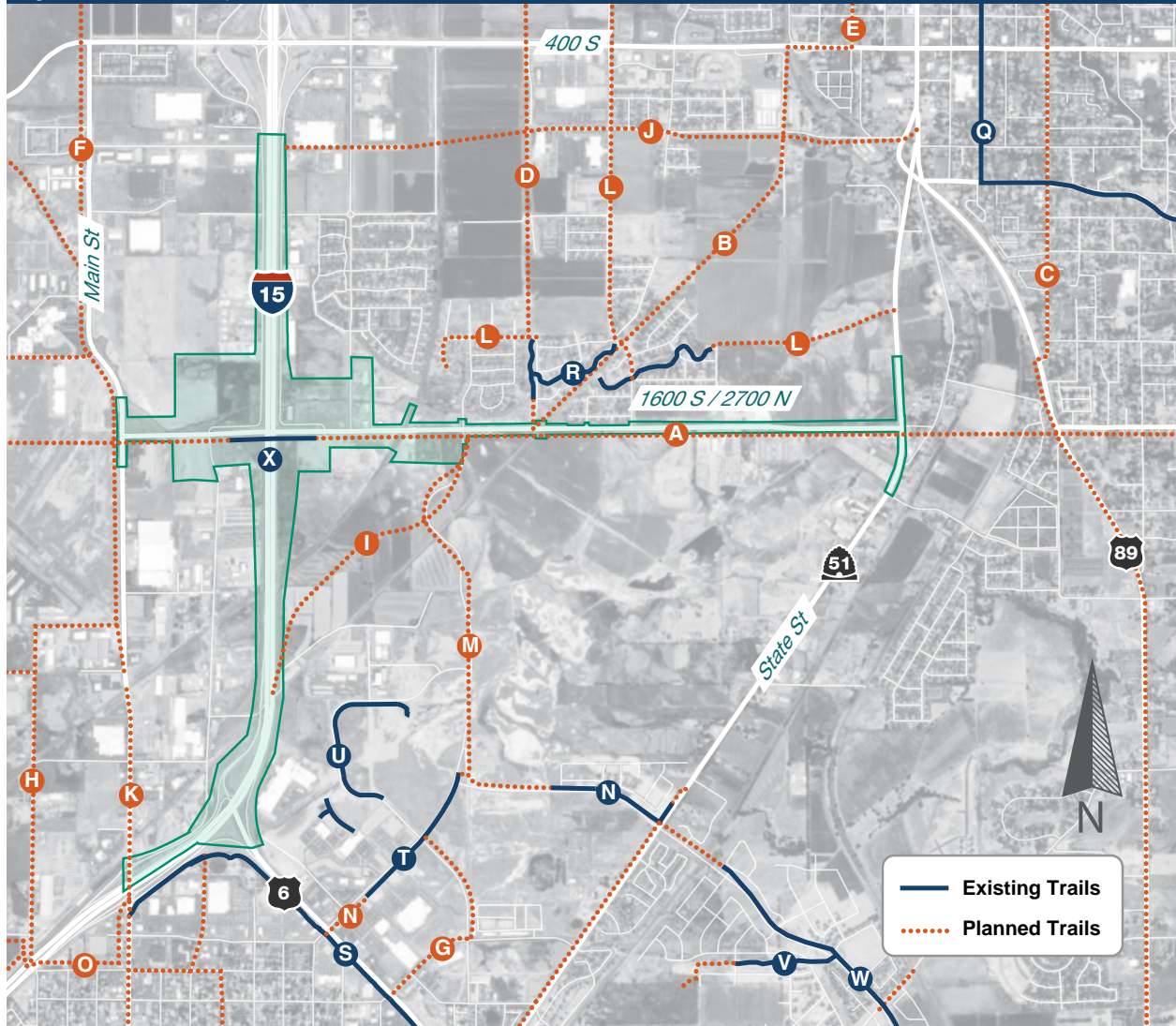
Indirect Impacts

The Preferred Alternative would have no indirect impacts to existing or planned pedestrian and bicyclist facilities.

3.9.3 MITIGATION

No mitigation would be required.

Figure 3-7 Existing and Planned Trails



Study Area

Planned Trails

- A** Springville - 1600 S / Sp Fork 2700 N Trail
- B** Springville - Tintic Rails Trail
- C** Springville - 400 E Trail
- D** Springville - InterCity Connector Trail
- E** Springville - Hobble Creek Trail
- F** Springville 2600 W Trail
- G** Spanish Fork - InterCity Connector Trail
- H** Spanish Fork - 300 West Trail
- I** Spanish Fork - Railroad Trail
- J** Springville - 700 Soth Separated Bike Lanes
- K** Spanish Fork - 300 West Separated Bike Lanes
- L** Springville - Dry Creek Trail Connections
- M** Spanish Fork - InterCity Connector Trail, Canyon Creek Parkway Segment
- N** Spanish Fork - North Park Trail to Canyon Creek Parkway Connection
- O** Spanish Fork - 900 N Shared Use Path

Existing Trails

- Q** Hobble Creek Parkway
- R** Dry Creek Trail
- S** North Park Trail
- T** Canyon Creek Parkway
- U** Marketplace Drive
- V** Legacy Farms
- W** Spanish Fork Parkway
- X** I-15/Springville 1600 S Interchange Grade-Separated Crossing

3.10 AIR QUALITY

Air quality is assessed on both the regional and project levels. The regional-level analysis for this EA includes Utah County, Utah. The project-level analysis encompasses the study area. An Air Quality Memo has been prepared and is attached in Appendix A.

3.10.1 REGULATORY BACKGROUND

The Clean Air Act Amendments (CAAA) of 1990 (42 USC 7401 et seq.) established the National Ambient Air Quality Standards (NAAQS) for airborne pollutants. The criteria pollutants addressed in the NAAQS are:

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO₂)
- Particulate matter (PM) with a diameter of 10 micrometers or less (PM₁₀)
- Particulate matter with a diameter of 2.5 micrometers or less (PM_{2.5})
- Ozone (O₃)
- Sulfur dioxide (SO₂)

If the NAAQS levels are exceeded, the area is designated a non-attainment area and the development of a State Implementation Plan (SIP) is required. The SIP sets allowable emissions levels and identifies control strategies to meet the NAAQS for those specific criteria pollutants that exceed those levels. All proposed transportation projects must conform to the SIP.

Transportation Conformity

A regional-level analysis looks at the Metropolitan Planning Organization's (MPO) Long-Range Transportation Plan (LRTP) to see that all of the projects included in the LRTP, including the Preferred Alternative, conform to the control strategies and emissions levels set in the SIP. An individual project is said to conform to the SIP if, both by itself and in combination with the other planned transportation projects in the plan, it would not result in any of the following conditions (40 CFR 93.116):

- New violations of the NAAQS
- Increases in the frequency or severity of existing violations of the NAAQS
- Delays in attaining the NAAQS

Utah does not currently have an approved SIP for PM_{2.5}. Because Utah does not currently have an approved SIP for PM_{2.5}, then interim conformity requirements apply, which require that future nitrogen oxide (NOx) emissions (a precursor to PM_{2.5}) and primary particulate emissions not exceed 2008

levels. NOx is a generic term for the mono-nitrogen oxides nitric oxide (NO) and NO₂ and are produced from the reaction among nitrogen, oxygen, and even hydrocarbons (during combustion), especially at high temperatures.

Mobile Source Air Toxics

In addition to the criteria for air pollutants for which there are NAAQS, the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources (e.g., cars), non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSAT) are a subset of the 188 air toxics defined by the Clean Air Act. MSAT are compounds emitted from highway vehicles and non-road equipment. The seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) are:

- Acrolein
- Benzene
- 1,3-butadiene
- Diesel exhaust PM plus diesel exhaust organic gases (diesel PM)
- Formaldehyde
- Naphthalene
- Polycyclic organic matter

Greenhouse Gases

The issue of global climate change is an important national and global concern that is being addressed in several ways by the federal government. The transportation sector is the second-largest source of total greenhouse gases (GHGs) in the U.S. and the largest source of carbon dioxide (CO₂) emissions, which is the predominant GHG.

According to the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (EPA, 2020) from the EPA, in 2018, the transportation sector was responsible for 28.2% of all CO₂ emissions produced in the U.S. The principle anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which account for about 80% of anthropogenic emissions of carbon worldwide. Almost all (over 90%) of transportation-related GHG emissions result from the consumption of petroleum products such as gasoline, diesel fuel, jet fuel, and other residual fuels.

3.10.2 AFFECTED ENVIRONMENT

Attainment Status

The study area is located in Springville City and Spanish Fork City, Utah, which is within the Provo, Utah Serious PM_{2.5} Non-Attainment Area, the Utah County Moderate PM₁₀ Non-Attainment Area, and the Wasatch Front Marginal Ozone Non-Attainment Area. It is not within a non-attainment area for any other NAAQS.

3.10.3 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Regional-Level Analysis

Based on the air quality conformity analysis conducted by the MAG (as the MPO) for the RTP and the Air Quality Memorandum dated July 2020 (see Air Quality Memorandum Conformity Determination in Appendix A), all the transportation projects in the 2019-2050 RTP conform to the SIP or the EPA interim conformity guidelines. The Preferred Alternative is identified in MAG RTP (which is a financially constrained long-range plan) for Phase 1 (see Chapter 1 Figure 1-3).

Project-Level Analysis

Project-level analysis is performed when a project is located in a non-attainment area for CO, PM₁₀, or PM_{2.5} or in an area that was previously designated as non-attainment but has been subsequently redesignated as attainment, otherwise known as a maintenance area. Project-level analysis may consist of either a qualitative or quantitative analysis or both.

Carbon Monoxide

The study area is not located in a non-attainment area for CO; therefore, no project-level analysis is required under transportation conformity rules.

Particulate Matter

A quantitative analysis for PM₁₀ and PM_{2.5} is only required for a “project of air quality concern” (40 CFR Section 93.123(b)(1)). Projects of air quality concern are highway and transit projects that involve a significant level or increase of diesel vehicle traffic or any other project that is identified in the PM_{2.5} or PM₁₀

SIP as a localized air quality concern.

The improvements included as part of the Preferred Alternative are intended to reduce congestion and improve safety on mainline I-15. The Preferred Alternative would add an interchange on I-15 at 1600 South/2700 North and widen 1600 South/2700 North to five lanes. The proposed new interchange and improvements to 1600 South/2700 North are intended to serve primarily gasoline traffic and are not expected to influence the vehicle mix nor attract a significant number of new diesel vehicles to the area.

The new interchange at 1600 South/2700 North would improve connectivity between I-15 and SR-51 (Springville City State Street). These proposed improvements may attract additional vehicles, including diesel vehicles, to the area. The Average Annual Daily Traffic (AADT) for 1600 South/2700 North under the Preferred Alternative would double compared to the No-action Alternative, but since it is still a relatively small number, it would result in only a minor increase in diesel truck traffic in the area. There would be a minor increase in AADT on I-15 within the study area with the Preferred Alternative (approximately 6,000 AADT), with no increase in diesel truck percentages and no appreciable difference in diesel truck traffic (see Table 3–8).

The improved traffic flow that would result from the Preferred Alternative would reduce the effects of the increased emissions from the additional AADT on 1600 South/2700 North. However, due to the increase in traffic on 1600 South/2700 North, there would be a localized increase in PM in the vicinity of the roadway.

UDOT has determined that this project is not a project of air quality concern (see Project of Air Quality Concern Memo in Appendix A) and a project-level analysis is not required for conformity purposes.

Table 3–8 Average Annual Daily Traffic and Percent Diesel Truck Traffic

ROADWAY	EXISTING CONDITIONS			NO-ACTION ALTERNATIVE (2050)			PREFERRED ALTERNATIVE (2050)		
	AADT	%TRUCKS		AADT	%TRUCKS		AADT	%TRUCKS	
		SINGLE UNIT	COMBO		SINGLE UNIT	COMBO		SINGLE UNIT	COMBO
I-15	108,000	9%	5%	170,000	9%	5%	176,000	9%	5%
1600 South/2700 North	3,900	3%	1%	8,200	3%	1%	16,100	4%	2%

Mobile Source Air Toxics

MSAT analysis is based on the Interim Guidance Update on MSAT in NEPA (December 6, 2012; updated October 18, 2016). FHWA developed a three-tiered approach for analyzing MSAT in NEPA documents, depending on specific project circumstances.

