Chapter 32: Response to Comments

This chapter contains the responses to comments, both oral and written, that were received on the State Route (S.R.) 210 Draft Environmental Impact Statement (EIS) from members of the public, government agencies, and nongovernmental organizations during the 70-day public comment period from June 11, 2020, to September 3, 2021. Individuals and agencies who commented on the Draft EIS are listed alphabetically in Appendix 32A, *Commenter and Response Matrix*, along with their associated comment number. Appendix 32A is divided into Section 32A.1, *Commenter Matrix for Comments on the Draft EIS*, and Section 32A.2, *Commenter Matrix for Comments to the Revised Draft Chapter 26, Section 4(f) and Section 6(f) Evaluation*. To find the response to your comment, first find your name in Appendix 32A, then find your comment, which shows the associated response codes. These response codes indicate the sections of this chapter that address your comment.

How do I find the responses to my comment?

In Appendix 32A, first find your name, then find your comment, which shows the associated response codes. These response codes indicate the sections of this chapter that address your comment.

Appendix 32B, *Reproductions of Comments on the Draft EIS*, presents reproductions of written comments and transcriptions of comments that were submitted orally. Each comment document is identified in Appendix 32B by its comment number, and each statement or question regarding a separate environmental issue is labeled with an associated response section in this chapter. Comments received during the comment period for the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, from December 10, 2021, to January 10, 2022, are provided in Appendix 32C, *Reproductions of Comments on the Revised Draft Chapter 26, Section 4(f) and Section 6(f) Evaluation*.

How do I search for specific words in this PDF?

In Adobe Acrobat, press **Ctrl-Shift-F** (in Windows) or **Command-Shift-F** (on a Mac) to open the Advanced Search dialog.

The sections below present the responses to comments that were received on the Draft EIS. The section numbers in this chapter correspond to the chapters and sections in the Draft EIS (for example, Section 32.12 in this chapter corresponds to Chapter 12 in the Draft EIS).

Summary of Comments

About 13,443 comment submissions were received on the Draft EIS from individuals, organizations, and government agencies, which resulted in about 72,000 specific comments. The comment submissions took the form of letters, emails, phone messages, website submissions, and public hearing testimonies. The number of comments shows a strong interest by the public in the S.R. 210 Project.

It is important to note that the process established by the National Environmental Policy Act (NEPA) is not based on vote-counting. The public involvement efforts of NEPA are intended to gather information and ideas from the public on the proposed action and alternatives, and on the impact assessment and other information in the Draft EIS, in order to ensure that the Final EIS is as accurate, informative, and useful as possible. Analysis of public comments and, as appropriate, modification of the EIS results in a better

document and helps the decision-maker make better decisions, not simply count up pros and cons or yes or no votes on a particular alternative or issue.

It is tempting for a proponent or opponent of a particular alternative to "stuff the ballot box" in support of their view. However, even though the decision-maker gathers quantitative information that is important in assessing attitudes and concerns about particular issues, this is only part of the information that the decision-maker analyzes. The reasons for people's concerns, preferences, and criticisms are also sought in this process. Therefore, this chapter does not mention the total number of comments on a particular issue but instead focuses on more qualitative information that can include trends in public opinion.

The following sections summarize the main comments on the Draft EIS by topic.

- **Purpose and Need (Sections 32.1.1–32.1.5).** The majority of comments on this topic included:
  - The EIS transportation need assessment study area was too narrowly focused and should have included all of the central Wasatch Mountains including Big Cottonwood Canyon, Mill Creek Canyon, and Parley's Canyon.
  - The EIS should have evaluated Big Cottonwood Canyon.
  - The project purpose was too narrowly focused and thus limited the range of potential alternatives.
  - The EIS project purpose should have included summer use in Little Cottonwood Canyon.
  - The project purpose should have addressed all users on S.R. 210, not just those going to the ski resorts.
  - The project purpose should have included reducing the number of vehicles in Little Cottonwood Canyon.
  - The project purpose will only increase the number of vehicles in Little Cottonwood Canyon.
  - Environmental protection should have been included in the project purpose.
  - The need for the project is only for a limited number of days in the winter.
  - The project is the first phase of a gondola interconnect system with Big Cottonwood Canyon and Park City.
- **Alternatives Development and Screening Process (Section 32.2.2).** A number of comments questioned the results of the alternatives-screening process. Common questions included:
  - Why didn't the reasonable alternatives include a bus-only shuttle system similar to the one in Zion National Park?
  - Why didn't the reasonable alternatives include a reversible lane on S.R. 210 in Little Cottonwood Canyon?
  - The alternatives process should have included how climate change will affect the number of skiing days in the future.

- Why didn't the reasonable alternatives include a regional bus system with mobility hubs dispersed throughout the Salt Lake Valley?
- Why didn't the reasonable alternatives include a connection to TRAX?
- Why didn't the reasonable alternatives include removal of the IKON Pass, limited ski ticket sales at the resorts, the resorts charging for parking, a parking reservation system, or just limiting the number of skiers?
- Why didn't the reasonable alternatives include stricter enforcement of vehicle traction laws or allowing only vehicles with appropriate winter equipment in Little Cottonwood Canyon?
- Why didn't the reasonable alternatives include a bus-only alternative instead of making improvements to Wasatch Boulevard?
- Why didn't the reasonable alternatives include only a toll or forced carpooling?
- Why didn't the reasonable alternatives consider less impactful options first?

- **Alternatives Refinement Process (Section 32.2.3).** The main comment was that, to make the primary transit alternatives attractive to users, more lockers are required at the ski resorts.

- **Travel Demand Management Strategies Considered as Part of the Action Alternatives (Section 32.2.4).** The majority of comments on this topic included:
  - Why doesn't the Utah Department of Transportation (UDOT) implement a toll?
  - How much would a toll cost, and what would be the purpose of the toll?
  - How much would it cost to ride one of the primary alternatives, and would the cost be subsidized?
  - How much would it cost to park at one of the mobility hubs?
  - When and where would a toll be applied?
  - Would a toll apply to all of Little Cottonwood Canyon?
  - Could the cost of a toll be included in a ski pass?
  - Would a toll be collected electronically or at a toll both?
  - Instead of a toll, could higher vehicle occupancies be enforced?
  - Could a toll be applied only to tourists?
  - Instead of a toll, could UDOT implement reserved parking at the ski resorts?

- **Alternatives Considered for Detailed Study (Section 32.2.6).** The majority of comments on this topic included:
  - Why didn't the reasonable alternatives consider dispersed recreation and include stops at trailheads and dispersed recreation sites?
  - Commenters asked for more detail about how the alternatives would operate.
  - The number of transfers for some of the primary alternatives would make them less attractive to use.
  - Commenters had concerns about traffic around the mobility hubs, with most concerns related to traffic around the gondola base station at La Caille with Gondola Alternative B.
  - Reduce the speed limit on Wasatch Boulevard and implement the *Cottonwood Heights Wasatch Boulevard Master Plan*.
  - Commenters had concerns about safety and community impacts related to widening Wasatch Boulevard.
  - The enhanced bus service alternatives would provide greater future flexibility if conditions change.
  - Commenters had concerns about the length of the wait to ride the gondola with the gondola alternatives.
  - Commenters had concerns about the safety and reliability of a gondola system during extreme weather, and whether the system would operate during interlodge events.
  - Commenters had concerns about the length of time to ride the bus or gondola with the transit alternatives, and whether it would make the alternatives less attractive to use.
- **Preliminary Cost Estimates and Construction Implementation (Section 32.2.7).** The majority of comments on this topic included:
  - Utah taxpayers should not pay for a project that benefits only the ski resorts.
  - The ski resorts should pay for the project.
  - Who will pay for the primary alternatives?

- **Basis for Identifying the Preferred Alternatives (Section 32.2.9).** The majority of comments on this topic included:
  - UDOT should consider a phased implementation starting with the least-impactful alternative and determine its success before moving on to more impactful alternatives.
  - The Enhanced Bus Service Alternative would be the least impactful alternative.
  - The enhanced bus service alternatives would still be affected by snow and icy conditions on S.R. 210.
  - The gondola alternatives would support tourism and would be more reliable in bad weather.
  - Snow sheds are needed to improve road reliability and safety.
  - Commenters expressed a preference for or opposition to an alternative.
  - None of the alternatives would improve mobility and reduce traffic congestion.
- **Community and Property Impacts (Section 32.4).** The majority of comments on this topic included:
  - Impacts to climbing resources would be substantial.
  - Recreation access in Little Cottonwood Canyon would be reduced.
  - Quality of life would be reduced for residents in Cottonwood Heights from the Wasatch Boulevard improvements.
  - The preferred alternatives would ruin the quality of the recreation experience in Little Cottonwood Canyon.
  - The gondola alternatives would cause a loss of privacy.
  - Quality of life would be reduced for residents around the gondola base station at La Caille.
  - The trailhead improvement alternatives would reduce dispersed recreation access.
- **Environmental Justice (Section 32.5).** The majority of comments on this topic included:
  - A toll would affect low-income communities.
  - The preferred alternatives would marginalize vulnerable communities.
- **Traffic and Transportation (Section 32.7).** The majority of comments on this topic included:
  - The primary alternatives would not meet the goal of reducing congestion.
  - Commenters had concerns about traffic around the parking structures needed for the primary alternatives.

- **Air Quality (Section 32.10).** The majority of comments on this topic included:
  - UDOT should use electric buses to minimize air quality impacts.
  - Commenters had concerns about greenhouse gas emissions and the impact with regard to climate change.
  - Commenters had concerns about the health impacts from air pollutant emissions.
- **Noise (Section 32.11).** The majority of comments on this topic included:
  - Commenters had concerns about noise impacts from the gondola alternatives.
  - Commenters had concerns about the location and number of noise walls on Wasatch Boulevard and 9400 South.
  - Commenters had concerns about noise impacts to Wasatch Boulevard.
- **Water Resources (Section 32.12).** The majority of comments on this topic included:
  - Commenters had concerns about impacts to the Little Cottonwood Canyon watershed and the water quality of Little Cottonwood Creek.
  - Commenters had concerns about impacts to water quality water treatment facilities.
- **Ecosystem Resources (Section 32.13).** The majority of comments on this topic included:
  - Commenters had concerns about impacts from the preferred alternatives on the fragile ecosystem.
  - Commenters had concerns about impacts to wildlife from loss of habitat and habitat fragmentation.
  - Commenters had concerns about impacts to raptors and other bird species from the gondola alternatives.
  - Commenters had concerns about impacts from construction and operation of the primary alternatives to riparian and aquatic resources.
- **Visual Resources (Section 32.17).** The majority of comments on this topic included:
  - Commenters had concerns about visual impacts from the preferred alternatives, with most concerns associated with the gondola alternatives.
  - More key observation points should have been included in the analysis.

- **Indirect Effects (Section 32.20).** The majority of comments on this topic included:
  - A visitor capacity analysis should be conducted to better understand the user capacity of Little Cottonwood Canyon before alternatives are implemented.
  - The primary alternatives would increase winter use at the ski resorts, which are already overcrowded.
  - The gondola and cog rail alternatives would increase summer use at the ski resorts and associated trails.
  - The primary alternatives would cause the ski resorts to expand their facilities and terrain, which will impact the environment and watershed.
- **Section 4(f) and Section 6(f) Evaluation (Section 32.26).** The majority of comments on this topic included:
  - The U.S. Department of Agriculture (USDA) Forest Service should have considered the Grit Mill area as an important recreation area, and UDOT should have considered the area as a Section 4(f) property.
  - The gondola alignment under the gondola cables should have been considered for Section 4(f) uses.
- **USDA Forest Service Forest Plan Amendments (Section 32.28).** The majority of comments on this topic included:
  - Lands transferred from National Forest System management to UDOT due to the project alternatives should stay under the Forest Service management prescriptions.
  - The USDA Forest Service fails to meet its obligations under NEPA by seeking to make decisions based on a forest plan that is 20 years old.

32.1 Purpose and Need

32.1.1 Introduction

A. *Commenters stated that UDOT should also be looking at infrastructure improvements in Big Cottonwood Canyon. Others commented that the project study area should be larger to include the Salt Lake Valley or other areas surrounding the Wasatch Mountains.*

See Section 1.1.1, *Description of the Transportation Needs Assessment Study Area*, of the Draft EIS for more information about the study area developed to consider transportation solutions for S.R. 210. The transportation needs assessment study area, or study area, used for the Little Cottonwood Canyon EIS extends along S.R. 210 from its intersection with S.R. 190/Fort Union Boulevard in Cottonwood Heights, Utah, to its terminus in the town of Alta, Utah, and includes the Alta Bypass Road (Figure 1.1-1, *Transportation Needs Assessment Study Area*). UDOT developed the study area to include an area that is influenced by the transportation operations on S.R. 210 and to provide logical termini (endpoints) for the project.

What is Wasatch Boulevard?

Wasatch Boulevard is a segment of S.R. 210 from Fort Union Boulevard to North Little Cottonwood Road.

Potential transportation solutions in the study area would have independent utility because they would be usable and would be a reasonable expenditure even if no additional transportation improvements in the area are made. In addition, alternative solutions on S.R. 210 would not restrict UDOT from considering alternatives for other reasonably foreseeable transportation improvements currently included in the regional transportation plan or being considered by local municipalities. The study area from Fort Union Boulevard to the town of Alta is also long enough to address environmental matters on a broad scope along Wasatch Boulevard and along S.R. 210 in Little Cottonwood Canyon. Transportation improvements in Big Cottonwood Canyon or other areas are outside the transportation needs assessment study area for the Little Cottonwood Canyon EIS and would require a separate environmental document.

Although many commenters stated that UDOT should have included Big Cottonwood Canyon, improvements in that canyon are not necessary to address the transportation issues on S.R. 210. The EIS does recognize that transportation solutions on S.R. 210 could have indirect effects on S.R. 209 in Big Cottonwood Canyon, which are discussed in Chapter 20, *Indirect Effects*, of the EIS.

B. *Commenters asked who will make the final decision regarding which alternative is selected.*

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.

C. *Commenters stated that the transportation study area used in the EIS was too small and should have focused on regional transportation solutions. Others commented that the transportation*

improvements should be part of a comprehensive planning effort that considers all access involving the central Wasatch Mountains.

S.R. 210 Transportation Needs Assessment Study Area. UDOT developed this study area to include an area that is influenced by the transportation operations on Wasatch Boulevard and in Little Cottonwood Canyon, and to provide logical termini (endpoints) for the project. The intersection of S.R. 190/Fort Union Boulevard was selected as the western terminus because it is the point where traffic splits between Big Cottonwood Canyon and Little Cottonwood Canyon. Traffic south of this intersection is mostly related to trips in and out of Little Cottonwood Canyon and commuter traffic on Wasatch Boulevard. The end of the paved road in Little Cottonwood Canyon was selected as the eastern terminus because this is where S.R. 210 terminates in the town of Alta at Albion Basin Road. The S.R. 210 Project does not include Albion Basin Road.

Potential transportation solutions in the study area would have independent utility because they would be usable and a reasonable expenditure even if no additional transportation improvements in the area are made. The study area from Fort Union Boulevard is also long enough to address environmental matters on a broad scope along Wasatch Boulevard and in Little Cottonwood Canyon.

The needs assessment study area used in the EIS did not restrict UDOT from considering alternatives outside this area. The needs assessment study area only helped define the problem, and alternatives or actions that could contribute to addressing this problem could start at points outside the needs assessment study area. For example, UDOT evaluated a regional transit system across the Salt Lake Valley, light rail from the University of Utah and Murray, and mobility hubs in Sandy. All of these alternatives were outside the needs assessment study area.

Comprehensive Regional Planning. The Wasatch Front Regional Council is the agency responsible for integrated regional planning. UDOT used the 2019–2050 *Wasatch Front Regional Transportation Plan* (RTP) (WFRC 2019) as a guide in developing and considering the project purpose and the alternatives evaluated during the EIS process. The RTP is an integrated regionwide plan that identifies a list of projects that should be implemented by phase. Four projects in the 2019–2050 RTP identify the need to make improvements to S.R. 210 (Projects R-S-53, R-S-163, R-S-216, and T-S-75). One of the purposes of the RTP is to demonstrate how projects affect other projects so that a regional approach can be considered to avoid a fragmented approach to planning. UDOT used all of the projects in the RTP as a baseline in developing alternatives. Once a project is listed in the RTP, and based on the need and the phase of the project, a more specific study is conducted for each project, such as the Little Cottonwood Canyon EIS for the S.R. 210 Project.

In developing the project purpose, alternatives, and the environmental analysis, UDOT considered planning documents from the Mountain Accord, the *Wasatch Canyons General Plan*, watershed plans, Forest Service plans, and other local and regional city, county, and state transportation, land use, and environmental plans. In considering these plans as part of the EIS process, UDOT is not ignoring how the project alternatives could affect these plans or the natural and human environment.

UDOT started a corridor planning process for Big Cottonwood Canyon, but that process was independent of the Little Cottonwood Canyon EIS. UDOT put the process on hold to focus on the Little Cottonwood Canyon EIS.

D. *Commenters asked whether the Utah Transit Authority (UTA) was consulted during the EIS process to help develop transit alternatives. Save Our Canyons stated that the Federal Transit Administration should have been involved in the EIS.*

UTA was a cooperating agency and was consulted throughout the EIS process in developing the enhanced bus service, busing to the gondola and cog rail base stations, and cog rail alternatives. In addition, UTA assisted in reviewing preliminary drafts of the environmental analysis. The all bus service and cog rail alternatives operations and requirements were developed based on input from UTA, and the cost estimates were provided by UTA for both capital and operational expenditures. Since UDOT is not seeking federal transit funds, there is not a need to include the Federal Transit Administration in the process.

E. *A commenter stated that Salt Lake County was not asked to be a cooperating agency and that UDOT is analyzing a proposal that the County is against. The commenter also questioned why the Salt Lake County Municipal Service District was not included in the process.*

UDOT asked Salt Lake County to be a participating agency in the EIS process, and the County accepted. UDOT worked extensively with the County during the EIS process, including the review of the County's land use and resource plans. A cooperating or participating agency provides input throughout the EIS process but does not have the authority to eliminate alternatives it does not like.

The Municipal Service District was included with the Salt Lake County participation. The Service District also had an equal opportunity to be involved in the public process. In addition, UDOT met with all of the affected communities that are part of the Municipal Service District area throughout the EIS process to seek input, including on the scope of the project and on alternatives.

F. *Save Our Canyons commented during the scoping period that UDOT should have prepared a programmatic EIS, which would have looked at the broader region, not just S.R. 210. They also commented that the limited scope of the EIS would preclude alternatives outside the S.R. 210 corridor.*

The National Environmental Policy Act (NEPA) does not require that a programmatic EIS be conducted before undertaking a more site-specific EIS. Chapter 1, *Purpose and Need*, of the EIS explains why UDOT is moving forward with an EIS on S.R. 210 (see response 32.1.2B). As UDOT manages S.R. 210, it has the authority to implement NEPA on any improvements including the alternatives that might affect land outside UDOT's authority. UDOT included both the USDA Forest Service and the Salt Lake City Department of Public Utilities as cooperating agencies to assist in the development and review of the EIS.

What is scoping?

Scoping is an early and open process for determining the scope of issues to be addressed and for identifying the substantial issues related to a proposed action.

The Wasatch Front Regional Council is the agency responsible for integrated regional planning. UDOT used the 2019–2050 *Wasatch Front Regional Transportation Plan* as a guide in developing and considering the project purpose and the alternatives included in the EIS. The RTP is an integrated regionwide plan that identifies a list of projects that should be implemented by phase. Four projects in the 2019–2050 RTP identify the need to make improvements to S.R. 210 (Projects R-S-53, R-S-163, R-S-216, and T-S-75). One of the purposes of the RTP is to demonstrate how projects affect other projects so that a regional approach can be considered to avoid a fragmented approach to planning. UDOT uses the RTP to identify projects to move forward into the planning and NEPA processes. There is no requirement under NEPA to start with a programmatic EIS, and the RTP provides a list of interrelated projects.

G. *Save Our Canyons commented during the EIS scoping period that the Little Cottonwood Canyon EIS was focused on accommodating more traffic.*

This comment was provided during the EIS scoping period before any action alternatives were developed, and it was too early to assume that the alternatives were designed to accommodate more traffic. The project purpose was not developed to increase traffic but to improve mobility, safety, and reliability on S.R. 210. Based on the purpose, UDOT evaluated five transit-based primary action alternatives that, along with implementing tolling, would reduce the amount of personal vehicle traffic on S.R. 210 in Little Cottonwood Canyon during peak travel periods. Thus, the project purpose was not developed to accommodate more traffic.

32.1.2 Summary of Purpose and Need

A. *A commenter stated that any solution must address avalanches that close the canyon.*

The project purpose is to improve reliability, mobility, and safety on S.R. 210 from Fort Union to the town of Alta. For an alternative to pass the screening process, it must be able to improve reliability, which is why all of the primary action alternatives include snow sheds (an avalanche mitigation sub-alternative) to reduce the amount of time when the canyon is closed due to avalanche mitigation, which will improve the mobility, reliability, and safety of S.R. 210.

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.

B. *Commenters asked: What is the goal or purpose of the project? Other commenters stated that the goal of the project should not be to get more people into Little Cottonwood Canyon to recreate. Other commenters stated that the traffic was bad only few days each winter. Commenters also stated that the need for the project does not justify the expenditures when other projects in the Salt Lake Valley are more pressing.*

The purpose of the S.R. 210 Project is to substantially improve roadway safety, reliability, and mobility on S.R. 210 from Fort Union Boulevard to the town of Alta for all users on S.R. 210. The goal of the project is not to increase visitation or promote ski resort expansion in Little Cottonwood Canyon but to improve the operation of S.R. 210. All of the reasonable alternatives identified in the

Draft and Final EISs meet the project purpose and reduce personal vehicle use in Little Cottonwood Canyon since each alternative is based on transit and tolling.

Based on the analysis in the EIS, UDOT found that, in 2050, S.R. 210 is projected to experience congestion conditions for about 50 days per winter season. The needs assessment found the following existing issues that need to be addressed.

- Decreased mobility in winter during the morning (AM) and afternoon (PM) peak travel periods related to trips to ski areas, with the greatest traffic volumes occurring on weekends and holidays and during and after snowstorms (see response 32.1.4D regarding the expected number of days of wintertime congestion in 2050). The congestion affects residents who live at the entrance of Little Cottonwood Canyon and cannot exit or return to their homes on busy ski days.
- Decreased mobility on Wasatch Boulevard resulting from weekday commuter traffic.
- Safety concerns associated with avalanche hazards 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 the trailheads and the ski areas that leads to roadside parking on narrow shoulders. The consequences of roadside parking include:
    - Reduced mobility on S.R. 210 near trailheads and at ski areas
    - Loss of shoulder area for cyclists and pedestrians, which forces them into the roadway travel lane and creates a safety concern
    - Creation of undesignated trailheads and paths that contribute to erosion, mineral soil loss, the spread of invasive weeds, degradation of the watershed, and loss of native vegetation in the canyon
    - Damage to the pavement along the roadway edge, which causes increased soil erosion, runoff into nearby streams, and degradation of the watershed

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.

The purpose of the project is not to increase use of dispersed recreation sites or at trailheads by promoting transit stops. S.R. 210 does not have a mobility concern that would be solved by increasing recreation use at the trailheads. If the USDA Forest Service wants to have transit service at the trailheads or increased dispersed recreation, it can work with UTA or another transit provider.

The EIS process does not determine the importance of one project over another, whether the expense of the project justifies solving the problem, or how best to use state funds between projects or to pay for state projects. That responsibility is up to the state legislature.

C. *Commenters stated that UDOT should address year-round use in Little Cottonwood Canyon, not just in winter. Other commenters suggested that there should be year-round user fees.*

The main concern with mobility is traffic congestion during the winter when skiers arrive during the same peak travel period during the morning and leave at the same time at the end of the ski day. During the summer, traffic is dispersed throughout the day, so there is not a peak mobility concern that would warrant summer improvements to S.R. 210 including implementing transit service to trailheads or to dispersed recreation sites. UDOT's purpose does not include the need to increase visitation to dispersed or designated recreation sites in Little Cottonwood Canyon. In the future, if the USDA Forest Service identifies a need to increase service to the trailheads, it can work with UDOT, UTA, and/or others to evaluate transit service independent of the UDOT Little Cottonwood Canyon EIS process.

Tolling during the winter would be implemented to encourage ski resort users to shift to a transit mode. Since mobility is not a concern in the summer, the EIS alternatives do not include a non-winter user fee for S.R. 210 operations.

D. *Commenters stated that the project purpose says that the project should address all users on S.R. 210, but the project only focuses on those going to the ski resorts. Save Our Canyons commented that the purpose ignored the full range of users.*

UDOT is seeking to improve mobility, reliability, and safety for all users of S.R. 210, regardless of destination. The purpose is not to improve or diminish access for a specific user group but to improve mobility, safety, and reliability. The majority of winter users (over 90%) on S.R. 210 in Little Cottonwood Canyon travel above the White Pine Trailhead. Currently and in the future, ski resort user traffic causes vehicle backups and congestion-related issues for residents in Cottonwood Heights, those residents at the canyon entrance, and other recreation users in Little Cottonwood Canyon. By focusing the transportation solutions on the main users (those going to the ski resorts), the transportation mobility and reliability would improve for other users (lower-canyon recreationists) who want to access the canyon outside the ski resorts, as well as residents who live along S.R. 209 or S.R. 210.

UDOT's goal is to reduce ski resort–related private vehicle traffic during the peak travel times by 30% by implementing a toll to incentivize ski resort users to shift to transit. Thus, all of the primary alternatives intend to reduce personal vehicle use in Little Cottonwood Canyon. The exact amount of the toll has yet to be determined, but the toll could range from $20 to $30 for most vehicles during peak traffic periods, with possible variations based on the time of day and the day of the week. If UDOT does not see a shift from personal vehicles to transit, the amount of the toll could be adjusted to accomplish the goal of reducing the number of personal vehicles in Little Cottonwood Canyon. The toll would be applied just below Snowbird Entry 1 and would apply mostly to ski resort users and the ski resort customers; therefore, they would pay the greatest amount of the fee that would be used to support transit in the winter. There would be no toll or limit on access below Snowbird Entry 1. A reduction in the number of personal vehicles used by skiers to access the resorts would benefit mobility, reliability, and safety for all users of S.R. 210.

None of the alternatives consider transit stops at trailheads or at backcountry locations, since they are not needed to meet the project purpose of improving mobility. Although many commenters

requested transit stops at dispersed recreation and trailhead areas, this would likely increase visitation at these locations. In addition, UDOT is not responsible for increasing recreation use at trailheads and backcountry locations by providing transit service. The USDA Forest Service is the agency that determines the infrastructure that should be in place to allow increased use at trailheads and dispersed backcountry areas.

Some commenters stated that, based on informal surveys, only 17% of the users in Little Cottonwood Canyon go to the resorts, while 32% of the users go to dispersed recreation sites. A commenter also suggested that 70% of the visitors to the central Wasatch Mountains went to dispersed recreation sites. Although the commenter said that some information was based on UDOT traffic counts, it should be noted that traffic counts do not determine where users are headed. Based on actual Bluetooth vehicle data collected in 2021, UDOT found that, during the winter, about 90% of the users go to upper Little Cottonwood Canyon, showing that the majority of winter users are headed to the ski resort areas. The EIS was focused on S.R. 210 in Little Cottonwood Canyon, whereas the commenter visitation numbers were for the entire central Wasatch Mountains.

E. Commenters stated that the EIS purpose does not align with the Central Wasatch Commission Pillars or recommended Mountain Transportation System recommendations.

The Central Wasatch Commission (CWC) is trying to solve transportation-related issues for the central Wasatch Mountains with goals and objectives that were different than those in the Little Cottonwood Canyon EIS (see response 32.1.2B). For this reason, their proposed Mountain Transportation System recommendations were trying to solve different transportation problems. The Little Cottonwood Canyon EIS was focused on S.R. 210. Although the Little Cottonwood Canyon EIS does evaluate impacts to the environmental resources mentioned in the CWC Pillars, UDOT is not required to meet the goals and objectives of the CWC.

F. Commenters including Save Our Canyons and the Salt Lake City Department of Public Utilities stated that the project purpose should consider or "prioritize" protection of the environment, including watershed protection. Others commented that visual quality should have been considered.

UDOT has a mission and jurisdiction focused on transportation; therefore, UDOT projects are primarily focused on transportation. This project is funded through Senate Bill 277—the Utah legislature approved funding for transportation improvements in areas with recreation and tourism activity that currently experience significant congestion.

The objective of the purpose and need chapter in an EIS is to identify the "need" for a specific project. For UDOT projects, those needs are transportation needs. The purpose and need chapter for the Little Cottonwood Canyon EIS focuses on the transportation needs on S.R. 210. The Council on Environmental Quality recognizes that, as the agency with legal responsibility for surface transportation projects and with transportation expertise, UDOT should be given "substantial deference" when identifying the transportation purposes and needs that are at issue.

Environmental protection or conservation is not part of the need that UDOT is trying to solve with the reasonable alternatives and therefore is not included as part of the primary purpose of the S.R. 210 Project. Including environmental protection as part of the purpose would require UDOT to

also consider project elements that protect the environment, such as revegetating the forest, which is outside the transportation need faced on S.R. 210. If UDOT were to eliminate alternatives in Level 1 screening based on specific types of environmental impacts, this could eliminate many alternatives that would otherwise be reasonable to solve the transportation need.

UDOT does note the importance of drinking water sources in Little Cottonwood Canyon in the purpose and need chapter. Minimizing impacts to the watershed and water quality is listed as a secondary objective in Section 1.2.1, *Purpose of the Project*, of the EIS. As required by NEPA, UDOT considered in detail the environment as part of the EIS analysis and also developed mitigation measures to protect those resources. The analysis included how alternatives would affect the watershed, regulations such as the Safe Drinking Water Act and Clean Water Act, and potential impacts to existing water quality infrastructure. UDOT had an interdisciplinary team conduct the environmental impact analysis assisted by resource experts from the USDA Forest Service, the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, the Utah Transit Authority, and the Salt Lake City Department of Public Utilities. All of these agencies reviewed preliminary drafts of the EIS prior to public release. The environmental analysis considered the direct, indirect, and cumulative impacts of each reasonable alternative in accordance with NEPA.

G. *Commenters stated that they support the goals in the Mountain Accord.*

As noted in Chapter 1, *Purpose and Need*, of the Final EIS, UDOT considered the Mountain Accord recommendations as it developed the purpose of and need for the S.R. 210 Project.

H. *The Salt Lake Climbers Alliance and the Access Fund commented that the purpose and need is too narrowly focused, and therefore the EIS does not consider a reasonable range of alternatives. They also stated that, because of the narrow focus, the EIS does not give adequate consideration to less-impactful alternatives. They suggested that UDOT should have considered the Enhanced Bus Service Alternative first to determine whether the alternative could solve the problem before more impactful alternatives are implemented. They also commented that the purpose should consider the need for improvements to S.R. 210 based on problems faced 365 days a year and that the alternatives are narrowly focused on skiers at the expense of other user groups.*

The purpose and need is sufficiently broad to address the project needs identified in Chapter 1, *Purpose and Need*, of the EIS and to develop a reasonable range of alternatives. Based on the existing traffic analysis, the current need for improving mobility is during peak winter days when skiers access the ski resorts. During the winter, skiers represent about 90% of the traffic entering Little Cottonwood Canyon. The data show that, outside these peak winter days, substantial mobility-related issues were not identified. Some safety issues with roadside parking on non-winter day were identified, which are addressed with the trailhead parking alternatives.

The commenters suggested that UDOT should consider alternatives that do not affect climbing resources in the canyon. UDOT did include an Enhanced Bus Service Alternative as a reasonable alternative that would have no impacts to climbing resources. UDOT is not sure what additional alternatives that UDOT should have considered, since no additional less-impactful alternatives were suggested by the commenters (see response 32.2.2PP).

UDOT has evaluated a reasonable range of alternatives including an increased bus service alternative (Enhanced Bus Service Alternative), and the purpose does not preclude implementing such an alternative. As stated in the analysis, the Enhanced Bus Service Alternative does meet the project purpose, so UDOT does not need to test the alternative first before implementing other reasonable alternatives. The inclusion of the Enhanced Bus Service Alternative in the EIS does not require UDOT to first select and test such an alternative before another alternative is selected. Finally, NEPA does not require that the least impactful alternative be selected. NEPA only requires that the decision-maker make an informed decision based on the EIS, public input, and the project record.

Although there would be impacts from the reasonable alternatives, including to climbers, those impacts were evaluated in the EIS and will be considered in the final decision process. UDOT does not need to balance a transportation solution on 365 days of use if the problem exists only during a certain period. UDOT also disagrees that climbers would be disproportionately affected by the transportation solution. By focusing the transportation solutions on the main cause of the transportation need (personal vehicles going to the ski resorts), the transportation mobility would improve for other users (lower-canyon recreationists) who want to access the canyon outside the ski resorts, as well as residents who live along S.R. 209 or S.R. 210. The potential disproportionate impact to climbers claimed by the commenter is evaluated in the EIS and will be considered as part of the evaluation process in selecting the final alternative.

I. *Save Our Canyons and others commented that the purpose and need mischaracterizes the need and objective of the S.R. 210 Project. They commented that the criterion used is only for the movement of vehicles in the 30th-busiest design hour.*

UDOT did not use the movement of vehicles for the mobility analysis but rather the number of persons. The entire analysis was based on moving about 3,200 people on S.R. 210 in the peak hour, not getting a certain number of vehicles up Little Cottonwood Canyon. UDOT used persons or users as the metric to ensure that all of the reasonable alternatives considered transit (buses, gondola, or rail) and to set a person-capacity criterion that the transit alternatives need to achieve. All of UDOT's alternatives seek to reduce the number of personal vehicles in Little Cottonwood Canyon and get those users to shift to transit, including bus service. If UDOT focused only on vehicle capacity, an alternative could have been to add additional personal vehicle capacity to S.R. 210 in Little Cottonwood Canyon, which was not one of the alternatives considered.

What are the AM and PM peak hours?

The AM or PM peak hour is the 1-hour period of the morning (AM) or afternoon (PM) during which there is the greatest number of vehicles on the roadway system.

UDOT did use the 30th-busiest hour as the design hour. Typically, in rural settings similar to S.R. 210 in Little Cottonwood Canyon, the hour that is selected is the 30th-busiest hour over the entire year. By using the 30th-busiest hour, UDOT avoids designing roads for extremely busy days that are outliers from the more common traffic volumes. Although UDOT used the 30th-busiest hour to determine when S.R. 210 is congested, that was converted into the number of persons traveling, so that alternatives that met the person-demand and not the vehicle-demand could be considered.

J. *Save Our Canyons stated that the project purpose and need was not substantiated nor did it allow including alternatives outside the S.R. 210 corridor such as a regional bus system alternative. They stated that the visitation and thus congestion on S.R. 210 originates well outside the S.R. 210 corridor.*

The project purpose is based on the needs identified on S.R. 210, which are substantiated in Chapter 1, *Purpose and Need*, of the EIS. The transportation need identified in the chapter is based on conditions on S.R. 210, since that is the problem UDOT is trying to solve. However, the purpose of solving problems on S.R. 210 did not preclude alternatives or actions that would occur outside the needs assessment study area. UDOT evaluated numerous alternatives to solve the transportation problem on S.R. 210 that would occur outside the roadway corridor. These alternatives included gondola systems and tunnels to Park City; mobility hubs in Sandy; a light rail alignment connecting to the existing light rail (TRAX) line in Sandy, in Murray, and at the University of Utah; and a regional bus system alternative.

For example, the Regional Shuttle Bus System Alternative was evaluated in the June 2020 *Draft Alternatives Screening Report* but was eliminated from detailed consideration because it would have a higher capital and operating cost, would have longer travel times, and would not provide any additional benefit to meeting the purpose and need compared to the enhanced bus service alternatives evaluated in detail in the EIS. However, because numerous comments were received about a regional bus system alternative, UDOT worked with UTA and conducted an additional evaluation of a regional bus system alternative and included the information in the Final EIS (see response 32.2.2l). Based on the evaluation, UDOT eliminated the alternative from detailed consideration. It should be noted that the Enhanced Bus Service Alternative that UDOT is considering in the EIS provides the same benefit to mobility on S.R. 210 as would a regional bus system alternative, has less capital and operational cost, does not require construction in the municipal watershed or in the National Forest, and would involve fewer buses traveling into Little Cottonwood Canyon.

K. *Save Our Canyons commented during the alternatives-development process that UDOT is focusing the project on economic development of the ski resorts, which ignores other economic factors such as quality of life and water quality.*

The UDOT purpose for the EIS does not include economic development. The EIS does address impacts to water quality and impacts associated with potential increased visitation caused by the primary alternatives.

L. *Save Our Canyons commented during the scoping period that the S.R. 210 project purpose predetermines the selection of adding roadway capacity and was highway-based. They also commented that UDOT used level of service (LOS) as a screening criterion, which is a highway-based criterion.*

The project purpose did not predetermine outcome to a highway-based solution. The project purpose was to improve mobility, safety, and reliability on S.R. 210 and was not focused on any specific alternative or transportation mode. Based on the project purpose, UDOT evaluated about 124 alternatives during the EIS process, including transit options that required no roadway improvements. The alternatives-screening process did not lead to any alternatives that consider

adding additional lanes for personal vehicles in Little Cottonwood Canyon. All of the primary alternatives recommend transit-based solutions that reduce personal vehicle use, as the commenter suggested should be the recommended solution.

The commenter appears to misunderstand how level of service was used in the screening process. The level of service criterion was used only for the Wasatch Boulevard segment of S.R. 210, not the segment from North Little Cottonwood Road to the town of Alta. The Wasatch Boulevard need is a different problem since it is primarily related to weekday southbound commuter traffic and not peak winter ski traffic. The criterion for S.R. 210 in Little Cottonwood Canyon is to improve winter peak-hour travel time for users independent of travel mode. The Level 1 screening criteria include per-person travel time.

What is level of service?

Level of service is a measure of the operating conditions on a road or at an intersection. Level of service is represented by a letter "grade" ranging from A (free-flowing traffic and little delay) to F (extremely congested, stop-and-go traffic and excessive delay).

UDOT calculated the travel time per person for each alternative. This calculation showed the benefit for all users independent of whether a user is traveling in a personal car, bus, or gondola. For example, if a dedicated bus lane were implemented with a faster travel time for a bus than for a personal vehicle, the maximum 42 people in the bus would have a faster per-person travel time than the 2 people in the personal vehicle. This outcome shows a greater benefit to alternatives that efficiently carry large numbers of passengers. Because a transit mode can carry more passengers than a personal vehicle, a transit mode by default would perform better than personal vehicle solutions. With the travel time and vehicle backup criteria, the alternatives that performed well were alternatives that reduce personal vehicle use and incentivize transit use.

M. Save Our Canyons commented that the project purpose has no clear relationship to congestion and at best represents partial measures to address congestion.

The comment was based on an earlier purpose statement, not the purpose statement of the Draft EIS, which was revised based on a different Notice of Intent. The purpose developed based on the identified needs in the Draft EIS have a clear connection between mobility and traffic congestion.

N. Save Our Canyons commented that project purpose did not consider the word transit *and that transit and buses need to be included in the project purpose.*

UDOT did not include the word *transit* since that would have narrowly focused the alternatives to only transit solutions. Instead, UDOT used the term *mobility*, which includes all forms of transportation and does not lead to a predetermined solution. The five reasonable primary alternatives evaluated in the Draft EIS are all transit-based alternatives to solve the S.R. 210 needs in Little Cottonwood Canyon.

O. *Save Our Canyons commented that the UDOT EIS should consider the goals from the Mountain Accord process including protection of the environment and mitigation measures, and supporting year-round dispersed recreation. Save Our Canyons also commented that the project purpose should include "while maintaining or improving the integrity of the current viewshed, airshed, watershed, and ecosystem functions."*

UDOT did consider the Mountain Accord process in developing the S.R. 210 Project. The environmental analysis included the impacts to and required mitigation for watershed health, water supply, and water quality. UDOT included extensive mitigation measures to minimize impacts to the watershed. The analysis also included how each alternative would cause direct, indirect, and cumulative impacts to the natural and scenic environment and included mitigation to minimize those impacts.

All of the alternatives considered reducing avalanche-related risk and delays, reducing personal vehicle use and congestion in Little Cottonwood Canyon, and providing a comprehensive transit network from different mobility hubs. UDOT did not identify a need to provide increased year-round access to all recreation sites in Little Cottonwood Canyon. As stated in the EIS, the majority of winter users (more than 90%) are going to the ski resorts, and solving the transportation need for the majority of users improves access for all users in Little Cottonwood Canyon. Supporting year-round dispersed recreation and trailhead use is the responsibility of the USDA Forest Service and is not one of the identified needs that supports UDOT's purpose.

32.1.3 Regional Transportation Planning

See Section 32.1.1, *Introduction*, of this chapter for comments related to regional transportation planning.

32.1.4 Need for the Project

A. *Commenters expressed support for the project's purpose and need (safety, reliability, and mobility) in the canyon.*

Comment noted. See Section 1.2, *Summary of Purpose and Need*, of the EIS.

B. *Commenters asked whether UDOT considered population growth projections or increases in recreation use during the COVID-19 pandemic.*

UDOT used a socioeconomic forecast for 2050 from the University of Utah Kem C. Gardner Policy Institute to develop the project need. Changes in recreation use because of the pandemic are not possible to forecast since they might be temporary and recreation use might return to pre-pandemic levels and projections once the pandemic is over. Therefore, UDOT used a long-range forecast to evaluate alternatives instead of short-term changes.

UDOT reviewed the information on the current Kem C. Gardner Policy Institute website for 2015–2065 population projections in November 2021 and found the data in the EIS to be accurate.

C. *A commenter did not believe that it would take 80 minutes or more to travel to the ski resorts on a busy day.*

The 2050 No-Action travel time is based on a busy ski day taking into account future population growth. Currently, on a busy ski day, it takes about 45 minutes to travel to the ski resorts. Traffic modeling indicates that, by 2050, that time is projected to increase to more than 80 minutes. The commenter provided no information demonstrating that the modeling is flawed.

What are the 2050 no-action conditions?

The no-action conditions are the conditions that would be present in the study area in 2050 if the S.R. 210 Project were not implemented.

D. *Commenters questioned the number of days when S.R. 210 in Little Cottonwood Canyon is congested. Many felt that it was only on a limited number of days. Others commented that the issue is only related to cars without appropriate snow tires or four-wheel drive.*

Typically, busy ski days when congestion occurs can be the result of many factors such as driving conditions, avalanche mitigation, and the volume of traffic. As shown in Table 1.4-4, *Days of High Traffic Volumes in Little Cottonwood Canyon by Year*, of the EIS, the number of busy ski days is projected to increase between now and 2050. An average busy ski day today has about 12,000 vehicles using S.R. 210 in Little Cottonwood Canyon, which occurs on about 22 days per year. However, as stated in Section 1.4, *Need for the Project*, of the EIS, on average there are currently over 30 days per year when there is a roadway congestion in Little Cottonwood Canyon. By 2050, this traffic volume is expected to occur on more than 50 days as a result of population growth along the Wasatch Front.

Although snow conditions are a factor in mobility, the main contributor to traffic congestion is that traffic on S.R. 210 exceeds capacity. The roadway capacity of S.R. 210 is about 1,000 vehicles per hour. On busy ski days, the number of vehicles wanting to enter Little Cottonwood Canyon during the peak hour can exceed 1,000 vehicles per hour. By 2050, on the 30th-busiest day, UDOT expects about that 1,500 vehicles will try to enter Little Cottonwood Canyon during the peak hours, causing substantial reduction in mobility and traffic backups.

E. *Commenters stated that much of the traffic in Little Cottonwood Canyons is not going to the ski resorts.*

The purpose of the project is to improve reliability, mobility, and safety on S.R. 210. The main concern with mobility in Little Cottonwood Canyon is during the winter when skiers arrive during the same peak travel period in the morning and leave at the same time at the end of the ski day. During the summer, traffic is dispersed throughout the day, so there is not a peak mobility concern that would warrant summer improvements to S.R. 210 including the implementation of transit service. Based on traffic data, more than 90% of the vehicles in winter are traveling to the upper canyon above the White Pine Trailhead.

F. *Alta Ski Resort commented that the busiest morning travel time is between 8 AM and 9 AM with about 1,012 vehicles per hour on average. They also stated that the busiest afternoon travel time is between 4 PM and 5 PM with about 1,005 vehicles per hour. They stated that the road can*

effectively move about 1,000 people per hour during dry conditions. They also commented that the vast majority of congestion occurs during snow events.

See Section 1.4, *Need for the Project*, of the EIS regarding existing and future traffic conditions. As shown in the EIS, UDOT agrees with the assessment regarding the busiest times of day and the current average of about 1,000 vehicles per hour traveling up or down the canyon during the peak travel hours. UDOT also agrees that the road can effectively manage about 1,000 vehicles per hour in dry conditions and that snow is a major factor in causing congestion. However, by 2050, UDOT expects that, on about 50 days per year, traffic will exceed 1,000 vehicles and will result in congestion independent of snow on the road.

G. *A commenter stated that Table 1.4-6 of the EIS does not include the units for the crash rates.*

Units are in million miles traveled, and the table has been updated.

H. *The Salt Lake Climbers Alliance commented that the EIS says that visitation will increase from 2.3 million visitors per year in 2013 to 3.1 million in 2050 and that the Forest Service is legally required to analyze whether such an increase in visitation is sustainable.*

The EIS does predict an increase in users from current conditions to 2050. Those numbers are based on the No-Action condition, so they would occur with or without the action alternatives (also see responses 32.20A, 32.20B, and 32.20C regarding increased visitation in and capacity analysis for Little Cottonwood Canyon). UDOT defers to the USDA Forest Service as to any requirements to assess the effects of future increased visitation.

I. *A commenter stated that traffic in Little Cottonwood Canyon is likely to decrease in the future because of changes in the demographics of skiing and that skier traffic is not related to population growth. The commenter stated that traffic cannot grow because there is a limited amount of parking.*

UDOT used historical traffic data to determine future traffic growth in Little Cottonwood Canyon. The data show a steady increase in traffic, and UDOT expects that trend to continue. Over the 20 years of data used to project future traffic growth, the population along the Wasatch Front has also grown with a similar level of skier demographic. Although skiers might make up a smaller percentage of this population growth in the future, the number of skiers will still grow as population increases. It should be noted that, even if one were to expect no growth in the number of skiers, S.R. 210 currently has about 30 days per year when the road exceeds capacity. UDOT expects that number to increase to 50 days per year as skiers shift to skiing mid-week to avoid weekend congestion. Finally, even if fewer skiers were assumed, the skiers would still show up during the peak hour, which would result in congestion on S.R. 210 (Fehr & Peers 2022).

The commenter provided information that skier visits in the Rocky Mountain region decreased by 1.3% from 2009 to 2019. However, during the same period, location-specific information indicates that skier visits in Little Cottonwood Canyon increased by 2.9%.

As stated in Section 1.4.3.2, *Little Cottonwood Canyon Road – North Little Cottonwood Road to Alta*, of the EIS, the average annual daily traffic on Little Cottonwood Canyon Road is expected to increase from 6,600 vehicles (existing conditions in 2015) to about 8,500 vehicles (in 2050). The traffic growth is based on a historical growth rate from 2003 to 2017 of 1.2% extrapolated

assuming a linear growth in traffic each year to 2050. The greatest growth in traffic is likely to occur during off-peak days (mid-week), assuming that visitors will shift away from congested weekends and holidays to take advantage of less-busy days during the middle of the week. This shift to what historically have been less-busy days will result in a greater number of days during which drivers will experience delays due to traffic.

Table 1.4-4, *Days of High Traffic Volumes in Little Cottonwood Canyon by Year*, of the Draft EIS shows the expected growth in high-traffic days through 2050. On the busiest day in 2017, about 14,300 vehicles were counted by UDOT's automated traffic counters, meaning that Little Cottonwood Canyon has had many days when traffic exceeds the available parking. Based on historic growth, that number of days in which traffic is at or above 14,000 vehicles could increase to about 42, the number of days in which traffic is at or above 12,000 vehicles could increase to more than 50. This suggests that the number of days with congestion will increase. Also, this traffic congestion would begin to spread out and occur during the mid-week as skiers seek what have historically been less-crowded times.

Examining changes in traffic volumes over the 10-year period from 2007 to 2017, faster rates of growth occurred in the traffic data on sub-peak days relative to the highest-peak days. This trend held when comparing the top 5 days, the 6th-to-15th-highest days, and 16th-to-25th-highest days against the 26th-through-50th-highest days. This trend aligns with the expectation that peak days will see limited additional growth, as parking availability in the canyon dampens further growth on the busiest days of the year. However, the higher rates of growth in traffic volumes on off-peak days suggests that more days each year will have traffic at or above current peak levels in the future.

The commenter provided data from the Mountain Accord showing that, between 2003 and 2013, traffic on S.R. 210 in Little Cottonwood Canyon had a median traffic decrease of 2.5% and an average increase of 0.2%. However, the data from the Mountain Accord were collected during the economic recession from 2007 to 2011 which nationally showed a decrease in traffic volumes. As shown in the Mountain Accord data, at the end of the economic recession, traffic began to increase in Little Cottonwood Canyon. Traffic count data taken on S.R. 210 from 2010 to 2016 showed a growth in average daily traffic from 5,600 to 6,600 vehicles, an increase of 17% (Fehr & Peers 2022).

J. A commenter asked where more detail about the traffic analysis can be found and how UDOT determined travel times.

Appendix I, *Draft Vehicle Mobility Analysis*, in Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS provides all of the assumptions and models UDOT used to determine travel times for the No-Action and action alternatives. The assumption used is that, in the 30th-busiest hour in 2050, about 1,550 vehicles would enter Little Cottonwood Canyon on S.R. 210. This number of vehicles exceeds the capacity of S.R. 210, causing congestion and a travel time of 80 to 85 minutes. If UDOT were able to remove about 30% of these vehicles through tolling and/or transit, the number of vehicles would be reduced and would be closer to the roadway capacity of about 1,000 vehicles per hour, thus achieving less congestion.

K. *A commenter stated that the 30% reduction in 2050 traffic on peak weekends would not reduce traffic enough to reduce congestion. Would the 30% reduction meet the design goals?*

UDOT agrees that the proposed primary action alternatives would not meet the project need on busiest of days with a 30% reduction in traffic in 2050. Roads are designed to accommodate a specific number of vehicles per hour. This traffic volume, called the design-hour traffic volume, is typically less traffic than what is expected during the single busiest, or peak, hour on that road during the entire year. Designing for the yearly peak hour is usually not economical or feasible because it would mean building the infrastructure to accommodate more vehicles than what will be on the road most days. Typically, in rural settings similar to S.R. 210 in Little Cottonwood Canyon, the hour that is selected is the 30th-busiest hour over the entire year. By using the 30th-busiest hour, UDOT avoids designing roads for extremely busy days that are outliers from the more common traffic volumes.

The commenter also misrepresented the traffic data. The vehicle data in the comment is average daily traffic, which is both up and down the canyon. For example, 12,000 average vehicles per day equates to 6,000 vehicles up the canyon and 6,000 vehicles down the canyon.

L. *A commenter stated that the need in 2050 is overestimated. The commenter stated that the limited parking sets the vehicle capacity, and conditions in 2050 would be similar to conditions in 2020.*

UDOT agrees that the available parking limits the number of users at the ski resorts. However, UDOT is trying to solve a problem during the 30th-busiest hour, which typically occurs between 8 AM and 9 AM when parking is still available. UDOT expects to see a growth in that peak-hour traffic as more skiers attempt to arrive during the busiest hours while they can still park their vehicle.

M. *The Salt Lake Climbers Alliance and others commented that UDOT overstates the need. Without justification, UDOT states that travel is compromised at around 900–1000 vehicles per hour. If justified, using a value of about 950 vehicles per hour requires reducing about 200 vehicles per hour from the peak hours as shown in Figure 1.4-8 in the Draft EIS, which can be considered to be representative of the current peak-hour traffic flow. A reduction of 200 vehicles per hour is 17% of the traffic for the current peak, whereas UDOT arbitrarily proposes a 30% reduction.*

The data in Figure 1.4-8, *Traffic in Little Cottonwood Canyon in February 2017*, of the Draft EIS are existing conditions. As stated in Chapter 1, *Purpose and Need*, of the EIS, UDOT's purpose is to solve the problem in 2050 when about 1,550 vehicles in the 30th-busiest hour are expected to enter Little Cottonwood Canyon while parking is still available at the ski resorts. To reduce congestion levels to around the 1,000 vehicles per hour shown in Figure 1.4-8, *Traffic in Little Cottonwood Canyon in February*, of the Final EIS, about 30% of the vehicles would need to be removed. Although parking capacity might not increase, during the peak hour (typically between 8 AM and 9 AM), parking is available at the resorts, so UDOT expects that the number of skiers wanting to access the available parking will increase between now and 2050. Parking generally reaches capacity around 10 AM.

According to design guidelines, the capacity of a rural highway travel lane is about 1,000 vehicles per hour. Beyond 1,000 vehicles per hour, congestion starts to increase. Travel times on narrow and steep canyon roads are very sensitive to the number of vehicles on the road. On S.R. 210

from the intersection with S.R. 209 (the entrance to Little Cottonwood Canyon) to the Alta ski resort, if there are about between 900 and 1,000 vehicles on the road per hour, the road is operating under free-flow conditions (freely flowing traffic with little congestion or delay). Under these conditions, the travel time is about 23 minutes. However, once the number of vehicles exceeds the road's capacity, the additional vehicles dramatically increase the travel time.

Following are the modeled travel times per person in 2050 if no improvements are made S.R. 210 from the intersection with S.R. 209 to the Alta ski resort. These modeled travel times demonstrate how a small increase in vehicles substantially increases travel time.

- 900 vehicles per hour = 23 minutes per person
- 1,200 vehicles per hour = 36 minutes per person
- 1,350 vehicles per hour = 46 minutes per person
- 1,550 vehicles per hour = 58 minutes per person

In 2050, during the 30th-busiest hour, about 1,555 vehicles would enter the canyon. This equates to about 2,230 people (average vehicle occupancy is about 1.90 during the peak hour). When one includes the current UTA bus service (capacity of 336 people), the total number of people entering the canyon is about 3,250. Therefore, the goal of the transportation solution is to provide capacity for these 3,250 users. Using the 5-minute headways and 24 buses per hour, this equals 1,008 users, which brings the total people to about 2,250 people who need to be accommodated in their personal vehicles, or about 1,190 vehicles. Although this exceeds the roadway capacity, it still is at a level that provides adequate travel times. The same analysis and result applies for the gondola and cog rail alternatives.

N. *Save Our Canyons stated that the majority of crashes occur during clear weather and on dry pavement and that only 22% occur during winter driving conditions. Based on these data, safety should be considered during all seasons, not just winter.*

UDOT agrees that safety is important during the entire year. In the EIS, UDOT notes that crash rate and severity are above statewide averages for similar roads, but that does not mean that UDOT has to consider this need in the project purpose. Most of the crashes are related to the steep grade and sharp curves on S.R. 210 in Little Cottonwood Canyon, both of which are a condition of the nature of the canyon and would be difficult to solve.

Therefore, safety in the purpose and need is not related to crashes as suggested by the comment but rather to avalanches and roadside summer and winter parking conflicts, as described in Section 1.2.2, *Need for the Project*, of the EIS. Therefore, the safety problem UDOT is trying to solve is related to (1) avalanche mitigation and (2) roadside parking at trailheads during the summer and along S.R. 210 during the winter adjacent to the ski resorts.

O. *Save Our Canyons commented during the scoping period that the project purpose is to reduce congestion, even though it might not be necessary and some elements of the project need such as trailhead improvements are not connected to traffic congestion.*

There is more than one need to solve on S.R. 210. Avalanche mitigation and a high level of peak-hour winter traffic causes congestion not only on S.R. 210 but also in the neighborhoods surrounding the base of Little Cottonwood Canyon. The trailhead need is not related to traffic

congestion or restrooms but to the safety conflicts caused by roadside parking as stated in Chapter 1, *Purpose and Need*, of the EIS.

P. *A commenter asked on how many days is the 30th-busiest hour exceeded. It seems less than 10.*

The Little Cottonwood Canyon EIS uses the 30th-highest hour as the design hourly volume based on standard practice as documented in *A Policy on Geometric Design of Highways and Streets* (AASHTO 2018). In this reference, the guidance for rural areas includes recommendations for an alternate design hourly volume on roads with large seasonal fluctuations, which describes traffic conditions on S.R. 210. However, the alternate approach is recommended only when the expected maximum hourly traffic volume does not exceed the road's capacity. As documented in the EIS, roadway capacity is regularly exceeded on S.R. 210 during peak conditions. Based on current traffic data, the 30th-busiest hour is exceeded on about 22 days per year, but by 2050 this number is projected to increase to over 50 days per year.

32.1.5 Scope of the Environmental Impact Statement

A. *A commenter stated that UDOT should consider improving trails in Little Cottonwood Canyon as part of the EIS.*

Improving trails on National Forest System lands is outside the scope of the EIS and is the responsibility of the USDA Forest Service. Improving trails is not needed to meet the purpose of the project of improving mobility, reliability, and safety on S.R. 210.

B. *Commenters stated that the gondola alternatives would be the first phase of a gondola interconnect system with Park City and Big Cottonwood Canyon, or asked whether an interconnect could be considered.*

The purpose of the S.R. 210 Project is only solving mobility, reliability, and safety issues on S.R. 210, and none of the primary action alternatives propose or are designed to consider an interconnected system with other canyons or locations. If a gondola alternative is selected for implementation, UDOT has no plans to build a gondola system that connects Big Cottonwood Canyon and Park City, nor does it believe that such a project is reasonably foreseeable or amenable to meaningfully assess at this time.

C. *Commenters stated that the EIS does not address environmental impacts outside the resorts that would occur as a result of proposed alternatives and that the study area was limited to a 60-foot corridor surrounding S.R. 210. Other commenters stated that the EIS should consider environmental protection of the resources in Little Cottonwood Canyon. Commenters also stated that an in-depth analysis needs to be conducted.*

The EIS evaluates impacts to 20 resources from the action alternatives and suggests potential mitigation measures. The analysis includes the entirety of the S.R. 210 corridor and surrounding areas. A study area was developed and included in the EIS for each resource evaluated. The resource-specific study areas were based on where expected impacts would occur. For example, the water quality analysis included the entire Little Cottonwood Canyon watershed.

The purpose of an EIS is to document the expected impacts to the human and natural environment so that an informed decision can be made. The EIS process does not require standalone alternatives whose purpose is to protect the environment. The in-depth analysis was performed by a multidisciplinary team of resource experts in coordination with the cooperating agencies that manage or oversee the resources, and the analysis considers the direct and indirect environmental impacts of the alternatives.

D. *A commenter stated that UDOT did not identify the "partners" in preparing the EIS and did not use a multidisciplinary team.*

The partners in developing the EIS included the cooperating agencies listed in Chapter 1, *Purpose and Need*, of the EIS. These included the USDA Forest Service, the Utah Transit Authority, the Salt Lake City Department of Public Utilities, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers. UDOT met with these agencies throughout the development of the EIS to address their concerns, develop alternatives, and assist with the analysis. Additional coordination and input was obtained from several additional participating agencies, as documented in Chapter 27, *Public and Agency Consultation and Coordination*, of the EIS.

In terms of the National Environmental Policy Act, a *multidisciplinary team* refers to professionals and experts conducting the analysis. UDOT used the resource expertise of the cooperating agencies as well as professionals in biology, air quality, wetlands, noise, water quality, and visual analysis (to name a few) to prepare the EIS. This includes the specialists identified in Chapter 29, *List of Preparers*, of the EIS.

E. *A commenter asked whether impacts to the resources evaluated in the EIS were considered at an equal level.*

All of the impacts in the EIS are considered in the decision process. However, not all impacts to resources are the same. For example, some resources such as wetlands have regulatory requirements that must be considered. UDOT takes into account the context and intensity of each impact, along with other factors such as the degree to which purpose and need is met, in making a final decision.

F. *The Central Wasatch Commission and others commented that the selected alternative should not allow a future Olympic Games venue in Little Cottonwood Canyon. Others commented that the primary alternatives are being implemented to help with a future Olympic bid or would allow larger events in Little Cottonwood Canyon.*

The purpose of the project is to improve mobility, reliability, and safety, not to allow larger events in Little Cottonwood Canyon. UDOT knows of no plans to have larger events in Little Cottonwood Canyon as a result of the primary alternatives. Future Olympic Games are not part of the need for the project and are not included in the project purpose. The decision regarding future Olympic bids is outside the scope of the EIS.

G. *The Wasatch Mountain Club commented that there is no information regarding the capacity of trails, off-trail backcountry use, or roadside and creekside use. These uses are all legitimate uses of our public land and should be better understood before they are reduced.*

See response 32.20B regarding a Visitor Capacity Study. UDOT's purpose is 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 purpose does not include improving or limiting recreation access, trails, or roadside/creekside use. UDOT's alternatives would improve the safety of the recreation users by reducing conflicts among pedestrians, cyclists, and personal vehicles and making accessing trailheads more safe by improving access. UDOT has developed alternatives that reduce the amount of available roadside access (see response 32.4P). The changes in access are intended to improve the safety of both recreationists and drivers. UDOT worked with the USDA Forest Service in the development of the alternatives since they are the experts regarding recreation access in Little Cottonwood Canyon. The USDA Forest Service thought that all the trailhead improvement alternatives were reasonable when considering the use of the forest.

H. *A commenter stated that the Draft EIS uses various sources of key data from private companies, which are not independently verified as accurate or nonbiased by data science standards. This undermines many if not most of the conclusions in the Draft EIS, rendering them invalid.*

The commenter does not identify the data that should be verified, so it is not possible to know what data are at issue. Data used in the EIS, including that supplied by private sources, were reviewed by UDOT. In addition, as cooperating agencies, the USDA Forest Service, the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, and the Salt Lake City Department of Public Utilities were involved in an independent review of the preliminary Draft EIS.

I. *The Salt Lake Climbers Alliance commented that UDOT's and the USDA Forest Service's independent decisions are required in order to implement a proposed action, such as the alternatives under consideration in the Draft EIS. The agencies are to coordinate to ensure that the NEPA [National Environmental Policy Act] document analyzes the requisite impacts so that both agencies can meet their statutory requirements to render a decision.*

UDOT has worked closely with the USDA Forest Service regarding the expected impacts from all reasonable alternatives. Based on the analysis, the USDA Forest Service believes that all of the alternatives are reasonable for NEPA purposes. In addition, UDOT and the USDA Forest Service have coordinated extensively throughout the EIS process to ensure that both agencies can meet their statutory requirements to render a decision from the EIS, as necessary.

J. *The Salt Lake Climbers Alliance commented that NEPA [National Environmental Policy Act] requires that an agency take a hard look at the proposed action and how it would impact certain resources under its purview. The Multiple Use Sustainable Yield Act requires the Forest Service to assess impacts to recreation resources associated with the proposed actions if implemented. The*

Forest Service fails to undertake an analysis that meets its NEPA obligations regarding how climbing resources would be impacted by the two preferred alternatives.

The Preface to the Record of Decision for the *Revised Forest Plan: Wasatch-Cache National Forest* (USDA Forest Service 2003) states:

> Recognizing that conditions on the National Forests do not remain static, that public desires change, and that new information is constantly being developed, the Revised Plan embraces an adaptive management approach. This means that as conditions change, so will the management plan. That is why there will be Forest Plan amendments that will, if you wish, involve you. Through both scientific research and talking to the people who use the Forests, I intend to keep the Revised Plan current in respect to the needs of people as well as nature's processes.

The EIS does take a "hard look" at how all of the reasonable alternatives would impact climbing resources and other resources under the USDA Forest Service's purview. The EIS describes how dispersed recreation parking might be limited, climbing boulders might be removed, trails might be relocated, and noise levels, visual resources, and the quality of the recreation experience might be affected.

K. *Save Our Canyons commented that UDOT should review the visitor use study for the Wasatch Mountains as part of the EIS process.*

UDOT did review the reports in preparation of the EIS (Lamborn and others 2015). Note that the visitor use study found that, during the winter, the main reason stated by the majority of users (81%) for visiting the central Wasatch Mountains was to ski at the resorts.

L. *The Salt Lake City Department of Public Utilities commented that the EIS does not incorporate summer impacts, including cumulative impacts to the watershed, since summer use is outside the scope of the EIS.*

The analysis for all resources includes the expected impacts from the action alternatives during the entire year. See response 32.20A regarding which alternatives will operate during the summer and the expected impacts. In addition, the analysis of all resources addresses how each primary alternative would affect summer recreation as well as water quality, ecosystems, noise, and visual resources, to name a few. For each resource, summer use is analyzed, as necessary, for potential direct, indirect, and cumulative impacts.

M. *The Salt Lake City Department of Public Utilities commented that the economic value of natural systems in the study area should be considered in the EIS.*

UDOT conducted an extensive analysis of the resources evaluated in the EIS. This analysis included how impacts to recreation and the natural environment could deter or enhance use of the resources. The EIS also included an evaluation of how changes caused by the primary alternatives could affect the watershed and related water infrastructure. The EIS process does not require an economic benefit analysis of the primary alternatives.

