

## Chapter S: Executive Summary

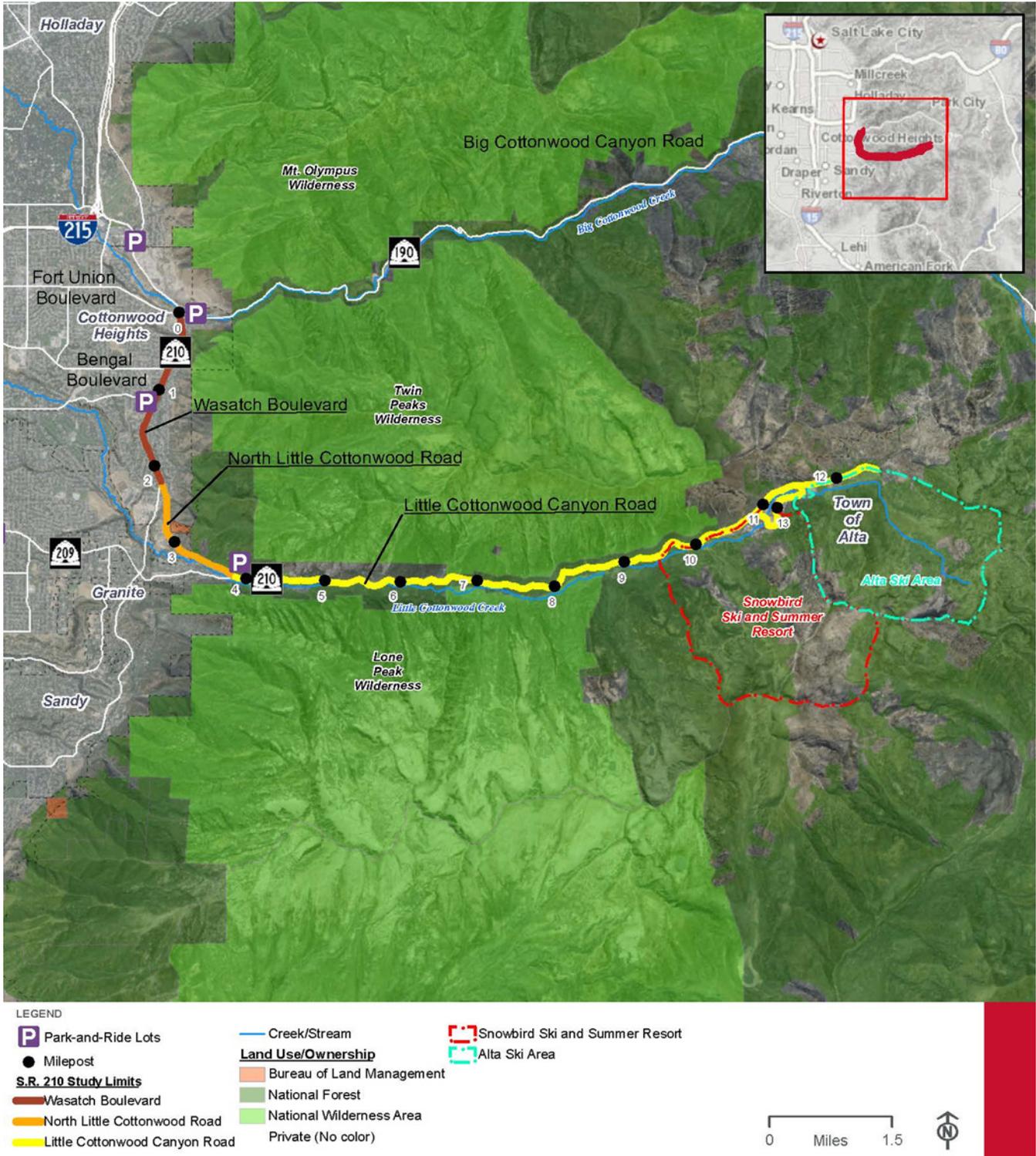
### S.1 Why was the S.R. 210 Project initiated?

In 2017, the Utah legislature passed Senate Bill 277, *Highway General Obligation Bonds Authorization*, which included funding for transportation improvement projects that “have a significant economic development impact associated with recreation and tourism within the state” and that “address significant needs for congestion mitigation.” The bill charged the Utah Transportation Commission with prioritizing projects. The Commission ranked Little Cottonwood Canyon as a top-priority area because of its high recreational use and economic benefit from tourism to the state. With authorization from Senate Bill 277, the Utah Department of Transportation (UDOT) initiated an Environmental Impact Statement (EIS) process to identify and evaluate transportation improvement alternatives for State Route (S.R.) 210 in and near Little Cottonwood Canyon.

In March 2018, UDOT initiated the resulting S.R. 210 Project and its associated EIS to evaluate the major transportation needs in the area of and surrounding S.R. 210 (referred to as the transportation needs assessment study area or study area; see Figure S-1). The study area extends along S.R. 210 from its intersection with S.R. 190/Fort Union Boulevard in Cottonwood Heights, Utah, to its terminus east of the town of Alta, Utah, and includes the Alta Bypass Road.

The Federal Highway Administration (FHWA) has assigned its responsibilities under the National Environmental Policy Act (NEPA) and other federal environmental laws to UDOT for highway projects in Utah, pursuant to 23 United States Code Section 327, in a Memorandum of Understanding (MOU) dated January 17, 2017. In accordance with the assignment MOU, UDOT is carrying out the environmental review process for the Little Cottonwood Canyon EIS in lieu of FHWA and serves as the lead agency in the NEPA process. By preparing this EIS, UDOT also preserves the ability to use federal-aid highway funding or obtain other FHWA approvals.

Figure S-1. S.R. 210 Transportation Needs Assessment Study Area



## S.2 What is the purpose of the project?

UDOT's purpose is reflected in one primary objective for S.R. 210: to substantially improve roadway safety, reliability, and mobility on S.R. 210 from Fort Union Boulevard through the town of Alta for all users on S.R. 210.

The transportation needs in the study area are related primarily to traffic during peak periods, avalanche risk and avalanche mitigation in Little Cottonwood Canyon, multiple on-road users in constrained areas, and anticipated future increases in visitation to Little Cottonwood Canyon as a result of population growth in Utah. The following deficiencies occur on S.R. 210:

- Decreased mobility in winter during the morning (AM) and afternoon (PM) peak travel periods related to visits to ski areas, with the greatest traffic volumes on weekends and holidays and during and after snowstorms.
- Decreased mobility on Wasatch Boulevard resulting from weekday commuter traffic.
- Safety concerns associated with avalanche hazard and traffic delays caused by the current avalanche-mitigation program in Little Cottonwood Canyon. Periodic road closures for avalanche mitigation can cause 2-to-4-hour travel delays or longer, which can cause traffic to back up in the neighborhoods at the entrance of the canyon.
- Limited parking at trailheads and ski areas that leads to roadside parking.

### What are reliability and mobility?

*Reliability* refers to the degree of certainty and predictability in travel times on the transportation system. *Mobility* refers to the ability and level of ease to travel on a transportation-related facility.

### What are peak periods?

Peak periods are the periods of the day with the greatest amounts of traffic. For Little Cottonwood Canyon, the winter daily peak periods are tied to the ski areas opening and closing, whereas peak summer traffic occurs in the early afternoon. Peak periods are looked at by transportation analysts when examining the need for a project.

## S.3 What is the history of the project?

Before the EIS process was initiated, UDOT, the Utah Transit Authority, and other agencies and planning organizations conducted studies on traffic, parking, transit use, and avalanche impacts in Little Cottonwood Canyon and on S.R. 210. Numerous studies were conducted as part of a process known as the Mountain Accord. The Mountain Accord brought together disparate interests in a collaborative manner to create a sustainable plan for preserving the central Wasatch Mountains (which include Little Cottonwood Canyon) including short- and long-term transportation recommendations that would provide sustainable and year-round access for everyone while seeking to conserve the natural ecosystem for future generations.