- Tier 1 – No potential for meaningful MSAT effects or exempt projects: No analysis is required, only documentation that the project qualifies as a categorical exclusion or an exempt project.
- Tier 2 – Low potential for meaningful MSAT effects: A qualitative analysis is required.
- Tier 3 – Higher potential for meaningful MSAT effects: A quantitative analysis is required, analyzing all seven priority MSAT.

The Preferred Alternative would qualify as a Tier 2 project with low potential for meaningful MSAT effects because the new roadway would primarily service gasoline traffic and would not involve either a significant number of, or a significant increase in, the number of diesel vehicles (see Table 3–9). The new roadway is intended to reduce congestion and improve safety on mainline I-15 by decreasing 2050 travel demand on 400 South. The increase in traffic on 1600 South/2700 North would result in a localized increase in emissions in the vicinity of the roadway.

Emissions overall would likely be lower than present levels in the design year (2050) as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. The Energy Information Administration (EIA) projects a decline in light-duty vehicle energy usage between 2018 and 2040 as improvements in fuel economy more than offset increases in light-duty vehicle mileage (provided that the new fuel

economy standards are not revoked or altered and that manufacturers meet the new standards as anticipated). The EIA predicts that although the miles that light-duty vehicles travel will increase by five percent from 2017 to 2025, fuel consumption from those vehicles will decrease 12 percent over the same period. Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled (VMT) growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action (see the Air Quality Memo in Appendix A).

Because of the limitations in the methodologies for forecasting health impacts, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits such as reducing traffic congestion, accident rates, and fatalities plus improving access for emergency response, all of which are better suited for quantitative analysis.

Table 3–9 Greenhouse Gas Emissions in the Study Area

SCENARIO	VEHICLE MILES TRAVELED			FUEL CONSUMPTION		
	DAILY VMT	CHANGE FROM EXISTING	PERCENT CHANGE FROM EXISTING	DAILY TOTAL (GALLONS)	GHG EMISSIONS (LBS/DAY)*	PERCENT CHANGE FROM EXISTING
2019 Travel Demand: Existing Conditions	145,100	NA	NA	4,218	85,203.60	NA
2050 Travel Demand: No-action Alternative	232,800	87,700	60.4%	5,116.5	103,353.30	21.3%
2050 Travel Demand: Preferred Alternative	254,200	109,100	75.2%	5,586.8	112,853.36	32.5%

*GHG Emissions Factor of 20.2 lbs/gallon

Greenhouse Gases

GHG emissions have accumulated rapidly as the world has industrialized, with concentration of atmospheric CO₂ increasing from roughly 300 parts per million in 1900 to over 400 parts per million today. Over this time frame, global average temperatures have increased by roughly 1.5 degrees Fahrenheit (1 degree Celsius), and the most rapid increases have occurred over the past 50 years.

GHG emissions from vehicles using roadways are a function of distance traveled (expressed as VMT), vehicle speed, and road grade. GHG emissions are also generated during roadway construction and maintenance activities. An estimate of GHG emissions in the study area is contained in Table 3–9 (also Table 3–16 in Section 3.18 Energy), which shows that the Preferred Alternative would have slightly higher GHG emissions (approximately 11%) than the No-action Alternative due to higher VMT in the study area.

3.10.4 CONCLUSION

No-action Alternative

Vehicle emission rates would continue to improve due to increasingly stringent EPA regulations regarding vehicle emissions, which would help improve air quality in the study area.

The No-action Alternative would have a slight increase in per vehicle emissions due to continuing congestion and delays in the study area; however, the increase from the congestion would be more than offset by improved vehicle emission rates.

There would be no construction activities, so no temporary increase in PM related to such activities would occur.

Preferred Alternative

Direct Impacts

The Preferred Alternative would not result in new violations of the NAAQS, increases in the frequency or severity of existing violations of the NAAQS, or delays in attaining the NAAQS.

With highway improvement projects, the localized level of MSAT emissions for the Preferred Alternative in the study area could be higher relative to the No-action Alternative, but there are also offsets due to increases in speed and reductions in congestion (which are associated with lower MSAT emissions).

GHG emissions would be only slightly higher under the Preferred Alternative.

Indirect Impacts

Vehicle emission rates would continue to improve due to increasingly stringent EPA regulations regarding vehicle emissions, which would help improve air quality in the study area.

On a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, would over time cause substantial reductions that in almost all cases would cause region-wide MSAT levels to be substantially lower than today.

3.10.5 MITIGATION

No mitigation would be required.

3.1.1 NOISE

A noise analysis was prepared in accordance with the UDOT Noise Abatement Policy (UDOT, 2020), and consistent with federal regulation 23 CFR 772 and Utah Administrative Code (UAC) R930-3. For this analysis, the noise study area is defined as the land adjacent to I-15 and 1600 South/2700 North that could be affected by an increase in noise levels to a distance of approximately 600 feet.

3.11.1 AFFECTED ENVIRONMENT

Traffic noise is measured in A-weighted sound levels in decibels (dBA), which most closely approximates the way the human ear hears sounds at different frequencies (see Figure 3–9). Since traffic noise varies over time, the sound levels for this noise analysis are expressed as “equivalent levels” or Leq, representing the average sound level over a one-hour period of time. Unless noted otherwise, all sound levels in this noise analysis are expressed in the hourly equivalent noise level.

UDOT has established Noise Abatement Criteria for several categories of land use activities (see the Noise Report in Appendix A). UDOT’s noise criteria are based on sound levels that are considered to be an impact to nearby property owners, also known as receptors. Primary consideration is to be given for exterior areas where frequent human use occurs.

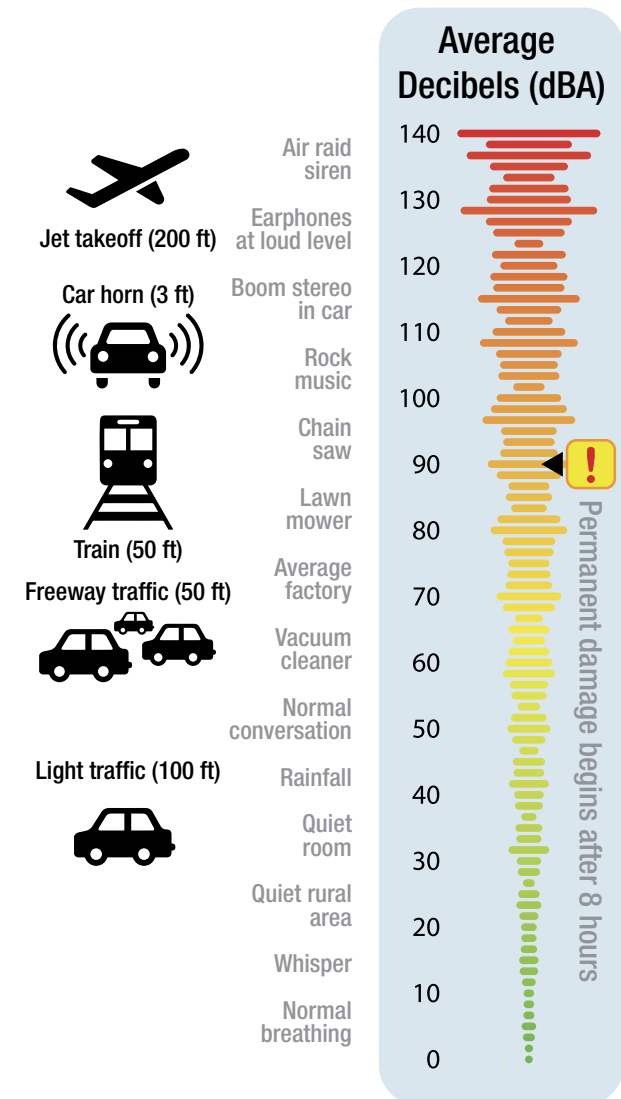
UDOT’s Noise Abatement Policy states that a traffic noise impact occurs when either 1) the future worst-case noise level is equal to or greater than the UDOT Noise Abatement Criteria for specified land use categories, or 2) the future worst-case noise level is greater than or equal to an increase of 10 dBA over the existing noise level (see the Noise Report in Appendix A).

Existing Noise Levels

The primary source of noise in the study area is automobile and truck traffic from I-15, 1600 South/2700 North, SR-51, and other roadways in the area. Existing traffic sound levels for each receptor in the study area were calculated using the Traffic Noise Model (TNM) 2.5 software using existing conditions (travel lane configurations and the posted speed limit). Existing noise levels were determined using the greatest hourly traffic noise conditions likely to occur on a regular basis, or LOS C traffic volumes (see Chapter 1 Figure 1–4). On-site measurements were made to verify the accuracy of the model.

Of the 233 receptors within the study area, two currently experience a noise level above the Noise Abatement Criteria (NAC) threshold. Both of these receptors were located on the trail at North Park in Spanish Fork (see Existing Noise Levels Map 14 in the Noise Report in Appendix A).

Figure 3–8 Sound Levels of Common Noise (in dBA)



3.11.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The 1600 South/2700 North Interchange would generally result in a noise level increase at receptors near the proposed improvements, with the greatest increase being 6 dBA. Overall, the average increase in noise levels for the study area would be about 2 dBA. No receptors would experience a substantial increase in noise, which is defined as a 10 dBA or greater increase over existing noise levels. There are 14 receptors that would be impacted by traffic noise (see the Noise Report in Appendix A).

Indirect Impacts

There would be no indirect impacts to noise levels in the study area as a result of the Preferred Alternative.

3.11.3 MITIGATION

According to the UDOT Noise Abatement Policy (2020), specific conditions must be met before traffic noise abatement is implemented. Noise mitigation must be considered both feasible and reasonable.

The factors considered when determining if mitigation is “feasible” are:

- Engineering Considerations – Engineering considerations such as safety, presence of cross streets, sight distance, access to adjacent properties, wall height, topography, drainage, utilities, maintenance access, and maintenance of the abatement measure must be taken into account as part of establishing feasibility.
- Safety on Urban Non-Access Controlled Roadways – To prevent a damaged wall from becoming a safety hazard, in the event of a failure, wall height shall be no greater than the distance from the back-of-curb to the face of the proposed wall. Because the distance from the back-of-curb to the face of a proposed wall varies, wall heights that meet this safety requirement may also vary.
- Acoustic Feasibility – Noise abatement must be considered “acoustically feasible.” This is defined as achieving at least a 5 dBA highway traffic noise reduction for at least 50% of front-row receptors.

The factors considered when determining if mitigation is “reasonable” include:

- Noise Abatement Design Goal – Every reasonable effort should be made to obtain substantial noise reductions. UDOT defines the minimum noise

reduction (design goal) from proposed abatement measures to be 7 dBA or greater for at least 35% of front-row receptors.

- Cost Effectiveness – The cost of noise abatement measures must be deemed reasonable in order to be included in the project.
- Viewpoints of Property Owners and Residents – As part of the final design phase, public balloting would take place if noise abatement measures appear to meet the criteria outlined in UDOT’s Noise Abatement Policy (2020).

Noise Barriers

One noise wall was analyzed where noise impacts would occur. See below for a summary of the recommended noise wall. A more detailed noise wall analysis can be found in the Noise Report in Appendix A.

Wall 1

This wall would be built in two segments and would be located on the north side of 1600 South/2700 North, extending west of 1075 West to the west side of 950 West (see Figure 3–9 and Map 12 in Volume 2). The wall would be approximately 948 feet in length and 6 feet tall.

Noise abatement measures analyzed and deemed feasible and reasonable in the environmental study phase are still subject to final design and balloting. The final decision to construct the proposed noise barrier will not be made until completion of the project design and refined utility relocation and right-of-way costs are available. Reasonableness will be revisited using refined costs prior to balloting.