32.2 Alternatives

32.2.1 Introduction

A. *The Central Wasatch Commission asked: if a greater reduction in traffic were achieved through optimizing alternative transportation solutions, what would be the direct, indirect, and cumulative impacts?*

All of the alternatives evaluated in detail in the EIS meet the S.R. 210 Project purpose and need. UDOT does not need to achieve a greater traffic reduction to meet the project purpose. To consider a greater reduction in traffic, UDOT would need to have identified a different need and associated purpose. There is no requirement to analyze impacts from alternatives that UDOT was not required to develop because they would address a different purpose and need than the one guiding the EIS preparation.

B. *Save Our Canyons asked whether the project was a transportation project or a transit project and whether UDOT's goal is vehicle reduction or roadway optimization. They also stated that a transit agency such as the Federal Transit Administration, not a highway agency, should have led the EIS process. Save Our Canyons also stated that the metric used to evaluate the alternatives was level of service, which is typically used to evaluate roads.*

All of UDOT's primary alternatives considered a transit mode (bus, gondola, or cog rail) as part of the alternative. The goal of the project is to improve mobility, reliability, and safety on S.R. 210. Transportation includes both personal vehicles and transit, and UDOT used the number of people, not vehicles, as a metric to evaluate the transit systems. UDOT is trying to reduce personal vehicle use in Little Cottonwood Canyon in part by using a transit system to move those users. The goal of any urban transit system is to reduce personal vehicle use.

UDOT worked extensively with UTA as a cooperating agency (the local transit authority and experts on transit in Little Cottonwood Canyon) on developing the transit alternatives. UTA assisted in developing the enhanced bus service and cog rail alternatives, including scheduling, frequency of service, route design, capital cost, and operating cost. It should also be noted that the consulting team assisting UDOT has an entire division of transit experts who worked along with UTA. Since UDOT is not seeking federal transit funds or Federal Transit Administration approvals, there is not a need to include the Federal Transit Administration in the process.

Finally, UDOT did not use level of service to evaluate mobility on S.R. 210 in Little Cottonwood Canyon. Instead, the mobility criterion use for travel in the canyon was to substantially reduce the travel time of individual users. Reducing travel time was achieved by developing robust transit alternatives that would reduce the need for personal vehicle use.

Level of service was used as the screening criterion for the Wasatch Boulevard alternatives since the traffic congestion on Wasatch Boulevard occurs throughout the year.

C. *Save Our Canyons commented during the scoping period that UDOT should consider regional and local plans in developing alternatives, including plans that state that there should be a reduction in private vehicles, an increase in transit, and protection of the environment.*

UDOT used the 2019–2050 *Wasatch Front Regional Transportation Plan* in developing the project alternatives, since it is a regionwide and integrated transportation plan. Therefore, as part of the baseline in developing the EIS, UDOT considered the other projects being looked at in the region under the regional transportation plan. UDOT also considered regional plans that included a reduction in personal vehicles and protection of the environment. UDOT's five primary alternatives considered in detail in the EIS are consistent with the regional plans that suggest that the goals for Little Cottonwood Canyon should be to reduce personal vehicle use and increase transit services. All of the five primary alternatives would reduce personal vehicle use from projected levels by 30% and are primarily transit-based alternatives. UDOT conducted an analysis of how each alternative's improvements would affect wildlife populations and change natural landscapes so that the decision-maker can see the advantages and disadvantages of each alternative.

D. *Save Our Canyons commented during the scoping period that UDOT should consider what brings people to Little Cottonwood Canyon in developing transportation alternatives and that UDOT should consider this public input.*

The purpose of the National Environmental Policy Act (NEPA) is to disclose the impacts of a reasonable range of alternatives on the resources in the area. The EIS described how each alternative would change the use of the canyon and the natural environment. NEPA also requires extensive public input. UDOT has received more than 15,000 comments during the entire EIS process, thereby allowing the public to weigh in on the experience they want in Little Cottonwood Canyon and to comment on how they feel each alternative would change that experience. In addition, UDOT had two scoping periods, which allowed the public to provide input on the alternatives that UDOT should consider to improve transportation.

E. *Save Our Canyons commented during the scoping period that UDOT should consider transit alternatives. They also commented that UDOT should not consider adding a third travel lane.*

All of the five reasonable alternatives evaluated in detail in the EIS were transit-based (buses, gondola, and cog rail), as suggested by the commenter. Although many commenters thought that a gondola system is not a transit option, they are used throughout the world and in the United States (in Portland, Oregon) as a viable transit solution.

Although the 2019–2050 *Wasatch Front Regional Transportation Plan* includes a project to add a third travel lane on S.R. 210 in Little Cottonwood Canyon to solve the congestion need, none of the reasonable alternatives evaluated in the EIS consider adding a general-purpose, private vehicle lane.

The regional plan also included snow sheds and a transit center to help solve the mobility issues in Little Cottonwood Canyon, both of which were included in the EIS as reasonable alternatives.

F. *Save Our Canyons commented that the EIS should look into the future and how projects could impact future conditions and how alternatives could foreclose future transportation solutions.*

NEPA requires the development of a purpose of the project and alternatives that meet that need. The EIS did look to a solution that met the problems UDOT anticipates on S.R. 210 in 2050. NEPA does not require the scope of the alternatives to meet goals outside the project purpose but rather to consider the direct, indirect, and cumulative impacts of the action alternatives.

G. *Save Our Canyons commented that the transit alternatives should not increase visitation to dispersed recreation sites, thereby potentially increasing environmental impacts.*

Increasing transit use at trailheads or dispersed recreation sites is not part of the project purpose. None of UDOT's primary alternatives are designed to increase use at dispersed recreation or trailhead sites. In fact, all of the alternatives would reduce the amount of available parking, thus likely reducing the total number of users. The alternatives also consider improving restrooms and water quality protection at trailheads.

UDOT is not sure what Save Our Canyons' preferences are with regard to transit. In previous comments, Save Our Canyons has stated that transit should service a range of recreation destinations, which would likely increase use at those sites. UDOT's primary alternatives would likely increase use at the ski resorts, which have the necessary facilities and environmental protection in place to manage the use.

H. *Save Our Canyons commented during the scoping period that there was not yet an identified project purpose but alternatives had already been developed, including parking locations as shown on materials including scroll plots. The commenter also stated that transit was not considered.*

UDOT's May 2018 Notice of Intent (NOI) to prepare an EIS, which is the basis of the comment, states the reason why UDOT is undertaking the S.R. 210 Project, which is to improve congestion, improve safety for all users, and enhance the availability of public transportation options. The NOI also lists potential alternatives that UDOT was considering to address the reason it is preparing an EIS. The reason to start the National Environmental Policy Act process is typically because an agency has an action it wants to undertake, which could include one or more alternatives. A primary purpose of the scoping process is to seek public and agency input regarding other potential alternatives that the agency should consider. The scroll plots mentioned in the comment were just suggested alternatives to help the public provide better input. It should be noted that the scroll plots showed multiple park-and-ride lots that could be served by transit, so UDOT is not sure how transit options were falling by the wayside.

32.2.2 Alternatives Development and Screening Process

A. *Commenters wanted to know why the Dual-mode Advanced Vehicular Endeavor (D.A.V.E.) was eliminated as a reasonable alternative. Others asked whether the dual-mode system or TriTrak was considered.*

UDOT evaluated the D.A.V.E. and TriTrak concepts as part of the Draft EIS, as described in Section 2.2.2.2, *Improve Mobility on S.R. 210 from Fort Union Boulevard to Alta*, and Section 2.2.3.1.1, *New Alternatives Evaluation*, of the Draft EIS. As stated in the Draft EIS, a

commercial dual-mode or TriTrak system is not currently available. Designing these alternative for the S.R. 210 Project would require an extensive and costly research and development process. For these reasons, these concepts do not meet the logistical, technological, or economic requirements for a reasonable or practicable alternative.

B. *Commenters suggested a bus-only alternative with no private vehicles allowed in Little Cottonwood Canyon. Commenters suggested that this alternative could operate like the bus/tram service in some National Parks where the only access is by a shuttle bus. Other commenters asked whether a shuttle system could be developed.*

As stated in Section 2.2.2.2, *Improve Mobility on S.R. 210 from Fort Union Boulevard to Alta*, and described in Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS, UDOT evaluated a bus-only option. Based on the evaluation, UDOT determined that a bus-only option was not reasonable because the option would require a 1.6-minute headway, or about 75 buses per hour traveling into Little Cottonwood Canyon to meet the peak-hour demand on a busy ski day. In consultation with UTA, UDOT determined that headways less than 5 minutes would not be feasible since it would not be possible to load and unload passengers with all of their ski or snowboard gear quickly enough to maintain the bus schedule. In addition, maintaining headways less than 5 minutes would require barrier-separated bus lanes similar to the bus rapid transit system on University Street in Provo. A barrier-separated lane in Little Cottonwood Canyon would disrupt removing snow to the road edge and would not allow vehicles to move out of the travel lane to the roadway shoulders in an emergency.

Some commenters suggested that, to meet the demand without cars, the buses could be waiting to pick up users to maintain 1.6-minute departures. However, this option would still require a 7,000-parking-space structure, which currently does not exist, and no locations near the entrance to Little Cottonwood Canyon could support a structure of this size since it would need to accommodate traffic from both the north and south parts of the Salt Lake Valley. In addition, parking structures of this size are not efficient for users because they require longer walking distances (with ski or snowboard equipment) to reach the bus pickup location. As noted, it would still take about 5 minutes to load and unload the bus, thereby delaying the round trip time and requiring more buses than necessary to maintain headways (see response 32.2.2I for a regional bus system alternative with dispersed mobility hubs).

Shuttle buses similar to those operated in the National Parks (Zion National Park, for example) would not be able to operate on the steep grades, on the snow-covered roads, or in the cold conditions in Little Cottonwood Canyon. The shuttle system would also have the same constraint as the bus system in that it would not be possible to load and unload the passengers with all of their ski or snowboard gear fast enough to maintain the schedule given the number of users in the peak hour in Little Cottonwood Canyon. Finally, to meet the project purpose, UDOT does not need to implement a bus system that eliminates all private vehicles in Little Cottonwood Canyon.

One commenter claimed that the shuttle service at Zion National Park handled 675,000 people per day in June 2021. UDOT's review of the data showed that these numbers were for the entire month of June and included all entrances to the park including those not served by the shuttle system. In July 2021, about 407,000 people visited the park's south lot where the shuttle system is

operated. This equates to about 13,129 people per day using the shuttle system, which is similar to the ski resort user numbers in Little Cottonwood Canyon on a busy ski day.

To meet the project purpose, the alternatives evaluated in the EIS needed to accommodate about 3,200 people per hour—about 1,000 people accommodated in transit and the remainder in personal vehicles. In discussions with representatives from Zion National Park, UDOT learned that their shuttle system accommodates 1,020 people per hour. The shuttle system picks up passengers every 4 minutes using tandem (articulated) buses that carry 68 people total. The park representatives stated that the shuttle system is operating at maximum capacity.

What is the gravel pit?

The gravel pit is an existing aggregate (gravel) mine located on the east side of Wasatch Boulevard between 6200 South and Fort Union Boulevard.

It is important to note that UDOT cannot run tandem buses in Little Cottonwood Canyon because there is not enough room to maneuver the large buses, and tandem buses cannot operate on ice or snow because the buses would jackknife. If parking structures could be built to accommodate all of the skiers' vehicles and if a bus system similar to Zion National Park's operated from the gravel pit and the 9400 South and Highland Drive mobility hubs, it would still carry only 2,040 people per hour, which is less than the 3,200 needed to meet the project purpose. The park representatives also stated that, during peak travel periods, visitors often wait more than an hour to access the shuttle system. Because a Little Cottonwood Canyon alternative that does not allow private vehicles and uses only buses cannot meet the project purpose of accommodating 3,200 passengers per hour, such an alternative was eliminated from further consideration.

A shuttle system with smaller vans would provide less capacity to meet the demand than the enhanced bus service alternatives currently being evaluated in the EIS. A rail-only alternative would still require parking structures of about 7,000 vehicles, and there is not enough space to locate such large structures (also see response 32.2.2I).

Finally, per 23 United States Code Section 101(a)(23), S.R. 210 is a public road and thus must be open to public travel. The definition at 23 Code of Federal Regulations Section 460.2(c) defines *open to public travel* as meaning that the road is available to the general public except during scheduled periods, extreme weather, or emergency conditions; is passable by four-wheel standard passenger cars; and is open to the general public for use without restrictive gates, prohibitive signs, or regulation except during extreme weather or emergency conditions. Toll roads are not considered restrictive gates. Because S.R. 210 is a public road, UDOT does not have the ability to close the road to public travel.

C. *Commenters asked whether The Boring Company's tunnel system was considered. Other commenters asked why the tunnel concept was eliminated. Other commenters asked about a subway. The Boring Company commented that, given the existence of an operational tunnel system in Las Vegas, UDOT should re-evaluate the tunnel concept.*

As stated in Section 2.2.3.1, *Alternatives Considered and Screening Process – November 2020*, of the Draft EIS, UDOT evaluated a tunnel alternative including the use of autonomous vehicles (similar to a subway concept but with a smaller and less-expensive tunnel). At the time the Draft EIS was developed, UDOT determined that, without a fully operational tunnel system at the scale

or vehicle type needed for the S.R. 210 Project and given the unique conditions presented by the project location, it was not possible for UDOT to verify the cost, buildability, and operational characteristics of a tunnel alternative and compare the tunnel alternative against other alternatives being considered in the EIS. Therefore, such an alternative was eliminated from detailed consideration in the Draft EIS.

After the Draft EIS was released, an 0.8-mile tunnel with semi-autonomous vehicles was operational in Las Vegas. Because there was now an operational tunnel system, UDOT re-evaluated, in this Final EIS, the tunnel system that had been considered in the Draft EIS. UDOT took a tour of the operational system and gathered additional operational and cost information. UDOT noted during the tour that the system was operated by drivers (not autonomously), was not constructed using the technology proposed by The Boring Company to be used on the S.R. 210 Project, and took longer to construct than proposed by The Boring Company. Because the system in Las Vegas is only 0.8 mile long, UDOT was still not able to evaluate the ability to construct and operate an over 20-mile tunnel system autonomously for the S.R. 210 Project. Additionally, UDOT was unable to verify the cost to construct and time to construct a long tunnel system, since one of similar length using the technology proposed by The Boring Company had not been constructed. There is also some concern regarding the ability to load and unload the vehicles with ski gear in the time requirements to meet the demand of about 400 to 500 vehicles per hour.

Therefore, UDOT determined that, without a fully operational tunnel system at the scale or vehicle type needed for the S.R. 210 Project, it is not possible for UDOT to verify the cost and operational characteristics of the tunnel alternative and compare the alternative against other alternatives being considered in the EIS. In addition, because The Boring Company has not drilled tunnels at the length required for Little Cottonwood Canyon in similar mountain environment and at a cost proposed by The Boring Company, UDOT concluded that there is still technical uncertainty regarding the boring technology that would be used. For these reasons, UDOT has determined that the tunnel alternative as proposed is not fully developed at a scale to be considered a reasonable alternative at this time and has eliminated the alternative from further consideration.

D. Commenters asked whether reversible lanes (with and without lane barriers) for buses or personal vehicles in Little Cottonwood Canyon were considered or why they were eliminated.

As stated in Section 2.2.2.2, *Improve Mobility on S.R. 210 from Fort Union Boulevard to Alta*, and Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS, UDOT evaluated reversible-lane alternatives including one with removable barriers. Based on the evaluation, UDOT determined that the lane transitions, where the buses or vehicles have to maneuver back into one lane from the reversible lane at the destination, cause unsafe conditions and increasing congestion due to those vehicle movements. There would also be high visual impacts in the canyon because up to 62 overhead lane-control signs would be needed to indicate the lane travel direction. The amount of additional pavement required for the reversible-lane concept would also be greater than with a peak-period shoulder lane (52 feet vs. 50 feet), which would not require unsafe transition areas and overhead signs (for more details, see Appendix C, *Draft Evaluation of Managed Lane Concepts*, in Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS).

In addition, UDOT found that the use of moveable lane barriers would be impacted by avalanches and would cause safety issues with reduced sight distances at roadway access points. Finally, reversible lanes for personal vehicles would only increase the number of vehicles traveling in Little Cottonwood Canyon and move the traffic congestion to the ski resorts. Based on these reasons and the fact the peak-period shoulder lanes would have a smaller footprint and less traffic and visual impacts, UDOT advanced the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and eliminated a reversible-lane alternative for detailed consideration in the EIS.

E. Commenters stated that climate change will reduce the snowpack in the canyon, thereby diminishing the need for transportation solutions in the future because fewer people will visit the ski resorts.

See Section 2.2.1, *Range of Alternatives to be Considered – June 2020*, and Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS for UDOT's consideration of climate change in developing the alternatives for the Draft EIS. UDOT considered whether the existence of climate change would affect the alternatives-development process. Based on a review of literature and traffic data, UDOT determined that climate change would not change the need for the project. As part of the Final EIS process, UDOT updated the climate change memorandum on January 7, 2022, to include a review of findings in recent publications describing climate and snowpack forecasts. The newer references do not change the general findings that climate change effects should not materially affect the alternatives (HDR 2022a).

Commenters stated that climate change would cause more frequent or less frequent storms that could affect how an alternative operates. For the Wasatch Range specifically, it is likely that there will be increased variability due to movement of the jet stream north, and that, although annual precipitation amounts will remain unchanged or could increase slightly (depending on the model and future scenario examined), the proportion of rain to snow will increase (Scalzitti and others 2016; Strong 2013). This reduction in snowpack will be driven by increasing air temperatures and, on average, will result in decreased snowpack depths by the middle and end of the 21st century. Overall, it would not be possible to predict the frequency of storms (and avalanches), but some studies suggest that storms might be more frequent and warmer.

Regarding comments that there will be fewer days with snow with future climate change: according to the studies, there might be a reduction of snow at the beginning or end of the ski seasons. This was stated in a study for the Park City ski resorts, which are at a lower elevation and receive less snow than the Little Cottonwood Canyon resorts. The periods at the beginning and end of the ski seasons are not typically the times when S.R. 210 has congested periods. Congested periods typically start at the Christmas holiday and end after spring break at the end of March or early April, outside the time when the climate change studies stated that there might be enough reduction in snow to shorten the ski season.

UDOT also considered climate change in how the alternatives were developed. A climate change analysis was considered in the development of the snow sheds. The analysis showed that there would still be the need for snow sheds and that avalanches could be more frequent with larger storm events and potentially heavier, wet snow.

F. *Commenters stated that the ski resorts should implement a high-cost parking pass to encourage people to take transit, with the proceeds for the parking pass going to operate the transit. Others suggested that the resorts should build more parking.*

UDOT evaluated parking fees. UDOT does not have the ability to require private businesses to charge fees and have those fees be applied to public transit. Instead of a parking fee, UDOT would implement a toll on S.R. 210, which would encourage users of personal vehicles to take a transit alternative. With a toll, UDOT can better control traffic on S.R. 210 and how toll fees are used. UDOT does not have the ability to require ski resorts to build more parking, and adding more parking would only increase congestion in Little Cottonwood Canyon and thus would not meet the project purpose.

G. *A commenter stated that, instead of building snow sheds, UDOT should realign the road away from the avalanche paths.*

UDOT evaluated realigning the road (see Section 2.2.2.4, *Improve Reliability and Safety through Avalanche Mitigation*, of the EIS) as part of the process of developing the avalanche mitigation alternatives. To avoid the most critical or higher-frequency avalanche paths, the road would need to be placed either over Little Cottonwood Creek, requiring a stream realignment or culverting, or in wilderness areas, which is prohibited.

H. *A commenter suggested that a series of tunnels be built between Alta and Brighton, from Kimball Junction to Solitude and Brighton, and from Park City to the Cottonwood Canyons. Other commenters suggested that Guardsman Pass should be opened during the winter.*

See Section 2.2.3, *Alternatives Screening Addendum – November 2020*, of the EIS for an evaluation of tunnel options and consideration of connections to Kimball Junction. The tunnel option was eliminated because of high cost or, in the case of new tunnel technology (as promoted by The Boring Company), there was not enough information to determine whether the system would work for the S.R. 210 Project. Opening Guardsman Pass during the winter would improve access to Big Cottonwood Canyon but would not alleviate traffic in Little Cottonwood Canyon.

I. *Commenters asked whether a light rail or monorail was considered and whether the gondola or cog rail base stations could be connected to the greater existing light rail network. Other commenters suggested that UTA buses could be connected to the mobility hubs or base stations, or that a regional bus system should be considered. Other commenters suggested a regional gondola system.*

What is a mobility hub?

A mobility hub is a location where users can transfer from their personal vehicles to a bus.

As stated in Section 2.2.2.2, *Improve Mobility on S.R. 210 from Fort Union Boulevard to Alta*, and Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS, UDOT evaluated a monorail alternative, a light rail alternative, and an alternative that connected to the existing light rail (TRAX) network. Neither monorail nor light rail can operate on grades steeper than about 6%. The average road grade in Little Cottonwood Canyon is about 8% with sections of road at 11% grade. To overcome the steep

grades, UDOT considered cog rail (or rack rail) technology, which can operate in the unique study area environment.

UDOT evaluated an alternative that would connect to the existing light rail network. This alternative was eliminated because of the high cost and impacts to homes and businesses along 9400 South or Fort Union Boulevard (7200 South).

UDOT also evaluated a regional bus system to expand bus service into Little Cottonwood Canyon. A regional bus system sized to accommodate the peak-hour demands would require a substantial bus fleet and would need various routes to service the ski resorts. This type of regional system can be implemented independent of this EIS as part of a mobility hub concept. The buses could provide service to the mobility hubs or gondola/cog rail base stations from anywhere in the Salt Lake Valley. Once at the mobility hubs or at the base stations, riders could select the appropriate express bus to their resort destination or access the gondola or cog rail.

Although UDOT eliminated a regional bus service concept during the alternatives-screening process, it decided to gather further information about the concept after the release of the Draft EIS (see Section 2.2.6, *Alternatives Suggested during the Draft EIS Comment Period*, of the EIS for more detail). The analysis was based on data provided by UTA regarding a regional bus service concept that UTA developed to better understand the operations of a regional transit system with service to the ski resorts. This service consisted of eight regional hubs (Salt Lake City, University of Utah, Millcreek, Holladay, West Valley, Murray, Midvale, and Sandy) with direct service (express bus service) from each pickup location to each ski resort in Little Cottonwood Canyon.

In order to be convenient and provide similar service as a private vehicle, the regional bus service would have no intermediate stops. To meet the project purpose as described in the Draft EIS, the regional bus service would need to provide a peak-period capacity of at least 1,008 people. The regional bus service considered by UTA provided a peak-period capacity of 2,688 people. To make the regional bus service attractive, UTA assumed 15-minute headways during the peak period for each route and 30-minute headways during off-peak times. The regional bus service would have a winter operation and maintenance (O&M) cost of $42,751,234 and an initial capital cost of $118,770,000.

In the EIS, UDOT evaluated the Enhanced Bus Service Alternative and the Enhanced Bus Service in Peak-period Shoulder Lane Alternative. The Enhanced Bus Service Alternative has a peak-period capacity of 1,008 people, a winter O&M cost of $14,000,000, and a total bus cost of $36,075,000. The Enhanced Bus Service in Peak-period Shoulder Lane Alternative has a peak-period capacity of 1,008 people, a winter O&M cost of $11,000,000, and a total bus cost of $24,975,000.

Regional bus service that provides a similar frequency of service as the enhanced bus service alternatives would cost $28,751,234 to $31,751,234 more per winter to operate than the enhanced bus service alternatives. In addition, the bus cost would be about $82,695,000 to $93,975,000 more than with the enhanced bus service alternatives. These increases are a result of the additional buses, longer travel times, and drivers required to provide 15-minute service with the regional bus service versus the 5-minute service considered in the EIS.

If the convenience of regional bus service were reduced by having peak-period headways of 30 minutes, thereby providing peak-period capacity closer to that of the Enhanced Bus Service Alternative (1,344 versus 1,008 people per hour), the winter operation cost and bus capital cost of regional bus service would still be greater. Regional bus service with 30-minute headways during the peak period and 1-hour headways during off-peak times would cost $7,375,617 to $10,375,617 more per winter to operate than the enhanced bus service alternatives. In addition, the bus cost would be about $23,310,000 to $34,410,000 more than with the enhanced bus service alternatives.

With regional bus service, enough parking would need to be included at each pickup location. Although places such as downtown Salt Lake City and the University of Utah have large parking areas that might be available on weekends and holidays, parking would also need to be available during the week and holiday periods such as weeks surrounding Christmas, Martin Luther King Jr. Day, and President's Day, which are all busy ski weeks when the parking areas might be used for business or events. Thus, it is likely that additional parking facilities at a cost similar to the mobility hubs would be required. In-road transit infrastructure such as exclusive lanes and transit signal priority would still be necessary to support the regional bus service. With a bus fleet that is 4 times larger than the fleet required with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, a significant capital investment would also be required to build bus maintenance and storage facilities.

Overall, as shown by the analysis, regional bus service would provide a similar benefit in meeting the project purpose of improving reliability, mobility, and safety on S.R. 210 as the enhanced bus service alternatives evaluated in the EIS but at a substantially greater cost to operate during the winter and with greater bus expenditures. In addition, such an alternative would have the same impacts to S.R. 210 in Little Cottonwood Canyon as would the Enhanced Bus Service Alternative (no road construction). For these reasons, UDOT eliminated regional bus service from detailed consideration in the EIS.

A regional gondola system would result in substantial overflight of residential areas and result in privacy concerns.

J. A commenter stated that UDOT should consider a gondola or road from American Fork Canyon to Snowbird to reduce congestion on Interstate 15 (I-15) and on S.R. 210.

A gondola or road from American Fork Canyon would require a new paved road, utilities, parking structure, and other infrastructure improvements in American Fork Canyon. According to UDOT's traffic counts in 2018, 40% of the traffic entering Little Cottonwood Canyon uses 9400 South, but only 3% of these users are coming from Utah County. Therefore, the number of skiers coming from Utah County that would use the gondola system would not substantially affect congestion on S.R. 210 (or on I-15). Therefore, building a gondola or road from American Fork County would not substantially reduce the number of vehicles entering Little Cottonwood Canyon and thus would not meet the project purpose. In addition, the gondola towers would be placed in areas that would be difficult to access, require construction of new roads to access the base station, and place towers and facilities on the ridgeline at 10,000 feet where there is the potential for higher winds gust than what would occur in the valley of Little Cottonwood Canyon. Therefore, UDOT has determined that this alternative is not reasonable.

K. Commenters suggested that the IKON pass should be eliminated to reduce congestion, the resorts should charge more for lift ticketers or parking to reduce demand, tourists should be charged more for lift tickets, a ski permit system should be implemented, the number of skiers should be limited at the resorts, a parking reservation system should be implemented by the resorts, resorts should use odd/even–day access based on license plates, the resort hour of operations should be changed, or that the road should be closed to vehicles when a limit is met or parking is full.

As stated in Section 2.2.3.1, *Alternatives Considered and Screening Process – November 2020*, of the EIS, limiting the total number of skiers, having a reservation system, or limiting a certain ski pass would not solve traffic congestion because most skiers arrive during the peak morning period of 7 AM to 9 AM when parking at the resorts is available and leave at the same time at the end of the day. Thus peak-period congestion before the parking lots are full would still exist, and therefore limiting the number of skiers would not improve overall mobility. Under current conditions, which result in congestion, the reduced mobility on S.R. 210 occurs when there is still parking available. In addition, UDOT does not have the authority to ban certain ski passes, charge more for lift tickets or parking, add more or reduce parking at the ski resorts, or limit the number of visitors at private businesses. Although ski resorts have the ability to implement a reservation system, UDOT would have no control of the system, so the ski resorts could change the use of the reservation system, thereby altering the benefit of the system. Additionally, Alta Ski Resort did implement a parking reservation system for day pass users for the 2021–2022 ski season. The reservation system did not substantially reduce peak-period morning traffic and did not reduce afternoon congestion since congestion still occurred.

Closing the road when the parking lots are full or when a cap on the number of vehicles is reached would not reduce peak-hour traffic in the morning when parking is available or before the cap is reached and so would not improve mobility. Additionally, because S.R. 210 is a public road, UDOT does not have the ability to close the road to all public travel except as a result of accidents, emergencies, or extreme weather conditions (see response 32.2.2B for more details).

UDOT does not have the authority to change a private business's operating hours. However, changing the time of lift operations would not reduce the congestion in the peak hour since skiers would still want to reach the lifts during the time of operation in the morning. In addition, the resort opening time is based on getting the mountain ready for skiers, and it is difficult to open the resorts earlier because of the lack of morning light during the winter. Finally, skiers would still leave the resort at the same time at the end of the day.

Some commenters said that an entry permit system similar to those used at National Parks should be implemented. Such a system would still not reduce peak-hour congestion unless it was based on entry at a specific time. This would require stopping each vehicle to check for its assigned entry time, which would cause backups and congestion and would not solve the morning mobility issue. In addition, there is no way to prevent people without a pass or those arriving before their entry time from coming to the check station, which would also cause congestion to turn them around. This would also force ski resorts to have multiple types of ski passes since they could not charge for a full lift ticket price for someone with an entry time later in the day, which could affect how they operate their business. National Parks can implement permit systems because they control all aspects of the land and commercial operation within their boundaries. UDOT does not control the

federal and private land nor the commercial businesses in Little Cottonwood Canyon. UDOT does not have the authority to direct how a commercial business operates.

Some commenters suggested that the ski resorts raise the ticket prices to reduce the number of skiers and thus road users. UDOT does not have the authority to raise ticket prices but can implement a toll, which has a similar effect. Thus, all of the alternatives include a toll.

Some commenters suggested the use of ride-share apps to help with carpooling to reduce vehicle use. There is no incentive for skiers to use a ride-share app and carpool with unknown people. The toll proposed by UDOT would likely incentivize carpooling to share the cost of the toll.

Commenters stated that UDOT removing parking along S.R. 210 would alleviate the congestion problem. The peak-hour congestion occurs between 7 AM to 9 AM when parking at the resorts is available and between 3 PM and 5 PM when skiers leave at the same time at the end of the day. Thus peak-period congestion before the parking lots are full would still exist, and therefore removing roadside winter parking would not improve overall mobility. Under current conditions, which result in congestion, the reduced mobility on S.R. 210 occurs when there is still parking available.

L. Commenters suggested that all personal vehicles be banned from the canyon during the winter and that canyon users be required to take transit (bus, gondola, or cog rail).

Per 23 United States Code Section 101(a)(22), S.R. 210 is a public road and thus must be open to public travel. This means that S.R. 210 must be available to the general public for use without restrictive gates, prohibitive signs, or regulation except during extreme weather or emergency conditions. Toll roads are not considered restrictive gates. Because S.R. 210 is a public road, UDOT does not have the ability to close the road to public travel.

To meet the project purpose of improving mobility, UDOT does not need to ban all personal vehicles from using the canyon or ban the majority of vehicles. Based on traffic modeling and analysis, only about 30% of the vehicles need to be eliminated in 2050 to achieve mobility goals. UDOT expects that, on busy ski days during the peak hour in 2050, about 1,550 vehicles would enter Little Cottonwood Canyon. UDOT needs to reduce the number of inbound vehicles to around 1,100 per hour in the peak hour.

Commenters also suggested a time-based reservation system as an alternative. The toll achieves the goal of reducing the number of peak-hour vehicles without a reservation system. The reservation system would be hard to enforce and would not prevent vehicles from trying to enter the canyon if they did not have a reservation or from showing up outside the reservation time. This approach would require inspectors at the entrance of the canyon to verify reservation times, which would cause congestion.

In addition, preventing more vehicles from traveling into Little Cottonwood Canyon would require large parking structures and a bus fleet to meet the demand. UDOT estimates that about 7,500 parking spaces would need to be constructed if all personal vehicles were eliminated. Also see response 32.2.2B.

M. *Commenters suggested that better enforcement of winter snow tires or four-wheel drive should be considered to reduce congestion. Alta Ski Resort felt that enforcement of traction devices should be evaluated in the EIS because a lack of enforcement is a major contributor to congestion. Other commenters suggested that UDOT have more emergency equipment available to assist with canyon incidents. Other commenters suggested that UDOT enforce no roadside parking along S.R. 210 and that delivery trucks and other large vehicles should be restricted to off peak-times. Some commenters suggested that better enforcement of the speed limit should be considered.*

Winter tire enforcement is part of the No-Action Alternative as it is currently in place. Many enforcement issues occur when vehicles enter Little Cottonwood Canyon in the morning under dry conditions and then a winter storm arrives in the afternoon, causing poor driving conditions. UDOT is currently working with law enforcement to address this issue outside the Little Cottonwood Canyon EIS process. Additional enforcement actions can be handled outside the EIS process in coordination with local law enforcement.

Although strict enforcement of the speed limit, winter tires, and drive systems could improve driving under winter conditions, overall, it would not meet the purpose of the project without implementation of one of the primary alternatives. Enforcement is still difficult because tire wear would need to be inspected, and good tires and appropriate drive systems still do not help less-experienced drivers. In addition, tire enforcement can increase traffic congestion on S.R. 210 in Cottonwood Heights and the community at the entrance to Little Cottonwood Canyon as vehicles have to stop for inspection in the travel lane or leave the travel lane to be inspected and then merge back into traffic.

UDOT, the ski resorts, and local law enforcement continue to work on ways to improve the enforcement policy under the No-Action Alternative and outside the EIS process. For example, at the start of the 2020–2021 ski season, UDOT implemented a sticker program in which vehicles could be inspected prior to the ski season and receive a sticker indicating that the vehicle is equipped for winter driving conditions which allows inspectors to verify access to Little Cottonwood Canyon during traction enforcement periods. UDOT also sends out social media alerts about road conditions. UDOT is also currently working with rental car companies to get certain vehicles approved for use in the Cottonwood Canyons. Finally, enforcement does not meet the mobility needs of the canyon because that is primarily the result of too many vehicles entering Little Cottonwood Canyon during the peak hours which UDOT expects to happen on about 50 days per year by 2050 independent of road conditions.

Having a canyon operation center with more equipment would not solve the need to reduce the number of vehicles in Little Cottonwood Canyon to improve mobility. Although it could resolve incidents more quickly, traffic would still back up until the incident is cleared.

Enforcement of no-parking zones is the responsibility of law enforcement.

UDOT does not have the authority to restrict when commercial vehicles or other types of trucks use a state road that receives federal-aid funds. Even if UDOT could restrict large vehicles to off-peak periods, this would be less than 1% of the overall vehicle traffic and thus would not reduce peak-hour traffic enough to meet the project purpose of improving mobility.

N. *Commenters suggested that a gondola, light rail, or road from Park City or Midway should be considered.*

As stated in Section 2.2.3.1, *Alternatives Considered and Screening Process – November 2020*, of the EIS, a gondola and light rail system from Park City to the ski resorts in Little Cottonwood Canyon was considered. The Summit County gondola and rail alternatives with parking would add additional cost and environmental impacts, would duplicate the gondola alternatives that passed the screening process, did not result in enough traffic reduction on S.R. 210, and would have no advantage with regard to satisfying the project's purpose and need; therefore, this alternative was eliminated from detailed consideration. A new road would be similar in that it would not reduce enough congestion of S.R. 210, the majority of which comes from the Salt Lake Valley.

O. *A commenter suggested building a hyperloop.*

The hyperloop technology at a scale to operate for the S.R. 210 Project does not exist; therefore, the hyperloop alternative was eliminated from further consideration.

P. *Commenters suggested that additional lanes be added for personal vehicles. Other commenters suggested that shoulder lanes would add roadway capacity for more vehicles.*

UDOT considered additional personal vehicle capacity (additional general-purpose and carpool lanes) to S.R. 210. There are a limited number of parking spaces in the canyon and additional new parking is inconsistent with the 2003 *Revised Forest Plan: Wasatch-Cache National Forest*. Increasing roadway capacity for personal vehicles would not increase the amount of parking available to resort users and would only push the congestion into the upper segments of the canyon around the resort parking, which would not improve mobility. This alternative would also increase the safety risk from avalanches because more personal vehicle congestion would occur in the upper canyon in areas of avalanche slide paths; therefore, this alternative was eliminated from further consideration.

Q. *A commenter suggested a tunnel or gondola from Little Cottonwood Canyon to Big Cottonwood Canyon.*

A tunnel or gondola between the two canyons would not improve mobility on S.R. 210 or S.R. 190, and improvements on S.R. 190 are outside the scope of this EIS. Therefore, this alternative was eliminated from further consideration.

R. *A commenter suggested that the gondola alignment start at the gravel pit or at 9400 South and Highland Drive where there is more room for parking.*

As stated in Section 2.2.2.2, *Improve Mobility on S.R. 210 from Fort Union Boulevard to Alta*, and Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS, UDOT evaluated a gondola system starting at the gravel pit and at 9400 South and Highland Drive. The alternative was eliminated because it would need to travel over private homes, would require more angle stations which slow travel speeds and increase travel times, or would require the gondola alignment to cross a wilderness area, which is prohibited. This alternative would also be substantially more expensive because of the longer length and more angle stations.

S. *A commenter suggested that the ski resorts should implement their own bus system and require resort users to take the shuttles. Other commenters stated that a shuttle bus system should be run between the resorts.*

UDOT does not have the authority to require a private business operate a bus or shuttle system. In order to meet the project purpose, the shuttle bus system would need to be the same as the Enhanced Bus Service Alternative evaluated in the EIS. A shuttle bus system between the resorts would be the responsibility of the ski resorts because it would not help in meeting the project purpose of improving peak-hour mobility on S.R. 210. The resorts currently encourage hotel guests to use shuttle services to the resorts. Since resort guests are staying in Little Cottonwood Canyon, they typically do not contribute to peak-hour travel conditions.

T. *A commenter suggested that, instead of investing in Little Cottonwood Canyon, from an economic standpoint it makes senses to invest in Park City.*

Investing in transportation infrastructure in Park City would not solve the transportation issues on S.R. 210 and, therefore, would not meet the project purpose.

U. *A commenter asked whether a funicular system had been considered.*

A funicular is a system in which a rail car is pulled along the track with a cable, similar to a cable car. With funiculars, the rail car is permanently fixed to the cable and would shuttle back and forth on tracks. The hourly capacity is therefore limited. Instead of a funicular, UDOT considered a cog rail system, which is more flexible with regard to adjusting headways and can more easily be modified for changes in demand.

V. *A commenter suggested that, to reduce congestion in Little Cottonwood Canyon, UDOT should build new ski resorts.*

UDOT considered the option of building new ski resorts to reduce congestion (see Section 2.2.3.1, *Alternatives Considered and Screening Process – November 2020*, of the EIS). UDOT does not have the authority to require private companies to build new ski resorts or expand existing ski resorts. In addition, if new ski resort capacity becomes economically viable, a private developer would likely seek to build a new resort or expand an existing one, which might or might not be permittable under applicable zoning laws, land use plans, or other regulatory restrictions.

W. *A commenter asked whether existing bus service in the canyon could continue to supplement the gondola alternatives.*

The gondola alternatives assume that buses are removed from the canyon, which creates an alternative that does not rely on the road but that provides direct service to the ski resorts. UTA could change the existing bus routes to stop at the mobility hubs (Gondola Alternative A) or base station (Gondola Alternative B), but no buses would continue up the canyon with the gondola or cog rail alternatives as part of this project.

X. Commenters asked whether the selection of the La Caille base station for Gondola Alternative B and the Cog Rail Alternative was to support a developer.

UDOT evaluated numerous locations for a base station and parking including the gravel pit, 9400 South and Highland Drive, the Little Cottonwood park-and-ride lot, and locations that were about 1 mile from the entrance to Little Cottonwood Canyon. None of the other locations were determined reasonable because of overflight of homes (by gondola cabins) except locations within about 1 mile of the entrance to Little Cottonwood Canyon. The three locations were the Little Cottonwood Canyon park-and-ride lot, La Caille, and an empty lot just south of the intersection of North Little Cottonwood Road and Wasatch Boulevard. The lot south of the intersection of North Little Cottonwood Road and Wasatch Boulevard was the best option from a traffic perspective because traffic could enter the site from two roads; however, the site was eliminated because it was located on a known earthquake fault with a high rupture potential. The La Caille and the Little Cottonwood Canyon park-and-ride lot sites were the only areas that did not have existing homes on the proposed site location and provided enough available land to locate a base station. None of the proposed site selection was based on future development potential.

Regarding the La Caille base station proposal, a commenter (the property owner) provided an alternative for UDOT to consider. As part of the EIS process, UDOT must consider all alternatives received, even if the commenter owns the property, and, if the alternative is reasonable, it must be carried forward for detailed evaluation.

UDOT does not have any other plans for the La Caille base station parcel, and property development outside the area proposed for the base station and any internal circulation for the development is the responsibility of the property owner.

Y. Commenters asked whether UDOT could just charge a toll or require people to carpool. Others asked whether UDOT could add a toll now to reduce congestion.

Charging a substantial toll or enforcing carpooling would reduce personal vehicle use in Little Cottonwood Canyon. However, implementing tolling only would be an impact to low-income populations without an alternate subsidized way to access upper Little Cottonwood Canyon at a user capacity that can handle the toll diversion. The current bus system is not capable of handling the toll diversion. UDOT would not implement a toll without offering an alternate travel mode at a reduced fare that can handle the expected 30% toll diversion needed to reduce congestion. With tolling only, it would be an impact to low-income populations and would not meet the intent of Executive Order 12898, *Environmental Justice*. In addition, it would not be possible for UDOT to enforce carpooling since there are no reliable methods to determine the number of occupants without stopping traffic which would just increase congestion. Again, UDOT would need an alternate mode of transportation if carpooling was enforced.

UDOT cannot implement a toll today without also providing a lower-cost alternative for people to access Little Cottonwood Canyon (that is, one of the primary alternatives).

Z. A commenter suggested that the gondola alignment start at 7 turns in Little Cottonwood Canyon with a parking structure on the north side of S.R. 210.

Starting a gondola or adding a parking structure in Little Cottonwood Canyon would not reduce congestion because all of the vehicles going to the gondola base station and those going on to the ski resorts would need to enter the canyon. To reduce congestion, traffic must be reduced before it enters Little Cottonwood Canyon.

AA. Commenters asked about bus alternatives to alleviate the need to expand Wasatch Boulevard or a mobility hub at 9400 South and Highland Drive with bus service to the University of Utah area as an alternative to widening Wasatch Boulevard.

UDOT considered a transit-only alternative on Wasatch Boulevard. The traffic modeling conducted for Wasatch Boulevard under the no-action conditions included express bus service (to be implemented between 2040 and 2050) on Wasatch Boulevard (as shown in the 2019–2050 *Wasatch Front Regional Transportation Plan*) running between the Little Cottonwood Canyon park-and-ride lot at the intersection of S.R. 209/S.R. 210 and a lot at I-215/3900 South, where the express bus route would connect to another express bus route between there and the University of Utah. The Wasatch Front Regional Council, along with UTA, develops regional transit plans for the Salt Lake Valley. In addition, the no-action conditions include UTA light rail transit from Draper to downtown Salt Lake City and existing bus service from Draper and Sandy to the main employment centers of Salt Lake City. Even with these planned transit projects to serve Cottonwood Heights and Draper residents, the traffic analysis still showed congested traffic conditions on Wasatch Boulevard if no roadway capacity improvements are made.

UDOT evaluated a nonstop express bus running between the existing UTA park-and-ride lot at 9400 South and Highland Drive and the University of Utah area. UTA currently operates Route 220 from this location to the University of Utah down Highland Drive at 30-minute intervals. In addition, the UTA light rail line runs from Draper to the University of Utah and has the Historic Sandy Station less than 4 miles from the 9400 South and Highland Drive park-and-ride lot. Since this route provides congestion-free service to the University of Utah, it would be a more attractive route compared with an express bus that could be delayed in congestion.

UTA operated an express bus route (Route 354) from 9400 South and Highland Drive to the University of Utah from 2017 to 2019. The route had three morning departures from 9400 South and Highland Drive and three afternoon departures from the University of Utah. Between August and December (typically the period with the highest ridership numbers), the route had a low number of average boardings at 9400 South and Highland Drive start point—an average of 11.7 in 2017, 10.9 in 2018, and 8.1 in 2019. The low ridership showed that there was not much demand for this express bus route.

UDOT's review of origin and destination data from the *Wasatch Boulevard Master Plan* showed that, of the traffic using Wasatch Boulevard, only 20% was heading to or from the University of Utah area. Thus, even if a bus route between 9400 South and Highland Drive and the University of Utah area were developed, it would address only a small number of Wasatch Boulevard users. The one-lane roadway vehicle capacity on Wasatch Boulevard is 1,000 vehicles per hour (at more than 1,000 vehicles per hour, the road reaches unacceptable levels of congestion). Under the No-

Action Alternative in 2050, the segment of Wasatch Boulevard between Bengal Boulevard and 3500 South is forecasted to have 1,500 vehicles per hour in the PM peak hour. Assuming that all 20% of Wasatch Boulevard users heading to the University of Utah area used the express bus, that would be about 300 vehicles eliminated, which would still result in 1,200 vehicles per hour, which is over the roadway capacity. However, it is unlikely that all 20% of the users would be willing to shift to the express bus.

Because of the low ridership numbers from a similar express bus service and given that only 20% of the users of Wasatch Boulevard are heading the University of Utah area, an express bus service would not reduce traffic congestion enough to meet the UDOT screening goal of level of service D or better.

BB. *Commenters asked: Is the goal to reduce private vehicles in the canyons? UDOT's own proposal says that the gondola won't reach that mark.(The comment specifically states that Table 2.2-5 shows that the mobility hub near the mouth of the canyon would not reduce mobility.)*

All of the primary alternatives would reduce private vehicle use on S.R. 210 in Little Cottonwood Canyon through the implementation of tolling. Page 2-16 of the Draft EIS is Table 2.2-5, *Improve Mobility on S.R. 210 – Mobility Hubs Screening Results*. This table shows the screening results for the locations of the mobility hubs, not the screening results to improve mobility with the gondola alternatives or other primary alternatives. The three mobility hubs that would not improve mobility on S.R. 210 in the table were screened out as not meeting the project purpose because without any adjacent roadway improvements those mobility hubs would not reduce congestion on S.R. 210. UDOT selected two mobility hubs (gravel pit and 9400 South and Highland Drive) that would not increase congestion or reduce mobility on S.R. 210.

Subsequent to the mobility hub alternatives screening process, UDOT considered a parking structure at La Caille, which was one of the locations that initially did not pass screening. The alternative was provided to UDOT along with a traffic study showing that, with improvements to S.R. 210, there would not be substantial congestion around the La Caille base station if either a 1,500-space or 2,500-space parking structure was considered. The EIS process requires UDOT to evaluate alternatives provided by the public. UDOT conducted an independent traffic evaluation and conducted travel modeling and found that traffic would not become congested on S.R. 210 at the parking structure if an additional travel lane were added for a short distance on S.R. 210. The additional travel lane was not considered as part of the initial mobility hub screening analysis because UDOT wanted to consider all potential parking locations without the need for adjacent roadway improvements.

CC. Commenters requested that UDOT consider the widening of Highland Drive across Dimple Dell Park into Draper.

UDOT considered improvements to Highland Drive during the evaluation process. UDOT modeled the expected traffic volumes in the project area in 2050 using the Wasatch Front Regional Council's travel demand model. The travel demand modeling for the project included Highland Drive being built as a five-lane road and connecting from 9800 South to the Draper city limits. Even with Highland Drive being expanded to five lanes (four travel lanes and a center turn lane), the results of the travel demand model showed a need to expand the traffic capacity on Wasatch Boulevard to meet future regional growth.

What is a travel demand model?

A travel demand model predicts future travel demand based on projections of land use, socio-economic patterns, and transportation system characteristics.

Improvements to Highland Drive are planned to be implemented between 2030 and 2040.

DD. Commenters asked UDOT to evaluate a tunnel under Wasatch Boulevard to alleviate the need to expand Wasatch Boulevard.

In the June 2020 *Draft Alternatives Development and Screening Report* (EIS Appendix 2A, page A-1), UDOT evaluated a tunnel under Wasatch Boulevard to accommodate the through traffic. The cost of 3-mile tunnel would be about $2.5 billion. In addition, it would require extensively reworking of the existing road network to accommodate entrance and exit points; therefore, this alternative was eliminated from detailed consideration.

EE. Commenters asked whether the two travel lanes could be used for uphill traffic in the morning and downhill traffic in the afternoon (called double stacking).

See page 2-9 of the Draft EIS. This alternative consists of closing the downhill lane on S.R. 210 in Little Cottonwood Canyon in the morning and the uphill lane in the afternoon to provide one-way vehicle flow during peak periods to reduce congestion. This alternative was eliminated because the alternative was modeled as causing backups on S.R. 210 and could slow access by emergency response vehicles. In addition, even if such an alternative would reduce congestion at and below the entrance to Little Cottonwood Canyon, it would substantially increase congestion at the entrances to the ski resorts because twice the amount of traffic would arrive at the resorts at the same time.

FF. Commenters stated that mobility hubs at old shopping centers or at areas with large, unused parking such as schools should have been considered.

As shown in Table 2.2-5, *Improve Mobility on S.R. 210 – Mobility Hubs Screening Results*, of the EIS, UDOT evaluated 14 potential locations for a mobility hub to serve Little Cottonwood Canyon. The mobility hub locations included existing mall and business parking lots. The mobility hub locations could be used for bus service directly to the ski resorts or for bus service to a gondola or cog rail station located at the entrance to Little Cottonwood Canyon. Based on the alternatives screening summarized above in Table 2.2-5 of the Draft EIS, UDOT determined that the best locations for mobility hubs were the gravel pit on the east side of Wasatch Boulevard between 6200 South and Fort Union Boulevard and the UTA park-and-ride lot at 9400 South and Highland

Drive (across from the Shopko). Both locations meet the lot size and availability requirements and would provide convenient access for users and transit to Little Cottonwood Canyon. These locations were used with each bus, gondola, and cog rail alternative to help evaluate each transit alternative.

The mobility hubs would need to be available on busy ski days, which might occur when mall and school parking are being used (outside weekends). The parking would need to be consistently available during the winter.

GG. *Commenters asked where vehicles were coming from that use S.R. 210 for accessing the ski resorts.*

UDOT collected data and found about 60% of the traffic comes from north of S.R. 210 and about 40% from the south. Of the 60% of traffic from the north, less than 6% is from Park City.

HH. *Commenters stated that just adding a center barrier on S.R. 210 in Little Cottonwood Canyon could reduce traffic congestion caused by slideoffs.*

A center barrier would not substantially reduce congestion because it would not reduce the amount of vehicles entering Little Cottonwood Canyon. A barrier would also make snow removal difficult and could be displaced by an avalanche, requiring greater closures of the roadway.

II. *Commenters suggested using law enforcement to manage traffic and increasing plowing to reduce congestion on S.R. 210. Other commenters suggested that avalanche mitigation should occur earlier in the morning so that plowing could be finished before the peak-hour traffic. Another commenter suggested putting heating strips in the road to melt snow in steep sections.*

Having law enforcement manage traffic at key intersections would not reduce the number of vehicles trying to enter the canyon and thus would not alleviate congestion. Although more snowplows would help with road conditions during snow events, it would not reduce the number of vehicles entering Little Cottonwood Canyon and thus would not reduce congestion.

It is not practical for UDOT to start avalanche mitigation earlier than current practice. The UDOT avalanche mitigation team needs time for gun crews to arrive at the gun (howitzer) and needs daylight to verify that the fire control on the gun is accurate and that the gun produced the appropriate avalanche mitigation results (also see responses 32.2.2TT and 32.2.2VV).

Heating strips would not reduce peak-hour vehicle traffic and associated congestion and thus would not meet the project purpose.

JJ. *Commenters asked whether other gondola systems besides the 3S (three cables) were considered.*

UDOT evaluated six types of gondola/tram systems including systems similar to those in operation at Snowbird Resort and Telluride in Colorado. Because it would have the greatest maximum passenger capacity, the fastest travel times, the greatest operational benefits (most stability in high winds), and the most opportunity to avoid environmental resources, the 3S-type gondola is considered the appropriate gondola system for Little Cottonwood Canyon.

KK. Commenters suggested that UDOT build carpool and casual pickup spots where users can get into a carpool. This alternative would include parking at the base of the canyon and pedestrian overpasses. Other commenters suggested the development of a carpool app.

UDOT cannot require people to carpool with unknown individuals and would need to monitor vehicles for carpool restrictions, which would require vehicles to be inspected, which would increase traffic congestion. In addition, UDOT is proposing a toll on S.R. 210, which is a manageable solution to control canyon traffic and could incentivize carpooling without trying to establish and enforce specific areas. With the implementation of the mobility hubs and tolling, UDOT's analysis shows that the goal of 30% reduction can be achieved without building specific carpool areas.

LL. Commenters suggested that parking lots and pullouts be plowed in the winter and open year-round.

Many of the pullout and parking areas are used for snow storage in the winter and would be difficult for UDOT to maintain. In addition, some of the pullouts and parking areas are in avalanche zones where parking is not allowed in the winter. Finally, plowing pullouts and parking areas is an operational issue that can be implemented outside the EIS process.

MM. A commenter wanted to know whether a JPods alternative was considered.

See Section 2.2.4.1, *JPods Concept*, of the Draft EIS. The JPods concept is similar to the dual-mode concept evaluated in the November 2020 addendum report, since it would consist of gondola-type cabins suspended from a fixed rail similar to a monorail. A commercial JPods system is not available. Designing the JPods as an alternative for the S.R. 210 Project would require an extensive and costly research and development process. In addition, the JPods would place the required infrastructure in avalanche paths, potentially putting the system at risk for damage. For these reasons, the JPods concept does not meet the logistical, technological, or economic requirements for a reasonable or practicable alternative.

NN. Commenters asked whether adding more passing lanes on S.R. 210 would reduce congestion.

There are a limited number of parking spaces in the canyon. Adding passing lanes for personal vehicles would not increase the amount of parking available to resort users and would only push the congestion into the upper segments of the canyon around and below the resort parking, which would not improve mobility. This alternative would also increase the safety risk from avalanches since more personal vehicle congestion would occur in the upper canyon in areas of avalanche slide paths; therefore, this alternative was eliminated from further consideration.

OO. Commenters asked whether a large car wait lot could be built at La Caille or at the Shopko where cars could be held until traffic starts to free flow. Other commenters suggested a traffic metering system or loading lanes.

With the implementation of snow sheds (see response 32.7A), there should be fewer days when S.R. 210 is closed and traffic is stopped. UDOT evaluated a ramp metering system that would store vehicles and then release them. Even with a 10-lane metering lot, traffic would back up past

the intersection of Wasatch Boulevard and North Little Cottonwood Road, which would impede access to residential neighborhoods.

Depending on the duration of the road closure for avalanche mitigation, in 1 hour more than 1,500 vehicles might need to find a wait area. There is not enough parking at the Shopko to meet this demand.

UDOT is unsure what a commenter meant by lane loading. UDOT assumes a lane where vehicles could be stored during avalanche closures. With the implementation of snow sheds, the need for lane loading would be minimized. See responses 32.7A and 32.7B.

PP. *Commenters were concerned about the impact of alternatives and suggested that all options be exhausted first or other solutions be considered.*

UDOT evaluated about 124 potential transportation solutions as part of the screening process. These included alternatives that resulted in no new construction and others that had substantial new construction. Based on the screening process, five primary alternatives were determined reasonable and were evaluated in the EIS. The 124 potential solutions included those suggested by the public and agencies. UDOT believes that it evaluated all alternatives suggested during the EIS process.

QQ. *Commenters suggested that the ski resorts should build more parking lots and improve traffic movement in the parking lots.*

Adding more parking at the ski resorts would simply increase the amount of peak-hour traffic on S.R. 210 and would not improve mobility and thus was eliminated from consideration. UDOT does not have ability to manage ski resort parking. The ski resorts manage their parking lots and associated congestion based on their operations plans.

RR. *Commenters suggested that the bus lane be elevated over the existing S.R. 210 on a bridge since that would result in few expansion impacts.*

The bridge structure would need support, which would require expanding the roadway under the bridge. The bridge would also be prone to failure due to seismic activity. The bridge would also have a greater tendency to ice up than would the road, thereby creating greater safety risk and the application of more salt in the watershed. Finally, the cost of the bridge would be substantially greater than would widening the road.

SS. *A commenter stated that transit should carry 4,000 to 5,000 people per hour.*

It is not feasible or prudent to develop a system with a capacity of 4,000 to 5,000 people per hour. The parking area required to support such a system would be substantially larger than UDOT's plan of 2,500 parking spaces. In addition, to meet the project purpose, UDOT only needs to have the transit system carry about 1,000 people per hour. Building a larger-capacity transit system would cost more and is not necessary to meet the project purpose.

TT. *Alta Ski Resort and others stated that traffic flows are reduced when the S.R. 210 mainline is closed between Snowbird and Alta for avalanche control and vehicles need to use the Bypass*

Road. Alta Ski Resort stated that this issue should be addressed in the EIS. They recommended installing additional remote avalanche-control devices to help keep the S.R. 210 mainline open.

UDOT currently has a program in place to install more remote-control devices in Little Cottonwood Canyon based on funding availability and land designation. Implementing additional avalanche mitigation using an active program can be done outside the EIS process. Because active avalanche mitigation requires S.R. 210 road closure and therefore does not substantially improve roadway reliability or reduce the number of hours or days when S.R. 210 would be closed, this was not considered in the EIS.

UDOT considered snow sheds over the S.R. 210 mainline to minimize use of the Bypass Road but determined that the avalanche path would require long and expensive snow sheds without substantially improving mobility for the majority of users.

UU. *Alta Ski Resort, the Sierra Club, and Alta Lodge stated that the EIS should address the number of merge points at Snowbird Resort onto S.R. 210 to address its impact on traffic congestion and that it should be considered in the EIS.*

In 2020, UDOT made improvements to the merge points to better manage congestion on S.R. 210. During the process, UDOT looked at a separate downhill lane but determined that there was insufficient room to include the lane. The primary alternatives being considered in the EIS will improve overall mobility on S.R. 210 without the need for additional improvements to the merge points onto S.R. 210. UDOT's goal is to reduce personal vehicle use by incentivizing personal vehicle users to transfer to transit.

VV. *Alta Ski Resort and the Sierra Club stated that the EIS does not address how an earlier start to avalanche mitigation work could reduce congestion in the neighborhoods and roads at the entrance to Little Cottonwood Canyon nor suggest alternatives to complete mitigation work earlier to reduce congestion. They also stated that the current artillery program is going to be discontinued and asked how this will change future avalanche-control work.*

The implementation of additional avalanche mitigation using an active program can be done outside the EIS process. Because active avalanche mitigation requires S.R. 210 road closure, it does not substantially improve roadway reliability or reduce the number of hours or days that S.R. 210 would be closed and thus was not considered in detail in the EIS. In the EIS, UDOT considered snow sheds, which would substantially improve the reliability and safety of S.R. 210 and reduce the amount of active mitigation. With the snow sheds in place, the need for earlier active mitigation start times would be reduced. UDOT is aware of the potential for discontinuation of the artillery program and is currently working on solutions with the USDA Forest Service since eliminating the artillery program would require analyzing alternative avalanche-control methods in a wilderness area.

It is not feasible for UDOT to start avalanche mitigation earlier than current practice. The UDOT avalanche mitigation team needs time for gun crews to arrive at the gun (howitzer) and needs daylight to verify that the fire control on the gun is accurate and that the gun produced the appropriate avalanche mitigation results. The verification process would also be needed for remote devices.

WW. Alta Ski Resort stated that, with the elimination of roadside parking, UDOT should allow the ski resorts to expand their current parking.

The primary alternatives being considered all include the addition of 2,500 parking spaces in the Salt Lake Valley. This parking more than accommodates the 230 parking spaces UDOT is proposing to eliminate with the No Winter Parking Alternative. UDOT's goal is not to get more vehicles in Little Cottonwood Canyon but to incentivize the use of transit. If the ski resorts want more parking at the resorts, they can work with the USDA Forest Service regarding the feasibility of and best approach for adding parking capacity on National Forest System lands.

XX. A commenter suggested that UDOT look at ramp metering at the resort parking lots to reduce downhill congestion.

Even with ramp metering at the resorts, the primary alternatives would still be required to improve mobility. UDOT evaluated ramp metering, and the metering caused congestion and egress issues within the parking lots because there was not enough space to store vehicles. In addition, this further impacted the use of the bus systems because the buses would also be caught in the same congestion.

YY. A commenter suggested that the 9400 South and Highland Drive mobility hub be located at the light rail station parking area.

The commenter was not specific about which light rail station the mobility hub should be located at, but UDOT assumed the Historic Sandy Light Rail (TRAX) Station. That park-and-ride lot needs to be available for light rail use. In addition, the existing parking is only 2 acres (9400 South and Highland Drive is a little over 4 acres) and could not accommodate the number of spaces necessary for the mobility hub plus parking for the light rail station. In addition, there is no left-turn access into the parking area, which would be the main direction for skier traffic in the morning off I-15. Users would need to travel 0.5 mile out of direction through residential neighborhood to access the light rail parking area. For these reasons, the mobility hub at the Historic Sandy Light Rail Station was eliminated from further consideration.

ZZ. A commenter suggested that, instead of building a mobility hub at 9400 South and Highland Drive, UDOT should use the existing parking at the South Towne Mall in Sandy. The commenter provided a subsequent list of other locations that could include a mobility hub instead of 9400 South and Highland Drive.

As evaluated, about 1,000 parking spaces would be required at the existing UTA parking area at 9400 South and Highland Drive. This park-and-ride lot is already used for current ski bus service. UDOT did consider using existing parking lots at businesses. The parking spaces for the ski bus service must be available during the week, on weekends, and during holiday periods. Typically, these times conflict with when the businesses need to operate and have parking spaces available for business patrons. The South Towne Mall's busiest season (Christmas) is also a peak skiing period when 1,000 parking spaces would need to be available in a defined single location where the ski buses could arrive and pick up passengers. This is about 14% of the 6,872 parking spaces at the mall.

The existing parking at the South Towne Mall is a surface lot. A thousand spaces would require about 8 acres of parking assuming 330 square feet needed for a parking space (includes access roads and other amenities needed for parking). This would require buses to have an internal route to pick up skiers because walking to a central space with ski gear and boots would be difficult. An internal route would slow bus service. Also, the largest single parking area at the mall contains about 960 parking spaces, and removing those parking spaces to provide parking for skiers would require eliminating a large portion of the most convenient parking for the mall businesses. Thus a parking structure would still be needed to minimize the removal of existing parking spaces used by mall patrons and to avoid an internal bus route.

A lot at South Towne Mall would also require out-of-direction travel in order to be fully utilized. Users south of 9400 South but north of the mall would need to drive back (south) to the mall to use the service, making it less attractive for those residents since that would be out-of-direction travel from Little Cottonwood Canyon. The bus service would also take about 15 minutes in additional travel time compared to buses leaving from the 9400 South and Highland Drive lot. The additional travel time would require about 8 more buses and about $1,000,000 in additional operation cost per ski season.

UDOT contacted representatives with South Towne Mall to discuss the potential for using their existing parking. The mall representatives said that it was not feasible to allocate 1,000 parking spaces during potentially prime holiday season, and they have a requirement to maintain a certain number of parking spaces per square foot of shopping space, which would not be meet if they allocated 1,000 spaces to UDOT. UDOT could build a parking structure, but UDOT would need to replace the existing impacted spaces which could increase the cost of the parking structure by 2 times that of the proposed mobility hub at 9400 South and Highland Drive. The representatives said that they would not sell the land for a parking structure and UDOT would need to own the land if UDOT was going to make a large investment in a structure to maintain operational capabilities.

Because using the South Towne Mall parking would not improve the mobility of the enhanced bus service compared to the 9400 South and Highland Drive mobility hub, would reduce parking during peak shopping seasons at a commercial business, is located in a less convenient location for the primary ski resort user to access, and costs more in operational cost, it was eliminated from further consideration.

The commenter also provided other potential locations for a mobility hub including the South Towne Mall Promenade, a lot between the Hilton Garden Inn and Del Sol on Monroe Street In Sandy, the lot behind the Sandy Post Office on 10000 South, the Mountain America Exposition Center, the Mountain America Soccer Field and adjacent Biograss Sod Farm on 10000 South, and the empty lot on the northeast corner or southeast corner of Sego Lily Drive and State Street. Below is a summary of the evaluation of these alternatives. To pass screening, the lots must be at least 4 acres, provide convenient freeway access, and provide convenient access to Little Cottonwood Canyon.

