EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This Environmental Impact Statement (EIS) for the Interstate 15 (I-15), Payson Main Street Interchange project has been prepared according to the provisions of the National Environmental Policy Act (NEPA), Title 23 of the Code of Federal Regulations (CFR) Part 771, 40 CFR 1500-1508, and the Federal Highway Administration (FHWA) Technical Advisory T6640.8A, Guidance for Preparing and Processing Environmental and Section 4(f) Documents. This EIS also conforms to the requirements of the Utah Department of Transportation (UDOT).

UDOT has assumed FHWA's responsibilities under NEPA and other applicable federal environmental laws for review and approval of federally assisted highway projects within Utah. These responsibilities have been assigned in the *Memorandum of Understanding between the FHWA and the UDOT concerning the State of Utah's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 USC 327*, executed on January 17, 2017. As such, 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 the Memorandum of Understanding (MOU). Prior to January 17, 2017, the project was carried out by the FHWA with UDOT as the joint lead agency.

ES.2 STUDY AREA

The 4.6-square-mile study area centers on I-15 Exit 250 in Payson, Utah (see Figure ES-1). The western boundary generally follows the Union Pacific railroad tracks west of I-15 and 3550 West. The southern boundary parallels SR-198, and the eastern boundary follows a northwest line across agricultural fields for approximately 2.3 miles until it crosses I-15. The northern boundary continues east along 1500 North before terminating west of Dixon Road along SR-115 (3200 West/Main Street).

The study area boundary was identified to include the reasonable range of alternatives to be developed for this EIS, including alternatives that would relocate the interchange north of its existing location.

ES.3 NEED FOR THE PROJECT

The I-15, Payson Main Street Interchange project is needed for the following reasons:

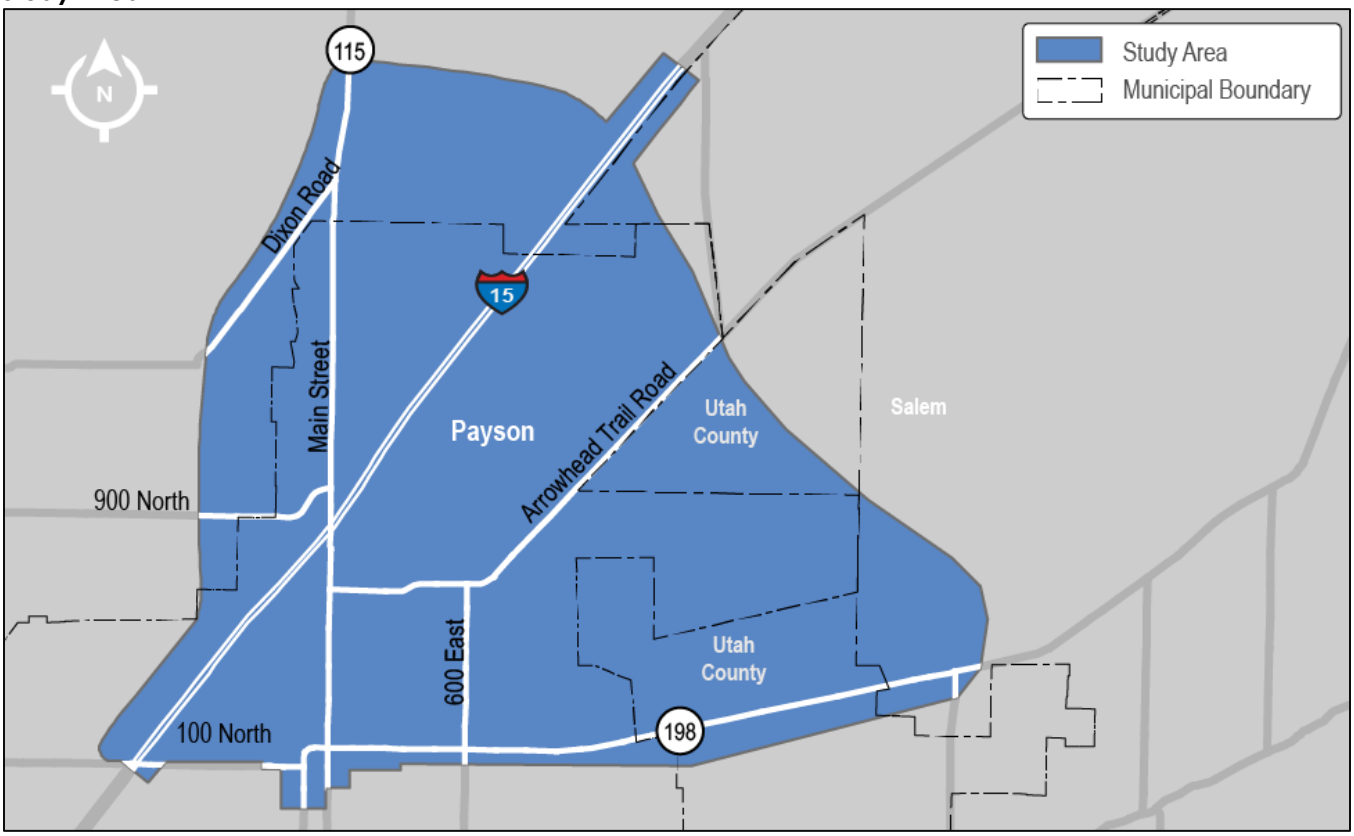
- The existing infrastructure will not be able to adequately serve the projected transportation demands from a rapidly growing population in and around Payson.
- Existing design deficiencies compromise vehicle safety and limit overall functionality of the interchange

ES.4 PURPOSE OF THE PROJECT

Based on the needs presented above, the project is needed to achieve the following objectives:

- **Improve traffic operations in Payson by reducing expected roadway congestion at the Main Street interchange and on Main Street between approximately 900 North and 100 North:** Accommodate future travel demand for automobile and freight traffic by improving level of service (LOS) at the interchange and along Main Street compared to the no-build conditions.
- **Address design deficiencies to meet current roadway design standards:** Address the identified safety and operational inadequacies and meet UDOT and American Association of State Highway and Transportation Officials (AASHTO) design standards, thereby improving the functionality and safety of the interchange compared to the no-build conditions

FIGURE ES-1
Study Area



ES.5 ALTERNATIVES

A wide range of alternatives was developed with the goal of meeting the purpose and need of the project. Conceptual alternatives were developed based on previous studies, including the 2008 *I-15 Corridor Utah County to Salt Lake County EIS* and a concept report commissioned by UDOT in 2011, and comments received from the community and agencies.

ES.5.1 No-Build Alternative

The No-Build Alternative assumes 2040 traffic conditions without improvements to the existing interchange or Main Street. This alternative assumes the completion of all other projects proposed in the

Mountainland Association of Governments' (MAG) long-range transportation plan, *TransPlan40*, which includes (see Figure ES-2):

- Widening of SR-198 to four lanes
- Capacity improvements at the SR-164 (8000 South) interchange
- Capacity improvements at the SR-178 (Payson 800 South) interchange
- Extension of Elk Ridge Drive from SR-198 to SR-164 (8000 South)
- Construction of Nebo Beltway Phase II (see Section ES.6.1 for more information regarding Nebo Beltway)

ES.5.2 Transportation System Management Alternative

The Transportation System Management (TSM) Alternative would optimize signal timing at the existing interchange and along Main Street. No other improvements, such adding lanes at the interchange, would be included.

ES.5.3 Transit Alternative

This alternative would improve the public transit system in Payson. The planned Utah Transit Authority (UTA) FrontRunner commuter rail station would be moved from 800 South to Main Street, north of the interchange. An enhanced bus route with 30-minute headways would run from the Payson FrontRunner station along SR-198 to the Spanish Fork FrontRunner station. A local bus route with 15-minute headways would begin at the Payson FrontRunner station, continue south on Main Street to SR-198 where it would continue south until turning west onto 800 South, then turn north after crossing over I-15. Ridership at the FrontRunner station would increase by 1,480 people per day more than the planned station location at 800 South, with a daily ridership of 1,800 people in 2040. Bus ridership along the enhanced bus route to Spanish Fork would be 240 people per day and the local bus route would have 410 people per day in 2040.