Figure 3–9 Proposed Noise Wall Location



3.12 CULTURAL

Cultural resources include archaeological resources (both prehistoric and historic), architectural or historic resources (buildings and structures), and traditional cultural properties (TCPs). The Advisory Council on Historic Preservation (ACHP) defines a historic resource as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) (i.e., historic properties built 50 years ago or later).” The term “eligible for inclusion” in the NRHP includes all properties that meet the NRHP criteria, whether or not formally determined as such (see Table 3–10).

The National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (36 CFR 800) establish the national policy and procedures regarding cultural resources. Section 106 of the NHPA requires consideration of the effects of federal projects and policies on cultural resources. The Utah Antiquities Act (Utah Code Annotated 9-8-102 et seq (404)) provides protection of “all antiquities, historic and prehistoric ruins, and historic sites, buildings, and objects which, when neglected, desecrated, destroyed, or diminished in aesthetic value, result in an irreplaceable loss to the people of this state.”

The Section 106 review process requires cultural resources to be evaluated for eligibility for listing on the NRHP based upon whether “the quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association” and whether or not they meet one or more of the criteria in Table 3–10.

Table 3–10 National Register of Historic Places Criteria	
NRHP CRITERION	CHARACTERISTICS
A	Associated with events that have made a significant contribution to the broad patterns of our history.
B	Associated with the lives of persons significant in our past.
C	Embody distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic value; or represent a significant and distinguishable entity whose components may lack individual distinction.
D	Yielded, or may likely yield, information important in prehistory or history.

The Utah State Historic Preservation Office (SHPO) has developed a rating system for buildings that allows for a distinction to be made between those buildings individually eligible under the NRHP Criterion A or C and those that have been altered but may be eligible as part of a historic district or for historical reasons. The rating system also allows for a distinction to be made between those buildings that are ineligible due to loss of integrity and those that are ineligible because they are out-of-period (see Table 3–11).

Table 3–11 Utah State Historic Preservation Office Rating Definitions for Historic Structures

SHPO RATING	CHARACTERISTICS
ES	Eligible/Significant: Built within the historic period and retains integrity; excellent example of a style or type; unaltered or only minor alterations or additions; individually eligible for NRHP under Criterion C; also, buildings of known historical significance.
EC	Eligible/Contributing: Built within a historic period and retains integrity; good example of a style or type, but not as well-preserved or well-executed as ES buildings; more substantial alterations or additions than ES buildings, though overall integrity is retained; eligible for NRHP as part of a potential historic district or primarily for historical rather than architectural reasons.
NC	Ineligible/Noncontributing: Built during the historic period but has had major alterations or additions; no longer retains integrity.
OP	Ineligible/Out-of-Period: Built during the modern era.

3.12.1 AFFECTED ENVIRONMENT

Area of Potential Effects

UDOT determined the Area of Potential Effects (APE) for the proposed project in consultation with the SHPO. The APE is the same as the study area shown in Figure 1–1 of Chapter 1 of this EA.

Cultural resources surveys of the APE were conducted to identify and evaluate archaeological and historic architectural resources.

Archaeological Resources

Horrocks Engineers conducted Class III, intensive-level pedestrian inventories of the APE. The survey resulted in the identification of three archaeological sites, two of which have been determined as eligible for inclusion on the NRHP (see Table 3–12, Map 3 and Map 11 in Volume 2, and the Determination of Eligibility and Finding of No Historic Properties Affected (DOEFOE) in Chapter 4).

Table 3–12 Archaeological Resources		
SITE #	DESCRIPTION	NRHP ELIGIBILITY
42UT1029	Utah Southern/Union Pacific Railroad (Sharp)	Eligible
42UT1194	Tintic Branch of the Denver & Rio Grande Western Railroad	Eligible
42UT1451	Big Hollow Irrigation Ditch	Not Eligible

Architectural Resources

Horrocks conducted a survey of the APE for architectural resources in October 2018 and June 2020. Nine historic properties were identified in the APE (see Table 3–13). Five of these properties were

determined eligible for the NRHP (see DOEFOE in Correspondence and Coordination in Appendix A and Historic Structures Eligible for the NRHP in Volume 2, Map 14 and 15).

Determination of Eligibility

UDOT prepared a Determination of Eligibility and Finding of Effect (DOEFOE), which outlines the eligibility determinations for each archaeological and architectural resource. SHPO concurred with the DOEFOE. A copy of the DOEFOE and SHPO's concurrence is found in Chapter 4.

Consultation

The NHPA Section 106 process requires coordination with Native American tribes that may have cultural and historical interest within the study area. Pursuant to this requirement, UDOT sent consultation letters dated November 1, 2019, to the following tribes: Confederated Tribes of the Goshute Reservation, Skull Valley Band of Goshute Indians, Northwestern Band of Shoshone Nation, Shoshone-Bannock Tribes of the Fort Hall Reservation, Eastern Shoshone Tribe of the Wind River Reservation, and Ute Indian Tribe of the Uintah and Ouray Reservation (see Chapter 4).

Environmental Consequences

Effects to historic properties are defined as “alteration[s] to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register” (36 CFR §800.16(i)). Impacts to historic properties are categorized as No Historic Properties Affected, No Adverse Effect, and Adverse Effect.

Table 3–13 Architectural Resources			
ADDRESS	DATE OF CONSTRUCTION	DESCRIPTION	NRHP ELIGIBILITY
245 W. 1600 South	1950	Concrete block warehouse	Inelig./Non-contributing
1620 S. State	1958	Concrete block commercial/Industrial	Inelig./Non-contributing
1680 S. State	1936	Block	Eligible/Contributing
1700 S. State	1971	Period cottage	Eligible/Contributing
1785 S. State	1957	Ranch House with garage	Eligible/Contributing
1695 S. State	1947	Ranch/Rambler	Inelig./Non-contributing
1689 S. State	1973	Restaurant, unclear style	Eligible/Contributing
1615 S. State	1972	Commercial building	Eligible/Contributing
1555 S. State	1970	Commercial buildings	Inelig./Non-contributing

A finding of No Historic Properties Affected is made when “[e]ither there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in §800.16(i)” (36 CFR §800.4(d)(1)).

A finding of No Adverse Effect is made “[w]hen the undertaking’s effects do not meet the criteria of paragraph (a)(1) of this section [see Adverse Effect definition below] or the undertaking is modified or conditions are imposed ... to ensure consistency with the Secretary’s standards for the treatment of historic properties (36 CFR §68) to avoid adverse effects” (36 CFR §800.5(b)).

A finding of Adverse Effect is made “[w]hen an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, and association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the NRHP. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative” (36 CFR §800.5(a)(1)).

Finding of Effect

UDOT prepared a DOEFOE, which outlines the effect determinations for each archaeological and architectural resource under the Preferred Alternative. SHPO concurred with the DOEFOE. A copy of the DOEFOE is found in Correspondence and Coordination in Appendix A.

Preferred Alternative

Direct Impacts

All of the archaeological sites would be avoided by the Preferred Alternative. The Preferred Alternative would construct a new grade-separated crossing over site 42UT1029 with no bridge elements present in the site boundaries (see Map 11 in Volume 2). The at-grade crossing at 42UT1194 qualifies under the ACHP Program Comment to Exempt Consideration of Effects to Rail Properties Within Rail Rights-of-Way under Exemption E (see Map 11 in Volume 2). Additionally, all architectural properties would be avoided by the Preferred Alternative (see Map 14 and Map 15 in Volume 2). Therefore, the Preferred Alternative would result in a finding of No Historic Properties Affected for all archaeological sites and architectural properties.

Indirect Impacts

The Preferred Alternative would not result in any indirect impacts to existing cultural resources.

3.12.2 MITIGATION

No mitigation would be required.

3.13 SECTION 4(f)

Section 4(f) of the Department of Transportation (DOT) Act of 1966, as modified by Section 6009 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users and implemented in 23 CFR 774, protects public parks and recreation areas, historic properties, and wildlife or waterfowl refuges from use in a transportation facility.

For a park, recreation area, or wildlife/waterfowl refuge to qualify for Section 4(f) protection, it must be both publicly owned and open to the public. Its major purpose and function must be that of a park, recreation area, or wildlife/waterfowl refuge. Officials with jurisdiction over the property must also have determined it to be significant.

Historic properties that are listed on or eligible for listing on the NRHP also qualify for Section 4(f) protection. Historic properties include archaeological sites and historic structures. UDOT makes the determination of eligibility for historic properties in consultation with the Utah SHPO and other consulting parties through Section 106 of the NHPA review process. Archaeological sites do not qualify for protection under Section 4(f) if they are important only for their potential to yield information or if they do not warrant preservation in place.

Section 4(f) properties may not be used (except for small, *de minimis* impacts) unless there is no feasible and prudent avoidance alternative and the action includes all possible planning to minimize harm to the property. A use occurs by one or more of the following:

- Land is permanently incorporated into a transportation facility.
- There is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose.
- There is a constructive use of a Section 4(f) property.

As per 23 CFR §774.17, a *de minimis* impact to historic sites is one where the project would have a No Adverse Effect or No Historic Properties Affected determination under Section 106 of the NHPA. This means that either the project would have no impact on the historic property (e.g., no right-of-way is required) or that the impacts to the historic property are minor (e.g., minor right-of-way acquisition). For parks, recreation areas, or wildlife and waterfowl refuges, the official(s) with jurisdiction over the property must be informed of the intent to make a *de minimis* impact determination, after which an opportunity for public review and comment must be provided. After

considering any comments received from the public, the official(s) with jurisdiction needs to concur in writing that the project will not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection.

3.13.1 AFFECTED ENVIRONMENT

Public Parks and Recreation Areas

There are no public parks within the study area. One multiuse trail segment crosses I-15 on 1600 South/2700 North (see Figure 3–7 in Section 3.9 Pedestrians and Bicyclists). However, this short trail segment is within UDOT's right-of-way, is not assigned a specific location within the right-of-way, and the continuity of the trail will be maintained after the Preferred Alternative is constructed. This trail segment falls under the Section 4(f) trail exception in 23 CFR Section 774.13(f)(3).

Wildlife and Waterfowl Refuges

There are no wildlife or waterfowl refuges in the study area.

Historic Properties

Two archaeological sites and five historic sites have been determined eligible for inclusion on the NRHP, which makes them eligible for Section 4(f) protection (see Section 3.12 Cultural Resources).

3.13.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would avoid all Section 4(f) resources and would result in no Section 4(f) use.

Indirect Impacts

The Preferred Alternative would not indirectly impact properties protected by Section 4(f).

3.13.3 MITIGATION

No mitigation would be required.

3.14 WATER RESOURCES

The Federal Water Pollution Control Act (33 USC §1251-1376), as amended by the Clean Water Act (CWA) of 1977 and 1987, is the primary regulation for water quality. It controls discharge of dredge or fill material into Waters of the U.S. (WOTUS) and requires states and Native American tribes to set specific water quality criteria and pollution control programs. The EPA is charged with regulating its implementation and has delegated certain portions of its authority to the United States Army Corps of Engineers (USACE) and the UDEQ, which includes the Utah Division of Water Quality (UDWQ) and the Utah Division of Drinking Water (UDDW).

The CWA requires the development and maintenance of water quality standards, along with water body classifications, to identify beneficial uses to be sustained. UDWQ is responsible for this task and, through UAC §R317-2-13, classifies each water body. Waters that do not meet water quality standards for its classified use are placed on a list of impaired waters where further analysis is conducted to determine pollutants and remedial actions, if necessary.

3.14.1 AFFECTED ENVIRONMENT

Storm Water

The goal of storm water systems is to treat storm water runoff on-site to reduce the amount of pollutants that flow into nearby waters or that permeate into the ground. In general, areas with storm drain systems capture storm water runoff from roads and convey it to a discharge point through catch basins, pipes, and/or detention ponds. These systems can be effective at reducing total suspended solids (TSS) if storm water is conveyed to a detention pond with discharge control devices prior to storm water entering surface waters. Discharge control devices regulate the flow exiting a detention pond, thus slowing storm water and allowing sufficient time for suspended solids to fall from the flow.