- **South Towne Mall Promenade.** This location is designated as a park by Sandy City and thus cannot be used for parking. In addition, the promenade is narrow, about 250 feet wide, and it would not be possible to build a structure at this narrow location.
- **Lot between the Hilton Garden Inn and Del Sol.** At 3.30 acres, this lot is not large enough to build the necessary parking structure. Also, on the west side of the vacant lot is a public trail, which needs to be avoided because it is a Section 4(f) resource. In addition, the location does not have convenient access to I-15 or Little Cottonwood Canyon, requiring out-of-direction travel and longer transit travel time.
- **Sandy Post Office.** There is an existing parking structure used by the post office. The parking spaces for the ski bus service must be available during the week, on weekends, and during holiday periods. This would conflict with the operation of the post office parking.
- **Mountain America Exposition Center.** Parking at the exposition center must be available for events, which would conflict with use for ski bus parking, which needs to be available on weekdays, weekends, and holidays.
- **Mountain America Soccer Field and Adjacent Biograss Sod Farm.** This is an existing soccer field and business. In addition, travel to this location does not provide convenient access to I-15 or Little Cottonwood Canyon. UDOT would not condemn the business or soccer field given that 9400 South and Highland Drive is an existing and available park-and-ride lot that provides convenient access to I-15 and Little Cottonwood Canyon.
- **Sego Lily Lots.** The southeast lot is only 1.97 acres and does not meet the size requirement. The northeast lot has the Jordan River and the Salt Lake Canal, which would require relocation to build the parking structure. In addition, travel to this location does not provide convenient access to I-15 or Little Cottonwood Canyon. UDOT would not relocate the canal given that 9400 South and Highland Drive is an existing and available park-and-ride lot that provides convenient access to I-15 and Little Cottonwood Canyon.

AAA. A commenter suggested that UDOT use parking at 7150 Wasatch Boulevard, the Canyon Centre, to reduce the need for parking spaces at the gravel pit mobility hub.

The purpose of the mobility hubs is to provide convenient access to transit and reduce travel times. Adding additional bus stops would only slow the transit service, making it less attractive to users. In addition, buses leaving the mobility hub would be full, so it would not be possible to pick up passengers at other stops, resulting in little use of the stop.

BBB. A commenter suggested that UDOT enforce Cottonwood Heights' anti-idling law and divert vehicles to Sandy's Quarry Bend skier waiting area when the road is closed.

The Quarry Bend area is a commercial business area, and there is not enough parking to store all of the vehicles that would need to be diverted. In addition, using this parking area would force vehicles down 9400 South and create traffic congestion for other residents.

CCC. Commenters suggested reducing the price of the gondola or cog rail fare, placing the ski resort gondola or cog rail station between Snowbird and Alta, and running shuttle buses between the resorts. Other commenters asked whether a cog rail alignment on the old quarry trail was considered.

UDOT evaluated all cog rail concepts that were suggested, including the quarry trail alignment mentioned in the comment. UDOT evaluated this concept, and the results are documented in Section 2.2.4.3, *Cog Rail Refinements*, of the EIS. The cog rail to Snowbird and shuttle bus to Alta alignment would follow the same north-side rail alignment as the Cog Rail Alternative evaluated in the EIS. However, the cog rail tracks would stop at Snowbird to avoid the need for snow sheds past the Superior and Hellgate avalanche zone. Skiers going on to Alta would need to transfer from the cog rail system to a shuttle bus for the ride to Alta. The purpose of this refinement is to reduce the cost of the cog rail alignment to Alta, which requires snow sheds in some segments between Snowbird and Alta. Removing the upper-canyon snow sheds ($116 million), track ($30 million), and Alta cog rail station ($5 million) would lower the cost by about $151 million. Adding shuttle bus service ($4 million) between Snowbird and Alta, the total cost of this alternative would be lowered by about $147 million. This would reduce the overall cost of the Cog Rail Alternative from about $1.090 billion to $944 million, which is still higher than the enhanced bus service or gondola alternatives.

Users going to Alta might view the shuttle bus system as a negative, and the bus system might discourage some Alta users from using the cog rail or gondola system since it would require another transfer (cog rail or gondola to shuttle bus) or two mode shifts, assuming that Alta-bound passengers use the parking garage at La Caille (car to train to shuttle bus). In addition, the shuttle buses could be delayed by snow or traffic congestion, whereas the cog rail service to Alta would not be delayed by traffic congestion and would be less affected by snow. One of the primary benefits of a cog rail or gondola system is that it is less likely to be delayed by snow on the road, and adding a bus system for part of the service is contrary to one of the reasons why cog rail or gondola is being considered. Therefore, UDOT eliminated the refinement that would add bus service between Snowbird and Alta because it is similar to the gondola and cog rail alternatives being evaluated in the EIS but would reduce the overall reliability of the alternative, which is its primary benefit.

A cog rail station between the two ski resorts would also not be possible to construct because there is no available land outside avalanche paths for the station.

UDOT considered a cog rail alignment on the canyon floor (on the Quarry Trail). The alignment was eliminated from detailed consideration because it would impact the trail, was placed adjacent to Little Cottonwood Creek, and would directly impact the Tanner Flats Campground.

DDD. A commenter said that Appendix 2A stated that "a 1.2% growth rate was applied based on historical growth rates for a 22-year period starting in 2018 and ending in 2050." This sentence should be corrected; the length of the period is 32 years.

A projected 1.2% annual growth rate was derived from the historical growth rate measured over a 22-year period, and then applied to the period starting in 2018 and ending in 2050. It is not possible to predict how future variables in traffic, such as a decrease in travel, could change the average growth rate; however, 22 years of historical data are a good indication of future growth rates. For example, during that 22 years, some years might have had substantial increases because of better snow, while other years might have had a reduced growth rate or decline. Overall, the historical average provides a good indication of the future, taking into account both winter and summer use.

EEE. A commenter stated that Appendix 2A notes that a 1.2% growth rate was applied in addition to population growth, but the number of total vehicle growth only reflects the 1.2%.

UDOT used the 1.2% growth rate for traffic projections. As stated in the section, the population continues to grow, thereby supporting the 1.2%-growth-rate projections.

FFF. Commenters stated that watershed protection and visual resources should have been part of the alternatives screening process.

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 primary screening criteria used to screen out alternatives were based on this purpose to identify reasonable transportation solutions. The secondary criteria did consider environmental resources but were used only to eliminate similar alternatives (such as different bus alternatives) that had only slight differences in impacts. The purpose of the EIS process is to evaluate a reasonable range of alternatives, including the environmental impacts of those alternatives. The decision-maker then reviews the impacts to make an informed decision. The importance of potential watershed and visual impacts is recognized in the EIS, and those impacts will be considered by UDOT as part of the decision-making process and documented in the Record of Decision.

GGG. A commenter asked what percentage of ski resort users are from out of state and commented that preventing them from accessing Little Cottonwood Canyon could reduce congestion.

There is no way to know with accuracy how many out-of-state visitors access the ski resorts on busy days without asking each person using the resort. In addition, the percentage of out-of-state skiers would vary from day to day. Many informal surveys have been conducted by looking at license plates, but they are not statistical surveys that have any level of accuracy. Also, it would not be consistent with the project's purpose and need to restrict only out-of-state users, since this would require each vehicle to be stopped before entering Little Cottonwood Canyon to verify residency, which would cause traffic congestion. Finally, it is questionable whether UDOT has the legal authority to prohibit road use based on state of residency.

HHH. A commenter suggested that participants in ski schools and ski teams for children should be required to take buses, and that would solve the traffic problem.

Just placing ski school and ski team participants on buses would not meet the project purpose of improving mobility, since it would not achieve a 30% reduction in peak-hour traffic. In addition, ski school and ski team buses would not always arrive during peak periods, meaning there would not necessarily be a reduction in peak-period traffic.

III. Save Not Pave requested that Wasatch Boulevard be no more than three lanes including one flex/reversible peak-only bus lane which should be used to accommodate rapid mass transit options that serve recreation traffic flowing south in the mornings and north in the evenings.

As part of the screening process, UDOT evaluated a reversible-lane (flex-lane) alternative. UDOT considered the flex lane as a general-purpose lane instead of a transit-only lane. The general-purpose lane would provide greater vehicle capacity than a transit-only lane, and thus would result in less congestion than a bus-only lane. The evaluation showed that the alternative would still result in a level of service of LOS F on the segment of Wasatch Boulevard from 3500 East to North Little Cottonwood Road and LOS F at the intersection of North Little Cottonwood Road and Wasatch Boulevard. Level of service LOS F does not meet UDOT's goal of LOS D or better for Wasatch Boulevard.

JJJ. A commenter suggested a Better Bus Alternative. The alternative would consist of the Enhanced Bus Service Alternative, tolling, a reservation system, and summer and winter trailhead service.

UDOT's Enhanced Bus Service Alternative is similar to the suggested Better Bus Alternative. It provides frequent 5-minute service directly to both resorts and includes a substantial toll to incentivize use. UDOT does not need to operate summer transit service since there is not a peak demand similar to that in winter (see response 32.1.2C). In addition, UDOT does not need to provide bus service to the trailheads since such service would slow bus service to the resorts, making bus service less attractive for the majority of users (during the winter, upper-canyon users are 90% of users). To solve mobility issues at the trailheads, UDOT has alternatives that eliminate roadside parking and expand the parking areas by the number of parking spaces removed along the road (see response 32.2.6.2.4A). Providing bus service directly to the trailheads would substantially increase use and cause overcrowding at the trailheads, which is not part of UDOT's project purpose. Finally, with a toll, UDOT does not need to also implement a parking reservation system, which UDOT does not have the authority to require of a private business. In addition, a reservation system would not reduce peak-hour traffic (similar to the reservation system implemented by Alta Ski Resort for the 2021–2022 ski season) because those with a reservation would still want to show up during the peak morning period to get a full ski day. A time-based reservation system would not allow those who pay for a full-day ticket to utilize the entire cost of the ticket.

In summary, UDOT's Enhanced Bus System Alternative provides the same mobility benefits as the suggested Better Bus Alternative without the need for additional enforcement requirements.

KKK. A commenter suggested an alternative that would include pickup locations across the valley using an app that would allow riders to be picked up and taken to a mobility hub near the base of Little

Cottonwood Canyon. From there, riders would board buses directly to the ski resorts or smaller shuttles to trailheads or other recreation locations.

This alternative is similar to the Enhanced Bus Service Alternative that UDOT evaluated, except it would provide shuttles from around the valley to deliver users to the mobility hubs instead of requiring users to drive there in their private vehicles. Because the suggested alternative would substantially increase operation cost by having a valley-wide shuttle system without improving mobility on S.R. 210 in Little Cottonwood Canyon with no change in environmental impacts, UDOT did not carry it forward for detailed consideration (see response 32.2.2I for more detail). In addition, the alternative suggested summer shuttles and shuttle dropoffs at trailheads and dispersed recreation sites, which is not necessary to meet the project purpose (see responses 32.1.2B, 32.1.2C, and 32.1.2D).

Finally, if the Enhanced Bus Service Alternative were selected and the mobility hubs constructed, UTA or private vendors could provide service to the mobility hubs as necessary outside the EIS process.

LLL. *A commenter suggested a new shuttle alternative from locations across the Salt Lake Valley. The alternative would include $50 million to buy 500 16-passenger 4×4 vans to shuttle skiers to and from the resorts, ready for the 2022 ski season. The shuttle vans would have all the passengers comfortably seated and picked up from dispersed areas in the Salt Lake Valley. The shuttle buses would be flexible to increase service when needed on weekends, holidays, and powder days. Tolling would be required for this alternative to incentivize shuttle use. Later, the commenter suggested the same system with 200 buses.*

The purpose of the EIS process is to develop a long-term solution that meets the project purpose through the planning horizon of 2050. A short-term solution would expend public funds without meeting the long-term need. UDOT evaluated the comment regarding the 500 passenger vans shuttle alternative at the cost of $50 million. In the evaluation, UDOT assumed that the shuttle service was reasonable by providing the same mobility improvement to S.R. 210 in Little Cottonwood Canyon as the Enhanced Bus Service Alternative without the need to widen the road. The bus cost for the Enhanced Bus Service Alternative would be about $40 million, or $10 million less than that proposed with the region shuttle bus service alternative in the comment. In addition, the Enhanced Bus Service Alternative would require about 65 buses and associated drivers, whereas the suggested shuttle alternative would require up to 500 drivers. The largest annual cost in operating bus service is driver labor. With over 400 more drivers, the annual operating cost for the shuttle alternatives would be substantially more without providing any additional mobility improvements on S.R. 210 or any less environmental impacts in Little Cottonwood Canyon since neither alternative would require widening the roadway. Both alternatives would be required to go through a procurement process to purchase the shuttles or buses which would likely take more than 12 months and so could not be implemented for this winter (2021–2022) and potentially next winter (2022–2023). Finally, the alternative assumes that 500 shuttle drivers could be identified who meet the necessary qualifications.

Because the shuttle alternative would have a substantially higher annual operating cost without providing any less environmental impact in Little Cottonwood Canyon or additional mobility

improvements on S.R. 210 compared to the Enhanced Bus Service Alternative, it was eliminated from detailed consideration.

Later, the commenter suggested the same system but with only 200 buses. Using the commenter's numbers, the cost of the shuttle buses would be less than with the Enhanced Bus Service Alternative ($20 million vs. $40 million), but the number of drivers would still be substantially greater, making the yearly operation cost for labor double that of the Enhanced Bus Service Alternative without providing better mobility on S.R. 210. The commenter added that UDOT should consider additional bus-only passing lanes in their second comment. However, short passing lanes on S.R. 210 already exist and would not substantially improve travel time more than two to three minutes and would require buses to weave back into slow traffic.

MMM. A commenter asked why UDOT didn't consider the Gondola Alternative B and Cog Rail Alternative station on the open space on the east side of North Little Cottonwood Road.

The land on the east side of North Little Cottonwood Road is in a conservation easement set aside to preserve the natural setting and recreation and therefore was not available to use.

NNN. A commenter suggested a grade-separated interchange at the S.R. 209/S.R. 210 intersection.

The only mobility need at the S.R. 209/S.R. 210 intersection is during the morning peak period when S.R. 209 traffic merges into S.R. 210 traffic. A grade-separated interchange would not eliminate that merge and so would not improve mobility.

OOO. A commenter asked why UDOT didn't consider a bus mobility hub at La Caille.

UDOT initially considered a mobility hub at the entrance of Little Cottonwood Canyon but decided that, given the size of the mobility hub and to reduce vehicle traffic through Cottonwood Heights, it made more sense to locate the mobility hubs at the gravel pit and at 9400 South and Highland Drive. At these locations, the mobility hubs could be used for other transportation needs because of the close access to major interstates. A mobility hub at La Caille would not be able to serve in this capacity.

PPP. A commenter suggested using a personal rapid transit system similar to the one operated at West Virginia University.

This system is similar to a monorail concept that UDOT evaluated and eliminated from further consideration (see response 32.2.2I). The personal rapid transit system is still a rubber-tired system that is not proven on steep grades similar to those in Little Cottonwood Canyon nor in heavy snow environments. Based on the system design, it would be difficult to remove snow from the tracks. In addition, the system would be susceptible to avalanches that could damage the system since it would not be elevated to go over the avalanche paths. Basically, the system would operate similar to the cog rail alternative that UDOT has already evaluated in the EIS.

QQQ. A commenter suggested running the cog rail under the roadway with the roadway on a bridge over the cog rail.

This suggestion would be a variation of a cog rail alternative evaluated by UDOT. Although such an option might reduce the cog rail footprint, it would cost substantially more to elevate the road (at

least an order of magnitude, or twice as much), the road would ice more often because it would be technically a bridge, the bridge would be more prone to damage from seismic events, and the option would make snow removal more difficult. Because UDOT's cog rail alternative costs less and provides the same mobility improvements, the suggested alternative was not considered further.

RRR. Save Our Canyons stated that the banning of roadside parking and enforcement would aid in meeting the project purpose and help manage trailhead and resort capacity by reducing the availability of parking. They also commented that there should be better enforcement of no parking areas.

The EIS is evaluating tolling, trailhead parking alternatives, and winter parking alternatives that reduce or eliminate roadside parking for large segments of Little Cottonwood Canyon during the summer and winter. These options would reduce roadside parking. One of the alternatives for trailhead parking included in the EIS was suggested by Save Our Canyons, which is to eliminate all summer roadside parking from the S.R. 210/S.R. 209 intersection to Snowbird Entry 1 and to not improve trailhead parking. This alternative would reduce the number of available parking spaces from 528 to 99, which would limit capacity at the trailheads. UDOT will continue to work with local law enforcement regarding enforcing the no parking restriction.

SSS. Save Our Canyons commented that UDOT revived Gondola Alternative B that failed to pass screening in the June 2020 screening report because of political pressure. They stated that the alternative failed because of mobility concerns around the parking of the base station.

UDOT eliminated parking areas near 3662 North Little Cottonwood Road because of traffic concerns. This alternative did not consider any improvements to S.R. 210 to mitigate the traffic impacts. During the NEPA process, a stakeholder can suggest an alternative, and UDOT must consider that alternative. A gondola alternative was suggested to UDOT at La Caille that also included traffic-mitigation measures on North Little Cottonwood Road. NEPA requires UDOT to evaluate that alternative.

UDOT reviewed the alternative and conducted an independent analysis of the traffic mitigation. UDOT found that, with improvements to North Little Cottonwood Road, such an alternative would not cause substantial traffic congestion around the gondola base station. UDOT also went back and looked at the alternative at 3662 North Little Cottonwood Road and how it would perform with traffic mitigation. UDOT found that 3662 North Little Cottonwood Road would perform slightly better to reduce traffic congestion than an alternative at La Caille; however, UDOT also investigated geotechnical issues at the site and found that the area had a high potential for an earthquake rupture fault at the site and thus eliminated the alternative from further consideration. All of the information is included in the *Draft Alternatives Development and Screening Report Addendum*, which demonstrates that the process regarding why this alternative was brought back into consideration was available for public review and comment.

TTT. Save Our Canyons commented that one of UDOTs alternatives should include a bus alternative that does not have any roadway widening including the approaches to the canyon and also no snow sheds.

The Enhanced Bus Service Alternative does not include any lane or shoulder widening for the alternative but does include snow sheds. Without snow sheds, the alternative would not meet the project purpose of improving safety and reliability and would have been eliminated from detailed consideration. Road widening of Wasatch Boulevard as part of the Enhanced Bus Service Alternative is not the result of the bus service but rather of weekday commuter traffic.

UUU. Save Our Canyons. the Metropolitan Water District of Salt Lake and Sandy, and the Salt Lake City Department of Public Utilities commented that the screening criteria should include criteria for the Clean Water Act, Safe Water Drinking Act, water quality, water infrastructure, water rights, and air quality. Others commented that source water protection and drinking water should have been included as screening criteria.

The purpose of screening is to eliminate alternatives that do not meet the project purpose (Level 1 screening) and to eliminate alternatives that provide the same transportation performance but would cause a substantial environmental impact (Level 2 screening). Level 1 screening criteria are used to determine alternatives that meet the purpose of the project, which in this case is to improve the safety, reliability, and mobility of the transportation system. Level 2 screening criteria include impacts to wetlands, streams, and floodplains. If two alternatives meet the purpose equally, but one would have greater impacts to these water resources, the alternative with greater impacts would be eliminated.

For Level 2 screening, alternatives are not developed in enough detail to determine compliance with the federal and state Safe Drinking Water Act or other criteria suggested by the commenters. Once reasonable alternatives are determined, they are evaluated in detail to determine compliance with these acts and resources. Decision-makers will consider all of the alternatives' impacts to drinking water and other resources in connection with identifying a preferred alternative and selecting the alternative that will be implemented through the Record of Decision.

The purpose of screening is not to conduct extensive environmental analysis on each alternative being considered in screening, since that would be time-consuming and costly and might eliminate otherwise reasonable alternatives. Instead, that detailed environmental analysis is conducted on the reasonable alternatives that are considered in detail in the EIS.

VVV. A commenter suggested that UDOT consider a mobility hub on the west side of Wasatch Boulevard instead of the proposed mobility hub at the gravel pit.

An alternative was suggested for UDOT to consider a mobility hub on the west side of Wasatch Boulevard instead of the gravel pit location, which is on the east side of Wasatch Boulevard in an operational gravel pit. The mobility hub alternative suggested by the commenter was not sized appropriately to meet the parking demand required by UDOT to meet the project purpose. The commenter suggested that having a mobility hub on the west side of Wasatch Boulevard would reduce the potential for traffic congestion and would not limit potential future development of the gravel pit.

As part of the Final EIS process, UDOT evaluated the proposed Westside Mobility Hub Alternative in Section 2.2.6, *Alternatives Suggested during the Draft EIS Comment Period*, of the Final EIS. Based on the land available on the west side of Wasatch Boulevard, UDOT developed a west-side mobility hub alternative that would meet the 1,500-space parking structure and traffic requirements while avoiding the existing aqueduct that crosses the property. The mobility hub would be about six stories high with a separate bus maintenance facility and would have direct access to Wasatch Boulevard and Big Cottonwood Canyon Road. The mobility hub would be located adjacent to an existing residential area and would not be in character with the residential nature of the area.

The proposed west-side mobility hub would be located on the property that contains the historic Granite Paper Mill, which is listed on the National Register of Historic Places. UDOT determined, and the State Historic Preservation Office agreed, that the west-side mobility hub alternative would have an adverse effect on the Granite Paper Mill and thus this effect would be considered a Section 4(f) use of the property. Section 4(f) applies to historic sites of national, state, or local significance in public or private ownership.

Since the Granite Paper Mill is a Section 4(f) property and there would be an adverse effect from the west-side mobility hub alternative, UDOT must conclude that there is no feasible and prudent alternative that completely avoids the use of the Section 4(f) property. Because a mobility hub alternative on the gravel pit property is a prudent alternative that would completely avoid the use of a Section 4(f) property, UDOT has determined that the west-side mobility hub alternative, which would have a Section 4(f) use of the Granite Paper Mill, is not available to be selected, and thus has eliminated the west-side mobility hub alternative from further consideration.

32.2.3 Alternatives Refinement Process

A. *Commenters requested that the transit alternatives include lockers and storage areas for skiers or stated that there are not enough lockers to support the alternatives. Other commenters asked whether there would be amenities at the resorts for transit users.*

Once a final alternative is selected, UDOT will begin to finalize plans including the potential for storage lockers. Resorts would be responsible for including additional amenities to support transit users beyond the lockers.

B. *Commenters asked UDOT to consider electric trains.*

See Chapter 2, *Alternatives*, of the EIS. UDOT considered using electric-powered trains with power coming from either an electrified third rail or an overhead contact system (OCS). A third rail was eliminated from consideration due to safety concerns and the requirement to have an exclusive right or way. UDOT decided to consider diesel-electric trains, which would not require an OCS or power substations. These elements could be damaged by avalanches, thereby affecting reliability, or would require longer snow sheds to protect the OCS.

32.2.4 Travel Demand Management Strategies Considered as Part of the Action Alternatives

A. *There were numerous comments regarding tolling, how tolling would be implemented, where tolling would be implemented, the cost of the toll, the cost of the transit fare, vehicle occupancy restrictions, limiting vehicles instead of implementing a toll, using reservation system instead of tolling, and the type of tolling system. The comments were focused on the following questions.*

What is the purpose of tolling, and how much would it cost? As described in Section 2.4.1, *Tolling*, of the EIS, toll implementation along with a subsidized transit fee are necessary to reduce congestion on S.R. 210. UDOT would implement a toll to encourage users to use transit (bus, gondola, or cog rail) or carpool. UDOT understands that its goal is to get users to shift from their vehicle to a transit system that could require additional transfers, and that there must be a system in place to incentivize the shift in transportation mode or carpooling to split the toll fare. The goal of the toll would be to reduce the number of vehicles entering Little Cottonwood Canyon by about 30% during the peak morning hours.

What is travel demand?

Travel demand is the expected number of transportation trips in an area. Travel demand can be met by various modes of travel, such as automobile, bus, rail, carpooling, walking, and cycling.

Prior to considering the cost of the toll, UDOT conducted a user survey to determine a toll cost that would get users to switch to transit. Based on this survey, the toll could range from $20 to $30, which would be the initial level of the toll for most vehicles during peak periods, with possible variations based on the time of day and the day of the week. However, the amount would be varied as needed to achieve the necessary level of traffic reduction. Over time, the level could vary substantially from this range. If UDOT does not observe a shift from personal vehicles to transit, the amount of the toll could be adjusted to accomplish the goal of reducing the number of personal vehicles in Little Cottonwood Canyon.

When would the toll be applied? The toll would be applied only on busy winter days to the upper portions of Little Cottonwood Canyon (the toll would be charged just prior to Snowbird Entry 1). On a busy day, the toll might be applied only during the peak morning hours. On non-busy winter days, there might be no toll. There would be no toll to access lower Little Cottonwood Canyon. Recreation in the lower canyon would not be restricted by the primary alternatives.

Where would the toll be applied? The toll would be applied to upper Little Cottonwood Canyon just prior to Snowbird Entry 1. There would be no toll charge to users below Snowbird Entry 1.

Would the toll be applied to residents, service vehicles, resort guests, and resort employees? The toll might not apply to residents who live in, or to service vehicles that drive up Little Cottonwood Canyon. UDOT would coordinate with the ski resorts regarding resort employees, but it is likely that the toll would apply since they can take transit to the resorts during the day.

How would users know the price of a toll before entering Little Cottonwood Canyon? UDOT would have messaging through signs and social media that states the price before the main entrance to the transit alternative (mobility hubs or the gondola or cog rail base stations).

How much would the transit (bus, gondola, or cog rail) fare cost, could the fare be included in a yearly pass or in the cost of a ski ticket or pass, and would it raise the cost of a ski ticket? The cost of the transit will be determined after an alternative is selected and more detailed information is available, and adjustments might be made based on experience and otherwise as appropriate. The cost of transit fare would be substantially below the cost of the toll to encourage the shift from personal vehicles to transit. In developing the cost of the fare, UDOT would coordinate with the ski resorts to determine the feasibility of including the price of the transit fare in the price of a season pass, as is currently the process. UDOT would also consider having a season transit pass for winter use of the transit system. The cost impact to season passes if the transit fare were included in the price would be the decision of the ski resorts to determine and implement.

Could the toll be used to subsidize the cost of the transit fare, potentially providing for free transit? Any tolling would need to follow applicable Federal Highway Administration and State of Utah requirements. Tolling revenue generated from a toll on a federal-aid state highway must be deposited into the Tollway Special Revenue Fund and be used for acquiring right of way and designing, constructing, reconstructing, operating, maintaining, and enforcing state transportation systems and facilities, including making operating improvements to the tollway and other facilities used exclusively for the operation of a tollway facility within the corridor served by the tollway.

What method of tolling would be used? Would UDOT implement toll booths or an electronic form of payment? As described in Section 2.4.1, *Tolling*, of the EIS, the exact type of tolling system has yet to be decided. The method to collect the toll would likely be an electronic pass system and/or a license plate recognition system. Toll booths where vehicles need to stop would not be used. Many tolling systems use license plate readers. For rental cars, the amount of the toll is provided to the rental car company, which bills the user of the rental vehicle.

Would UDOT implement a vehicle occupancy restriction system, such as no single-occupant vehicles being allowed in the canyon, or would that just encourage carpooling? UDOT is considering the option of eliminating single-occupant (which represents about 30% of the traffic depending on the day), and potentially double-occupant, vehicles in Little Cottonwood Canyon during busy ski days. However, the current sensing technology used to determine the number of occupants is still in the early stages of development; therefore, it would not be possible to determine the number of vehicle occupants without stopping vehicles for verification. Stopping vehicles and requiring single-occupant vehicles to turn around would cause additional congestion. If solo travelers would carpool, this would substantially reduce congestion. Instead of limiting single-occupant vehicles, UDOT could implement a toll to achieve the same 30% reduction in traffic. It is likely that, to reduce the individual cost of the toll, solo travelers would use the mobility hubs to carpool and share the cost of the toll.

Would ski resort users bear the financial responsibility of the improvements? With the toll being applied only to the upper portion of the canyon, winter resort users would primarily pay the toll and the fees generated used to operate the tolling system and potentially the operation cost of the transit system. See response 32.2.7A regarding how the project would be funded.

Could the toll be applied only to tourists and not to locals? The technology does not exist to determine who is riding in personal vehicles or to detect the number of people in a vehicle with any

reliability. The only reasonable way to determine vehicle user residence and number of vehicle occupants would be to stop each vehicle, which would cause substantial congestion. In addition, it is questionable whether UDOT would have the legal authority to base the amount of a toll on the place of residency.

Could vehicles with more occupants avoid paying the toll or be subject to a reduced toll? The technology does not exist to reliably detect the number of people in a vehicle. In addition, falling snow could further hamper any remote occupancy detection system. Therefore, it would not be possible to implement a reduced toll based on vehicle occupancy.

Would or can all personal vehicles be eliminated from Little Cottonwood Canyon? When the primary alternatives are in operation, or during peak demand periods, would personal vehicles be allowed in the canyon? Personal vehicles would still be allowed into Little Cottonwood Canyon at all times (except during temporary closures for avalanches or accidents) to access recreation activities, the ski resorts, and personal residences. During busy winter days, users might need to pay a toll to go to the ski resorts, depending on the time of day. The toll gantry would be located just below Snowbird Entry 1. This would allow users of Little Cottonwood Canyon below Snowbird Entry 1 to avoid having to pay a toll. To meet the project purpose, UDOT does not need to eliminate all personal vehicles from Little Cottonwood Canyon. In addition, meeting the recreation demand at both the ski resorts and other recreation locations in Little Cottonwood Canyon with transit alone would likely require massive parking structures that can accommodate at least 7,500 vehicles (also see responses 32.2.2B and 32.2.2K).

Can two-wheel-drive vehicles be banned from entering Little Cottonwood Canyon to reduce congestion instead of paying a toll? It would not be possible to ban two-wheel-drive vehicles since the only method of verification would be to stop vehicles for inspection, which creates additional traffic congestion.

Instead of a toll, why doesn't UDOT limit the number of parking spaces in Little Cottonwood Canyon, limit the number of skiers who use Little Cottonwood Canyon, or implement a parking reservation system instead of a toll? UDOT does not have the authority to reduce parking, restrict users, or implement a parking reservation/permit system at commercial businesses. Additionally, these options would not reduce peak-hour traffic in the morning when travel demands are highest, since all permit users would still want to arrive during the morning to get full use of their ski pass or ticket, and thus such an option would not improve mobility. UDOT does not have the authority to require a person to arrive at a specific time to reduce congestion if the person has paid for a full-day ski pass or ticket. UDOT does plan to implement a toll, which would be more effective in managing traffic on S.R. 210 than would the ski resorts implementing a reservation system, which they could change, thus reducing the ability for UDOT to manage traffic.

Would access still be provided for backcountry skiers and other recreationists outside the ski resorts? Below Snowbird Entry 1, there would be no toll, and backcountry skiers and other recreationists would need to use their personal vehicles to access the backcountry or recreation areas during the winter. There would be no winter restrictions to use in the lower canyon and no summer restrictions for the entire canyon. During the winter on busy days, backcountry skiers who want to recreate past Snowbird Entry 1 and to arrive during peak hours when tolls are in place

would need to either pay the toll to access a skiing location or take one of the transit alternatives and walk to the access point.

Why doesn't UDOT close the road when the parking lots are full or after a designated number of vehicles have entered the canyon? Closing the road when the parking lots are full or when a cap on the number of vehicles is reached would not reduce peak-hour traffic in the morning when parking is available or before the cap is reached and so would not improve mobility.

Can UDOT enforce no-parking restrictions on S.R. 210 to reduce winter congestion? No-parking areas are enforced during the winter. In addition, better parking enforcement would not reduce peak-hour traffic in the morning when parking is still available and so would not improve peak-hour mobility.

Why haven't the ski resorts charged more for lift tickets (or season passes) to reduce use in the canyon and thus vehicle congestion? UDOT does not have the authority to regulate a commercial business's cost of services. A toll, which UDOT does have the authority to implement, would basically increase the cost to ski, the same as increasing the price of lift tickets.

Can employees at the resorts have a free pass to use transit and have access to the front of the line for the transit service? UDOT would need to work with the resorts regarding employee transit pass fees. UDOT has not determined whether employees would have priority access.

Can money generated from the toll and the cost of tickets be used to fund other projects? Tolling revenue generated from a toll on a state highway must be deposited into the Tollway Special Revenue Fund and used for acquiring right of way and designing, constructing, reconstructing, operating, maintaining, and enforcing state transportation systems and facilities, including making operating improvements to the tollway and other facilities used exclusively for the operation of a tollway facility within the corridor served by the tollway. With tolling being implemented during peak winter hours, UDOT expects that all of the money generated would go into operating the tolling system. All of the primary alternatives have an operation and maintenance cost. Since the cost of a ticket would be subsidized, there would not be extra funds to support other projects in the Salt Lake Valley.

Can separate ski passes be issued for backcountry skiers, and should backcountry skiers have to pay a fee similar to a ski resort ticket? UDOT does not have the authority to charge for a backcountry ski pass to access public lands. In addition, it would not be possible to determine who has specific passes without stopping vehicles, which would increase congestion. Finally, such a system would not reduce the peak morning demand to arrive at the resorts when they open and so would not reduce congestion.

Would the primary alternatives increase or induce traffic in Little Cottonwood Canyon? UDOT would implement a toll to reduce the number of vehicles during the peak hour by 30%. In addition, the number of parking spaces in the canyon is limited, so the number of vehicles that can park would not change, thereby eliminating the potential to induce traffic (also see response 32.20E).

Did UDOT consider how changes in travel patterns as a result of the COVID-19 pandemic would change future travel and use of personal vehicles? It is not possible to predict how the pandemic will reduce or increase vehicle-miles travelled (VMT) in the long term. Some

commenters said that workers would continue to work at home after the pandemic, resulting in fewer vehicles on the road. Although currently some roads are experiencing a decrease in traffic, others are experiencing an increase. Not enough data currently exist to accurately model how the pandemic will affect traffic in the long term.

Similar comments were provided to UDOT for transportation improvement projects during the 2008–2011 economic slowdown. Commenters said more people would shift to telecommuting or use transit. The U.S. economic slowdown that started in late 2007, along with higher gas prices, had resulted in a leveling off of VMT. The prior peak VMT in Utah occurred in 2007 at 26.82 billion VMT. Since the low of 25.88 billion VMT in Utah in 2008, VMT increased past pre-recession levels to 32.20 billion VMT in 2018.

In addition, many factors influence travel demand—for example, population growth, employment growth, and differences in the availability and cost of housing in different parts of a metropolitan area. Therefore, although the COVID-19 pandemic has reduced the growth in VMT in the short term, it is likely that VMT will continue to increase, especially in rapidly growing regions such as the Wasatch Front.

Can UDOT implement travel-management strategies such as a toll, occupancy restriction, or paid parking first before implementing a bus, gondola, or cog rail system? UDOT would not limit vehicles from Little Cottonwood Canyon without providing a low-cost transit alternative for users.

Could reserved parking be used at the trailheads? A trailhead reservation system is outside the authority of UDOT.

If the resorts charge for parking, would UDOT still charge a toll? The tolling system is the best way to get users to shift to transit during the peak hours since the rate of the toll would be higher during those times. Resort parking would not reduce travel during peak periods since people with a reserved spot or a season parking pass would still drive up the canyon during peak travel periods.

Could a raffle or lottery system be implemented to reward carpooling, thus creating an incentive? The purpose of a raffle or lottery system would be to incentivize carpooling by giving carpoolers a raffle ticket for carpooling and putting them in a weekly cash prize drawing. Such a system would be complicated to implement since UDOT would be required to identify vehicles to give them a raffle ticket. In addition, such a system does not incentivize non-carpool vehicles if the driver is not interested in a raffle ticket. Implementing a toll is easier to implement and incentivizes all drivers to use transit.

B. *A commenter stated that 21,000 or more people per day are trying to get up Little Cottonwood Canyon and the gondola can manage only 3,000 people in 3 hours, leaving 18,000 people trying to get up the canyon. Other commenters stated that the gondola can manage only 900 people per hour.*

The commenters are using average daily traffic numbers, which include both up-canyon and down-canyon traffic, not just up-canyon traffic. During the 30th-busiest hour in 2050, about 1,550 vehicles are trying to enter Little Cottonwood Canyon, which equates to about 3,200 people (at an average of about 2 people per car). If UDOT removes between 400 and 450 vehicles per hour

(about 1,000 people per hour), S.R. 210 should operate in less-congested conditions (see responses 32.7B and 32.7C). It should also be noted that the numbers mentioned in the comments are both up-canyon and down-canyon traffic, not just traffic going up the canyon. For 2050, UDOT has designed the transit system, including the gondola system, to handle the 30th-busiest hour, which consists of about 1,000 people per hour. Thus, over a 5-hour period when people typically head to the ski resorts, the system can carry about 5,000 people. However, traffic data show that, after 9:00 AM, vehicle traffic begins to drop off and that the total 5-hour capacity would not be needed.

C. *Alta Ski Resort stated that tolling would not effectively manage the limited number of parking spaces in Little Cottonwood Canyon.*

UDOT disagrees that tolling along with one of the primary alternatives would not effectively manage parking in Little Cottonwood Canyon. The goal of the EIS is to reduce personal vehicle use in Little Cottonwood Canyon by providing a transit alternative with supporting parking in the Salt Lake Valley at mobility hubs or a base stations. Thus, UDOT is addressing the parking issue by providing a transit alternative. UDOT also believes that tolling, along with one of the transit alternatives, is an effective tool for discouraging people from driving personal vehicles. Finally, unless it is for a given period, reserved parking does not preclude users from entering Little Cottonwood Canyon during the peak period.

D. *Alta Ski Resort stated that they will implement a paid parking reservation system and that this system is much better than a tolling system.*

The main time of peak traffic congestion is during the morning travel period. Although a reservation system might allow some users to adjust their drive times, the majority still travel during the peak period, thereby reducing overall mobility. Alta Ski Resort's reservation system, like the one at Solitude Resort, did not reserve a slot at a specific time, so users could show up during the peak period. This occurred with the implementation of the Solitude Resort and Alta Ski Resort paid parking programs in 2020 and 2021, respectively, which did not reduce traffic in Little or Big Cottonwood Canyons during the peak morning or afternoon travel periods. In addition, Solitude Resort's program caused more vehicles to park along S.R. 190, further reducing mobility. UDOT believes that a toll system along with supporting subsidized transit is the most effective way to improve mobility and reduce the number of vehicles in Little Cottonwood Canyon.

E. *Commenters suggested that UDOT implement a smart-phone app to alert drivers of road conditions, parking conditions, alternate modes besides private vehicles to travel into Little Cottonwood Canyon, and potential carpooling apps.*

UDOT currently operates a communication system that provides road conditions, parking conditions, and other travel mode options in Little Cottonwood Canyon. This application is also linked with communications from the ski resorts that promote use of available transit. The system provides information useful to drivers but would not reduce the number of canyon users. To reduce the number of personal vehicles, during the peak hour, UDOT would need to implement a toll and provide a transit option.

F. *A commenter asked whether traffic data on Wasatch Boulevard from March 15, 2018, was considered a typical winter day.*

This date was prior to the COVID-19 pandemic and represents a typical workday which is the basis for the Wasatch Boulevard Alternatives analysis. These data were used to determine the level of service analysis used in the traffic study and the basis for the EIS traffic analysis.

G. *Save Our Canyons commented that UDOT did not consider tolling for the alternatives and that, if tolling were considered, its role including how tolling is linked to transit ridership should be included in the EIS.*

As stated in the EIS, all of UDOT's primary alternatives would include a toll. To meet the project purpose of improving mobility, UDOT needs about 30% of vehicles of S.R. 210 (about 1,000 people in the peak hour) to shift to transit. All of the primary alternatives, which are transit alternatives, were designed to meet this ridership goal. The tolls stated in the EIS of $20 to $30 were based on shifting about 30% of the vehicles to transit. As stated, the toll would be adjusted to meet this transfer rate. The Final EIS has been updated with the ridership goal the toll will be intended to achieve.

H. *Save Our Canyons stated that increasing vehicle occupancy could reduce the number of vehicles entering Little Cottonwood Canyon on S.R. 210.*

The toll would likely increase vehicle occupancy because more people per vehicle could share the toll. Increasing occupancy alone without a toll would not be possible. Although UDOT is considering this option of eliminating single- or even double-occupant vehicles from the canyon on busy ski days, the technology to enforce such an action does not exist without stopping each vehicle for inspection which will create long lines of traffic on S.R. 210 and S.R. 209. Tolling with an electronic system does not require vehicles to stop and would have the same effect of reducing the number of vehicles in Little Cottonwood Canyon. UDOT will continue to look at occupancy-detection systems as technology improves.

32.2.5 Land Appropriation, Easements, and/or Special-use Permits

There are no comment responses for this section.

32.2.6 Alternatives Considered for Detailed Study

A. *A commenter was concerned about construction of the primary alternatives near Wasatch Boulevard and Bells Canyon Road.*

None of the primary alternatives include construction or expansion of the existing roadways at Bells Canyon Road and Wasatch Boulevard.

B. *Commenters asked whether the parking for the primary alternatives has a fee and whether there could be a reservation system.*

To incentivize transit use, UDOT would ensure that the fee to use the primary alternatives, including parking, would be lower than the toll charged to personal vehicles using S.R. 210 in the

canyon. UDOT will consider free parking or a fee for premium parking spaces. UDOT has not determined whether there would be a reservations system for parking. The proposed mobility hubs would be built and owned by UDOT.

C. *A commenter asked whether, if another pandemic occurs, one alternative be better than another, while others asked whether the COVID-19 pandemic would change how riders use transit.*

Changes in recreation use because of the COVID-19 pandemic are not possible to forecast because they might be temporary and recreation use might return to pre-pandemic levels once the pandemic is over. All transit alternatives require people to use public transportation. The alternatives would perform in a similar fashion during a pandemic. UDOT is not developing a plan at this time regarding how to operate the transit alternatives during a pandemic. The operation plan, if needed, would be generated at the time of operation taking into consideration then-current state health protocols.

D. *A commenter stated that roadway parking should be allowed with any primary alternative.*

Depending on the final selection of the trailhead parking alternative, only the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would eliminate all roadside parking from Wasatch Boulevard to the Alta Bypass Road. Among the trailhead parking alternatives, the Trailhead Improvements and No S.R. 210 Roadside Parking within ¼ Mile of Trailheads Alternative would eliminate roadside parking within a ¼ mile of either side of the trailhead. The other two alternatives being considered, Trailhead Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative and the No Trailhead Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative, would eliminate roadside parking below Snowbird Entry 1. UDOT is also considering a No Winter Parking Alternative, which would eliminate roadside parking adjacent to the ski areas.

E. *A commenter stated that there was more detail for the gondola alternatives than for the enhanced bus service alternatives. Other commenters stated that some promotional information by organizations outside UDOT were misrepresenting information. Commenters stated that the slogan of Save Little Cottonwood Canyon is misleading.*

UDOT provided an equal level of detail for all alternatives considered in the EIS. The marketing proposals for the gondola alternatives were developed by private individuals and are outside UDOT's control.

F. *Commenters asked about security at the parking structures, on the buses, and in the gondola cabins.*

UDOT has not determined the final operating plans for security. UDOT will consider security similar to current UTA operations which includes oversight of parking areas and in the transit vehicles. Transportation Security Administration personnel would not be required for the operation of any of the primary alternatives. Operators of the system would be from the local community, and the operating locations would provide for appropriate facilities for the employees to conduct their operations. This would include break areas and restrooms.

G. *Commenters asked whether lift tickets could be purchased at the mobility hubs or base stations.*

Purchase of daily ski passes at the mobility hubs and base stations would be determined as part of the final operation plan.

H. *Commenters asked what year was used to evaluate the travel times for the primary alternatives. Commenters also asked how travel times were developed. Other commenters stated that the alternatives are not long-term solutions, and others thought that the solutions would soon not meet the demand. Other commenters stated that future transportation technology will change, thereby reducing traffic congestion or cost.*

The travel times were based on a design year of 2050. The planning process requires UDOT to use the planning horizon identified in the *Wasatch Front Regional Transportation Plan*, which is 2019 to 2050. UDOT does not need to study beyond this period.

The design year takes into account population, household, and employment growth that is expected to occur between the present and 2050. The analysis was based on the 30th-busiest winter traffic day in Little Cottonwood Canyon. Future traffic conditions are based on more than 15 years of traffic data on S.R. 210 to predict future traffic growth. This is the most accurate way to determine traffic in 2050.

All travel times started from Fort Union Boulevard and not the entrance to Little Cottonwood Canyon. Travel times included the time to park a vehicle at a mobility hub or a base station, transfer to the transit alternative, and arrive at Alta. Travel times were based on dry road conditions. It is not possible to determine travel times during winter conditions since there are too many variables that could affect the travel time.

UDOT used the same 12-minute travel time to park a vehicle and board the transit mode at a mobility hub to provide an equal comparison among alternatives. UDOT assumed that a bus would be leaving every 5 minutes, so that 12 minutes to park a vehicle and board a bus was considered reasonable. In addition, UDOT modeled the length of wait at the gondola base station and found that the wait would be between 4 to 8 minutes at peak times. Thus, 12 minutes to make the transfer from a personal vehicle to the gondola cabin also was considered reasonable. Also see response 32.2.6.5C.

Some commenters asked whether the travel time should consider people leaving from their homes. It would not be possible to determine that travel time since skiers' places of residents vary all over the Wasatch Front, and, whether using a bus or driving their personal vehicles to the mobility hubs, the distance of travel would likely be the same.

Because the analysis was based on forecasted 2050 data, UDOT believes that the primary alternatives are long-term solutions. It is not possible to predict what future transportation technology will be available and will help reduce congestion. Traffic is a problem today, and the solutions need to focus on solving the reliability, mobility, and safety needs based on known technology. If UDOT waits for technology to change, any improvements would be delayed and would be difficult to implement since technology is always evolving.

Many commenters suggested that use of autonomous vehicles be considered as an alternative. The autonomous-vehicle technology has not been proven to operate in the winter environments of

Little Cottonwood Canyon. One of the key components of autonomous vehicles is to read lane striping. It is not possible to read lane striping when the road is covered with snow.

I. *Commenters asked who would operate the primary alternatives.*

UDOT has not decided how the primary alternatives would be operated. It could be UDOT, UTA, or a private company. Even if another entity operates the primary alternative, UDOT would manage the contract to ensure that the alternative meets the conditions stated in the EIS.

J. *Commenters asked where they can view maps of the primary alternatives.*

Maps showing road alignments, gondola tower placements, and cog rail alignments are available on the project website (https://littlecottonwoodeis.udot.utah.gov). Construction plans are also included on the website in Appendices 2B through 2F.

K. *A commenter asked whether the funds provided by the primary alternatives would help streamline other UTA operations outside Little Cottonwood Canyon*

The operation and maintenance cost for any of the primary alternatives would support only the bus service to operate the alternative.

L. *A commenter asked what other options might be included with the action alternatives, such as bus service to the trailheads with the gondola alternatives or local bus service to the trailheads.*

Chapter 2, *Alternatives*, of the EIS clearly describes each alternative. If bus service to trailheads or local bus service is not mentioned as part of an alternative, then it is not included with that alternative. The alternative descriptions provide what is included.

M. *A commenter asked whether the primary alternatives would be designed to accommodate users with disabilities.*

All alternative designs will comply with the American with Disabilities Act and would accommodate all potential users. With all of the alternatives, road access to the canyon would still be allowed, which would also accommodate those users with special equipment.

N. *The Salt Lake Department of Public Utilities commented that UDOT should provide funding with all of the primary alternatives to provide long-term maintenance at the trailheads.*

UDOT is willing to work with the Salt Lake City Department of Public Utilities and the USDA Forest Service regarding funding of maintenance.

O. *The Central Wasatch Commission was concerned that both preferred alternatives presented in the Draft EIS will ultimately be used for year-round service for developed and dispersed recreation once they are constructed. This is likely a connected action. The Draft EIS did not fully analyze the environmental impacts of year-round use. The Commission requests that these impacts be analyzed as part of the NEPA process.*

With the Enhanced Bus Service Alternative, the action does not include summer use, and none of the primary alternatives include service to trailheads or dispersed recreation sites. Since it is not included in the action or reasonably anticipated, UDOT does not need to conduct an analysis.

P. *The Town of Alta commented that UDOT should work with local entities to ensure that the bus or gondola service is integrated with local infrastructure and mobility networks. They also commented that the analysis of the selected alternatives should evaluate the capability to facilitate emergency egress from and access to Little Cottonwood Canyon.*

Once a primary alternative is selected, UDOT will continue to work with UTA and other agencies with regard to connecting the selected alternative to the greater transportation network. This can be done outside the EIS process.

The project purpose does not include emergency egress and so it is not part of the evaluation criteria for selecting the alternatives. Once a primary alternative is selected, UDOT can work with the Town of Alta to discuss how the alternative could assist in emergency egress. This can be done outside the EIS process.

Q. *The Salt Lake Climbers Alliance commented that the EIS should have evaluated less impactful alternatives and that alternatives that had adverse impacts to Section 4(f) climbing resources should have been eliminated.*

UDOT evaluated about 124 potential transportation solutions as part of the screening process. These included alternatives that resulted in no new construction and others that had substantial new construction. Based on the screening process, five primary alternatives were determined to be reasonable and were evaluated further in the Draft EIS. The 124 potential solutions included those suggested by the public and agencies. UDOT believes that it evaluated all alternatives suggested during the EIS process.

All of the reasonable alternatives would have various impacts to the resources evaluated in the EIS. In working with the USDA Forest Service, UDOT evaluated the Alpenbock Climbing Opportunities area (from the Little Cottonwood Canyon park-and-ride lot to the Grit Mill Trailhead) as a Section 4(f) property and determined that the impacts from the gondola alternatives and the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have a use with a *de minimis* impact. Of the five reasonable primary alternatives, the Enhanced Bus Service Alternative would have no impact to climbing resources. Having greater impacts to one resource is not necessarily a reason to eliminate an alternative but rather is a factor that will be considered in UDOT's decision process for selecting the final primary alternative in the Record of Decision.

R. *The Salt Lake Climbers Alliance commented that the Forest Service further fails to meet its NEPA obligations by not analyzing reasonable forms of mitigating impacts to climbing resources by examining less impactful alternatives to the two preferred alternatives.*

The EIS evaluates in detail the Enhanced Bus Service Alternative, which would have no impacts to climbing resources and meets the intent of less impactful alternatives. The presence of the Enhanced Bus Service Alternative in the EIS does not require UDOT or the USDA Forest Service to first select and test such an alternative before another alternative is selected. Finally, NEPA does not require that the least impactful alternative be selected.

S. *The Salt Lake Climbers Alliance commented that both UDOT and the Forest Service are both legally obligated to take an approach that adheres to principles of adaptive management; whereby, both agencies take careful steps to begin addressing the transport problems on S.R. 210, learn*

from those initial steps, and carefully reassess before moving forward. UDOT is required by law to select a less impactful alternative as UDOT has not established that an alternative utilizing the above aspects identified by the Salt Lake Climbers Alliance will not adequately address the S.R. 210 transportation problem.

NEPA does not require UDOT or the USDA Forest Service to take an approach of adaptive management or select the least impactful alternative. The Salt Lake Climbers Alliance stated that UDOT should have evaluated an alternative with enhanced bus service, enforcement of traction laws, tolling, and snow shed construction. The Enhanced Bus Service Alternative, which was a reasonable alternative evaluated in detail, has all of the elements requested by the commenter; it was just not selected as a preferred alternative in the Draft EIS. That does not mean that it could not be a preferred alternative in the Final EIS or the selected alternative in the Record of Decision.

The alternatives being evaluated are based on a 2050 planning horizon. All of the components identified with the primary alternatives are necessary to meet the project purpose in 2050. Implementing part of an alternative would not meet the project purpose. It is possible that the enhanced bus service alternatives could be phased and start with the implementation of less impactful options to determine the success before moving forward with construction in Little Cottonwood Canyon. The gondola and cog rail alternatives would require immediate construction in order for the alternative to operate. The decision regarding how alternatives would be implemented would be made by UDOT. For the EIS, UDOT will select one of the primary alternatives and build and/or phase that alternative based on available funding and other considerations.

T. *A commenter asked whether the primary alternatives account for people using the transit mode to the ski resorts but have other destinations. They also asked whether the bus service would take people to their ultimate destination in the Salt Lake Valley.*

The primary alternatives stop at the ski resorts. There is no way to know whether a small fraction of the users might go to other businesses in Little Cottonwood Canyon near the resorts. If users do use transit to frequent businesses near the resorts, this would reduce traffic on S.R. 210. Any person, no matter their ultimate destination in the upper canyon, can use the primary alternatives.

All of the primary alternatives would travel only between the mobility hubs and parking structures in the Salt Lake Valley directly to the ski resorts. There would be no intermediate stops or travel to other locations.

U. *Save Our Canyons asked why summer operation of the gondola was considered but not summer operation of bus service. They commented that the only reason for summer operation of the gondola or cog rail was the tourist attraction.*

UDOT has stated in the EIS and on the project website that there is no need to address summer mobility (see response 3.1.2C) and thus UDOT would not need to operate any alternative during the summer. However, UDOT stated that such infrastructure might provide a tourist value and so might operate the alternatives during the summer. The tourist factor was not considered in screening the alternatives, nor will it be a factor in the decision regarding the selected alternative. Summer service, if implemented, would not be subsidized since it is not part of the project purpose. Buses do not provide a summer tourist attraction when travel time and convenience

would not be as good as personal vehicles making utilization very low. In addition, UDOT is not proposing to provide summer trailhead service since it is not needed to meet the project purpose, and increasing summer visitor use at USDA Forest Service trailheads is not under the authority of UDOT.

Bicycles would not be allowed in the gondola cabins or cog rail vehicles. Currently, no designated National Forest System (NFS) trails directly connect the ski areas to the entrance to the canyon. For this reason, to minimize the potential for cyclists to develop and use unauthorized trails, bicycles would be prohibited from being brought into the gondola cabins or cog rail vehicles until the USDA Forest Service makes an administrative decision regarding the construction of NFS trails below the ski areas for bicycle use.

V. *Save Our Canyons commented that uncertainty in the transit alternatives would dissuade users. This includes not knowing whether parking would be available at the mobility hubs, time to walk to the transit mode, and then the potential of missing the mode and having to wait for the next bus or gondola.*

UDOT believes that the toll would be the factor considered by users when making a choice. Except with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, it would always be faster to use personal vehicles. However, a high toll would incentivize users to shift to transit. As part of the final design of the alternatives, UDOT would consider signage to inform users about parking availability and where parking spaces are available.

UDOT understands that the key to any system is convenience. The frequency of the bus service at each mobility hub would result in no more than a 10-minute wait for a bus, and at the gondola base station less than 4 to 8 minutes, so this would not be a factor in why a user would not want to use the service. In developing the travel times considered in the EIS for the primary alternatives, UDOT estimated the time to park a vehicle, unload, and get on the transit service. This time was assumed at about 12 minutes for the mobility hubs and 5 minutes for subsequent transfers. With the high frequency of transit service, the longest wait for a bus to the gondola base station would be about 5 minutes. The transit times and the number of transfers will be a consideration in selecting the final primary alternative for implementation.

W. *The Salt Lake City Department of Public Utilities stated that the EIS doesn't analyze whether the preferred alternatives might be impossible to implement and that the EIS doesn't analyze whether the preferred alternatives are consistent with the 2003 Wasatch-Cache Forest Plan and with the 1934 and 1914 federal legislation directing the USDA Forest Service to manage federal lands with the City's watershed.*

The Federal Highway Administration (FHWA), with the input of the USDA Forest Service, will determine whether appropriation would be consistent with applicable laws in the context of the Section 317 appropriation process.

The EIS does not specifically analyze whether the preferred alternatives are consistent with the 1914 and 1934 federal laws mentioned in the comment. The 1914 law (38 Stat. 714) does not apply in Little Cottonwood Canyon. The 1934 law (48 Stat. 808) has to do with mining claims and a reservoir site in Big Cottonwood Canyon, and is not applicable to the project or either of the preferred alternatives. In addition, neither of these two laws nor any other federal legislation UDOT

is aware of would prohibit the appropriation of NFS lands under 23 United States Code Section 317 for either of the preferred alternatives, as long as the applicable criteria under Section 317 are met for the subject lands.

The EIS recognizes the emphasis on watershed protection in the 2003 *Forest Plan* and Salt Lake City's authority and role with respect to watershed and water quality protection. It assesses the expected impacts on the watershed and water quality from each of the alternatives, as well as measures to avoid, minimize, and mitigate such impacts. This analysis is provided in Chapter 12, *Water Resources*, of the EIS, and it includes the results of a water quality model showing that there would be *de minimis* impacts. Based on that and other analysis in the EIS, UDOT believes that any of the action alternatives can be implemented in compliance with federal law and with applicable water quality and watershed protection standards.

UDOT also notes that, as explained in the EIS, the appropriation of National Forest System lands by the Federal Highway Administration and the transfer of an interest in these lands to UDOT would be in the form of a nonexclusive right of way for highway purposes. The Forest Service would still administer the appropriated lands, but UDOT would have an easement on these lands for highway purposes.

32.2.6.1 No-Action Alternative

A. *A commenter stated that the case of doing nothing, or the No-Action Alternative, should be included in more detail.*

The EIS describes the No-Action Alternative, and the impacts of the No-Action are included in each resource chapter of the EIS along with maps showing resources. In addition, Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs provides a detailed summary of the advantages and disadvantages of each alternative, including the No-Action Alternative, and why UDOT preferred one alternative over another.

32.2.6.2 Enhanced Bus Service Alternative

Note to reader: UDOT's responses to some of the general comments regarding bus types, bus operating times, seasons, routes, bus service to trailheads, phased implementation, and other factors that apply to both the Enhanced Bus Service Alternative and the Enhanced Bus Service in Peak-period Shoulder Lane Alternative are provided in Section 32.2.6.3, *Enhanced Bus Service in Peak-period Shoulder Lane Alternative*, of this chapter. Responses to comments regarding tolling, subsidizing transit fares, the method and timing of tolling, and other access-control options (limit parking, road closures, and vehicle occupancy restrictions), which are common among the primary alternatives, are provided in Section 32.2.4, *Travel Demand Management Strategies Considered as Part of the Action Alternatives*, of this chapter.

A. *A commenter asked why doesn't UDOT use Canyon Transportation.*

UDOT has not determined the final operator of the bus system, if an enhanced bus service alternative is selected. It could be UTA or a private vendor.

32.2.6.2.1 Mobility Hubs Alternative

A. *Commenters stated that they did not want a 1,500-vehicle parking structure at the entrance of Little Cottonwood Canyon. Other users stated that users should take the bus to a transit terminal at the base of the canyon.*

UDOT is not considering a 1,500-vehicle parking structure at the entrance to Little Cottonwood Canyon (intersection of S.R. 209 and S.R. 210). With Gondola Alternative B and the Cog Rail Alternative, there would be a 2,500-vehicle parking structure at the base station, which is about 0.75 mile from the Little Cottonwood Canyon entrance with access from North Little Cottonwood Road. Based on travel demand modeling, unacceptable levels of congestion would not occur on North Little Cottonwood Road or Wasatch Boulevard as a result constructing a parking structure in this location. Some buses coming from the mobility hubs would also access the base station.

B. *A commentor wanted the mobility hubs to be located away from Wasatch Boulevard.*

See Section 2.6.2.2, *Mobility Hubs Alternative*, of the EIS for more information regarding the mobility hubs. UDOT is proposing two mobility hubs: one at the gravel pit with access from Wasatch Boulevard, and the second at 9400 South and Highland Drive. Although the gravel pit mobility hub would be located on Wasatch Boulevard, it would be located north of the main residential area in Cottonwood Heights, which would reduce winter traffic in the neighborhoods along Wasatch Boulevard south of Fort Union Boulevard.

C. *Commenters asked where UDOT would park the vehicles for the primary alternatives and whether the parking structures would include covered parking, shops, and amenities. Other comments asked whether there would be enough parking spaces to support the primary alternatives.*

See Section 2.6.2.2, *Mobility Hubs Alternative*, of the EIS for more information regarding the mobility hubs. UDOT designed the mobility hubs to have adequate parking to support each primary alternative and would include a structure with some covered parking. UDOT is proposing two mobility hubs: one at the gravel pit with access from Wasatch Boulevard, and the second at 9400 South and Highland Drive. For the enhanced bus service alternatives and Gondola Alternative A, there would be 1,500 parking spaces at the gravel pit mobility hub and 1,000 at the 9400 South and Highland Drive mobility hub. For Gondola Alternative B and the Cog Rail Alternative, there would 2,500 at the base station at La Caille and no mobility hubs at the gravel pit and 9400 South and Highland. With the enhanced bus service alternatives, the buses would go directly from the mobility hubs to the ski resorts. With Gondola Alternative A, the buses would go directly to the gondola. No bus service is proposed for Gondola Alternative B or the Cog Rail Alternative.

The number of parking spaces was determined by the need to remove 30% of the vehicles from the road and switch the occupants to transit. For the analysis, UDOT assumed that each vehicle would carry 2.17 occupants. Therefore, given 2,500 parking spaces, about 5,425 people could use the transit system per day.

As part of the final design of the alternatives, UDOT will consider signs and social media to inform users of parking availability and where parking spaces are available.

UDOT has not determined whether the parking will be 100% covered parking spaces, whether electric charging stations would be provided, or whether shops and other amenities would be included in the parking structures. Development around the mobility hub would be based on the private property owners' development plans and city zoning.

D. *Commenters stated that people using personal vehicles to drive to the mobility hubs would only increase traffic and congestion in the surrounding areas.*

UDOT designed the mobility hubs' entrances and exits to accommodate the expected traffic demand. Based on the design and travel modeling, the traffic using the mobility hubs would not cause unacceptable levels of congestion on the adjacent roads. It should be noted that, on weekends, ski traffic would be using the mobility hubs during the morning and late afternoons when there is no weekday commuter traffic and so not causing additional congestion.

In addition, on weekdays, ski traffic is traveling in the opposite direction of commuter traffic, which should substantially reduce the potential for increased congestion around the mobility hubs.

E. *Commenters asked for refinements to the 9400 South and Highland Drive parking structure that would move it farther from the homes that surround the area. Commenters also mentioned that the bus entrance on 9510 South is a residential street. Other commenters were worried the structure would reach capacity and users would park in the residential neighborhood.*

The proposed mobility hub at 9400 South and Highland Drive is an existing UTA bus park-and-ride lot used for ski buses during the winter and commuter service during the year. UDOT will consider the suggestions of moving the structure and the structure height during the final design process for the mobility hub and will look at opportunities to move the structure farther from residences. UDOT notes that 9510 South is the current bus entrance to the existing park-and-ride lot, and the portion used by the buses is not in a residential area or a residential road. The bus entrance on 9510 South would be used for buses only, not for personal vehicles entering the parking structure. The mobility hub would include security measures to minimize vandalism.

The mobility hub parking was designed to accommodate the anticipated number of transit users. UDOT does not expect that users would park in adjacent neighborhoods.

F. *Commenters stated that the mobility hubs would be used only during the winter and would be empty during the summer.*

The gravel pit mobility hub could be part of a larger development, and parking could be shared with users of that development. In addition, the mobility hub would be used during the summer as a place for hikers to meet to carpool into Big or Little Cottonwood Canyons, similar to the existing park-and-ride lots at the entrances to those canyons. UTA has also stated that the mobility hubs could become transit hubs for commuter transit use throughout the year.

The 9400 South and Highland Drive location is currently used throughout the year for bus service and is part of an existing bus route. UTA could further look into opportunities to use the parking structure.

G. *Save Our Canyons and other commenters stated that UDOT did an inadequate analysis of the demand at the mobility hubs and should have considered Big Cottonwood Canyon.*

UDOT's purpose in developing the EIS is to address mobility, safety, and reliability on S.R. 210, which does not include the need for alternatives in Big Cottonwood Canyon. Therefore, the alternatives were designed to meet the demand in Little Cottonwood Canyon. The bus service from the mobility hubs would serve only Little Cottonwood Canyon, so there would be no reason for Big Cottonwood Canyon users to use the mobility hubs since no buses would be heading to Big Cottonwood Canyon. Big Cottonwood Canyon users could still use the existing park-and-ride lots that provide service to Big Cottonwood Canyon. In addition, the primary need for improving mobility on S.R. 210 is during the winter use when hiking and cyclist use is low. UDOT does state in Chapter 20, *Indirect Effects*, of the EIS that more parking might need to be considered for Big Cottonwood Canyon and that separate environmental documentation would need to be conducted to address this need (see response 32.20D for more details).

H. *A commenter stated that there should be no mobility hubs east of Wasatch Boulevard since the intent of the land (the commenter mentioned the Whitemore property) is to preserve the area in a natural state.*

None of the proposed parking structures are planned for east of S.R. 210 near the entrance to Little Cottonwood Canyon. The proposed gondola and cog rail base stations would be on private land that is west of Wasatch Boulevard and had no known preservation requirements.

I. *The Wasatch Front Regional Council and UTA commented that regional connectivity to the mobility hubs should be considered to reduce personal vehicle use.*

As stated in the EIS, once the mobility hubs are established, UTA can evaluate regional connectivity to the mobility hubs outside the EIS process.

J. *Cottonwood Heights City commented that the gravel pit mobility hub is likely to be underutilized, which conflicts with the* Wasatch Boulevard Master Plan*, which recommends structured public parking integrated into a high-density, mixed-use development. A creative and collaborative approach to a large transit hub, through public-private partnership with future site developers, would ensure a sustainable long-term development that provides a public benefit. A smaller surface lot would not have the same potential.*

UDOT has been working with Cottonwood Heights City throughout the EIS process regarding the parking structure at the gravel pit mobility hub and how to integrate the structure with future site development. UDOT will continue to work with the City with regard to the parking structure to promote year-round use.