ES.5.4 Build Alternatives

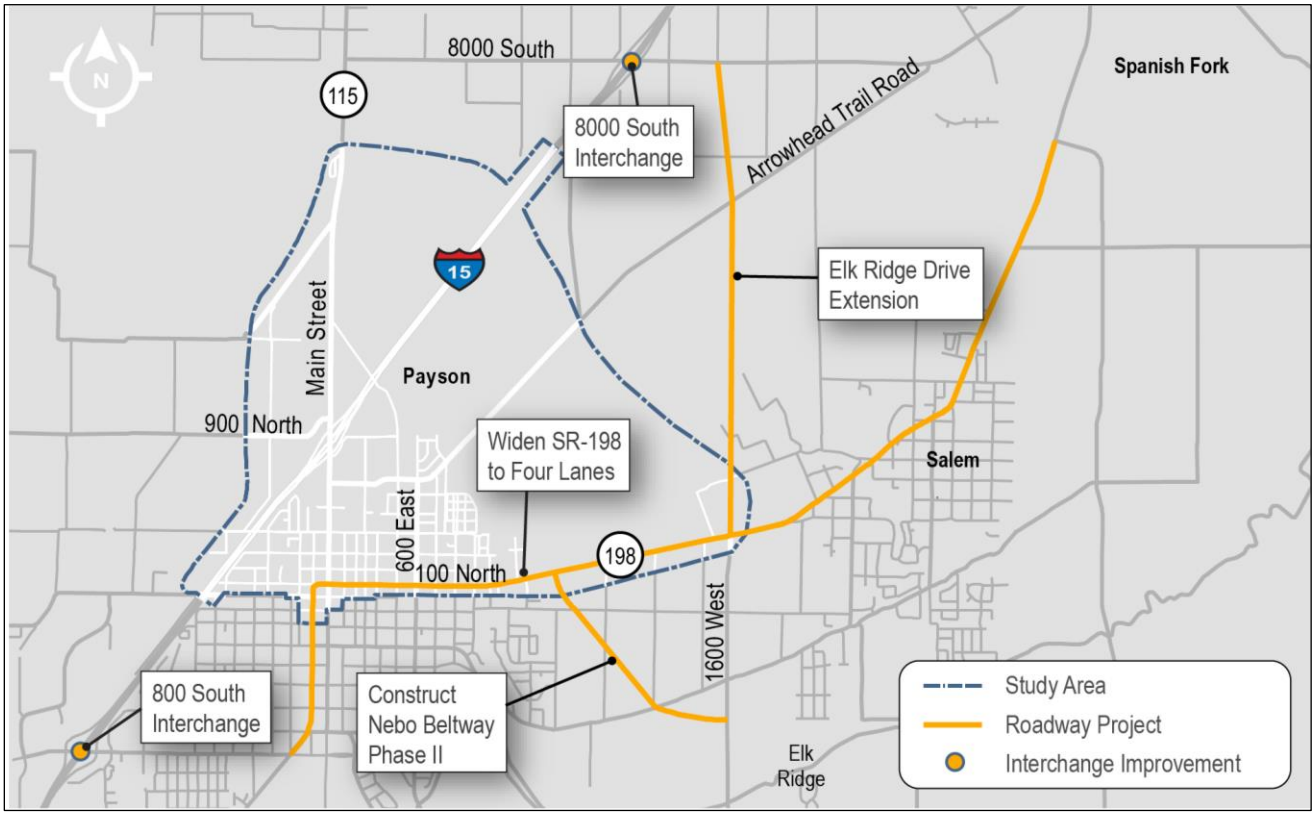
Four categories of conceptual build alternatives were developed—each attempts to address future travel demand differently as described below.

Improve Existing Interchange ("I") Alternatives: The I alternatives would address the future traffic needs by improving the existing interchange in its current location. This would direct all traffic to and from I-15 onto Main Street, and would require widening Main Street to five lanes between I-15 and SR-198. Twelve I alternatives were developed.

Relocate Interchange ("R") Alternatives: The R alternatives would accommodate the future traffic needs by relocating the interchange northeast along I-15, close to its current location. This would eliminate direct access to Main Street, and direct all traffic onto a new arterial road (Nebo Beltway Phase I). Main Street would not need to be widened. Two R alternatives were developed.

Combination of Improve Existing Interchange and Relocate ("C") Alternatives: The C alternatives would provide additional capacity at two locations—the existing Main Street interchange and a new interchange to the northeast. The new interchange would connect to Nebo Beltway Phase I, drawing some traffic away from Main Street. Main Street would still have direct access to and from I-15, and would need to be widened to five lanes to 600 North. Six C alternatives were developed.

FIGURE ES-2
No-Build Alternative



Add New Interchange ("A") Alternative: The A alternative would provide additional capacity by adding a new interchange farther north, and keep the existing Main Street interchange open. One A alternative was developed.

ES.6 ALTERNATIVE SCREENING PROCESS

This section describes the alternative screening process and criteria developed through coordination with the cooperating and participating agencies and the stakeholder working group to determine which alternatives to carry forward for detailed study. The screening process was divided into the following levels:

- Level 1: Assessed the alternative's ability to meet the purpose and need
- Level 2: Compared select impacts of each alternative

As alternatives progressed through the screening process, they were eliminated for the following primary reasons:

- The alternative did not satisfy the purpose and need (Level 1: address safety deficiencies and provide LOS D or better at the interchange and along Main Street in 2040).
- The alternative did not comply with FHWA's *Interstate Access Policy* (Level 1).
- The alternative's design and performance (i.e., its ability to reduce congestion) was similar to another reasonable alternative, but the alternative had comparatively greater or similar environmental impacts (Level 2 alternative screening).

The TSM, Transit, and A alternatives did not pass through Level 1 screening. None would meet the purpose and need because they would not provide LOS D or better on Main Street.

ES.6.1 Candidate Build Alternatives

As a result of the alternative screening process, the following alternatives were carried forward for detailed study in the EIS.

Alternative I1: Long-span Structure

Alternative I1 is the most similar alternative to the existing interchange. Unlike the C alternatives, Alternative I1 does not include an additional interchange that would connect to Nebo Beltway Phase I. Instead, Alternative I1 would improve and add capacity at the existing interchange and Main Street by widening Main Street to five lanes between the interchange and SR-198. The I-15 bridge over Main Street would be lengthened to accommodate five lanes (see Figure ES-3 and Figure ES-4).

To improve the skew of the existing interchange, the on- and off-ramps would be extended away from I-15, and the turning radius at each ramp also would be increased. Alternative I1 would cost approximately $125M (2020 dollars) to construct.

Alternative R1: Relocate Near

Alternative R1 would close the existing Main Street interchange and replace it with a new diamond interchange approximately 0.21 miles northeast of its current location. Under Alternative R1, Nebo Beltway Phase I would become the predominant travel route, instead of Main Street, thereby avoiding and reducing congestion at Main Street and the existing interchange. Motorists exiting at the new interchange would turn east onto Nebo Beltway Phase I towards SR-198 or west towards Main Street (see Figure ES-5).

To comply with UDOT signalized intersection spacing standards, north of I-15, Main Street would be shifted west, away from Nebo Beltway Phase I interchange, to provide adequate spacing between traffic signals. Main Street would be three lanes and taper to its current configuration south of 600 North. Alternative R1 would cost approximately $146M (2020 dollars) to construct.

Alternative R2: Relocate Far

Alternative R2 would close the existing Main Street interchange and replace it with a new diamond interchange approximately 0.68 miles northeast of its current location. Under Alternative R2, Nebo Beltway Phase I would become the predominant travel route, instead of Main Street, thereby avoiding and reducing congestion at Main Street and the existing interchange. Motorists exiting at the new interchange would turn east onto Nebo Beltway Phase I towards SR-198 or west towards Main Street. A new three-lane arterial road east of I-15 would provide access between Main Street and Nebo Beltway Phase I (see Figure ES-6).

Main Street would not be widened under Alternative R2; however, the predominant traffic movement along Main Street would be redirected onto the new arterial road to Nebo Beltway Phase I, instead of its current north-south direction under I-15. Alternative R2 would cost approximately $109M (2020 dollars) to construct.

Alternative C1: Braided Ramps

Alternative C1 would provide a free-flow connection between the Main Street interchange and a new interchange connecting to the proposed Nebo Beltway Phase I. Braided ramps (i.e., ramps that cross over each other) would connect the two interchanges. Motorists traveling on I-15 in either direction would exit I-15 and have the option to take the nearest road (i.e., Main Street for northbound motorists or Nebo Beltway Phase I for southbound motorists) or continue to the next road in free-flow/continuous lanes without stopping at a traffic signal. Motorists

entering I-15 from Main Street (northbound) or Nebo Beltway Phase I (southbound) would utilize the respective on-ramp that would cross over the free-flow continuous lanes and enter I-15 between both interchanges. From the new interchange, motorists would travel on Nebo Beltway Phase I until it intersects with SR-198 at 2100 West, thereby avoiding and reducing congestion at Main Street and the existing interchange (see Figure ES-7).

Main Street would be widened to five lanes at the interchange and taper to its current configuration south of 600 North. Main Street would also be realigned to connect to 900 North, instead of maintaining its current north-south alignment to improve the skew. Alternative C1 would cost approximately $183M (2020 dollars) to construct.

Alternative C3: Frontage Road Ramps

Similar to Alternative C1, Alternative C3 would include an additional interchange approximately 0.72 miles northeast of Main Street. However, frontage roads would connect the two interchanges instead of free-flow ramps. Motorists traveling on I-15 in either direction would exit I-15 and stop at the first signalized interchange (i.e., Main Street for northbound motorists or Nebo Beltway Phase I for southbound motorists) or continue on the frontage road to the next interchange. Motorists entering I-15 from Main Street (northbound) or Nebo Beltway Phase I (southbound) would utilize the frontage road to the next interchange and proceed through the signalized intersection to the respective on-ramp. From the new interchange, motorists would travel on Nebo Beltway Phase I until it intersects with SR-198 at 2100 West, thereby avoiding and reducing congestion at Main Street and the existing interchange (see Figure ES-8).

Main Street would be widened to five lanes at the interchange and taper to its current configuration south of 600 North. Main Street would also be realigned to connect to 900 North, instead of maintaining its current north-south alignment to improve the skew. Alternative C3 would cost approximately $162M (2020 dollars) to construct.