Paved areas without storm drain systems allow storm water to sheet flow into nearby surface waters or to nearby permeable surfaces without reducing the amount of TSS. These areas allow for storm water to flow into nearby waters or infiltrate into the ground untreated.

If not managed properly, roadway runoff can negatively impact water quality by increasing total dissolved solids (TDS) and TSS that enter nearby streams and lakes. Highway surfaces collect automobile-related pollutants (mainly lead, copper, zinc, oil, grease, and rust) and de-icing chemicals (salt and salt solutions), which are then washed off highway surfaces from rain or snow melt. Unmanaged runoff can become concentrated, gather sediment through erosion, and enter streams and lakes unless measures are taken to reduce pollutants.

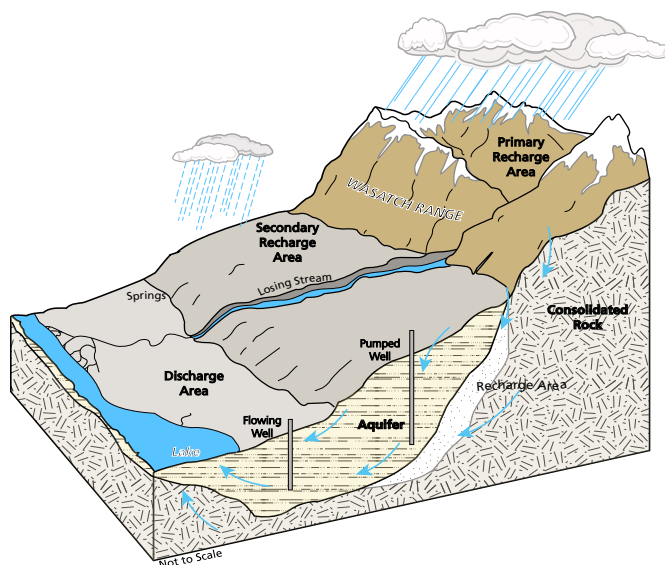
The study area has a mix of impervious surfaces (roadways, sidewalks, parking lots, etc.) and pervious surfaces (undeveloped areas). Storm water generally sheet flows to roadside ditches or gutters. The water then remains in the ditch, flows to detention basins, or discharges to one of the creeks or open water sources in the area. Many of these eventually flow into Utah Lake.

Groundwater/Aquifer

Springs or seeps may be found in areas where groundwater discharge from the underground water table surface intersects with the land surface. None of these features are found in the study area.

The study area is located within a discharge zone of an aquifer (see Figure 3-10). The outflow of groundwater discharge from the aquifer may occur naturally or as the result of human activity, notably well pumping. Within the study area, human activity is the primary means of groundwater discharge.

Utah classifies groundwater according to TDS concentration and contaminant concentration according to the rules established by the Utah Ground Water Quality Protection Program. The groundwater within the study area is classified as Class IA-Pristine groundwater (TDS are less than 500 mg/L).



Points of Diversion

A point of diversion (POD) is a place where water is extracted for use by both private and public parties. The Utah Division of Water Rights (UDWR) records permitted PODs from both surface water and groundwater sources and divides them into eight categories. Five types of PODs are recorded within the study area:

- **Abandoned Well:** A well whose purpose and use have been permanently discontinued.
- **Rediversion:** A diversion point, which diverts water that was previously diverted and released upstream, usually associated with reservoir storage.
- **Return:** A point where water that has been non-consumptively used is returned back to the natural stream.
- **Surface:** Streams, rivers, creeks, and any water above ground.
- **Underground:** Wells, tunnels, sumps, and underground drains.

According to the UDWR, 369 PODs are located within 0.25 miles of the study area. Table 3–14 and Figure 3–10 show the POD types and the number that occur within 0.25 miles of the study area.

Surface Water

Table 3–14 PODs within 0.25 miles of the study area

TYPE	NUMBER
Abandoned Wells	4
Rediversion	30
Return	2
Surface	44
Underground	289

Surface water within the study area consists of perennial streams, ditches, and standing open water. More detailed information about these features and potential impacts can be found in Section 3.15 Wetlands and Other Waters of the U.S.

3.14.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

Storm Water

The Preferred Alternative would increase the impervious surface area in the study area by approximately 30 acres. Storm water would be collected and enter existing, improved, or new storm drain systems. Any required storm drain modifications would be constructed in compliance with current UDEQ and UDWR standards as well as local discharge

rates and regulations. The use of existing, modified, or new storm drain systems would minimize negative impacts to water quality by including flow management controls, oil skimmers, grease traps, etc.

Groundwater/Aquifers

The Preferred Alternative would increase the impervious surface area in the study area by approximately 30 acres and would likely concentrate infiltration to detention basin locations. However, the quantity and quality of the groundwater would not be impacted because the storm drain system would be designed and managed according to the requirements of UDWR to minimize negative impacts to water quality, including flow management controls, oil skimmers, grease traps, etc.

Points of Diversion

The Preferred Alternative would cross over or near land associated with 144 PODs. These PODs are shown in Figure 3–10. Specific impacts would be determined during final design.

Surface Water

The Preferred Alternative would involve roadway improvements in and around surface water in the study area, including Dry Creek and three of the existing ditches. Further discussion on the impacts to these features can be found in 3.15 Wetlands and Other Waters of the U.S.

Indirect Impacts

There would be no indirect impacts to water resources (storm water, groundwater, PODs, or surface water) as a result of the Preferred Alternative.

3.14.3 MITIGATION

During the final design of the project, coordination with property owners would occur to determine the appropriate mitigation measures if a well head or other water right POD is affected. Mitigation could include (1) relocating a well head or surface water diversion to continue to provide irrigation water to any land that is not acquired or (2) abandoning the well and compensating the owner for the value of the associated water right.

Mitigation for impacts to surface water can be found in Section 3.15 Wetlands and Other Waters of the U.S.

Figure 3-10 Water Resources



3.15 WETLANDS AND OTHER WATERS OF THE U.S.

The USACE has primary authority to administer and enforce Section 404 of the CWA (33 USC 1251). Under the CWA, WOTUS are defined in 33 CFR 328.3 and 40 CFR 102.2 as jurisdictional waters that include the territorial seas and traditional navigable waters; perennial or intermittent tributaries that contribute surface water flow to such waters; certain lakes, ponds, and impoundments of jurisdictional waters; and wetlands adjacent to jurisdictional waters.

Under Section 404 of the CWA, no discharge of dredged or fill material is permitted in WOTUS if there is a less environmentally damaging practicable alternative. EO 11990 (May 24, 1977) requires federal agencies to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. If a project does impact wetlands, it must be determined by the head of the agency that (1) there is no practicable alternative to such construction and (2) that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

3.15.1 AFFECTED ENVIRONMENT

In compliance with Section 404 of the CWA, an Aquatic Resources Delineation of the study area was conducted by Horrocks under the direction of UDOT in September and October 2019 (see Appendix A for Aquatic Resources Delineation Report). The purpose of the delineation was to identify and map potential WOTUS including wetlands that could be considered jurisdictional by the Army Corps.

Wetlands and Other Waters of the U.S.

Within the study area, eight wetlands and five other WOTUS, totaling 8.62 acres, were identified (see Maps in Volume 2).

For the purpose of this EA these WOTUS or wetlands are only considered potentially jurisdictional because UDOT must request an Approved Jurisdictional Determination (AJD) from the Army Corps. When the Army Corps reviews the Aquatic Resources Delineation report and issues their AJD, it will be known which of these WOTUS and wetland features are considered jurisdictional by the Army Corps and regulated under Section 404 of the CWA.

Wetlands

The eight wetlands within the study area consist of Palustrine Emergent Marsh (PEM) wetlands that are dominated by Baltic rush, Nebraska sedge, broadleaf cattail, common reed, reed canary grass, and other hydrophytic vegetation.

Dry Creek

Dry Creek is a perennial stream that flows from Springville City through the study area to Utah Lake. The Ordinary High Water Mark (OHWM) was surveyed, and the length of the stream channel within the study area is 3,200 linear feet, totaling 1.46 acres.

Ditches

Four man-made ditches, totaling 0.25 acre and 1,316 linear feet, were identified within the study area. These features all drain to Dry Creek and do not have any fringe wetlands associated with them.

3.15.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would involve roadway improvements in and around the areas identified as WOTUS, including wetlands.

Dry Creek, three of the existing ditches, and eight wetlands within the study area would be impacted by the Preferred Alternative, resulting in approximately 1.93 acres of impacts to wetlands and 0.54 acres of impacts to other WOTUS (see Maps in Volume 2).

Indirect Impacts

The Preferred Alternative would not result in any indirect impacts to WOTUS, including wetlands.

3.15.3 MITIGATION

It is anticipated that a CWA Section 404 permit authorization would be required for project activities within WOTUS, including wetlands.

Permits, licenses, variances, or similar authorization may also be required by other federal, state, and local statutes.



Wetlands within the study area

3.16 THREATENED AND ENDANGERED SPECIES AND WILDLIFE

Wildlife and plant life, as well as their associated habitats, are protected and regulated by law at both the federal and state levels.

Threatened and endangered species are protected under the Endangered Species Act (ESA) of 1973 as amended and administered by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The Endangered Species Act requires federal agencies to ensure that their actions neither jeopardize the continued existence of species listed as endangered or threatened nor result in destruction or adverse modification of the critical habitat of these species.

Migratory birds receive protections from the Migratory Bird Treaty Act (MBTA) of 1918. In general, this act makes it unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird or any part, nest, or egg of any such bird, unless authorized under a permit issued by the Secretary of the Interior. The law also grants protection to nests occupied by migratory birds during the breeding season, during which time removal is not permitted.

In addition, EO 13186: Responsibilities of Federal Agencies to Protect Migratory Birds directs federal agencies taking actions that are likely to affect migratory birds to support the MBTA, which includes an evaluation of the effects on migratory birds and species of concern in NEPA studies.

The Utah Division of Wildlife Resources (UDWR) also maintains the Utah Sensitive Species List, which includes wildlife species that are federally listed, are candidates for federal listing, or for which a conservation agreement is in place.

3.16.1 AFFECTED ENVIRONMENT

Study Area Setting

The study area lies within the Intermountain Semi-Desert and Desert Province as described in Description of the Ecoregions of the United States (Bailey, 1995). The study area is located within the cities of Springville City and Spanish Fork City and is primarily urban, made up of roadways, residential properties, industrial facilities, commercial properties, and agricultural/open fields. Vegetation within the developed areas is consistent with residential plantings (e.g., trees, shrubs, turf sod, etc.). The agricultural/open fields consist of grasses (e.g., tall fescue, intermediate wheatgrass, cheatgrass, etc.) and some wet meadow areas. A small watercourse, Dry Creek, passes east to west through the study area.

Threatened and Endangered Species

USFWS's Information for Planning and Consultation System (IPaC) website provides information regarding the potential occurrence of ESA species and their designated critical habitat within a specific area of interest. IPaC data lists three species for consideration within the study area (see Table 3–15); no critical habitats were identified within the study area.

Table 3–15 IPaC Species for Consideration within the Study Area

SPECIES NAME	STATUS	HABITAT WITHIN THE STUDY AREA
June Sucker (<i>Chasmistes liorus</i>)	Endangered	The required waters are not found within the study area.
Ute Ladies'-tresses (<i>Spiranthes diluvialis</i>)	Threatened	Moist soils within the study area are clayey and moderately to strongly saline, which is not conducive to Ute ladies'-tresses. Species survey conducted in 2019 and 2020 did not identify any populations.
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	Threatened	Riparian habitat within the study area does not meet USFWS criteria for suitable habitat.

Migratory Birds

The highest likelihood of take under the MBTA for a highway project is associated with the removal (incidental or other) of an active nest. To fulfill EO 13186, a general review of migratory birds was completed for the study area.