K. *Cottonwood Heights City commented that the isolated and residential location of the gondola station parking structure is more likely to result in underutilization of the public parking at non-peak hours and during the spring and summer than would a major mobility hub at the gravel pit surrounded by high-density, mixed-use development.*

UDOT realizes that, if Gondola Alternative B is selected and if development occurs at the gravel pit, a parking structure off North Little Cottonwood Road might not be utilized as much as a parking structure at the gravel pit.

L. *A commenter stated that the mobility hub at the gravel pit was a flawed concept and that the concept ignores Big Cottonwood Canyon traffic.*

The mobility hub at the gravel pit could be used for both Little and Big Cottonwood Canyons (see response to 32.20D regarding Big Cottonwood Canyon). The mobility hub and the associated roadway infrastructure was designed to minimize traffic congestion and was based on travel demand modeling that showed no heavy traffic congestion or vehicle backups. The proposed concept includes a grade-separated interchange to eliminate left turns across Wasatch Boulevard. The analysis of the traffic included the potential for future commercial development and its associated traffic demand.

UDOT has been working extensively with Cottonwood Heights City regarding a potential mobility hub at the gravel pit. The City believes that the concept would fit in well with potential future development and that the parking structure could support potential future commercial uses.

M. *A commenter suggested that UDOT consider building a mobility hub on the public golf course at 6200 South and Interstate 215.*

The Old Mill Golf Course is a public recreation site owned by Salt Lake County. The requirements of Section 4(f) do not allow UDOT to use a public recreation facility if other sites that are not protected by Section 4(f) are available. In this case, the gravel pit area is available and is not a Section 4(f) site.

N. *Save Our Canyons commented that the mobility hubs used for the enhanced bus service alternatives should be located away from the entrance to Little Cottonwood Canyon. Personal vehicles should get to the mobility hubs prior to coming to Wasatch Boulevard and Fort Union Boulevard (mile 0). Save Our Canyons also commented that alternatives should increase transit use beyond the current system.*

The bus alternatives and Gondola Alternative A evaluated in the EIS include two mobility hubs, both of which are outside the project study area (gravel pit and 9400 South and Highland Drive). The mobility hubs would get people to transit before “mile 0,” as suggested by the comment. Additionally, two of the primary alternatives include increasing the frequency of bus service beyond that of the current transit system.

32.2.6.2.2 Wasatch Boulevard Alternatives

A. *There were numerous comments regarding Wasatch Boulevard, including that UDOT should lower the speed limit, UDOT should consider the* Wasatch Boulevard Master Plan*, UDOT should include landscaping with any improvements, that Wasatch Boulevard is being expanded to accommodate only 15 busy ski days, and that expansion would only increase traffic in neighborhoods. The comments were focused on the questions below:*

Why is UDOT expanding Wasatch Boulevard, or is UDOT expanding Wasatch Boulevard for weekend ski traffic? Wasatch Boulevard is being expanded to address weekday southbound PM peak-period traffic that occurs during the week throughout the year. By 2050, traffic on Wasatch Boulevard is projected to be severely congested. Travel times for the 2.2-mile segment in the weekday PM peak-period are projected to increase from 4 minutes and 40 seconds today to 10 minutes and 15 seconds in 2050. The level of service on Wasatch Boulevard is also projected to decrease—from one of the four segments operating at failing conditions (LOS E or F) today to three of the four segments by 2050. Wasatch Boulevard is not being expanded to address winter ski traffic, which typically occurs on weekends and in the opposite direction of commuter traffic during the week. Widening Wasatch Boulevard is required with all of the primary alternatives.

The analysis for the need to expand Wasatch Boulevard is based on projected population and employment growth in 2050 provided by the University of Utah. The projections show growth in population and employment not only along Wasatch Boulevard but to the south in Sandy and Draper. UDOT used a travel demand model developed by the Wasatch Front Regional Council that includes the growth projections in 2050. More information regarding the travel demand modeling assumptions is provided in Section 2.1.2.2.2, *Level 1 Screening Criteria*, of Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS.

Why doesn't UDOT reduce the speed limit on Wasatch Boulevard, since more lanes would only increase vehicle speeds? UDOT is not proposing to increase the speed limit beyond the currently posted speed limit. The evaluation of speed limits is done outside the EIS process. To determine speeds on state roads, UDOT conducts a speed study. The posted speed limit is based on the 85th-percentile speed while giving consideration to the road surface, shoulders, sight distance, development, pedestrian activity, and crash data. Using these criteria, the posted speed limit for Wasatch Boulevard is 50 miles per hour (mph). To ensure mobility on state roads and equity between cities, UDOT must apply the speed study policy equally on state roads within each city. Wasatch Boulevard south of 9400 South is posted at 35 mph. That portion of Wasatch Boulevard is a city road, so the local government can post the speed limit.

UDOT would not increase the speed limit on Wasatch Boulevard. UDOT will consider center medians other traffic-calming measures.

Changing the design speed would not have substantially changed the footprint of the Wasatch Boulevard alternatives and thus impacts to adjacent property. The cross-section of the road would still require the same width for the travel lanes, median, roadway shoulder, and trail. Because Wasatch Boulevard is mostly straight other than one corner south of Kings Hill Drive, the sight distance criteria would not have changed with a lower speed limit other than traffic heading north

just south of Kings Hill Drive. This change would not have prevented the need to acquire the one home in this area.

Would planted medians and a more-scenic Wasatch Boulevard be developed similar to the plans in the Cottonwood Heights *Wasatch Boulevard Master Plan*? As stated in Section 2.6.2.3, *Wasatch Boulevard Alternatives*, of the EIS, UDOT in coordination with Cottonwood Heights City would develop an aesthetics plan to implement as part of proposed improvements to Wasatch Boulevard. To develop the plan, UDOT and Cottonwood Heights City would use the goals identified in the *Wasatch Boulevard Master Plan* and the general concepts in the *Wasatch Boulevard Aesthetic Design Plan* for preserving and enhancing scenic and natural qualities along Wasatch Boulevard. Planted medians and trails have the added benefit of providing traffic calming.

What impacts would widening Wasatch Boulevard have on key intersections including the intersection of Wasatch Boulevard and North Little Cottonwood Road? With the Wasatch Boulevard alternatives, the level of service (LOS) at key intersections would improve compared to the No-Action Alternative. With the No-Action Alternative, four of the five intersections would operate under failing conditions (LOS E or F) by 2050. With the Wasatch Boulevard alternatives, all intersections would operate at an acceptable level of service in 2050.

Commenters stated that, with two southbound travel lanes and only one dedicated right turn lane with the Wasatch Boulevard alternatives at the Wasatch Boulevard and North Little Cottonwood Road intersection, there would be severe congestion. UDOT conducted a detailed analysis of this intersection. The level of service at the intersection of North Little Cottonwood Road and Wasatch Boulevard ("high-T") would be less in the PM peak period with the Wasatch Boulevard alternatives (LOS D compared to LOS C for the No Action). However, LOS D is acceptable and meets UDOT's stated goal for the project. For more information, see Chapter 7, *Traffic and Transportation*, of the EIS.

Would expanding Wasatch Boulevard increase traffic into local neighborhoods in Cottonwood Heights? By making travel less congested on Wasatch Boulevard traffic in local neighborhoods would be reduced.

Would expanding Wasatch Boulevard increase accidents, make left turns difficult, and make for an unsafe road for pedestrians and cyclists? UDOT would design Wasatch Boulevard using current safety standards that take into account pedestrians, cyclists, and vehicle safety. This would include providing appropriate sight distances, clear zones, and shoulders. UDOT would also provide a 10-foot-wide pedestrian trail away from the travel lane to improve pedestrian safety. The new roadway would also include appropriate crosswalks. Finally, UDOT would not substantially straighten the road but would provide for better sight distances by clearing vegetation. This would allow drivers better see into intersections, which would reduce the potential for accidents.

UDOT is not planning to increase the speed limit on Wasatch Boulevard or reduce safety. It should be noted that the current accident rate on Wasatch Boulevard is below the statewide average for similar roads. With the current road configuration and limited sight distance, the accident rate on Wasatch Boulevard ranges from 1.46 to 2.43 per million vehicle-miles traveled compared to the state average for similar roads of 2.89 per million-vehicle miles traveled.

Would new traffic signals be placed at key intersections such as Kings Hill Drive? As part of the alternatives screening process, UDOT evaluated a traffic signal at Kings Hill Drive as part of any of the roadway action alternatives on Wasatch Boulevard. As part of the screening, UDOT conducted a traffic signal warrant study (to determine whether a traffic signal is warranted) at that intersection based on the *Manual on Uniform Traffic Control Devices* (MUTCD), Chapter 4C, *Traffic Control Signal Need Studies*. The MUTCD is the law governing all traffic-control devices. It is a federal standard used by highway officials nationwide to guide installation and maintenance of traffic-control devices on all streets and highways open to public travel. The MUTCD is published by the Federal Highway Administration under 23 Code of Federal Regulations Part 655, Subpart F.

UDOT's review of the Kings Hill Drive intersection showed that the intersection meets the requirements for a traffic signal. However, 96% of the turning movements on Kings Hill Drive during the morning peak period are right-turning vehicles. If a dedicated right-turn lane were added on Kings Hill Drive, the signal warrant would no longer be met. There is enough room on Kings Hill Drive to stripe the road for dedicated right- and left-turn lanes without acquiring any additional right of way. UDOT determined that adding a traffic signal would create an offset intersection that would not meet sight distance standards at this location, and that meeting the sight distance standards would require purchasing two homes. Therefore, UDOT decided that all of the roadway alternatives on Wasatch Boulevard would include dedicated right- and left-turn lanes at Kings Hill Drive. Therefore, a traffic signal would not meet MUTCD warrants and was not carried forward as part of any roadway alternatives.

Other intersections that do not have an existing traffic signal would not meet traffic warrants to meet the criteria for installing a traffic signal.

Would the Wasatch Boulevard alternatives have bicycle shoulders and a pedestrian trail? Both Wasatch Boulevard alternatives would include a shoulder that can be used by cyclists and a multi-use 10-foot-wide path on the east side of the road. A multi-use path was not included on the west side since it would have resulted in home relocations and substantial property impacts. The bicycle lane would be within the shoulder and would not be protected since the shoulder would also need to be used for vehicles that break down, for bus priority at intersections, and for snow storage. A protected bicycle lane would eliminate the primary purpose of the shoulder. Adding a separate bicycle lane in addition to the shoulder would expand the roadway footprint which would result in more private property impacts.

Why doesn't UDOT just expand Highland Drive to reduce traffic on Wasatch Boulevard? UDOT considered improvements to Highland Drive during the evaluation process. UDOT modeled the expected traffic volumes in the project area in 2050 using the Wasatch Front Regional Council's travel demand model. The travel demand modeling for the project included Highland Drive being built as a five-lane road and connecting from 9800 South to the Draper city limits. Even with Highland Drive being expanded to five lanes (four travel lanes and a center turn lane), the results of the travel demand model showed a need to expand the traffic capacity on Wasatch Boulevard to meet future regional growth.

Did UDOT consider reversible lanes on Wasatch Boulevard instead of widening? UDOT evaluated a reversible-lane alternative. The alternative was eliminated because it did not meet the

project purpose of improving mobility on all segments of Wasatch Boulevard because it still resulted in roadway congestion in excess of the acceptable level of service.

Would homes be acquired as a result of widening Wasatch Boulevard? There would be one home acquisition as a result of widening Wasatch Boulevard and one potential acquisition. The one home that would need to be acquired has already been purchased by UDOT.

Would Wasatch Boulevard become congested south of the intersection of North Little Cottonwood Road with the roadway expansion? With either Wasatch Boulevard alternative, there would be a no-stop right turn at the Wasatch Boulevard and North Little Cottonwood Road intersection in the southbound direction. The number of vehicles heading southbound would basically be the same with or without the Wasatch Boulevard alternatives. With a no-stop right turn, traffic would not need to stop, which is similar to current conditions, and no substantial congestion is anticipated at the intersection or on Wasatch Boulevard south of the intersection. Traffic modeling shows that the intersection would operate at an acceptable level of service of LOS D.

Would the primary alternatives just cause congestion on Wasatch Boulevard? The Five-lane and Imbalanced-lane Alternatives would improve mobility on Wasatch Boulevard. Based on travel demand modeling, UDOT expects traffic to operate at an acceptable level of congestion.

Commenters stated that UDOT did not consider all of the environmental impacts to Wasatch Boulevard residents. The EIS includes a detailed analysis of the Wasatch Boulevard alternatives' impacts to both the human and natural environment. The analysis states that the road widening could reduce the quality of life of residents, impact property, increase noise levels, and change the character of the neighborhood.

Commenters stated that adding additional lanes on Wasatch Boulevard would induce travel demand and vehicle-miles traveled. For the Wasatch Boulevard alternatives (Five-lane Alternative and Imbalanced-lane Alternative), travel demanding modeling showed that there would be about a 4% increase in average daily traffic on the 2.2-mile segment compared to the No-Action Alternative in 2050 during an average weekday. The 4% increase in average daily traffic would be considered induced demand. Even with the induced demand, the proposed Wasatch Boulevard alternatives would operate at an acceptable level of congestion.

Commenters stated that the 2050 traffic analysis was based on an outdated 2015 survey. Commenters were not specific regarding which 2015 data were outdated. UDOT used the latest version of the regional travel demand model developed for the 2019–2050 *Wasatch Front Regional Transportation Plan*. The model is the best available tool and has been approved by the Federal Highway Administration for use in both forecasting traffic and in determining regional air quality conformity. The model's base year is 2015. UDOT took the baseline data from the model and used a VISSIM model to predict traffic on Wasatch Boulevard. The VISSIM model is a better tool to focus on specific roadway segments and intersections. UDOT updated the baseline data from the regional travel demand model with traffic counts taken in 2018.

Commenters stated that Wasatch Boulevard would be seven travel lanes. UDOT is not proposing seven travel lanes. The Five-lane Alternative would include four travel lanes, a center median, and appropriate shoulders for cyclist use, snow storage, and vehicles that break down

[see Figure 2.6-6, *Wasatch Boulevard Alternatives – Five-lane Cross-section (Fort Union Boulevard to North Little Cottonwood Road)*, of the Draft EIS]. The proposed Five-lane Alternative does not include seven travel lanes plus shoulders. UDOT is not proposing shoulder-running buses on Wasatch Boulevard as part of the EIS alternatives. However, UDOT is integrating transit into the Wasatch Boulevard alternatives by including priority signals for buses to reduce their travel time.

Commenters asked whether Wasatch Boulevard would be straightened, which would increase vehicle speeds. Wasatch Boulevard would remain in its current alignment. Some trees would be removed to improve sight distances and thereby improve safety at intersections.

Commenters wanted pedestrian over- or underpasses as part of the Wasatch Boulevard alternatives. In working with Cottonwood Heights City, UDOT is considering two pedestrian overpasses to facilitate community connectivity. The overpass on the south end is proposed at Russell Park Road and on the north end at the new Canyon Center Development just south of Fort Union Boulevard. The final design could be an underpass depending on the location and the impacts associated with an underpass.

Who enforces vehicle noise ordinances? Enforcement of noise ordinances is the responsibility of law enforcement.

Why don't the Wasatch Boulevard alternatives include dedicated bus lanes for buses going to the ski resorts? The Wasatch Boulevard alternatives include signal priority at signalized intersections. Dedicated bus lanes are not necessary because widening Wasatch Boulevard would reduce congestion to acceptable levels.

Why doesn't UDOT consider design guidelines from the National Association of City Transportation Officials? UDOT has design guidelines which use the American Association of State Highway and Transportation Officials standards. These standards take into account safety standards for all users including pedestrians and cyclists. As stated in Section 2.6.2.3, *Wasatch Boulevard Alternatives*, of the EIS, UDOT in coordination with Cottonwood Heights City would develop an aesthetics plan to implement as part of proposed improvements to Wasatch Boulevard. To develop the plan, UDOT and Cottonwood Heights City would use the goals identified in the *Wasatch Boulevard Master Plan* and the general concepts shown in the *Wasatch Boulevard Aesthetic Design Plan* for preserving and enhancing scenic and natural qualities along Wasatch Boulevard. Planted medians and trails have the added benefit of providing traffic calming.

B. *A commenter stated that they opposed the Cottonwood Heights 2019* Wasatch Boulevard Master Plan.

The master plan was considered in the development of the EIS at the request of Cottonwood Heights City. However, the plan was prepared and approved by Cottonwood Heights City, not UDOT.

C. *A commenter provided an article titled "Can Removing Highways Fix American Cities?" The article states that, in some communities, older freeways and highways are being repurposed as gathering and recreation places to provide a complete street network.*

UDOT's review of the article found examples of communities where older freeways and highways are being turned into boulevards to reconnect communities. The areas being repurposed are being considered for mixed-use developments to reduce the need for driving where people can walk from their residence to work or shopping.

Wasatch Boulevard is not a freeway or a highway, and the proposed alternatives being considered are not freeway or highways. The repurposed roads in the article are still multi-lane but with mixed-use developments to support revitalization. The examples would be hard to apply to Wasatch Boulevard without the inclusion of commercial developments. Given the project purpose, UDOT determined that Wasatch Boulevard needs to be expanded to an arterial street, not into a freeway or highway.

D. *Save Not Pave requested that UDOT, as the administrator of S.R. 210, develop a project that meets their goals for local safety, health, and mobility in UDOT's design and implementation of improvements through the "urban segment" of Wasatch Boulevard located between the intersection with Fort Union Boulevard and the "high-T" intersection. Save Not Pave believes that those goals are consistent with UDOT's strategic goals of Zero Fatalities, Preserve Infrastructure, and Optimize Mobility.*

UDOT believes that it is meeting both the commenter's and UDOT's strategic goals. The design of Wasatch Boulevard would improve safety by improving sight distances, providing appropriate turn lanes and shoulders, and bringing the road up to current design safety standards. The design would include a separate pedestrian path which would benefit the health and connection of community members and provide appropriate shoulders for cyclists. UDOT in working with Cottonwood Heights City is also considering either under- or overpasses to improve safety and better connect the community.

E. *Save Not Pave commented that UDOT should limit the expansion of the "urban segment" of Wasatch Boulevard through land use planning aimed to prevent further sprawl.*

Local planning is the responsibility of the municipalities. Each City has a planning process that involves the local citizens regarding how they believe a city should develop. The planning process of the local municipalities is used by the Wasatch Front Regional Council in determining population and employment trends and the origin and destination of traffic along the Wasatch Front. UDOT uses this information in evaluating alternative solutions to solve the need of projects being considered during the environmental process.

F. *Cottonwood Heights City requested that UDOT reaffirm its position that UDOT will implement the goals of the* Wasatch Boulevard Corridor Aesthetics Plan.

UDOT provided a letter to Cottonwood Heights City on September 29, 2021, reaffirming its position regarding implementing the aesthetics plan. The EIS documents this commitment in Chapter 2, *Alternatives*, of the EIS, noting that UDOT is committed to following the aesthetics plan.

G. *Cottonwood Heights City asked that that the "Aesthetics" section heading on page 2-53 of the Draft EIS be amended to "Aesthetics and Design."*

The heading has been revised according to the comment.

H. *Cottonwood Heights City asked that UDOT include enhanced language that provides a commitment to view Wasatch Boulevard as a special-character gateway and recommends a specific reference in the EIS that any future sound walls or other corridor improvements be reviewed under this same procedure to ensure cohesive design and aesthetics.*

UDOT has committed to following the intent set forth in the *Wasatch Boulevard Corridor Aesthetics Plan* in the design of Wasatch Boulevard. Noise walls and treatments will be discussed with the City if residents approve walls for their locations.

I. *Cottonwood Heights City commented that the Wasatch Boulevard Master Plan* and *Wasatch Boulevard Corridor Aesthetics Plan should be included as appendices to the EIS. This will ensure that UDOT and the City are committed to collaborating on roadway design and aesthetics regardless of the staff or officials involved.*

The EIS references numerous planning documents, and including them all as appendices would not be possible. The aesthetics plan is mentioned and referenced numerous times in the EIS. Referencing the plan in the EIS by name is the same as including the document in an appendix without adding more pages to the EIS.

J. *Cottonwood Heights City commented that the City strongly encourages that the clear zone reduction be implemented. Although the overall right-of-way width remains the same, the amount of asphalt used would be reduced, representing a more balanced implementation of roadway elements that are not vehicle lanes (on-street bicycle lanes, separated trails, medians, and landscaping).*

The clear zone is not all asphalt; it is an area free of obstruction for errant vehicles. Asphalt applies only to the necessary area for lanes, shoulders, and walkways, not for the entire clear zone.

What is a clear zone?

A clear zone is an unobstructed, traversable roadside area that allows a motorist to stop safely or regain control of a vehicle that has left the roadway.

K. *Cottonwood Heights City commented that a reference be added to this section (2.3.1, Roadway Design) that UDOT has formally recognized the Wasatch Boulevard corridor as a special-character corridor, which as the City understands will make its design process more unique and flexible than UDOT's standard roadway design policy. This should be clearly acknowledged in the EIS.*

Section 2.3.1, *Roadway Design*, of the EIS is focused on all roadway design conducted for the EIS process. As stated in that section, UDOT follows the design standards as part of the EIS process. As stated in response 32.2.6.2.2F, UDOT is committed to working with Cottonwood Heights City regarding the standards in the *Wasatch Boulevard Master Plan*; however, UDOT design standards are the underlying guidance since they establish safety standards that might not be included in the *Wasatch Boulevard Master Plan*. Also see response 32.2.6.2.2G regarding changing the title of the "Aesthetics" section heading in the EIS.

L. *Cottonwood Heights City commented that definitive language should be included in the EIS regarding the future widening of Wasatch Boulevard from imbalanced lanes to five lanes. The current EIS states that five-lane widening is triggered at LOS E or F in the corridor. The City requests that trigger requirement be revised strictly to LOS F, which should be determined over a prolonged period prior to implementation of any widening. The City also requests jurisdictional collaboration prior to any widening to ensure that the corridor design and aesthetics are not negatively impacted by future work.*

Section 2.6.9.2.1, *S.R. 210 – Wasatch Boulevard Alternatives*, of the Draft EIS states that future widening from the Imbalanced-lane Alternative to the Five-lane Alternative would occur at reaching a level of service of LOS E. UDOT's goal for urban corridors is LOS D or better, so UDOT's goal is not met at LOS E, and is the trigger point to expand Wasatch Boulevard. It should be noted that UDOT does not expect to reach LOS E with the Imbalanced-lane Alternative during the 2050 planning horizon. If LOS E is reached, UDOT will collaborate with the City prior to widening Wasatch Boulevard from four to five lanes and regarding related changes to aesthetics.

M. *Cottonwood Heights City requests that UDOT revise the terminology addressing Wasatch Boulevard widening. It should be labeled as "five-lane phased approach" to further clarify UDOT's stated intent.*

The Five-lane Alternative is the current descriptor used in the EIS. Assuming that the Five-lane Alternative is selected, UDOT will explain in the Record of Decision the phased approach to be implemented with the Five-lane Alternative. The Record of Decision is the final commitment on any project implementation and associated phasing.

N. *Cottonwood Heights City commented that, while it is understood that previously proposed traffic speed mitigation measures, such as roundabouts, roadway chicanes, or similar traffic-calming measures were eliminated from consideration, the City requests that these design elements be reconsidered and analyzed further, especially when Wasatch Boulevard undergoes roadway design. These mitigation techniques are specifically referenced in the Preferred Scenario of the* Wasatch Boulevard Master Plan *and should not be eliminated before detailed roadway design has taken place.*

UDOT evaluated roundabouts, and they were eliminated from further consideration because they did not improve the level of service enough to meet the project purpose and therefore will not be reconsidered. As stated Section 2.6.2.3, *Wasatch Boulevard Alternatives*, of the Final EIS, UDOT will work with Cottonwood Heights City during the final design process with regard to implementing the *Wasatch Boulevard Corridor Aesthetics Plan*, which includes traffic-calming measures. These measures include planted and raised medians, planted park strips, and extended pedestrian curbs as traffic-calming measures.

O. *Cottonwood Heights City commented that, in accordance with the Preferred Scenario of the* Wasatch Boulevard Master Plan*, the additional southbound lane should continue to be considered as a flexible lane, or a transit-only lane. Similar to the proposed widening in Little Cottonwood Canyon, further consideration should be given to utilizing this added roadway capacity for transit*

and/or HOV (high-occupancy vehicle) purposes during peak-period times but for recreation and active transportation purposes during non-peak times.

The additional southbound lane is needed as a general-purpose lane to meet the project purpose. Implementing the lane as a flex lane for the 2-mile segment of Wasatch Boulevard would create safety issues for motorists and cyclists using Wasatch Boulevard. For example, users making right turns onto southbound Wasatch Boulevard would typically move into the right lane during peak periods but the left lane during non-peak periods. This would be confusing to drivers and potentially lead to an increase in accidents. This could also present a safety risk to cyclists if drivers are confused about the lane assignment. The same issue could occur for drivers making left turns onto northbound Wasatch Boulevard and not knowing whether the lane of oncoming vehicles is in use or not.

P. *Cottonwood Heights City commented that UDOT has previously stated that the shared-use pathway is cut off at the "high-T" intersection due to city property south of that location containing a preservation easement. This is not a legitimate reason to stop the trail, and the City recommends that the shared-use path continue as far south as possible.*

Chapter 9, *Considerations Related to Pedestrians and Bicyclists*, of the EIS has mitigation stating that UDOT will work with Cottonwood Heights City and Salt Lake County regarding the design of the bicycle path from Wasatch Boulevard to the Little Cottonwood park-and-ride lot on the east side of North Little Cottonwood Road. The multi-use path could provide access for Cottonwood Heights residents to the open space and could connect to the existing Little Cottonwood Canyon park-and-ride lot at the intersection of S.R. 209 and S.R. 210. The potential extension of the trail within UDOT right-of-way can be considered during the final design process. UDOT recommends that Cottonwood Heights City works with Utah Open Lands regarding a path across the land and provide to UDOT a commitment that such a trail is allowed under the land transfer documents and that Utah Open Lands agrees to such a trail.

Q. *Cottonwood Heights City commented that UDOT should revise reference of "pedestrian bridges" to "grade-separated crossings," which allows future flexibility for other options for safely crossing Wasatch Boulevard, such as below-grade crossings, depending on the exact location identified for such features.*

Chapter 2, *Alternatives*, of the Final EIS has been revised to refer to overpasses or underpasses.

R. *Cottonwood Heights City commented that, in addition to grade-separated pedestrian crossings, UDOT's design must also implement measures that make at-grade pedestrian crossings at signalized locations much safer. Features such as enhanced crosswalks, pedestrian crossing signals that are more visible to vehicles, pedestrian refuge locations in medians, and other safety measures should all be implemented to provide safety for and increase driver awareness of pedestrians.*

UDOT will implement its current design standards, which include providing safety measures for pedestrians and cyclists.

S. *Cottonwood Heights City commented that the proposed shared-use path should be designed to connect to other pedestrian amenities in the area, including neighborhood sidewalks, surrounding*

trail systems (that is, Big Cottonwood Canyon Trail), private developments (that is, the gravel pit site), and transit stops. UDOT should also consider in its design process a wayfinding signage system, so that the shared-use path becomes both a recreation amenity and also a substantial piece of active transportation infrastructure.

During the final design process, UDOT will work with Cottonwood Heights City regarding other trail connections and amenities. The requested trail connections are not required to meet the project purpose and would add additional cost to the alternatives. These trail connections and amenities should be considered outside the EIS process collaboratively with UTA, local municipalities, and private developers to identify the necessary funding.

T. *Cottonwood Heights City commented that the traffic studies that serve as the baseline analysis for the EIS are not current. The City requests that UDOT complete a current traffic analysis of the project area. An updated analysis will ensure that the most accurate and updated data are used as a basis for decision-making. Acknowledgement of the short-term and long-term impacts of the COVID-19 pandemic on traffic patterns should also be included.*

The EIS traffic studies are current and use the latest version of the Wasatch Front Regional Council's travel demand model and associated traffic counts (also see response 32.2.6.2.2A). See response 32.2.4A regarding pandemic-related travel demand.

32.2.6.2.3 Avalanche Mitigation Alternatives

A. *A commenter stated that the bicycle lane with the snow shed would be only 4 feet wide, which is not enough.*

Uphill bicycle travel would be accommodated by a 4-foot-wide bicycle path on the outside the sheds (cyclists would also be allowed to travel in the snow sheds). During the winter, if cyclists are riding uphill on S.R. 210, they would need to ride inside the snow shed between the roadside barrier and the snow shed wall. Downhill cyclists would continue in the downhill, westbound shoulder during the entire year and would ride inside the snow shed (the lanes will be marked for shared use). The snow sheds would have interior lighting for safety; this lighting would keep cyclists and vehicles visible as they travel through the snow shed.

B. *A commenter stated that the snow sheds would create heat.*

The snow sheds are not large enough to change the heat environment of Little Cottonwood Canyon. In addition, the snow sheds will be open on the downhill side which allows air to flow through the sheds thus reducing heating potential.

C. *Commenters suggested that UDOT consider the implementation of remote avalanche-control systems to control avalanches.*

Remote avalanche-control systems are considered active mitigation. They are currently in place in some parts of Little Cottonwood Canyon. The use of these devices would not reduce the number of hours or days of closure since their use still requires S.R. 210 to be closed; therefore, they would not meet the project purpose of improving reliability.

D. *Save Our Canyons commented that the vast number of closure days included in UDOT's analysis occur at hours and days with little demand and that the number of closure days without snow sheds is 10 and with snow sheds is only a marginal reduction (to 4 and 6).*

The commenter stated that the benefit would be a reduction from 10 days to 4 to 6 days. The EIS states that it could be as high as 21 days in 2050, not just 10 days, which equals a reduction of at least 14 days. The commenter fails to note that the worst congestion in residential neighborhoods on and adjacent to S.R. 210 occurs during these closure days, with many residents stating that they cannot leave or return to their homes due to the traffic waiting for the road to open. Also, the congestion hampers emergency response. UDOT typically closes S.R. 210 until 8 AM, by which time the traffic backup at the bottom of Little Cottonwood Canyon has already begun. Once the backup has occurred, it creates additional congestion, even if the road is opened, since it takes time for the traffic to clear. The snow sheds would also substantially improve safety by dropping the avalanche hazard index in 2050 from 96 to 56.

E. *Save Our Canyons commented that the design of the snow sheds would allow snow to fill the entrances and that the design does not consider the unique conditions in Little Cottonwood Canyon.*

UDOT hired avalanche experts from Canada and the University of Montana to help develop the snow shed locations and the design included in the EIS. The designs were based on the conditions in Little Cottonwood Canyon. The EIS team worked with UDOT avalanche forecasters to minimize the potential of snow entering the entrance portals.

F. *Save Our Canyons commented that reducing vehicle use and increase transit can improve the avalanche risk.*

All of the primary alternatives would reduce wintertime personal vehicle use by 30% and increase transit use. The avalanche risk analysis in 2050 for the primary alternatives takes into account the change in personal vehicle use. Even with the reduction in personal vehicle use, the avalanche risk would still be high. UDOT believes that the best way to further lower the risk is to implement snow sheds.

32.2.6.2.4 Trailhead Parking Alternatives

A. *A commenter asked whether UDOT was addressing trailhead parking and safety-related issues to pedestrians and cyclists. Other commenters asked whether parking would be reduced at the trailheads or along the road.*

See Section 2.6.2.5, *Trailhead Parking Alternatives*, of the EIS for more information regarding trailhead parking. With any of the primary alternatives, UDOT would not eliminate existing trailhead parking. UDOT has three alternatives that would help with trailhead parking issues. Two of the trailhead parking alternatives would improve trailhead-related safety issues (safety related to entering and exiting the areas and roadside parking conflicts), including improved access to the trailheads.

The trailhead parking alternatives were developed with the USDA Forest Service taking into account undesignated and designated parking areas and including dispersed recreation use and

the need to better manage forest access. All three trailhead alternatives include eliminating roadside parking to improve safety conflicts between roadside parked vehicles and cyclists and pedestrians. The Trailhead Improvements and No Roadside Parking within ¼ Mile of Trailheads Alternative would eliminate roadside parking within ¼ mile of either side of the trailheads. The Trailhead Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative and the No Trailhead Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative would eliminate all roadside parking, which would improve safety for cyclists and pedestrians.

With the current trailhead and roadside parking, there are about 528 parking spaces. With the Trailhead Improvements and No Roadside Parking within ¼ Mile of Trailheads Alternative would reduce parking from 528 parking spaces to 511, the Trailhead Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative would reduce parking from 528 to 221 parking spaces, and the No Trailhead Improvements and No Roadside Parking from S.R. 209/S.R. 210 Intersection to Snowbird Entry 1 Alternative would reduce parking from 528 parking spaces to 99.

In working with the USDA Forest Service regarding trailhead improvements, UDOT realized the need to establish a designated trailhead at the Bridge Trailhead since the area has heavy roadside parking. This trailhead would provide access to Little Cottonwood Creek and the Great White Icicle during the winter.

UDOT would not implement a summer trailhead reservation system because traffic congestion is not a substantial issue in the summer and a trailhead reservation system is outside the authority of UDOT. Also see response 32.20B.

B. *A commenter asked why is the elimination of roadside parking a goal in the lower canyon. Shouldn't UDOT just expand parking and improve roadside parking with better signage?*

The goal of reducing or eliminating roadside parking is to improve mobility on S.R. 210 near trailheads and at ski areas. The goals include preventing cyclists and pedestrians from being forced into the roadway travel lane, which is a safety concern; reducing the number of informal trailheads that contribute to erosion, mineral soil loss, the spread of invasive weeds, degradation of the watershed, and loss of native vegetation in the canyon; and reducing damage to the pavement along the roadway edge, which causes increased soil erosion, runoff into nearby streams, and degradation of the watershed.

As discussed in response 32.2.6.2.4A of this section, UDOT has proposed several alternatives that would eliminate or reduce the amount of roadside parking. The USDA Forest Service manages parking according to desired future conditions stated in its 2003 *Revised Forest Plan: Wasatch-Cache National Forest*, so it is not under consideration to expand both parking lots and fix existing roadside parking by adding more pavement. In addition, adding more pavement to provide a larger parking area along the road would reduce some of the conflict, but recreationists would still need to park along the road and potentially walk in a travel lane or cross the road, which is a safety risk. For safety, the best option is to eliminate roadside parking and require people to park in designated and managed parking areas.

C. *A commenter stated that the proposed water quality buffer on the south side of the proposed Gate Buttress parking area is useless and should be used for more parking.*

The water quality buffer would capture runoff from the parking area and allow the water to run under S.R. 210. During the final design process, UDOT might adjust the water quality buffer.

D. *A commenter asked why the White Pine Trailhead was redesigned with two separate entrances and said that UDOT should consider grade-separated entrances.*

The proposed design is based on safety standards to avoid poor sight distances on S.R. 210 in the vicinity of the trailhead. Building a flyover ramp for an exit would result in extensive environmental impacts and is not warranted for the limited amount of traffic.

E. *A commenter asked how the trailhead parking numbers were determined.*

The USDA Forest Service has been using the 2012 *Cottonwood Canyons Parking Study – Existing Conditions* (Avenue Consultants 2012) as the baseline for parking in Little Cottonwood Canyon. None of the alternatives developed by UDOT for this analysis would increase parking levels in Little Cottonwood Canyon beyond those estimated in the *Cottonwood Canyons Parking Study – Existing Conditions*. The study included both designated and undesignated (shoulder) parking in the capacity analysis. Although some commenters stated that more than 30 cars can park in the Gate Buttress area, UDOT considered the numbers in the study as the baseline. The roadside parking adjacent to the trailheads was included in the parking data as roadside parking. See Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the EIS for more information regarding parking numbers.

F. *A commenter suggested that the dirt lot across from the proposed paved lot at the Lisa Falls trailhead be maintained and a pedestrian signal be included between the lots.*

UDOT included the number of parking spaces in the dirt lot in the proposed paved lot at Lisa Falls. Thus, there would not be a reduction in parking spaces. The USDA Forest Service's 2003 *Revised Forest Plan: Wasatch-Cache National Forest* has an objective of not increasing the number of parking spaces in Little Cottonwood Canyon. The design of the Lisa Falls Trailhead also includes a pedestrian signal for those hikers wanting to cross S.R. 210 toward the Little Cottonwood Canyon Trail. One of the purposes of the improved trailheads is to minimize dirt parking areas which cause soil erosion and increase sediment into Little Cottonwood Creek.

G. *The Town of Alta commented that, if a pedestrian signal is installed at the Lisa Falls Trailhead, UDOT should consider ways to mitigate the impact that such a traffic signal could have on afternoon downhill ski traffic.*

If the Lisa Falls Trailhead is improved, UDOT will consider options to avoid downhill traffic delays when the signal is activated. It should be noted that the Lisa Falls Trailhead is not a popular winter destination and so activation of the signal in winter should be limited.

H. *A commented asked how trailhead improvements would interact with watershed provisions.*

As described in Section 12.4.3.5, *Trailhead Parking Alternatives*, of the EIS, UDOT would include appropriate best management practices (BMPs) to minimize pollutants from the improved trailhead

areas. Given the small amount of impervious area that would be added, the modeled in-stream water quality of Little Cottonwood Creek with this increased pavement at the proposed trailheads is the same as with the No-Action Alternative. With the exception of phosphorus concentrations, which would be the same as with the No-Action Alternative and which currently exceed standards, no numeric water quality standards associated with Little Cottonwood Creek's beneficial uses would be exceeded. With paved trailheads, BMPs, and restricted roadside parking, there would be some water quality benefits with the trailhead improvements compared to the No-Action Alternative.

Trailhead design including restrooms would be conducted in coordination with the USDA Forest Service and the Salt Lake City Department of Public Utilities. Trailhead designs were developed to include buffer areas and stormwater BMPs.

I. *Save Our Canyons commented that UDOT's trailhead parking improvements would expand the number of parking spaces beyond the levels in 2000 and that roadside parking should not be included in those levels. In addition, they commented that UDOT does not have the authority to conduct NEPA on Forest System lands.*

UDOT has worked extensively throughout the NEPA process with the USDA Forest Service on development of the alternatives including trailhead parking. During this process, the USDA Forest Service stated that moving legal roadside parking into designated trailhead parking lots would result in no change in overall parking capacity. Therefore, the alternatives developed by UDOT in conjunction with the USDA Forest Service do not increase parking levels beyond the levels in 2000. UDOT expects that the elimination of roadside parking and improved designated parking with water quality best management practices (BMPs), restrooms, and focused used at developed sites would improve water quality. The improved trailheads would reduce "spider trails," use of the forest as a bathroom, and erosion from roadside damage.

UDOT does have the authority to prepare a NEPA document for its actions on and affecting Forest Service–managed lands. For the Little Cottonwood Canyon EIS, the USDA Forest Service was a cooperating agency and will make decisions related to actions that occur on its lands.

32.2.6.2.5 No Winter Parking Alternative

A. *Commenters asked whether winter parking would be limited and how such a limitation would affect backcountry access.*

The No Winter Parking Alternative would eliminate about 230 roadside parking spaces adjacent to the ski resorts in the UDOT right of way which would improve mobility on S.R. 210. Users can use transit to access the ski resorts and backcountry ski areas. UDOT would not construct additional parking above Snowbird Entry 1. Enforcement of no winter roadside parking would be the responsibility of local law enforcement. The location of the proposed no-winter-parking areas are shown in Figure 2.6-18, *No Winter Parking Alternative – Eliminated Parking Areas*, of the EIS.

UDOT would not eliminate or manage parking on private property or federal lands that are not within the UDOT right-of-way.

B. A commenter asked why the ski resort area parking numbers of about 3,500 resort parking and 900 adjacent roadside parking does not match the parking shown in Table 2.6-2 of the EIS.

Based on a parking study conducted by Salt Lake County in 2012, there are about 3,500 parking spaces at the resorts and about 900 adjacent roadside parking spaces. Table 2.6-2, *Trailhead Parking Alternatives – Total Parking Spaces from S.R. 209/S.R. 210 to Snowbird Entry 1 by Trailhead Alternative*, of the EIS shows parking below Snowbird Entry 1 only and does not include the resort areas. The 2050 parking numbers used in the analysis assume that there is no increase in future parking. The USDA Forest Service manages in-canyon parking in Little Cottonwood Canyon per the *Revised Forest Plan: Wasatch-Cache National Forest*. For the purpose of watershed protection, the plan states that a desired future condition in the Tri-Canyon Area (Big Cottonwood, Little Cottonwood, and Mill Creek Canyons) is to maintain the parking capacities of canyon parking areas (ski-area lots, summer-use homes, and developed and dispersed recreation sites) so that parking capacity does not exceed that in year 2000 unless modification is needed for watershed protection or to facilitate mass transit.

32.2.6.3 Enhanced Bus Service in Peak-period Shoulder Lane Alternative

Note to reader: UDOT's responses to comments regarding the sub-alternatives (Mobility Hubs Alternative, Wasatch Boulevard alternatives, avalanche mitigation alternatives, trailhead parking alternatives, and the No Winter Parking Alternative), which are all part of the primary alternatives, are provided in Section 32.2.6.2, *Enhanced Bus Service Alternative*, of this chapter. Responses to comments regarding tolling, subsidizing transit fares, the method and timing of tolling, and other access-control options (limit parking, road closures, and vehicle occupancy restrictions), which are common among the primary alternatives, are provided in Section 32.2.4, *Travel Demand Management Strategies Considered as Part of the Action Alternatives*, of this chapter.

A. Commenters said that buses would get stuck in the traffic in the ski resort parking lots, which would increase travel times. Other commenters said that the buses should provide direct service to the resorts.

There would only be one bus stop at the Snowbird resort and one stop at the Alta resort. The bus stop at Snowbird would be located at Snowbird Entry 1 near the existing Creekside bus stop. The bus stop at Alta would be located in the town of Alta between the Alta Lodge and the Alta Rustler Lodge on the south side of S.R. 210. In addition, with the enhanced bus service alternatives, there would be a 30% reduction in personal vehicle use in the canyon, which in general would reduce congestion making traffic including buses operate in less congestion compared to today. Buses would not stop at the trailheads. Additional stops in the canyon would also add travel time to all travelers on the bus, making transit a less-attractive option. This is one reason why the bus service is direct to the ski resorts—so that Alta riders would not need to stop at Snowbird or vice versa.

B. Commenters had questions about the peak-period shoulder lanes. Some commenters stated that people would drive in the bus-only peak-period shoulder lanes without enforcement. Other commenters asked whether personal vehicles, or only electric vehicles, could be allowed to drive in the peak-period shoulder lanes. Other commenters believed that the peak-period shoulder lanes

would be a highway of four lanes. Other commenters said that the road should be widened to the south side of S.R. 210 to avoid impacts to climbers.

Enforcement. Enforcement is outside the scope of the EIS. The peak-period shoulder lanes would be marked for buses only, and a ticket would be issued and fine charged for violators. The bus lane would be for the enhanced bus service only. UDOT would not allow personal vehicles, private shuttles, or electric vehicles to use the peak-period shoulder lanes. Use of the lanes by electric vehicles might confuse other drivers, resulting in an enforcement issue. UDOT would not increase the speed limit of S.R. 210 in Little Cottonwood Canyon as part of the alternative. UDOT does not anticipate additional vehicle collisions as a result of adding the peak-period shoulder lanes. Collisions currently occur, and the shoulder lanes would provide an option for vehicles to move around the collision. In fact, with a 30% reduction in vehicle traffic in the canyon, UDOT expects there to be fewer collisions, since they are influenced by the total number of miles traveled, which would be reduced.

Roadway Width and Construction. The peak-period should lanes would be in use during peak winter times only and for buses only. The shoulders would be similar to any roadway shoulder and would not be a four-lane highway or freeway as suggested by some commenters. The shoulder lanes would be for buses only when needed, and for the reminder of the year they would be available to cyclists and pedestrians. As a result, the lanes would not add personal vehicle capacity to Little Cottonwood Canyon. The total pavement width including shoulders would be about 52 feet. Widening the road to accommodate the shoulder lanes would use standard engineering construction and safety practices and would require the use of retaining walls in certain locations. UDOT would conduct studies prior to construction to ensure that hillsides are retained.

Some commenters said that the road should be widened to the south to avoid recreation impacts to boulders. However, widening to the south would directly impact Little Cottonwood Creek, so it was eliminated from consideration.

C. *Some commenters asked why the buses would not serve all the recreation trailheads in the canyon in both winter and summer. Other commenters requested that the buses serve the trailheads and other recreation areas.*

Bus service to the trailheads is not needed to meet the project purpose of improving mobility, since the majority of the vehicles that enter the canyon in the winter are going to the ski resorts (about 90%). The main concern with mobility is during the winter when skiers arrive during the same peak travel period in the morning. By reducing use of vehicles by the main users (resort skiers), the recreation users who want to travel to the trailheads should have improved mobility on S.R. 210. Additional bus stops in the canyon would also add travel time for all travelers on the bus, making transit a less-attractive option for the majority of users. This is why the bus service is direct to the ski resorts–so that Alta riders would not need to stop at Snowbird or vice versa.

During the summer, traffic is better dispersed throughout the day, so there is not a peak mobility concern that would warrant summer bus service in Little Cottonwood Canyon including at trailheads. In addition, having dispersed recreation and bus trailhead stops would allow more people to access the forest and substantially increase use at the trailheads. UDOT is not

responsible for increasing use at the trailheads or at dispersed recreation sites but for improving mobility on S.R. 210. In the future, if the USDA Forest Service identifies a need to increase transit service and thus increase the number of recreationists at the trailheads, it can work with UTA and/or others to evaluate transit service independent of the UDOT Little Cottonwood Canyon EIS process. In addition, the USDA Forest Service outside the Little Cottonwood Canyon EIS process can potentially implement a parking permit system at trailheads under their current authorities.

D. *Commenters stated that the bus alternatives' capital cost and operations could be phased, making the alternative more flexible as future transportation conditions change.*

As stated in Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs, UDOT has said that one of the benefits of the enhanced bus service alternatives is that they could be implemented in a phased manner accounting for changes in future conditions. In addition, the enhanced bus service alternatives are also scalable and can be modified based on future demand and changes in conditions. This allows the alternatives to have greater flexibility as conditions change without a large up-front capital cost.

E. *Commenters asked whether the buses used in Little Cottonwood Canyon during the winter would be shared with the National Parks in the summer, saving the cost of buying the buses. Other commenters asked whether the steep grades and snowfall in Little Cottonwood Canyon require the use of special buses or whether four-wheel drive buses could be used. Other commenters asked for the buses to have bathrooms and wifi.*

The ski buses would be similar to the existing 35-foot-long ski buses in operation today. These buses have a capacity of about 42 people and are designed specifically for operation in Little Cottonwood Canyon to handle the steep grades, snow, and limited turning space in Little Cottonwood Canyon. The buses have special transmissions, automatically deploying snow chains, and a smaller size than normal transit buses. Given the special configurations of the buses, they might not meet the need of the National Parks. The buses could be used to serve other transit routes in the off season.

UDOT is not aware of four-wheel-drive buses that provide the bus person-capacity needed to meet the demand in Little Cottonwood Canyon. The current buses have deployable chain systems, which assist with traction during winter driving conditions.

The type of amenities on the bus would be determined by UDOT during the time of purchase while considering the cost of the bus.

UDOT evaluated articulated (tandem) buses. Articulated bus do not work on snow and ice because they jackknife.

F. *Commenters asked that UDOT consider electric buses. Other commenters stated that the electric buses might be more expensive for initial purchase but would save money in yearly operational costs.*

The bus size and technology could change in the future, but the assumption for the EIS is that the buses would be similar to the existing 35-foot-long diesel ski buses in operation today (for more details, see Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the Draft EIS). Analyzing diesel buses in the EIS is a "worst-case" analysis allowing UDOT to use

diesel buses until electric buses can be evaluated. If UDOT analyzed only electric buses in the EIS, it would not be possible to use diesel buses in the interim. If an enhanced bus service alternative is selected, UDOT would evaluate electric or hybrid bus technology at the time of bus purchase to determine the feasibility of using it in Little Cottonwood Canyon.

G. *Commenters asked how many buses would be required for the Enhanced Bus Service in Peak-period Shoulder Lane Alternative.*

See Section 2.6.2.1, *Bus Service*, of the EIS for more details regarding bus operations. About 45 buses total would be required. The bus service would be every 5 minutes from two mobility hubs for a total of 24 buses per hour.

H. *Commenters asked whether the peak-period shoulder lanes would be available to cyclists and pedestrians when not in use by buses and how the system would operate.*

Yes, when not in use during busy winter ski days, the peak-period shoulder lanes would be available to cyclists and pedestrians. There would be signs stating when the lanes are in use by buses so that cyclists and pedestrians can avoid use. The shoulder lanes would be in operation mostly during the winter during the morning and evening peak travel periods. Personal vehicles would not be allowed to drive or park in the lanes at any time. The lanes would not be barrier-protected since this would impede snow removal from the roadway.

I. *A commenter stated that the Enhanced Bus Service Alternative is only a short-term solution and would not solve the long-term problem.*

All of the primary alternatives, including the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, were designed to solve the transportation problem to the design year of 2050.

J. *A commenter stated that the peak-period shoulder lanes should include a barrier between the bus-only lane and the general-purpose lane to improve pedestrian and cyclist safety and keep vehicles from using the bus-only lane.*

The use of a permanent barrier or even removable delineators would obstruct snow removal operations in the winter. In addition, removable delineators, if used, would require continual maintenance in the summer since they would be damaged by vehicles and would not provide enough of a barrier from stopping vehicles from entering the bus-only lane.

K. *Commenters asked when the bus service would operate.*

The bus service would operate during the winter from late November to mid-April, similar to the existing ski bus service. The hours of operation would likely be from 7 AM to 7 PM.

L. *A commenter wanted UDOT to consider side-loading buses and no seats (standing only).*

UDOT is not sure what is meant by side-loading buses. Given the curves in Little Cottonwood Canyon and the time it takes to get to the ski resorts, UDOT believes that having seats is the best option.

M. A commenter stated that better-located bus stops with improved turning radius could allow for larger buses in Little Cottonwood Canyon.

UDOT would provide only one bus stop at each resort. The stop would accommodate appropriate bus turning movements. However, in addition to the bus stops, the turning access onto and off of S.R. 210 is tight for longer buses.

N. Commenters asked how often would the bus run and stated that frequent service is needed to each resort to make the option attractive. Others asked what is the capacity of the bus service.

The enhanced bus service consists of high-frequency bus service from two mobility hubs directly to the ski resorts (no intermediate stops) and directly to each resort where there would be a public bus station at each resort. Although the exact hours of operation have not been determined, it is likely that the enhanced ski bus service would operate 7 days per week between 7 AM and 7 PM with peak service in the morning (7 AM to 10 AM) and afternoon (3 PM to 6 PM). Although employees to the resorts might arrive earlier than 7 AM or stay later than 7 PM, the demand for bus service at these times would be low. It would not be cost-efficient to operate the buses when demand is low during the winter, and operation during this time is off peak when traffic on S.R. 210 is low. However, once the service is operational UDOT, would consider running less-frequent bus service to accommodate resort employees.

The service would run during the winter only and would operate from late November through mid-April, the same as the current ski bus service. The total person-capacity of the enhanced bus service during the peak period would be about 1,008 persons per hour assuming a 42-person bus capacity (assuming both seated and standing passengers based on data provided by UTA). UDOT determined that 1,008 persons during the peak hour is the capacity necessary to meet the 2050 expected peak-hour demand. There is no need to scale the bus to a greater capacity by the 2050 planning horizon; thus the bus system meets the capacity requirements to meet the project purpose.

The bus service assumes 5-minute departures during the peak service periods. UTA has stated that bus departures more frequent than 5 minutes would not be possible because of bus loading and unloading. The bus service is based on buses leaving every 10 minutes from each mobility hub to each ski resort for a total of 24 buses per hour. The system would provide a timely, reliable service.

The hourly bus capacity assumes 42 people per bus, which includes both seated and standing passengers. With seated and standing passengers, the hourly bus capacity would be about 1,008 people per hour. The current and proposed ski bus can seat about 25 people, so the seated capacity would be about 600 passengers per hour.

O. Commenters asked whether the buses would include specialized ski racks and jacket hooks. Other commenters asked for front-facing seats.

The final configuration of the enhanced buses has not been determined. UDOT would design the buses to facilitate easy passenger loading and unloading.

P. *Commenters stated that the enhanced bus service would still be subject to bad weather and roadway incidents.*

The Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have the best transit travel time at 24 minutes and the best transit travel time with transfers at 36 minutes. These travel times are 10 minutes and 18 minutes faster, respectively, than the next-best alternatives. By driving in a separate travel lane, buses could operate around most vehicle slideoffs and accidents. UDOT would plow the lanes during snow events. However, UDOT understands that this alternative would be less reliable in snow conditions and if incidents occur in Little Cottonwood Canyon.

It is not possible to predict how snow would change the travel time of the bus service since each snow event is different.

Commenters stated that the potential for weather delays should be included in the travel time analysis. However, there are too many variables to accurately predict how travel time would be delayed and on how many days. Since they all include bus service, all of the primary alternatives could occasionally be delayed by weather.

Q. *A commenter asked whether residents at the entrance to Little Cottonwood Canyon would need to drive out of direction to access the mobility hubs to use transit.*

Yes, the only way to use the transit options would be to use the mobility hub or La Caille base station parking. If more stops are included, this would reduce the bus travel time for the majority of users, making the bus service less appealing.

R. *A commenter stated that the travel times for the bus should include potential delays due to ice or snow on the road.*

All travel times presented in the EIS for all primary alternatives are for dry weather conditions, which is the majority of the time. It is not possible to predict travel times based on ice and snow on the road because conditions vary between each snow event and the impact it has on travel. UDOT states in the analysis that snow on S.R. 210 would reduce the bus reliability, and UDOT would factor that condition into the final decision.

S. *The Town of Alta commented that the peak-period shoulder lanes could increase the speed in which personal vehicles drive because of the wider nature of S.R. 210.*

The peak-period shoulders lanes would not be implemented in the town of Alta. For the remainder of S.R. 210, it is not possible to predict whether vehicles would increase speeds on S.R. 210 because of a wider road. UDOT would not increase the speed limit, and local law enforcement would continue to be responsible for enforcement.

T. *Cottonwood Heights City commented that the enhanced bus service alternatives should be looked at for possible public-private partnerships.*

UDOT will consider any public-private partnerships brought forward for any of the selected alternatives.

U. *UTA commented that the Final EIS should include bus station designs at the ski resorts that minimize interaction with resort parking and pedestrians.*

UDOT is working with UTA and the ski resorts regarding plans for bus stations at the resorts if one of the enhanced bus service alternatives is selected. UDOT has included design plans in the Final EIS and has coordinated with UTA on those plans.

V. *UTA commented that the peak-period shoulder lanes should be 12 feet wide, should be kept clear of snow, and should include guardrails on the uphill lane to prevent buses from sliding off the road.*

UDOT is committed to working with UTA regarding the final design of the peak-period shoulder lanes if the alternative is selected. UDOT is proposing to include more guardrails in key high-accident locations. However, guardrails along the entire route in the canyon would make snow removal operations and avalanche mitigation difficult since snow is often pushed off the road. UDOT would move snow from the shoulder lanes during snow events.

32.2.6.4 Gondola Alternative A (Starting at Canyon Entrance)

Note to reader: Responses to some of the general comments regarding gondola types, gondola operating times, operating seasons, operational weather conditions, frequency of service, service to trailheads, phased implementation, and other factors that apply to both Gondola Alternative A (Starting at Canyon Entrance) and Gondola Alternative B (Starting at La Caille) are provided in Section 32.2.6.5, *Gondola Alternative B (Starting at La Caille)*, of this chapter.

Some comments referred to, or supported, a "tram" up the canyon. A tram or tramway is a specific type of aerial transit that was not considered as a feasible alternative because it would have limited capacity over longer distances, as described in Section 2.2, *Alternatives Development and Screening Process*, of the EIS. However, comments referencing a tram were taken to mean a gondola alternative.

UDOT's responses to comments on the sub-alternatives (Mobility Hubs Alternative, Wasatch Boulevard alternatives, avalanche mitigation alternatives, trailhead parking alternatives, and the No Winter Parking Alternative), which are all part of the primary alternatives, are provided in Section 32.2.6.2, *Enhanced Bus Service Alternative*, of this chapter.

What are terminal, base, and angle stations and towers?

As used in the discussions of the gondola alternatives, the term *terminal station* refers to the first and last stations on a passenger's gondola trip. Passengers board and disembark the gondola cabins at the terminal stations.

The *base station* is the terminal station at the bottom of the canyon, and a *destination station* is a terminal station at a ski resort.

The gondola alternatives also include *angle stations*, which are needed to adjust the horizontal direction of the gondola cabins.

Towers support the gondola cable.

Responses to comments on tolling, subsidizing transit fares, the method and timing of tolling, and other access-control options (limit parking, road closures, and vehicle occupancy restrictions), which would be common among the primary alternatives, are provided in Section 32.2.4, *Travel Demand Management Strategies Considered as Part of the Action Alternatives*, of this chapter.

A. *A commenter asked how riders would access the Gondola Alternative A base station without parking at the base station.*

With Gondola Alternative A, gondola riders would park at mobility hubs at the gravel pit (about 1,500 parking spaces) and at 9400 South and Highland Drive (about 1,000 parking spaces). Buses would be used to transport passengers from the mobility hubs to the gondola base station. See Section 2.6.4, *Gondola Alternative A (Starting at Canyon Entrance)*, of the EIS for more information regarding Gondola Alternative A.

B. *Commenters expressed concerns about adequate ridership because of the inconvenience of two transfers (personal vehicle to bus to gondola) with Gondola Alternative A.*

Comment noted. As described in Section 2.2.4, *Preferred Alternative Selection*, of Appendix 2G, *Preferred Alternative Selection Memorandum*, of the EIS, because of the parking at the base station which results in better transit mode travel time (in part due to the need for one fewer transfer) and lower operating cost, Gondola Alternative B was selected over Gondola Alternative A as a more attractive option.

C. *A commenter stated that the gondola would eliminate the potential for emergency response helicopters to access Little Cottonwood Canyon.*

Helicopters and fixed-wing aircraft could still access Little Cottonwood Canyon with the gondola system. The gondola alignment would be mostly on the north side of S.R. 210, leaving other areas for aircraft to operate. Appropriate safety measures would be in place to warn aircraft of the gondola system. Gondola systems of this size operate in other locations that take into account aircraft flight.

D. *A commenter asked whether the gondola could be used to deliver supplies to the ski resorts.*

Yes, if needed, the gondola could be used to deliver supplies to the ski resorts.

32.2.6.5 Gondola Alternative B (Starting at La Caille)

Note to reader: Responses to comments on tolling, subsidizing transit fares, the method and timing of tolling, and other access-control options (limit parking, road closures, and vehicle occupancy restrictions), which would be common among the primary alternatives, are provided in Section 32.2.4, *Travel Demand Management Strategies Considered as Part of the Action Alternatives*, of this chapter.

UDOT's responses to comments on the sub-alternatives (Mobility Hubs Alternative, Wasatch Boulevard alternatives, avalanche mitigation alternatives, trailhead parking alternatives, and the No Winter Parking Alternative), which are all part of the primary alternatives, are provided in Section 32.2.6.2, *Enhanced Bus Service Alternative*, of this chapter.

A. *Commenters stated that the gondola would be a large fixed capital expenditure that would be difficult to modify in the future if conditions change or if the planning assumptions that were made prove invalid.*

As stated in Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs, UDOT acknowledges that one of the disadvantages of the gondola alternatives is that the construction of the main gondola could not be phased and would be a one-time capital investment that reduces future flexibility. However, the number of cabins can be scaled to reduce or add capacity depending on future demands within the limits of the evaluation conducted in the EIS. The energy cost to operate the system is the same when the gondola is operating, but labor cost can potentially be reduced depending on the level of demand.

B. *Commenters asked whether all of the vegetation under the gondola alignment would need to be cleared.*

No vegetation removal is required beneath most of the gondola alignment. Vegetation would need to be removed at the tower footprints plus about 2 to 3 acres of tall trees at the angle station just west of Tanners Flat campground in Little Cottonwood Canyon where cabins must descend to the angle station. Given the height of the towers, the gondola cabins would be well above tree height except at the approach to the angle station.

C. *A commenter stated that the line of people waiting to use the gondola would be so long that the gondola would not get used. Others wanted to know how many cabins the system would include. Others asked whether the cabins would have ventilation. Commenters stated that the capacity of a cabin is less than then 35 people noted in the EIS. Others asked how many seats would a cabin have.*

The final design of the gondola operation has not been determined. However, the gondola service could be adjusted to minimize wait times during peak and non-peak use periods. Although the exact number of cabins has not been determined, a gondola cabin would arrive about every 2 minutes and carry 35 people per cabin. The cabins would include windows at the top of the cabin to provide ventilation, and cabins do have some areas to place skis along the interior walls. Based on UDOT's analysis, the average wait time for the gondola would be between 4 and 8 minutes depending on cabin occupancy. The gondola ride time would be about 27 minutes to the Snowbird resort and 37 minutes to the Alta resort, with the travel time being the same up or down the canyon.

The manufacturers of the gondola systems state that a standing and seated capacity of up to 35 people per cabin is possible. UDOT could use the seated capacity of 24 to 28 people depending on cabin design and increase the number of cabins to achieve the same goal of 1,000 people per hour. UDOT could also have two waiting lines for the gondola—one line for those who want a seat and a second line for those who are willing to stand. A gondola cabin would leave the base station about every 1 minute 30 seconds.

The gondola would run at capacity only during peak winter periods.

D. *Commenters asked whether the gondola would remove 100% of cars in the canyon. Commenters also asked whether, when the gondola stops running, cars would be allowed in the canyon.*

The goal of the gondola alternatives is to reduce personal vehicle use on busy winter ski days in the peak hour by about 30%. Personal vehicles would still be allowed in the canyon at all times but might need to pay a toll in upper Little Cottonwood Canyon. There would still be parking at the ski resorts.

E. *Commenters asked UDOT to consider the traffic congestion that could be created with a parking structure at the gondola base station at La Caille. How will people know when the lot is full?*

UDOT conducted an independent traffic evaluation of the proposed gondola base station off North Little Cottonwood Road to develop traffic-mitigation strategies. As stated in Section 7.4.5.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS, with Gondola Alternative B, UDOT would improve North Little Cottonwood Road and build a new access from Wasatch Boulevard to alleviate any unacceptable traffic congestion. The improvements would include road widening and improved access points to the parking structure. UDOT's analysis was based on a total of 1,550 vehicles wanting to enter Little Cottonwood Canyon on the 30th-busiest hour in 2050. Of those vehicles, UDOT would divert about 400 to 450 vehicles to transit through tolling. To enhance entry into the parking structure, there would be a direct-access ramp from North Little Cottonwood Road and a separate access off of Wasatch Boulevard, and vehicles would not need to stop at a ticket kiosk before entering the parking garage. As part of the Final EIS process, UDOT updated the La Caille parking structure from 1,500 parking spaces to 2,500 parking spaces and conducted a new traffic analysis and still found that North Little Cottonwood Road and Wasatch Boulevard would operate at acceptable levels of congestion. The 2,500-parking space structure would eliminate the need for the mobility hubs and bus service.

F. *A commenter asked whether the gondola would operate all year and at what times of day the gondola would operate. Other commenters wanted to know whether the gondola would operate in the summer. Other commenters asked whether the base station would include shops and bars.*

The gondola would operate during winter and might operate during the summer and would likely operate each day of the week. The gondola would likely operate from 7 AM to 7 PM during the winter and from 8 AM to 8 PM during the summer. Once the system becomes operational, UDOT might adjust the time of operations, but during the summer UDOT would not operate the gondola during the Tanners Flat Campground quiet hours of 10 PM to 7 AM. The winter times would coincide with peak demands for resort users. Although ski resort employees might arrive earlier than 7 AM or stay later than 7 PM, the demand for gondola use at these times would be low. It might not be cost-effective to operate the gondola when demand is low during the winter, and operation during this time is off peak when traffic on S.R. 210 is low.

The gondola might be closed during off-peak seasons for routine maintenance and potentially low use. To meet the project purpose of improving winter mobility, the gondola does not need to operate outside the winter ski season; however, UDOT believes that some people would want to ride the gondola in the summer. Because there is not a mobility need to have summer operations, the cost to ride the gondola during the summer would not be subsidized, and thus would likely limit usage since personal vehicles would be a less-expensive and faster mode of transportation.

UDOT has not determined what amenities would be included at the gondola base station.

G. *Commenters asked why the gondola would not stop at the trailheads. Other commenters asked where the gondola would stop.*

The gondola would stop only at the two ski resorts. Gondola service to the trailheads is not needed to meet the project purpose of improving mobility, since the majority of vehicles that enter the canyon during the winter are going to the ski resorts. The main concern with mobility is during the winter when skiers arrive during the same peak travel period in the morning. By addressing the main users (resort skiers), the recreation users who want to travel to the trailheads should have improved mobility on S.R. 210. Additional stops within the canyon would also add travel time to all travelers, making transit a less-attractive option. Additionally, gondola stops at the White Pine Trailhead would require the gondola stop to be located in an avalanche zone, making the system have more avalanche delays and reducing the overall reliability. Backcountry skiers and hikers who want to access the trailheads can still use their personal vehicles.