Although detailed alternatives were not developed under the Mountain Accord, the general recommendations included increasing transit service in winter and summer, formalizing parking to designated areas, making avalanche safety improvements, improving bicycle and pedestrian facilities, making operational traffic improvements, and considering tolling. The Mountain Accord process resulted in an Accord, which was a commitment of more than 20 organizations to proceed with a suite of actions. The Accord included an

action that future transportation solutions should increase transit use, walking, and bicycling and decrease the use of single-occupant vehicles.

On March 9, 2018, the Federal Highway Administration, on behalf of UDOT, published a Notice of Intent (NOI) to prepare the Little Cottonwood Canyon EIS for proposed improvements to S.R. 210. The NOI stated UDOT's proposal to make operations improvements, introduce demand-management measures, and facilitate implementation of improved public transit service on S.R. 210. UDOT requested public and agency input to the scope of the EIS during a 57-day scoping period from March 9 to May 4, 2018.

After reviewing scoping comments and the need for the project, UDOT revised the scope of this EIS to focus on enhancing safety and improving wintertime mobility through avalanche mitigation, improving parking at existing U.S. Department of Agriculture (USDA) Forest Service trailheads, and making roadway improvements to Wasatch Boulevard from S.R. 190/Fort Union Boulevard to North Little Cottonwood Road. The Federal Highway Administration published a revised NOI on March 5, 2019, describing UDOT's revised scope for the project and initiating a new scoping process.

During that second scoping period, the Wasatch Front Regional Council released its 2019–2050 *Wasatch Front Regional Transportation Plan* (RTP), which includes a project to widen Little Cottonwood Canyon Road from two to three lanes from Wasatch Boulevard to the end of the canyon. The 2019–2050 RTP also includes special bus service in Little Cottonwood Canyon. With the addition of these projects, UDOT revised the scope of the Little Cottonwood Canyon EIS, adding roadway capacity and mobility improvements to the list of project elements, and released a new NOI on May 15, 2019. With the release of the new NOI, the second scoping period was extended to 102 days: from March 5 to June 14, 2019.

## **S.4 Who is leading the project?**

UDOT is the lead agency for the S.R. 210 Project. As the lead agency, UDOT is responsible for preparing the S.R. 210 EIS. The environmental review, consultation, and other actions required by applicable federal environmental laws for this proposed project are being, or have been, carried out by UDOT pursuant to 23 United States Code Section 327 and a Memorandum of Understanding dated January 17, 2017, and executed by the Federal Highway Administration and UDOT.

The U.S. Environmental Protection Agency, the USDA Forest Service, the U.S. Army Corps of Engineers, the Utah Transit Authority, and the Salt Lake City Department of Public Utilities are involved as cooperating agencies in the development of this EIS. For more information, see Section 1.1, Introduction, in Chapter 1, Purpose and Need.

## S.5 What alternatives were considered for the project?

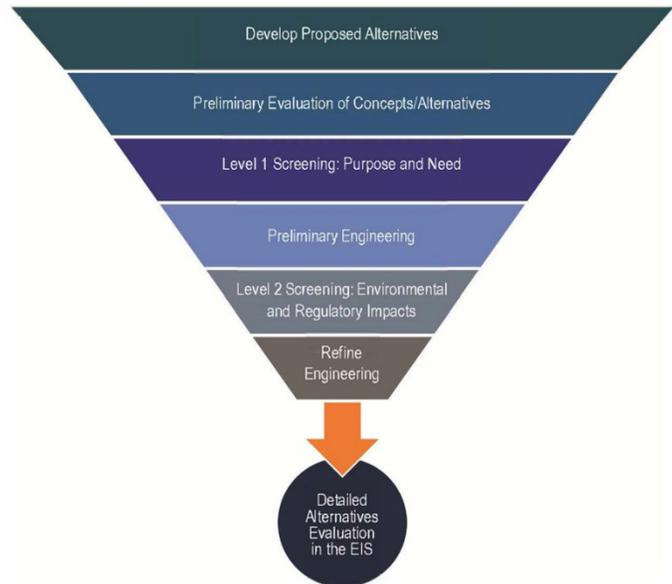
Figure S-2 presents an overview of the alternatives development and screening process. The alternatives development and screening process is documented in the *Draft Alternatives Development and Screening Report* and the *Draft Alternatives Development and Screening Report Addendum* (see Section 2.2, Alternatives Development and Screening Process, in Chapter 2, Alternatives).

Based on the screening process, UDOT determined that five primary action alternatives with sub-alternatives were reasonable alternatives for detailed evaluation in this EIS. The five primary alternatives are:

- Enhanced Bus Service Alternative
- Enhanced Bus Service in Peak-period Shoulder Lane Alternative
- Gondola Alternative A (Starting at Canyon Entrance)
- Gondola Alternative B (Starting at La Caille)
- Cog Rail Alternative (Starting at La Caille)

Table S-1 provides an overview of the five primary action alternatives and sub-alternatives. Figure S-3 through Figure S-7 provide a graphical overview of each primary alternative.

Figure S-2. Overview of the S.R. 210 Alternatives Development and Screening Process



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Table S-1. Primary Alternatives and Sub-alternatives Considered in the Draft EIS

Alternative	Purpose Element and Associated Options				
	Purpose Element: Improve Mobility		Purpose Element: Improve Reliability and Safety		
	Wasatch Boulevard Sub-alternatives	S.R. 210 from Fort Union Boulevard to Alta Options	Avalanche Mitigation Sub-alternatives	Trailhead Parking Sub-alternatives <sup>b</sup>	Winter Roadside Parking Sub-alternative
<b>Enhanced Bus Service Alternative</b>	<ul style="list-style-type: none"> <li>Imbalanced-lane Alternative</li> <li>Five-lane Alternative</li> </ul>	<b>Enhanced bus service with mobility hubs at the gravel pit<sup>a</sup> and 9400 South/Highland Drive</b> <ul style="list-style-type: none"> <li>Winter point-to-point bus service from each mobility hub directly to the ski resorts</li> <li>No summer bus service</li> <li>24 buses per hour in the peak hour</li> <li>About 1,008 people on buses in the peak hour</li> <li>2,500 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive</li> <li>Bus priority on Wasatch Boulevard</li> <li>Tolling or other management strategies such as no single-occupant vehicles during peak periods</li> </ul>	<ul style="list-style-type: none"> <li>Snow sheds with berms</li> <li>Snow sheds and realigned road with no berms</li> </ul>	<ul style="list-style-type: none"> <li>Trailhead parking improvements with no roadside parking within 0.25 mile</li> <li>Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1</li> <li>No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird</li> </ul>	<ul style="list-style-type: none"> <li>Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts</li> </ul>
<b>Enhanced Bus Service in Peak-period Shoulder Lane Alternative</b>	<ul style="list-style-type: none"> <li>Imbalanced-lane Alternative</li> <li>Five-lane Alternative</li> </ul>	<b>Enhanced bus service with mobility hubs at the gravel pit<sup>a</sup> and 9400 South/Highland Drive</b> <ul style="list-style-type: none"> <li>Winter point-to-point bus service from each mobility hub directly to the ski resorts</li> <li>No summer bus service</li> <li>24 buses per hour in the peak hour</li> <li>About 1,008 people on buses in the peak hour</li> <li>2,500 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive</li> <li>Bus priority on Wasatch Boulevard</li> <li>Tolling or other management strategies such as no single-occupant vehicles during peak periods</li> <li>Winter bus-only peak-period shoulder lanes from the North Little Cottonwood Road/Wasatch Boulevard intersection to the Alta Bypass Road; peak-period shoulder lanes would be cyclist and pedestrian facilities in summer</li> </ul>	<ul style="list-style-type: none"> <li>Snow sheds with berms</li> <li>Snow sheds and realigned road with no berms</li> </ul>	<ul style="list-style-type: none"> <li>Trailhead parking improvements with no roadside parking within 0.25 mile</li> <li>Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1</li> <li>No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird</li> </ul>	<ul style="list-style-type: none"> <li>Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts</li> </ul>
<b>Gondola Alternative A (Starting at Canyon Entrance)</b>	<ul style="list-style-type: none"> <li>Imbalanced-lane Alternative</li> <li>Five-lane Alternative</li> </ul>	<b>Gondola from the entrance of Little Cottonwood Canyon to Alta ski resort</b> <ul style="list-style-type: none"> <li>Gondola starting at the gondola station at the entrance of Little Cottonwood Canyon with stops at Snowbird ski resort and Alta ski resort only</li> <li>About 30 gondola cabins per hour</li> <li>About 1,050 people on gondolas in the peak hour</li> <li>2,500 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive</li> <li>Enhanced bus service from the mobility hubs to the gondola base station at the entrance of Little Cottonwood Canyon (there would be no parking at the base station)</li> <li>Bus priority on Wasatch Boulevard</li> <li>Tolling or other management strategies such as no single-occupant vehicles during peak periods</li> <li>Summer gondola service</li> </ul>	<ul style="list-style-type: none"> <li>Snow sheds with berms</li> <li>Snow sheds and realigned road with no berms</li> </ul>	<ul style="list-style-type: none"> <li>Trailhead parking improvements with no roadside parking within 0.25 mile</li> <li>Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1</li> <li>No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird</li> </ul>	<ul style="list-style-type: none"> <li>Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts</li> </ul>