Migratory bird nesting habitat in both urban locations (e.g., building eaves, utility poles, bridge structures, etc.) and natural locations (e.g., trees, shrubs, wetland areas, creek sides, etc.) is present within the study area.

Utah Sensitive Species

A review of Utah's State-Listed Species by County indicates that 34 species have potential to occur within Utah County (UDWR, 2017). However, due to

the general urban nature of the study area, regularly occurring roadway noise, and agriculture field uses, it is unlikely that the study area currently provides suitable habitat for any State-Listed Species for Utah County. A review of known location data from the Utah Natural Heritage Program (UNHP) included two species receiving special management under a Conservation Agreement within 0.5 miles of the study area; the Least Chub (*Lotichthys phlegethontis*) and Columbia Spotted Frog (*Rana luteiventris*). Life histories for these species were reviewed and compared against the setting of the study area. Based on this evaluation, it is unlikely the study area would support these species. A review of UNHP data from the last 10 years indicates no known occurrences and/or observations of Least Chub within or adjacent to the study area. The last recorded observation year for Columbia Spotted Frog within two miles of the study area was 2012.

Suitable Species Habitat within the Study Area

The study area was evaluated for suitable habitat that would support species listed under the ESA, on the Utah Sensitive Species list, and migratory birds.

Based on the habitat evaluation, no suitable habitat exists within the study area for the ESA-listed species listed for consideration.

It is unlikely that the study area currently provides suitable habitat for any State-Listed Species for Utah County.

Migratory bird habitat is present within the study area.

3.16.2 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would have No Effect on federally listed species or their designated critical habitat protected under the ESA (see Threatened and Endangered Species Evaluation Memo in Appendix A).

The Preferred Alternative would require removal of migratory bird nesting habitats within the study area. The study team has coordinated anticipated impacts with the UDOT Natural Resources Manager (see Threatened and Endangered Species Evaluation Memo in Appendix A) who is responsible for MBTA compliance. The UDOT Natural Resources Manager determined that through implementation of the conservation measures found in the mitigation section, the Preferred Alternative would not result in direct or incidental take of migratory birds.

The Preferred Alternative would not negatively impact state sensitive species.

Indirect Impacts

The Preferred Alternative would not result in the take of migratory birds or negatively impact state-sensitive species as a result of indirect impacts.

3.16.3 MITIGATION

To avoid direct or incidental take of nesting migratory birds, it is recommended that tree or vegetation removal occur before April 15 or after August 31. If tree or vegetation removal cannot occur before or after that time period, a nest survey would be required to identify active migratory bird nests within vegetation scheduled for removal. If active nests are found, construction activities would be suspended within 75 feet of the nests until the nestlings have fledged, and the findings would be coordinated with UDOT Environmental Services.

3.17 VISUAL AND AESTHETIC

3.17.1 OVERVIEW

The aesthetic quality of an area is dependent on its visual resources. Visual resources are the physical features that make up the visible landscape and include both natural (e.g., landforms, waterways, etc.) and human-made elements (e.g., buildings, roads, structures, etc.).

Impacts to visual resources are generally defined as the potential of a project to change or alter the existing visual character of an area. The analysis in this section will discuss the visual character within and near the study area for two viewer groups. There are primarily two viewer groups:

- Those traveling within the study area (mobile)
- Those adjacent to 1600 South/2700 North, I-15, and US-6 (stationary)

3.17.2 AFFECTED ENVIRONMENT

Built Environment

The study area is located along the I-15 corridor and 1600 South/2700 North in Springville City and Spanish Fork City, Utah County, Utah (see Figure 1–1 in Chapter 1). The area is moderately developed and contains a balance of natural and human-made features.

The existing built environment includes transportation and transit facilities such as local roads (1600 South/2700 North, Main Street in Spanish Fork City), freeways (I-15), and cargo rail lines (Sharp and Tintic Railroads). Single family residences are present directly adjacent to the study area, and commercial buildings are located throughout. Large transmission power lines run parallel and perpendicular to the 1600 South/2700 North roadway, and advertising billboards are present along both sides of the I-15 corridor.

There is one existing bridge structure (1600 South/2700 North) in the study area that supports

two travel lanes (one eastbound and one westbound) over I-15. The structure is a simple form with a very flat arch supported by columns in the I-15 median. The structure is supported on either end by vegetated landforms that appear natural despite being human-made.

Natural Environment

The Wasatch Mountain Range to the south and to the east of the study area is a dominant visual resource and heavily influences the existing visual character.

Other natural features in the study area include grassy, open fields and a few moderately dense areas of shrubby vegetation. Vegetation within the I-15 corridor is dense, but low from maintenance practices. Animals are sparse in the area, and only farm animals, such as horses, exist on the agricultural lands.

Atmospheric conditions for the region are hot and dry in the summer and wet and cold in the winter. The winter months are often accompanied by an atmospheric inversion that restricts views of the background landscapes from the I-15 corridor, such as the Wasatch Mountains or Utah Lake.

Hydrology in the region mostly occurs in the form of roadside ditches, agricultural ditches, and perennial streams (Dry Creek). The hydrological elements are visible from the roadways within the study area, including a segment of Dry Creek that has had large amounts of concrete placed along its banks, presumably for stabilization purposes, which has altered the “natural” look of the stream.

3.17.3 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Direct Impacts

The Preferred Alternative would include the construction of a larger structure over I-15, the addition of exit and entrance ramps, and other ancillary elements such as lighting, street signs



Looking east from the proposed new frontage road location northwest of the existing 1600 South/2700 North bridge over I-15

(including signage for entrance and exit ramps for 1600 South/2700 North, I-15, and US-6), fencing, and traffic signals as well as a wider roadway footprint along 1600 South/2700 North. Because the impacts would be minimal and consist of improvements to existing features rather than the introduction of new elements, they would not constitute an overall reduction in visual quality for either viewer group and would not be considered adverse.

A proposed noise wall (pending balloting) could be located on the north side of 1600 South/2700 North beginning from west of 1075 West to the west side of 950 West (see Map 12 in Volume 2). For those adjacent to the proposed noise wall their view of the roadway and open fields beyond the roadway would be blocked. For those traveling along 1600 South/2700 North, their view of the residential properties would be obstructed.

The new bridge over the combined Sharp/Tintic Railroad would be the most noticeable change to the existing visual conditions for both viewer groups (see Figure 3-11). This structure would be built in a relatively flat area that is bordered on the northwest and southeast with industrial/commercial properties. The remaining adjacent areas are vacant.

The proposed grade separation would elevate 1600 South/2700 North above the rail lines and would add approximately 30 feet to the profile in this area (see Figure 3-11). Those adjacent to the corridor within the limits of the structure and embankment, from approximately 1750 West to Wallace Drive, would experience the greatest impact to visual character and quality as a result of the grade separation structure. Industrial/commercial businesses in this area would no longer have a view of the vacant land across 1600 North/2700 West, but would have a view of a retaining wall. For those traveling along 1600 South/2700 North, their view of adjacent businesses would be blocked (see Figure 3-11).

All of these impacts would be minimal and would not constitute an overall reduction in visual quality. As such, they would not be considered adverse.

Indirect Impacts

The Preferred Alternative would not result in any indirect impacts to the existing visual quality.

3.17.4 MITIGATION

No mitigation would be required.



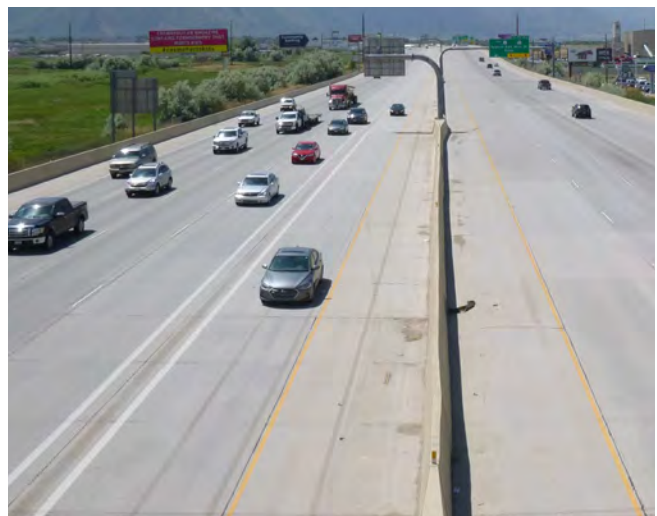
Looking northwest at Dry Creek from 1600 South/2700 North

What is Visual Quality?

Visual quality is the experience of having pleasing visual perceptions. Although background and experience shape each individual's experience, human perception of a pleasing landscape is remarkably consistent.



Looking north at the existing 1600 South/2700 North structure over I-15 from Tim Dahle Ford



Looking south at I-15 from the existing 1600 South/2700 North structure

Figure 3-11 Visual rendering of the proposed grade-separated railroad crossing



3.18 ENERGY

In the context of transportation projects, energy is consumed during both construction of the facility and when the facility is operational.

For construction, energy is used to manufacture and transport materials and to operate construction machinery.

During operation of the facility, energy is primarily related to vehicle fuel consumption, which is dependent upon vehicle miles traveled (VMT); travel conditions such as vehicle type, speed, and weather conditions; and roadway conditions including vertical grade, roadway geometry, and the type and condition of the pavement.

3.18.1 AFFECTED ENVIRONMENT

Construction Energy

Construction energy requirements were analyzed on a qualitative basis as to what types of construction activities (if any) would be required.

Operational Energy

Operational energy requirements were analyzed on both a quantitative basis and a qualitative basis. This analysis consisted of dividing the average daily VMT in the study area for both the No-action Alternative and the Preferred Alternative by an average vehicle fuel efficiency estimate obtained from the Annual Energy Outlook 2019 with projections to 2050 (U.S. Energy Information Administration, 2019).

The Annual Energy Outlook 2019 includes average fuel economy for light-duty vehicles, which includes passenger cars, light-duty trucks, and commercial light-duty trucks. For 2050 conditions, an average vehicle fuel efficiency of 45.5 mpg was obtained from the New Light-duty Vehicle Corporate Average Fuel Economy (CAFE) Standards set by the National Highway Traffic and Safety Administration. See Table 3-16 for the operational energy consumption comparison analysis.

It is important to note that the analysis depends on the ultimate implementation of the CAFE Standards as anticipated. On August 2, 2018, the Department of Transportation and the EPA made a joint proposal to reform the CAFE standards, named the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. The new rule proposes to maintain the existing fuel economy standard, which rises to 37 mpg by 2020, and then freeze it at that level after that. The proposed rule has been challenged in court by multiple parties, including several states, and the litigation could take years to resolve. In the meantime, the existing CAFE Standards remain in place.

Table 3-16 Comparison of 2050 Operational Energy Consumption in the Study Area*

	NO-ACTION	PREFERRED ALTERNATIVE	CHANGE
VMT			
Daily VMT (2050 Travel Demand)	232,800	254,200	21,400 (9.2% increase)
Fuel Consumption			
Daily Total (Gallons)	5,116.5	5,586.8	470.3 (9.2% increase)

*GHG Emissions Factor of 20.2 lbs/gallon

3.18.2 ENVIRONMENTAL CONSEQUENCES

No-action Alternative

Direct Impacts

Under the No-action Alternative, there would be no construction activities; therefore, the No-action Alternative would not have energy requirements for construction.

In terms of operational energy requirements within the study area, the daily VMT under the No-action Alternative in 2050 would be 232,800 and the daily fuel consumption would be 5,116.5 gallons (see Table 3-16).

Indirect Impacts

The No-action Alternative would not result in any indirect impacts to energy.

Preferred Alternative

Direct Impacts

The Preferred Alternative would involve construction and require the consumption of energy for construction activities.

As shown in Table 3-16, there would be a slight increase in operational energy consumption in the study area for the Preferred Alternative over the No-action Alternative (approximately 9%).

Indirect Impacts

The Preferred Alternative would not result in any indirect impacts to energy.

3.18.3 MITIGATION

No mitigation would be required.