H. *Commenters stated that the gondola system could be operated during interlodge events to allow skiers to leave the resorts. Other commenters asked whether the gondola would operate during avalanche mitigation.*

Most interlodge events require everyone to be inside a building, and this would include gondola staff and users. Therefore, the system would not be in operation during an interlodge event. During an interlodge event, skiers would be required to stay at the resort, similar to existing interlodge events. If the interlodge event ends but S.R. 210 is still closed for snow removal, people could use the gondola to leave the canyon. In an emergency evacuation situation (a heart attack, for example), if a helicopter could not be used, the gondola could operate to get a person out of the canyon. Outside the gondola's operating hours, normal emergency evacuation procedures would apply.

What is an interlodge event?

An interlodge event occurs when snow levels are so great and the avalanche danger is so extreme that patrons and employees of the Alta and Snowbird resorts are confined to resort buildings during avalanche-mitigation operations.

The gondola would not operate when artillery is in use. However, the gondola would begin operation after the avalanche mitigation has stopped, the system is inspected, and oftentimes while the road is still being cleared of avalanche debris. The gondola system would need to be inspected quickly after artillery use to maintain reliability, and, once a detailed safety plan is developed, UDOT would determine how inspections would occur. This safety plan would take into account a revised avalanche-mitigation operation that would be needed with the addition of snow sheds and the substantial reduction in the number of artillery shells used in the avalanche paths with the snow sheds. Immediately prior to artillery use, the gondola alignment in the segment of the artillery use would be quickly cleared of cabins. If the gondola is not operating for a mid-day avalanche mitigation (depending on the time of day and location of avalanche control), there could be longer wait times to use the gondola. The EIS analysis did not evaluate all scenarios; however, UDOT believes that the occasionally needed gondola inspection and repairs would represent a minor period in comparison to the overall gondola operating time.

Numerous commenters said that UDOT has overstated the reliability of the gondola since during avalanche mitigation the system would not operate and the inspection of the system following the use of artillery might take as long as opening the road to vehicles. The exact time of getting the gondola system operating after avalanche mitigation would be determined once an operation plan is developed. The cables could be inspected quickly by use of video cameras and would not require operations personnel to climb the towers. In addition, cabins would be removed only in a small section of the gondola alignment with the cabins being placed at a station (base, angle, or terminal station) close to the closure. Cabins can quickly be added back onto the system. The operation plan for avalanche mitigation would be prepared if a gondola alternative is selected.

Overall, the reliability of the gondola system would still be better than vehicles on S.R. 210. First, when the road is open and it is snowing, S.R. 210 traffic moves slowly and typically has numerous incidents, which reduce the road's reliability. The gondola system operation would not be impacted under these conditions and thus would be more reliable. S.R. 210's main reliability issue is when the road is open and snow is falling. Because the amount of snow and the number of days of snow vary, it is not possible to predict the number of days or hours when reliability would be improved.

Finally, if the avalanche mitigation is occurring, the cabins would be held at one of the gondola stations. Once the system begins to operate, cabins would be waiting to load at a greater rate than under normal operating conditions. This would be similar to numerous buses waiting to pick up passengers.

I. *Commenters asked whether bicycles would be accommodated on the gondola cabins.*

With regard to accommodations for cyclists, there are currently no designated NFS trails directly connecting the ski areas to the entrance to the canyon. For this reason, to minimize the potential for cyclists to use and develop unauthorized trails, bicycles would be prohibited from being brought into the gondola cabins until the USDA Forest Service makes an administrative decision regarding the construction of NFS trails below the ski areas for bicycle use.

J. *Commenters suggested that the parking structure at the gondola base station should be greater than the 1,500 spaces suggested by UDOT. Residents near the Little Cottonwood Canyon entrance said that they would need to travel out of direction to access the base station.*

After the release of the Draft EIS, UDOT revised the parking at the gondola base station at La Caille from 1,500 to the maximum needed for the alternative of 2,500 to reduce the need for a transfer from a mobility hub and associated bus. To meet the 2050 demand of 30% of the vehicles switching to transit, UDOT needs to have a total of about 2,500 parking spaces, not the 7,000 suggested by some commenters. With the 2,500 parking spaces at La Caille, UDOT would be able to accommodate all expected users without the need for additional parking spaces to become available.

The base station would not impact use of the existing restaurant at La Caille.

Residents near the S.R. 210 and S.R. 209 intersection would need to drive out of direction to the gondola base station, but the distance would be less than 1 mile.

K. *Commenters stated that the gondola could be stopped during extreme weather such as high winds and heavy snow. Other commenters asked whether the gondola would be designed to take into*

account high winds, heavy snow, lightning, and avalanches. Other commenters were concerned about the system reliability and emergency evacuation. Other commenters asked how wildfires would impact the system.

The gondola could operate in snow and in wind speeds up to 68 miles per hour. The gondola would likely be able to continue to operate in weather events that would require the road to close or become congested because of the bad weather. It should also be noted that the gondola alignment would be located at the bottom of Little Cottonwood Canyon, which is less prone to the strong winds that stop the Snowbird Tram near the ridgeline of the mountains.

The gondola system, including the terminal stations, would be designed to account for the winds, snow loads, rock stability, flooding, and canyon avalanches. The gondola alignment and stations evaluated in the Draft EIS were designed considering avalanche paths in Little Cottonwood Canyon. UDOT expects the gondola to have over 95% reliability and would evaluate the benefits of adding redundancies to the gondola operational system. The system would include emergency backup power. The gondola would not operate if there is lightning occurring near the system. Based on National Ocean and Atmospheric Administration (NOAA) data from November through April from 2001 to 2021, on average about three lighting strikes per winter season occurred in the area of the proposed gondola alignment. About 60% of lighting events occurred during spring storms in March and April. The data do not provide the time of day, so some of the lighting strikes could occur outside the gondola operation hours.

Ground-based evacuation of three-cable (3S) gondolas is uncommon. The lifts are equipped with a variety of integrated rescue systems that essentially pull the gondola cabins to the nearest station or tower where passengers can descend to the ground. Cabins would also be outfitted with emergency essentials (water, sanitary bags, and other emergency needs).

The gondola can operate when the road is closed to vehicle traffic because of the built-in safety systems and the ability to pull cabins to the nearest tower in an emergency. 3S gondolas can operate without convenient tower access. Safety standards for lift operation do require that tower access be provided for ready access from the ground to all the tower tops. Towers are required to have ladders. Most towers are accessed by snowmobile, skiing, or walking. The gondola system would not operate while active avalanche mitigation is occurring but could operate once mitigation is over and while S.R. 210 is closed to remove snow since access can be provided to the towers by snowmobiles or other emergency equipment. In the rare event that the gondola system is damaged during avalanche mitigation, it would need to be repaired. It would not be possible to predict the time need to repair the gondola without knowing how the system was damaged.

The gondola system could be impacted by wildfires. The towers would be made of metal, which provides some protection against the effects of wildfires. If a wildfire did occur in Little Cottonwood Canyon, the gondola system would be inspected to determine whether any damage had occurred. Since wildfires typically do not occur during the winter, a wildfire would not affect winter operations. The gondola system would also not increase the potential for wildfires since smoking would not be allowed in the gondola cabins.

L. Commenters asked whether access roads would be required to the gondola towers. Others asked how many towers would be required and what the height would be.

Table 2.6-4, *Gondola Alternative A – Tower Height and Construction Method*, and Table 2.6-6, *Gondola Alternative B – Tower Height and Construction Method*, of the EIS presents the number of towers and the preliminary construction approach. Towers immediately adjacent to the road might require some access. Towers farther from the road could be constructed by helicopter and not require access roads. The vegetation around the towers would be restored after construction. A total of about 22 towers would be required and would be between 131 feet and 262 feet high. The height of the towers is based on the need to avoid avalanche powder blasts. Finally, most towers would be located next to or close to S.R. 210, making easy ground access to the towers if needed for repair work.

M. A commenter asked whether bicycle lanes would be provided to the gondola base station.

There would be bicycle lanes on Wasatch Boulevard and on North Little Cottonwood Road to the gondola base station.

N. Commenters suggested that the capacity of the gondola system be increased beyond the 1,000 people per hour identified in the Draft EIS. Other commenters stated that the capacity of the system would not meet the demand.

A 3S (three-cable) gondola system has an hourly operating capacity of between 4,000 to 5,000 people per hour, and the capacity can be increased by simply adding more cabins to the initial system. However, to meet the project purpose of improving mobility on S.R. 210 in 2050, UDOT only needs to reduce the number of vehicles that enter Little Cottonwood Canyon in the peak hour by about 30%. Reducing the number of vehicles by 30% would require the gondola system to carry about 1,000 people per hour. Designing a system to carry more users is possible but not warranted to meet the project purpose. The gondola system is based on the number of parking spaces that supports the system, which is 2,500 vehicles. Once the parking is full, the gondola system has reached its capacity. So capacity cannot be increased beyond the design of parking unless more parking is added. To increase the amount of parking or the capacity of the system, UDOT would need to conduct additional evaluation of the system if the capacity is reached before 2050.

During non-peak times, the number of gondola cabins in use can be adjusted.

O. A commenter asked how long it would take to ride the gondola.

The proposed gondola system would be a 3S (three-cable) system, which is one of the fastest gondola systems available. The gondola ride time would be about 27 minutes to the Snowbird resort and 37 minutes to the Alta resort, with the travel time being the same up or down the canyon. Taking into account parking a vehicle at the base station and boarding the gondola cabin, the total time would be about 45 minutes to Snowbird and 55 minutes to Alta. This compares to a driving time of about 40 minutes under busy conditions.

P. *A commenter asked whether the gondola could be supported by 100% renewable energy and how the gondola would be powered.*

The gondola would be powered by the available electric system in place at the time of operation. UDOT can explore the potential to obtain all or a substantial portion of the power from renewable energy.

Q. *A commenter asked who would operate the gondola.*

UDOT has not determined the operator of the gondola system. It could be a public entity or a private vendor.

R. *A commenter asked whether a gondola rider destined for Alta would have to stop at Snowbird. Other commenters asked whether, at the end of the ski day, all of the gondola cabins arriving at Snowbird would be full with Alta users.*

Depending on the final design, gondola riders destined for Alta might need to disembark at the Snowbird station and transition to a separate gondola segment that runs between Snowbird and Alta. If a transfer is required, the gondola segments would share the same station, and the transfer would occur a short distance apart. Gondola users would not be required to change cabins at the angle stations at the Little Cottonwood Canyon park-and-ride lot or just west of Tanners Flat Campground.

At the end of the ski day, the gondola system would be managed to ensure that both Alta users and Snowbird users are accommodated. Users at Snowbird or Alta could use the gondola to transfer to either ski resort.

Because each ski resort would have only one gondola stop, it would be the responsibility of the resorts to shuttle patrons to other parts of the resorts as necessary.

S. *A commenter stated that the gondola station at Alta would disrupt ski resort operations.*

The location of the gondola station was coordinated with Alta ski resort. If Gondola Alternative B is selected, UDOT will continue to work with Alta on any final location adjustments.

T. *A commenter asked whether the gondola could include solar panels or wind turbines.*

The currently existing gondola cabins do not include solar panels, and the infrastructure would not support wind turbines.

U. *Commenters asked whether the gondola cabins are climate-controlled, whether they include charging ports, and where skis would be stored.*

UDOT has not determined the final configuration of the gondola cabins. The cabins would include ventilation and could also contain heated seats and charging ports. Similar gondola systems allow skiers to bring the skis with them into the cabin.

V. *A commenter stated that the bus travel time from the mobility hubs to the La Caille base station doesn't seem long enough. Others commented that with, the longer travel time, no one would take the bus from the mobility hubs to the base station.*

For the Draft EIS analysis, all travel times start at Fort Union Boulevard whether one takes the bus or drives a personal vehicle, so the travel time would be the same. The bus from the mobility hub would add 4 minutes to the travel time. The 4 minutes is the time to exit the bus and walk to the La Caille base station. As part of the Final EIS process, UDOT updated the La Caille parking structure from 1,500 parking spaces to 2,500 parking spaces. The 2,500 parking space structure would eliminate the need for the mobility hubs and bus service.

W. *Commenters asked how the gondola system would be protected from vandalism.*

The gondola system would have security systems in place, and towers would have security fences. The fences would not obstruct wildlife or create any water quality erosion concerns.

X. *Commenters asked whether the gondola base station could include shops and restaurants.*

The final configuration of the gondola base station, including commercial businesses, has not been determined.

Y. *A commenter asked whether the personal time of riding the gondola has been factored into the yearly operational cost.*

The cost of time is usually factored into work trips or truck trips. Recreation time is a discretionary trip and is not factored into a cost of a trip. Therefore, personal travel time cost was not included in the analysis.

Z. *Commenters asked whether snow sheds would still be required with the gondola alternatives.*

Yes, since the gondola alternatives would reduce vehicle traffic by about 30% on S.R. 210, there is still a need for snow sheds to improve the reliability and safety of S.R. 210 for the remaining 70% of vehicles. Without the snow sheds, the reliability and safety of S.R. 210 would not be substantially improved.

AA. *A commenter asked whether there would be a shuttle bus from the Snowbird gondola station to the White Pine Trailhead.*

There would be no shuttle service to the White Pine Trailhead or any trailheads as part of the alternatives. UDOT's goal is not to increase use at the trailheads.

BB. *Commenters stated that the gondola would be the longest in the world and would be difficult to design and operate.*

The proposed gondola system would use existing technology that is in use throughout the world. The system would have at least three separate segments which are within the same length as other systems in operation. Existing gondola manufacturers have designed and built similar systems. The final operator of the system has not been determined; however, UDOT could contract the operation with firms experienced in running gondola systems.

CC. A commenter asked whether the La Caille base station would impact existing buildings.

No, the base station would be located east of the La Caille restaurant on vacant land.

DD. Commenters asked whether the gondola alignment could be moved to avoid impacts to homes or recreation resources.

Many factors were used to develop the gondola alignment including minimizing home impacts, avoiding avalanche paths, avoiding wilderness areas and Little Cottonwood Creek, and avoiding impacts to commercial businesses. UDOT was able to directly avoid overflight of wilderness and private homes. It should also be noted that gondola alignments need to run in straight lines unless an angle station is introduced which requires the gondola cables to come near the ground. UDOT would not place an angle station in an avalanche path since it would impact the operation of the gondola. Based on all of these criteria, UDOT optimized the gondola alignment and believes that the alignment in the EIS is the best alignment possible considering all of the factors. If the Gondola Alternative B is selected, the final structural design of towers and stations would consider avalanche runout zones and forces.

EE. A commenter asked how power would be supplied for the gondola.

Power would be supplied using existing infrastructure. If additional power is needed, the existing electric transmission routes would be used but upgraded.

FF. A commenter stated that UDOT should get a larger easement for the gondola alignment to help preserve the land.

The gondola easement is for operation of the gondola and not land preservation. UDOT expects that the easement or special-use authorization would provide for continued management by the USDA Forest Service for recreation and other multiple-use activities on the land under the gondola.

GG. A commenter stated that, with the parking structure users plus those arriving by bus, the capacity of the gondola system would be substantially exceeded.

The commenter assumes that there is an unlimited number of passengers arriving during the peak hour. UDOT's analysis is based on information showing that, on busy ski days, a certain number of vehicles travel on S.R. 210 into Little Cottonwood Canyon during the peak hour. In 2050, this would be about 1,550 vehicles. UDOT would likely implement a toll to remove about 30% of those vehicles from the travel lane for a total of about 460 vehicles. Based on occupancy data of about 2 people per car, the gondola system would need a capacity of about 1,000 people per hour. After the Draft EIS was released, UDOT eliminated the bus service to the base station and increased the size of the parking structure at the base station to 2,500 spaces.

The parking at the gondola base station was sized and designed to handle the expected capacity and arrival times at the mobility hubs in 2050. There would be no need to expand the service further.

HH. Cottonwood Heights City commented that the City has seen preliminary designs for the gondola station that require encroachment on the city's 26-acre open space preservation property for the

use of bus stops/bus pull-out areas. This type of encroachment is problematic and conflicts with the recreation purpose of the perpetual open space easement recorded against the property.

Working with Cottonwood Heights City, UDOT revised the gondola base station design to avoid any direct impacts to the 26-acre open space. The bus stops on the east side of North Little Cottonwood Road were removed from the project design prior to the release of the Draft EIS.

II. *Save Our Canyons commented that UDOT did not consider whether people would actually use a primary alternative, mainly Gondola Alternative B, which has multiple transfers.*

UDOT would implement a toll to incentivize personal vehicle users to switch to transit. If the initial toll does not achieve the goal, UDOT would increase the price. The enhanced bus service alternatives require only one mode transfer, at the mobility hub, since the buses go directly to each ski resort.

Gondola Alternative B would have 2,500 parking spaces at the gondola base station. For people parking at the base station, there could be two transfers (and potentially only one depending on the final design of the Snowbird-to-Alta transfer): one at the base station and potentially one at Snowbird if the users are going to Alta. This second transfer would be needed only if a separate gondola system is used; if the same system is used, there would be no second transfer. Any transfer would be at the same unloading platform.

32.2.6.6 Cog Rail Alternative (Starting at La Caille)

Note to reader: UDOT's responses to comments on the sub-alternatives (Wasatch Boulevard alternatives, avalanche mitigation alternatives, trailhead parking alternatives, and the No Winter Parking Alternative), which are all part of the primary alternatives, are provided in Section 32.2.6.2, *Enhanced Bus Service Alternative*, of this chapter. Responses to comments on tolling, subsidizing transit fares, the method and timing of tolling, and other access-control options (limit parking, road closures, and vehicle occupancy restrictions), which would be common among the primary alternatives, are provided in Section 32.2.4, *Travel Demand Management Strategies Considered as Part of the Action Alternatives*, of this chapter.

What are terminal and base stations?

As used in the discussions of the Cog Rail Alternative, the term *terminal station* refers to the first and last stations on a passenger's cog rail trip. Passengers board and disembark the cog rail cars at the terminal stations.

The *base station* is the terminal station at the bottom of the canyon, and a *destination station* is a terminal station at the top of the canyon.

A. *A commenter asked whether the Cog Rail Alternative would have frequent stops in Little Cottonwood Canyon.*

The cog rail would stop at the two ski resorts only. Cog rail service to the trailheads is not needed to meet the project purpose of improving mobility, since the majority of vehicles that enter the canyon during the winter are going to the ski resorts. The main concern with mobility is during the winter when skiers arrive during the same peak travel period in the morning. By addressing the main users (resort skiers), the recreation users who want to travel to the trailheads should have improved mobility on S.R. 210. Additional stops in the canyon would also add travel time to all travelers, making transit a less-attractive option. Additionally, cog rail

stops at the White Pine Trailhead and other trailheads would be within avalanche zones where stopping vehicles is prohibited.

B. *Commenters stated that UDOT misrepresented the cost estimate of the Cog Rail Alternative.*

In the *Draft Alternatives Development and Screening Report Addendum*, UDOT provides a detailed cost estimate of the Cog Rail Alternative considered. Although lower cost estimates were provided by others, their estimates did not include all of the supporting elements that are included with all of the primary alternatives, such as widening Wasatch Boulevard, parking structures, improvements to North Little Cottonwood Road, buses, snow sheds over the S.R. 210 roadway, and snow sheds over the cog rail alignment in the upper portion of Little Cottonwood Canyon. Without these additional common elements, the cost of just the cog rail system was comparable between the UDOT estimate and those provided by others.

C. *A commenter asked whether the cog rail would require expansion of S.R. 210.*

Yes, in a sense, because the cog rail alignment would be build adjacent to S.R. 210 since the road would still need to operate. The Cog Rail Alternative would require the greatest amount of disturbance in Little Cottonwood Canyon of any of the primary alternatives being evaluated.

D. *A commenter suggested that the cog rail be built on existing S.R. 210 and no vehicles be allowed in the canyon.*

It would not be possible to allow no vehicles in Little Cottonwood Canyon. Service vehicle deliveries, equipment, residents, and emergency vehicles would still need road access. In addition, per 23 United States Code Section 101(a)(22), S.R. 210 is a public road and thus must be open to public travel. Therefore, the cog rail alignment could not be constructed on S.R. 210 to minimize construction impacts.

E. *A commenter stated that UDOT failed to consider a public-private partnership (PPP) validating a lower capital cost for a proposed Cog Rail Alternative.*

The public-private partnership process is separate from the EIS process. UDOT rejected the public-private partnership submitted for a rail project based on authority in the legislation establishing that process. The group that submitted the public-private partnership also submitted cog rail alternatives and cost estimates throughout the EIS process. In the *Draft Alternatives Development and Screening Report Addendum*, UDOT provided a detailed cost estimate of the cog rail alternative considered. Although lower cost estimates were provided by others, their estimates did not include all of the supporting elements that are included with all of the primary alternatives, such as widening Wasatch Boulevard, parking structures, improvements to North Little Cottonwood Road, buses, snow sheds over the S.R. 210 roadway, and snow sheds over the cog rail alignment in the upper portion of Little Cottonwood Canyon. Without the common elements, the cost of just the cog rail system was comparable between the UDOT estimate and those provided by others.

32.2.7 Preliminary Cost Estimates and Construction Implementation

A. *Commenters asked who would pay for the cost of the selected alternative and stated that the resorts should pay for the project since they are getting all of the benefit.*

If the project uses State of Utah funds, the Utah legislature would determine how the State-funded portion of the project would be funded, including yearly operation and maintenance costs. Federal funds could also be used if available. UDOT would work with the ski resorts on potential cost-sharing of the capital and operation costs of the selected alternative. UDOT anticipates that the ski resorts would continue to subsidize transit fare for season passes similar to existing conditions.

The majority of winter users (over 90%) on S.R. 210 in Little Cottonwood Canyon travel above the White Pine Trailhead. Currently and in the future, ski resort user traffic causes vehicle backups and congestion-related issues for residents in Cottonwood Heights, those residents at the canyon entrance, and other recreation users in Little Cottonwood Canyon. By focusing the transportation solutions on the main users (those going to the ski resorts), the transportation mobility would improve for other users (lower-canyon recreationists) who want to access the canyon outside the ski resorts, as well as residents who live along S.R. 209 and S.R. 210.

UDOT's goal is to reduce ski resort traffic during the peak travel times by 30% by implementing a toll to incentivize ski resort users to shift to transit. The exact amount of the toll has yet to be determined, but the toll could range from $20 to $30 for most vehicles during peak traffic periods, with possible variations based on the time of day and the day of the week. If UDOT does not see a shift from personal vehicles to transit, the amount of the toll could be adjusted to accomplish the goal of reducing the number of personal vehicles in Little Cottonwood Canyon. The toll would be applied just below Snowbird Entry 1 and would apply mostly to ski resort users and the ski resort customers; therefore, they would provide the majority of the toll revenue. There would be no toll or limits to access below Snowbird Entry 1.

Because the fare to use the ultimate transit solution would be subsidized to cost less than the toll, all of the alternatives would likely need a dedicated yearly revenue stream to operate.

B. *A commenter said that the cost of the tolling infrastructure seems excessive for just a tolling gantry.*

The cost of the tolling infrastructure includes the gantry, the overall tolling system, the tolling identification technology, and the administrative system to operate the toll.

C. *Commenters asked how much the alternatives would cost, what would be the yearly operating cost, how long would construction take, and when would the project be completed.*

Section 2.6.7, *Preliminary Cost Estimates and Construction Implementation*, of the EIS provides a preliminary construction cost, preliminary operations and maintenance costs for the alternatives considered for detailed study, and the construction timeframes. The cost estimates were developed using the same methodology. However, there is some uncertainty with each estimate since pricing changes rapidly based on supply and demand. All of the cost estimates included a 20% contingency for potential issues that might arise during construction.

The primary alternatives would take about 2 to 3 years to construct. The start of construction would be identified once enough funding has been allocated by the Utah legislature. The start of construction and completion date depend on when funding is identified.

All of the primary alternatives would take a similar time to construct. Parking structures and other infrastructure improvements that are part of all of the primary alternatives would have similar construction timelines. Many commenters thought that increased bus service could start immediately. However, adding more buses could still take up to 18 to 24 months and would require the construction of parking structures. Buses are not immediately available and would need to be procured, ordered, and built.

D. *A commenter asked how much yearly revenue would be generated from the primary alternatives.*

The amount of a toll and the price of a ticket to use the primary alternatives has not been established; therefore, no yearly revenue estimates are available (see response 32.2.4A).

E. *Commenters asked what are the life cycle costs of the alternatives.*

The EIS is not required to evaluate life cycle costs of the alternatives. In addition, UDOT does not track maintenance cost for each separate segment of the roads that it maintains, so a comparison among the No-Action and action alternatives is not possible. However, UDOT published a separate report with the estimated 30-year life cycle cost of the alternatives. The life cycle cost analysis included the initial capital cost and the cumulative cost of estimated annual operation and maintenance (O&M) costs. O&M costs include periodic system refurbishments (new bus transmissions, cog rail motor replacement, and gondola cabin repairs and cable replacements), new bus purchases, and labor costs. The estimated 30-year life cycle costs of the Enhanced Bus Service Alternative is $720 million, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative is $780 million, Gondola Alternative A is $757 million, and Gondola Alternative B is $569 million. The Cog Rail Alternative, because of its higher initial capital costs, has a 30-year life cycle cost of about $1,079 million.

F. *Commenters stated that the costs of the primary alternatives have increased during the EIS process and asked whether they would continue to increase.*

As UDOT has refined the alternatives over the course of the EIS process, the costs of the primary alternatives have changed. Refinements including providing appropriate road access to base stations and parking garages and a better understanding of how each alternative would function have caused UDOT to adjust the cost. Once an alternative is selected, the final design could result in additional changes to the cost of a project.

G. *A commenter stated that UDOT does not have a winter cost for the bus service and that the cost does not consider a commitment by the ski resorts to contribute to the operation of the gondola. The commenter also stated that they felt the gondola operations would be paid for by the ski resorts and through tolls and would be less of a tax burden to Utah residents.*

As shown in Section 2.6.7, *Preliminary Cost Estimates and Construction Implementation*, of the EIS, UDOT included the winter operation and maintenance cost for the enhanced bus service alternatives. Management of the bus system is included in the operating cost.

To provide an equal comparison among the alternatives, UDOT provided the cost to construct and operate each primary alternative independent of a commitment by a private business contributing to the capital cost or yearly operation. For example, the operating cost for the bus system does not take into account the current ski resort subsidy to the bus service through free rides for season pass holders and employees. UDOT expects that, with any alternative, the ski resorts would continue with a current system of payment for pass holders and employees. The fare for the transit alternatives would be the same since they would have to provide a low-cost option to the toll for low-income communities. Thus, the fare for the gondola would be similar to that for the bus.

Although the tolls would generate some revenue, it is likely, given the limited operation of the toll during peak periods on busy days and the amount of people paying the toll, that most of the revenue would go into the operation of the toll system and would not provide a substantial way to pay for the operation cost of an alternative, so a public subsidy would be required. Any revenue provided by toll to operate a primary alternative would be the same. Finally, the ski resorts have not provided any information to UDOT regarding a potential contribution to the capital or operation cost of any of the alternatives. There is no indication at this time that one alternative would be subsidized more than another, thus reducing the tax contribution from Utah residents.

H. *A commenter wanted more information regarding how cost estimates were developed for the gondola alternatives and whether just one data point (the construction costs for the Whistler-Blackcomb Peak-to-Peak Gondola) was used.*

Several references, which are mentioned in footnote 11 in Appendix E, *Draft Aerial Transit Initial Feasibility Study*, of Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*), of the EIS were used to check the assumed unit costs applied in the budgetary cost estimate, not just the Whistler-Blackcomb Peak-to-Peak Gondola. The construction cost of the Whistler-Blackcomb Peak-to-Peak Gondola was used to help allocate costs to the different gondola components (cabins, cables, towers, and mechanical equipment) and for stations and their associated civil work and utilities.

These costs were compared to cost estimates for a Little Cottonwood Canyon gondola provided by a gondola manufacturer, Leitner-Poma, and feedback from another manufacturer, Doppelmayr, which confirmed that the planning range for the gondola equipment was reasonable. Budgetary costs were also reviewed by another consulting firm with experience in aerial transit systems, and the budgetary costs were found to be reasonable based on their experience. A 20% contingency was also added to the unit costs to account for uncertainties. Note that UDOT did not commission engineering work or cost estimates from the gondola manufacturers directly. Information was provided by them voluntarily based on their work for other entities.

If a gondola alternative is selected, UDOT would put the alternative out for competitive bid. UDOT knows of at least two firms capable of building the system.

I. *A commenter wanted to know who would pay for removal of the gondola when it is no longer needed.*

If a gondola alternative is selected, UDOT expects it to be a long-term investment. If the gondola system would need to be removed, the removal would be likely funded by the State of Utah.

J. *A commenter asked whether UDOT considered the cost of a legal challenge in the cost of the alternatives.*

Legal challenges are not part of the proposed action and thus not included in the cost.

K. *A commenter stated that the cost of paving maintenance on S.R. 210 should be included in the operational and maintenance cost of the enhanced bus service alternatives.*

S.R. 210 would need to maintained with all of the primary action alternatives, and therefore the cost of maintenance was not included in the life cycle cost. However, UDOT did include the cost of the additional plowing and cost to repave the peak-period shoulder lane every 8 years.

L. *The Town of Alta commented that the preferred alternatives are too expensive, with a per-day skier cost of $111. They stated that the amount is too high for the expected return to the public in terms of sales tax and other revenue.*

The purpose of the project is to improve the mobility, safety, and reliability of S.R. 210, not to provide a return on investment, economic gain, or a certain per-day cost for skiers. The project would reduce congestion for the residents near the canyon entrance and improve mobility, reliability, and safety for all users of S.R. 210, not just skiers. UDOT is not using gains in revenue at the ski resorts as a selection criterion, and thus it is not considered as part of the evaluation process. Also note that the cost per skier developed by the Town of Alta includes improvements to Wasatch Boulevard which are not required to improve mobility on S.R. 210 in Little Cottonwood Canyon.

M. *UTA commented that a revenue source independent of the existing UTA capital and operating budgets would be required for the incremental cost for the ski bus service plans proposed with the alternatives if UTA were to operate the service rather than a private vendor.*

As discussed with UTA, a separate funding source would be provided for operation of any of the primary alternatives.

N. *A commenter stated that the gondola system would be subsidized by the resorts, but the enhanced bus service alternatives would not. The commenter also claimed that a public-private partnership could be formed with the gondola alternatives but not with the enhanced bus service alternatives.*

UDOT is not aware of any resort subsidies for the gondola or enhanced bus service alternatives. In addition, UDOT is not aware of any public-private partnerships for any primary alternative.

32.2.8 Comparison of Alternatives

There are no comment responses for this section.

32.2.9 Basis for Identifying the Preferred Alternatives

A. *Commenters favored the Enhanced Bus Service Alternative because there would be no construction in Little Cottonwood Canyon, it would have the least impact to the environment, there would be no impacts to climbing boulders, it would minimize impacts to recreation, and it is a sensible alternative that can be phased before bigger options can be considered.*

As part of the EIS's reasonable range of alternatives, UDOT considered in detail a primary alternative (the Enhanced Bus Service Alternative) that would not require construction in Little Cottonwood Canyon, thus having few impacts to recreation and natural resources. In the Draft EIS, UDOT did not select the Enhanced Bus Service Alternative as one of its preferred alternatives. In identifying the preferred alternatives, UDOT did consider impacts to the environment and recreation in addition to how well the alternative would meet the project purpose. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives. UDOT did consider that the Enhanced Bus Service Alternative would have the least impacts to Little Cottonwood Canyon since the alternative would not make any improvements on S.R. 210 in the canyon.

B. *Commenters favored the Enhanced Bus Service in Peak-period Shoulder Lane Alternative because the lanes could be used for cyclists and hikers, would be the fastest of the alternatives, would help alleviate congestion, and could be implemented in phases.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. UDOT selected the Enhanced Bus Service in Peak-period Shoulder Lane Alternative primarily for the following reasons:

Overall Per-person Peak-hour Travel Time. The alternative would have the best overall travel time at 35 to 40 minutes in 2050, which is 10 minutes faster than the next-best alternative.

Transit Mode Travel Time. The alternative would have the best transit travel time at 24 minutes and the best transit travel time with transfers at 36 minutes. These travel times are 10 minutes and 18 minutes faster, respectively, than the next-best alternatives.

Low Mechanical Complexity. The alternative has a low mechanical complexity. If a bus is pulled from service, a spare bus can replace it without stopping the entire bus system.

Scalable Service Capability. The alternative could initially start with a smaller bus fleet and fewer mobility hub parking spaces. This would allow UDOT to build on the bus service as demand grows and adjust the service in the future based on its operational characteristics.

Travel Reliability. Because a separate travel lane would be available, buses could operate around most vehicle slideoffs and accidents. UDOT understands that this alternative would be less reliable in snow conditions.

Support for Active Transportation. The peak-period shoulder lanes would become pedestrian and cyclist lanes on S.R. 210 during the summer and when not in use during the winter.

Environment. Of the five primary alternatives, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have the second-highest impacts to wildlife habitat, but most of the area with impacts would be immediately adjacent to the existing road. In addition, the additional road cuts required for the shoulder lanes would cause a visual impact, but UDOT believes that these impacts would be less than with either the gondola alternatives or the Cog Rail Alternative.

Cost. The alternative has the second-lowest construction cost.

C. *Commenters were not in favor of the Enhanced Bus Service in Peak-period Shoulder Lane Alternative because resort users would still drive their personal vehicles, there would be traffic delays during construction, the extra lane would create visual impacts, buses are not reliable in snow, people would not use the buses, and the extra lane would not improve emergency vehicle access.*

Comment noted. In identifying the preferred alternatives, UDOT considered impacts to the natural and human environment and how well the alternative would meet the project purpose. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives.

D. *Commenters preferred the gondola alternatives because they would become a tourist attraction, would be a pleasant ride, would operate year-round, would operate in any weather, would be safe, would have more frequent departures, would have less noise and air pollution, would have less impact on the watershed, would overall have less environmental impacts, would provide a scenic ride, would be less susceptible to avalanches, and would be used more compared to buses. Other commenters asked why Gondola Alternative B was selected as a preferred alternative.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs for more details regarding how the preferred alternatives were selected. UDOT selected Gondola Alternative B primarily for the following reasons.

Travel Reliability. The alternative would have a high travel reliability because it would be on a separate alignment from the road. Snow, vehicle slideoffs and crashes, and snow removal operations would not affect the gondola service. If S.R. 210 were closed because of avalanche debris or vehicular crash, the gondola could still operate and be used as an alternate to personal vehicle use. With the Cog Rail Alternative, the cog rail service could be delayed if an avalanche flow covers the rail alignment, similar to that of the road being covered by an avalanche flow.

Transit Mode Travel Time. The alternative would have a better transit mode travel time with transfers than Gondola Alternative A (4 to 8 minutes) and the same travel time as the Cog Rail Alternative. The advantage of Gondola Alternative B over Gondola Alternative A is that the 2,500 parking spaces at the gondola base station at La Caille would reduce the need for an additional bus transfer and reduce the need for bus service to the base station, and thus lower the operational and maintenance cost of this alternative by $5.5 million per during the winter. With the exception of the Enhanced Bus in Peak-period Shoulder Lane Alternative all travel times are very similar.

Delay Due to Snow Removal Operations. The alternative would not delay or be delayed by UDOT's snow-removal operations. Both enhanced bus service alternatives could be delayed by snow-removal operations. For the Cog Rail Alternative, snow removed from the cog rail tracks would need to be blown onto S.R. 210, which would require UDOT to spend additional time for snow removal. In addition, when snow is blown off the tracks, this would temporarily close S.R. 210. The snow-blowing operation could occur during the early morning before peak travel periods. If an avalanche flow covers the rail tracks, cog rail operations would be delayed until the avalanche flow is cleared.

Environment. Of the five primary alternatives, Gondola Alternative B would have lower impacts to wildlife habitat compared to the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the Cog Rail Alternative. The alternative would have the second-fewest impacts to climbing resources in Little Cottonwood Canyon and would have low impacts to the watershed because the amount of impervious surfaces in Little Cottonwood Canyon would not increase. The alternative would also have the lowest impact to Riparian Habitat Conservation Areas.

Cost. The alternative has the third-highest construction cost but the second-lowest winter operational cost. The overall life cycle cost to 2053 would be the lowest of any of the alternatives.

E. *Commenters were not in favor of Gondola Alternative B because of visual impacts, it would only serve the resorts, it would have a longer travel time than the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, it would have smaller mobility hubs, the cost is too high, and there are other lower-cost and less-impactful alternatives.*

Comment noted. In identifying the preferred alternatives, UDOT considered impacts to the natural and human environment and how well the alternatives would meet the project purpose. See Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives.

F. *Commenters preferred the Cog Rail Alternative because it would operate better in winter, would be reliable and safe, and would reduce air pollutant emissions.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives. UDOT identified the preferred primary alternatives based on their transportation performance, cost, and impacts to the natural and human environment.

G. *Commenters preferred the No-Action Alternative because it would have less impacts to the natural and human environment, would not require the use of taxpayer money, and would not ruin Little Cottonwood Canyon.*

Comment noted. In identifying the preferred alternatives, UDOT considered impacts to the natural and human environment and how well the alternatives would meet the project purpose. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives.

H. *A commenter stated that parking should not be eliminated in winter by the Snowbird resort as proposed with the No Winter Parking Alternative.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. Based on the evaluation, UDOT selected the No Winter Parking Alternative as part of the preferred alternatives. UDOT based its decision on the fact that removing winter roadside parking would reduce friction between parked vehicles and vehicles in the travel lanes and therefore improve overall mobility. In addition, removing roadside parked vehicles would allow UDOT to improve winter snow-removal operations since snow plows would not need to navigate around parked vehicles, and it would also provide more areas for storing snow.

I. *A commenter stated that the environment should be an important, or the most important, factor in making the decision.*

UDOT considers all factors in making the final decision, including impacts to the human and natural environment, an alternative's ability meet the project purpose, and cost. By considering all of the factors UDOT, will make the best all-around decision for both the environment and improving mobility, reliability, and safety.

J. *Commenters stated that they don't want snow sheds.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs for more details regarding why the snow sheds were selected. See response 32.2.9K in this section regarding why UDOT selected snow sheds as part of the preferred alternatives.

K. *Commenters stated that they prefer building the snow sheds to reduce congestion and to improve safety.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs for more details regarding why the snow sheds were selected. Snow sheds would reduce the risk of avalanches and reduce the number of hours of road closure from 56 to 108 hours per season with the No-Action Alternative to 2 to 11 hours per season with the action alternatives.

L. *Commenters stated that they are not in favor of widening Wasatch Boulevard because it would increase speeds, induce traffic demand, and reduce the quality of life of Cottonwood Heights residents.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternative(s)*, of the Draft and Final EISs for more details regarding why UDOT selected the Wasatch Boulevard Five-lane Alternative. See response 32.2.9Q in this section regarding why UDOT selected the Five-lane Alternative.

M. *Commenters didn't support the Cog Rail Alternative.*

Comment noted. In identifying the preferred alternatives, UDOT considered impacts to the natural and human environment and how well the alternatives would meet the project purpose. See

Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives.

N. *Commenters stated that the decisions should be a vote and that only locals should be able to vote. Other commenters asked who would make the final decision, how did UDOT make the decision, and how were alternatives evaluated.*

Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS provides the rationale for why UDOT selected the preferred alternatives (also see Appendix 2G, *Preferred Alternative Selection Memorandum*, of the Draft EIS). Section 2.2, *Alternatives Development and Screening Process*, of the Draft EIS provides the rationale for how UDOT screened the alternatives.

The final decision is not a vote but a decision based on the information contained in the EIS and the supporting record. UDOT will focus on comments that suggest new alternatives, refinements to existing alternatives, and the environmental analysis in the EIS. As the lead agency for the EIS, UDOT will be selecting a final alternative for implementation which will be identified in a Record of Decision. UDOT will seek input from the cooperating agencies (USDA Forest Service, Salt Lake City Department of Public Utilities, UTA, U.S. Army Corps of Engineers, and U.S. Environmental Protection Agency) in determining the selected alternative. UDOT will also work with the USDA Forest Service regarding how their NEPA decisions might impact National Forest System–managed lands. The selection of the final approved alternative will be made using an objective, data-driven approach and analysis that is informed by the public input received during the various comment periods throughout the NEPA process.

O. *Commenters stated that they prefer implementation of trailhead improvements.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. Based on the evaluation, UDOT has identified the Trailhead Improvements and No Roadside Parking within ¼ mile of Trailheads Alternative as its preferred trailhead parking alternative. UDOT made this decision primarily because UDOT did not want to substantially reduce recreation access in areas that are currently used by recreationists and that do not have designated parking areas. With the trailhead improvements, UDOT would add parking at the Bridge, Lisa Falls, and White Pine Trailheads equivalent to the number of spaces eliminated in the proposed no-parking areas ¼ mile on either side of the trailheads and would maintain the existing roadside parking outside the ¼ mile. Overall, this alternative would reduce parking in Little Cottonwood Canyon by 17 spaces, from 528 to 511.

P. *Commenters stated support for the No Winter Parking Alternative.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. UDOT selected the No Winter Parking Alternative as a preferred alternative since it would improve mobility on S.R. 210.

Q. *Commenters stated that they were in favor of widening Wasatch Boulevard.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. Based on the evaluation, UDOT identified the Five-lane Alternative as its preferred Wasatch Boulevard alternative. The Five-lane Alternative would provide better transportation performance, with all segments of Wasatch Boulevard operating at a level of service of LOS B or better compared to the Imbalanced-lane Alternative providing LOS C or better. In addition, the Five-lane Alternative would have only one intersection operating at LOS D, whereas the Imbalanced-lane Alternative would have three. Also, the travel times for the Five-lane Alternative in the northbound direction in the morning peak hour would be 13% shorter with the Five-lane Alternative. Therefore, the Five-lane Alternative would have a higher degree of meeting the project purpose of improving mobility on Wasatch Boulevard.

Some residents of Cottonwood Heights wanted UDOT to minimize the footprint of any Wasatch Boulevard alternative being considered. Residents felt that a wider road would harm the rural nature of the community, cause greater safety concerns with pedestrians wanting to cross the road, and further increase vehicle speeds. In making its decision, UDOT considered the concerns of the residents and therefore would implement a phased approach for the 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 the road between the travel lane and multi-use trail until the additional northbound lane is needed. UDOT would base the need for the additional northbound lane on 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.

R. *Commenters said they were against a mobility hub and associated parking structure at 9400 South and Highland Drive.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. Based on the evaluation, UDOT identified a mobility hub at 9400 South and Highland Drive primarily because it is an existing UTA park-and-ride lot used for providing bus service to the ski resorts.

S. *A commenter suggested that UDOT start with building the sub-alternatives first before implementing the primary alternatives.*

Implementing only the sub-alternatives (Wasatch Boulevard widening, mobility hubs, avalanche mitigation, trailhead parking, and no winter parking) would not meet the project purpose of improving mobility, reliability, and safety on S.R. 210. To meet the project purpose, one of the primary alternatives would need to be implemented.

T. *Commenters preferred Gondola Alternative A because access to the base station would be provided by bus only, thus reducing personal vehicle use on Wasatch Boulevard.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. Based on the

evaluation, UDOT identified Gondola Alternative B because of the benefit of having a parking structure at the base station.

U. *Commenters stated that they were in favor of Gondola Alternative A.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See responses 32.2.9B and 32.2.9D in this section regarding why UDOT selected the two preferred primary alternatives.

V. *A commenter stated that UDOT should have an official comment period after the release of the Final EIS and before the Record of Decision is released.*

UDOT has issued this Final EIS followed by a minimum 30-day period to allow comment on the preferred alternative before it issues a Record of Decision. UDOT is accepting comments during the 30-day period. Any new substantive comments received on the EIS that were not addressed in the Final EIS will be reviewed, and responses to those comments when appropriate will be provided in the Record of Decision.

W. *Commenters stated that UDOT considered only transportation benefits in making a decision and did not consider a holistic approach that also considered the environment.*

UDOT did not make a decision in the Draft EIS, although it did identify two preferred alternatives, which might or might not be the alternative that is ultimately selected in the Record of Decision. The final selected alternative will consider the environmental analysis identified in the EIS along with the transportation performance of the alternative. UDOT will provide detailed reasons why it selected the alternative in the Record of Decision. In making a final decision, UDOT does not need to select the lowest-cost alternative or the alternative with the fewest environmental impacts. In making a decision, UDOT must weigh all factors including transportation benefits, environmental impacts, and cost. In selecting the preferred alternatives in the Draft EIS, UDOT did consider reliability and mobility benefits along with the expected impacts to the environment listed in the impact summary table. In considering the impact summary table, UDOT made a preferred alternative selection.

X. *A commenter stated that the Level 2 resources used in screening the alternatives were not defined.*

The commenter mentioned a specific section and paragraph, but UDOT could not find this reference. However, Table 2.2-2, *Level 2 Screening Criteria (Impacts)*, of the Draft EIS lists the resources considered in the screening process.

Y. *Commenters stated that they were against the trailhead parking alternatives that reduce parking in Little Cottonwood Canyon.*

Comment noted. See Section 2.6.9, *Basis for Identifying the Preferred Alternatives*, of the Draft EIS for more details regarding how the preferred alternatives were selected. See response 32.2.9O in this section regarding why UDOT decided to improve trailhead parking.

Z. *A commenter stated that it is not common for a Draft EIS to include two preferred alternatives and that UDOT should go back and select a single preferred alternative.*

NEPA does not require the selection of a preferred alternative or the selection of a single preferred alternative at the release of the Draft EIS. Based on the evaluation of the alternatives, UDOT found that the Enhanced Bus Service in Peak-period Shoulder Lane met the mobility goal the best and that Gondola Alternative B met the reliability goal the best. UDOT decided that it would seek public input on the two alternatives to help identify a single preferred alternative in the Final EIS.

At the release of the Draft EIS, UDOT did not have a preference between the two identified preferred alternatives.

AA. *Sandy City Engineering commented that there was discussion of the Cog Rail Alternative on page 20 in Appendix G,* Preferred Alternative Selection Memorandum*, when the discussion was about selecting Gondola Alternative B.*

The purpose of this page is for UDOT to describe why it selected Gondola Alternative B as one of the preferred alternatives. The evaluation also included discussion of the other primary alternatives to contrast the advantages and disadvantages of Gondola Alternative B.

BB. *Sandy City Engineering commented that page 21 of Appendix 2G,* Preferred Alternative Selection Memorandum*, notes 9 sub-alternatives, but they counted only 5 sub-alternatives.*

Although there are five main sub-alternatives, there are a total of nine alternatives since some sub-alternatives include multiple options.

CC. *The Central Wasatch Commission commented that the selected alternative should be flexible enough to incorporate the findings of a visitor use study being prepared by the University of Utah and expected to be completed at the end of 2022.*

In the Record of Decision, UDOT will select a final alternative for implementation. The selection of the final approved alternative will be made using an objective, data-driven approach and analysis considering the project purpose, the environmental analysis in the EIS, and input provided by the public during the process. It would not be possible to consider a future study in the selection process since UDOT would not know the outcome.

DD. *Save Our Canyons commented that the preferred alternative was predetermined and was based on political pressure to select Gondola Alternative B. They claim that UDOT prioritized economic development over drinking water. They also claim that UDOT can't conduct an impartial NEPA process since their budget is set by the state legislature and the governor selects the director of UDOT. Save Our Canyons stated that, for the enhanced bus service alternatives, diesel buses were used in the analysis instead of electric to make the gondola alternatives look better. They also commented that all primary alternatives would result in harming the natural and human environment in Little Cottonwood Canyon, which is against the purpose of NEPA.*

Gondola alternatives have been part of many previous studies for Little Cottonwood Canyon including the Mountain Accord. UDOT used those previous studies to develop a list of potential alternatives. All of the potential alternatives were put through the screening process to determine the reasonable alternatives evaluated in the EIS. A gondola system, along with buses and a rail

system, were determined to be reasonable. UDOT's screening process and the reasons for identifying two preferred alternatives are documented in the EIS, as is the primary reason for identifying Gondola Alternative B as one of those alternatives, which is that it would best meet the reliability criteria and had no substantial regulatory environmental impacts. None of the criteria or the identification of the preferred alternatives was based on the preference of elected officials. The reason that alternatives were determined reasonable, and why alternatives were identified as preferred, is well-documented in the Draft EIS. The commenter did not provide any comments on the content in the EIS regarding why the preferred alternatives were identified or regarding how Gondola Alternative B did not meet the screening criteria.

UDOT's decision to locate the Gondola Alternative B base station at La Caille was not based on land ownership. UDOT evaluated numerous locations for a base station and parking including the gravel pit, 9400 South and Highland Drive, the Little Cottonwood Canyon park-and-ride lot, and locations that were about 1 mile from the entrance to Little Cottonwood Canyon. None of the other locations were determined reasonable because of overflight of homes except locations within about 1 mile of the entrance to Little Cottonwood Canyon. The three locations were the Little Cottonwood Canyon park-and-ride lot, La Caille, and an empty lot just south of the intersection of North Little Cottonwood Road and Wasatch Boulevard. The lot south of the intersection of North Little Cottonwood Road and Wasatch Boulevard was the best option from a traffic perspective because traffic could enter the site from two roads; however, the site was eliminated because it was located on a known earthquake fault with a high rupture potential. The La Caille and Little Cottonwood Canyon park-and-ride lot sites were the only areas that did not have existing homes on the proposed site location and provided enough available land to locate a base station without direct overflight of private residences. None of the proposed site selection was based on future development potential.

UDOT did use diesel buses for the NEPA analysis. The reason electric buses were not included in the analysis was not to make one alternative look better but rather to give UDOT the option to use diesel buses if necessary. If UDOT evaluated electric buses only, then there would be no option to use diesel buses. UDOT is not sure that electric buses would work in the steep and cold environments of Little Cottonwood Canyon. UDOT has documented in Chapter 2, *Alternatives*, of the Draft EIS that, if an enhanced bus service alternative is selected at the time of bus procurement, UDOT would evaluate hybrid and electric buses to determine their suitability for operation in Little Cottonwood Canyon. Even if UDOT selects electric buses, diesel buses might need to be used occasionally. If diesel buses were not evaluated in the EIS, they could not be used. UDOT has updated the greenhouse gas analysis in Chapter 10, *Air Quality*, of the Final EIS to state the benefits of electric buses.

Regarding electrical trains, the main reason why electric trains were not considered was the high cost of the overhead contact system (OCS) and the need to protect the OCS with avalanche sheds for a good portion of Little Cottonwood Canyon. The proponent of the Cog Rail Alternative stated that UDOT should reduce the cost of the alternative by eliminating the snow sheds that protect the OCS. Therefore, to reduce the cost of the alternative, UDOT used diesel locomotives. Although hybrid battery and electric technology was considered, the available information was not sufficient to demonstrate at the time of the analysis that such a technology would work effectively.

Finally, UDOT evaluated a range of alternatives under the NEPA process that considered different transit types (bus, gondola, and rail) and much different construction needs. In addition, the range of alternatives consider alternatives that have no new construction in Little Cottonwood Canyon (Enhanced Bus Service alternative) and others that do require construction. Thus some alternatives would have limited impact to Little Cottonwood Canyon, while others would have larger impacts to the natural and human environment.

32.3 Land Use

A. *A commenter stated that the gondola alternatives might impact wilderness areas or that construction should not be allowed next to wilderness areas.*

The proposed gondola alignments would not directly impact any designated wilderness areas.

Avoidance of impacts to the Twin Peaks and Lone Peak Wilderness Areas from activities adjacent to the wilderness areas are not required. In accordance with Section 303 of the Utah Wilderness Act of 1984 (Public Law 98-428), these wilderness areas were not intended to create buffers to preclude non-wilderness activities beyond their boundaries.

B. *Salt Lake County commented that the potential loss of zoning authority with UDOT building a gondola base station at La Caille heightens the risk of residents losing their voice regarding future development.*

UDOT as a state agency is not required to adhere to local zoning; however, UDOT does consider local zoning when making a decision and included the potential conflicts with local zoning in Chapter 3, *Land Use*, of the EIS. UDOT does not believe that residents lose their voice since the EIS process allows local residents to submit comments on the primary alternatives' potential conflicts with local zoning. Note that UDOT control of the land would apply only to the base station parking, building, and related roadway infrastructure, and UDOT would consult with local planning authorities during the design process. Local zoning would still apply to adjacent private land.

C. *Salt Lake County commented that the goals of the* Wasatch Canyons General Plan *and the* Salt Lake County Resource Management Plan *support the selection of the Enhanced Bus Service in Peak-period Shoulder Lane Alternative.*

Chapter 3, *Land Use*, of the EIS documents the consistency of the primary alternatives with the plans mentioned in the comment. The evaluation concluded that the alternatives would generally be consistent with the goals in the plans.

D. *A commenter stated that UDOT did not consider the Wasatch Canyons Tomorrow study by Envision Utah prepared in 2010.*

Numerous planning studies have been conducted on the central Wasatch Mountains over the past 30 years. The studies have been updated and referenced by more recent studies. The Wasatch Canyons Tomorrow study was prepared in 2010, with many of the elements of the study included in the alternatives developed in the EIS. In addition, the more relevant study was the approved and more recent *Wasatch Canyons General Plan Update* prepared by Salt Lake County in 2020, which was considered in the EIS.

E. *Cottonwood Heights City commented that the* Wasatch Boulevard Master Plan *recommends limiting major development projects along the Wasatch Boulevard corridor and envisions land use along the corridor to remain residential and recreational. A major commercial gondola center conflicts with this.*

Section 3.4.6.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS states that the base station for Gondola Alternative B would be inconsistent with Cottonwood Heights City's residential zoning designation for the area.

F. *Save Our Canyons commented that UDOT should have considered in detail the local, state, and regional plans that promote the protection of resources. They also commented that UDOT ignored the plans in the development of alternatives and in the EIS analysis.*

Chapter 3, *Land Use*, Chapter 12, *Water Resources*, and Chapter 17, *Visual Resources*, of the EIS describe the federal, state, regional, and local designated plans mentioned in the comment. All of the plans and the goals and objectives were considered and evaluated as part of the EIS process and in the development of alternatives. Not meeting a goal or objective in a plan does not make an alternative not reasonable.

All of UDOT's primary alternatives are transit-based alternatives that promote a reduction in the number of personal vehicles and consider all canyon users including recreation users who are not resort skiers. The Final EIS has been updated to include more information in the plans mentioned by Save Our Canyons in their comments and to provide additional analysis regarding how the alternatives would meet the goals of the plans. UDOT also updated the Final EIS to include the Utah Outdoor Recreation Vision. The desired future conditions in the *Salt Lake County Resources Management Plan* are considered in the EIS process, and the goals of the plan to protect human and environmental resources are evaluated under each resource in the EIS. That evaluation under each resource describes the expected impacts to the resources so that the decision-maker can determine how each resource would be affected by the project alternatives.

The Mountain Accord process was considered in the development of the EIS and the alternatives considered in the EIS. Chapter 1, *Purpose and Need*, of the EIS describes how the Mountain Accord was considered. The Mountain Accord's and Central Wasatch Commission's goals are not adopted plans by a local, regional, or state agency.

32.4 Community and Property Impacts

A. *Commenters stated that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have a substantial impact on climbing resources in Little Cottonwood Canyon and would impact other recreation users including their access to the forest. Some commenters felt that the elimination of roadside parking would increase congestion in the lower canyon. The Salt Lake Climbers Alliance commented that proximity impacts could make some boulder routes (called "problems") or descents more dangerous without specific mitigations. Objective hazards, such as piles of construction debris and fill, might partially bury boulder problems and block landing areas. And new retaining walls or steep cuts above the roadway could make landings unsafe or impractical.*

Impacts to Climbing Boulders, Trails, and Other Resources. See Section 4.4.3.2.3, *Recreation Resources*, of the EIS for specific details regarding impacts to climbing resources from the Enhanced Bus Service in Peak-period Shoulder Lane Alternative. The boulder location information in the Draft EIS was provided by the Salt Lake Climbers Alliance, which works with the USDA Forest Service and private landowners to manage climbing in Little Cottonwood Canyon. After release of the Draft EIS, the Salt Lake Climbers Alliance provided new locations of climbing boulders along S.R. 210. The new data showed a total of about 477 boulders on either side of S.R. 210. In addition, UDOT conducted an additional field survey of boulders, including fieldwork, with the Salt Lake Climbers Alliance to more accurately identify the locations.

Based on the new data, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would result in direct impacts to 41 boulders (13 unnamed boulders and 28 name boulders: Scrub, Far Bulge, Somebody Please Love Me, Parking Lot, Shorty, Concrete, Tiger Snake, Holy, Syringe, Razor Burn, Split, Rock-on, Red Dot, Between the Boulders, Red Patina, Obelisk, Stick, Hitchhiker, The Challenge, Matt's Roof, Fat Lady, Hidden Bulge, Short Face, Mono Direct, Sean Jean, Moss Edges, Glen Livet, and Roadside). Also, 22 boulders would not be directly impacted but would be within 15 feet of the improved road. Named boulders in this area include Brake, Call of the Wild, Copperhead, Do the Dishes, Dragon Egg, Jack's Boulder, Parking Slab, Restroom, Shot Hole Arete, Tetracell White, The Wall, Tiny, Triple Threat, and Trout. Each boulder might have multiple problems or routes.

If the Enhanced Bus Service in Peak-period Shoulder Lane Alternative is selected, during the final design process UDOT will consider the potential to move impacted boulders to new locations or placing retaining walls to avoid boulders where possible. This alternative would also impact segments of five existing and future planned trails used to access climbing areas. UDOT would work with the Forest Service to realign the existing trails to maintain the trail function. UDOT looked at shifting the road widening away from the boulders, but this would have impacted residential areas and Little Cottonwood Creek.

Proximity Impact to Boulders. Many of the existing boulders (Stick Rock, for example) are within 15 feet of the roadway and are promoted and used as a climbing resource. UDOT believes that, if existing boulders within 15 feet of the roadway are promoted and used for climbing, the additional boulders that would be within 15 feet of the roadway after the road is widened would also continue to be promoted and used for climbing with negligible impact.

UDOT has committed to minimize impacts to boulders where possible including the establishment of costly retaining walls. UDOT has also agreed to potentially move boulders that would be directly impacted and to work with the Forest Service to find places to relocate the boulders and provide additional access to existing boulders.

If the Enhanced Bus Service in Peak-period Shoulder Lane Alternative is selected, UDOT will coordinate with the Salt Lake Climbers Alliance during the final design phase to minimize impacts to remaining boulders within 15 feet of the cut-and-fill line in order to consider the safety of the climbers who might use the boulders.

Visual and Noise Impacts. The evaluation stated that the visual impacts of additional roadway cuts and fills with the peak-period shoulder lanes and snow sheds would detract from recreationists' views of the scenic Little Cottonwood Canyon. The negative impact to the viewshed could be considered by some recreationists as a negative impact to the outdoor recreation experience. Noise generated from winter bus use of the peak-period shoulder lanes would be similar to existing conditions. There would be no change to the noise environment when the bus lanes are not in use outside the winter season.

Access Impacts. With the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, about 15 roadside parking areas and pullouts used by recreationists would be eliminated. Access to Gate Buttress would not be eliminated. Some nearby access would be provided by the improved and expanded trailheads at the Grit Mill, Gate Buttress, Bridge, Lisa Falls, and White Pine parking areas by connecting trails or by allowing recreationists to use the peak-period shoulder lanes to walk to their destination. When the peak-period shoulder lanes are not in use (during the summer and portions of the winter), people could park at the improved trailheads and walk in the peak-period shoulder lanes, which would be free of vehicles. The additional parking at the trailheads would make up for some of the lost roadside parking spaces, which would minimize access impacts. With the trailhead improvements, including the addition of restrooms and the elimination of roadside parking, human use would be focused in areas with adequate resource protection, reducing potential environmental impacts. Also see response 32.4P.

As a result of adding the peak-period shoulder lanes, portions of some existing and planned climbing trails would be affected. Any impacted existing trail would be relocated to maintain trail connectivity.

The designation of parking areas and elimination of roadside parking would reduce roadside conflicts with cyclists and pedestrians and with vehicles in the travel lane. In addition, this would focus recreation use at trailheads with appropriate facilities to minimize impacts caused by unauthorized forest access points. The Grit Mill Environmental Assessment (EA) issued by the USDA Forest Service recommends no parking being established between the Grit Mill parking area and the Little Cottonwood Canyon park-and-ride lot. One of the purposes of that EA was to minimize roadside parking and build an interconnected trail network between designated trailheads. UDOT disagrees that the elimination of roadside parking would put pressure and congestion in the lower canyon. It would improve congestion by eliminating roadside parking conflicts and requiring users to use designated parking area and the designated trail network.

Other Recreation Users. The peak-period shoulder lanes would not require any recreation areas to be closed; they would not be constructed on any designated USDA Forest Service trailheads or otherwise limit recreation access from designated access points.

Construction Impacts. As stated in Chapter 4, *Community and Property Impacts*, of the Draft EIS, UDOT notes that construction on S.R. 210 in Little Cottonwood Canyon could result in traffic delays and/or access restrictions during the summer construction seasons, which could delay those who want to recreate in the canyon. There would also be increased noise levels and dust from the construction equipment. The traffic delays and increased construction noise would be temporary during the 2-to-3-year construction period.

B. Commenters stated the gondola alternatives would have substantial impacts to climbing and other recreation resources in Little Cottonwood Canyon, including access to the forest.

Impacts to Climbing Boulders, Trails, and Other Resources. See Section 4.4.4.2.2, *Recreation Resources*, of the EIS for specific details regarding impacts to climbing resources from the gondola alternatives. The boulder location information in the Draft EIS was provided by the Salt Lake Climbers Alliance, which works with the USDA Forest Service and private landowners to manage climbing in Little Cottonwood Canyon. After release of the Draft EIS, the Salt Lake Climbers Alliance provided new locations of climbing boulders along S.R. 210. The new data showed a total of about 477 boulders on either side of S.R. 210. In addition, UDOT conducted an additional field survey of boulders, including fieldwork, with the Salt Lake Climbers Alliance to more accurately identify the locations.

Based on the new data, Gondola Alternative A would result in direct impacts to four boulders (Honk My Horn, No Parking, Holy Hell, and Rays) located within the proposed gondola base station at or adjacent to the existing Little Cottonwood Canyon existing park-and-ride lot and not along S.R. 210 past the canyon entrance. UDOT was able to refine the design to avoid the Roadside, Bathroom, and three unnamed (1, 116, and 117) boulders. Gondola Alternative B would impact only one boulder (Rays) at the park-and-ride lot.

If a gondola alternative is selected, during the final design process UDOT will continue to refine the parking lot configuration at the Little Cottonwood Canyon park-and-ride lot to avoid impacts to the four boulders (Gondola Alternative A) and one boulder for Gondola Alternative B. In addition, with both gondola alternatives, gondola tower 5 would impact the Lens Flare boulder. During the final design process, UDOT might be able to shift tower 5 to avoid this boulder. In all, five boulders could be directly impacted. The gondola would operate about 200 feet above and adjacent to popular climbing areas in the lower canyon. Boulders under the aerial cables would still be allowed to be used. Some climbers have stated that a gondola cabin overhead might cause a visual intrusion, noise impacts, and a potential startle effect that would reduce the climbing experience. About 94 boulders would be under the aerial cables easement, with another 31 within 15 feet of the cables easement. Again, access to these boulders would not be restricted by the gondola alternatives.

The first tower at the bottom of Little Cottonwood Canyon would be placed on a trail developed by the USDA Forest Service and the Salt Lake Climbers Alliance (Alpenbock Loop Trail, West Leg). To maintain the function of the trail, it would be relocated around the gondola tower.

Visual and Noise Impacts. The visual intrusion and potential startle effect of a gondola cabin to climbers might reduce their climbing experience. UDOT determined that noise levels with the gondola operation would be similar to existing conditions, with the main noise source being dominated by vehicles on S.R. 210. Noise generated by the gondola system would be less than the noise generated by vehicles on S.R. 210, including at the climbing areas and Tanners Flat Campground.

Access Impacts. The gondola system would not require any recreation areas to be closed; it would not be constructed on trailheads or otherwise limit recreation access or reduce or eliminate roadside parking. The area immediately around each gondola tower base would be fenced to preclude unauthorized access of the tower. The proposed base station (Gondola Alternative A) or angle station (Gondola Alternatives B) at the existing Little Cottonwood Canyon park-and-ride lot would be designed to maintain 95 parking spaces, some of which would be designated for the Alpenbock Loop Trail. Also see response 32.4P.

Construction Impacts. As stated in Chapter 4, *Community and Property Impacts*, of the Draft EIS, UDOT notes that construction on S.R. 210 in Little Cottonwood Canyon could result in traffic delays and/or access restrictions during the summer construction seasons, which could delay those who want to recreate in the canyon. There would also be increased noise levels and dust from the construction equipment. The traffic delays and increased construction noise would be temporary during the 2-to-3-year construction period.