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Table S-1. Primary Alternatives and Sub-alternatives Considered in the Draft EIS

Alternative	Purpose Element and Associated Options				
	Purpose Element: Improve Mobility		Purpose Element: Improve Reliability and Safety		
	Wasatch Boulevard Sub-alternatives	S.R. 210 from Fort Union Boulevard to Alta Options	Avalanche Mitigation Sub-alternatives	Trailhead Parking Sub-alternatives <sup>b</sup>	Winter Roadside Parking Sub-alternative
<b>Gondola Alternative B (Starting at La Caille)</b>	<ul style="list-style-type: none"> <li>Imbalanced-lane Alternative</li> <li>Five-lane Alternative</li> </ul>	<b>Gondola from La Caille to Alta ski resort</b> <ul style="list-style-type: none"> <li>Gondola starting about 0.75 mile north west from the entrance of Little Cottonwood Canyon with stops at Snowbird ski resort and Alta ski resort only</li> <li>About 30 gondola cabins per hour</li> <li>About 1,050 people on gondolas in the peak hour</li> <li>1,500-space parking space at the La Caille base station</li> <li>1,000 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive</li> <li>Enhanced bus service from the mobility hubs to the gondola base station at La Caille</li> <li>Bus priority on Wasatch Boulevard</li> <li>Tolling or other management strategies such as no single-occupant vehicles during peak periods</li> <li>Summer gondola service</li> </ul>	<ul style="list-style-type: none"> <li>Snow sheds with berms</li> <li>Snow sheds and realigned road with no berms</li> </ul>	<ul style="list-style-type: none"> <li>Trailhead parking improvements with no roadside parking within 0.25 mile</li> <li>Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1</li> <li>No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird</li> </ul>	<ul style="list-style-type: none"> <li>Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts</li> </ul>
<b>Cog Rail Alternative (Starting at La Caille)</b>	<ul style="list-style-type: none"> <li>Imbalanced-lane Alternative</li> <li>Five-lane Alternative</li> </ul>	<b>Cog rail from La Caille to Alta ski resort</b> <ul style="list-style-type: none"> <li>Cog rail starting about 0.75 mile northwest from the entrance of Little Cottonwood Canyon with stops at Snowbird ski resort and Alta ski resort only</li> <li>Service every 15-minutes during the peak hours and every 30 minutes during the off-peak hours</li> <li>About 1,000 people on cog rail trains in the peak hour</li> <li>1,500-space parking space at the La Caille base station</li> <li>1,000 new parking spaces divided between two mobility hubs at the gravel pit and 9400 South and Highland Drive</li> <li>Enhanced bus service from the mobility hubs to the cog rail station at La Caille</li> <li>Bus priority on Wasatch Boulevard</li> <li>Tolling or other management strategies such as no single-occupant vehicles during peak periods</li> <li>Summer cog rail service</li> </ul>	<ul style="list-style-type: none"> <li>Snow sheds with berms</li> <li>Snow sheds and realigned road with no berms</li> <li>Snow sheds in upper canyon</li> </ul>	<ul style="list-style-type: none"> <li>Trailhead parking improvements with no roadside parking within 0.25 mile</li> <li>Trailhead parking improvements with no roadside parking from canyon entrance to Snowbird Entry 1</li> <li>No trailhead parking improvements with no roadside parking from canyon entrance to Snowbird</li> </ul>	<ul style="list-style-type: none"> <li>Elimination of winter roadside parking on S.R. 210 adjacent to the ski resorts</li> </ul>

<sup>a</sup> The gravel pit is located on the east side of Wasatch Boulevard between 6200 South and Fort Union Boulevard.

<sup>b</sup> Trailhead improvements would include the existing Gate Buttress, Lisa Falls, and White Pine Trailheads and a new location at the Bridge Trailhead.