Alternative C4: Split Diamond

Alternative C4 would function the same as Alternative C3, with frontage roads connecting the Main Street interchange to an additional interchange approximately 0.15 miles northeast of Main Street (compared to 0.72 miles under Alternative C3). Alternative C4 would cost approximately $145M (2020 dollars) to construct (see Figure ES-9).

Nebo Beltway Phase I

Nebo Beltway Phase I is an arterial road associated with the R, C, and A alternatives. *TransPlan40* divides Nebo Beltway into three phases: Phase I, Phase II, and Vision. The segment of Nebo Beltway that is associated with the R, C, and A alternatives is included in Phase I. The purpose of Nebo Beltway Phase I is to alleviate congestion on Main Street by providing an alternate route for traffic to access I-15. As such, Nebo Beltway Phase I is an essential component of the R, C, and A alternatives. Under these alternatives, some traffic would be diverted from Main Street to the proposed Nebo Beltway Phase I, which would connect I-15 to SR-198. Main Street would not be widened to SR-198 under these alternatives because enough traffic would be diverted onto Nebo Beltway Phase I.

Nebo Beltway Phase I was analyzed as a five-lane facility to be consistent with *TransPlan40* and Phase II recommendation described in the *Provo to Nebo Corridor Study* (InterPlan 2009). The proposed five-lane Nebo Beltway Phase I cross-section is shown on Figure 2-26. Bike lanes were included on Nebo Beltway Phase I in accordance with UDOT policy to improve active transportation opportunities on state facilities where feasible (see Section 2.3 for more information). In addition, a goal of the Payson City General Plan is to develop an effective multi-use trail

system that connects to regional trails, and the Mountainland Association of Governments *Transplan40* acknowledges there will be a greater need for nonmotorized transportation facilities, including bike lanes, as the population increases. *Transplan40* includes the Highway 198 Connector Trail, which would connect to the proposed bike lanes on Nebo Beltway Phase I (see Section 3.10 for more information).