C. *Commenters were concerned that the primary alternatives would cause substantial construction delays and access issues in Little Cottonwood Canyon.*

See Chapter 4, *Community and Property Impacts*, of the EIS for more information regarding construction delays. All of the primary alternatives except the Enhanced Bus Service Alternative would require construction in Little Cottonwood Canyon. Construction on S.R. 210 in the canyon could result in traffic delays and access constraints during the summer construction seasons, which could delay or restrict access to those who want to recreate in the canyon. There would also be increased noise levels from the construction equipment. The traffic delays and increased construction noise would be temporary during the 2-to-3-year construction period. Any construction would be temporary.

D. *Commenters stated that the Cog Rail Alternative would have substantial impacts to climbing resources and other recreation in Little Cottonwood Canyon.*

Impacts to Boulders and Trails. See Section 4.4.6.2.3, *Recreation Resources*, of the EIS for specific details regarding impacts to climbing resources from the Cog Rail Alternative. The boulder location information in the Draft EIS was provided by the Salt Lake Climbers Alliance, which works with the USDA Forest Service and private landowners to manage climbing in Little Cottonwood Canyon. After release of the Draft EIS, the Salt Lake Climbers Alliance provided new locations of climbing boulders along S.R. 210. The new data showed a total of about 477 boulders on either side of S.R. 210. In addition, UDOT conducted an additional field survey of boulders, including fieldwork, with the Salt Lake Climbers Alliance to more accurately identify the locations.

Based on the new data, the Cog Rail Alternative would result in direct impacts to 116 boulders. There would be 18 boulders that would not be directly impacted but would be within 15 feet of the

rail improvements. Each boulder might have multiple problems or routes. The alternative would also impact segments of eight existing and future planned trails used to access climbing areas. UDOT would work with the Forest Service to realign the existing trails to maintain the trail function. Due to the large number of impacted boulders and logistical issues, only a relatively small number could potentially be relocated.

Visual and Noise Impacts. The evaluation stated that the visual impacts of additional cog rail cuts and fills would detract from recreationists' views of the scenic Little Cottonwood Canyon. The negative impact to the viewshed could be considered by some recreationists as a negative impact to the outdoor recreation experience. Noise generated by the cog rail would be similar to that from light rail vehicles and would be less than the noise generated by vehicles on S.R. 210.

Access Impacts. The cog rail alignment on the north side of S.R. 210 would be seen as a barrier to those who want to access National Forest System lands on the north side of the road. Crossing the rail alignment would be allowed only at specific recreation areas such as the Alpenbock (Little Cottonwood Canyon park-and-ride lot), Gate Buttress, Grit Mill, and Lisa Falls Trailheads. As part of the cog rail design, these trailheads and parking areas would be reconstructed to include restroom facilities and designated parking areas. The overall access to the Gate Buttress and Lisa Falls Trailheads would be improved compared to existing conditions, and the Grit Mill and Alpenbock Trailheads would provide the same benefits as under the current conditions.

Regarding cyclists who use the road and want to access trailhead locations, the rail crossings would be on the north side of the road and would impact only cyclists entering the few trailheads on the north side of the road. The crossings would be similar to any light rail crossing in Salt Lake City that cyclists cross today and thus would not limit cyclist access.

The cog rail alignment would not cross any road corridor and thereby disrupt traffic since there are no roads on the north side of Little Cottonwood Canyon.

E. Commenters were concerned about the loss of privacy from the gondola overflight of homes near the entrance to Little Cottonwood Canyon.

UDOT evaluated the potential privacy and visual impacts from the gondola system to residents at the entrance to Little Cottonwood Canyon. As stated in Section 4.4.5.2, *North Little Cottonwood Road to Alta*, of the Draft EIS, the Gondola Alternative B base station and alignment would be adjacent to several residential developments. The gondola alternatives would not pass directly over any homes. The natural views that residents have would be disrupted by the gondola infrastructure. With the gondola cabins passing overhead near their houses, residents would feel an intrusion and loss of privacy from gondola riders looking down onto their yards and homes. For many residents, the impact would be in direct conflict with their reason for living near the entrance to Little Cottonwood Canyon. UDOT would not compensate homeowners for implementation of a gondola system near their homes.

F. Commenters stated that widening Wasatch Boulevard would ruin the feel of the road and the quality of life of the residents.

Quality of Life Impacts. The Five-lane Alternative would benefit many of the quality of life elements (safe access, pedestrian amenities, and a well-maintained community) that residents

have stated as being important reasons for living in Cottonwood Heights but would diminish the rural aesthetic that some residents consider important to their quality of life. Some residents have commented that any improvement to Wasatch Boulevard would substantially diminish their quality of life. However, UDOT in coordination with Cottonwood Heights City would develop an aesthetics plan to implement as part of proposed improvements to Wasatch Boulevard. To develop the plan, UDOT and Cottonwood Heights City would use the goals identified in the *Wasatch Boulevard Master Plan* and the general concepts in the *Wasatch Boulevard Aesthetic Design Plan* for preserving and enhancing scenic and natural qualities along Wasatch Boulevard/

Community Cohesion. Overall, the Wasatch Boulevard alternatives would have no substantial direct or indirect effects on neighborhood and community cohesion. Although Wasatch Boulevard would be widened, the improvements would not change community interactions and attendance at local shopping areas, schools, parks, and churches, or the overall cohesiveness of Cottonwood Heights. It is unlikely that the proposed roadway improvements would affect other aspects of neighborhood and community cohesion such as the length of residency, the presence of families, or community leadership and activism. As part of the widening alternatives, a trail is proposed on the east side of Wasatch Boulevard, and the improved pedestrian access with the trail should reduce perceived effects on cohesion that residents might associate with an expanded roadway. The trail improvements could lead to increased neighborhood and community interaction and, therefore, improved cohesiveness. In addition, in working with Cottonwood Heights City, UDOT is considering two pedestrian overpasses or underpasses to facilitate community cohesion.

What is a strip take?

A strip take is a land-only impact that occurs when a portion of a property is located within the proposed right of way but the right of way is more than 15 feet from an existing structure. This type of impact is referred to as a strip take because only a strip of land on the edge of the parcel would need to be acquired.

Recreation. The Wasatch Boulevard alternatives would affect two recreation facilities along Wasatch Boulevard: Golden Hills Park and a parking area for the Timberline Trailhead off Prospector Drive. The alternatives would result in minor property strip takes and would not impact any of the amenities that make the areas important to the community. The proposed trail on the east side of Wasatch Boulevard would connect to the trails in Golden Hills Park, thereby providing a benefit to residents who walk to this park.

Public Safety. The Wasatch Boulevard alternatives would reduce congestion and improve safety by bringing Wasatch Boulevard up to current safety design standards and improving overall mobility, which would benefit response times for fire protection, ambulance services, and law enforcement. The addition of through-traffic lanes and dedicated turn lanes would benefit these services' overall access to emergencies. Increased shoulder widths could also accommodate emergency response vehicles.

The Wasatch Boulevard alternatives incorporate many safety updates that benefit cyclists and pedestrians, including improved sight distances, increased shoulder widths, and a 10-foot-wide continuous multi-use path on the east side of the road. The existing bicycle lane on each side of Wasatch Boulevard would be improved from its current state. The existing bicycle lane has a variable width and is not uniformly striped along Wasatch Boulevard. With the Wasatch Boulevard

alternatives, a consistent 6-foot-wide striped bicycle lane would be constructed within the 10-foot roadway shoulder.

G. *Commenters stated that the gondola alternatives would reduce backcountry skiing or trailhead access. Other commenters asked whether any of the primary alternatives would reduce access.*

None of the primary alternatives would change current designated backcountry skiing access or USDA Forest Service trailhead access. None of the alternatives prohibit access to S.R. 210 in Little Cottonwood Canyon. Roadside parking access for dispersed recreation in the lower canyon below Snowbird Entry 1 would be reduced by the elimination of roadside parking with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and with the trailhead parking alternatives (see response 32.4P). With all of the alternatives, there would still be parking at the Grit Mill, Gate Buttress, Bridge, Lisa Falls, and White Pine areas. Access on busy ski days might require users above Snowbird Entry 1 to pay a toll or take transit. Section 4.4, *Environmental Consequences and Mitigation Measures*, of the EIS provides specific details regarding the expected impacts to recreation access.

H. *Commenters stated that the No Winter Parking Alternative would eliminate access to backcountry skiers and reduce parking for ski resort users.*

See Chapter 4, *Community and Property Impacts*, of the EIS for more information regarding winter backcountry access. With the No Winter Parking Alternative, about 230 roadside parking spots near the ski resorts would be eliminated during winter. Roadside parking is used by backcountry skiers and ski resort visitors during winter peak days when the main ski area parking lots are at capacity. Removing the roadside parking could reduce the quality of life for some skiers since they would need to rely on spaces in the parking lots or use the proposed enhanced bus service, gondola, or cog rail, if selected, instead of their personal vehicles to access the ski resorts. With the primary alternatives, there would be sufficient valley parking to accommodate users. For backcountry skiers who rely on these parking spots, the removal of these parking spots would have a negative effect on their access to trails outside the ski resorts. Backcountry skiers could use the primary alternatives to get to the ski resorts and then walk to the trails from Snowbird or Alta.

I. *Commenters stated that the gondola alternatives would ruin the natural and environmental quality of Little Cottonwood Canyon and the nature of the ski resorts. Others commented that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would ruin the recreation experience.*

Gondola Alternatives. UDOT analyzed the impact to the quality of the experience of Little Cottonwood Canyon users [see Section 4.4.4, *Gondola Alternative A (Starting at Canyon Entrance)*, of the EIS]. The gondola system might operate during the summer. Gondola towers, cables, and cabins would be visible throughout Little Cottonwood Canyon. Some recreation users might feel that these elements reduce the quality of the natural environment or the environment in general that they would expect in Little Cottonwood Canyon while on trails and at trailheads and at the ski resorts. In their comments on the EIS, some users thought that there would be minimal impacts to visual resources, while others thought that visual impacts would be substantial or likely

and would ruin their recreation experience and the overall environment. The noise of the gondola would be less than that of vehicles on the existing road.

Enhanced Bus Service in Peak-period Shoulder Lane Alternative. An additional benefit of using enhanced bus service with the peak-period shoulder lanes is that, when the peak-period shoulder lanes are not in use during the summer and portions of the winter, they would be available to pedestrians and cyclists. Personal vehicles would not be allowed to use or park in the peak-period shoulder lanes. Cyclists who use the canyon would likely see the peak-period shoulder lanes as an improvement to the quality and safety of their riding experience because they would have a dedicated travel lane for cycling outside the vehicle travel lanes.

However, adding peak-period shoulder lanes on S.R. 210 from North Little Cottonwood Road to the Alta Bypass Road would eliminate the 429 roadside parking spots (no parking would be allowed in the peak-period shoulder lanes) and existing pullouts along S.R. 210. Eliminating roadside parking with the peak-period shoulder lanes could be perceived as a reduction in access for recreationists who use many of the access points in the canyon that are not designated by the USDA Forest Service. The greatest potential impact could be to climbers who use the pullouts or park along the road in the lower portion of Little Cottonwood Canyon to access climbing areas and other areas such as Little Cottonwood Creek. In addition, the elimination of boulders with this alternative could impact or eliminate important climbing boulders for recreationists. Some commenters felt that the alternative would ruin the quality of the recreation experience in Little Cottonwood Canyon and the overall environment.

J. *Commenters asked whether there would be parking for the Great White Icicle area.*

With the primary alternatives, access to the Great White Icicle would be provided by the Bridge Trailhead.

K. *Commenters wanted to know whether the snow sheds would impact climbing resources.*

Chapter 4, *Community and Property Impacts,* of the EIS states that the avalanche mitigation (snow shed) alternatives would eliminate the China Wall roadside pullout, which is used during the summer to access the undesignated White Pine bouldering area (not a designated USDA Forest Service recreation area) and the climbing boulders the Wall, Ping Pong, and Fortune Cookie. Construction of the snow sheds would remove the Wall boulder. The snow shed design was tailored to the predicted requirements for the avalanche conditions in that area.

L. *Commenters stated that the primary alternatives would create more traffic at the entrance of Little Cottonwood Canyon, impacting the quality of life of residents and degrading property values.*

With the primary alternatives, during the winter there would be a reduction in vehicle traffic during the peak hour of about 365 personal vehicles per hour and about a 30% reduction in personal vehicles during the entire day. The reduction in personal vehicle use would reduce vehicle backups in residential communities and improve the quality of life of residents who live near the entrance to Little Cottonwood Canyon. (See responses 32.7B and 32.7C.)

M. Commenters stated that construction of the La Caille base station with either Gondola Alternative B or the Cog Rail Alternative would reduce the quality of life for surrounding residents.

The Gondola Alternative B base station and alignment would be adjacent to several residential developments. The natural views that residents and recreationists have would be disrupted by the gondola infrastructure. With the gondola cabins passing overhead near their houses, residents would feel an intrusion and loss of privacy from gondola riders looking down onto their yards and homes. For many residents, the impact would be in direct conflict with their reason for living near the entrance to Little Cottonwood Canyon. For people who walk or hike in the area, the gondola infrastructure would impact their views of the entrance to Little Cottonwood Canyon.

The Gondola Alternative B base station would be adjacent to existing residential developments. The increased traffic to the base station as well the operation (noise and view) of the gondola system could reduce the quality of life of some residents since it would disrupt the natural setting of the area and its rural nature. However, some residents who recreate in Little Cottonwood Canyon might see the location as a benefit because they would be within walking distance of the base station. The impacts from the cog rail base station would be similar.

N. Commenters stated that improvements to the Gate Buttress Trailhead would reduce the number of parking spaces, limit access, and impact climbing resources.

The Gate Buttress is currently a dirt pullout and does not have a specific vehicle capacity since vehicles can park differently each time. In working with the Salt Lake Climbers Alliance and the property owner, UDOT developed a concept that would pave the lot and add restrooms. UDOT would need to design the lot according to parking and access standards, which would likely reduce the number of parking spaces. Initially, in coordination with the Salt Lake Climbers Alliance, UDOT did not propose any improvements to the Gate Buttress parking area since there would be less parking. However, the Salt Lake Climbers Alliance requested that UDOT consider the improvements so that they can be evaluated in the EIS. As discussed with the Salt Lake Climbers Alliance, UDOT will coordinate with them and the property owners to determine whether improvements are wanted by the users and the property owner. Depending on the outcome of the coordination, UDOT might not implement the improvements. This commitment has been added to the Final EIS (see Section 4.4.7.1, *Recreation*, of the Final EIS). The proposed improvements to the Gate Buttress parking area would not impact any climbing boulders.

If selected, the peak-period shoulder lanes would reduce the parking capacity at the Gate Buttress dirt pullout. UDOT would work with the property owner and the Salt Lake Climbers Alliance to grade the parking area to maintain the approximate number of existing parking spaces in the dirt pullout.

O. Commenters stated that UDOT did not fully evaluate impacts to the residents in Little Cottonwood Canyon, including those in the town of Alta.

Chapter 4, *Community and Property Impacts*, of the EIS evaluated the expected impacts to the town of Alta. Section 4.3.1.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS describes the community and states that the community is cohesive and enjoys a rural mountain lifestyle. The chapter also describes the community services provided in the town that the residents use.

None of the enhanced bus service alternatives would result in any improvements to S.R. 210 in the town of Alta except for the bus stop at Alta ski resort. The current plan is to have a bus facility located on the south side of S.R. 210 between the Alta Lodge and Alta's Rustler Lodge in an area of an existing uphill bus stop. The analysis in the Final EIS has been updated to include the proposed bus stop. The gondola alternatives would have two gondola towers south of S.R. 210 and a base station at the Alta ski resort immediately adjacent to the Albion parking lot. At the bus stop and gondola station, lockers and bathrooms would likely be added, but no other amenities would be included by UDOT. The gondola alignment would be south of the lodges and residences in the town of Alta. None of the primary alternatives would relocate any lodges and residences or businesses along S.R. 210 from North Little Cottonwood Road to the town of Alta, and there would be no changes to community cohesion, recreation resources, or utilities compared to current conditions.

The primary alternatives could increase visitation at the Alta ski resort. The gondola would operate near residences at the Wasatch Resort at the entrance to Little Cottonwood Canyon and in the town of Alta, and the alternative would not overfly the Alta Town Park. The natural views that residents and lodge guests have would be disrupted by the gondola infrastructure. With the gondola passing near their houses, residents would feel an intrusion and loss of privacy from gondola riders looking down on their yards and homes. This would be a negative impact to their quality of life. For many residents, the impact would be in direct conflict with their reason for living in the canyon. The gondola alternatives would also indirectly impact the views from the Alta Town Park, which might diminish the experience of park users.

P. Commenters were concerned how the alternatives would limit access to dispersed recreation, including climbing and hiking, and how trailheads would be expanded. Others commented that expanding trailhead parking would increase visitation.

The trailhead improvement alternatives would reduce roadside parking and expand existing trailhead parking in Little Cottonwood Canyon, as shown in Table 32.4-1 below. The purposes of eliminating roadside parking are for both safety (conflicts with road cyclists and pedestrians walking on the road) and to reduce environmental impacts caused by roadside parking.

Two of the trailhead Improvement alternatives would eliminate all roadside parking, as would the Enhanced Bus Service in Peak-period Shoulder Lane Alternative. Eliminating roadside and pullout parking could have a negative impact to recreationists who rely on unauthorized access points for their experience in the canyon, including visiting Little Cottonwood Creek. The largest impact could be to climbers who use the roadside parking and pullouts in the lower portion of Little Cottonwood Canyon to access climbing areas. About 15 roadside pullouts used by recreationists would be eliminated by the Enhanced Bus Alternative in Peak-period Shoulder Lane Alternative and two of the trailhead improvement alternatives (see Table 32.4-1 below). Improved trailhead parking at the Grit Mill, Gate Buttress, Bridge, Lisa Falls, and White Pine Trailheads could be used to gain access to some areas but would require walking along S.R. 210, which would introduce safety conflicts with vehicles traveling on the road. With the trailhead improvements, including the addition of restrooms and the elimination of roadside parking, human use would be focused in areas with adequate resource protection, thereby reducing potential environmental impacts. The number of restroom stalls proposed at each trailhead is based on USDA Forest Service guidelines.

Table 32.4-1. Total Parking Spaces from S.R. 209/S.R. 210 to Snowbird Entry 1 by Trailhead Alternative

Parking Area	Number of Parking Spaces[a]			
	Existing Parking/ No-Action Alternative	Trailhead Improvement Alternatives		No Trailhead Improvement Alternative
		No Roadside Parking ¼ Mile from Trailhead	No Roadside Parking to Snowbird Entry 1	No Roadside Parking to Snowbird Entry 1
Roadside parking	429	290	0	0
Gate Buttress Trailhead	30 (in designated dirt lot)	21	21	30 (in designated dirt lot)
Bridge Trailhead	Not applicable (roadside parking only)	15	15	0
Lisa Falls Trailhead	17 (north and south dirt pullouts)	41	41	17 (north and south dirt pullouts)
White Pine Trailhead	52	144	144	52
Total parking spaces[a]	**528**	**511**	**221**	**99**

[a] The total number of parking spaces did not capture all of the smaller available pullouts along S.R. 210, so the total number of existing parking would be higher.

Q. *Commenters stated that the proposed mobility hub at 9400 South and Highland Drive would impact the quality of life of local residents and would be out of character in the area.*

As a mobility hub, the existing park-and-ride lot at 9400 South and Highland Drive would be transformed from the existing lot with 275 surface parking spaces to a multilevel parking structure with about 1,000 parking spaces. The additional traffic coming to the parking structure from Highland Drive or 9400 South on busy ski days could reduce the quality of life for residents of the subdivision on the southeast corner of the lot; however, traffic through the subdivision would not increase (for more information, see Chapter 7, *Traffic and Transportation*, of the EIS). The structure would add a visual intrusion, increase noise levels on busy days, and reduce the overall quality of life for those residents who live immediately adjacent to the structure.

The area of the proposed structure is on an existing UTA park-and-ride lot. The parking structure would be compatible with the existing commercial buildings across 9400 South and Highland Drive and would not be out of character for the area. The structure and use would be designed to meet safety standards. In summary, the mobility hub would be within the existing park-and-ride lot, and therefore there would be no property impacts and no changes to community cohesion, recreation resources, public safety, or utilities compared to current conditions. Although some commenters stated that adjacent property values would decrease, UDOT does not compensate for proximity impacts.

R. *A commenter stated that adding infrastructure to Little Cottonwood Canyon would reduce the quality of the recreation experience and shift recreation users to Big Cottonwood Canyon.*

There is no way to know how recreation users would react to a widened S.R. 210, gondola towers, or a cog rail alignment in Little cottonwood Canyon. Although the peak-period shoulder lanes and cog rail alignment would widen S.R. 210, they would not change access to the main trailheads or alter the use of the trailheads and associated backcountry. Therefore, they are unlikely to increase use in Big Cottonwood Canyon. The gondola alternatives would also not change trailhead access or trailhead use; however, because the gondola towers would be visible, the towers could deter some people wanting to recreate in a more natural experience. The small number of recreationists who would shift to Big Cottonwood Canyon would be a small percentage of the summertime use.

S. *Commenters asked whether UDOT would compensate for direct and indirect impacts on residential properties, impacts such as a decrease in property value.*

Information about property impacts is included in Chapter 4, *Community and Property Impacts*, of the Final EIS, and the actual properties affected are listed in Appendix 4A, *Property Impacts*. In addition, an online map on the project website (https://littlecottonwoodeis.udot.utah.gov) shows the locations of the alternatives in relation to private property. When property acquisitions are necessary, UDOT must comply with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 United States Code Section 4601 and subsequent sections, amended 1989) and the State of Utah Relocation Program (part of the Utah Relocation Assistance Act, Section 57-12 of the Utah Administrative Code). To ensure just compensation for any property acquisition, these laws provide for uniform and equitable treatment of all persons without discrimination on any basis.

UDOT does not compensate for any decrease in property values as a result of a project if no property is acquired. Per the UDOT right-of-way process, UDOT can generally acquire only property that it needs for a project. Therefore, UDOT generally does not purchase properties not directly affected by a project unless the project causes the property to have no value or not be usable (for example, the project eliminates access to the property).

T. *A commenter stated that not all backcountry ski areas have been identified in the EIS and that, without a proper identification, an impact analysis can't be done.*

The EIS states that the primary alternatives would degrade the recreation experience and that the visual and access impacts to all recreation areas including backcountry access would reduce the recreation experience. The analysis would not change if each dispersed recreation area were mapped. UDOT does state, in the EIS, specific backcountry access points such as near Tanners Flat Campground and near the town of Alta that could be altered.

U. *A commenter thought that the primary alternatives would impact Quail Hollow Park.*

Quail Hollow Park is west of the project area and would not be impacted directly or indirectly by any of the primary alternatives.

V. *Sandy City commented that they were concerned how the implementation of the selected transportation mode might impact the city.*

Impacts to Sandy were fully addressed in the EIS. For the resources evaluated, an analysis was conducted for the expected impacts from implementing a mobility hub at 9400 South and Highland Drive and increased noise levels along 9400 South from traffic (see Chapter 11, *Noise*, of the EIS). The EIS analysis states that the additional traffic coming to the parking structure from Highland Drive or 9400 South on busy ski days could reduce the quality of life for residents of the subdivision on the southeast corner of the lot; however, traffic through the subdivision would not increase (for more information, see Chapter 7, *Traffic and Transportation*, of the EIS). The parking structure would be compatible with the existing commercial buildings across 9400 South and Highland Drive and would not be out of character for the area. In summary, the mobility hub would be within the existing park-and-ride lot, and therefore there would be no property impacts and no changes to community cohesion, recreation resources, public safety, or utilities compared to current conditions, but there would be impacts to nearby residents.

W. *The Wasatch Backcountry Alliance commented that the miles of backcountry access are listed as not available. They stated that the entire S.R. 210 corridor should be listed as access. They stated that access does exist from S.R. 210.*

Table 4.3-1, *Recreation Resources in the Community Impact Analysis Area*, of the Draft EIS is meant to list the acreage or miles of trails. Because there are no known reliable sources for the amount of informal backcountry trails, the number was not included in the EIS. The table does note that access is provided along S.R. 210 in different locations in Little Cottonwood Canyon. Since there are no parking areas designated on S.R. 210, not all of S.R. 210 can be designated as access. Table 4.3-1 has been revised in the Final EIS to clarify backcountry use.

X. *The Wasatch Backcountry Alliance commented that the EIS should note that there are trailheads in the upper canyon since the EIS lists the Albion Meadows Trail and the Alta-Brighton Trail.*

The EIS does list and show both of these trailheads as well as other designated trailheads. UDOT and the USDA Forest Service acknowledge that designated trailheads exist, and they are discussed in the EIS. None of the designated trailheads at the end of the canyon would be impacted by the primary alternatives. Because the trails are located at the end of S.R. 210 where traffic is less and there are fewer safety and mobility concerns that need to be addressed, improvements were not included for the trailheads associated with the upper-canyon trails. Undesignated trailheads or dispersed-use areas are not considered a substantial resource by the USDA Forest Service to be evaluated in the EIS since use is discouraged because of the associated environmental impacts.

Y. *The Wasatch Backcountry Alliance commented that backcountry skiers in the upper canyon would be impacted by the proposed alternatives since skiers would need to walk farther if using transit to access backcountry trails.*

The EIS states that backcountry skiers might feel that the toll would negatively impact morning (7 AM to 10 AM) access to the upper part of Little Cottonwood Canyon since the transit alternatives would serve the resorts only, causing backcountry skiers who use the transit service to

potentially walk greater distances to access trails. The proposed bus stop for the Alta Ski Resort would be located in the town of Alta near backcountry access points. Tolling might be in effect only during peak periods (7 AM to 10 AM), so backcountry skiers who are skiing during off-peak times could park near trails if parking is available. Since backcountry skiers represent a small percentage of S.R. 210 users, UDOT does not identify specific mitigation for these users.

Z. *The Wasatch Backcountry Alliance commented that, to show further evidence of the intrusion of the gondola alternatives on dispersed users, one of their backcountry enthusiasts prepared a draft map showing the proximity of the proposed tower locations to wilderness areas and existing trails used by human-powered recreationists. Based on this map, the Wasatch Backcountry Alliance conservatively estimates that more than 30 backcountry ski runs in Little Cottonwood Canyon would be negatively impacted if a gondola solution is implemented.*

The figure provided by the Wasatch Backcountry Alliance did not provide enough information to verify the impact to the dispersed undesignated trails. The gondola towers would be located near S.R. 210 and generally would be outside of slide paths that are used for backcountry skiing in winter. The towers would be in the runout zones of the backcountry skiing terrain and would not impact use of ski trails. In addition, the towers would not restrict access to dispersed human-powered recreation. Therefore, UDOT believes that the dispersed recreation areas would still be available for use. The visual and recreation analyses in the EIS both state that the gondola towers would be a visual intrusion (see responses 32.4I and 32.17A).

AA. *A commenter stated that the EIS does not address the impacts to a newly acquired open space across from S.R. 210. The gondola base station could impact the views and wildlife on this open space.*

More information was added to Chapter 4, *Community and Property Impacts*, of the EIS to specifically address the open space. The gondola base station would also be adjacent to a newly acquired (in 2020) open-space area set aside to preserve the natural landscape of the area and to protect wildlife. This open space, which is located in Cottonwood Heights, includes views of the residential developments in the area and is adjacent to S.R. 210 on the west side. Although this area would not be directly impacted, the gondola base station would disrupt views by the users of the area and would reduce the quality of the open space. Since the open space is adjacent to S.R. 210, noise levels would be similar to those from the existing roadway. See response 32.13A regarding impacts to wildlife.

BB. *The Town of Alta requested that UDOT partner with other agencies in installing roadway maintenance assets in upper Little Cottonwood Canyon to help maintain better winter driving conditions.*

Storing road maintenance equipment is outside the project purpose and can be done outside the EIS process. UDOT is open to working with the Town of Alta to discuss how having assets available would improve road conditions and any other potential solutions.

CC. *The Town of Alta commented that the EIS does not state that the Town provides culinary and sewer to Alta and that UDOT must coordinate with the Town regarding these services once an alternative is selected.*

The Final EIS has been updated to state that the Town of Alta provides culinary water and sewer services. UDOT has updated Chapter 20, *Indirect Effects*, of the Final EIS regarding impacts to the Town of Alta culinary water and sewer and now states that UDOT will coordinate with the Town regarding these services.

DD. *The Town of Alta commented that gondola tower 20 is close to Alta Town Park and a sewer line between the Alta Lodge and Rustler Lodge. The Town also stated that any bus stop location proposed within the town limits be coordinated with the Town of Alta.*

Chapter 4, *Community and Property Impacts*, and Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, of the Final EIS have been updated to include the Alta Town Park and impacts to that park. The proposed gondola tower 20 would not directly impact the park but would result in a visual obstruction and a potential increase in noise from gondola operations to park users. A noise evaluation conducted by UDOT showed that noise levels are projected to increase from 53 A-weighted decibels (dBA) under existing conditions to 55 dBA with the gondola in operation. Noise increases of 1 to 2 dBA or not detectable to human hearing. If a gondola or enhanced bus service alternative is selected, UDOT will ensure that any sewer line impacts are mitigated. UDOT will coordinate with the Town of Alta regarding any infrastructure placed within the Alta town limits.

EE. *The Town of Alta commented that the EIS should include the Alta Medical Clinic located in the Goldminer's Daughter Lodge and Our Lady of the Snows Catholic Chapel located at 10189 East S.R. 210.*

Chapter 4, *Community and Property Impacts*, of the Final EIS has been updated to include the Alta Medical Clinic and Our Lady of the Snows Catholic Chapel. None of the primary alternatives would directly impact the services provided by these community providers. Chapter 20, *Indirect Effects*, of the Final EIS has been updated to state that the medical clinics at the ski resorts could experience an increased number of patients, which would require additional staff.

FF. *A commenter questioned the data regarding Forest Service trails near the community of Alta.*

All of the information including trail lengths was provided by the USDA Forest Service. The EIS addresses only designated trails. None of the trails near the town of Alta would be directly impacted by the primary alternatives. Visual impacts from the primary alternatives are addressed in Chapter 17, *Visual Resources*, of the EIS.

GG. *Save Our Canyons commented that there was no analysis of impacts to summer users of Tanners Flat Campground.*

UDOT evaluated impacts to Tanners Flat Campground from both noise and visual intrusion in Chapter 4, *Community and Property Impacts*, of the EIS. The analysis stated that gondola cabins would pass over Tanners Flat Campground, and there would be cables over the campground. Campground users might feel that these elements reduce the quality of the natural environment that they would expect in a camping experience and might have privacy concerns about gondola

cabins passing overhead. The analysis also stated that noise levels from the gondola system would be below the existing S.R. 210 vehicle noise. To mitigate impacts, the gondola would operate outside designated quiet hours when the campground is in use. UDOT also evaluated Tanners Flat Campground as a Section 4(f) property in Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, of the EIS. Note that UDOT would pursue only an aerial easement over the campground, and no ground easements are anticipated.

HH. *Save Our Canyons commented that UDOT should have done a more extensive review of the many recreation guides to have a better understanding of how the primary alternatives would impact recreation resources.*

UDOT worked extensively with the USDA Forest Service on identifying and evaluating the resources in Little Cottonwood Canyon that could be impacted by the project alternatives. UDOT believes that the analysis is comprehensive and captures the importance of Little Cottonwood Canyon as a recreation destination, watershed, and ecosystem resource.

II. *The Salt Lake City Department of Public Utilities commented that they believe that Little Cottonwood Creek and its tributaries could reasonably be considered to meet the definition of a quality of life resource in Section 4.3.2,* Quality of Life*.*

UDOT has added the following in Section 4.3.2, *Quality of Life*, of the Final EIS:

> Little Cottonwood Creek is a primary water supply for more than 360,000 people in Salt Lake City's water service area as well as almost 100,000 people in Sandy City's water service area. It also is a source of water for the Town of Alta, Snowbird, and Salt Lake County Service Area #3. The water provided by Little Cottonwood Creek is an important economic and public health benefit to the residents and businesses it serves. This source of drinking water is essential to the region's quality of life and economic prosperity.

Based on the analysis in Chapter 12, *Water Resources*, of the EIS, UDOT does not believe that any of the project alternatives would change the water quality or delivery in a way that would affect the quality of life of users.

32.5 Environmental Justice

A. *Commenters suggested that UDOT consider impacts to low-income populations as a result of the primary alternatives. Other commenters stated that tolls would impact low-income populations. Save Our Canyons commented that the environmental justice analysis did not consider users outside the S.R. 210 area.*

See Chapter 5, *Environmental Justice*, of the EIS for an analysis of impacts to low-income and minority populations. The analysis for S.R. 210 in Little Cottonwood Canyon included all low-income users including local, regional, and out-of-state users. It was not based on ZIP Codes within ¼ mile of S.R. 210.

Similar to existing conditions, the cost of using one of the primary alternatives would need to be substantially less than a toll in order to make the transit service an attractive alternative to personal vehicle use. The proposed toll rate during the peak travel times could range between $20 and $30,

which many skiers might see as a financial burden. However, because the primary alternatives would include a low-cost, convenient alternative to paying the toll and would provide the same or better travel time as a personal vehicle under the no-action conditions, it would not have an adverse impact to any populations.

During the winter, the lower portion of Little Cottonwood Canyon (below Snowbird Entry 1 and outside the ski resorts) is used by recreationists to snowshoe, backcountry ski, ice climb, hike, and rock climb. With all of the primary alternatives, there would be no transit stops in the lower canyon (below the ski resorts) at trailheads for members of environmental justice populations as an alternative to driving and paying a toll. Increasing the number of bus stops to address the small percentage of wintertime lower-canyon users would slow the bus service for the vast majority of users, thereby making the service less attractive as an alternative to paying a toll. Thus lower-canyon users would have no option to access recreation without using their personal vehicle and paying a toll, which would be an adverse impact to low-income populations. Practicable measures to avoid or reduce the potential adverse effects on lower-canyon users would include:

- Place the toll gantry immediately prior to Snowbird Entry 1. This would allow low-income populations wanting to recreate outside the ski resorts in the lower portions of Little Cottonwood Canyon to avoid having to pay the toll.
- Have the toll in effect only during the morning peak period (7 AM to 10 AM), which would allow low-income populations to avoid paying the toll by recreating after 10 AM.

With the implementation of either of these mitigation measures, UDOT would reduce the adverse effects of the toll on low-income populations for those wanting to recreate in the lower portions of Little Cottonwood Canyon. Therefore, with the proposed mitigation measures, tolling would not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898 and Federal Highway Administration Order 6640.23a.

B. *The Wasatch Backcountry Alliance and the Sierra Club commented that the environmental justice and public outreach used in the EIS was not adequate and the environmental justice analysis did not include outreach to individuals who do not live near Little Cottonwood Canyon.*

The environmental justice analysis included the potential for impacts to low-income and minority populations who use Little Cottonwood Canyon, no matter their place of origin. As stated in Section 5.1, *Introduction*, of the EIS, the study for the environmental justice analysis evaluates how tolling could affect all users (local, regional, and national) of S.R. 210. Section 5.4.1, *Methodology*, of the EIS also states that the USDA Forest Service manages the Uinta-Wasatch-Cache National Forest for multiple uses including natural resource protection and providing recreation opportunities for the public. For this reason, this analysis also considers impacts to people in the impact analysis area as well as the public in general. The resources for which changes would most likely affect the general population are the social environment (community character and community cohesion), recreation, property acquisitions and relocations, economics, transportation access, pedestrian and cyclist resources, air quality, and noise.

UDOT conducted extensive general public outreach for the S.R. 210 Project starting in March 2018. This is confirmed by over 15,000 comments being received during the EIS process from

across the Wasatch Front, Utah, and other areas in the United States and internationally. The public outreach process was structured and implemented to ensure that all relevant factors were considered, factors including the affected community's concerns and issues related to the project's purpose and need, alignment and engineering solutions, social impacts, environmental impacts, economic effects, and other topics of concern to the community.

Several methods for engagement were used to provide multiple avenues for receiving public guidance. Specific activities included meetings with key stakeholder groups, public open-house meetings, community and city council presentations, press releases and informational flyers, and other web and online engagement. These efforts were focused on the overall environmental justice impact analysis area and allowed UDOT to better understand the concerns of local residents as well as the demographics of the area. Also see response 32.5A. See Chapter 27, *Public and Agency Consultation and Coordination*, of the EIS for more detail regarding the outreach effort during the EIS process.

C. *The Salt Lake Climbers Alliance commented that UDOT failed to adequately respond to the manners in which its transportation proposals perpetuate environmental marginalization of already vulnerable Wasatch Front residents. In short, UDOT's proposals impose additional barriers to accessing the upper Little Cottonwood Canyon during the winter in the form of a public transit fare and private vehicle tolling. Such costs disproportionately burden lower-income communities, making it harder for them to access popular and valuable environmental amenities. Furthermore, the proposals will negatively impact the types of outdoor recreation most available to lower-income and minority community members.*

UDOT disagrees that the environmental justice analysis fails to adequately evaluate environmental justice communities that access Little Cottonwood Canyon. As stated in Chapter 5, *Environmental Justice*, of the EIS, low-income individuals not wishing to pay a toll for personal vehicle use during the winter peak morning travel periods can use a subsidized transit fare to access the upper canyon. In addition, the toll would apply only during the morning peak travel period, allowing those low-income populations wishing to access the upper canyon with their personal vehicles without a fee to do so after the morning traffic clears. It should also be noted that the toll would apply only during busy periods in the winter, so there would be times during the week or even on non-busy weekends when there is no toll. Finally, there would be no toll for the lower-canyon recreation destinations or outside the winter seasons (December through mid-April).

UDOT believes that low-income populations that want to access the upper canyon during peak winter travel periods are being given more-convenient transportation options compared to existing conditions. Today, there is limited parking in the upper canyon at the ski resorts and on S.R. 210 for backcountry use, and there is limiting parking to use the bus service. By providing a transit service that is more reliable and providing frequent service with sufficient parking, the project would provide greater opportunities for all users including low-income populations.

As for lower-canyon recreation access, there would be no change to the type of transportation mode that can be used to access recreation sites (that is, personal vehicles). Although some of the alternatives might limit some dispersed recreation roadside parking and impact some climbing resources, this would equally impact all populations and would not be a disproportionate impact to

low-income or minority populations. To meet the project purpose, UDOT does not need to improve access for dispersed recreation users.

D. *Save Our Canyons and the Salt Lake City Department of Public Utilities commented that impacts to water quality from the primary alternatives might require improvements to water treatment facilities, and the cost of those improvements would be passed on to rate payers and would be a burden to low-income populations.*

UDOT evaluated potential increase in water user rates to low-income populations if additional water treatment was necessary as a result of one of the primary alternatives. The analysis concluded that the additional impervious surfaces from the primary alternatives would have *de minimis* impacts to Little Cottonwood Creek and the overall watershed as a primary drinking water source and thus would not impact drinking water quality for low-income or minority populations or the overall population. In addition, UDOT does not expect that the water infrastructure would need to be improved based on the *de minimis* impacts. Therefore, none of the primary alternatives are expected to require capital or operational improvements to the drinking water supply system that could then increase water user rates and thereby affect low-income populations. See Chapter 12, *Water Resources*, of the EIS for more information regarding the expected impacts to the Little Cottonwood Canyon watershed including Little Cottonwood Creek as a drinking water source.

E. *The Salt Lake City Department of Public Utilities commented that, with the toll, more people might decide to recreate in lower Little Cottonwood Canyon, including low-income populations.*

UDOT does not expect an increase in winter use in the lower canyon at times when the toll is in effect since many areas have restricted access because of avalanche restrictions or limited parking. None of the primary alternatives would restrict access to the lower canyon, and backcountry skiers would still have access to the upper canyon (using transit or during off-peak periods). Those conditions would not change as a result of the EIS alternatives, and thus use of those sites would not change from current conditions. Finally, UDOT still expects that similar to current conditions, parking at the resorts would still reach capacity the same as under current conditions.

32.6 Economics

A. *A commenter asked who would profit from the transit alternatives (bus, gondola, and cog rail), and other commenters asked about the economic benefit of the primary alternatives.*

The primary alternatives would provide improved access to the ski resorts and would reduce the number of vehicles on S.R. 210 in Little Cottonwood Canyon. The primary alternatives would provide an economic benefit to the ski resorts by allowing more users to access the resorts than what can be provided by the current parking lot capacities and existing bus service. In addition, the State of Utah would benefit in increased taxes that would be generated from the increase in expenditures. Over an entire ski season, the primary alternatives are expected to bring in an additional $34.1 million (or 11.1%) in net economic benefit to Utah compared to the No-Action

Alternative. This would benefit not only the ski resorts but also businesses in the Salt Lake Valley such as hotels, restaurants, and ski-related businesses.

B. *A commenter asked UDOT to analyze the economic effects of impacting recreation resources in the canyon. Save Our Canyons commented that displacement of non–ski resort recreation activities and related gear-based spending could also have an impact to the economy.*

See Chapter 6, *Economics*, of the EIS, which contains an analysis of the economic impacts of the alternatives. The average in-state and out-of-state per-skier expenditures were estimated to be $293 per person per day (University of Utah Kem C. Gardner Policy Institute 2018). The estimate assumed that the resorts would operate at maximum capacity only on weekends and holidays (2 weeks for Christmas through January 1, Martin Luther King Jr. Day, Presidents' Day, and 1 week for Easter), or about 49 days total. The net economic benefit to Utah of the primary alternatives over an entire ski season is predicted to be about $34.1 million (or 11.1%) compared to the No-Action Alternative.

The gondola and cog rail alternatives would also operate during the summer. UDOT anticipates that the additional visitors per weekend day would increase revenues at Snowbird, Alta, and the surrounding businesses, assuming that the additional visitors spend money on summer activities, lodging, food, or shopping during their trip.

None of the primary alternatives or sub-alternatives would substantially change recreation use outside the ski resorts in Little Cottonwood Canyon thereby substantially affecting the regional economy.

UDOT is not sure what is included in the "gear-based spending" mentioned in the comment or whether it includes ski gear. None of the project alternatives would eliminate or substantially reduce access to dispersed recreation, so UDOT would not expect that alternatives affecting only Little Cottonwood Canyon would substantially reduce local spending on outdoor gear. In addition, UDOT assumes that outdoor gear spending applies to all recreation in all parts of the state, which has a substantial amount of recreation opportunities beyond that of just Little Cottonwood Canyon.

C. *A commenter stated that the developer that owns the property of the proposed Gondola Alternative B base station would benefit from the station being built on the property.*

See Chapter 6, *Economics*, of the EIS for more discussion of the economic impacts of the primary alternatives. As stated in that chapter, the analysis concludes that there would be an economic benefit to the development proposed at La Caille if the gondola base station is located on the property.

D. *Commenters stated that the loss of climbing boulders with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, the gondola alternatives, and the Cog Rail Alternative would impact the local economy since the alternatives would reduce the number of tourists who come to rock climb in Little Cottonwood Canyon.*

The Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the gondola alternatives would result in fewer than 41 boulders being impacted out of the approximately 477 boulders on either side of S.R. 210. UDOT does not expect that the loss of these boulders adjacent to the

roadway would reduce rock climbing tourism and the associated tax base since there would still be numerous boulders available and none of the climbing vertical routes would be impacted.

E. Commenters suggested that one primary alternative would provide more jobs than another.

The enhanced bus service alternatives would provide the greatest amount of job opportunities because of the additional bus drivers and fleet maintenance requirements. The gondola and cog rail alternatives would have similar employment levels to each other and would require fewer employees to operate than would the enhanced bus service alternatives.

F. Prior to the release of the Draft EIS, the Salt Lake City Department of Public Utilities commented that the economics chapter of the EIS should state that providing drinking water to the arid valley below is a primary purpose of Little Cottonwood Canyon.

UDOT added the requested information to Chapter 6, *Economics*, of the EIS.

32.7 Traffic and Transportation

A. Commenters felt that the primary alternatives did not deal with avalanche mitigation and roadside parking issues. Other commenters felt that S.R. 210 would still be frequently closed as a result of avalanches. Other commenters felt that the snow sheds wouldn't provide enough benefit.

What is a snow shed?

A snow shed is a structure that shields a road from an avalanche flow.

As stated in Section 7.4.2.4, *Avalanche Mitigation Alternatives*, of the EIS, all of the primary alternatives would include snow sheds, which would substantially improve safety, improve reliability, and reduce the numbers of hours of closure in 2050 from between 56 to 108 hours per season with the No-Action Alternative to about 2 to 11 hours with the snow sheds implemented. Overall, the snow sheds would substantially reduce the amount of time that S.R. 210 is closed for avalanche mitigation, which would improve the reliability of the road. The snow sheds would be placed to handle the most active avalanche paths in Little Cottonwood Canyon. It would not be cost-effective to build snow sheds in less frequent avalanche paths. Snow sheds would also substantially improve safety. In 2050 with the No-Action Alternative, the avalanche hazard index (AHI) in Little Cottonwood Canyon, with the current type of active avalanche mitigation program, would be 96, or high risk. With the introduction of the snow sheds, the AHI would be reduced to 43 in 2050. Although an AHI of 43 is still considered a high risk, it is a risk reduction of 55% to the traveling public, thereby providing a beneficial impact to the safety risk of S.R. 210 during the winter.

With the implementation of the snow sheds, a toll, and subsidized transit, the travel times would improve in 2050 from up to 85 minutes with the No-Action Alternative to about 35 to 50 minutes depending on the primary alternative selected.

All of the primary alternatives would eliminate winter roadside parking along S.R. 210 adjacent to the ski resorts.

B. *A commenter stated they were not able to get back to their home because of the congestion caused by ski traffic. Other commenters stated that the primary alternatives would not reduce traffic at the entrance to Little Cottonwood Canyon. Other commenters wanted to know whether the primary alternatives would benefit only the ski resorts.*

As shown in Figure 7.4-1, *Vehicle Backup Lengths by Alternative*, of the EIS, all of the primary alternatives would substantially reduce congestion and vehicle backups at the entrance to Little Cottonwood Canyon on S.R. 210 and S.R. 209. The decrease in traffic backup lengths would improve access to the residential neighborhoods along S.R. 209 and S.R. 210 on busy ski days. In addition, with the implementation of snow sheds, the numbers of hours of closure in 2050 would be reduced from between 56 to 108 hours per season with the No-Action Alternative to about 2 to 11 hours with the snow sheds implemented. The reduction in the hours of closure would improve the reliability of S.R. 210 and reduce morning road closures which block access to neighborhoods in Cottonwood Heights, in Sandy, and at the entrance to Little Cottonwood Canyon. Overall, the primary alternatives would benefit the residents along S.R. 209 and S.R. 210 by reducing the amount of traffic in their neighborhoods and times when access is blocked by skier traffic.

C. *Commenters stated that UDOT should reduce vehicle traffic in Little Cottonwood Canyon, make access easier, and reduce congestion. Other commenters asked how would the primary alternatives reduce congestion or stated that the alternatives would not reduce congestion. Commenters felt that the primary alternatives would benefit only the ski resorts.*

UDOT would implement a toll with all of the primary alternatives with the goal to reduce the vehicle traffic in Little Cottonwood Canyon by 30% during the peak hours on a busy ski day. None of the primary alternatives would add personal vehicles to S.R. 210 above No-Action conditions, and all of the primary alternatives would result in a similar level of traffic reduction in Little Cottonwood Canyon. All of the transit alternatives have been designed to accommodate 30% of the vehicle users in 2050 by shifting them from personal vehicles to transit. The majority of winter users (over 90%) on S.R. 210 in Little Cottonwood Canyon travel above the White Pine Trailhead. By removing 30% of the skier vehicle traffic travel during the winter, all S.R. 210 users' travel would be substantially improved. Thus, those wanting to access recreation activities below the ski resorts would see an improvement in traffic conditions by removing 30% of the skier traffic. All of the alternatives are designed to handle proposed traffic conditions in 2050 so that the amount of congestion on a busy ski day would improve over the No-Action Alternative. With the transit mode, those taking transit would have a better mobility in the morning and leaving in the evening from the ski resorts.

In 2050, the average per-person travel time with the No-Action Alternative is projected to be 80 to 85 minutes from Fort Union Boulevard to Alta. All of the primary alternatives would reduce the average per-person travel time (includes those in transit and in vehicles) to a combined average of less than 46 minutes.

Reduced congestion would not induce travel on S.R. 210 since UDOT would vary the price of the toll to minimize personal vehicle use (also see response 32.20E).

D. *Commenters stated that adding lanes to Wasatch Boulevard would induce traffic demand.*

With the additional capacity, UDOT expects that there would be about a 4% increase in traffic on Wasatch Boulevard compared to the No-Action Alternative.

E. *Commenters including Sandy City asked whether a traffic study and EIS for S.R. 209 is planned. The traffic on that road is as congested as Wasatch Boulevard.*

A separate EIS for S.R. 209 is not currently planned. As stated in Section 7.4.2.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS, all of the primary alternatives would substantially reduce congestion on S.R. 209. On S.R. 209, traffic backups would decrease from 6,700 feet, or past the intersection of 9400 South and Wasatch Boulevard, with the No-Action Alternative to 1,275 feet with the Enhanced Bus Service Alternative and 350 feet with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, the gondola alternatives, and the Cog Rail Alternative. The decrease in traffic backup lengths would improve access to the residential neighborhoods along S.R. 209 and S.R. 210 on busy ski days.

With the proposed alternatives and the reduction in vehicle use, S.R. 209 does not need roadway improvements.

F. *A commenter suggested that improving peak-hour travel times ignores everything we know about what happens when we widen roads or add more roads. The commenter suggested that widening roads leads to induced demand and increased vehicle-miles traveled (VMT). Two articles were provided with the comment: "The Fundamental Law of Road Congestion: Evidence from U.S. Cities" and "Roadblocks Ahead." The articles link the number of miles of road to congestion and state that building new roads increases congestion. The commenter also suggested that requiring people to pay a variable fee would reduce congestion.*

UDOT is not sure whether the commenter is saying that increasing the number of lanes on Wasatch Boulevard would induce travel and increase congestion or that adding lanes to S.R. 210 in Little Cottonwood Canyon would induce travel.

For the Wasatch Boulevard alternatives (Five-lane Alternative and Imbalanced-lane Alternative), the potential for induced travel on the widened and improved roadway was considered in the traffic model. The model indicated that there would be about a 4% increase in VMT on the 2.2-mile segment compared to the No-Action Alternative in 2050 during an average weekday. In the peak hour, about 160 additional vehicles would use Wasatch Boulevard as a result of adding capacity. The total vehicle volume in the peak hour with the added capacity would be about 850 vehicles per lane. Based on the traffic analysis, with the roadway capacity improvements Wasatch Boulevard would operate at an acceptable level of service.

Regarding S.R. 210 in Little Cottonwood Canyon, none of the primary alternatives would add personal vehicle lane capacity. In addition, UDOT would implement a toll or fee, as suggested by the commenter, to reduce vehicle traffic by 30% and encourage users to take transit. Thus, UDOT does not expect any of the primary alternatives to induce travel or increase congestion. UDOT would implement a variable toll that would increase to achieve the level of vehicle reduction to maintain acceptable per-person travel times. Also see response 32.20E.

G. *A commenter stated that Section 7.4.2.2, paragraph 4, of the Draft EIS had an incorrect statement about direct service to the ski resorts since it refers to a stop at a gondola station.*

The sentence has been revised to remove the reference to a gondola station.

H. *Sandy City Engineering asked why S.R. 209 was not included as a road of importance when it feeds into Little Cottonwood Canyon.*

Chapter 7, *Traffic and Transportation*, of the Final EIS has been revised to include S.R. 209 as a road of importance.

I. *Sandy City Engineering commented that the current observed vehicle backup lengths on busy day are greater than the 50 feet listed in the EIS. They also commented that they assume that the backup lengths do not include S.R. 210 closure for avalanche mitigation.*

The existing conditions analysis is based on the 30th-busiest hour, not the busiest hours, which do result in longer backups as stated by the commenter. During the 30th-busiest hour in 2018, traffic volumes entering Little Cottonwood Canyon on S.R. 210 were about 1,000 vehicles per hour, which did not result in substantial backup lengths as that is generally an acceptable number of vehicles for the roadway capacity of S.R. 210 in Little Cottonwood Canyon. In 2050, traffic during the 30th-busiest hour is projected to result in traffic backups on S.R. 209 that would extend past Wasatch Boulevard (6,700 feet) since UDOT expects that about 1,500 vehicles would try to enter the canyon during the 30th-busiest hour.

The 30th-busiest hour does not include avalanche closures. The 30th-busiest hour in 2018 did not result in substantial traffic backups; however, by 2050 the 30th-busiest-hour traffic volumes would substantially increase traffic backups on both S.R. 209 and S.R. 210.

J. *Sandy City Engineering commented that Section 7.4.2.2 of the Draft EIS should clarify that decreases in vehicle backup lengths are based on the year 2050. They also mentioned that the section discusses the gondola alternatives although its analysis is based on the Enhanced Bus Service Alternative. They finally commented that the placement of Table 7.4-7 and Figure 7.4-1 should be at the end of the chapter, not under the discussion of the Enhanced Bus Service Alternative.*

The text has been revised as stated regarding the decrease in vehicle backup lengths in 2050.

The analysis is for the mobility hubs that service the Enhanced Bus Service Alternative. The gondola is not mentioned on this page.

Comment noted. The table and figure show the analysis of the Enhanced Bus Service Alternative, which is the heading of this section. The other alternatives were also included in this section so that the reader could compare the other alternatives to the Enhanced Bus Service Alternative.

K. *Sandy City Engineering commented that the analysis states that there would be no substantial traffic congestion at the 9400 South and Highland Drive mobility hub. They wondered whether UDOT would be preparing a separate traffic report for review.*

As part of the EIS process, a traffic analysis was conducted for the 9400 South and Highland Drive mobility hub (see Section 7.4.2.3.2, *9400 South and Highland Drive*, of the Final EIS). Based on

the analysis, about 430 vehicles would enter the parking structure during the peak morning period. As stated in the Chapter 7, *Traffic and Transportation*, of the Draft EIS, the traffic in the morning and in the evening would be in the opposite direction of typical weekday traffic, and no congestion is anticipated from the mobility hub. In addition, on weekends and holidays, traffic is generally low on 9400 South, and thus UDOT does not expect traffic congestion.

L. *A commenter asked for copies of the traffic studies and mobility analysis assumptions.*

The studies are provided in Appendix 2A, *Draft Alternatives Development and Screening Report June 8, 2020*, of the Draft and Final EISs.

M. *A commenter asked whether the Gondola Base Station Traffic Analysis and the vehicle backup analysis were available to the public.*

Yes, the document is available through a state records request and is referenced in the EIS. References included in the EIS are available.

N. *A commenter stated that Wasatch Blvd between S.R. 210 and S.R. 209 should have been included in the EIS.*

UDOT used the 2019–2050 *Wasatch Front Regional Transportation Plan* planned projects as the basis for the 2050 No-Action Alternative and developing the project need. As is typical for transportation projects, UDOT uses the planned projects in the regional transportation plan minus the planned projects on the corridor requiring improvement, which for the Little Cottonwood Canyon EIS would be roadway improvements on S.R. 210. The regional transportation plan includes widening Wasatch Boulevard from S.R. 210 to S.R. 209 to five lanes, which UDOT therefore considered as part of the baseline conditions.

O. *A commenter stated that the traffic analysis using the 30th-highest hour is flawed. If UDOT used typical weekday traffic, the results would have been different.*

This comment argues that the 30th-highest hour should not be used for design purposes because the volume does not represent typical weekday peak-hour conditions.

The Little Cottonwood Canyon EIS uses the 30th-highest hour as the design hourly volume based on standard practice as documented in *A Policy on Geometric Design of Highways and Streets* (AASHTO 2018). In this reference, the guidance for rural areas includes recommendations for an alternate design hourly volume on roads with large seasonal fluctuations, which describes traffic conditions on S.R. 210. However, the alternate approach is recommended only when the expected maximum hourly traffic volume does not exceed capacity. As documented in the EIS, capacity is regularly exceeded on S.R. 210 during peak conditions.

Additionally, using the weekday peak-hour volume for design purposes would not fit with the purpose of the project. As mentioned in the project purpose statement, the project is intended to address decreased mobility during the greatest traffic volumes on weekends and holidays. Therefore, the high-volume conditions need to be considered in the project design.

32.8 Joint Development

No comments were received regarding joint development.

32.9 Considerations Related to Pedestrians and Bicyclists

A. *Commenters asked whether the benefits to cyclists and pedestrians of the peak-period shoulder lanes were evaluated in the EIS.*

See Section 9.4.4.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS for more details regarding the cyclist and pedestrian benefits from the Enhanced Bus Service in Peak-period Shoulder Lane Alternative. The dedicated bus shoulder lanes would be available for use by cyclists and pedestrians when not in use by buses during the winter, thereby increasing mobility and safety in the canyon. The shoulder lanes would be wide enough to accommodate both pedestrians and cyclists and allow room for cyclists to make emergency repairs on their bicycles if needed. No vehicle parking would be allowed in the shoulder lane. The Enhanced Bus Service in Peak-period Shoulder Lane Alternative would substantially improve safety for cyclists and pedestrians over the current conditions. UDOT would not include a protected bicycle barrier since it would impede snow removal from the roadway.

B. *Commenters stated that one primary alternative was safer for cyclists than another, and other commenters requested dedicated bicycle lanes on S.R. 210.*

Of the primary alternatives, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would provide a separate bicycle lane during the summer and when not in use during the winter; therefore, this alternative would provide the greatest benefit to cyclists. With the Enhanced Bus Service Alternative, gondola alternatives, and Cog Rail Alternative, the bicycle lane configuration would be similar to existing conditions and would provide a similar benefit to cyclists.

32.10 Air Quality

A. *Commenters were concerned about air pollution from the primary alternatives or didn't want emissions in Little Cottonwood Canyon. Other commenters suggested that one primary alternative would have lower emissions than another.*

Air Quality Regulations. See Chapter 10, *Air Quality*, of the EIS for more detailed information regarding the air quality analysis conducted for the action alternatives. UDOT coordinated with the U.S. Environmental Protection Agency (EPA) regarding developing the air quality protocol used in the EIS. UDOT conducted air quality modeling to evaluate the impacts from each alternative including the use of buses at the mobility hubs and the gondola and cog rail base stations. The analysis determined that all of the action alternatives would comply with air quality regulations. The analysis also demonstrated that the S.R. 210 Project would not contribute to any new local violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards for particulate matter (PM_{10} and $PM_{2.5}$). All of the

alternatives would reduce personal vehicle emissions in a similar manner compared to the No-Action Alternative, with most personal vehicle emission reductions occurring in Little Cottonwood Canyon.

Greenhouse Gas Emissions. See Section 10.4.9, *Comparison of Greenhouse Gas Emissions by Alternative*, of the EIS for more detailed information. From a quantitative perspective, greenhouse gas (GHG) emissions can contribute to global climate change as the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. Although the location of the emission sources might differ, all sources, no matter their location, contribute to GHGs and contribute to climate change.

As shown in Table 10.4-6, *Estimated CO_2 Equivalent (CO_2e) Emissions from Winter Operations with the No-Action and Action Alternatives in 2050*, of the EIS, carbon dioxide equivalent (CO_2e) emissions are expected to be marginally lower for bus service compared to gondola service, and CO_2e emissions with both the bus service and gondola service are expected to be lower than with the cog rail service. CO_2e emissions in tons per year were calculated and show 17,810 for the No-Action Alternative, 13,135 for the enhanced bus service alternatives, 13,473 for the gondola alternatives, and 14270 for the Cog Rail Alternative. For context, the CO_2e emissions estimated for the primary alternatives are far below EPA's mandatory reporting threshold for stationary sources. All of the primary alternatives would have lower CO_2e emissions than the No-Action Alternative because of the anticipated 30% reduction in personal vehicle use during the winter, resulting in a reduction in GHG emissions.

The gondola and cog rail alternatives might operate during the summer on a similar number of days as during the winter. UDOT expects that the CO_2e emissions would be similar to winter operations. The enhanced bus service alternatives would not operate during the summer and thus would have no emissions. The Final EIS has been updated to better address summer use of the gondola and cog rail alternatives.

Emission Sources. All of the primary alternatives would result in emissions since they require bus service, use fuel, or require electricity created by fuel. In addition, all of the primary alternatives would still allow vehicles to drive into Little Cottonwood Canyon.

B. *A commenter asked whether the mobility hubs and more pavement would create a heat island.*

The mobility hubs would be similar to other development that has occurred along the Wasatch Front. The urban development has caused local temperatures to rise, and the mobility hubs could further contribute to heat island effects.

C. *Commenters were concerned about effects of the air pollution generated from the 9400 South and Highland Drive mobility hub on nearby residents.*

UDOT modeled the air quality emissions from the gravel pit mobility hub, which would have a 1,500-vehicle parking garage. That analysis showed that the mobility hub would not contribute to any new local violations, increase the frequency or severity of any existing violation, or delay timely attainment of the National Ambient Air Quality Standards for particulate matter (PM_{10} and $PM_{2.5}$). Vehicle emissions at the 9400 South and Highland Drive mobility hub would be less than

those at the gravel pit mobility hub. The 9400 South and Highland Drive mobility hub would have a smaller parking garage and less traffic than near the gravel pit mobility hub.

D. *A commenter stated that the gondola GHG emissions should have used an EPA greenhouse calculator.*

The estimate for GHG calculations was based on kilowatt-hours (kWh) and not gallons of fuel burned. Chapter 18, *Energy*, of the EIS converted the kWh into gallons of fuel to help the reader compare the energy usage. Gondolas are estimated to operate 140 days during the winter and 12 hours per day. Gondola Alternative A is estimated to use 2,940 kilowatts of power per trip, and Gondola Alternative B is estimated to use 3,390 kilowatts of power per trip. Note that the up-to-5% loss of energy in the power grid is not included in the calculations. Emission calculation factors were based on U.S. Environmental Protection Agency factors found at 40 Code of Federal Regulations Part 98, Tables C-1 and C2, *Default CO_2 Emission Factors and Default CH_4 and N_2O Emission Factors*.

Electrical power in the project area is provided by Rocky Mountain Power, a division of PacifiCorp. Gondola emissions were estimated based on PacifiCorp's 2019 *Integrated Resource Plan* and the estimated gondola facility power consumption and operating schedule. According to PacifiCorp's plan, for calendar year 2038 (the approximate midpoint for the project forecast from 2025 to 2050), the gondola system would be powered by electricity generated from a combination of coal (6%), natural gas (20%), and other non-GHG-emitting sources (74%).

E. *A commenter stated that hazardous air pollutants should be evaluated against a standard.*

As stated in Chapter 10, *Air Quality*, of the EIS, there are no standards for hazardous air pollutants, so it would not be possible to compare any results. In addition, as stated in the analysis, the S.R. 210 Project is considered a Tier 2 project. The types of projects included in the Tier 2 category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase mobile source air toxics (MSAT) emissions. Tier 2 projects require only a qualitative (not quantitative) analysis because of the low potential for MSAT effects.

EPA is the lead federal agency for administering the Clean Air Act and has specific responsibilities for determining the health effects of MSATs. A discussion of health-related impacts from vehicle emissions is included in Chapter 10, *Air Quality*, of the EIS. As stated in the chapter, all of the alternatives meet EPA's air quality regulations and all regional and project-level air quality conformity requirements. The S.R. 210 Project was included in a conforming plan (the 2019–2050 *Wasatch Front Regional Transportation Plan*) and the state Transportation Improvement Program, and the carbon monoxide, PM_{10} (particulate matter 10 microns in diameter or less), and $PM_{2.5}$ (particulate matter 2.5 microns in diameter or less) hot-spot analyses performed for the EIS did not show any exceedance of the National Ambient Air Quality Standard for any of these pollutants, and EPA reviewed and agreed with the results. The National Ambient Air Quality Standards are health-based standards.

What is transportation conformity?

Transportation conformity is a process required by Clean Air Act Section 176(c), which establishes the framework for improving air quality to protect public health and the environment.

F. *Commenters asked whether the air quality models used are appropriate for areas with winter inversions and in consideration of MSAT emissions.*

UDOT worked extensively with EPA on the air quality analysis including which models would be used. EPA approved the air quality methodology used by UDOT. The air quality models take into account temperature, wind, and other factors that are common with winter inversions. In addition, UDOT used stagnant winter air conditions as the baseline condition for modeling. Since winter is expected to have the greatest traffic levels in the air quality impact analysis area, the analysis was performed for January. Air quality modeling is not conducted for a month but for one day using the time with the greatest emissions along with winter inversion conditions. Whether that day occurs in December, January, or February is not relevant to the analysis.