Figure S-3. Enhanced Bus Service Alternative



Figure S-4. Enhanced Bus Service in Peak-period Shoulder Lane Alternative

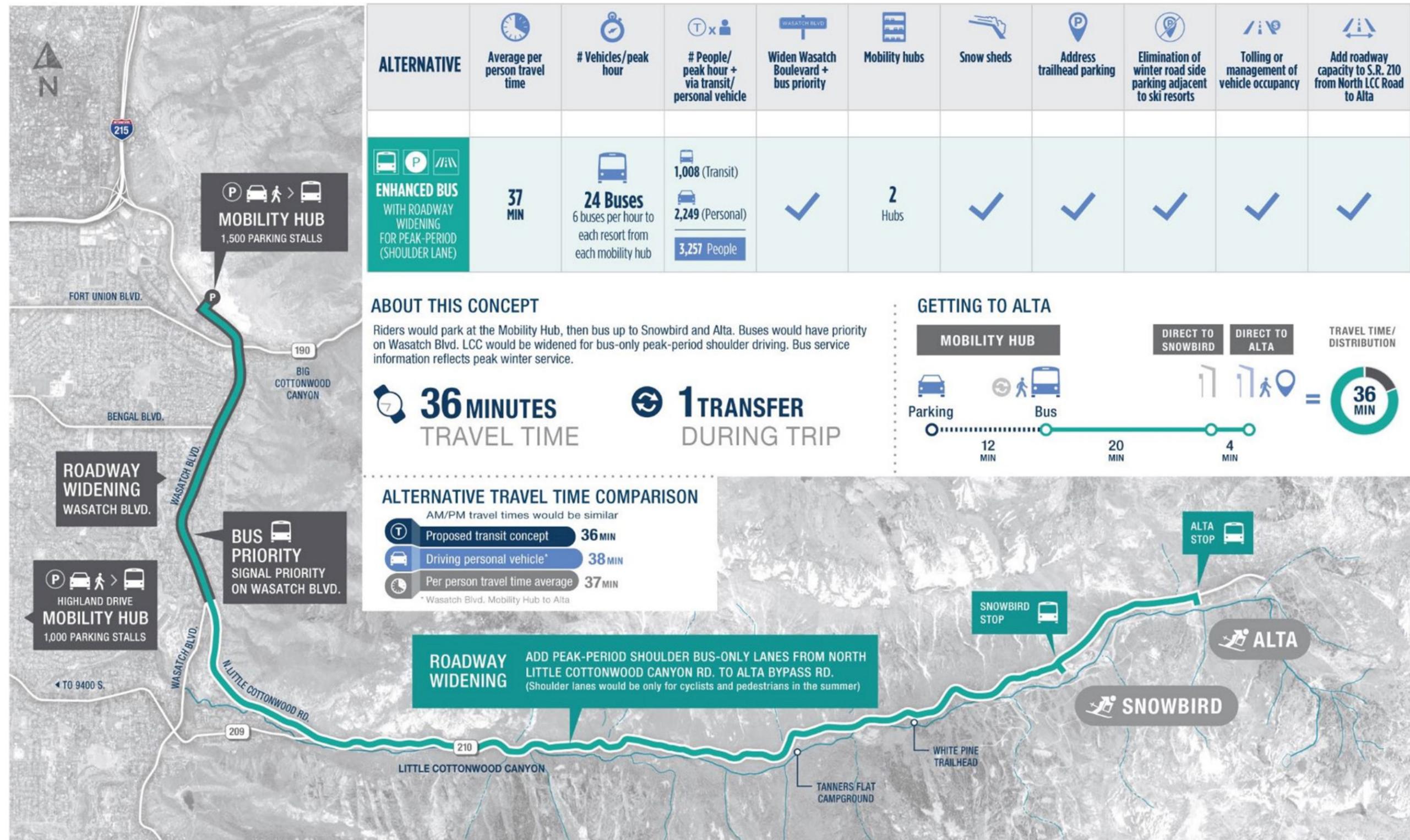


Figure S-5. Gondola Alternative A (Starting at Canyon Entrance)



Figure S-6. Gondola Alternative B (Starting at La Caille)

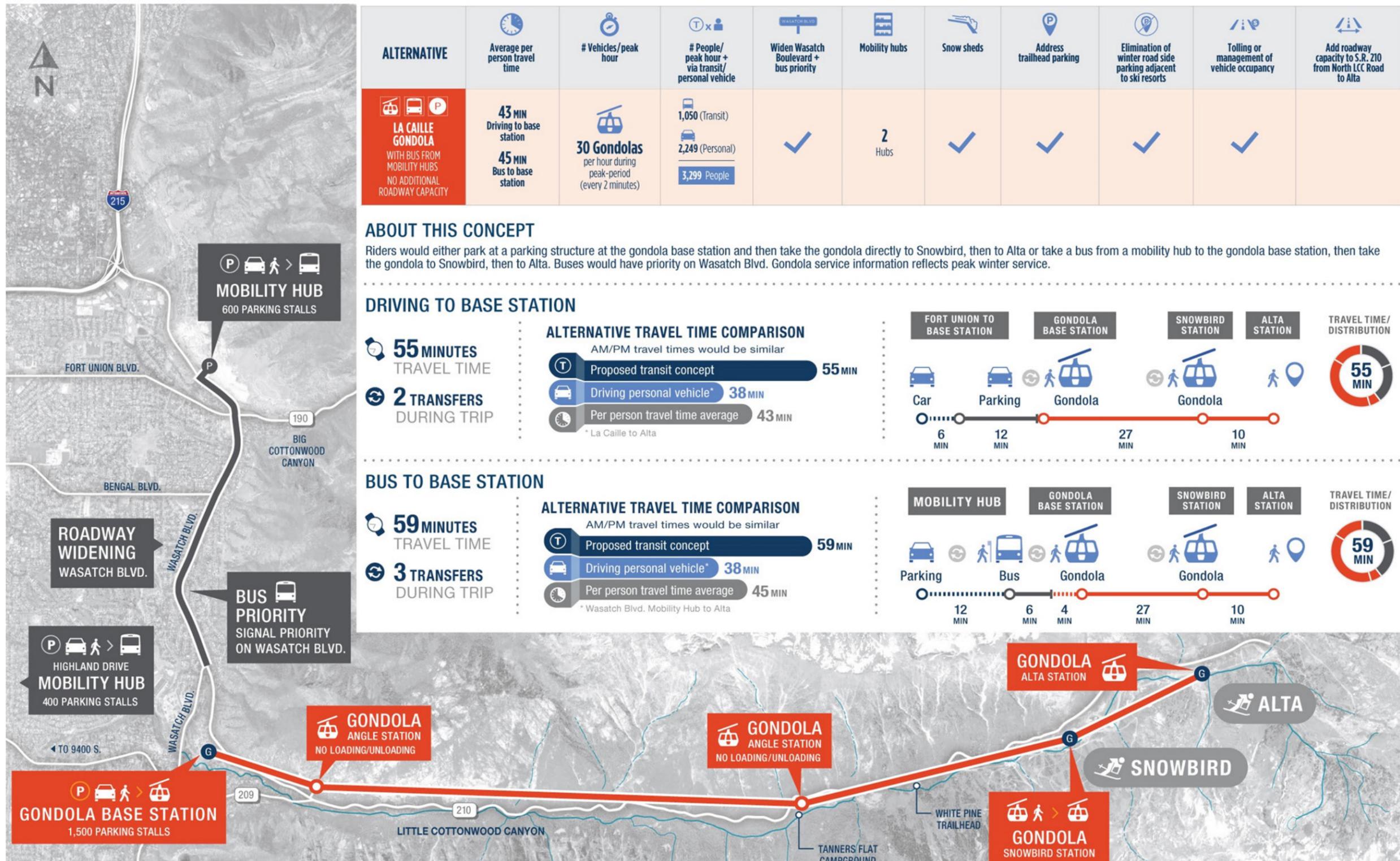
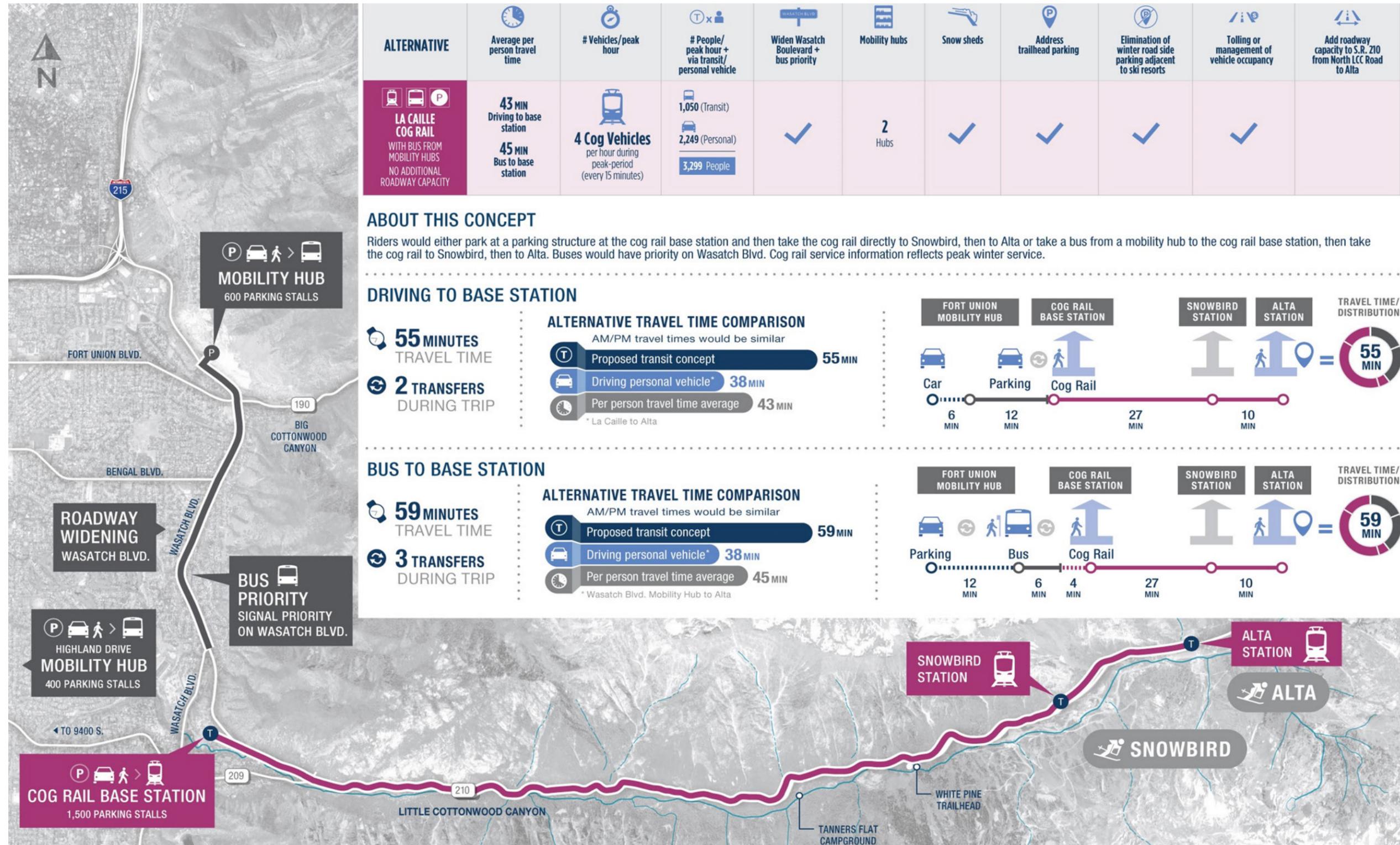