FIGURE ES-3
Build Alternative I1: Long-span Structure

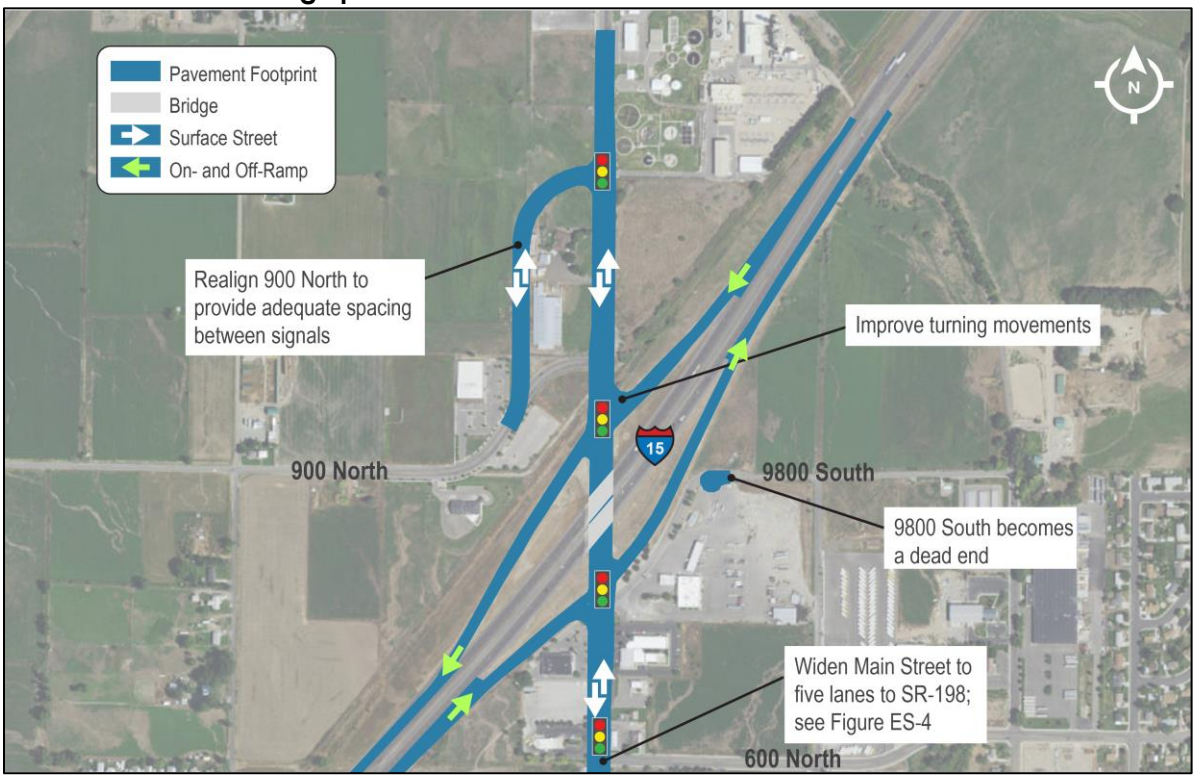


FIGURE ES-4
Widen Main Street for Build Alternative I1: Long-span Structure

FIGURE ES-5
Build Alternative R1: Relocate Near

FIGURE ES-6
Build Alternative R2: Relocate Far

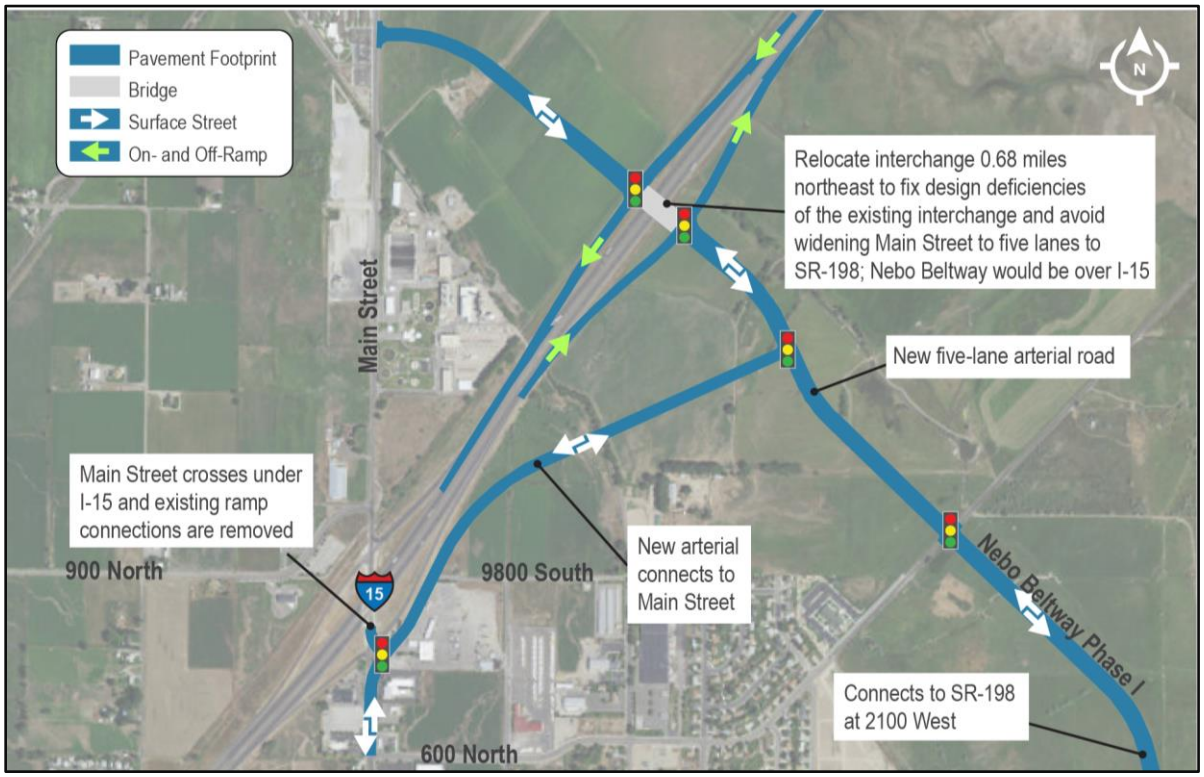


FIGURE ES-7
Build Alternative C1: Braided Ramps

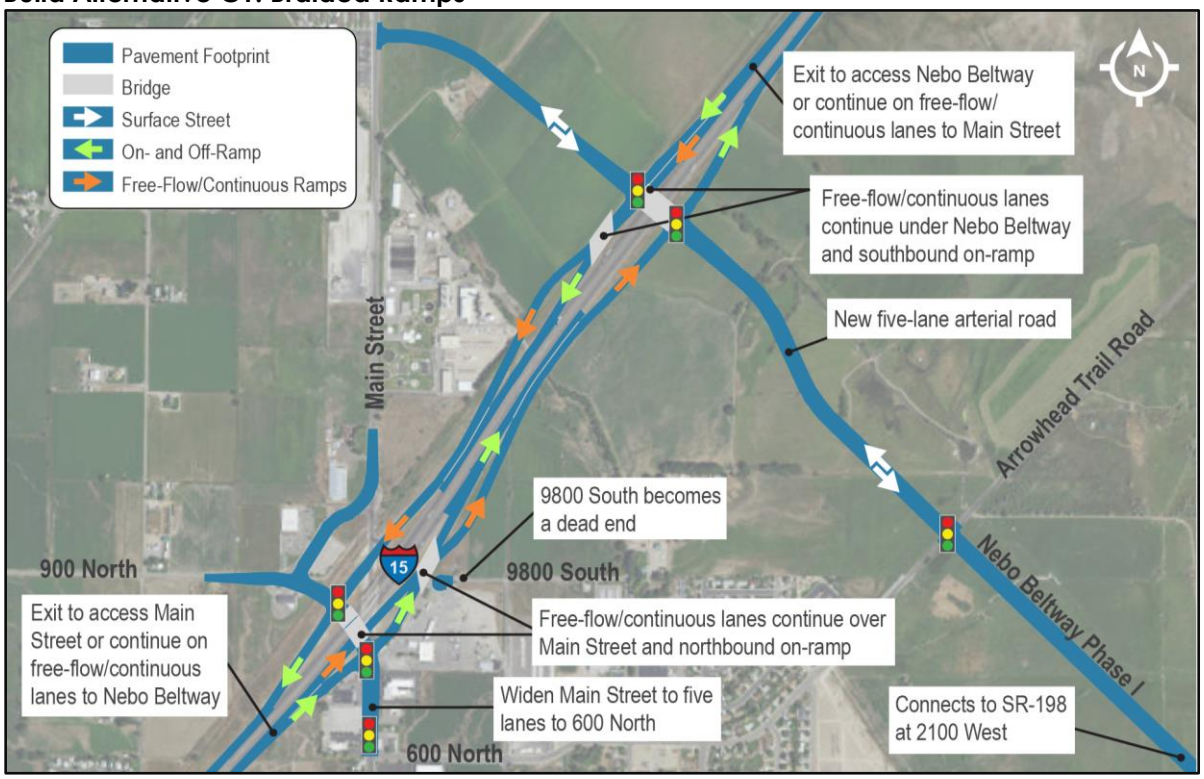


FIGURE ES-8
Build Alternative C3: Frontage Road Ramps

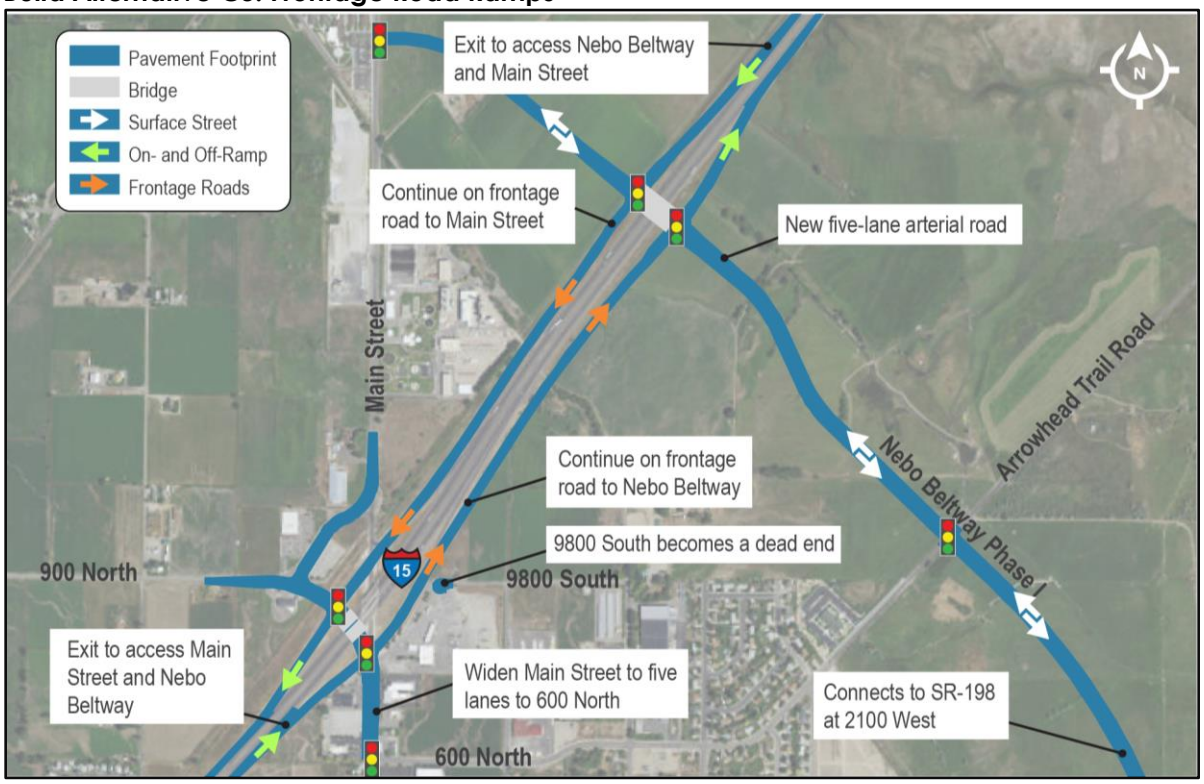
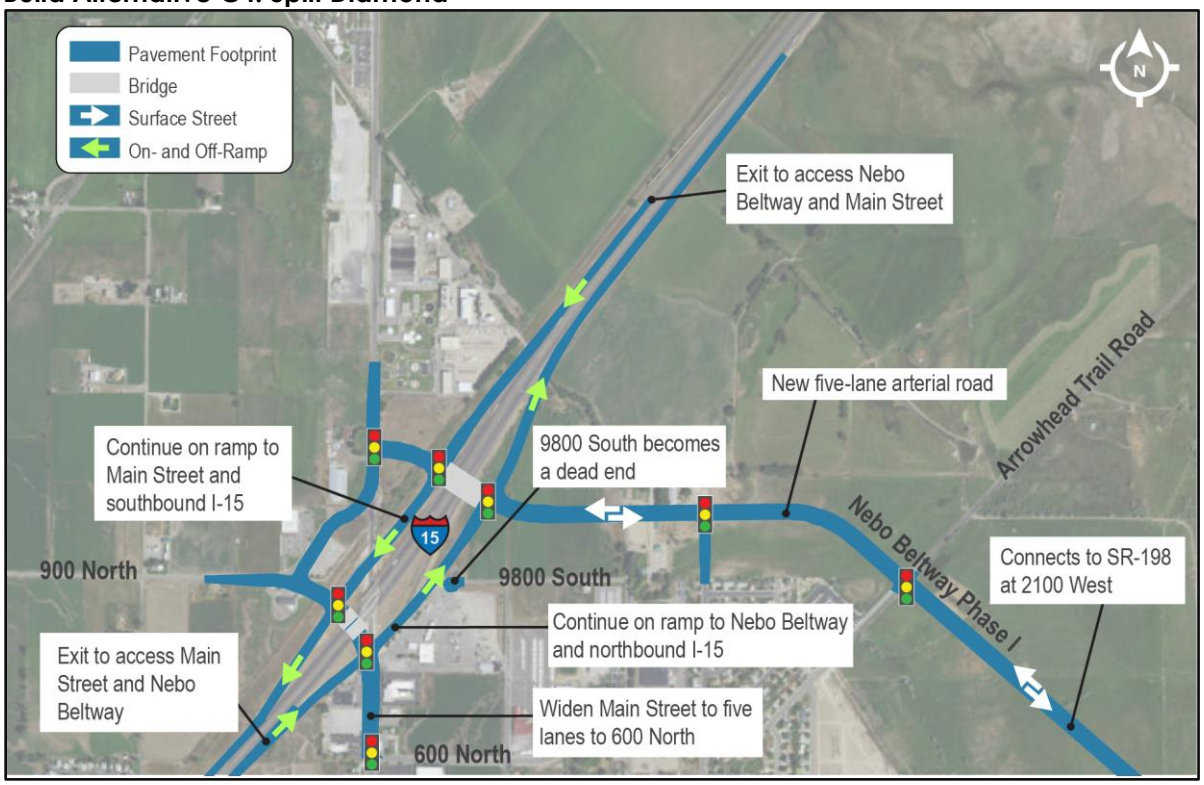


FIGURE ES-9
Build Alternative C4: Split Diamond



ES.7 ENVIRONMENTAL IMPACTS

Environmental impacts of the No-Build Alternative and build alternatives are detailed in Chapter 3 of this EIS. All of the build alternatives would have both beneficial and adverse impacts to the surrounding areas, the human and natural environment, and the transportation network. Table ES-1 summarizes potential impacts to resources in the study area that would result from each alternative.