3.19 UTILITIES AND EMERGENCY SERVICES

Roadway projects have the potential to impact utilities and emergency services within a community.

3.19.1 AFFECTED ENVIRONMENT

Utilities

Utility corridors of interest within the study area are discussed below.

I-15

Utilities that are located along or cross I-15 within the study area include:

- Advanced Transportation Management Systems (ATMS) and other fiber optic lines
- Electrical transmission lines
- Water and sewer lines
- Storm drainage pipes and detention basins

Local Roadways

Utilities in other areas of the study area include:

- Electrical transmission lines
- Power substation
- Water and sewer lines
- Irrigation pipes and ditches
- Natural gas facility
- Gas lines
- Communication facilities

Emergency Services

Emergency services are provided by Springville City, Spanish Fork City, and Utah County. In both cities, police, fire, and ambulance operate out of central locations in the city's downtown area. Utah County emergency services, including the Utah County Fire Department and the Utah County Sheriff's Office, are located within 0.5 miles of the study area.

Intermountain Healthcare plans to open a new Spanish Fork City hospital located within 1 mile of the study area. Once opened, this hospital is likely to become a frequent destination for emergency services.

3.19.2 ENVIRONMENTAL CONSEQUENCES

No-action Alternative

Direct Impacts

The No-action Alternative would not result in any direct impacts to existing utilities or emergency services.

Indirect Impacts

Utilities

There would be no indirect impacts to utilities resulting from the No-action Alternative.

Emergency Services

Lack of access and connectivity to the planned Spanish Fork hospital and to the rest of the community slows down emergency services response time. In addition, required stops at railroad crossings can lead to unpredictable and timely delays, which could drastically increase response times.

Preferred Alternative

Direct Impacts

Utilities

The Preferred Alternative may impact utilities discussed in Section 3.19.1. Any potential impacts to utilities would be coordinated during the design phase of the project.

Emergency Services

The Preferred Alternative would improve connectivity to the planned hospital in Spanish Fork City and improve response times for emergency services by constructing a grade-separated railroad crossing and an interchange.

Indirect Impacts

There would be no indirect impacts to utilities or emergency services resulting from the Preferred Alternative.

3.19.3 MITIGATION

No mitigation would be required.

3.20 CONSTRUCTION IMPACTS

Construction activities can cause temporary impacts to environmental resources within and adjacent to a study area. Only those resources that could potentially be impacted during construction of the Preferred Alternative are addressed in this section. The contractor would be required to follow UDOT Standard Specifications and incorporate Best Management Practices (BMPs).

3.20.1 ENVIRONMENTAL CONSEQUENCES

Preferred Alternative

Social Environment

Local residents, as well as those traveling through the study area, would experience traffic congestion, delays, and detours during the construction period. In addition, some residents who live or work near the study area may be impacted by noise and dust. Access to all properties would be maintained; however, there could be some temporary lane closures or detours.

Economic Conditions

Traffic congestion, delays, and detours during the construction period could deter patrons from visiting businesses within the study area. Access to all businesses within the study area would be maintained.

Right-of-Way

Temporary construction easements for the purpose of construction access, repair, and reconstruction may be required from both commercial and residential property owners within the study area. Temporary construction easements would be acquired in accordance with state and federal laws and UDOT right-of-way procedures. Property owners would still have the right to use the property subject to the easement conditions during construction, provided that there would not be any interference with construction activities.

Pedestrians and Bicyclists

Construction activities would not impact the US-6 trail in Spanish Fork or the neighborhood trail north of 1600 South/2700 North. The short segment of trail over I-15 on the existing 1600 South/2700 North would be closed and rebuilt as part of the new structure crossing I-15. Because this trail is not connected to any other existing trail or sidewalk, no detour route would be provided.

Air Quality

Construction of the Preferred Alternative would result in temporary negative effects to air quality in the study area due to increased dust and particulates. PM₁₀ emissions from construction activities are usually localized and last only during construction. Construction activities could also generate a temporary

increase in MSAT emissions, especially for long-term construction projects such as the Preferred Alternative.

Construction of the project would generate GHG emissions. Preparation of the roadway corridor (e.g., earth-moving activities) would involve a considerable amount of energy consumption and resulting GHG emissions, and the manufacturing of the materials used in construction and fuel used by construction equipment would also contribute to GHG emissions. Typically, construction emissions associated with a new roadway account for approximately 5% of the total 20-year lifetime emissions from the roadway, although this can vary widely with the extent of construction activity and the number of vehicles that use the roadway.

A permit for air quality impacts during construction would be obtained from the Utah Division of Air Quality (UDAQ) by the contractor. Fugitive dust during construction would be minimized in accordance with UDOT Standard Specifications. This includes submitting a fugitive dust control plan to UDAQ; minimizing dust from construction activities; and minimizing dust from material storage, handling, or hauling operations.

Noise

Residents in and near the study area would experience temporary construction noise. Extended disruption of normal activities is not anticipated, since no one receptor is expected to be exposed to construction noise for a long duration. Construction noise impacts would be minimized in accordance with UDOT Standard Specifications and Policies.

Cultural Resources

It is not expected that any additional, previously unidentified cultural resources would be encountered during construction. However, in the event that any such resources are discovered, the contractor would be required to abide by UDOT Standard Specifications in relation to the discovery of any historical and archaeological objects, features, sites, and human remains.

Water Resources

During construction of the Preferred Alternative, there is the potential for temporary soil erosion and sediment/siltation impacts. Construction-related erosion and sedimentation would be managed through obtaining a Utah Pollution Discharge Elimination System (UPDES) permit from the UDEQ. This permit requires that a Storm Water Pollution Prevention Plan (SWPPP) and implementation of BMPs be followed during construction.

Short-term impacts to water quality would be minimized through implementation of UDOT's BMPs from the Temporary Erosion and Sediment Control Manual.

Hazardous Waste

Any hazardous waste material encountered during construction would be dealt with in accordance with UDOT Standard Specifications, which directs the contractor to stop work and notify the project engineer of any discovery of hazardous material. Disposal of any hazardous material would take place under the guidelines set by the UDEQ.

Visual Conditions

There would be some temporary visual impacts to the study area with the addition of construction signs, barricades, exposed earth, and construction equipment.

Energy

Construction activities would consume energy to operate machinery, provide construction lighting, and produce and transport materials associated with road construction.

Emergency Services

Temporary construction detours could alter the routes taken by emergency response teams for the duration of the project. Access to all areas would be maintained for emergency services.

Utilities

Construction activities have the potential to impact the following utilities:

- Water and sewer lines
- Fiber optic lines
- Electrical transmission lines
- Detention basins
- Irrigation facilities

Invasive Species

Construction activities, including soil disruptions, would provide opportunities for the movement of invasive weed species. To minimize the spread and introduction of invasive weeds, the contractor would be required to follow UDOT's Special Provision for Invasive Weed Control. This requires cleaning earthmoving equipment before mobilizing; controlling existing noxious weeds 10 days before starting earthwork operations; and controlling noxious weeds using pre-emergent, selective, and non-selective herbicides.

3.20.2 MITIGATION

No mitigation would be required for construction impacts beyond implementation of UDOT's Standard Specifications and BMPs, as such impacts are temporary in nature.

3.2.1 CUMULATIVE IMPACTS

Cumulative impacts are “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (see 40 CFR §1508.7). Cumulative impacts include the direct and indirect impacts of a project, together with the reasonably foreseeable future actions of other projects.

A cumulative impact analysis is focused on the sustainability of environmental resources in light of all the forces acting upon them and can result from individually minor but collectively significant actions taking place over time. For a project to have a cumulative effect, however, it must first have a direct or indirect effect on the resource in question.

3.2.1.1 METHODOLOGY AND TIME FRAME FOR DETERMINING CUMULATIVE IMPACTS

The methodology for determining cumulative impacts is based on Considering Cumulative Effects under NEPA (CEQ, 1997). The geographic scope of the cumulative impacts analysis was determined to be Utah County. The timeframe for the cumulative impacts analysis includes the development of Utah County in the study area and extends to the 2050 design year.

Past Actions

As discussed in Chapter 1, past actions that have affected the study area include ongoing growth and development in Utah County, particularly along the I-15 corridor and along 1600 South/2700 North. Past transportation projects in the area include both vehicle and rail facilities. I-15 is a major freeway located within the study area. Rail facilities include the Sharp and Tintic Railroad lines.

Present and Reasonably Foreseeable Future Actions

According to data from the U.S. Census Bureau and the GOMB 2012 projections, Springville City and Spanish Fork City are anticipated to experience a steady population increase between 2020 and 2050, with an estimated growth of 55 percent and 62 percent, respectively.

Present and reasonably foreseeable future actions include the transportation projects included in the MAG RTP (MAG, 2019) and the Springville City and Spanish Fork City transportation plans (Spanish Fork City, 2016; Springville City, 2014). Other present and reasonably foreseeable future actions include the combination of the Sharp and Tintic Railroads and planned residential and commercial development.

3.2.1.2 CUMULATIVE IMPACTS ANALYSIS

Land Use

Through communication with the local municipalities and adjacent property owners, several future developments within and near the study area are being contemplated, with a few being advanced through the planning and development stages. There are also other planned roadway projects in the immediate vicinity of the study area, including the widening of I-15, the widening of Spanish Fork Main Street, the realignment and connection of Canyon Creek Parkway to 1200 West, and the proposed extension of 1600 South/2700 North from SR-51 to US-89. Growth and development in the study area is ongoing.

Under the Preferred Alternative, a new I-15 interchange would be built at 1600 South/2700 North. This would result in increased access to the study area from I-15, which could accelerate planned development in the area.

Air Quality

National Ambient Air Quality Standards

The study area is located in Utah County, Utah, which is within the Provo, Utah $PM_{2.5}$ and Wasatch Front Ozone Non-Attainment Areas. The study area is in compliance for all other NAAQS pollutants.

$PM_{2.5}$

In September 2006, the EPA implemented a more stringent national standard for $PM_{2.5}$. The UDAQ has worked to develop a new section of the SIP to reduce $PM_{2.5}$ -related emissions to a level that will enable the Wasatch Front region to once again be in compliance with national standards. The improved vehicle emission technology and national standards enacted in 2004, 2007, and 2017 will be instrumental in the UDAQ's plan to achieve the new $PM_{2.5}$ standard.

Ozone

In October 2015, the EPA issued its Final Rule on ozone, which lowered the primary and secondary 8-hour ozone standards. DEQ will continue to take steps to address ozone pollution in the state. The Air Quality Board enacted 14 rules to limit the emission of Volatile Organic Compounds (VOCs), a precursor to the formation of ozone. The upcoming production and sale of Tier 3 fuels in Utah will substantially reduce emissions of nitrogen oxides (NOx), another ozone precursor.

Mobile Source Air Toxics

In April 2014, the EPA published a final rule adopting new emission standards and fuel requirements for motor vehicles and for motor vehicle fuels (79 FR 23414). The final rule included Tier 3 emission standards to reduce exhaust and evaporative

emissions from light-duty vehicles, light-duty trucks, and heavy-duty vehicles up to 14,000 pounds gross vehicle weight rating (GVWR).

The new vehicle standards will reduce both tailpipe and evaporative emissions from passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. The gasoline sulfur standard will enable more stringent vehicle emissions standards and will make emissions control systems more effective.

According to the EPA, the new Tier 3 vehicle emissions standards, combined with the reduction of gasoline sulfur content, will significantly reduce motor vehicle emissions, including nitrogen oxides (NOX), volatile organic compounds (VOC), direct particulate matter (PM_{2.5}), carbon monoxide (CO), and air toxics.

In conjunction with the new Tier 3 standards, the Preferred Alternative would only slightly increase vehicle miles traveled (VMTs) within the study area and would therefore have a negligible impact on MSAT trends in Utah County.

Greenhouse Gas Emissions

Implementation of the Preferred Alternative would only result in minor changes to VMTs, traffic speeds, or to the road grade and therefore would not substantially affect GHG emissions. Further, EPA's GHG emissions standards, implemented in concert with national fuel economy standards, would also help minimize GHG emissions.