Figure S-7. Cog Rail Alternative (Starting at La Caille)



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The nine sub-alternatives that help the primary alternatives achieve the project goals are:

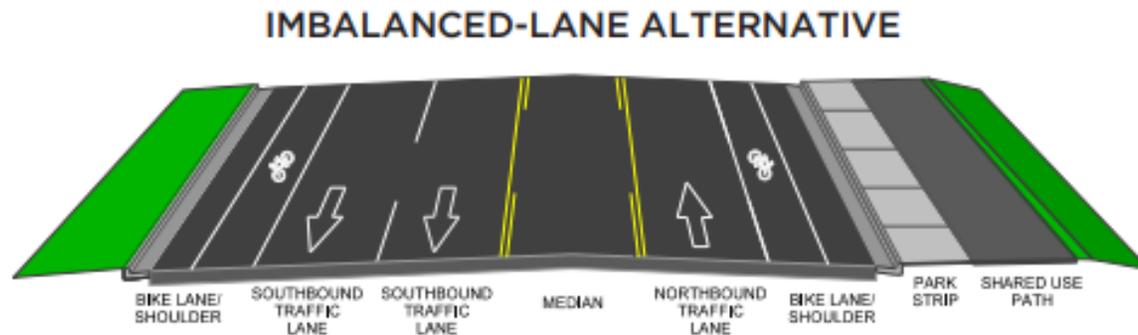
- **S.R. 210 – Wasatch Boulevard Alternatives**
  - Imbalanced-lane Alternative
  - Five-lane Alternative
- **Mobility Hubs Alternative** (for the locations of the mobility hubs, see Figure S-3 through Figure S-7 above)
  - Gravel Pit
  - 9400 South and Highland Drive
- **Avalanche Mitigation Alternatives**
  - Snow Sheds with Berms Alternative
  - Snow Sheds with Realigned Road Alternative
- **Trailhead Parking Alternatives**
  - Trailhead Parking Improvements and No S.R. 210 Roadside Parking within ¼ Mile of Trailheads Alternative
  - Trailhead Parking Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative
  - No Trailhead Parking Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative
- **No Winter Parking Alternative**

Figure S-8 through Figure S-11 show the general concepts of the sub-alternatives that would be part of the primary alternatives.