G. *Save Our Canyons and Salt Lake County stated that the air quality analysis did not include the use of electric buses. In addition, Save Our Canyons commented that UDOT purposely used diesel buses in the air quality analysis to favor the gondola alternatives.*

UDOT used diesel buses for the air quality analysis in the EIS. The reason electric buses were not included in the analysis was not to make one alternative look better but rather to give UDOT the flexibility to use diesel buses if necessary. If UDOT evaluated only electric buses, then there would be no option to use diesel buses if needed. UDOT is not sure that electric buses would work in the steep and cold environments of Little Cottonwood Canyon. UDOT has stated numerous times and documented in Chapter 2, *Alternatives*, of the EIS that, if an enhanced bus service alternative is selected, at the time of bus procurement, UDOT would evaluate electric and hybrid buses to determine their suitability for operation in Little Cottonwood Canyon. Even if UDOT selects electric buses, diesel buses might need to be used occasionally. If diesel buses were not evaluated in the EIS, they could not be used. UDOT updated the GHG analysis in Chapter 10, *Air Quality*, of the Final EIS to state the benefits of electric buses.

H. *The U.S. Environmental Protection Agency requested that the ozone status in Salt Lake County be clarified to note that the ozone conformity finding is based on an interim emission test with project emissions compared to a 2017 base year, in the context of the 2015 ozone 8-hour standard.*

The Final EIS has been revised to reflect the suggested clarification.

I. *A commenter stated that UDOT unjustly cites CO_2 emissions of the gondola vs. bus in Table 10.4-6. The title is winter emissions, but then in the actual table you say annual.*

Table 10.4-6, *Estimated CO_2 Equivalent (CO_2e) Emissions from Winter Operations with the No-Action and Action Alternatives in 2050,* of the Final EIS has been revised to clarify winter emissions only. The text in the Final EIS has also been updated to note the contribution of the gondola and cog rail emissions from summer use. UDOT expects that these alternatives would operate a similar number of days during the summer as during the winter, and thus emissions would be similar.

The gondola energy emissions are based on the 2038 energy grid since that was the best available information (no information was available for the 2050 energy grid). Vehicle emissions were determined based on a U.S Environmental Protection Agency MOVES model, which does

account for future improvements in vehicle emissions including green vehicles. UDOT added additional text in the Final EIS about the possible use of electric buses.

Finally, there was no bias in the analysis. As the analysis shows, the enhanced bus service alternatives, not the gondola alternative, would have the lowest overall emissions.

J. *A commenter stated that UDOT should have considered the document "Climate Change Considerations in Project-Level NEPA Analysis" published on January 13, 2009.*

At the time of the start of the Little Cottonwood Canyon EIS process in 2018, the referenced document had been rescinded. In 2017, the Council on Environmental Quality (CEQ) rescinded its 2016 GHG guidance and then proposed new draft guidance in 2019. That draft guidance was then rescinded in January 2021 having never been finalized, and CEQ is currently reviewing the 2016 guidance for revisions and updates. In the absence of official agency guidance regarding climate change during preparation of the EIS, UDOT conducted a GHG analysis that it believes meets the intent of past GHG guidance and satisfies the requirements of NEPA.

K. *A commenter stated that the GHG emissions should consider the construction activities of the primary alternatives.*

As stated in the above response 32.10J, the document referenced in the comment, "CEQ Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews," was adopted in 2016 and rescinded in 2017, and was only guidance. In 2021, the Council on Environmental Quality (CEQ) issued a notice that it will update the 2016 guidance and, in the interim, agencies should consider all available tools. This EIS does not include a GHG estimate for construction since it would not be possible for UDOT to know the specifics of emissions without final design plans and selection of a construction contractor. In addition, any emissions would be temporary and would not be useful in the National Environmental Policy Act analysis. The EIS does include a GHG analysis for operation of the primary alternatives. Finally, as stated in the comment, the emission estimate for GHG emissions should be done for extraction projects, which is not part of the S.R. 210 Project.

L. *A commenter stated that UDOT should have considered the United Nations Intergovernmental Panel on Climate Change. If UDOT used this report, would some alternatives have been rejected? The commenter also suggested that climate change would result in greater rainfall events that, combined with more summer trail use, would increase debris flows affecting S.R. 210.*

UDOT did conduct a GHG analysis, which showed that the No-Action Alternative would result in more GHG emissions than the primary alternatives (see response 32.10A). The EIS does analyze the impacts to ecosystem resources. It would not be possible to determine how such a small change in ecosystem resources as a result of the S.R. 210 Project would globally affect the climate.

UDOT is not sure how more people using summer trails (see response 32.20A) would result in greater debris flows affecting S.R. 210. As stated in the EIS, UDOT would not increase summer use except with the gondola alternatives and then only at the existing ski resorts which have the infrastructure to manage the visitation. It would not be possible to link a small increase in summer

use along with a heavy rainfall that would result in an impact to S.R. 210. Finally, if such an impact were to occur, UDOT would repair the road.

M. *Save Our Canyons stated the climate change analysis is inadequate, and there is no consideration of the emissions from the fabrication of the alternatives. They also state that the analysis does not include air travel to the state for users of the primary alternatives. Save Our Canyons also commented that UDOT should consider more science in the GHG analysis.*

It is not possible to estimate with any accuracy the GHG emissions from fabrication of the alternatives or the number of tourists who might travel by aircraft to use one of the primary alternatives. Each tourist would come from a different location and might use different modes to travel to Utah to ski. Plus it is not possible to know exactly how many people who use Little Cottonwood Canyon are tourists versus local residents. In addition, since the main draw being served by any alternative including the No-Action Alternative is to ski, all alternatives would likely accommodate the same number of visitors, and thus considering user origins would not provide a meaningful analysis. It should also be noted that any GHG emissions from fabrication would be temporary and that all of the alternatives would include fabrication whether it be building new buses or gondola cabins or rail cars. The EIS does provide a meaningful GHG analysis of the long-term operation of the primary alternatives which provides the most useful analysis in comparing the alternatives. The commenter fails to recognize that all of the primary alternatives would produce less GHG emissions than the No-Action Alternative.

UDOT is not sure what more science the commenter is suggesting. As stated, the analysis notes that the primary alternatives would generate less GHGs than the No-Action Alternative and so would improve the climate change effects related to GHGs.

N. *Save Our Comments commented that UDOT should consider how climate change impacts our forest, causes fires and drought, impacts the watershed, and changes the overall ecosystem. They stated that UDOT should look at alternatives that don't add convenience for cars and look at climate data.*

All of UDOT's alternatives are transit-based and would reduce the use of personal vehicles by about 30%. The analysis shows that all of the primary alternatives would have lower GHG emissions compared to the No-Action Alternative. It should also be noted that the primary alternatives would all cause a similar level of GHG emissions. UDOT will also consider the use of electric buses, which might further reduce local emissions and GHG emissions, but even electric buses produce GHG emissions since electricity, some of which is produced using fossil fuels, is required as a source of the battery power. Also see response 32.10L.

It would not be possible for UDOT to determine the relationship between the GHG impacts of the primary alternatives and changes in climate that cause droughts, fires, and changes in overall ecosystems. The contribution, if any, of the primary alternatives to the overall changes in the climate would be extremely small.

32.11 Noise

A. *Commenters stated that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would increase noise levels in Little Cottonwood Canyon.*

See Section 11.4.4, *Enhanced Bus Service in Peak-period Shoulder Lane Alternative*, of the EIS for more information about noise impacts from this alternative. Noise levels with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative in Little Cottonwood Canyon would average of 54 A-weighted decibels (dBA) or similar to light vehicle traffic and the same average as the No-Action Alternative. The change in noise levels at individual receptors with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative in this area would range from –2 dBA to +8 dBA, with an average increase of 2.3 dBA compared to the No-Action Alternative. People generally cannot detect differences of 1 to 2 dBA between noise sources. Under ideal listening conditions, differences of 2 or 3 dBA can be detected by some people. A 5-dBA change would probably be perceived by most people under normal listening conditions.

B. *The following are comments on the noise impacts from expanding Wasatch Boulevard.*

Would widening Wasatch Boulevard with the Five-lane Alternative increase noise levels for Cottonwood Heights residents? With the No-Action Alternative, 99 residential receptors would have noise impacts that exceed UDOT's noise-abatement criteria. With the Five-lane Alternative, there would be an increase of 52 additional residential receptor and 1 park receptor that exceed the noise-abatement criteria. No receptors would substantially exceed (≥ 10-dBA [A-weighted decibels] increase over) the No-Action Alternative noise levels. With the Five-lane Alternative, the maximum increase for any receptor would be an increase of 9 dBA compared to the No-Action Alternative. A total of 492 receptors would have a noticeable increase of 3 to 9 dBA compared to the No-Action Alternative. The maximum decrease for any receptor would be a decrease of 12 dBA compared to the No-Action Alternative. A total of 28 receptors would have a noticeable decrease of 3 to 12 dBA compared to the No-Action Alternative. For more details, see Chapter 11, *Noise*, of the Final EIS.

How would UDOT mitigate noise levels on Wasatch Boulevard? UDOT conducted a noise evaluation to determine where noise walls would be considered. UDOT evaluated 18 noise walls at locations where noise impacts would occur with the primary alternatives. Of the 18 modeled noise barriers, 14 met UDOT's feasibility and reasonableness acoustic and cost criteria for the Imbalanced-lane Alternative on Wasatch Boulevard, and 13 met UDOT's feasibility and reasonableness acoustic and cost criteria for all five primary alternatives with the Five-lane Alternative on Wasatch Boulevard. Maps showing the locations of the noise walls evaluated for the primary alternatives and more-detailed information is available for each barrier in Appendix 11A, *Noise Technical Report*, of the EIS.

The final decision to build a noise barrier will be made on completion of the project design, completion of the public involvement process, and concurrence with UDOT's noise-abatement policy. A barrier identified as recommended for balloting by the impacted residents is a barrier that has been shown to be both feasible and reasonable. However, that finding is not a commitment to build a barrier.

C. *A commenter stated that UDOT should enforce noise pollution ordinances with regard to loud motorcycles and vehicles.*

Enforcement of noise pollution ordinances is conducted by local law enforcement and is outside the scope of the EIS.

D. *Commenters asked how much noise would the gondola create or stated that the gondola would have minimal noise.*

Operation Noise. The noise levels associated with the operation of the gondola system after a gondola cabin leaves the base station would be minor because there would be no drive motors or loading and unloading activities at the towers and angle stations. The existing noise levels around S.R. 210 in Little Cottonwood Canyon range from 38 to 63 dBA, with an average of 54 dBA. To better estimate gondola noise levels, UDOT conducted noise monitoring at the Whistler Ski Resort 3S gondola. The monitoring showed that the average noise level below the tower was about 54 dBA. Therefore, UDOT expects that the gondola noise would average about 52 dBA, or within the existing noise conditions created by the S.R. 210 roadway, and thus would not cause an adverse noise impact to recreation users.

Base Station Noise. Gondola Alternative B would include a modified parking lot for buses and other vehicles at the gondola base station, to be located about 0.75 mile from the intersection of S.R. 210 and S.R. 209. Six noise-sensitive (residential) receptors are located within the 225-foot screening radius around the proposed gondola base station with Gondola Alternative B. The noise level at a 225-foot distance for the gondola base station during operations is predicted to be 57 dBA. At each of the six receptors evaluated for combined noise impacts, the predicted combined noise levels are below the 66-dBA residential noise-abatement criterion per UDOT's noise-abatement policy (for more information about this analysis, see Section 6.3.2, *Gondola Alternatives A and B Base Stations*, in Appendix 11A, *Noise Technical Report*, of the EIS). Thus, no noise impacts from the combined noise of the proposed gondola base station with Gondola Alternative B and traffic noise are predicted, and no mitigation is required per UDOT's noise-abatement policy.

UDOT also monitored noise levels at a noise receptor located on the newly acquired open space across from the Gondola Alternative B base station. The monitoring results showed about a 2-dBA increase in noise on the property. Generally, noise level increases below 3 dBA are not noticeable to human hearing.

E. *Commenters were concerned about the noise generated at the proposed 9400 South and Highland Drive mobility hub.*

Five noise-sensitive (residential) receptors are located within the 225-foot screening radius around the proposed mobility hub at 9400 South and Highland Drive. At this location, five receptors were evaluated for combined noise impacts. The predicted combined noise levels are below the 66-dBA (A-weighted decibels) residential noise-abatement criterion per UDOT's noise-abatement policy (for more information about this analysis, see Section 6.3.1, *Mobility Hub Noise Impacts*, in Appendix 11A, *Noise Technical Report*, of the EIS). Thus, no noise impacts from the combined noise of the proposed mobility hub and traffic noise are predicted, and no mitigation is required per UDOT's noise-abatement policy.

F. *A commenter wanted a noise wall just east of noise wall 15 on S.R. 209 and just west of the bridge over Little Cottonwood Creek.*

Noise levels at the sensitive receptors (residences) in this area did not exceed UDOT's noise-abatement policy and thus do not qualify for a noise wall.

G. *A commenter wanted to know whether a noise wall would be installed at 9400 South and 1560 East.*

UDOT is not proposing any road improvements in the area of 9400 South and 1560 East; therefore, no noise walls were considered in this location.

H. *A commenter wanted to know whether a noise wall would be installed on 9400 South between 2300 East and Mount Jordan Road.*

The noise analysis shows that a noise wall meets UDOT's criteria in this area, and therefore UDOT is recommending a noise wall in this location.

I. *A commenter suggested that increased noise levels can increase dementia risk or health concerns.*

The commenter provided an article ("Neighborhood Noise May Increase Dementia Risk") that suggested that increased noise levels can increase dementia. The article states that older adults living in areas with 10 dBA (A-weighted decibels) more noise near their residence during the daytime had 36% higher odds of developing mild cognitive impairment and 29% higher odds of having Alzheimer's disease. The abstract to the article mentioned that noise levels were estimated using a spatial prediction model but did not specify the model or methodologies used to determine the predicted noise levels. Additionally, the article did not confirm whether actual noise levels were taken, the absolute measured or predicted noise levels, the types of exposure (interior or exterior), length of time exposure assumed in the study, or other relevant variables that were used in the study. Given the lack of details about the model and methodologies used in this study, it is unclear what, if any, applicability this study would have on the noise analysis in Chapter 11, *Noise*, of the EIS.

The noise analysis in the EIS, which followed Federal Highway Administration, Federal Transit Administration, and UDOT policies and regulations, showed that noise levels with the primary alternatives would range from 38 to 74 dBA, with an average of 54 dBA compared to the existing conditions of 38 to 73 dBA and an average of 54 dBA. The primary alternatives would cause a net increase of 40 to 60 impacted noise receptors compared to the existing conditions, resulting in a total of 173 receptors that exceed UDOT's noise-abatement criteria. With any of the primary alternatives, only one receptor would substantially exceed (≥ 10-dBA increase over) the No-Action Alternative noise levels (with the Imbalanced-lane Alternative).

A total of 349 to 505 receptors (depending on the alternative) would have a noticeable increase of 3 to 9 dBA compared to the No-Action Alternative. The maximum decrease for any receptor would be a decrease of 12 dBA compared to the No-Action Alternative, and a total of 28 to 37 receptors (depending on the alternative) would have a noticeable decrease of 3 to 12 dBA compared to the No-Action Alternative. In addition, UDOT is recommending 13 or 14 noise walls (depending on the alternative) to provide noise mitigation to further reduce noise levels for locations with noise impacts.

J. *A commenter stated that the EIS did not evaluate noise levels for cyclists and pedestrians.*

A cyclist using a roadway or a pedestrian using a trail constructed as part of the project is not consider a noise-sensitive receptor per UDOT policy. They are using a transportation facility where vehicle noise is expected. The purpose of bicycle lane or adjacent roadway trail is not to provide a quiet natural experience but to help with transportation or connect people. The EIS provides the noise levels that would occur adjacent to the roadway.

K. *The Salt Lake City Department of Public Utilities commented that the cumulative impacts from noise should be considered on both humans and wildlife.*

The noise analysis is a cumulative analysis. The noise modeling process takes into account the existing noise levels and adds the project noise levels to calculate a total cumulative noise level. The results of the analysis in the EIS, including all noise levels shown, are the existing noise levels plus the noise levels added by the project alternatives. The noise levels used to estimate impacts to wildlife in Chapter 13, *Ecosystem Resources*, of the Final EIS are the cumulative expected noise levels.

L. *Commenters stated that the cog rail would have noise levels at 65 dBA at 105 feet from the rail line, which would impact wildlife and recreationists in Little Cottonwood Canyon.*

The analysis for the Cog Rail Alternative included all of Little Cottonwood Canyon. The 65-dBA noise levels included both the road traffic and the cog rail alignment. In Little Cottonwood Canyon above the canyon entrance, the cog rail system would increase noise levels above the existing roadway levels by 2 dBA, This increase would occur near the cog rail station at Snowbird and would be at a distance of 61 feet from the roadway, where the noise level of the cog rail system would be 63 dBA and the noise from the roadway would be at 61 dBA. All other locations along the cog rail alignment would be have noise increases less than 1 dBA. Noise level changes of less than 3 dBA are not detectible to human hearing and would not be a substantial increase that would change wildlife behavior. The greatest noise level increase would be at the operations and maintenance facility at the entrance of Little Cottonwood Canyon, where noise levels would increase about 10 dBA at a distance of 15 feet. Noise levels would still be at a level that would allow for communication among nearby recreationists and below UDOT's noise-abatement criteria. In areas outside Little Cottonwood Canyon, noise levels would be similar to existing roadway noise.

M. *Sandy City Engineering commented that a level of service of LOS C represents worst-case conditions for the noise analysis. They suggest that the EIS be updated to note that LOS C is more conservative than the traffic analysis, which uses LOS D as a goal.*

The first sentence in the paragraph states that LOS C represents the worst-case conditions because traffic is operating at uncongested free-flow speeds.

N. *The Town of Alta commented that the gondola alternatives could increase noise levels in areas that are not dominated by S.R. 210 vehicle noise or when there are few vehicles on S.R. 210.*

This noise level for the gondola alternatives mentioned in the EIS is conservative (high) and assumes that there would be a drive motor at both the Snowbird and Alta destination stations even though drive motors are currently proposed only at the base station for either Gondola

Alternative A or B. The highest predicted traffic noise level is 62 dBA at Snowbird and 63 dBA at Alta. The highest combined noise level of the gondola destination station and traffic would be 63 dBA at Snowbird and 64 dBA at Alta, which would be influenced primarily by traffic noise. The noise from the gondola destination stations at Snowbird or Alta is predicted to add no more than 1 dBA of noise to any receptors. The combined noise level for all receptors near the gondola destination stations at Snowbird and Alta would be below UDOT's noise-abatement criterion of 66 dBA for activity categories B and C.

At gondola tower locations when there is little traffic on S.R. 210 or for residents or recreationists away from S.R. 210 traffic, it might be possible to hear the gondola cabins as they go over a tower. Background noise levels away from S.R. 210 can be between 40 and 45 dBA, and the noise at tower locations could be up to 52 dBA. Thus, when in operation, the noise from the gondola could be noticed when there is light vehicle activity. However, most towers are located near S.R. 210 or within the ski resorts, which typically have higher noise levels. It should be noted that the gondola would not operate before 7 AM or after 7 PM and thus would not change the nighttime noise environment when most resorts users are at their lodges expecting quiet.

32.12 Water Resources

A. Commenters stated that the gondola alternatives would have the least impact to the watershed, while other commenters felt that the gondola alternatives would impact the Little Cottonwood Canyon Creek watershed.

Impacts to the Little Cottonwood Canyon Watershed. See Chapter 12, *Water Resources*, of the EIS for a more detailed discussion of impacts to the watershed and water quality. Also see response 32.12K for more information regarding the analysis methodology.

UDOT conducted water quality modeling for the gondola alternatives. See Section 12.4.5, *Gondola Alternative A (Starting at Canyon Entrance)*, and Section 12.4.6, *Gondola Alternative B (Starting at La Caille)*, of the EIS. UDOT met with watershed stakeholders, including the Salt Lake City Department of Public Utilities (SLCDPU, the main water rights holder and watershed steward) and the water treatment plant operator (Metropolitan Water District of Salt Lake and Sandy), throughout 2020 to review the model inputs and results.

What is a stormwater detention facility?

A stormwater detention facility is a pond that holds stormwater runoff temporarily before releasing it into a surface water body, or below ground, at an allowable release rate.

There would be a minor addition of impervious areas associated with the gondola alternatives. The gondola base station area, including the parking structure and roadways, which is where most of the additional pavement would be added, would include stormwater best management practices (such as detention basins) to capture stormwater before it is released into the storm drainage system in compliance with UDOT policies. The results of the analysis showed that the gondola alternatives would not contribute contaminants of concern at concentrations that would change water quality over the No-Action Alternative, impair Little Cottonwood Creek's beneficial uses, or impair Metropolitan Water's ability to deliver safe drinking

water. Also, at the request of SLCDPU, UDOT has included a mitigation measure of adding guardrails in key locations to reduce the potential for vehicles to enter Little Cottonwood Creek.

The amount of impervious surface analyzed for the gondola alternatives was based on additional parking and facilities required for the alternatives. Because the areas under the towers would remain vegetated, they are not included as impervious surfaces. Most towers would not have access roads as stated in the EIS. They would be constructed either from S.R. 210 using a crane or by helicopter. Any temporary access areas would be restored. Under the gondola cables, there would be no change to vegetation.

Impacts to Groundwater. With gondola alternatives, the gondola stations, towers, and cabins would not discharge pollutants in quantities that would impact groundwater. Stormwater quality controls that infiltrate stormwater from any new pavement around the gondola alternatives' base station are permitted by rule, meaning that the Utah Division of Water Quality has determined that, with the controls in place, the risks to groundwater quality impacts would be minimal.

Compliance with Watershed Management Plans. The watershed management plans identify fuel storage as a source of pollution if not properly managed. See Section 12.4.1.1.3, *Compliance with Watershed Management Plans and Forest Plan*, of the EIS. The gondola alternatives include pollution-prevention measures including dual-walled tanks for the fuel needed to run the emergency generators at the base, angle, and terminal stations. With a reduction in personal vehicles compared to the No-Action Alternative, the gondola alternatives would reduce the risk of any accidents and vehicles entering the creek. In addition, to address the risk of vehicles entering the creek and spilling fluids directly to the creek, UDOT will include a barrier where there is a higher roadway departure frequency and where the road is close to the creek as long as the barrier does not impede snow removal. See Section 12.4.9, *Mitigation Measures*, of the EIS. The gondola alternatives are in general compliance with watershed management plans.

Impacts around the Base Station. In the area around the Gondola Alternative B base station, there is more opportunity to incorporate a drainage collection system and add larger, more-robust post-construction best management practices such as detention basins that can contain spills from accidents. The modeling for Gondola Alternative B included detention best management practices to treat 108% of the new impervious area. Developments adjacent to the creek will occur with or without mobility improvements. The base station parking structure could also be equipped with spill-containment supplies to facilitate rapid response to a vehicle accident that results in a spill.

B. *Commenters stated that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would widen the pavement and cause additional runoff and impacts to the Little Cottonwood Canyon Creek watershed. The Metropolitan Water District of Salt Lake and Sandy commented that impacts from chloride should have been considered.*

Impacts to the Little Cottonwood Canyon Watershed. See Section 12.4.4.2, *S.R. 210 North Little Cottonwood Canyon Road to Alta*, of the EIS for information regarding the watershed impacts of the Enhanced Bus Service in Peak-period Shoulder Lane Alternative. Also see response 32.12K for additional information regarding the water quality analysis methodology.

The Enhanced Bus Service in Peak-period Shoulder Lane Alternative would add about 22 acres of additional roadway pavement. UDOT estimates that runoff from about 64% of the additional

pavement could be passed through post-construction best management practices (BMPs) prior to discharge, and the water quality modeling conducted for this alternative includes this value. The model results show no major change (*de minimis* differences) in Little Cottonwood Creek water quality between the model results for the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the No-Action Alternative (existing conditions) for the 17 constituents modeled for the majority of storm events in Little Cottonwood Canyon. Also, at the request of SLCDPU, UDOT has included a mitigation measure of adding guardrails in key locations to reduce the potential for vehicles entering Little Cottonwood Creek. The analysis also included impacts to surface water protection zones including showing the locations of the zones in relation to the alternatives.

UDOT also evaluated potential impacts from chloride levels from salting operations. For the water quality analysis, UDOT obtained ambient water quality data for Little Cottonwood Creek from the Utah Division of Water Quality database for the period between 1998 to 2019. The record includes 131 samples with a mean chloride concentration of about 27 milligrams per liter (mg/L). UDOT modeled highway stormwater runoff from S.R. 210 with a mean chloride concentration of 29.2 mg/L. Metropolitan Water provided some monthly average chloride concentration values with a maximum concentration of about 85 mg/L, which occur in April. The SELDM modeled in-stream concentration of 85 mg/L occurs during about 10% of storms, on average. The model captures the range of chloride concentrations in Little Cottonwood Creek observed by Metropolitan Water. The modeled difference between the existing conditions and the alternatives at the 10% of storms event level is an increase of 5 to 10 mg/L, or about a 12% increase. These modeled chloride concentrations in Little Cottonwood Creek are well below the secondary drinking water standard of 250 mg/L. These model results were summarized in a memorandum dated August 4, 2020, and presented to Metropolitan Water on October 8, 2020. UDOT believes that the modeling efforts for chloride are sufficient to demonstrate that impacts would be negligible.

UDOT's municipal separate storm sewer system (MS4) permit requires an evaluation of post-construction BMPs for new impervious area and implementing those BMPs where feasible. For the preliminary design prepared for the EIS, UDOT looked for areas where BMPs were likely to be feasible. These most feasible areas for BMPs are relatively flat areas adjacent to the roadway. In other areas, the steep side slopes adjacent to the road limit BMPs' feasibility. There could be other BMPs areas immediately adjacent to the creek; however, implementing BMPs in these areas would encroach into the protected riparian area or stream. The water quality analysis captured the water quality treatment efficiencies of the BMPs and determined that water quality would not be materially changed, and would actually be improved for some constituents, compared to the No-Action Alternative. If the Enhanced Bus Service with Peak-period Shoulder Lane Alternative is selected, the final design will take a closer look at BMPs and determine and document their implementation feasibility throughout the corridor pursuant to UDOT's *Stormwater Quality Design Manual*.

The majority of construction would occur on the north side of the road, but there are some small areas of fill on the south side of the road. The primary alternatives have been designed to capture stormwater runoff from the road and uphill slopes. To address concerns from SLCDPU, road or rail widening would occur mostly on the uphill slope away from the creek. UDOT has proposed mitigation in the form of BMPs that would protect water quality and minimize impacts to wildlife.

Impacts to Groundwater. The Enhanced Bus Service in Peak-period Shoulder Lane Alternative includes stormwater controls (post-construction BMPs) that infiltrate a portion of the highway stormwater runoff. Stormwater quality controls that infiltrate stormwater from any new pavement are permitted by rule, meaning that the Utah Division of Water Quality has determined that the risks to groundwater quality impacts with implementation of the controls would be minimal.

Compliance with Watershed Management Plans. The water quality modeling conducted for the Enhanced Bus Service in Peak-period Shoulder Lane Alternative determined that an expanded roadway would not impair Little Cottonwood Creek's beneficial uses or impair Metropolitan Water's ability to deliver safe drinking water. The peak-period shoulder lanes would include stormwater BMPs to capture stormwater before it is released into the storm drainage system in compliance with UDOT policies. In addition, to address the risk of vehicles entering the creek and spilling fluids directly into the creek, UDOT will include a barrier where there is a higher accident frequency and where the road is close to the creek as long as the barrier does not impede snow removal. See Section 12.4.9, *Mitigation Measures*, of the EIS. The Enhanced Bus Service in Peak-period Shoulder Lane Alternative is in general compliance with watershed management plans.

C. *Commenters stated that the Cog Rail Alternative would cause additional impacts to the Little Cottonwood Creek watershed.*

Impacts to the Little Cottonwood Canyon Watershed. See Chapter 12, *Water Resources*, of the EIS for a more-detailed discussion of impacts to the watershed and water quality. UDOT conducted water quality modeling for the Cog Rail Alternative. See Section 12.4.7, *Cog Rail Alternative (Starting at La Caille)*, of the EIS. The analysis showed that the Cog Rail Alternative would not contribute contaminants of concern at concentrations that would materially change water quality conditions over the No-Action Alternative, impair Little Cottonwood Creek's beneficial uses, or impair Metropolitan Water's ability to deliver safe drinking water. The area around the cog rail base station, including the parking structure and roads, would include stormwater BMPs (such as detention basins) to capture stormwater before it is released into the storm drainage system in compliance with UDOT policies.

BMPs (detention basins and vegetated filter strips) would be used to treat stormwater runoff from the roadway improvements along North Little Cottonwood Road, the area around the parking structure at La Caille, and the cog rail operations and maintenance facility. This area consists of 20 acres (of 43 acres total for the alternative) where there is more room to implement BMPs.

No BMPs were initially proposed for the track segments because of the porous nature of ballasted track and the need for an underdrain system to protect the stability of the track, per UTA light rail design criteria. Section 12.4.7.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS explains that, despite the assumed lack of BMPs, the conservative water quality modeling concluded that there would be *de minimis* changes to water quality from the Cog Rail Alternative. Some inline water quality treatment BMPs, such as hydrodynamic separators, might be feasible. If this alternative is selected, UDOT will evaluate and document post-construction BMP feasibility per its *Storm Water Quality Design Manual*.

UDOT could not find references for the typical runoff contaminants nor contaminant concentrations from similar light rail systems. UDOT believes that the assumption that the runoff contaminants would be similar to highway runoff contaminants is a reasonable and conservative assumption.

Impacts to Groundwater. The Cog Rail Alternative would include stormwater controls (post-construction BMPs) that infiltrate a portion of stormwater runoff. Stormwater quality controls that infiltrate stormwater from new impervious areas are permitted by rule, meaning that the Utah Division of Water Quality has determined that the risks to groundwater quality impacts with implementation of the controls would be minimal.

Compliance with Watershed Management Plans. The water quality modeling conducted for the Cog Rail Alternative determined that a light rail–like transportation option would not be a major source of pollution to Little Cottonwood Creek. In addition, to address the risk of vehicles entering the creek and spilling fluids directly into the creek, with this alternative UDOT will include a barrier to the existing road where there is a higher accident frequency and where the road is close to the creek, as long as the barrier does not impede snow removal. Because the Cog Rail Alternative would reduce personal vehicle use in the canyon by about 30% during the winter months, there would be fewer accidents and less risk of spills or vehicles entering the creek compared to the No-Action Alternative.

The cog rail operations and maintenance facility would include fuel storage tanks as well as oil and gear lubrication storage facilities, which the watershed management plans identify as sources of contamination if not properly managed. As described in Section 12.4.7.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS, the storage tanks would be dual walled with secondary containment to quickly identify and control leaks. The Cog Rail Alternative is in general compliance with watershed management plans.

D. Commenters were concerned about water quality impacts from widening Wasatch Boulevard.

UDOT would construct about 14.4 acres of new impervious area and add curb and gutter for the full extent of the Wasatch Boulevard segment of S.R. 210. UDOT would meet its stormwater quality obligations by using detention basins (at the Swamp Lot, near Russell Park Road, and near the intersection of Wasatch Boulevard and North Little Cottonwood Road) or including other inline water quality treatment features (for example, hydrodynamic separators). In total, runoff from about 24.6 acres of the total pavement area would be passed through detention basins. With the addition of stormwater BMPs, the water quality conditions in the area of the Wasatch Boulevard segment of S.R. 210 would be improved compared to the conditions with the No-Action Alternative, which has few water quality BMPs.

E. Commenters were concerned about water quality impacts from water runoff from the snow sheds and the availability of water for fire suppression.

Impacts to the Little Cottonwood Canyon Watershed. As described in Section 12.4.3.4, *Avalanche Mitigation Alternatives*, of the EIS, the roof of the snow shed would be revegetated and avalanche debris would accumulate on the roof. Therefore, the overall stormwater runoff properties of the areas around the snow sheds would not change, and runoff (and avalanches) would not accelerate across the roof. The snow shed design presented in the EIS is preliminary. The final structure design would define the required drainage and runoff control features and the

methods to retain soil and vegetation. The 4-foot roof overhang could be extended in the final design to completely cover the bicycle path in areas with a potential substantial discharge of runoff directly from the roof onto the bicycle path.

In addition, energy-dissipation features (rip rap) would be used to reduce erosive forces of falling water and minimize sediment in runoff before it discharges to Little Cottonwood Creek, per UDOT drainage and water quality design manuals. See Appendix 13B, *Riparian Habitat Conservation Areas Assessment Memorandum*, of the EIS regarding riparian habitats and seasonal streams. There are no streams and little riparian vegetation within the riparian habitat conservation area buffers (300 feet from a perennial water) near the existing roadway and proposed snow shed locations. Therefore, water-seeking wildlife would tend stay near Little Cottonwood Creek and would not be funneled to the ends of the snow sheds.

The roadway would be three lanes through the mid-canyon snow shed segments to match the existing roadway; therefore, stormwater discharges from the road corridor with snow sheds would be essentially the same as existing conditions because snow sheds would not add a substantial amount of new impervious area. The area behind the snow sheds (mountain side) would be backfilled with soil; the area including the guiding berms, if selected, would be revegetated; and/or gravel mulch could be used to stabilize the backfill area. Therefore, runoff conditions with the snow sheds and from the area upgradient of the snow sheds would be similar to existing conditions.

Fire Suppression. Snow sheds might be categorized as road tunnels. If snow sheds are considered road tunnels, then a fire-suppression system, supplemental ventilation, and tunnel drainage system would be required per National Fire Protection Association (NFPA) 502, *Standard for Road Tunnels, Bridges, and Other Limited-access Highways*. The impacts of these systems were considered in the EIS. Conversations with representatives from Salt Lake County Service Area #3 indicate that there is adequate water storage and piping to connect to and provide fire-suppression flows to the snow sheds. UDOT would work with the Service Area and SLCDPU to obtain the necessary water and permits.

Fire-suppression runoff flows are exempt from water quality permitting. UDOT does not expect an increase in accidents within the snow sheds. Moreover, compared to the No-Action Alternative, safety would be improved with the reduction in traffic and less travel on icy road segments within the snow sheds. Nonetheless, UDOT modified the snow shed design to include containment of suppression runoff flows within the snow sheds' internal drainage system after coordinating with SLCDPU. UDOT will work with SLCDPU (as an "authority having jurisdiction" per NFPA 502) during the final design of the snow sheds to address the specific requirements for spill containment and fire suppression. This coordination can include the development of an emergency response procedure in the event of an accident within the snow shed. Chapter 2, *Alternatives*, of the Draft EIS states:

> The tunnel drainage system would be designed to capture spills of hazardous or flammable liquids so that they cannot spread or cause flame propagation. The tunnel drainage system would be provided with an oil and fuel separator and a storage capacity sufficient for the design spill rate for hazardous liquids, the size of which is a function of the size of hazardous or flammable transport vehicles. A tunnel drainage storage system would be considered given the proximity of Little Cottonwood Creek.

Impacts to Riparian Habitat and Water Quality Buffer Zones. The proposed snow sheds would not directly narrow or impact riparian corridors. Also see response 32.12P for more information regarding buffer zones. The snow sheds would not increase slope angles.

Avalanche Runout Zones. The snow sheds are designed to hold substantial snow depth and are not designed to accelerate avalanches and make the snow run over and past the snow shed to the downslope areas. The existing avalanche runout zone encompasses Little Cottonwood Creek, and the creek is in a natural avalanche debris deposition zone; snow sheds would not materially change the avalanche runout distances. The approximately 12% slope of the snow shed roof was recommended and is intended to generally match the grades within the runout zone on the north side of the road. A flatter roof would create a slope "deviation point" where there would be higher impact forces on the snow shed, and a steeper roof would require extending backfill slopes higher up the mountain side.

With snow sheds, much of the avalanche snow and debris would stay on the roof of the snow shed. Snow would cover that detritus, and avalanches would flow over the snow and not push that detritus into the creek. UDOT's current practice is to clear snow and debris from the road, which would not need to occur for segments of the road with snow sheds. UDOT will coordinate with SLCDPU regarding the final design of the snow sheds.

F. *A commenter wanted to know the thoughts of SLCDPU on the proposed alternatives.*

Throughout the EIS process, UDOT consulted with SLCDPU regarding the analysis conducted for the Draft EIS. They were a cooperating agency in preparation of the Draft EIS. The Department of Public Utilities provided comments on the Draft EIS, which have been included in the Final EIS and are available for public review.

G. *The U.S. Geological Survey commented that UDOT should add a reference for the Stochastic Empirical Loading and Dilution Model.*

The reference has been added in Chapter 12, *Water Resources*, of the Final EIS.

H. *A commenter asked whether the EIS evaluated how the change in snowpack in the future will decrease water supply.*

Decreasing snowpack and an associated decrease in water supply is not part of the UDOT action. The reduction in snowpack and the related impact to water supply is an occurrence that would not change as result of the primary alternatives. The increased use of snowmaking equipment to offset a potential reduction in snowpack is not part of or the result of the primary alternatives, and the primary alternatives would not cause an increase in snowmaking operations. The increased use of water for snowmaking operations is guided by the resorts and by SLCDPU. The climate change analysis conducted by UDOT (see response 32.2.2E) states the potential for fewer ski days in the future. The evaluation of the primary alternatives does consider the expected impacts to water quality and supply from the action alternatives.

I. *A commenter stated that the EIS says that dogs are not allowed in Little Cottonwood Canyon, which is not correct. Some dogs for residents are permitted.*

Chapter 12, *Water Resources*, of the Draft EIS does not say that no dogs are allowed in the canyon. The chapter notes that there is a permit application procedure for certain activities in the canyons, activities including sewage handling, waste disposal, and dog ownership. Therefore, the chapter recognizes that dogs are allowed with a permit.

J. *The Metropolitan Water District of Salt Lake and Sandy commented that they are concerned that short-term impacts to water quality, such as significant increases in turbidity, could result in the need to interrupt treatment and the delivery of water. Metropolitan Water is also concerned that a long-term increase in pollutants and pathogens could require expensive changes or upgrades to the water treatment process to accommodate the increase in pollution.*

See responses 32.12A and 32.12B. Also see Section 12.2.5, *Stormwater Discharges*, of the EIS. UDOT has an MS4 permit that requires a construction stormwater pollution prevention plan (SWPPP), implementation of BMPs, and monitoring requirements during construction.

UDOT's MS4 permit also authorizes operational stormwater discharges to surface waters with the evaluation and implementation, where feasible, of post-construction or permanent stormwater control BMPs. For the EIS, UDOT modeled the expected long-term water quality impact of highway stormwater runoff, which considered the use of permanent BMPs to treat highway runoff. As described in Section 12.4.1, *Methodology*, of the EIS, UDOT worked with SLCDPU, Metropolitan Water, and Sandy City to develop a list of pollutants or "contaminants of concern" (COCs). These COCs were defined as those pollutants that are commonly found in highway stormwater runoff, those pollutants for which substantial changes could affect treatment processes and the ability to supply safe drinking water, and those pollutants exceeding numeric standards. Modeling showed *de minimis* changes in pollutant concentrations in Little Cottonwood Creek due to stormwater runoff from the primary alternatives compared to the No-Action Alternative. Sources of pathogenic pollution are identified in watershed management plans as dispersed recreation. Compared to the No-Action Alternative, with no restroom facilities at the Gate Buttress or Lisa Falls Trailheads, the trailhead parking components of the primary alternatives, which add restrooms, would reduce the potential for pathogenic pollution from dispersed recreation near these locations.

K. *The Metropolitan Water District of Salt Lake and Sandy commented that, although the statements in the Draft EIS that the selected alternatives could have* de minimis *impacts might be true regarding Clean Water Act standards, these standards are far less comprehensive than the Safe Drinking Water Act standards that Metropolitan Water is required to meet. Making this statement suggests that Metropolitan Water's ability to reliably and safely provide water would not be impacted; however, impacts to drinking water cannot be adequately assessed by only considering Clean Water Act standards.*

UDOT's analysis of impacts to Little Cottonwood Creek from project-related activities included a quantitative analysis of impacts from stormwater runoff to surface waters from pollutants normally found in transportation facilities' stormwater. UDOT focused on Clean Water Act standards according to its MS4 permit (UTS000003), which allows stormwater discharges pursuant to

Section 402 of the federal Clean Water Act and the permitting program described in Utah Administrative Code R317-8, Utah Pollutant Discharge Elimination System (UPDES). Clean Water Act standards apply because surface waters in Utah are protected to meet specific beneficial uses, including drinking water, aquatic wildlife, and recreation. Little Cottonwood Creek's drinking water beneficial uses are protected under Class 1C numeric water quality criteria, narrative standards, and antidegradation rules.

Chapter 12, *Water Resources*, of the EIS also addresses Safe Drinking Water Act standards by comparing model results to maximum contaminant levels for some constituents found in Safe Drinking Water Act standards that are applicable to highway stormwater runoff. The analysis for stakeholder-identified Safe Drinking Water Act constituents found *de minimis* differences between the No-Action Alternative and the five primary action alternatives. Therefore, any alternative should not affect treatment processes or Metropolitan Water's ability to deliver safe drinking water. Additional details, including identification of the COCs and analysis results, is provided below.

What is a *de minimis* impact?

As used in Section 32.12 of this chapter, a *de minimis* impact is a minor impact that does not pose a substantial risk to water quality.

The EIS addresses how the S.R. 210 Project is in general conformance with water supply stakeholders' Drinking Water Source Protection Plan requirements as described in their watershed management plans, prepared pursuant to Safe Drinking Water Act requirements. For this project, these drinking water stakeholders are SLCDPU, Metropolitan Water, and Sandy City. Together with the USDA Forest Service, these entities are referred to in the EIS as the watershed managers.

As described in Section 12.4.1.1, *Surface Water Quality*, of the EIS, UDOT worked with SLCDPU, Metropolitan Water, and Sandy City to develop the list of COCs for analysis. The 17 identified COCs included constituents commonly found in highway stormwater runoff and identified in the Safe Drinking Water Act. At the request of watershed managers, UDOT compared model results for several COCs (10 of the 17 total) to the Safe Drinking Water Act primary and secondary maximum contaminant levels listed in Utah drinking water standards (found in Utah Administrative Code R309-200). The COCs with a Safe Water Drinking Act standard are cadmium, chloride, chromium, copper, lead, nitrogen, pH, total dissolved solids (TDS), sulfate, and zinc.

The water quality model results for the action alternatives show *de minimis* changes in the in-stream concentrations of these COCs compared to the No-Action Alternative. In addition, the resulting in-stream concentrations after mixing highway stormwater runoff with Little Cottonwood Creek water would be well below the maximum contaminant levels for drinking water. The model also assumed that all stormwater would enter Little Cottonwood Creek as a concentrated flow immediately above the water treatment plant inlet, thereby providing a worst-case scenario for the model rather than numerous discharge locations over the entire approximately 8-mile length of Little Cottonwood Creek.

The numeric criteria for contaminants in Utah's surface waters (Clean Water Act and state water quality standards) include many of the same constituents found in drinking water standards (Safe Drinking Water Act and Utah drinking water standards). The Utah Division of Water Quality compiles water quality monitoring data and conducts an analysis to determine whether surface water quality is sufficient to meet a water's beneficial uses. Those constituents that do not meet beneficial use standards are placed on the State's 303(d) list and prioritized for developing a total maximum daily load (TMDL) analysis.

What is a 303(d) list?

When a lake, river, or stream fails to meet the water quality standards for its designated beneficial use, Section 303(d) of the Clean Water Act requires that the State place the water body on a list of "impaired" waters, which is also known as a 303(d) list, and develop a plan to reduce pollution from various sources so that beneficial uses are met.

Some additional primary inorganic chemicals listed in Safe Drinking Water Act standards (antimony, arsenic, barium, beryllium, cyanide, fluoride, mercury, nickel, and thallium) are also monitored by the Division of Water Quality to assess beneficial uses. Little Cottonwood Creek is not impaired for any of these primary inorganic constituents, and these constituents are not common pollutants found in roadway stormwater runoff (NCHRP 2019; SWCA 2020; UDOT 2021). Therefore, UDOT does not consider them COCs that need to be analyzed because stormwater runoff from the project will not impact them.

The list of COCs analyzed include some constituents (alkalinity, calcium, hardness, and magnesium) that are not listed in Utah water quality standards and are not typically found in, or affected by, roadway runoff but were included as COCs at SLCDPU's and Metropolitan Water's request. Changes to these constituents, along with other constituents (pH, temperature, and TDS), could affect the corrosivity of drinking water. Corrosivity is a secondary drinking water standard. Secondary standards are recommended limits because, if drinking water significantly exceeds these secondary standards, the water could have an unpleasant taste. No meaningful differences between the No-Action and action alternatives were found in the model results for these secondary drinking water COCs.

Other contaminants listed in both Utah drinking water standards and in the water quality standards for Little Cottonwood Creek's beneficial uses are organic chemicals, pesticides, herbicides, polychlorinated biphenyls (PCBs), volatile organic contaminants, and radiologic contaminants, which are not commonly found in roadway stormwater runoff. These same contaminants are included in numeric criteria for beneficial-use Classes 1C (drinking water) and 3A (aquatic wildlife) which contain a long list of human health criteria (refer to Table 2.14.5 in Utah Administrative Code R317-2). Little Cottonwood Creek is not listed as impaired for any of these pollutants, nor were they mentioned by the watershed stakeholders during early project coordination as potential COCs. These contaminants are not causing the creek's beneficial uses to be impaired. In addition, transportation facilities are not identified as potential source(s) of these contaminants in Drinking Water Source Protection Plans. Disinfection residuals and disinfection byproducts, which also have drinking water standards, are not applicable to highway stormwater runoff.

Historically, UDOT only selectively sprays herbicides to control noxious weeds. Herbicides are not used for corridor-wide vegetation control. UDOT also does not use fertilizers when establishing or maintaining roadside vegetation. Instead, a vegetative growth medium, which is a thin layer of

organic material, is used where existing topsoil is not available to support revegetation of disturbed areas. As described in Section 25.2.7, *Mitigation Measures for Impacts to Ecosystem Resources*, of the EIS, UDOT will coordinate with the USDA Forest Service and follow Salt Lake County watershed protection ordinances regarding the use of herbicides in Little Cottonwood Canyon.

Pathogens from illicit discharges, animal waste, transported livestock, illegal dumping, homeless camps, and garbage trucks can be found in a highway's stormwater drainage network. However, a transportation facility itself is unlikely to be the primary contributor of pathogenic pollution (NCHRP 2019). The action alternatives would not change the watershed protection ordinances and regulations that are in place to address these pollutants. Adding restrooms at the improved trailheads as proposed with the action alternatives would reduce the risk of pathogenic contamination entering Little Cottonwood Creek compared to the No-Action Alternative.

The proposed action alternatives were analyzed for stormwater runoff impacts to Little Cottonwood Creek. In addition to analyzing pollutants typically found in highway stormwater runoff, the EIS addresses several Safe Drinking Water Act COCs which were identified by stakeholders for analysis. The water quality model analysis found *de minimis* changes in analyzed COC concentrations between the No-Action and action alternatives. Therefore, the stormwater runoff from action alternatives to Little Cottonwood Creek should not affect treatment processes or Metropolitan Water's ability to deliver safe drinking water.

L. *SLCDPU commented that the SELDM model is a road-based model and is not an adequate tool to analyze water quality impacts from the gondola alternatives.*

UDOT disagrees that the SELDM model is not appropriate. It is not strictly a road-based model and can be used to quantify resulting water quality impacts from a wide variety of land uses and land use changes that contribute pollutants. UDOT used the model to analyze the impacts from the increased impervious area within the watershed from the construction of parking structures, base stations, and roadways at the gondola alternatives base station and terminal stations. The Metropolitan Water District of Salt Lake and Sandy acknowledges, in its watershed management plan, that impervious surfaces are a concern that should be addressed. The gondola systems are not anticipated to generate pollutants. Mechanical equipment is enclosed and, in working to address SLCDPU's concerns, UDOT included secondary containment with leak-detection monitors for fuel storage needed for the gondolas backup power generators. UDOT does not anticipate spills, and the system would be designed to capture any accidental releases.

M. *SLCDPU commented that providing water to the avalanche sheds requires reviewing the water's source, water rights, water quality, and potential impacts downstream and on the surrounding environment. Little Cottonwood Creek's classification pursuant to the Clean Water Act might also affect the way water is managed for this purpose. They also commented that the snow sheds would be a point discharge.*

See responses 32.12E and 32.12K. As mentioned in Section 12.4.3.4.1, *Snow Sheds with Berms Alternative*, of the EIS, discharges from firefighting are not point-source discharges that are subject to Utah Pollutant Discharge Elimination System (UPDES) permitting. However, the EIS states that UDOT would contain water from a fire-suppression release and spills within the snow sheds.

The potential for a vehicle fire does not increase with the snow sheds, and the potential for an accident and fire is very low. UDOT does not believe that the probability of an accident with a fire would be different in the snow sheds versus other areas of the roadway. Fire-suppression flows in other areas of the roadway corridor would have no containment; therefore, snow sheds are better than the No-Action Alternative from this perspective.

UDOT will work with SLCDPU (as an "authority having jurisdiction" per National Fire Protection Association [NFPA] 502, *Standard for Road Tunnels, Bridges, and Other Limited-access Highways*) and the fire department during the final design of the snow sheds to address the specific requirements for spill and fire-suppression containment.

N. *SLCDPU proposes collaborating with UDOT stormwater monitoring programs to analyze roadway impacts on stormwater runoff and water quality.*

See response 32.12K for a summary of the collaboration efforts. The proposed post-construction BMPs in the canyon would likely be vegetated filter strips that maintain sheet flow off the road. There would be few direct discharges where UDOT could collect a highway stormwater runoff sample.

UDOT water quality modeling showed *de minimis* changes in water quality for the action alternatives, and those small changes would occur only during infrequent storm events. It would not be possible to design a monitoring program to isolate the contributions of the road and compare it to the contributions of the natural watershed, which contains many highly erodible areas.

O. *SLCDPU commented that they support UDOT's efforts to mitigate impacts to water resources by providing buffer areas around trailheads and parking areas. The City requests that BMPs be applied in these areas to minimize the effects of runoff. The City further supports stormwater drainage designs to reduce water quality impacts of runoff from alternative improvement areas to Little Cottonwood Creek. Additionally, SLCDPU requests double-walled fuel tanks, full secondary containment, and appropriate safety measures for the backup diesel generators required for the Cog Rail Alternative and in other alternatives requiring diesel fuel storage. Further, SLCDPU requests containment of the associated pipes and filling area to mitigate against spills and leaking.*

All of the measures requested in the comment are included in the EIS as part of the alternatives.

P. *SLCDPU commented that the impacts of fill slopes, cut slopes, and decreased buffer zones on water quality and riparian corridors are not addressed in the EIS. UDOT should produce a robust analysis of these impacts on the riparian corridor, water quality, and ecosystem functions.*

A very detailed, complex analysis would be needed to determine the water quality treatment function of the existing buffer zone in different segments of the corridor. For example, the existing buffer zone is very steep and unvegetated in some areas and, therefore, the existing buffering capacity would be low in those area. Minor encroachments would not materially change the buffering capacity in those areas. Therefore, UDOT's modeling did not consider the existing buffer zone because UDOT believes that the water quality modeling is a worst-case scenario because it assumes a direct discharge of 100% of highway stormwater runoff to Little Cottonwood Creek

directly above the water treatment plan intake. The modeling using this assumption showed *de minimis* changes.

With the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, UDOT is also committing to repair existing problem areas such as culvert outlets that lack energy dissipation and to install slope drains to minimize side-slope erosion within segments with a steep roadway side slope.

Also see response 32.13B regarding riparian habitats.

Q. *SLCDPU requests that the Grit Mill parking be included in the water quality analysis. Further, SLCDPU and others asked whether there is existing research showing the benefits of asphalt over the current dirt parking areas.*

The new impervious area of the Grit Mill was included in the cumulative impact analysis in Section 21.3.2, *Cumulative Impacts to Water Resources*, of the EIS.

The USDA Forest Service has already prepared a National Environmental Policy Act (NEPA) document for the Grit Mill, which concluded that there would not be water quality impacts, and the project has been mostly constructed. As stated in the EIS, all trailhead improvements proposed by UDOT would include stormwater buffers and BMPs. UDOT will work with the USDA Forest Service regarding surfacing requirement given the snow and other conditions that occur in the canyon.

A compacted dirt and/or gravel parking area might not be any different than paved lots in terms of the volume of stormwater runoff. The amount of discharged runoff would depend on the material, subsurface conditions, and parking area grades, and whether the parking area is directly connected to a waterway via permitter stormwater collection and conveyance ditches or pipes or whether runoff is directed to upland areas which might retain most stormwater runoff. UDOT believes that a stable, paved lot with stormwater BMPs would generally have less erosion and generate less sediment pollution than the existing compacted soil parking areas. Additional BMPs, such as porous gravel or porous pavement, would be evaluated pursuant to UDOT's MS4 permit.

R. *SLCDPU commented prior to the release of the Draft EIS that the figure depicting water rights and points of diversions is incomplete. SLCDPU can help update this figure.*

Prior to the release of the Draft EIS, UDOT worked with SLCDPU to modify Figure 12.2-1, *Water Rights and Points of Diversion*.

S. *SLCDPU commented that the water resources chapter does not adequately address whether any of the alternatives have the potential to impair surface water rights through impacts to water diversions or water delivery infrastructure. It might be helpful to UDOT to meet with Salt Lake City, the Metropolitan Water District of Salt Lake and Sandy, and Sandy City to better understand the water rights and delivery infrastructure in the study area.*

UDOT reviewed the alternatives for their direct impacts to water right points of diversion including the water treatment plant intakes, which would not be directly impacted. If an alternative does impact an intake, and this impact was not captured in the EIS, UDOT would replace its function after coordination with SLCDPU. UDOT would also replace any raw water collection pipes and delivery pipes as well as sewer collection pipes that are impacted by the construction of the alternatives.

T. *SLCDPU requested that guardrail be included in high accident areas along S.R. 210 to prevent vehicles from entering Little Cottonwood Creek.*

UDOT conducted an analysis of high accident areas adjacent to Little Cottonwood Creek and included mitigation in the Draft EIS to include guardrail.

U. *SLCDPU commented that the Little Cottonwood Canyon EIS addresses existing contaminants of concern but does not address the potential for emerging contaminants.*

Emerging contaminants are a broad category of contaminants that are currently not subject to any proposed or promulgated national primary drinking water ("contaminant candidate list") or surface water quality ("contaminants of emerging concern") regulations. Instead, they are being evaluated by the U.S. Environmental Protection Agency for their impacts to human health and aquatic organisms and whether (and, if so, how) to regulate them in the future. UDOT cannot speculate on which contaminants might end up being regulated and the potential effects of the S.R. 210 Project on those contaminants. However, if additional numeric criteria or drinking water standards are established for emerging contaminants, and if Little Cottonwood Creek (or other waterbodies that receive stormwater runoff from the action alternatives) is found to be impaired for these contaminants, UDOT is required by its MS4 permit (No. UTS000003) to determine whether highway stormwater contributes to the impairments. Furthermore, if the stormwater discharges are later determined to contribute to the impairment, UDOT would evaluate actions to prevent and mitigate the discharge of the contaminant causing the impairment.

V. *SLCDPU commented that the modeling demonstrates that UDOT's projection with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would result in 10 days per year, or 3%, of annual streamflow time with elevated phosphorous levels. We recognize that, according to the model, this does not exceed the numeric standards for headwater criteria. However, SLCDPU City feels that it is important to demonstrate the downstream impact to the lower watershed, including the Jordan River.*

It is beyond the scope of EIS analysis to prepare a nutrient load allocation for Little Cottonwood Creek or downstream waters. If highway stormwater runoff is identified as a significant source of nutrients and UDOT is allocated a waste load through a TMDL analysis, UDOT, pursuant to its MS4 permit, will comply with the requirements of the TMDL analysis and address its contributions accordingly.

32.13 Ecosystem Resources

A. *Commenters stated that the gondola alternatives would have less impact on wildlife in Little Cottonwood Canyon. Others commented that the gondola alternatives would have a negative impact on wildlife.*

The Enhanced Bus Service Alternative would have the least impact to wildlife habitat in Little Cottonwood Canyon since there would be no roadway improvements. The gondola alternatives would impact less wildlife habitat than would the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the Cog Rail Alternative, both of which require widening S.R. 210. Because none of the primary alternatives would increase roadway traffic and the road would operate with the same level of summer traffic, the impacts to wildlife crossing the road would be similar among the primary alternatives.

In Little Cottonwood Canyon, the gondola alternatives would convert about 12 acres of forest/woodland, shrubland, and developed and/or disturbed habitat to transportation use, or less than 0.5% of the habitat in the ecosystem resources impact analysis area. The loss of 12 acres of habitat would reduce habitat availability for terrestrial wildlife. Little Cottonwood Canyon is not considered a wildlife migration corridor; however, the presence of gondola towers and the increase in activity from gondola cabins moving overhead could slightly increase the barrier effect for terrestrial mammals that use the canyon. Terrestrial mammals would eventually acclimate to the presence of the gondola. No federally threatened, endangered, or candidate species or habitat was identified in the impact analysis area; therefore, no impacts to threatened and endangered species would occur as a result of construction of the gondola system.

Suitable habitat for USDA Forest Service sensitive wildlife would be affected by removal of vegetation and disturbance from the operation of the gondola. The loss of 12 acres of habitat would reduce habitat availability for sensitive wildlife species. If suitable habitat is present, sensitive species could be temporarily displaced during construction, but no long-term impacts to populations would occur.

Birds might strike the gondola cables or towers. No data are available regarding the frequency of bird deaths due to striking gondola cables. A study of electrical transmission lines (many including red aircraft warning lights) found between 0 and 20 dead birds per kilometer (0.6 mile) of transmission line per year (Avian Conservation and Ecology 2013). Because there are many variables such as habitat type, bird type, and bird density, it is not possible to apply other studies to the specifics of Little Cottonwood Canyon. Nonetheless, it is likely that some birds would be killed by striking the gondola cables.

The studies also found that red aircraft warning lights that are permanently on (always red) could attract birds and contribute to birds striking the towers or cables. The gondola towers might require aircraft obstruction lighting. The light system would be either flashing red lights or short-duration flashing red lighting that is activated only when an aircraft enters the canyon (this is infrequent and typically associated with emergency response helicopters). The flashing red lights have been shown to reduce bird fatalities by between 50% and 70% (Audubon, no date).

UDOT would use helicopters to place some of the gondola towers, and this construction technique might displace, and temporarily disrupt the foraging behavior of, wildlife in the area, including special-status species. Helicopter flights during construction of the gondola system could disturb by noise and visual cues cliff-nesting raptors that fly within the flight path. UDOT expects that the gondola towers would be constructed spring through fall (as weather conditions allow). Although birds would be temporarily disturbed by helicopter noise and activity, the effect would be short-term and temporary. UDOT would coordinate with the USDA Forest Service before helicopter flights to determine whether there are any known raptor nests in the flight path. These nests would be avoided.

Noise monitoring was conducted at the Whistler Ski Resort 3S gondola to document baseline noise levels before and during the operation of the tram. The monitored noise conditions ranged from 49 to 55 dBA, with an average reading of 54 dBA. Based on the noise monitoring, the operational noise of the gondola is expected to average 54 dBA, which is within the range that affects bird behavior but is not at a level likely to affect terrestrial mammals.

Chapter 13, *Ecosystem Resources*, of the EIS includes extensive mitigation measures to avoid, rectify, and minimize impacts to ecosystem resources.

B. Commenters asked whether the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have a negative impact on wildlife and plant species.

The Enhanced Bus Service in Peak-period Shoulder Lane Alternative would convert about 33 acres of shrubland and forest/woodland habitat to transportation use for the peak-period shoulder lanes. The habitat that would be converted is primarily disturbed habitat immediately adjacent to the roadway that is degraded from roadside parking and other disturbance. It provides slight habitat value to wildlife. UDOT does not expect that any impacts to sensitive plant species would occur from the peak-period shoulder lanes. However, because individuals of these species might have been missed during the field surveys or might be present adjacent to disturbed areas, undetected plants could be removed during construction. If plants are present, the impacts would be local and not intense or large enough to cause a substantial effect or loss of species viability.

The additional lanes could increase the number of vehicle collisions with large mammals. Seven wildlife-vehicle collisions occurred in Little Cottonwood Canyon over the 2-year period from 2017 to 2018, and the USDA Forest Service did not identify Little Cottonwood Canyon as a high-wildlife-strike area or a major wildlife migration corridor. As part of this alternative, UDOT would install lighted signs to indicate when the peak-period shoulder lane is open, and these signs might further increase the barrier effect as wildlife seeks to avoid these lighted areas. The peak-period shoulder lanes would be intended for buses only, not personal vehicles, and would operate from late November to mid-April. The lanes would not increase vehicle traffic during the winter. UDOT expects that the noise levels adjacent to the roadway would be similar to existing conditions (59.4 A-weighted decibels [dBA] at Tanners Flat Campground) and would have similar impacts to wildlife as the existing noise conditions along S.R. 210. During the summer, the peak-period shoulder lanes would not be used by vehicles, so the noise and wildlife strike impacts from vehicles would be similar to the existing summer conditions.

No federally threatened, endangered, or candidate species or habitat was identified in the ecosystem resources impact analysis area; therefore, no impacts to threatened and endangered species would occur as a result of the Enhanced Bus Service in Peak-period Shoulder Lane Alternative.

Impacts to migratory birds and raptors would include a loss of 33 acres of shrubland and forested/woodland habitat, which would reduce habitat and prey availability. However, the habitat that would be converted is disturbed roadside habitat that is already degraded and is heavily affected by human disturbance.

C. *Commenters asked what mitigation UDOT considered to mitigate impacts to plant and wildlife species.*

Section 13.4.7, *Mitigation Measures*, of the EIS details how UDOT would mitigate impacts to plant and wildlife species. These measures include timing construction to avoid peak bird nesting seasons, ways to minimize the potential for invasive plant species during construction, mitigation for aquatic species and sensitive plant species, and mitigation for riparian habitat conservation areas. For impacts to riparian habitat conservation areas and other disturbed areas, UDOT would restore habitat in coordination with the USDA Forest Service. UDOT will follow U.S. Fish and Wildlife Service guidelines regarding raptors.

D. *Commenters stated that widening Wasatch Boulevard would result in an environmental impact to the natural environment.*

The Wasatch Boulevard alternatives would convert about 35 acres of mostly developed and/or disturbed and agricultural land to transportation use. Vegetation would be converted as a result of clearing, excavating, and grading to widen Wasatch Boulevard. The habitat that would be converted is primarily disturbed roadside habitat that has already been degraded and provides little habitat value to wildlife.

The wider road would slightly increase noise and visual disturbance to wildlife near the road. The wider road would also increase the barrier to wildlife crossing Wasatch Boulevard and increase their avoidance of the highway. The Utah Wildlife-Vehicle Collision Reporter documents seven wildlife-vehicle collisions on Wasatch Boulevard during a 2-year period. The wider roadway could increase the number of wildlife-vehicle collisions in this segment of S.R. 210. No federally threatened, endangered, or candidate species or habitat was identified in the ecosystem resources impact analysis area; therefore, no impacts to threatened and endangered species would occur as a result of the Five-lane Alternative. UDOT has determined that there would be no effect on threatened and endangered species from the action alternatives due to the lack of suitable habitat.

Impacts to migratory birds and raptors would include a minor loss of disturbed roadside habitat and increased noise and visual disturbance. Impacts to aquatic species from constructing the Wasatch Boulevard alternative would be minor because there would be few aquatic impacts (0.02 acre), the habitat impacts would be mostly in existing channelized areas next to the existing road.

E. Commenters stated the snow sheds would impact the ecology of Little Cottonwood Canyon.

The avalanche mitigation alternatives would convert between 15 to 18 acres of mostly disturbed habitat to transportation use for the construction of the snow sheds. The areas where the snow sheds are proposed are regularly disturbed by avalanches and avalanche mitigation measures, which has removed much of the vegetation along these steep slopes. Snow sheds can create barriers to wildlife movements if they are located along a wildlife movement corridor. Movement corridors for big game and other wildlife are typically located along riparian corridors and stream crossings. There are no stream crossings or riparian areas immediately adjacent to the proposed snow sheds, and the sheds would be located along steep avalanche paths with cut banks leading to the road. These areas already present a barrier to most wildlife movement. Therefore, the addition of snow sheds would only slightly increase the barrier effect of an area that is likely already avoided by most wildlife. The snow sheds would impact one USDA Forest Service sensitive species.

Under UDOT's current avalanche-mitigation program, from 2004 to 2017, an average of 153 artillery shells per ski season were fired into the avalanche paths where the snow sheds would be placed. UDOT anticipates that, with snow sheds, artillery use in the avalanche paths protected by the snow sheds could be reduced by 80% to about 31 artillery shells per season. Although wildlife in the area is likely acclimated to the artillery noise and disturbance, reducing the use of artillery would benefit wildlife in the area.

F. Commenters stated that the Cog Rail Alternative would have substantial impacts to vegetation and wildlife in Little Cottonwood Canyon.

The Cog Rail Alternative would convert about 122 acres of forest/woodland, shrubland, and developed and/or disturbed habitat to transportation use for the cog rail base station and rail alignment. The habitat that would be converted is primarily disturbed habitat immediately adjacent to the roadway that is degraded from roadside parking and other disturbance. It provides slight habitat value to wildlife. UDOT does not expect that any impacts to sensitive plant species would occur. However, because individuals of these species might have been missed during the field surveys or might be present adjacent to disturbed areas, undetected plants could be removed during construction. If plants are present, the impacts would be local and not intense or large enough to cause a substantial effect or loss of species viability.