TABLE ES-1
Summary of Environmental Impacts

Resource	Alternative						
	No-Build	I1	C1	C3	C4	R1	R2
Direct Effects							
Land Use							
Total Converted to Transportation (acres)	0	26.3	103.2	99.7	72.2	68.4	94.3
Consistent with Adopted Plans and Ordinances	All alternatives are consistent with Payson City and Salem City adopted plans and ordinances, except Alternatives R1 and R2. Both R alternatives would be inconsistent with the Payson City zoning ordinance that identifies a Special Highway Service Zone near the existing interchange. Removing the interchange would limit the development of these zones according to the zoning ordinance. Alternatives I1, C4, and R1 are consistent with the *Bamberger Ranch P-C Zone Plan* low-intensity development scenario. Alternatives C1, C3, and R2 are consistent with the *Bamberger Ranch P-C Zone Plan* Maximum Development Scenario. Nebo Beltway Phase I under the C and R alternatives is inconsistent with the *Utah County General Plan*, which seeks to preserve the rural agricultural character of the unincorporated areas.						
Farmland							
Farmland Converted (acres)	0	15.2	95.4	93.1	61.9	65.3	91.3
NRCS Rating[1]	N/A	123	139	139	143	143	139
Social Environment							
Community Cohesion	Alternative I1 would have a greater negative effect on community cohesion than the C and R alternatives through the removal of residences and numerous historic structures—two of which are listed on the National Register of Historic Places. Alternative I1 would widen Main Street resulting in a barrier to pedestrians and vehicles crossing Main Street that could hinder social interactions and alter the current character. Alternatives C1, C3, and R2 would not remove residences. Although Alternatives C4 and R1 would remove one residence north of the interchange, this would not be expected to affect community cohesion.						
Community Facilities	Alternative I1 would remove the San Andres Catholic Church. Displacing the church could negatively affect the Catholic community in southern Utah County. None of the C or R alternatives would affect community facilities.						
Public Services and Utilities	All build alternatives would impact utilities. Utility impacts range from relocating a utility outside of the conflict area to protecting in place.						
Public Safety	The C alternatives would provide better emergency response times compared to Alternative I1, the R alternatives, and the No-Build Alternative as the result of less congestion, multiple connections to I-15, and a faster, more direct connection between Mountain View Hospital and I-15 provided by Nebo Beltway Phase I.						

TABLE ES-1
Summary of Environmental Impacts

Resource	Alternative						
	No-Build	I1	C1	C3	C4	R1	R2
Travel Patterns	All build alternatives would improve opportunities for active transportation with the inclusion of bike lanes along Main Street under Alternative I1 and along Nebo Beltway Phase I under the C and R alternatives. None of the alternatives are expected to influence public transit and ridership in the study area. Vehicle miles traveled, hours of delay per day, and travel patterns would vary under each alternative; however, the R alternatives would substantially alter travel patterns by increasing out-of-direction travel.						
Environmental Justice							
Disproportionately High and Adverse Effect (yes/no)	No	No	No	No	No	No	No
Recreation Resources							
	No impact	No impact	No impact	No impact	No impact	No impact	No impact
Land Acquisition & Relocation							
Full Acquisitions (parcels/acres)	0 / 0	46 / 24.4	8 / 15.1	8 / 15.1	10 /17.8	7 / 16.6	1 / 1.9
Relocations (buildings)	0	42	5	5	6	4	1
Partial Acquisitions (parcels/acres)	0 / 0	83 / 17.0	75 / 100.9	73 / 97.5	66 / 62.2	59 / 61.3	43 / 99.1
Economic Conditions							
Total Annual Economic Costs from Annual Weekday Congestion Delay	$24,618,464	$3,855,904	$3,188,536	$3,707,600	$4,226,664	$3,781,752	$4,226,664
Potential Economic Benefit Rating (1–10)[2]	1.0	4.0	8.5	7.5	6.5	6.5	7.0
Joint Development							
	No joint development agreements have been initiated in connection with the I-15, Payson Main Street Interchange project. Therefore, joint development does not apply.						
Pedestrians & Cyclists							
New Bike Lanes (miles)	0.0	1.5	3.6	3.6	2.9	3.0	3.3
	▪ A lack of separation from traffic and continued increase in congestion would result in a reduction in pedestrian and bicycle safety under the No-Build Alternative. ▪ Enhanced safety through the addition of dedicated bike lanes, improved curb and gutter, consistent park strips, and upgraded sidewalks on Nebo Beltway Phase I and Main Street (north of 600 North). ▪ Connection to dedicated bike lanes to the planned Highway 198 Connector Trail, thereby improving connectivity throughout the study area.						
Air Quality							
	▪ Little effect on pollutant concentrations for PM_{10} and $PM_{2.5}$, carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, lead, and other pollutants such as greenhouse gases. ▪ Unlikely to cause an exceedance in air quality standards for PM_{10}, $PM_{2.5}$, carbon monoxide, or urban air toxins.						

TABLE ES-1
Summary of Environmental Impacts

Resource	Alternative						
	No-Build	I1	C1	C3	C4	R1	R2
	▪ Not a project of air quality concern. ▪ Alternative I1 could have the lowest CO_2 emissions followed by alternatives R2, C4, C1, and C3. Vehicle delay under the No-Build Alternative would have nearly six times greater than Alternative I1, which could lead to more greenhouse gas emissions.						
Noise							
Impacts	0	113	106	108	114	78	0
Impacts After Mitigation	0	62	59	58	59	39	0
Water Quality, Water Resources and Floodplains							
	▪ Alternative C3 would impact 0.06 acres of Beer Creek; the existing culvert carrying Beer Creek under I-15 would be extended or replaced to accommodate ramp widening. ▪ None of the alternatives would affect designated floodplains. ▪ Increase in impervious areas would increase peak stormwater runoff. Drainage design would include detention ponds resulting in no net increase in discharge to receiving facilities. ▪ None of the alternatives would affect surface water quality in the study area. Implementing a combination of settling and filtering techniques would ensure that surface water quality would not deteriorate as a result of the proposed improvements. ▪ None of the alternatives would impact aquifers, groundwater recharge, groundwater quality, or drinking water sources.						
Wetlands & Other Waters of the U.S.							
Wetland (acres)	0	0.54	3.98	5.39	2.38	1.81	3.91
Ditches (linear feet)	0	1,749	2,823	4,665	3,114	2,657	3,413
Beer Creek (acres)	0	0	0	0.06	0	0	0
Wildlife & Threatened & Endangered Species							
Ute Ladies'-tresses (sites/acres)	0 / 0.00	6 / 0.43	21 / 3.77	19 / 5.18	16 / 2.35	13 / 1.71	17 / 3.70
Distance from Raptor Nest (miles)	0.0	0.18	0.08	0.08	0.18	0.21	0.08
	▪ US Fish and Wildlife Service (USFWS) finding of *Not likely to Adversely Affect* Ute ladies'-tresses for the Preferred Alternative (C1). ▪ No effect to other federally listed or Utah Sensitive species.						
Cultural Resources							
Number of Adverse Effects	0	21	0	0	2	2	0
Section 4(f) Resources							
Greater than *de minimis*	0	21	0	0	2	2	0
De minimis	0	11	7	7	5	5	7
Temporary Occupancy	0	13	4	4	3	0	1

TABLE ES-1
Summary of Environmental Impacts

Resource	Alternative						
	No-Build	I1	C1	C3	C4	R1	R2
Hazardous Materials							
Risk of Encountering Hazardous Materials Sites (Low/Moderate/High)	0 / 0 / 0	1 / 3 / 1	1 / 1 / 1	1 / 1 / 1	1 / 2 / 1	1 / 2 / 1	1 / 1 / 1
Visual Quality							
I-15	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Main Street	Neutral	Adverse	Neutral	Neutral	Neutral	Neutral	Neutral
Nebo Beltway Phase I	Neutral	N/A	Adverse	Adverse	Adverse	Adverse	Adverse
Energy							
Increase in Fuel Consumption Over Current Levels (percent)	26.4	27.3	35.2	34.2	34.7	35.2	34.7
Indirect Effects							
Induced Growth	Development is expected to occur regardless of whether or not the project is constructed. The No-Build Alternative and Alternative I1 could continue the current development patterns and pace of development. The location of the additional or relocated interchange and alignment of Nebo Beltway Phase I under Alternatives C1, C3, and R2 could accelerate development, increase the intensity of land uses (i.e., high-density residential versus low-density residential), and alter development patterns to closely resemble the *Bamberger Ranch P-C Zone Plan* Maximum Development Scenario. Alternatives C4 and R1 could accelerate development and increase the intensity of land uses near the interchange and Nebo Beltway Phase I; the current pace of development and planned development patterns (i.e., lower intensity land uses) could occur beyond the interchange and Nebo Beltway Phase I.						
Land Use	Development under each alternative would most likely be consistent with the desired development patterns described in the *Payson City General Plan*. The *Utah County General Plan* seeks to preserve the rural agricultural character of the unincorporated areas. Under the C and R alternatives, short segments of Nebo Beltway Phase I would cross unincorporated Utah County, which would be inconsistent with the intention of the *Utah County General Plan* to preserve the rural and agricultural character.						
Farmland	Under the No-Build Alternative and Alternative I1, farmland could be consumed at the current rate of development. Farmland could be converted at a faster rate under Alternatives C1, C3, and R2. Alternatives C4 and R1 could result in a slightly faster conversion rate compared to No-Build Alternative, but a slower rate compared to Alternatives C1, C3, and R2.						
Social Environment	All build alternatives, except Alternative I1, could accelerate the rate of development in the greenbelt surrounding Payson. As Payson and Salem merge it could be difficult to distinguish one town from the other, thereby potentially diminishing Payson's small town character and the community's connection to Payson. Under the R Alternatives, reduced traffic volumes on Main Street could cause some businesses to close, and as a result the area could become blighted. This could diminish the appearance of the built environment and the community's connection to Payson.						