Figure S-8. Wasatch Boulevard Sub-alternatives



5-LANE ARTERIAL W/ SHARED USE PATH  
STRIPED MEDIAN AND CONCRETE PARK STRIP INTERSECTION



4-LANE ARTERIAL W/ SHARED USE PATH  
AND 14-FOOT MEDIAN

Figure S-9. Avalanche Mitigation Sub-alternatives



Figure S-10. Location of Trailhead Parking Alternative Improvements

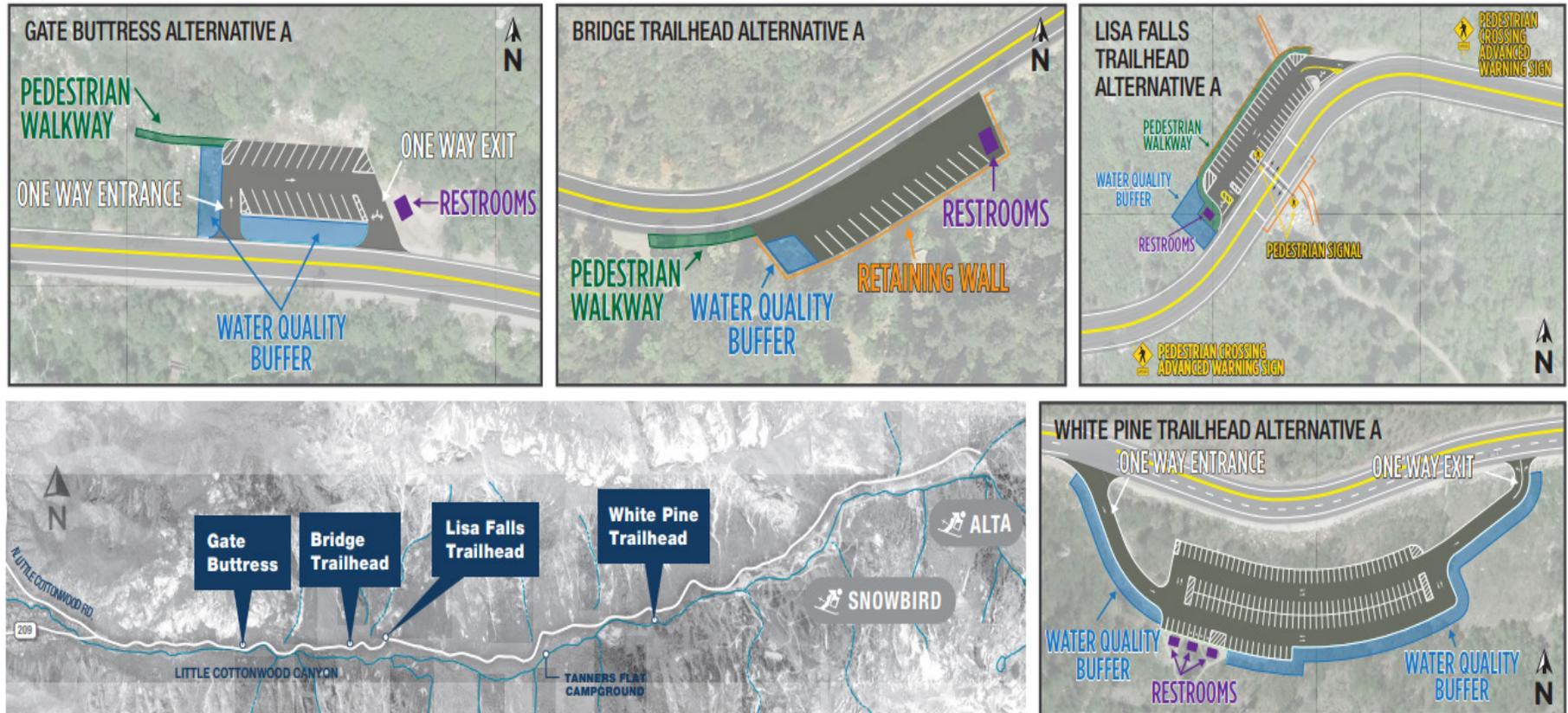
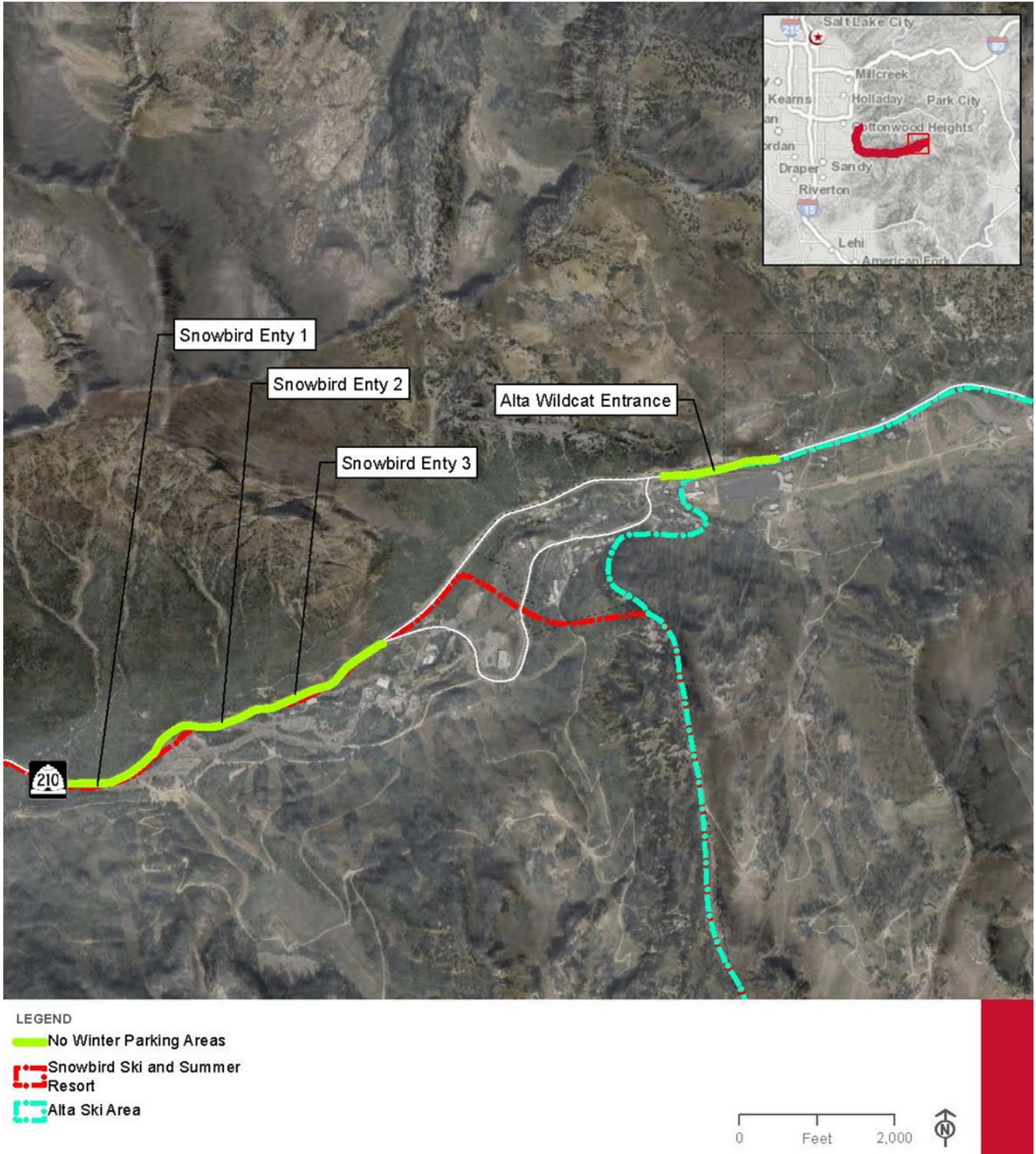


Figure S-11. No Winter Parking Alternative – Eliminated Parking Areas



## **S.6 Would tolling in Little Cottonwood Canyon be required?**

Along with improved transit alternatives (bus, gondola, or cog rail), a toll or vehicle-occupancy restriction (such as a ban on single-occupant vehicles) would be implemented during the ski season during peak hours (7 AM to 10 AM) on busy ski days to encourage users of personal vehicles to switch to transit. Tolling and vehicle-occupancy restrictions would be focused on the area of S.R. 210 around the ski resorts (starting just before Snowbird Entry 1) that would be served by the proposed transit service in the action alternatives. Residents of Little Cottonwood Canyon, drivers of service vehicles, and potentially resort employees would likely be exempt from paying the toll or observing the vehicle-occupancy restriction. For more information, see Section 2.4, Travel Demand Management Strategies Considered as Part of the Action Alternatives, in Chapter 2, Alternatives.

## **S.7 How much would the alternatives cost?**

To help compare the action alternatives, UDOT developed preliminary cost estimates (Table S-2) and the yearly cost to operate and maintain each alternative. These estimates are based on the preliminary engineering conducted and include the total project cost for construction, right-of-way acquisition, utility relocation, design engineering, and equipment to operate the alternative, equipment such as buses, gondola cabins, and cog rail vehicles. The cost estimates are based on 2020 dollars. The actual cost of construction would change depending on the year of construction, but the cost is expected to change proportionally for all alternatives.

## **S.8 What impacts would the project alternatives have?**

Table S-3 summarizes the environmental impacts of the No-Action and primary action alternatives. Because the impacts depend on which sub-alternative is selected, a range of impacts from low to high is provided. For detailed information about the environmental impacts of the alternatives, see the individual resource chapters of this EIS.

Table S-2. Preliminary Construction Cost Estimate and Operation and Maintenance Cost

In 2020 dollars

Alternative	Cost Estimate (millions \$)	Winter Operation and Maintenance Cost / Summer Operation and Maintenance Cost (millions \$)	
<b>Primary Alternative<sup>a,b</sup></b>			
Enhanced Bus Service	338–355	14.0 / 0	
Enhanced Bus Service in Peak-period Shoulder Lane	493–510	11.0 / 0	
Gondola Alternative A	554–561	9.5 / 5.0	
Gondola Alternative B	575–592	7.6 / 3.0	
Cog Rail Alternative	1,092–1,106	7.0 / 2.2	
<b>Sub-alternatives Part of Primary Alternatives</b>			
<b>Wasatch Boulevard</b>			
• Imbalanced-lane Alternative	59	Operation and maintenance cost is not provided since it would be the same for all primary alternatives.	
• Five-lane Alternative	62		
<b>Mobility Hubs</b>			
<u>Enhanced Bus Service and Gondola A Alternatives</u>			
• 9400 South and Highland Drive	21		
• Gravel pit (includes interchange on Wasatch Boulevard)	78		
<u>Gondola B and Cog Rail Alternatives</u>			
• 9400 South and Highland Drive	8		
• Gravel pit (includes Intersection on Wasatch Boulevard)	29		
• La Caille parking structure	32		
<b>Avalanche Mitigation</b>			
<u>Enhanced Bus Service and Gondola A and B Alternatives</u>			
• Snow Sheds with Berms	72		
• Snow Sheds with Realigned Road	86		
<u>Cog Rail Alternative</u>			
• Mid-canyon Snow Sheds with Berms	131		
• Mid-canyon Snow Sheds with Realigned Road	141		
• Upper-canyon snow sheds	109		
<b>Trailhead Parking</b>			
<u>Enhanced Bus Service and Gondola A and B Alternatives</u>			
• Improvements and no parking within ¼ mile	5.8		
• Improvements and no parking in Little Cottonwood Canyon	5.8		
• No improvements and no parking	0.0		
<u>Cog Rail Alternative</u>			
• Improvements and no parking within ¼ mile	2.0		
• Improvements and no parking in Little Cottonwood Canyon	2.0		
• No improvements and no parking	0.0		
<b>No Winter Roadside Parking</b>	0.0		
<b>Tolling Infrastructure</b>	5.0		

<sup>a</sup> The cost of the primary alternatives includes the alternatives that are part of the sub-alternatives and provides a range since each cost varies depending on the sub-alternative selected. Cost estimates also include noise walls and tolling infrastructure. Operation and maintenance cost includes total operations for the alternative, such as buses, personnel, maintenance, and snow removal for the peak-period shoulder lanes and Cog Rail Alternative. The enhanced bus service alternatives will not operate during the summer.