Conclusion

With ongoing improvements to vehicle emissions, including Tier 3 standards and more stringent air quality controls, it is expected that air quality would continue to improve in Utah County through the 2050 planning period, even with anticipated increases in VMT. Vehicle emissions have continued to decrease substantially over time as the EPA has imposed a series of tighter emission-control requirements on engine emissions. As the region's vehicles become newer and the older, higher-emitting vehicles are gradually replaced, it is expected that the tighter emission standards will mostly offset the regional growth and the anticipated increase in VMT in the study area.

Wetlands and other Waters of the U.S.

The USACE regulatory wetland program was put in place to mitigate the loss of wetlands and other waters of the U.S. through avoidance, minimization, and creation or restoration of these resources. The resulting federal policy is "no net loss of wetland acres and/or function." Although the amount of future wetlands and the associated aquatic habitat conditions are difficult to predict, these resources could be degraded by encroachment, fragmentation, and/or hydrologic modification. For example, a new road might be adjacent to an emergent marsh or might bisect the marsh. Even if the impacts from the road are mitigated, the result might be wetlands that provide diminished wildlife habitat function for some species. Similarly, such a project could alter the movement of surface water or groundwater, resulting in the direct loss of wetlands outside the study area.

The Preferred Alternative would result in impacts to 2.47 acres of wetlands and other Waters of the U.S. The study area is located in a residential and commercial area of Springville City and Spanish Fork City, with some areas designated for agricultural uses. Most wetlands and WOTUS in the study area are associated with Dry Creek, agricultural ditches and fields, and roadside ditches or detention areas. With large wetland areas in the broader region, including around Hobbie Creek, the Spanish Fork River, and associated with Utah Lake, the Preferred Alternative would have a limited impact on wetlands in the region.

Although other planned transportation projects could also result in impacts to wetlands that may be present in southern Utah County, urban growth, regardless of the construction of roads and rails, will likely cause the greatest impact to wetlands through the design year (2050). However, all projects that are subject to a Section 404 individual permit are required to identify the least environmentally damaging practicable alternative. No data are available on the exact amount of wetlands to be converted to urban uses because each project is treated independently by the USACE.

3.22 COMMITMENTS, MITIGATION, APPROVALS, AND PERMITS

Implementation of the Preferred Alternative would require adherence to all applicable UDOT Standards, Specifications, Special Provisions, and Manuals of Instruction to avoid and/or minimize impacts to the environment.

Resource mitigation required for the implementation of the Preferred Alternative are listed in Table 3–17. Government approvals and regulatory permits are found in Table 3–18.

Table 3–17 Required Mitigation	
RESOURCE	MITIGATION
Land Use	No mitigation would be required.
Social Environment	No mitigation would be required.
Economic Conditions	No mitigation would be required.
Right-of-Way and Relocations	No mitigation would be required.
Environmental Justice	No mitigation would be required.
Pedestrians and Bicyclists	No mitigation would be required.
Air Quality	No mitigation would be required.
Noise	Wall 1 - Construct a new 6-foot wall in two segments, if approved through balloting from property owners and residents. The wall would be located on the north side of 1600 South/2700 North, extending west of 1075 West to the west side of 950 West.
Cultural Resources	No mitigation would be required.
Section 4(f)	No mitigation would be required.
Water Resources	Coordination with property owners during final design would occur to determine if a well head or other water right POD is affected. Mitigation could include relocating a well head or surface water diversion to continue to provide irrigation water to any land that is not acquired or abandoning the well and compensating the owner for the value of the associated water right.
Wetlands and Other Waters of the U.S.	A CWA Section 404 permit authorization would be required for project activities within WOTUS. Permits, licenses, variances, or similar authorization might also be required by other federal, state, and local statutes.
Threatened and Endangered Species and Wildlife	To avoid direct or incidental take of nesting migratory birds, it is recommended that tree or vegetation removal occur before April 15 or after August 31. If tree or vegetation removal cannot occur before or after that time period, a nest survey would be required to identify active migratory bird nests within vegetation scheduled for removal. If active nests are found, construction activities would be suspended within 75 feet of the nests until the nestlings have fledged, and the findings would be coordinated with UDOT Environmental Services.
Visual and Aesthetic	No mitigation would be required.
Energy	No mitigation would be required.
Utilities and Emergency Services	No mitigation would be required.
Construction Impacts	No mitigation would be required for construction impacts beyond implementation of UDOT's Standard Specifications and BMPs, as such impacts are temporary in nature.

Table 3–18 Government Approvals and Regulatory Permits

BASIS	PERMIT OR APPROVAL	AGENCY OR GOVERNMENT ENTITY WITH JURISDICTION
New Interchange on I-15	Interchange Access Change Request	FHWA
Air Quality	Air Quality Approval Order	UDEQ/DAQ
Air Quality	Fugitive Dust Emission Control Plan	UDEQ/DAQ
Noise	Temporary Noise Permits	Utah County Springville City Spanish Fork City
Water Resources	UPDES General Permit for Construction Activities	UDEQ/DWQ
Water Resources	UPDES Construction Dewatering and Hydrostatic Testing (if applicable)	UDEQ/DWQ
Wetlands	Section 404 Permit	USACE

Chapter

04. Public Involvement

4.1 INTRODUCTION

This chapter summarizes key issues and pertinent information received through coordination with the public and various agencies, and it lists the agencies and persons that were consulted. Chapter 4 is organized as follows:

- **4.2 Public and Agency Coordination** – Lists key meetings and gives a general summary of the items discussed.
- **4.3 Agency Correspondence** – Details the correspondence between the project team and federal, state, local, and tribal agencies.

4.2 PUBLIC AND AGENCY COORDINATION

Table 4-1 is a list of meetings held as part of the coordination process for this EA, including a brief summary of the items discussed. Additional details for public meetings are provided in Section 4.2.1 and Section 4.2.2. The minutes themselves are contained in the project record. In addition, internal project team meetings were held throughout the development of this EA (see Table 4-1).

Table 4-1 Meetings

DATE/MEETING TYPE	ATTENDEES	DISCUSSION ITEMS
November 14, 2018 Spanish Fork City Coordination Meeting	UDOT Horrocks Spanish Fork City	- Study overview - Stakeholder communication - Ongoing coordination
November 20, 2018 Springville City Coordination Meeting	UDOT Horrocks Springville City	- Study overview - Stakeholder communication - Ongoing coordination
November 27, 2018 Utah County Coordination Meeting	UDOT Utah County Horrocks	- Study overview - Stakeholder communication - Ongoing coordination
November 14, 2019 Agency Scoping Meeting	10 representatives signed in from 6 agencies: UDOT Horrocks Springville City Springville City Police Department Spanish Fork City Spanish Fork City Fire Department Nebo School District Utah County	- NEPA and the EA process - Purpose and Need of the study - Study area - Existing environmental resources - Alternatives development - EA schedule - Identification of priorities and existing/potential issues and resources within the study area

Table 4–1 Meetings

DATE/MEETING TYPE	ATTENDEES	DISCUSSION ITEMS
November 14, 2019 Public Scoping Meeting	UDOT Horrocks 96 meeting attendees signed in	<ul style="list-style-type: none"> - NEPA process - Purpose and Need - Study area - Existing environmental resources - EA schedule - Identification of priorities and existing/potential issues and resources within the study area
December 10, 2019 Mapleton City Coordination Meeting	UDOT Horrocks Mapleton City	<ul style="list-style-type: none"> - General study overview - MAG's RTP project timing (SR-51 to US-89 connection) - Future coordination
April 30, 2020 Spanish Fork City Coordination Meeting	UDOT Horrocks Spanish Fork City	<ul style="list-style-type: none"> - Study overview - Development coordination
May 28, 2020 Mapleton City Coordination Meeting	UDOT Horrocks Mapleton City	<ul style="list-style-type: none"> - Study updates - Alternatives - Anticipated schedule
May 28, 2020 Springville City Coordination Meeting	UDOT Horrocks Springville City	<ul style="list-style-type: none"> - Study updates - Alternatives - Anticipated schedule - 1700 West business access and current road right-of-way
June 23, 2020 Springville City Coordination Meeting	UDOT Horrocks Springville City	<ul style="list-style-type: none"> - Grade-separated railroad crossing on 1600 South/2700 North - 1200 West realignment - Development coordination - 1700 West business access
June 24, 2020 Meeting with Russell and Brett Davies (Davies Motor Company)	UDOT Horrocks Brett Davies Russell Davies	<ul style="list-style-type: none"> - Study overview - Study alignment and alternatives - Business access and right-of-way for access
July 7, 2020 Meeting with Derek Habel (Express Towing)	UDOT Horrocks Derek Habel	<ul style="list-style-type: none"> - Study overview - Study alignment and alternatives - Business access and right-of-way for access - Location to relocate
July 14, 2020 Spanish Fork City Coordination Meeting	UDOT Horrocks Spanish Fork City	<ul style="list-style-type: none"> - Study update - Land use study - Schedule

Table 4–1 Meetings

DATE/MEETING TYPE	ATTENDEES	DISCUSSION ITEMS
July 15, 2020 Springville City Coordination Meeting	UDOT Horrocks Springville City	- 1700 West business access solution - Preferred Alternative phasing
August 4, 2020 Meeting with Carol Oertle (property owner)	UDOT Horrocks Carol Oertle and two daughters	- Study overview - Preferred Alternative - Phase 1 construction - Property impacts - Right-of-way acquisition/relocation process - Schedule
August 5, 2020 Meeting with Pat and Holly (Tim Dahle Ford)	UDOT Horrocks Pat and Holly (property managers of Tim Dahle Ford)	- Study overview - Preferred Alternative - Phase 1 construction - Property impacts - Right-of-way acquisition process - Schedule
August 5, 2020 Spanish Fork City and Parametrix Coordination Meeting	UDOT Horrocks Spanish Fork City Parametrix	- Land use study update and property owner communications - I-15 Interchange study update - Preferred Alternative and phasing - Schedule
August 5, 2020 Meeting with Dave Barlow (property owner)	UDOT Horrocks Dave Barlow	- Study overview - Preferred Alternative - Phase 1 construction - Property impacts - Right-of-way acquisition process - Schedule
August 6, 2020 Meeting with Brian Ford (Polaris Peak LLC)	UDOT Horrocks Brian Ford	- Study overview - Preferred Alternative - Phase 1 construction - Property impacts - Right-of-way acquisition process - Schedule
August 6, 2020 Meeting with Dave Giudice (property owner)	UDOT Horrocks Dave Giudice	- Study overview - Preferred Alternative - Property impacts - Right-of-way acquisition update - Schedule

Table 4–1 Meetings		
DATE/MEETING TYPE	ATTENDEES	DISCUSSION ITEMS
August 10, 2020 Meeting with Jeff Brancroft and Craig Shields (CSB Nutrition)	UDOT Horrocks Jeff Brancroft Craig Shields	- Study overview - Preferred Alternative - Phase 1 construction - Property impacts - Right-of-way acquisition process - Schedule
August 11, 2020 Meeting with Brett Davies (Davies Motor Company)	UDOT Horrocks Brett Davies	- 1700 West business access solution
September 8, 2020 Meeting with David Caldwell (Tommy's Auto)	UDOT Horrocks David Caldwell	Study overview - Preferred Alternative - Phase 1 construction - Property impacts (access change) - Schedule
September 11, 2020 Meeting with Scott George	UDOT Horrocks Scott George	Study overview - Preferred Alternative - Property impacts - Phase 1 construction - Schedule

4.2.1 AGENCY SCOPING MEETING

An agency scoping meeting was held to inform agencies about the EA and the environmental process and to gather input regarding transportation needs and environmental resources that should be considered during the study.

When/Where: Thursday, November 14, 2019 from 3:30 to 4:30 p.m. at Springville City Senior Citizen's Center (65 East 200 South, Springville, UT).

Attendees: Representatives from 10 agencies signed in, including representatives from Springville City, Spanish Fork City, Spanish Fork Police Department, Spanish Fork Fire Department, Nebo School District, and Utah County.