TABLE ES-1
Summary of Environmental Impacts

<table>
<tr><th rowspan="2">Resource</th><th colspan="7">Alternative</th></tr>
<tr><th>No-Build</th><th>I1</th><th>C1</th><th>C3</th><th>C4</th><th>R1</th><th>R2</th></tr>
<tr><td>Economic Conditions</td><td colspan="7">No-Build Alternative could have a long-term adverse impact on potential employment, sales, and property values associated with the Main Street corridor because of increased congestion. Acquisition of property on Main Street and SR-198 could leave uneconomic remnant parcels that could be difficult to consolidate for redevelopment, potentially discouraging further investments in the corridor. Alternatives C1, C3, and R2 could have the greatest economic development potential because development could occur at a faster rate, result in a larger population due to higher residential densities, and more diverse job opportunities. Alternatives C4 and R1 could result in higher employment and larger commercial areas compared to the No-Build Alternative, but may not provide the same economic development opportunities relative to Alternatives C1 and C3. In addition, the R alternatives could weaken the competitiveness and economic viability of freeway-dependent businesses on north Main Street. Overall, as development continues under all alternatives, agricultural jobs could be replaced with various commercial and industrial jobs and Payson's tax base could increase over time.</td></tr>
<tr><td>Water Quality</td><td colspan="7">Increases in impervious surfaces resulting from induced development under all build alternatives could increase the likelihood of surface waters becoming contaminated with pollutants. Induced development associated with Alternatives C1, C3, and R2 could have more impervious surfaces compared to the other build alternatives with the No-Build Alternative and Alternative I1 having the least amount of impervious surfaces. The potential for adverse impacts to groundwater quality to occur under all alternatives, including the No-Build Alternative, could increase. Likely contamination sources could include leaking underground storage tanks from gas stations or industrial sites.</td></tr>
<tr><td>Wetlands</td><td colspan="7">As agricultural lands are taken out of production under all alternatives by future development, changes to the irrigation systems could change the surface water hydrology associated with ditches and wetlands.

Non-native or noxious species introduced by vehicles travelling along Nebo Beltway Phase I could be dispersed into adjacent wetlands and eventually overtake native wetland vegetation. Inundating wetlands with stormwater could alter the composition of plant and animal species in addition to diminishing water quality; however, it is not anticipated that stormwater runoff would inundate adjacent wetlands or have a noticeable indirect effect on wetland water quality.

Bisecting wetlands could alter their hydrology and diminish the size and quality of the remaining wetland areas.

Bisected Wetlands by Alternative (Note: 41 individual wetlands were delineated in the study area)
<table>
<tr><th>No-Build</th><th>I1</th><th>C1</th><th>C3</th><th>C4</th><th>R1</th><th>R2</th></tr>
<tr><td>N/A</td><td>None</td><td>W-2e
W-2f
W-6
W-7b</td><td>W-2e
W-2f
W-6
W-7b</td><td>W-7b
W-9b</td><td>W-7b
W-9b
W-13</td><td>W-2e
W-2f
W-6
W-7b</td></tr>
</table></td></tr>
</table>

TABLE ES-1
Summary of Environmental Impacts

Resource	Alternative						
	No-Build	I1	C1	C3	C4	R1	R2
			W-9b	W-9b			W-9b
Wildlife and Threatened & Endangered Species	Development could decrease potential habitat for the Ute ladies'-tresses. Induced growth under each alternative could remove wetlands that may serve as suitable habitat for Ute ladies'-tresses. Alternative R1, in particular, would increase the likelihood of induced growth in the vicinity of the individual Ute ladies'-tresses identified in 2017. Under Alternative R1, Main Street would be realigned closer to the plant population such that additional infrastructure would not be required to access the property upon which the plants are located. Stormwater impacts to the known plant population are not anticipated under any alternative. Changes in the landscape from rural open space to developed could reduce potential nesting, foraging, and breeding habitat for migratory birds, including raptors.						
Visual Quality	The rural, agricultural character of the natural environment could be urbanized at various rates under each alternative. Viewers may initially perceive urbanization of the natural environment as an adverse effect because it could strongly contrast with the surrounding agricultural landscape; however, viewer sensitivity may diminish over time as development dominates the landscape.						
Energy	Construction of the project could result in the off-site mining, processing, and manufacturing of materials and equipment needed to construct the project. Various forms and amounts of energy could be required to support these activities.						
Cumulative Impacts							
Farmlands	It is expected that farmland would be lost with or without the project. Therefore, it is unlikely that the project would result in substantive cumulative impacts to farmland.						
Air Quality	All regionally significant transportation projects will be in compliance with the National Ambient Air Quality Standards. No cumulative impacts to air quality are anticipated.						
Wetlands	The loss of wetlands could contribute to the cumulative loss of wetlands in Utah County; however, the project proposes to mitigate for direct wetland impacts such that there will be no net loss in wetlands, and therefore no cumulative effects.						
Wildlife and Threatened & Endangered Species	There is no designated critical habitat for Ute ladies'-tresses. The loss of wetlands that could serve as suitable habitat could contribute to the cumulative loss of wetlands in Utah County; however, the project proposes to mitigate for direct wetland impacts such that there will be no net loss in wetlands, and therefore no cumulative effects. For this reason there are no anticipated cumulative impacts to Ute ladies'-tresses.						

PM: particulate matter

1. Alternatives with a total rating less than 160 points do not require further consideration for protection (i.e., mitigation and consideration of alternative alignments). Conversely, alternatives with a total rating of 160 points or more receive greater consideration for protection.

2. Based on a 1–10 scale, with 1 representing little economic benefit and 10 representing maximum benefit to Payson City.

ES.8 PREFERRED ALTERNATIVE

Pursuant to 23 CFR 771.125(a)(1), the lead agency must identify the preferred alternative in the Final EIS. All six candidate build alternatives—to varying degrees—would satisfy the project's purpose and need and would result in different impacts to the natural and built environment. Identification of the Preferred Alternative was based on balancing multiple considerations including the purpose and need, engineering design and traffic operations, impacts, community and economic considerations, cost, competing regulatory mandates, and public and agency input. UDOT has identified Alternative C1 (see Figure ES-10) as the Preferred Alternative, as described below.

ES.8.1 Purpose and Need

All build alternatives would meet the purpose and need—they would reduce expected (2040) roadway congestion at the Main Street interchange and on Main Street and would address the current design deficiencies. The differences in interchange and Main Street level of service and interchange vehicle between alternatives was not substantial enough to separate one alternative from another.

Because LOS and vehicle delay at the interchange and on Main Street were similar under each build alternative, UDOT examined differences in engineering design components and overall study area traffic operations, and the distribution of I-15 traffic to the surrounding roadway network between the build alternatives to identify the preferred alternative. The results of this analysis are included in Section ES.8.2

ES.8.2 Additional Design and Operational Considerations

Total vehicle delay was used to measure the overall traffic performance in the study area and was an important metric considered during the preferred alternative selection process. Total study area delay is a commonly used metric due to its ability to represent all traffic performance in any give area as a single number. Beyond just traffic congestion, lower vehicle delay also improves air quality, decreases commuting costs and economic impacts, and enhances quality of life. Table ES-2 shows that Alternative C1 is has the lowest overall study area delay in 2040.

The results of an origin-destination analysis—shown in Table ES-3—provide a general idea of how, for each alternative, traffic to and from I-15 is distributed to the surrounding roadway network. The circle around I-15 shown on Figure ES-11 represents a screenline that all trips to and from I-15 pass through. Table ES-3 shows that the R and C alternatives do the best job of distributing traffic to Main Street and Nebo Beltway Phase I, which are the two arterial roads that pass through the study area and are the most capable of carrying traffic to and from I-15 in 2040. However, the R alternatives also add the most traffic to 600 East, which is a heavily residential street that is sensitive to additional traffic.

FIGURE ES-10
Preferred Alternative (Alternative C1)