<sup>b</sup> The cost of all alternatives includes new buses, signal priority at intersections, fare-collection systems, communication equipment, and a bus maintenance and storage facility.

Table S-3. Environmental Impacts of the No-Action and Primary Action Alternatives

Impact Category	Unit	No-Action Alternative	Enhanced Bus Service Alternative	Enhanced Bus Service in Peak-period Shoulder Lane Alternative	Gondola Alternative A	Gondola Alternative B	Cog Rail Alternative
Land converted to alternative use	Acres	0	115–120	151–156	127–132	158–163	212–217
Potential residential relocations	Number	0	1	1	1	1	1
Potential business relocations	Number	0	0	0	0	0	0
Recreation areas affected	Number	0	2	4	3	3	5
Community facilities affected	Number	0	1	1	1	1	1
Environmental justice impacts	Yes/no	No	No	No	No	No	No
Economic impacts	Yes/no	No	No	No	No	No	No
Existing Forest Service trails affected	Number	0	0	1	1	1	1
Climbing resources (existing boulders and trails affected)	Number	0	0	5	1	1	17
Air quality impacts above regulations	Yes/no	No	No	No	No	No	No
Receptors with modeled noise levels above criteria	Number	173	213–230	216–233	213–230	213–230	213–230
Increase in impervious surface <sup>a</sup>	Acres	0	15.6–16.8	37.6–38.8	15.6–16.8	22–23.2	52.2–53.4
Water quality standards exceeded <sup>b</sup>	Yes/no	No	No	No	No	No	No
Wildlife habitat impacted	Acres	0	9–13	42–46	13–17	21–25	84–88
Threatened and endangered species	Yes/no	No	No	No	No	No	No
Impacts to waters of the United States <sup>c</sup>	Acres	0	0	0	0	0	0.01
Impacts to intermittent, perennial, and ephemeral streams	Acres	0	0.03–0.17	0.32–0.46	0.03–0.17	0.03–0.17	0.35–0.49
Impacts to Riparian Habitat Conservation Areas	Acres	0	0.14–0.83	1.58–2.18	0.14–0.83	0.14–0.83	0.75–1.44
Adverse impacts to cultural resources	Number	0	1	1	2	2	2
Hazardous waste sites affected	Number	0	1	2	1	2	2

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Table S-3. Environmental Impacts of the No-Action and Primary Action Alternatives

Impact Category	Unit	No-Action Alternative	Enhanced Bus Service Alternative	Enhanced Bus Service in Peak-period Shoulder Lane Alternative	Gondola Alternative A	Gondola Alternative B	Cog Rail Alternative
Floodplain impacts	Acres	0	1.18–1.32	2.1–2.2	1.5–1.6	2.1–2.3	1.5–1.6
Visual change <sup>d</sup> (primary alternative/ supporting element) <sup>d</sup>	Category	None	Negligible/high	Moderate/high	High/high	High/high	High/high
Section 4(f) uses (with greater-than- <i>de minimis</i> impact) <sup>e</sup>	Number	0	1	1	1	1	1

<sup>a</sup> Range captures the increase in impervious surface from the Wasatch Boulevard Imbalanced-lane Alternative or the Five-lane Alternative. Range does not include new impervious surface at the gravel pit or 9400 South and Highland Drive mobility hubs. These locations were not included in the quantitative water quality analysis because they are outside the Little Cottonwood Creek watershed. Range includes the impervious surface at the gondola and cog rail base stations at La Caille.

<sup>b</sup> Based on water quality modeling, numeric water quality standards in Little Cottonwood Creek would not be exceeded for any alternative for most storm events.

<sup>c</sup> The impact would be to a seep from the upper-canyon snow sheds as part of the Cog Rail Alternative.

<sup>d</sup> Visual change includes landscape character change at key observation points. The visual change is for the primary alternative and supporting elements such as snow sheds.

<sup>e</sup> The greater-than-*de minimis* Section 4(f) use would occur with the avalanche mitigation alternatives. Section 4(f) is an element of law and U.S. Department of Transportation regulation that requires a project to avoid the use of eligible or potentially eligible historic properties and significant publicly owned parks, recreation areas, and wildlife or waterfowl refuges unless there is no feasible and prudent alternative to such use or unless the use would have a *de minimis* impact. For historic properties, a *de minimis* impact means that UDOT has determined, in accordance with 36 Code of Federal Regulations Part 800, that the historic property in question would not be affected by the project or that the project would have “no adverse effect” on the historic property. For recreation areas, a *de minimis* impact is one that would not adversely affect the features, attributes, or activities that qualify the property for protection under Section 4(f). A temporary occupancy is an occupancy of land so minimal as to not constitute a use within the meaning of Section 4(f). For more information, see Chapter 26, Section 4(f) and Section 6(f) Evaluation.

## S.9 Which alternatives does UDOT prefer?

For the Draft EIS, UDOT has narrowed down the five primary alternatives to the two primary alternatives that it considers preferable at this time. A purpose of identifying these two primary Preferred Alternatives is to seek public input that can be considered in making a final selection of one of the primary alternatives in the Record of Decision for the S.R. 210 Project.

Based on the analysis presented in this Draft EIS, UDOT has identified the **Enhanced Bus Service in Peak-period Shoulder Lane Alternative** as the primary Preferred Alternative in the Draft EIS for providing the best overall mobility and **Gondola Alternative B** as the primary Preferred Alternative in the Draft EIS for providing the best overall reliability. UDOT selected the following sub-alternatives as the supporting elements of the primary Preferred Alternatives in the Draft EIS:

- **Five-lane Alternative** (Wasatch Boulevard alternative)
- **Snow Sheds with Realigned Road Alternative** (avalanche mitigation alternative)
- **Trailhead Improvements and No Roadside Parking within ¼ Mile Alternative** (trailhead parking alternative)
- **No Winter Parking Alternative**

For more information about why UDOT selected the Preferred Alternatives, see Section 2.6.9, Basis for Identifying the Preferred Alternatives, in Chapter 2, Alternatives.

## S.10 Who will decide which alternatives are selected for construction?

UDOT will decide which alternatives are selected for construction. However, UDOT's decision will rely heavily on both technical information and agency and community input. The final decision will be documented in the Record of Decision supported by information in the Final EIS.

### Which alternatives does UDOT prefer?

UDOT prefers the Enhanced Bus Service in Peak-period Shoulder Lane Alternative for providing the best overall mobility and Gondola Alternative B for providing the best overall reliability.

## S.11 When and how would the Selected Alternatives be constructed?

Currently, only partial funding has been identified for construction. Typically, in order to take into account the specifics of the alternatives that are selected, UDOT does not identify funding for construction until the EIS process has been completed. The Selected Alternatives would be constructed based on available funding. If only partial funding is allocated for construction, UDOT would construct portions of the Selected Alternatives based on the amount of the funding while considering safety and operational benefits.