Discussion Items:

- City Master Plans, City Transportation Plans, City Active Transportation Plans, and MAG RTP
- Railroad consolidation and timing
- UTA FrontRunner plans
- Improvements to areas outside of the study area (US-6 and SR-51 to US-89)
- School bus schedules and routes to determine impacts

Comment Summary:

- UTA projects within the study area (Sharp/Tintic Railroad Connection and the Provo to Payson Transit Analysis Study)
- Waters of the U.S. and wetlands analysis guidelines and impact minimizations
- Benefits of an interchange at 1600 South/2700 North
- Spanish Fork City Master Plan projects and active transportation plans
- Recommended improvements to 1600 South/2700 North (grade-separated railroad crossing and traffic signal)

4.2.2 PUBLIC SCOPING MEETING

A public scoping meeting was held to inform the public about the EA process and to gather input regarding the study.

When/Where: Thursday, November 14, 2019 from 5 to 7 p.m. at Springville City Senior Citizen's Center (65 East 200 South, Springville, UT).

Attendance: 96 people signed in at the public meeting.

Comment Summary:

- Requests for a connection from SR-51 to US-89
- Current congestion on 1600 South, Evergreen Drive, and congestion caused by the railroad crossing
- Suggestions to implement bike lanes, trails, public transit, and sidewalks
- General concerns regarding impacts to residents
- Suggestions for solutions to congestion and design implementation

4.3 AGENCY CORRESPONDENCE

This section contains a record of correspondence between the project team and federal, state, local, and tribal agencies. All correspondence letters (both sent and received) are shown in Table 4–2 and are included in Appendix A Correspondence and Coordination with the exception of the scoping letters, which are included as part of the Agency Workshop and Scoping Meeting Summary in Appendix A.

Table 4–2 Correspondence			
DATE	TO	FROM	SUBJECT
September 26, 2018	Rupert Steele Chairman Confederated Tribes of the Goshute Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Mary Pete-Freeman Tribal Transportation Planning Confederated Tribes of the Goshute Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Candace Bear Chairwoman Northwestern Band of Shoshone Nation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Darren Parry Chairman Northwestern Band of Shoshone Nation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Patty Timbimboo-Madsen Cultural and Natural Resource Manager Northwestern Band of Shoshone Nation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Blaine Edmo Chairman Shoshone-Bannock Tribes of Fort Hall	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party

Table 4–2 Correspondence

DATE	TO	FROM	SUBJECT
September 26, 2018	Carolyn Smith Cultural Resources/Heritage Tribal Office Shoshone-Bannock Tribes of Fort Hall	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Darwin St. Clair, Jr. Chairman Eastern Shoshone Tribe of the Wind River Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Glenda Trosper Director, Cultural Center Eastern Shoshone Tribe of the Wind River Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Joshua Mann Tribal Historic Preservation Officer Eastern Shoshone Tribe of the Wind River Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Luke Duncan Chairman Ute Indian Tribe of the Uintah and Ouray Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Betsy Chapoose Director Civil Rights & Protection Ute Indian Tribe of the Uintah and Ouray Reservation	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Travis Parashonts Cedar Band of Paiute Indians	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Vala Parashonts Cedar Band of Paiute Indians	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Patrick Charles Shivwits Band of Paiute Indians	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
September 26, 2018	Sabrina Redfoot Cultural Resources Director Shivwits Band of Paiute Indians	Liz Robinson UDOT Cultural Resources Program Manager	Notification of Project and Invitation to be a Section 106 Consulting Party
October 31, 2018	Liz Robinson UDOT Cultural Resources Program Manager	Sabrina Redfoot Cultural Resources Director Shivwits Band of Paiute Indians	Section 106 Consultation

Table 4–2 Correspondence

DATE	TO	FROM	SUBJECT
November 1, 2019	Jason Gipson Chief,, Utah Regulatory Branch U.S. Army Corps of Engineers	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Philip Strobel Region 8, NEPA Program Director Environmental Protection Agency	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Larry Crist Field Supervisor U.S. Fish and Wildlife Services	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Don Hartley Interim State Historic Preservation Officer Utah SHPO	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Sindy Smith Coordinator Resource Development Coordinating Committee Public Lands Policy Coordinating Office	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Rupert Steele Chairman Confederated Tribes of the Goshute Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Mary Pete-Freeman Tribal Transportation Planning Confederated Tribes of the Goshute Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Candace Bear Chairwoman Northwestern Band of Shoshone Nation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Darren Parry Chairman Northwestern Band of Shoshone Nation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Patty Timbimboo-Madsen Cultural and Natural Resource Manager Northwestern Band of Shoshone Nation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping

Table 4–2 Correspondence

DATE	TO	FROM	SUBJECT
November 1, 2019	Blaine Edmo Chairman Shoshone-Bannock Tribes of Fort Hall	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Carolyn Smith Cultural Resources/Heritage Tribal Office Shoshone-Bannock Tribes of Fort Hall	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Darwin St. Clair, Jr. Chairman Eastern Shoshone Tribe of the Wind River Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Glenda Trosper Director, Cultural Center Eastern Shoshone Tribe of the Wind River Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Joshua Mann Tribal Historic Preservation Officer Eastern Shoshone Tribe of the Wind River Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Luke Duncan Chairman Ute Indian Tribe of the Uintah and Ouray Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Betsy Chapoose Director Civil Rights & Protection Ute Indian Tribe of the Uintah and Ouray Reservation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Shawn Seager Director of Planning Mountainland Association of Governments	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Buffie Chournos Environmental Compliance Administrator Utah Transit Authority	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Bradley Stapley Public Works Director Springville City	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Troy Fitzgerald City Administrator Springville City	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping

Table 4–2 Correspondence

DATE	TO	FROM	SUBJECT
November 1, 2019	Seth Perrins City Manager Spanish Fork City	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Chris Thompson Public Works Director Spanish Fork City	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Richard Neilson Public Works Director/County Engineer Utah County	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 1, 2019	Lance Kippen Industry and Public Projects Union Pacific Railroad	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Rick Nielsen Superintendent Nebo School District	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Wade Tischner Supervisor Nebo School District Transportation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Adam Heaton Route Supervisor Nebo School District Transportation	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Steven Adams Chief Spanish Fork City Police Department	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Brent Jarvis Chief Spanish Fork City Fire Department	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Ryan Baum Deputy Chief Spanish Fork City Ambulance	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Henry Clinton Chief Springville City Fire Department	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping
November 5, 2019	Craig Martinez Chief Springville City Police Department	Elisa Albury UDOT Environmental Program Manager	Initiation of Scoping

Table 4–2 Correspondence

DATE	TO	FROM	SUBJECT
November 15, 2019	Ryan Pitts Horrocks Engineers	Autumn Hu NEPA Project Administrator Utah Transit Authority	Scoping Comments
November 15, 2019	Ryan Pitts Horrocks Engineers	Matt Wilson Senior Project Manager Nevada-Utah Section U.S. Army Corps of Engineers	Scoping Comments
November 27, 2019	Samantha Patterson Horrocks Engineers	Spanish Fork City Staff	Scoping Comments
January 6, 2020	Aaron Woods Horrocks Engineers	Martha Hayden State of Utah	Paleontological Concurrence
June 9, 2020	Matt Howard UDOT Natural Resources Manager	Haylie Ferguson Horrocks Engineers	Threatened and Endangered Species and Wildlife Review
June 16, 2020	Haylie Ferguson Horrocks Engineers	Matt Howard UDOT Natural Resources Manager	Threatened and Endangered Species and Wildlife Concurrence
August 3, 2020	Cory Jensen Senior Historic Preservation Specialist Utah Division of State History	Liz Robinson UDOT Cultural Resources Program Manager	Determination of Eligibility and Finding of No Adverse Effect Review
August 4, 2020	Liz Robinson UDOT Cultural Resources Program Manager	Cory Jensen Senior Historic Preservation Specialist Utah Division of State History	Determination of Eligibility and Finding of No Adverse Effect Concurrence
September 11, 2020	Sabrina Redfoot Cultural Resources Director Shivwits Band of Paiute Indians	Liz Robinson UDOT Cultural Resources Program Manager	Section 106 Consultation
September 11, 2020	Lora Tom Vice Chairwoman Cedar Band of Paiute Indians	Liz Robinson UDOT Cultural Resources Program Manager	UDOT I-15 Springville Interchange EA

Chapter

05. List of Preparers

NAME	PROJECT ROLE	EDUCATIONAL BACKGROUND	YEARS OF EXPERIENCE
UDOT			
Darren Bunker, P.E.	Project Manager	B.S., Civil Engineering M.B.A., Business Administration	25
Elisa Sims Albury	Environmental Program Manager	B.S., Geology M.S., Geology	16
Carissa Watanabe	Environmental Performance Manager	B.S., Environmental Science	8
Elisabeth Robinson	Cultural Resources	B.A., Anthropology M.A., Archaeology	19
Elizabeth Giraud	Historic Architecture	B.A., Business Administration M.A., Historic Preservation Planning	29
Matt Howard	Wildlife and Threatened & Endangered Species	B.S., Conservation and Restoration Ecology	12
HORROCKS ENGINEERS			
Brian Atkinson, P.E.	Consultant Project Manager	B.S., Civil Engineering	25
Ryan Pitts, P.L.A.	Environmental Project Manager	B.S., Horticulture M.L.A., Landscape Architecture	14
Nicole Tolley, P.E.	Environmental QC	B.S., Civil Engineering	16
Justin Beddoes, P.E.	Design Manager	B.S., Civil Engineering	22
Trevor Youd, P.E.	Design	B.S., Civil Engineering	7
Mitch Mortimer	Design	Civil Engineering Student	2
Camron Sobotka	Design Visualization	A.A.S., Drafting Technology	12
Peter Steele	Environmental Analysis Land Use, Pedestrians and Bicyclists, Hazardous Material, and Cumulative Impacts	B.A., Anthropology (Archaeology) M.A., Anthropology (Archaeology)	10
Samantha Patterson	Environmental Analysis Economic Resources, Social Environment, and Environmental Justice	B.S., Sociology M.S., Sociology	2
Judy Imlay	Environmental Analysis Air Quality and Energy	B.A., Political Science J.D., Law	15

NAME	PROJECT ROLE	EDUCATIONAL BACKGROUND	YEARS OF EXPERIENCE
Haylie Ferguson	Environmental Analysis Noise and Threatened & Endangered Species/ Wildlife	B.A., Anthropology (Archaeology) M.A., Anthropology (Archaeology)	2
Nathan Clarke	Environmental Analysis Water Quality/Water Resources	B.S., Landscape Architecture and Environmental Planning	3
Aaron Woods	Environmental Analysis Cultural Resources (Archaeology)	B.A., Anthropology (Archaeology) M.A., Anthropology (Archaeology)	16
Nancy Calkins	Environmental Analysis Cultural Resources (Architecture)	B.S., Botany	24
Ben Pearson	Environmental Analysis Cultural Resources (Architecture)	B.A., Art History M.D.S., Historic Preservation	2
Beau Hunter	Public Involvement Manager	B.S., Natural Resources Recreation Management M.S., Experimental Education	15
Mendy Magistro	Public Involvement	B.S., Music Therapy M.S.W., Social Work	5
Molly Betzold	Public Involvement	B.S., Marketing Management	1
Sarah Wilson	Graphics/ Document Preparation	B.A., Art Education	4
Lisa Blackwelder	Technical Editor	B.A., English M.A., English	19
Derrick Sharp, GISP	GIS Analysis	B.A., History/ Geotechnology M.A., Historical Resource Management	12
Zach Starkey	GIS Analysis	B.A., Geography	9
Julia Downs	GIS Analysis	B.S., Environmental Geoscience	2
AVENUE CONSULTANTS			
Ivan Hooper, P.E.	Traffic Analysis	B.S., Civil Engineering	23
Rob Eldredge, AICP	Travel Demand Modeler	M.A., Urban Planning	15
Conor Seat	Traffic Engineer	M.S., Civil Engineering	3

Chapter

06. Distribution List

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