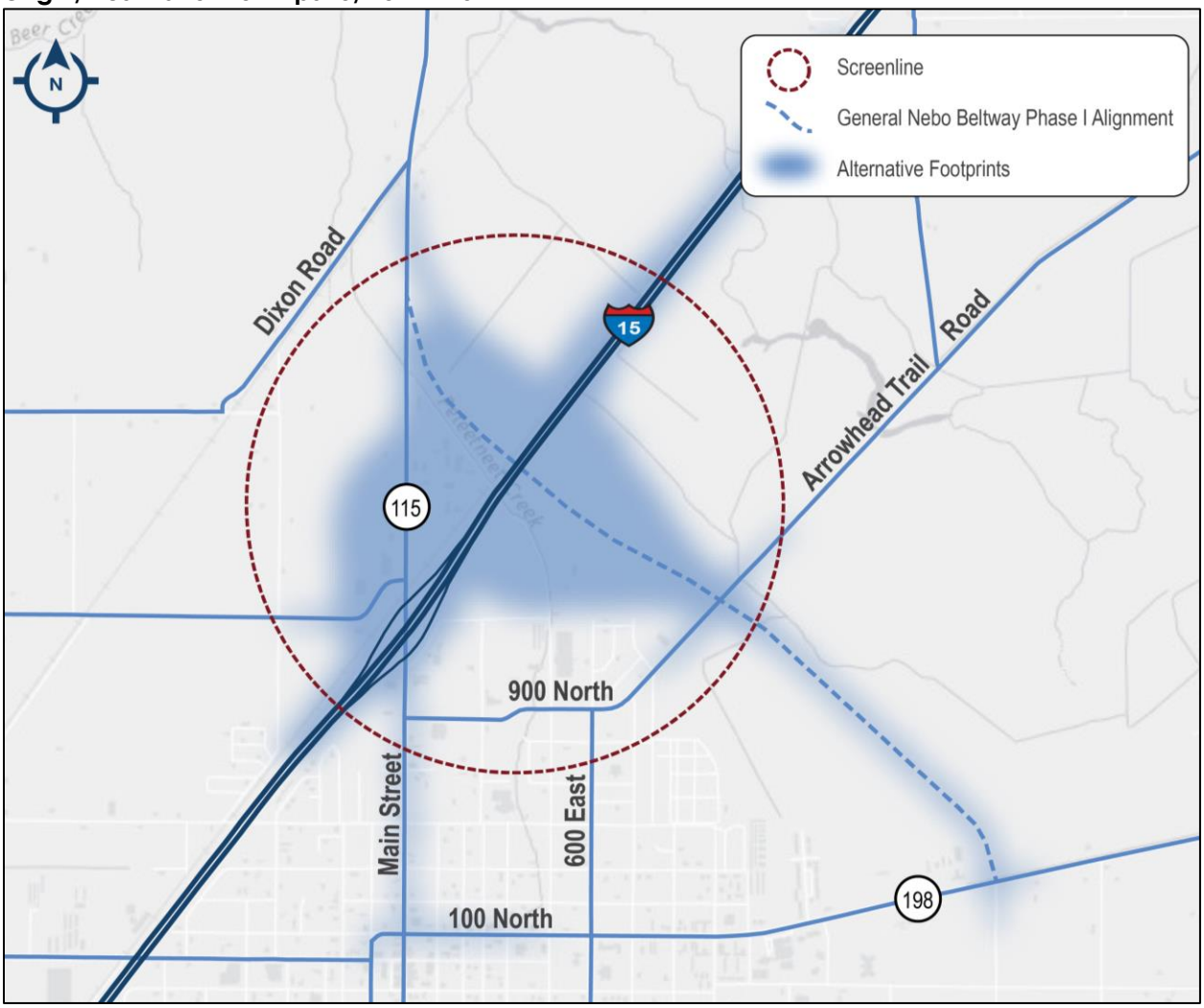
TABLE ES-2
Traffic Performance in 2040

Alternative	Level of Service		Interchange Delay (seconds/vehicle)	Average Daily Vehicle Delay in Study Area (hours)
	Interchange	Main Street		
No-Build (2040)	F	F	218	3,320
I1: Long-span Structure	B	C	24	520
R1: Relocate Near	B	D	24	510
R2: Relocate Far	B	C	18	460
C1: Braided Ramps	B	D	21	430
C3: Frontage Road Ramps	B	C	20	500
C4: Split Diamond	B	C	24	570

TABLE ES-3
Percent Distribution of 2040 Trips to/from I-15

Alternative	North Main Street (percent)	900 North (percent)	Arrowhead Trail (percent)	Nebo Beltway Phase I (percent)	600 East (percent)	South Main Street (percent)
No-Build (2040)	5	16	3	--	1	74
I1: Long-span Structure	5	8	4	--	--	82
R1: Relocate Near	4	16	4	15	18	43
R2: Relocate Far	5	8	2	32	16	36
C1: Braided Ramps	6	20	2	21	4	48
C3: Frontage Road Ramps	3	16	2	24	5	51
C4: Split Diamond	3	21	3	9	12	52

FIGURE ES-11
Origin/Destination for Trips to/from I-15



The location of Nebo Beltway Phase I influences the engineering design and distribution of traffic. When located farther south—0.2 miles from Main Street for Alternatives C4 and R1—Nebo Beltway Phase I is a less attractive route and draws a lower percentage of traffic. This is likely because people in vehicles desiring to travel north on I-15 from the east side of Payson would have to travel farther out of direction to reach I 15 and would prefer to use the Benjamin interchange—the next interchange to the north. When located farther north—0.7 miles from Main Street for Alternatives C1, C3, and R2—Nebo Beltway Phase I becomes a more attractive route and would result in the highest share of traffic on Nebo Beltway Phase I.

Alternatives C4 and R1 would require reconstruction of mainline I-15—raising the grade for approximately 3,000 feet—because I-15 would need to go over both Nebo Beltway Phase I and Main Street. Reconstructing the mainline would result in maintenance-of-traffic complications during construction. These alternatives would require horizontal and vertical realignment of the railroad.

The C alternatives would provide two interchange connections to I-15. An additional interchange would result in improved regional mobility, improved network connectivity, and better emergency response times. The C alternatives would provide better accessibility to the area west of I-15 because Main Street would be realigned to directly connect to 900 North.

In summary, when considering engineering design and traffic operations, Alternatives C1 and C3 provide the combined benefits of two interchange connections and an optimal Nebo Beltway Phase I alignment. Alternative C1 would result in less overall delay in the study area compared to Alternative C3.

ES.8.3 Impacts

When considering impacts to the natural and built environment, alternatives were distinguished primarily by right-of-way and impacts to WOUS, Section 4(f) historic sites, and farmland. Impacts to these resources are summarized in Table ES-4 (see Chapter 3 for more detail). Alternative I1 would result in the greatest impact to the built environment (right-of-way and Section 4(f) historic sites) and the smallest impact to the natural environment (WOUS and farmland). In comparison, the C and R alternatives would result in a greater impact to the natural environment and a smaller impact to the built environment. Amongst the C and R alternatives, those with Nebo Beltway Phase I located farther north—Alternatives R2, C1, and C3—would result in greater impacts to WOUS and farmland, but would avoid Section 4(f) historic sites.

TABLE ES-4
Comparison of Impacts to Key Resources

Alternative	Land Acquisition and Relocations		WOUS (wetland acres/ linear feet of ditches/ Beer Creek acres)	Section 4(f) Historic Sites (greater than *de minimis* use)	Prime & Statewide Important Farmland (acres/ rating[1])
	(full acquisitions/ relocations/ acres)	(partial acquisitions/ acres)			
No-Build	0/0/0	0/0	0/0/0	NA	0/NA
I1: Long-span Structure	45/41/24.2 22 residential 17 commercial	83/17.0	0.54/1,749/0	20 buildings removed; adverse effect to historic district	15.2/123
R1: Relocate Near	7/4/16.6 1 residential 1 commercial	59/61.3	1.81/2,657/0	2 historic buildings no longer eligible for NRHP	65.3/143
R2: Relocate Far	1/1/1.9 0 residential 1 commercial	43/99.1	3.91/3,413/0	0	91.3/139
C1: Braided Ramps	8/5/15.1 0 residential 5 commercial	75/100.9	3.98/2,823/0	0	95.4/139
C3: Frontage Road Ramps	8/5/15.1 0 residential 5 commercial	73/97.5	5.39/4,665/ 0.06	0	93.2/139
C4: Split Diamond	10/6/17.8 1 residential 5 commercial	66/62.2	2.38/3,114/0	2 historic buildings no longer eligible for NRHP	68.4/143

1. *National Resources Conservation Service Conversion Impact Rating (higher rating indicates greater impact)*

ES.8.4 Community, Economic, and Social Considerations

Consideration related to the community, economy, and social environment focused on existing and planned development and Payson's historic character. Alternative I1 would require the removal of 17 commercial and 22 residential properties along Main Street and SR-198. It would impact a relatively high percentage of buildings in the core area of Main Street's historic residential area, including two that are individually listed on the NRHP. Alternative I1 would adversely affect the Payson Historic District and diminish the historic character that is important to the community.

The R alternatives would remove the direct connection between Main Street and I-15. The competitiveness and economic viability of freeway-dependent businesses on north Main Street could be weakened compared to locations with a direct connection at Nebo Beltway Phase I or 800 South. Right-of-way impacts would result in partial acquisitions, leaving businesses to operate despite weakened competitiveness. Other businesses on Main Street, SR-198, and in downtown Payson are less dependent on freeway traffic but still benefit from the convenience of the existing Main Street interchange. Closing the existing Main Street interchange could potentially lead to blight, threaten redevelopment prospects, diminish the community character of north Main Street, and make these commercial properties less desirable for existing and future business redevelopment over time.

Alternatives C1, C3, and R2 would be the most conducive to maximizing development potential (i.e., increasing density) for the Bamberger Ranch (750-acre Planned Community Zone, approved by Payson City in 2011) due to the location of Nebo Beltway Phase I. In comparison, Alternatives C4 and R1 would be less conducive. Alternative I1 would not benefit the Bamberger Ranch development.

The C alternatives would improve emergency response times and provide multiple routes from I-15 to Mountain View Hospital. They would also provide continued access to I-15 from Main Street without widening Main Street to accommodate future travel demand and would require no out-of-direction travel to access Main Street from I-15.

ES.8.5 Cost

The preliminary cost estimates of each alternative includes preliminary engineering, right-of-way acquisition, construction, and mitigation. Table ES-5 lists the cost in 2020 dollars and provides a percentage comparison. Alternative C1 would cost the most and Alternative R2 would cost the least. Given the scale of the project and the importance of the other comparison criteria, cost difference was not a determinative factor.

ES.8.6 Public and Agency Input

Public input regarding the project was received as comments, emails, informal polling results, and a resident-organized petition. A public open house was held on December 3, 2015 to inform and gather public input on the alternatives analysis process. Overall, the C alternatives were the most popular and Alternative C1 received the most support. At the public open house participants of an informal polling activity overwhelmingly supported the C alternatives. After the public open house, to emphasize support for the C alternatives, a Payson City resident circulated a petition through the community and received 421 signatures.