The S.R. 210 Project is included in the Wasatch Front Regional Council's 2019–2050 *Long-range Transportation Plan* for construction of the Wasatch Boulevard alternatives in Phase 1 (2019–2030) and improvements from North Little Cottonwood Road to Alta in Phase 2 (2031–2040). Neither the gondola alternatives nor the Cog Rail Alternative are included in the RTP; however, these are alternatives to constructing a third lane on S.R. 210 in Little Cottonwood Canyon. The RTP phasing for these alternatives would be the same as the third lane sometime between 2019 and 2030. Potential construction phasing by alternative could include the following:

- **Enhanced Bus Service Alternative.** UDOT could start with initial smaller mobility hubs and fewer buses and build the bus service as ridership demand increases with population growth. Snow sheds would be implemented based on construction funding.
- **Enhanced Bus Service in Peak-period Shoulder Lane Alternative.** UDOT could start with initial smaller mobility hubs and fewer buses and build the bus service as ridership demand increases with population growth. Construction of the peak-period shoulder lanes could be delayed until the bus service is slowed by congestion on S.R. 210. Snow sheds would be implemented based on construction funding.
- **Gondola Alternative A.** Initial construction would require the complete gondola system. UDOT could start with initial smaller mobility hubs and fewer buses and build the bus service as ridership demand increases with population growth. Snow sheds would be implemented based on construction funding.
- **Gondola Alternative B.** Initial construction would require the complete gondola system and 1,500-space parking garage at the gondola base station at La Caille. UDOT could start with initial smaller mobility hubs and fewer buses and build the bus service as ridership demand increases with population growth. Snow sheds would be implemented based on construction funding.
- **Cog Rail Alternative.** Initial construction would require the complete cog rail system and a 1,500-space parking garage at the cog rail base station at La Caille. UDOT could start with initial smaller mobility hubs and fewer buses and build the bus service as ridership demand increases with population growth. Snow sheds would be implemented based on construction funding.
- **Wasatch Boulevard Five-lane Alternative.** UDOT also plans to phase the construction of the Wasatch Boulevard Five-lane Alternative. With the phased approach, UDOT would first construct the Imbalanced-lane Alternative but would purchase the right of way to accommodate the Five-lane Alternative in the future. The extra right of way would be maintained as open space on the east side of S.R. 210 between the travel lane and multi-use trail until the additional northbound lane is needed. UDOT would construct the additional northbound lane when the level of service on the roadway and/or intersections reaches LOS E or greater. According to the current traffic analysis, this might not occur until after 2050.

## S.12 What controversial issues were identified during the EIS process?

**Watershed Protection.** During the scoping process and the development of the purpose and need and alternatives, UDOT received comments from members of the public as well as the Salt Lake City Department of Public Utilities that any action in Little Cottonwood Canyon could degrade the watershed in the canyon. This watershed is one of the main sources of water for Salt Lake City and some surrounding communities. To address these concerns, UDOT held monthly meetings with the Department to better understand the issues related to watershed protection and develop methods to analyze the impacts from the action alternatives. UDOT will continue to work with the Department to resolve concerns through the remainder of the EIS process and during project implementation and has committed to monitoring and mitigation strategies to further minimize impacts to the watershed.

**Visitor Capacity Analysis.** UDOT received numerous comments that a visitor capacity analysis should be conducted to determine how many recreational users can be supported by the natural resources in Little Cottonwood Canyon before the environment and the recreation experience are degraded. The USDA Forest Service has the authority to regulate occupancy and use of National Forest System lands under the Organic Act of 1897 (16 United States Code Section 551). Through implementation of forest plans, the Forest Service closely monitors the use levels of National Forest System lands to preserve forest resources and protect wilderness characteristics. The Forest Service acknowledges that, in the future, management might be needed to limit resource impacts from user visitation in Little Cottonwood Canyon. Specific visitor capacities are not being considered by the USDA Forest Service at this time. This EIS provides estimates of increased recreation use potentially related to the alternatives, where practicable and appropriate.

**Focus on Roadway Construction.** Some commenters stated that the projects' purpose and need statement was too narrowly focused and would result in alternatives that lead only to road construction in Little Cottonwood Canyon. UDOT's purpose for the S.R. 210 Project is reflected in one primary objective for S.R. 210: to substantially improve safety, reliability, and mobility on S.R. 210 from Fort Union Boulevard through the town of Alta for all users on S.R. 210. UDOT believes that this purpose is not so narrowly focused that it would result in road construction only on S.R. 210 in Little Cottonwood Canyon. The purpose is broad enough that many of the action alternatives being considered include only transit (gondola, rail, and/or bus) and do not require any roadway improvements related to private vehicles.

**Widening Wasatch Boulevard.** Some citizens of Cottonwood Heights commented that UDOT should consider alternatives that would not widen Wasatch Boulevard and that the speed limit on that road should be reduced from the current 50 miles per hour. As stated in Chapter 2, Alternatives, of this EIS, UDOT did evaluate alternatives that did not consider widening Wasatch Boulevard, including a transit-only alternative. However, based on the analysis, UDOT concluded that additional roadway lanes would be required on Wasatch Boulevard in order to meet the project purpose. UDOT also met with representatives from Cottonwood Heights City and residents regarding reducing the speed limit on Wasatch Boulevard. Speed limits are normally evaluated outside an EIS process because it is an operational consideration that UDOT can change without an environmental document. Typically, on state roads, UDOT conducts an evaluation of speed that is based on the 85th-percentile speed (the speed at which 85% of the traffic drives) while also considering the road surface, shoulders, sight distance, adjacent development, pedestrian activity, and crash data. UDOT is currently evaluating the speed limit on Wasatch Boulevard and is taking these factors into consideration.

## **S.13 Are there any major unresolved issues?**

The following major unresolved issues among the cooperating agencies are related to construction and operation of the project's action alternatives.

The Salt Lake City Department of Public Utilities in general had concerns about the alternatives that require construction in Little Cottonwood Canyon, specifically the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, the gondola alternatives, and the Cog Rail Alternative. These concerns included impacts to the watershed in the canyon, recreation resources, biological resources, and environmental justice communities. The Department also had concerns regarding the impacts of the avalanche mitigation alternatives and trailhead parking alternatives on the watershed. UDOT worked with the Department to develop the water quality model used in this EIS. In addition, UDOT held monthly meetings to listen to and address the Department's concerns. UDOT will continue to work with the Department to resolve concerns through the remainder of the EIS process and during project implementation and has committed to monitoring and mitigation strategies to further minimize impacts to the watershed.

## **S.14 What additional federal actions might be required if the project is built?**

The following federal actions might be required to build the Selected Alternative:

- Clean Water Act Nationwide Permit 14 for Linear Transportation Projects (U.S. Army Corps of Engineers)
- Federal Emergency Management Floodplain Review (Federal Emergency Management Agency)
- Federal Land Right-of-way Transfer (Federal Highway Administration and USDA Forest Service)
- Easement and/or Special-use Permit (USDA Forest Service)
- Forest Plan Amendment (USDA Forest Service)
- Notice of Proposed Construction or Alteration (Federal Aviation Administration – gondola alternatives)
- Project-level Air Quality Conformity Determination (Federal Highway Administration)
- Contract for Removal of Merchantable Timber (USDA Forest Service)
- Permit Authorization for Removal of Forest Product – Rock, Gravel, and Other Resources (USDA Forest Service)

## **S.15 What happens next?**

The public has an opportunity to provide comments on this Draft EIS during a 45-day public comment period. During the public comment period, a public hearing will be held in the vicinity of S.R. 210 to allow the public to review the details of the project and talk with staff from UDOT.

After the Draft EIS comment period, the comments that are received will be reviewed, evaluated, responded to, and included in the Final EIS. UDOT intends to issue a combined Final EIS and Record of Decision in early 2022. However, depending on the comments received on the Draft EIS, the USDA Forest Service approval process, and other factors, UDOT could change that position and issue a separate Final EIS followed by a 30-day wait period before releasing the Record of Decision.

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