TABLE ES-5
Cost Comparison

Alternative	Cost (2020 dollars)	Percentage of Highest Cost Alternatives
No-Build	0	0
I1: Long-span Structure	$125M	68
C1: Braided Ramps	$183M	100
C3: Frontage Road Ramps	$162M	89
C4: Split Diamond	$145M	79
R1: Relocate Near	$146M	80
R2: Relocate Far	$109M	60

Email-submitted comments received after the public open house expressed concern with impacts to historic homes on Main Street under Alternative I1. Members of the stakeholder working group expressed concerns with the economic viability of businesses on north Main Street if the interchange were to be relocated under the R alternatives.

Agency input regarding the project was received through formal scoping letters, during agency coordination meetings, and through email correspondence. During scoping, USACE recommended developing alternatives sufficient to meet requirements of Section 404(b)(1) Guidelines. Following alternative development and screening, USACE, EPA, and USFWS expressed concerns regarding indirect impacts and induced growth related to Nebo Beltway Phase I. USFWS and EPA further expressed concerns related to identification of the least environmentally damaging practicable alternative and compatibility with Section 404(b)(1) Guidelines.

ES.8.7 Consideration of the Clean Water Act Section 404(b)1 Guidelines

Section 404(b)(1) Guidelines (40 CFR 230) establish requirements which must be met in order for USACE to issue a permit under Section 404 of the Clean Water Act. The regulations establish a presumption, for non-water dependent projects, that practicable alternatives are available to avoid wetlands and other special aquatic sites. An alternative is "practicable" if it is "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." USACE can only issue a permit if there is no "practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem," unless that other alternative has "other significant adverse environmental consequence."

SECTION 404(b)(1) GUIDELINES

The guidelines establish requirements that must be met for USACE to issue a Section 404 Permit. One is there must be no "practicable alternative…which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant environmental consequences." This requirement is known as the least environmentally damaging practicable alternative (LEDPA) requirement.

No alternative completely avoids wetlands or other WOUS as shown in Table ES-4. Any of these alternatives would require an individual 404 permit from USACE. The practicability of alternatives that include greater than *de minimis* impacts to Section 4(f) resources is unclear, in light of Section 4(f)'s prohibition on uses of Section 4(f) resources where feasible and prudent avoidance alternatives exist.

Alternative I1 would result in the least adverse impacts to wetlands and other WOUS; however, it would result in significant impacts to historic sites protected under Section 4(f). It would result in the removal of 20 historic buildings, 18 of which are contributing within the Payson Historic District. Section 4(f) is a competing legal mandate which outlines the conditions required for UDOT to select a preferred alternative with greater than *de minimis* impacts to Section 4(f) properties (see Section 3.17 for more information). Alternative I1 would also result in the greatest right-of-way impacts.

Alternatives C4 and R1 would result in lesser impacts to wetlands and other WOUS compared to Alternatives C1, C3, and R2 because the Nebo Beltway interchange would be located farther south, where there is less hydrology to support wetlands. However, Alternatives C4 and R1 would result in greater than *de minimis* impacts to two Section 4(f) properties. Alternative C4 would also result in slightly greater right-of-way impacts when compared to Alternatives C1, C3, and R2.

Alternatives C1 and R2 would result in similar direct impacts to wetlands and other WOUS. Alternative C3 would result in the greatest impacts to wetlands and other WOUS. None of the three result in greater than *de minimis* impacts to Section 4(f) properties. The smaller wetland impact was an important factor for UDOT selecting Alternative C1 as the Preferred Alternative over Alternative C3.

The alignment of Nebo Beltway Phase I under the build alternatives was shifted to the extent feasible to avoid or minimize impacts to wetlands W4a, W4b, W5, W6, W7a, W8, and W9a while maintaining UDOT and AASHTO design standards and a connection to future phases of Nebo Beltway (see Figure 3.14-2). In addition, modifications were considered to shift the location of the Nebo Beltway Phase I interchange under Alternatives C1, C3, and R2 closer to the Main Street Interchange, but north of alternatives C4 and R1, to minimize wetland impacts. To achieve a substantial reduction in wetland impacts, the interchange would need to be shifted approximately 0.3 miles south, which would require relocating the Utah Municipal Power Systems power plant. UDOT determined relocating the power plant would be too costly—over $100 million based on the original cost of the power plant in 2003 (Deseret News 2003)—and would result in a cost which is substantially greater than typical, which is not considered a reasonable expense. Shifting the interchange farther north would result in greater impacts to wetlands (see Figure 3.14-2 and Figure 3.14-6).

Alternatives C1, C3, and R2—and to a lesser degree Alternatives C4 and R1—may induce growth at a faster rate compared to the No-Build Alternative and Alternative I1 due to the improved access to currently undeveloped areas. However, other external factors must align for development to occur (e.g., market conditions; access to water, sewer, gas, and electric utilities; land use ordinances; and political climate). Regardless of this project or preferred alternative, population growth and subsequent conversion of agricultural uses along with the redevelopment of aging commercial properties is inevitable.

The decision-making responsibility under Section 404(b)(1) Guidelines rests with USACE. A final decision will be made when a permit is issued.

ES.8.8 Conclusion

After considering all of these factors, UDOT selected Alternative C1 as the Preferred Alternative. Alternative C1 would perform best with respect to the project purpose and need—it would result in the lowest average daily vehicle delay in the study area, which is a commonly used measure of overall congestion and network efficiency. From a design and operations perspective, it would provide the combined benefits of two interchange connections and an optimal Nebo Beltway Phase I alignment. It would avoid greater

than *de minimis* impacts to Section 4(f) resources. Although it would result in greater impacts to wetlands and other WOUS compared to some alternatives, UDOT does not believe those impacts, after mitigation, are so severe as to outweigh the other factors discussed in this section. Finally, Alternative C1 has the greatest support from the community.

ES.9 PUBLIC & AGENCY OUTREACH & INPUT

The program and activities for public involvement and agency coordination undertaken for the I-15, Payson Main Street Interchange EIS project were conducted between February 2015 and November 2017. Coordination and outreach activities included an agency and public scoping period; a public open house meeting; specialized meetings with agencies, a stakeholder working group, interested stakeholders, and city leaders; a public hearing and comment period following publication of the Draft EIS; maintenance of a project website (www.udot.utah.gov/paysoneis); and distribution of various outreach materials. The public, agency, and stakeholder involvement effort for the project was designed to be inclusive, comprehensive, transparent, and continuous throughout the course of the project.

The official 45-day comment period for the Draft EIS began on September 29, 2017, and continued through November 13, 2017. A public hearing was held on October 26, 2017, at Payson High School. Approximately 133 people attended the open house-style public hearing. A total of 35 public and agency comments were received during the official comment period. The project team reviewed and provided a response to each substantive comment (see Section 4.3.6 for more information). Some of these comments warranted changes from the Draft EIS to the Final EIS, which are summarized in Section ES.10.

ES.10 CHANGES FROM THE DRAFT EIS

The following summarizes substantive changes that were made from the Draft EIS to the Final EIS:

- Corrected wetland impact numerical discrepancies in tables 2-5, 2-11, ES-1, and ES-4
- Included information regarding the purpose and alignment process of Nebo Beltway Phase I in Section 2.3.5
- Added two new proposed residential developments to Section 3.1 and Figure 3.2-7
- Added Project of Air Quality Concern Determination to Section 3.11
- Changed the $PM_{2.5}$ nonattainment status from moderate to severe in Section 3.11
- Added qualitative discussion of greenhouse gas emissions under each alternative in Section 3.11.3
- Added 2017 Ute ladies'-tresses survey results to Section 3.15, including Figure 3.15-2
- Added summary of consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act, which resulted in a Not Likely to Adversely Affect Ute-ladies'-tresses determination for the Preferred Alternative to Section 3.15.3
- Provided further traffic analysis to Section 3.23.3 to show that the Preferred Alternative would be able to handle the substantial increase in traffic from the Bamberger Ranch Maximum Development Scenario
- Removed statements from Section 3.23.5 that alternatives R2, C1, and C3 would result in fewer indirect impacts to wetlands because these alternatives are consistent with the *Bamberger Ranch P-C Zone Plan* Maximum Development Scenario, which includes open

space where wetlands are the most concentrated
- Included indirect impacts to wetlands from the roadway under each alternative in Section 3.23.5
- Included indirect impacts under Alternative R1 to individual Ute ladies'-tresses plants identified during the 2017 survey in Section 3.23.5

ES.11 NEXT STEPS

UDOT will issue a Record of Decision (ROD) no sooner than 30 days following publication of the Final EIS pursuant to 23 CFR 771.127. The ROD will constitute UDOT's official decision and action for the project under NEPA, meaning that UDOT can proceed with right-of-way acquisition and final design of the project when funding becomes available. FHWA, on behalf of UDOT, will publish a notice in the Federal Register, pursuant to 23 USC 139(l)(1), indicating that one or more federal agencies has taken final action on permits, licenses, or approvals for this transportation project. After the notice is published, claims seeking judicial review of the final action will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the federal laws pursuant to which judicial review of the federal agency action is allowed.

There is currently no funding for construction of this project. The project is included in MAG's (planning organization responsible for long-range transportation planning in the region) regional transportation plan as a Phase 1 project that is planned between 2015 and 2024.