The rail alignment would be constructed immediately adjacent to S.R. 210 in Little Cottonwood Canyon and would require constructing a 3-foot-high, cast-in-place concrete barrier between S.R. 210 and the cog rail tracks for the entire length of the rail alignment in the canyon. This concrete barrier along with proposed snow sheds would increase the barrier effect of the road for wildlife crossing S.R. 210. The concrete barrier and rail line would generally be located along steep slopes on the north side of S.R. 210. Traffic volumes in the canyon are already high during the peak winter season, and therefore the addition of a rail service immediately adjacent to S.R. 210 would have little effect on mammals, which are already limited from moving across the road at these times. Due to the slow speed of the cog rail in the canyon (slower than personal vehicles), it is unlikely that the number of wildlife-vehicle collisions would increase with operation of the cog rail.

Noise from the rail operation could have a detrimental effect on the behavior of some sensitive wildlife species. The noise modeling for the Cog Rail Alternative concluded that, at a distance of 105 feet from the rail line, cog rail noise levels would be 65 dBA. The measured background noise levels along S.R. 210 in Little Cottonwood Canyon ranged from about 48 to 59 dBA. The rail alignment would be immediately adjacent to the existing roadway where the maximum noise level was 59 dBA; therefore, background noise levels would increase when the cog rail is in operation.

Minor increases in noise could cause birds to abandon nests or roosts that are otherwise suitable; noise can be stressful and interfere with foraging, sleeping, and other activities; intense noise can cause permanent damage to an animal's auditory system; and noise can interfere with acoustic communication by masking important sounds or sound components. Multiple bird studies have documented changes in song characteristics, reproduction, abundance, stress hormone levels, and species richness at levels at or over 45 dBA. Terrestrial mammals exhibited increased stress levels and decreased reproductive efficiency at noise levels between 52 and 68 dBA. Most of the wildlife that currently occupies the ecosystem resources impact analysis area is likely habituated to noise due to the presence of S.R. 210, and therefore the noise impacts associated with operation of the cog rail would be minor.

Some raptors in Little Cottonwood Canyon start nesting in February and March and could be affected by rail operation noise and visual disturbance if they are nesting or foraging near the rail alignment. Migratory songbirds might initially avoid the habitat near the rail alignment area due to the increased noise and visual disturbance, but most birds are expected to acclimate to the presence of the rail line quickly due to its proximity to the busy roadway corridor. Most of the wildlife that currently occupies the impact analysis area is likely habituated to noise and human disturbance due to the disturbed nature of the area and high recreation use, and therefore the impacts associated with operation of the rail year-round would be minor. Impacts to migratory birds and raptors would include a loss of about 66 acres of shrubland and forested/woodland habitat, which would reduce habitat and prey availability. However, the habitat that would be converted is disturbed roadside habitat that is already degraded and is heavily affected by human disturbance.

No federally threatened, endangered, or candidate species or habitat was identified in the ecosystem resources impact analysis area; therefore, no impacts to threatened and endangered species would occur as a result of the Cog Rail Alternative.

G. *The U.S. Environmental Protection Agency (EPA) commented that additional information regarding the direct and indirect effects associated with converting aquatic features to culverts should be included in the Final EIS. They stated that several alternatives that are discussed in the Draft EIS would result in the substantial loss of stream resources when considered on a cumulative basis. For example, one of UDOT's preferred action alternatives—the Enhanced Bus Service in Peak-period Shoulder Lane Alternative—would convert 0.19 acre (2,120 linear feet [LF]) of intermittent stream, 0.02 acre (100 LF) of perennial stream, and 0.08 acre (1,220 LF) of ephemeral stream habitat to transportation use. EPA also commented that the Draft EIS includes the title "waters of the United States," however, it (appropriately) describes all aquatic resources in the project area. EPA recommends renaming this section "Aquatic Resources." EPA also*

suggested that additional mitigation be considered for stream impacts. EPA also recommended that impacts to surface water should be considered for cumulative impacts.

UDOT added additional information to Chapter 13, *Ecosystem Resources*, of the Final EIS regarding the impacted aquatic features from the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the Cog Rail Alternative since these are the only two alternatives that would impact aquatic features along S.R. 210. The affected environment section of the chapter has been updated to state that ongoing roadway maintenance, erosion, and vegetation removal around existing stream crossings in the survey area have reduced the ecological and hydrological functions of some of the stream crossings. For example, intermittent streams I-4 and I-5 are alongside S.R. 210 in a roadside ditch and provide no vegetation cover or wildlife habitat. Many of the ephemeral streams adjacent to S.R. 210 have been channelized and placed in culverts under the roadway. The stream crossings are part of the original S.R. 210 design which causes increased sedimentation downstream of the culverts.

More information regarding the direct and indirect impacts has also been included in Chapter 13, *Ecosystem Resources*, of the Final EIS. Habitat at impacted intermittent and ephemeral stream crossings is degraded due to proximity to a transportation corridor and ongoing maintenance activities and provides negligible ecological function beyond water flow. Of the 2,691 feet of intermittent stream impacts, about 1,661 feet (intermittent streams I-4 and I-5) are a ditch along S.R. 210 that have no vegetative cover or associated wildlife habitat. Of the ephemeral stream impacts, most would be immediately adjacent to the road in channelized areas that have minor vegetative cover. UDOT has added additional information regarding mitigation measures and best management practices (BMPs) to minimize any impacts to aquatic features. These mitigation measures include properly sized culverts that would result in a net benefit to stream flow and sediment transport at impacted stream crossings. The use of properly sized and engineered culverts for stream crossings would minimize indirect effects on aquatic resources and provide unobstructed, continuous flow for fish and macroinvertebrates. Most of the existing culverts on S.R. 210 were part of the original roadway design and do not meet this function.

UDOT does not agree that the loss of the intermittent, perennial, and ephemeral streams from the Enhanced Bus Service in Peak-period Shoulder Lane Alternative or the Cog Rail Alternative would result in a substantial cumulative impact to these resources. These resources have been altered through channelization and stabilization measures, and channels of several segments were eroded at culvert discharges. For the peak-period shoulder lanes, for example, of the 2,691 feet of intermittent stream impacts, about 1,661 feet (intermittent streams I-4 and I-5) are a ditch along S.R. 210 that have no vegetative cover or associated wildlife habitat. Of the ephemeral stream impacts, most would be immediately adjacent to the road in channelized areas that have minor vegetative cover. Based on the character of the impacted aquatic resources along S.R. 210, UDOT does not believe that the impacts would result in a significant cumulative impact. With the implementation of BMPs added to the Final EIS, many of the crossings would be improved compared to the existing conditions.

EPA also requested that the term *waters of the United States* in the ecosystem resources chapter be changed to *aquatic resources*. The change has been made in the Final EIS as requested.

UDOT also updated the discussion in Chapter 13, *Ecosystem Resources*, of the Final EIS to update the jurisdictional status of aquatic resources.

H. *The U.S. Army Corps of Engineers (USACE) commented that only the Corps of Engineers has the authority to determine the jurisdictional status of waters through the jurisdictional determination process. Therefore the EIS should be revised to exclude language regarding jurisdictional status.*

The Final EIS has been revised to state that USACE will make the final jurisdictional determination regarding aquatic resources. Once UDOT selects an alternative in the Record of Decision, UDOT will submit a delineation report prepared in accordance with USACE Minimum Standards.

I. *USACE would like to reiterate concerns with the potential for indirect effects on waters. Indirect effects are defined as impairments or losses of aquatic resources that occur at a different time or location than the placement of the fill. Indirect effects could be reduced or eliminated through the mitigation measures, including implementation of BMPs. Although BMPs have been demonstrated to be effective means of reducing impacts, such BMPs are not 100% effective, and adverse construction effects are well-established.*

Once an alternative is selected in the Record of Decision and UDOT applies for a permit with USACE, if necessary, further details regarding BMPs will be provided.

J. *Save Our Canyons commented that the proposed alternatives could increase visitation and thus increase the fire risk in Little Cottonwood Canyon.*

All of the primary alternatives could increase winter visitation to the ski resorts (see response 32.20C). However, the increased visitation would occur during the winter months and at the ski resorts when any fire risk is very low because of the snow on the ground. Of the five primary alternatives, only the gondola and cog rail alternatives propose to increase summertime use and only at the ski resorts. The increased use would be from users of the alternatives and not from increased vehicle use, thus reducing the potential for roadside fires. In addition, as the increased summer users would be at the ski resorts with amenities and emergency response, the risk of a fire would be lower.

32.14 Floodplains

A. A commenter stated that 2 acres of floodplains would be impacted in Little Cottonwood Canyon.

The floodplain impact number summary in the EIS shows up to 2 acres of floodplains being impacted. However, about 1.2 acres of the impacts would be along Wasatch Boulevard and not in Little Cottonwood Canyon. The changes to the floodplain would be in areas where S.R. 210 currently crosses a stream. If improvements are made in these areas, they would be implemented in accordance with the current regulatory requirements The Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have the greatest impact in Little Cottonwood Canyon at 0.88 acre followed by the Cog Rail Alternative at 0.35 acre. The gondola alternatives would have about 0.32 acre of floodplain impacts. All of the floodplain impacts would be outside the primary floodway. For the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the Cog Rail Alternative, many of the floodplain impacts would be to existing culverts that cross S.R. 210. As part of the project, the replacement culverts would be designed to better accommodate the floodplain.

UDOT and/or its construction contractor will take measures to reduce floodplain impacts and to ensure that the project complies with all applicable regulations. As part of the final design process for the project alternatives, UDOT will obtain any necessary local floodplain permit and conduct the appropriate coordination requirements as stated in the EIS.

The action alternatives would require a number of stream and floodplain crossings in the same locations where they presently exist. Where new or rehabilitated bridges and culverts are included in the design of an alternative, the design will follow Federal Emergency Management Agency (FEMA) requirements and the requirements of UDOT's *Drainage Manual of Instruction*, where applicable. Where no regulatory floodplain is defined, culverts and bridges will be designed to accommodate a 50-year (2%-annual-chance) or greater magnitude flood. Where regulatory floodplains are defined, hydraulic structures will be designed to accommodate a 100-year (1%-annual-chance) flood. Energy-dissipation measures will be included in the alternative's design as applicable.

Chapter 13, *Ecosystem Resources*, of the EIS analyzes the impact to streams and the expected negative impacts caused by changes from the project alternatives.

32.15 Cultural Resources

A. *Commenters stated that UDOT did not reach out to Native American tribes as part of the EIS process to seek their input.*

Section 27.6.7, *Tribal Coordination*, of the EIS details the outreach effort UDOT made to Native American tribes during the development of the EIS. This included five specific contacts made with the tribes during the development of the EIS.

UDOT, in coordination with the USDA Forest Service, conducted an extensive review of cultural resources in Little Cottonwood Canyon including Native American resources. The information is contained in the *Class III Archaeological Inventory of Little Cottonwood Canyon Environmental Impact Statement, Salt Lake County, Utah, January 2021*. This report provides the cultural context of Little Cottonwood Canyon including the prehistory and history. The cultural resource investigation included a review of past survey reports and new survey in areas potentially impacted by the project. The archaeological report was made available for review to Native American tribes and other consulting parities. Because the report contains sensitive archaeological site information, it is not made available to the general public.

B. *Commenters stated that the gondola alternatives could impact cultural resources. Other commenters asked whether the EIS considers historic and archaeological resources.*

Chapter 15, *Cultural Resources*, of the EIS details the impacts to cultural resources including archaeologic and historic resources. The avalanche mitigation (snow shed) alternatives would result in one adverse effect, the gondola alternatives in one adverse effect, and the Cog Rail Alternative in one adverse effect.

All action alternatives presented in this EIS could cause impacts to cultural resources from ground-disturbing activities during construction. Additional impacts include changes to the setting or viewshed of new facilities. The viewshed impacts were coordinated with the USDA Forest Service and the Utah State Historic Preservation Office.

C. *A commenter asked whether UDOT considered the Thomas Moore structure.*

The Thomas Moore structure was evaluated. The structure would not be directly impacted by any of the primary alternatives.

D. *Save Our Canyons commented that the cultural resource analysis did not include visual impacts to archaeological resources that might occur from the primary alternative.*

UDOT, in working with the USDA Forest Service, considered cultural resources in Little Cottonwood Canyon and evaluated visual impacts to these resources outside the 100-foot buffer. The study area for the cultural visual analysis was defined to include the environment encompassed within the extents of Little Cottonwood Canyon bound by bold, distinctive landforms to the north and south that create a focused and enclosed visual setting. Due to the existing density of development, the viewshed analysis area excludes the visual environment of the urban area surrounding S.R. 210 northwest of the entrance to Little Cottonwood Canyon.

E. *Save Our Canyons commented that UDOT was more concerned about the visual impacts to the historic buildings at Snowbird Resort than to other resources in Little Cottonwood Canyon.*

UDOT evaluated different towers when the towers were adjacent to historic structures as defined by cultural resource regulations. Some buildings at Snowbird Resort are considered historic structures under Section 106 of the National Historic Preservation Act. UDOT consulted extensively with the State Historic Preservation Office regarding impacts to the historic structures as Snowbird. To mitigate adverse impacts under Section 106, UDOT was required to include a different tower design by the historic structures. It should be noted that UDOT consulted with the State Historic Preservation Office with regard to all impacted resources in Little Cottonwood Canyon, and the State Historic Preservation Office agreed with UDOT's findings and suggested mitigation measures for cultural resources.

32.16 Hazardous Materials and Waste Sites

A. *Commenters were concerned about impacts to old mining sites from construction of the primary alternatives.*

The enhanced bus service alternatives would not impact any hazardous waste sites in Little Cottonwood Canyon as a result of the proposed bus stations. The Enhanced Bus Service in Peak-period Shoulder Lane Alternative, the gondola alternatives, and the Cog Rail Alternative would require construction near Tanner's Flat (about mileposts 7.9 to 8.2) and would be adjacent to a site with a high probability of contamination: the Jones and Pardee Smelter Superfund (Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA) site that is located on the north side of S.R. 210 in this area. Prior to construction, UDOT would conduct an environmental site investigation to determine the extent of contamination, if any. If contamination is found, an avoidance or a remediation plan would be developed. If remediation of the Jones and Pardee Smelter site is required, it is possible that remediation could delay the project at the location of the remediation and increase construction cost.

If a mining site is impacted, UDOT will coordinate with the Salt Lake City Department of Public Utilities, the USDA Forest Service, and the Utah Department of Environmental Quality to discuss remedial actions.

B. *The Utah Department of Environmental Quality (UDEQ) Division of Environmental Response and Remediation (DERR) commented that sites deleted from the National Priority List (NPL) or listed as no further remedial action planned (NFRAP) might contain contaminated material, and future construction might encounter hazardous materials.*

Text has been added to Section 16.3.2.3, *Superfund (CERCLA) Sites, Voluntary Cleanup Program Sites, and Historic Mining Sites*, of the Final EIS at the end of Flagstaff Smelter section to state, "Although this site was deleted from the NPL, it might contain contaminated materials or hazardous substances." The requested coordination for potential impacts to known and unknown sites is included in Section 16.4.8, *Mitigation Measures*, of the Final EIS.

C. *UDEQ commented that Section 16.3.2.3,* Superfund (CERCLA) Sites and Voluntary Cleanup Programs*, states that the Jones and Pardee Smelter and North Star Smelter are not NPL sites*

under CERCLA (Superfund). These smelter sites were investigated under CERCLA authority in coordination with the U.S. Environmental Protection Agency (EPA). Preliminary Assessments were conducted at both smelter sites, and it was determined at that time that the threat to human health and/or the environment was not sufficient for further CERCLA consideration such as conducting a CERCLA Site Investigation or proposal for inclusion on EPA's National Priorities List. Despite this determination, there might still be mining wastes at these sites that, if disturbed, would need to be managed in a protective manner.

Text has been added to Section 16.3.2.3, *Superfund (CERCLA) Sites, Voluntary Cleanup Program Sites, and Historic Mining Sites*, of the Final EIS to the Jones and Pardee Smelter and North Star Smelter sections to clarify that they are not CERCLA or NPL sites. Text was also added to clarify the work done on the sites and the potential for mining wastes to still be present at the sites.

D. *UDEQ commented that the Davenport and Flagstaff Smelters are considered a single site under EPA's NPL designation. A portion of the CERCLA-designated Davenport and Flagstaff Smelters NPL site, prior to EPA's NPL listing, had been in the state's Voluntary Cleanup Program (VCP). That portion of the combined NPL-listed site was terminated from the VCP once the collective smelter sites were placed on the NPL in 2003. The main driver for NPL listing was lead and arsenic contamination.*

Section 16.3.2.3, *Superfund (CERCLA) Sites, Voluntary Cleanup Program Sites, and Historic Mining Sites*, of the Final EIS has been updated to combine the Davenport and Flagstaff Smelters into one section and the text revised to clarify the sites' VCP and NPL statuses per the comment.

E. *UDEQ commented that the land on the La Caille restaurant property is part of the Davenport and Flagstaff Smelters NPL Superfund site and that proceeding with Gondola Alternative B would therefore involve a high probability of encountering contamination. Please include coordinating with DERR and EPA in the alternative if construction is planned on the Davenport and Flagstaff Smelter Site footprint.*

Section 16.4.6, *Gondola Alternative B (Starting at La Caille)*, of the Final EIS has been updated to state that the Gondola Alternative B base station would be "located on" the Flagstaff and Davenport Smelter site and that coordination with DERR and EPA would be required. The Final EIS describes the expected impacts to the site and mitigation to avoid impacts to public health and safety.

32.17 Visual Resources

Some commenters on the Draft EIS felt that UDOT should have provided additional visual simulations and key observation points (KOPs) as part of the visual resource analysis for the gondola alternatives. As part of developing the Draft EIS, UDOT worked with the USDA Forest Service to determine important KOPs throughout the canyon.

What are key observation points (KOPs)?

Key observation points represent viewing locations from which the sensitive viewer types would typically view the project elements from either stationary or linear locations.

Given the level of interest in the visual impacts from the gondola alternatives, UDOT has prepared and added visual simulations to some of the KOPs where the gondola impacts were rated as high but had no simulation (KOP 6 and KOP 20). These additional simulations are provided in Appendix 17A, *Key Observation Points for the Enhanced Bus Service and Gondola Alternatives*, of the Final EIS. UDOT also prepared six simulations from areas that were not designated as KOPs but that provide additional vantage points from which the gondola facilities would be conspicuous. The new simulations are provided in Appendix 32E, *Gondola Towers Visual Simulations*, of the Final EIS. The provided simulations are at the Snowbird Ski Resort and in the town of Alta and provide a general representation of the gondola towers.

These simulations were prepared in response to comments and to further help decision-makers and public visualize the gondola impacts. They do not change the KOP analysis or its results, or the conclusion that the gondola elements would be visually dominant from many viewpoints in the study area and would have the highest visual impact among the alternatives, as described in Chapter 17, *Visual Resources*, of the EIS and in Section 32.17, *Visual Resources*, of this chapter.

A. Commenters stated that the gondola alternatives would have the greatest impact to the visual resources in Little Cottonwood Canyon. The gondola would impact the views from many of the hikes on the south side of the canyon, would ruin the views of climbers in the lower canyon, would impact the night sky with tower lights, and would ruin the scenic byway designation. Other commenters stated that the gondola system would not create visual impacts.

General Visual Impacts. Chapter 17, *Visual Resources*, of the EIS provides an analysis of the visual impacts of the gondola alternatives in Little Cottonwood Canyon including visual simulations for key observation points including from trails where the gondola infrastructure could be viewed. The KOPs were selected in coordination with the USDA Forest Service.

The analysis states that, of all of the primary action alternatives, the gondola alternatives would have the greatest impact on views from recreation areas. Project elements, such as the gondola towers, would introduce elements and/or patterns that would be visually dominant and would create strong contrast compared with other features in the landscape. Movement associated with the large, elevated gondola cabins would further dominate the visual setting and attract attention. This movement would be most apparent closest to the gondola alignment where the gondola cabins would demand attention as they move through the landscape.

Additionally, depending on local lighting conditions, the gondola cabins would introduce moving shadows, thereby generating increased motion in the visual setting near the alignment. In some areas, hikers might see the gondola infrastructure for longer periods, including views of multiple moving gondola cabins; however, this does not change the analysis that the gondola infrastructure would be visually dominant and out of character with the surrounding environment. In some areas, views toward the gondola infrastructure would be partially screened by vegetation and topography.

What is project contrast?

Project contrast is a measure of the overall visual change to existing features of the landscape (including landscape character, landform/slope, and vegetation) resulting from the construction and operation of a given project.

Views from the Twin Peaks and Lone Peak Wilderness Areas were not specifically assessed in this analysis in accordance with Section 303 of the Utah Wilderness Act of 1984 (Public Law 98-428). This section clarifies that the creation of these wilderness areas was not intended to create buffers to preclude non-wilderness activities beyond their boundaries. The KOP selection process did include a review of KOP locations along trails traversing these wilderness areas, including from the Red Pine Trail (KOP 15) located in the Lone Peak Wilderness Area, to assess the impacts of the project alternatives on views from USDA Forest Service–managed trails.

Impacts to the Little Cottonwood Canyon Scenic Byway. Impacts to the Little Cottonwood Canyon State Scenic Byway visitor experience would include views of the gondola infrastructure (gondola base station, towers, and moving gondola cabins) along most of the 7-mile-long scenic byway. Due to tall vegetation adjacent to the scenic byway, views of the gondola infrastructure would be intermittently screened in some locations. However, where the gondola infrastructure is visible, it would be visually dominant and would demand the attention of visitors, especially where the gondola alignment crosses over the scenic byway. Since views along the scenic byway would be dominated by gondola infrastructure, the visitor experience would be degraded and would, therefore, limit the USDA Forest Service's ability to manage the scenic byway to protect scenic vistas and intrinsic scenic qualities.

Impacts from Tower Lighting. UDOT would coordinate with the Federal Aviation Administration (FAA) regarding the feasibility of implementing an aircraft detection lighting system (ADLS) to reduce the impacts of nighttime lighting. An ADLS (or a similar system) would remain off until it detects nearby aircraft. It would then turn on and would turn off again after the aircraft leaves the area. If an ADLS is approved during the FAA permit process, the short-duration synchronized flashing of the ADLS would have substantially fewer visual impacts at night than the standard continuous, medium-intensity, red-strobe FAA warning system, so it would help to reduce the impacts of nighttime lighting. Because there is little air traffic in Little Cottonwood Canyon at night, and such air traffic is generally limited to emergency evacuations or heli-skiing flights, the ADLS would activate infrequently, further reducing the intensity of visual impacts compared to the standard FAA warning system. Each gondola cabin would not need to have separate warning lights, nor would the gondola cables. The tower lighting system would make no audible noise in the surrounding area.

Mitigation Measures. As described in Section 17.4.8, *Mitigation Measures*, of the EIS, UDOT will consider a series of mitigation measures to minimize visual impacts.

B. *Commenters stated that widening S.R. 210 with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would result in substantial visual impacts from the additional cuts, fills, and walls required for the road widening.*

General Visual Impacts. Chapter 17, *Visual Resources*, of the EIS provides an analysis of the visual impacts of the Enhanced Bus Service in Peak-period Shoulder Lane Alternative. With this alternative, the natural landscape would appear noticeably altered in some areas where cut-and-fill slopes are not currently prevalent, and landform modifications would attract attention within the immediate foreground area. Project elements would introduce form, line, color, texture, or scale common in the landscape; would be visually subordinate (weak contrast); and would be similar to existing roadway landform modifications in Little Cottonwood Canyon. West of the Lisa Falls Trailhead, cut-and-fill slopes up to 70 feet wide would introduce form, line, color, texture, or scale not common in the landscape and would be visually prominent in the landscape.

Impacts to the Little Cottonwood Canyon Scenic Byway. Impacts to the Little Cottonwood Canyon State Scenic Byway visitor experience would include views of road improvements. These improvements would be visually subordinate to the existing landscape as visitors drive the 7-mile-long scenic byway. In a few areas, the proposed cut-and-fill slopes would be visually prominent in the landscape and would attract the attention of visitors driving the scenic byway. Since the road improvements including associated earthwork would be visually subordinate along most of the scenic byway, except for views of areas where more-extensive earthwork would be required, the proposed improvements would not diminish or limit the management of the scenic byway by the USDA Forest Service to protect scenic vistas and intrinsic scenic qualities.

Mitigation Measures. As described in Section 17.4.8, *Mitigation Measures*, of the EIS, UDOT will consider a series of mitigation measures to minimize visual impacts.

C. *Commenters were concerned about the visual impacts from the snow sheds.*

As stated in Chapter 17, *Visual Resources*, of the EIS, the snow sheds would result in high visual impacts in Little Cottonwood Canyon. The landscape would appear severely altered, and the snow shed infrastructure with the realigned road would dominate the visual setting in the immediate foreground and foreground areas. Project elements would introduce form, line, color, texture, or scale not common in the landscape and would be visually dominant in the landscape (strong contrast).

Impacts to the Little Cottonwood Canyon State Scenic Byway visitor experience would include views of three snow sheds in the upper portion of Little Cottonwood Canyon between Tanner's Flat and the Snowbird resort. These elements would be visually dominant compared to the existing landscape as visitors drive this approximately 1.5-mile section of the overall 7-mile-long scenic byway. As stated in the *Cottonwood Canyons Corridor Management Plan*, the vision for the scenic byway is to "offer outstanding scenery, access to year-round developed and undeveloped recreation, and visitor education and information, creating an enjoyable and satisfying experience for visitors to the byways and their destinations." Specifically, the plan identifies a strategy to protect scenic vistas under the goal of protecting the canyon's watershed and natural resources. The snow sheds would be focused in one area where avalanches limit year-round access along the scenic byway due to occasional road closures.

D. *Commenters stated that the Cog Rail Alternative would have less or greater visual impacts than other primary alternatives.*

General Visual Impacts. Chapter 17, *Visual Resources*, of the EIS provides an analysis of the visual impacts from the Cog Rail Alternative. With the Cog Rail Alternative, the natural landscape would appear severely altered, and the cog rail infrastructure would dominate the visual setting. Project elements would introduce form, line, color, texture, or scale not common in the landscape and would be visually dominant in the landscape (strong contrast). Movement associated with the cog rail vehicles would further dominate the visual setting and attract attention. The movement would be most apparent adjacent to the cog rail alignment where, because of the relative scale of the trains compared to vehicles traveling along S.R. 210, the cog rail system would demand attention as the trains move through the landscape. Unlike the gondola system proposed with the gondola alternatives, the cog rail system would not be elevated and therefore would not cast moving shadows down on adjacent areas. Project elements would introduce form, line, color, texture, or scale common in the landscape; would be visually subordinate (weak contrast); and would be similar to existing roadway landform modifications in Little Cottonwood Canyon. West of the Lisa Falls Trailhead, cut-and-fill slopes up to 70 feet wide would introduce form, line, color, texture, or scale not common in the landscape and would be visually prominent in the landscape.

Impacts to the Little Cottonwood Canyon Scenic Byway. Impacts to the Little Cottonwood Canyon State Scenic Byway visitor experience would include views of the cog rail infrastructure (cog rail alignment and moving trains) along the entire 7-mile-long scenic byway. Because of the proximity of the cog rail alignment to the scenic byway, with no vegetation to remain between the two, the cog rail infrastructure would be visually dominant and would demand attention of visitors for the entire length of the scenic byway. Additionally, at the entrance to the canyon, the new parking structure, new operations and maintenance facility, and reconfiguration of the park-and-ride lot would further dominate the setting and demand attention of visitors. For these reasons, the visitor experience would be degraded, and, because of the level of visual change proposed, the ability to manage the scenic byway to protect scenic vistas and intrinsic scenic qualities would be inhibited.

Mitigation Measures. As described in Section 17.4.8, *Mitigation Measures*, of the EIS, UDOT will consider a series of mitigation measures to minimize visual impacts.

E. *A commenter stated that UDOT should have engaged stakeholders in defining the visual quality to be evaluated. Commenters also stated that UDOT did not follow FHWA or USDA Forest Service guidelines and plans in the visual analysis. If UDOT had followed the guidelines, they would not have selected Gondola Alternative B as a preferred alternative in the Draft EIS.*

UDOT had an extensive outreach process. This included four public comment periods during which stakeholders could provide input regarding how resources, including visual resources, should be evaluated. This outreach included several public open houses at which people could interact with team members about the project impacts.

The visual analysis in the EIS followed FHWA and USDA Forest Service guidelines. Throughout the analysis, UDOT worked extensively with the USDA Forest Service to ensure that the analysis met their guidelines. The analysis also analyzed the gondola alternatives against the Forest Plan Scenic Integrity Objectives. The analysis states that the gondola alternatives would not be in conformance with the objectives in specific areas. Not being in conformance with an objectives does not mean that an alternative cannot be selected, but the nonconformance should be considered in the decision process.

What are Scenic Integrity Objectives?

Scenic Integrity Objectives are goals set in the *Forest Plan* for maintaining the scenic integrity of the forest landscape.

F. Commenters stated that the visual analysis should have included more key observation points in order to analyze potential visual impacts and that a geographic information systems (GIS) analysis should have been conducted with the gondola towers.

UDOT worked with the USDA Forest Service to determine important KOPs throughout the canyon. Adding more KOPs or using a GIS analysis would not have changed the results of the analysis, which concluded that project elements, such as the gondola towers, would introduce elements and/or patterns that would be visually dominant and would create strong contrast compared with other features in the landscape. In some areas, hikers might see the gondola infrastructure for longer periods; however, this does not change the analysis that the gondola infrastructure would be visually dominant and out of character with the surrounding environment.

Given the level of interest in the visual impacts from the gondola alternatives, UDOT has prepared and added visual simulations to some of the KOPs where the gondola impacts were rated as high but had no simulation (KOP 6 and KOP 20). These additional simulations are provided in Appendix 17A, *Key Observation Points for the Enhanced Bus Service and Gondola Alternatives*, of the Final EIS. UDOT also prepared six simulations from areas that were not designated as KOPs but that provide additional vantage points from which the gondola facilities would be conspicuous. The new simulations are provided in Appendix 32E, *Gondola Towers Visual Simulations*, of the Final EIS. The provided simulations are at the Snowbird Ski Resort and in the town of Alta and provide a general representation of the gondola towers.

These simulations were prepared in response to comments and to further help decision-makers and the public visualize the gondola impacts. They do not change the KOP analysis or its results, or the conclusion that the gondola elements would be visually dominant from many viewpoints in the study area and would have the highest visual impact among the alternatives, as described in Chapter 17, *Visual Resources*, of the EIS and in Section 32.17, *Visual Resources*, of this chapter.

G. Commenters stated that gondola cabin lighting should be evaluated for visual impacts.

UDOT has added this analysis to the Final EIS. During the winter, the gondola system would operate from 7 AM to 7 PM and would operate at times when lighting would be required (before sunrise and after sunset). During the summer, the gondola system would likely operate from 8 AM to 8 PM, which is mostly during daylight hours and so the gondola cabin lights would not be on.

H. *A commenter stated that the visual analysis was incorrectly performed, and that if the visual impacts were evaluated differently, the evaluation would have shown that more areas would not be in conformance with guidelines.*

UDOT used specialists in visual analysis and believes that the evaluation was done correctly. In addition, although a few locations in the canyon were identified as being in conformance with the Scenic Integrity Objectives, the majority (13 of the 19 KOPs) were not. Thus the analysis would still be the same—that the gondola alternatives and the avalanche mitigation (snow shed) alternatives are overall not in conformance with the Scenic Integrity Objectives.

I. *The Wasatch Backcountry Alliance commented that the visual analysis concludes that the visual impacts from the gondola alternatives, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, and the snow sheds would be equal. They stated that the gondola alternatives would have the greatest visual impacts.*

The visual analysis provides an evaluation of each alternative's impacts to the visual environment. Based on the conformance with the Scenic Integrity Objectives described in Chapter 17, *Visual Resources*, of the EIS, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would result in three high impacts, the gondola alternatives in eight high impacts, and the snow sheds in one high impact. In addition, the analysis concludes that, to viewers from the KOPs, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have no high impacts and the gondola alternatives would have five. Therefore, the analysis does not conclude that the impacts would be equal. Based on the analysis in the EIS, the decision-maker will consider how visual impacts weigh in the decision process.

J. *The Wasatch Backcountry Alliance commented that the EIS says that FHWA can affect a land transfer from the USDA Forest Service, which would make the visual analysis moot.*

The visual analysis states the impacts from the reasonable alternatives. It does not suggest that the analysis is not important if FHWA seeks a land transfer.

K. *The Wasatch Backcountry Alliance commented that the visual analysis doesn't adequately address the visual impact of ground to air, and none of the KOPs use an aerial perspective from air to ground.*

UDOT believes that the analysis from the KOPs is adequate to address ground-to-air (gondola towers) visual impacts. Because the majority of users are on the ground, the analysis focuses on that perspective. UDOT is not aware of many users who are viewing Little Cottonwood Canyon from the air. Such an analysis would not change the results of the analysis, namely that the gondola alternatives would introduce elements and/or patterns that would be visually dominant and would create strong contrast compared with other features in the landscape.

L. *A commenter asked whether Bureau of Land Management (BLM) contrast rating forms were used. They also commented that some visual impact rating forms state that mitigation will be developed further based on final design information.*

UDOT coordinated with the USDA Forest Service on the visual impact analysis. BLM rating forms were used since they provide the best level of detail to conduct the analysis. Although the forms

state that mitigation will be developed, Chapter 17, *Visual Resources*, of the EIS provides an extensive list of proposed mitigation measures.

M. *A commenter stated that FAA obstruction lighting might disrupt the dark sky in the town of Alta.*

Chapter 17, *Visual Resources*, of the EIS states that red FAA warning lights, similar to warning lights on wind turbine generators, would simultaneously flash about 20 to 40 times per minute, introducing a string of flashing lights up Little Cottonwood Canyon that would disrupt the landscape and nighttime views. Night skies in much of the canyon are relatively dark, especially mid-canyon between the light dome of Salt Lake City and local nighttime lighting near the Snowbird and Alta resorts. The EIS has been updated to provide information regarding the visual impacts from FAA obstruction lighting.

N. *A commenter asked whether KOPs were selected to choose areas with contrast ratings that were merely high versus unacceptable. How many other sites along the gondola route would result in the same analysis?*

Goals 59 and 60 in the 2003 *Revised Forest Plan: Wasatch-Cache National Forest* are both considered guidelines that should be met by a project, but, if they are not met, the USDA Forest Service decision document will provide justification for not meeting these guidelines. Additionally, the *Forest Plan* identifies one standard (S22) for scenery management that must be met: "Management actions that would result in a scenic integrity level of Unacceptably Low are prohibited in all landscape character themes." For each alternative, there is a *Conformance with USDA Forest Service Scenic Integrity Objectives* section in Chapter 17, *Visual Resources*, of the EIS that describes this tiered management approach and where the alternative would or would not meet Forest Service guidelines and standards as well as the scenic integrity level that the alternative would meet.

High impacts are the maximum impact level typically used for visual analyses, and its definition is provided in Table 17.4-1, *Criteria for Assessing Level of Impacts to Visual Resources*, of the EIS. These are locations where an alternative would dominate views and would severely alter the landscape. High impacts were identified throughout the canyon and are based on site visits to each KOP location and analysis completed on the KOP worksheets in Appendices 17A and 17B. The selection of KOP locations focused on depicting locations that represent typical views of the alternatives, critical viewpoints, and locations where special project features would be visible. In addition to the assessment impacts for views, impacts to landscape character were assessed throughout the canyon regardless of viewing location. These locations were reviewed and approved by a USDA Forest Service landscape architect within the Forest Service regional office design team.

O. *A commenter stated that the Forest Service visual guidelines have six criteria, but UDOT used only four criteria to evaluate visual impacts from the project alternatives. What effect did using only four criteria have on the analysis, and does this mischaracterize visual impacts as artificially low?*

The comment implies that a visual impact analysis methodology was used that does not conform with the Forest Service Scenery Management System (SMS) and inappropriately mixes terminology used in the analysis of project impacts with conformance with Scenic Integrity

Objectives (SIOs) and compliance with the Forest Plan. As described in Section 17.4.1, *Methodology*, of the EIS, although the Bureau of Land Management's Visual Resource Management worksheets were used, the visual analysis was conducted using methods consistent with the Forest Service SMS as outlined in USDA Agriculture Handbook Number 701, *Landscape Aesthetics: A Handbook for Scenery Management*. This includes the analysis of impacts on landscape character and on views from travel ways and use areas. Since the SMS does not contain a worksheet or template to describe impacts from travel ways or use areas (key observation points), the analysis used BLM Worksheet 8400-4 and its concept of project contrast to analyze impacts from these viewpoints. These worksheets show the analysis process by providing a description of the existing landscape, a description of the proposed activity, and the level of visual change proposed as a result of the project. The four levels of impacts described in Table 17.4-1, *Criteria for Assessing Levels of Impacts to Visual Resources*, of the Draft EIS are associated with project impacts on views and landscape character which relate to but are not directly associated with compliance with Forest Plan SIOs.

As described in Section 17.3.4, *Determining Conformance with Scenic Integrity Objectives and Forest Plan*, of the EIS, SIOs are visual management objectives the USDA Forest Service uses to identify the allowable level of change a management activity should make to the characteristic landscape. These are not impact levels but instead set a threshold for change related to Forest management. The assessment of compliance with SIOs was focused on the proposed level of change to the characteristic landscape (including as viewed from travel ways and use areas) consistent with the SMS. The impact levels used in the EIS and SIO levels are presented in Table 17.4-1 for reference. Additionally, for each KOP by alternative, the EIS contains tables describing the impact level from each KOP, the scenic integrity level the alternative would meet, the Plan SIO level being viewed, and whether the alternative would be in conformance with the area's SIO definition (Tables 17.4-12, 17.4-15, 17.4-18, 17.4-21, and 17.4-28 of the Draft EIS).

P. A commenter stated that Gondola Alternative B received an evaluation of unacceptably low. No mitigation was proposed; rather, the management option selected is a suggestion to exempt the project. Would future visual impacts be evaluated based on the then-current landscape with the gondola system?

Gondola B Alternative did not receive an evaluation of unacceptably low; rather, the alternative would highly impact scenery and views from KOPs where a high SIO could not be met by the alternative, as described in Sections 17.4.5.2, 17.4.5.7, and 17.4.6.2 of the Draft EIS. This alternative would not require a plan amendment for scenery management. The USDA Forest Service decision document would provide justification for not meeting any scenery management guidelines including Plan SIO levels. A series of visual mitigation measures is described in Section 17.4.8, *Mitigation Measures*, of the EIS, which will be applied based on coordination with the USDA Forest Service landscape architect to modify final design to reduce visual impacts.

UDOT typically evaluates aesthetic treatments during the final design phase of a project after an alternative is selected in the project's Record of Decision and funding has been allocated for the project. The visual impacts of future projects unrelated to this EIS would be analyzed using the USDA Forest Service's Scenery Management System, similar to the alternatives evaluated in this EIS, which sets thresholds for changes to the characteristic landscape including effects on

landscape character. As described in USDA Agriculture Handbook Number 701, *Landscape Aesthetics: A Handbook for Scenery Management*, in natural or natural-appearing character areas, direct human alternations may be included as part of the existing character only if they have become accepted over time as positive landscape character attributes. Therefore, each future project will be analyzed compared to the characteristic landscape's natural (or natural-appearing) vegetative patterns and features, water, rock, and landforms.

32.18 Energy

A. *Commenters asked which alternatives would use less fossil fuel. Other commenters stated that the gondola alternatives would not use fossil fuels.*

See Chapter 18, *Energy*, of the EIS for more detail about energy use. All of the primary alternatives would require the use of fossil fuels because all of the primary alternatives require buses, a train, or electricity to operate. The gondola alternatives would use fossil fuel at the converted equivalent of between 4,404 and 4,719 gallons per day. The enhanced bus service alternatives would use about 4,420 gallons per day, and the Cog Rail Alternative would use about 4,771 gallons per day.

B. *A commenter stated that the energy analysis did not include the energy to maintain equipment.*

All of the primary alternatives would require energy to repair and maintain equipment. This would be a very small fraction of the alternatives' overall energy usage. In addition, it would not be possible to know how much repair and maintenance would be required for each alternative.

C. *A commenter stated that the No-Action Alternative would have lower fuel consumption, that no mitigation measures to reduce fossil fuel consumption were investigated, and that technology enhancements to reduce fuel consumption should have been considered.*

The amount of fuel consumed would be lower with the No-Action Alternative; however, the energy consumption analysis does not take into account the substantial congestion (and resulting fuel use) that would occur with the No-Action Alternative since it is not possible to predict with any certainty the average level of congestion.

The energy consumption analysis did take into account future reductions in the use of fossil fuels. For example, the electrical consumption analysis considered that energy providers are moving toward non-fossil-fuel power generation. The miles per gallon used in the EIS was based on federal government predictions including the increase in use of electric vehicles. Finally, UDOT will consider the use of electric or hybrid buses at the time of purchase to determine whether they can operate in Little Cottonwood Canyon.

32.19 Construction Impacts

A. *Commenters stated that the EIS did not sufficiently address construction impacts from the primary alternatives or asked about their construction impacts.*

Chapter 19, *Construction Impacts*, of the EIS describes the construction impacts of the action alternatives. Construction of any of the action alternatives would cause temporary construction-related impacts from ground disturbance and the operation of construction equipment. Construction could also cause impacts to the public, air quality, water quality, wetlands, streams, wildlife, noise levels, visual resources, cultural resources, hazardous materials, utility service, traffic flow, businesses, noxious and invasive species, and construction staging and material borrow areas.

B. *A commenter asked where construction workers would park during construction of the primary alternatives.*

The final details of construction and the process of construction would be developed by UDOT and the selected construction contractor. UDOT will work with the contractor to minimize traffic, environmental, and parking impacts to surrounding areas.

C. *A commenter stated that construction would cause spills and poor air quality that would harm the environment.*

Chapter 19, *Construction Impacts*, of the EIS describes the construction impacts of the action alternatives. Air quality impacts during construction of any of the action alternatives would be limited to short-term increases in fugitive dust, particulates, and local air pollutant emissions from construction equipment. Because construction would be local and short-term, any impacts to individual air quality receptors would also be short-term. The most common air pollutant caused by construction would be particulate matter 10 microns in diameter or less (PM_{10}). The contractor will follow the appropriate best management practices (BMPs) included in UDOT's plans and specifications for roadway and bridge construction. This includes items such as fugitive-dust control and street sweeping (UDOT Standard Specification 01355, Environmental Compliance).

Excavation, grading, blasting, and other construction activities could increase the levels of sediment and pollution (oil, gasoline, lubricants, cement, pollutants from temporary restrooms, and so on) in stormwater runoff, and these pollutants could enter nearby waterways used for public drinking water. The potential for sediment and pollution levels to increase would exist until the project construction is completed and permanent soil stabilization measures are fully functional. To reduce the potential for construction adjacent to or near Little Cottonwood Creek to impact water quality, UDOT would coordinate as appropriate with the Salt Lake City Department of Public Utilities and the USDA Forest Service with respect to BMPs and other measures to minimize runoff and sediment. BMPs specified in the stormwater pollution prevention plan (SWPPP) would be used during construction to reduce impacts to surface water. For construction on National Forest System lands, UDOT would obtain approval from the USDA Forest Service regarding BMPs and would develop an SWPPP prior to construction.

D. *A commenter suggested that a detailed analysis of air pollutant emissions from construction be provided.*

At this stage of design, it is not possible to accurately determine air pollutant emissions from construction. All of the primary alternatives would produce air pollutant emissions; however, the emissions would be temporary and intermittent for the 2 to 3 years of construction. Any subsequent maintenance of the primary alternatives might also generate air pollutant emissions. All such repairs would be short-term. Of the primary alternatives, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the Cog Rail Alternative would have the greatest construction-related emissions and the Enhanced Bus Service Alternative the least.

E. *The Town of Alta commented that, once an alternative is selected, UDOT should coordinate with the Town regarding impacts to municipal services.*

UDOT will coordinate with the Town of Alta regarding municipal services once an alternative is selected and funded.

F. *The Salt Lake City Department of Public Utilities (SLCDPU) asked whether UDOT would remediate construction access easements and acquisition areas following construction, or whether access would be maintained.*

Any easements not needed for transportation purposes would be restored.

G. *SLCDPU commented prior to the release of the Draft EIS that the city ordinances restrict herbicide use in Little Cottonwood Canyon.*

UDOT will follow its invasive species BMPs as described in Chapter 19, *Construction Impacts*, of the Draft EIS, which include many of the recommendations in the comment. UDOT also added in Section 13.4.7, *Mitigation Measures*, of the ecosystem resources chapter in the EIS that any herbicides would be applied in accordance with Salt Lake City watershed protection ordinances. It is also stated in that chapter that UDOT will monitor revegetation efforts until vegetation becomes re-established and that brought-in soil will be weed-free per UDOT standard specifications.

H. *SLCDPU commented during the EIS scoping period that UDOT should consider BMPs, invasive weed control and fire risk, use of green infrastructure, long-term monitoring of BMPs, and coordination with SLCDPU to ensure compliance with water ordinances and health regulations.*

During the EIS process, UDOT met regularly with SLCDPU to address the above concerns. UDOT included in the Draft EIS mitigation regarding the use of stormwater BMPs, invasive weed control, and long-term monitoring of the effectiveness of BMPs. UDOT has also included in the Final EIS the requirement to follow watershed ordinances and health regulations (see responses 32.12A, 32.12B, 32.12E, and 32.12K).

32.20 Indirect Effects

A. *A commenter stated that the gondola alternatives would increase summer visitation and have a positive effect on the economy. Others commented that the increase in use would have a negative impact on the environment in Little Cottonwood Canyon.*

See Chapter 20, *Indirect Effects*, of the EIS for an evaluation of summer gondola use on the ski resorts and the surrounding environment.

What are indirect effects?

Indirect effects are effects that are caused by the proposed action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to the induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Summer Use Estimates and Economic Benefits. During the summer, the price of a ticket to ride the gondola would not be subsidized, which could discourage use since taking a personal vehicle would be often be faster and probably less costly. However, the summer operation of the gondola could increase summer visitation by about 198 people per day. Even with an increase in summer users, the resorts would still operate well below their wintertime usage. The additional summer users could increase crowds at both resorts including at restaurants, shops, and other resort attractions. This would provide an indirect economic benefit to the resorts.

Recreation Impacts. The additional summer gondola users might also decide to hike on trails at the resorts. UDOT does not anticipate that all 198 additional users per day would go to one resort, but that the additional users would be divided between Alta and Snowbird, with Snowbird receiving the majority of users because it would be the first gondola stop and has more amenities during the summer. Also, not all additional users would go hiking; some would stay within the developed resort area. Assuming that the 198 users per day would be spread throughout the day, trail use would spread throughout the day and would not increase to a point that would detract from users' outdoor recreation experience around the resorts.

Environmental Impacts. The most likely indirect effects on to ecosystem resources would be from summer hikers. Given the additional 198 summer users per day as described in Section 20.4.1.2.2, *Summer Visitation*, of the EIS, the increased trail use with the gondola alternatives could increase soil erosion and sediment delivery to local streams; water quality impacts to the watershed; loss of vegetation and impacts to sensitive plant species; spread of invasive plants; and disturbance of wildlife. Because not all 198 additional users per day would go hiking and because any hiking would be spread among the numerous existing trails surrounding the resorts, UDOT does not anticipate substantial indirect effects from the summer use of the gondola on water quality, vegetation, soil, or wildlife.

B. *Commenters requested that UDOT conduct a visitor capacity analysis or limit the number of people in Little Cottonwood Canyon. Other commenters asked whether the carrying capacity of Little Cottonwood Canyon is known and how UDOT weighed the carrying capacity information in the EIS. The Salt Lake Climbers Alliance stated that the Forest Service's decision will be arbitrary*

and capricious and a failure of its National Environmental Policy Act (NEPA) obligation if the agency doesn't take a hard look at the alternatives' impacts on visitation.

UDOT has worked closely with the USDA Forest Service regarding the expected impacts from all reasonable alternatives. Based on the analysis, the USDA Forest Service believes that all of the primary and sub-alternatives are reasonable for implementation. In addition, UDOT and the USDA Forest Service have coordinated extensively throughout the EIS process to ensure that both agencies can meet their statutory requirements to render a decision from the EIS.

See Section 20.4.1.5, *Visitor Capacity Analysis*, of the EIS for more information regarding UDOT's and the USDA Forest Service's consideration of a visitor capacity analysis. During the EIS process, UDOT and the USDA Forest Service (a cooperating agency in preparing the EIS) considered the visitor carrying capacity of Little Cottonwood Canyon. The USDA Forest Service advised UDOT on the expected impacts to National Forest System (NFS) lands and forest resources in accordance with the 2003 *Revised Forest Plan: Wasatch-Cache National Forest*. Responses 32.20A and 32.20C address how UDOT considered the potential for increased visitation during both the winter and summer caused by the primary alternatives.

For this EIS, a visitor capacity analysis was not performed. Through its implementation and monitoring of the management protocols and objectives in the *Forest Plan*, the USDA Forest Service determined that many areas on the Uinta-Wasatch-Cache National Forest can handle increased use, without substantial resource impacts, and while maintaining quality recreation experiences for visitors, with the construction and sustained operations and maintenance of infrastructure designed to accommodate current and future visitor demands. The construction and sustained operations and maintenance of infrastructure could greatly reduce visitor impacts to natural resources in some areas through controlled access, improved trails, proper toilet facilities, and safe parking. Throughout the EIS process, the USDA Forest Service collaboratively worked with UDOT and the other cooperating and participating agencies to develop mitigation measures, as necessary, for the alternatives evaluated in the EIS to protect NFS lands and forest resources.

C. *Commenters stated that, if the primary alternatives are implemented, the ski resorts would become overcrowded, causing long lift lines. The increase in visitation would also cause the need for more facilities at the ski resorts, causing impacts to the environment.*

Ski Resort Capacity. See Section 20.4.2.2.2, *Recreation*, of the EIS regarding the indirect effects of increased visitation at the ski resorts from the primary alternatives. UDOT evaluated how the alternatives would increase winter use at the ski resorts and the impact of that use on the recreation experience. Changes in daily skier use with the primary alternatives could increase by 2,283 skiers divided between the Snowbird and Alta resorts on a busy ski day, or about 1,141 skiers per resort. This increase in use would occur on about 49 busy ski days per year (weekends and holiday periods). Recreation users' perception of the additional skiers at each resort would vary. Most ski resort users expect some level of crowds and lift wait times. Not all recreationists perceive the environment in the same way; what is a quality ski experience to one person might be entirely undesirable to another. It is not possible to predict each user's recreation experience, but increased use of recreation areas and longer lift lines would tend to lower the quality of the recreation experience for most users.

The resorts would be responsible for managing the increased visitation. Representatives with the resorts were uncertain how additional skiers would change resort operations. With the potential for about 1,141 additional skiers at each resort, the resorts might want to change their operations such as limiting ticket sales or increasing the price of a ski ticket, increase ski lift capacity to maintain the skier experience and reduce lift lines, or add other infrastructure at larger base facilities. Increasing lift capacity could include replacing existing ski lifts with higher-capacity ski lifts or adding new ski lifts. It is not possible at this time to identify specific improvements, if any, the locations of the improvements, or the timing of improvement at the resorts.

Indirect Effects from Increased Visitation and Potential Resort Expansion. Representatives with the resorts were uncertain how additional skiers would change resort operations. With the potential for about 1,141 additional skiers at each resort, the resorts might want to change how they operate (limit lift tickets or increase price), increase ski lift capacity to maintain the skier experience and reduce lift lines, or add other infrastructure at larger base facilities. Increasing lift capacity could include replacing existing ski lifts with higher-capacity ski lifts or new ski lifts. It is not possible at this time to identify specific improvements, the locations of the improvements, if any, or the timing. Any improvements at the resorts have the potential to cause the following impacts:

- Temporary loss of soil productivity from construction compaction
- Soil erosion and sediment delivery to local streams
- Water quality impacts to the watershed
- Fill placed in wetlands
- Loss of vegetation and impacts to sensitive plant species
- Spread of invasive plants
- Loss of wildlife habitat
- Loss of cultural resources
- Change in the visual landscape character
- Improved access for skiers

If a resort were to propose to expand lift capacity or add other infrastructure on National Forest System lands to address an increased number of skiers, the USDA Forest Service would prepare an environmental document under NEPA. The environmental document would assess the impacts from and mitigation for the proposed improvements for consideration by the USDA Forest Service in its decision regarding whether to issue an approval. The resort would also need to obtain other environmental permits. The resorts work with the USDA Forest Service on master development planning and specific projects in accordance with their ski area special-use permits.

The resorts would also need to work within the limits of existing culinary water allotments (provided by Salt Lake City) and sanitary sewer capacity. According to discussions with a representative with Salt Lake County Service Area #3, which manages drinking water and sewer use in Little Cottonwood Canyon, contracted water use is 34% of the total available amount, and sewer use is about 6%. Overall, the representative with Service Area #3 believes that there is enough water and sewer capacity to accommodate the increased use generated by the primary alternatives.

D. Commenters stated that putting infrastructure or a toll in Little Cottonwood Canyon would increase the number of visitors in Big Cottonwood Canyon, cause environmental justice issues for low-income populations, and require additional infrastructure.

NEPA requires the evaluation of indirect effects, and one potential indirect action if an alternative is implemented in Little Cottonwood Canyon is tolling and bus service in Big Cottonwood Canyon. See Section 20.4.7, *Tolling or Vehicle Occupancy Restrictions on S.R. 190 in Big Cottonwood Canyon*, of the EIS for more information regarding tolling in this canyon.

UDOT realizes that implementing a toll in Little Cottonwood Canyon could move traffic into Big Cottonwood Canyon. If tolling or a ban on single-occupant vehicles were implemented on S.R. 210 in Little Cottonwood Canyon, UDOT would likely implement similar congestion-management strategies for S.R. 190 in Big Cottonwood Canyon. Similar to S.R. 210, UDOT would also likely implement an improved bus service on S.R. 190 for those users who do not want to pay a toll or carpool. The potential indirect effects of the S.R. 210 Project on S.R. 190 could be to environmental justice populations from a toll and to all users from the construction and operational impacts from implementing an improved bus service.

Environmental Justice Impacts. Along with any toll, UDOT would likely implement improved bus service. The improved bus service along with tolling would likely improve travel times to the ski resorts in Big Cottonwood Canyon. The reduction in travel time would benefit all populations including minority and low-income populations that recreate in Big Cottonwood Canyon during the winter. Because the improved bus service would provide convenient access to all populations and would provide a low-cost alternative to paying a toll, tolling would not cause disproportionately high and adverse effects on any minority or low-income populations wishing to access the ski resorts.

The lower portion of Big Cottonwood Canyon (below the Solitude resort and outside both the Solitude and Brighton resorts) is used by recreationists to snowshoe, backcountry ski, ice climb, hike, and rock climb. With the improved bus service, there would be no bus stops in the lower canyon at trailheads. Increasing the number of bus stops to address the wintertime lower-canyon users would slow the bus service for the vast majority of users, thereby making the service less attractive as an alternative to paying a toll. Not having an alternative to paying a toll to use the lower canyon to recreate would be an adverse impact to low-income populations. Practicable measures to avoid or reduce these potential adverse effects could include the following:

- Place the toll gantry immediately prior to the Solitude resort. This would allow low-income populations wanting to recreate outside the resorts in the lower portions of Little Cottonwood Canyon to avoid having to pay a toll.

With the implementation of either of these mitigation measures, UDOT would reduce the adverse effects of the toll on low-income populations for those wanting to recreate in Big Cottonwood Canyon. Before a toll is considered in Big Cottonwood Canyon, separate environmental documentation, including an assessment of potential environmental justice impacts, would be prepared.

E. Commenters asked whether the primary alternatives would induce travel in Little Cottonwood Canyon.

See Section 20.4.1.3, *Latent (or Induced) Demand*, of the EIS for more information regarding induced travel in Little Cottonwood Canyon. Latent demand (sometimes called induced demand) is the concept that increasing a road's capacity, and thereby reducing congestion and travel time, encourages more people to drive on the road. However, the purpose of all of the action alternatives is to improve mobility on S.R. 210 and achieve this goal by reducing personal vehicle use in Little Cottonwood Canyon during the winter by implementing a toll or a ban on single-occupant vehicles. The goal of the project is to reduce the use of personal vehicles in the canyon by 30% through tolling, thus counteracting the latent demand caused by less-congested roads. If S.R. 210 becomes more congested, the toll or vehicle occupancy restriction would be changed to continue to reduce the use of personal vehicles. In addition, none of the action alternatives would increase winter parking, thus eliminating the potential for more vehicles accessing the resorts since parking as it is today is the limiting factor. The increase in visitation at the resorts would result from the increases in transit capacity provided by the enhanced bus service, gondola, and cog rail alternatives. With the extra capacity provided by buses, gondola, and cog rail, it is possible that more people would have the opportunity to visit the resorts.

During the summer, traffic on S.R. 210 in Little Cottonwood Canyon operates under mostly free-flow conditions because travel is spread throughout the day. Since there is usually little congestion, latent demand is unlikely to occur. In addition, the action alternatives would not increase the roadway capacity of S.R. 210 during the summer. Therefore, with the action alternatives, S.R. 210 would essentially operate the same as under existing conditions during the summer, with little or any induced travel.

F. Commenters stated that the primary alternatives would result in more development in Little Cottonwood Canyon or would further commercialize the resort areas to bring in more tourists.

As discussed in Section 20.4.1.2.1, *Winter Visitation*, of the EIS, the primary alternatives could result in about 1,141 more skiers per resort on each of about 49 busy ski days per year. With the increase in skiers, the resorts might want to improve some infrastructure to handle the increased demand. See Section 20.4.2.2.2, *Recreation*, of the EIS for more information regarding adding lift capacity at the resorts. Beyond lift improvements, the resorts might also want to add other facilities such as more restrooms and additional lodge capacity. These infrastructure improvements that would result from the increased visitation would not change the existing resort-based land uses and so would not result in an indirect effect on land use. Any changes to the resorts would require an update to each resort's master development plan and any necessary NEPA documentation.

G. A commenter said that the indirect effects chapter stated that there would be a lack of parking at the trailheads.

With the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, there would be no roadside parking allowed in the peak-period shoulder lanes. This would reduce roadside parking at the trailheads which currently presents a safety risk to cyclists by forcing them into the travel lane. However, UDOT is proposing to expand trailhead parking to accommodate the number of vehicles that could have parked within ¼ mile of either side of the trailheads to minimize the access impacts.

H. *Commenters asked whether the gondola base station would induce development, creating more hotels at the entrance to Little Cottonwood Canyon.*

As discussed in Section 20.4.4, *Gondola Alternative B (Starting at La Caille)*, of the EIS, because the La Caille Center and Villages development would be built with or without Gondola Alternative B, the proposed gondola base station at this location would not induce development, and no indirect effects on land development and associated environmental resources would occur. However, the location of the gondola base station adjacent to the La Caille Center and Villages development could provide an economic benefit to the proposed hotels, shops, and restaurants.

I. *A commenter stated that an indirect effect of the additional infrastructure could make Little Cottonwood Canyon users decide to go to other places to recreate. The commenter also stated that the lack of parking with the trailhead parking alternatives could increase use in other locations.*

An indirect effect of infrastructure improvements could be users no longer wanting to visit Little Cottonwood Canyon and going to other recreation areas. It is not possible to predict the number of users who would no longer visit Little Cottonwood Canyon and where they would choose to recreate instead. UDOT is improving trailhead parking to improve safety. Currently the parking areas are full as well as the adjacent roadside parking. It is likely that the improvements would further deter users from Little Cottonwood Canyon. The analysis in Chapter 20, *Indirect Effects*, of the Final EIS has been revised to clarify.

J. *Sandy City Engineering commented that, according to the first paragraph on page 20-19, with Gondola Alternative B there is the potential for induced development at La Caille, but later the chapter says that this alternative would not induce development.*

The potential to induce development was removed from the first paragraph on page 20-19.

K. *Save Not Pave commented that expanding Wasatch Boulevard would induce growth and create urban sprawl.*

As stated in Section 20.4.2.1, *S.R. 210 – Wasatch Boulevard*, of the Draft and Final EISs, UDOT does not expect that improvements to Wasatch Boulevard would induce growth or create “urban sprawl.” Wasatch Boulevard is part of a mature, regional transportation system that already provides a high degree of accessibility to the surrounding developed areas. Research has shown that the extent of indirect effects is influenced by the maturity of the regional transportation system, and greater effects are associated with new roads compared with existing roads that are expanded. No new roads are proposed with the S.R. 210 Project, and the existing access to the regional transportation network would not change except to improve safety and reduce congestion. Therefore, no new access to undeveloped areas would be provided.

Traffic analyses have estimated the travel-time savings in 2050 on the 2.2-mile segment of Wasatch Boulevard to be about 5 minutes on average per vehicle during the PM peak period (3 PM to 6 PM). Practitioners who study transportation-related indirect effects believe that at least 10 minutes of travel-time savings are needed before intraregional land use patterns are substantially affected. In addition, adding new travel lanes would not shorten the distances among destinations, nor would it serve land that does not already have access to Wasatch Boulevard.

The new travel lanes also would not affect travel times during nonpeak periods when traffic is currently typically free-flowing.

Land use patterns and development have already established themselves along Wasatch Boulevard and in communities in southern Salt Lake County such as Draper. Because so much development has occurred, it is not possible to distinguish the role of Wasatch Boulevard from other factors that influence development, especially because the region already has a high level of transportation accessibility, and employment centers already are distributed throughout Salt Lake County. Therefore, it is not likely that improvements to Wasatch Boulevard would further change land uses.

Based on the above factors, the proposed improvements to Wasatch Boulevard are not expected to induce development or population growth in Salt Lake County and thereby cause indirect effects.

L. *The Central Wasatch Commission commented that the Draft EIS does not include an analysis of the negative environmental, watershed, and water resource impacts that might result from the preferred alternatives. They stated that the limitation of the analysis results in a lack of attention to the direct, indirect, and cumulative consequences and does not fully meet the requirements of NEPA.*

The Draft EIS includes an analysis of the direct, indirect, and cumulative impacts from the potential increased visitation caused by the preferred alternatives (see responses 32.20A and 32.20C). The analysis estimated the potential in increased visitation and the direct, indirect, and cumulative impacts of the increased use to water quality and the watershed. The preferred alternatives would primarily increase visitation at the resorts, which have the amenities to manage users with appropriate water and wastewater facilities.

The Central Wasatch Commission's comment does not provide specifics regarding what part of the analysis it believes is inadequate and what additional analysis should be conducted. Without that information, it is not possible for UDOT to respond or to assess specific areas of alleged inadequacy.

M. *The Wasatch Backcountry Alliance commented that UDOT's analysis underreports usage since it does not account for backcountry and dispersed users. These users are growing in number and should be considered since the alternatives might not be able to meet the future demand.*

UDOT's analysis accounts for all canyon users since it is based on traffic counts and all available roadside parking (both resort and dispersed) in the upper canyon. Therefore, the analysis includes backcountry users. The growth in both backcountry use and skier use in Little Cottonwood Canyon is limited by the road capacity and available parking. The analysis in the EIS takes this into account when considering the increase in visitation. Although backcountry use might be increasing, the majority of the mobility problem is caused by the largest number of users, which are resort skiers. By addressing the greatest use, the overall mobility of S.R. 210 would be improved.

N. *The Town of Alta stated that the EIS addresses only increased ski resort use at the Alta resort and not in the town of Alta. They stated that the Alta resort is within the town limits.*

The EIS has been updated to state that the Alta resort is within the town limits. In addition, the analysis states or has been updated to state which community services are provided by the Town of Alta.

O. *A commenter asked why the 2017–2018 skier visit numbers were used since that was a low-snowpack year and might not represent the actual number of skiers.*

The Final EIS has been revised to state that, during the 2001 to 2017 winter seasons, the Alta and Snowbird resorts had an average of about 888,000 skier visits, with one year having about 955,000 skier visits.

P. *A commenter stated that the total yearly visitation number of 2.1 million should have been 1.7 million based on the number of skiers.*

The Final EIS has been revised to state that vehicle trips, not visitation, is about equally distributed between summer and winter. The number of people varies depending on vehicle occupancy. It should be noted that 2016 is a reference to the year when the report was written, not the year of the data, so it does not correlate to the skier data.

Q. *A commenter asked whether the total skier numbers in Table 20.4-1 would be different if UDOT used low- or high-visitation years.*

The information in Table 20.4-1, *Change in Daily Skier Capacity with the Action Alternatives*, of the EIS is based on the worst case; that is, if all the parking spaces were occupied and the transit operated at maximum capacity. The number represents the highest number of users that could be served. The 13% increase in visitors was based on the 2017–2018 ski season, which, as stated in response 32.20O, was a below-average season. If UDOT used the average, the percentage increase would be less.

R. *A commenter asked whether the La Caille development would really occur without the gondola or cog rail base station being placed at that location.*

There is no way for UDOT to know the financial commitment of the property owners. They have submitted plans for the development and have said that they plan to move forward with or without the gondola base station, as stated in the EIS.

S. *A commenter asked whether there would be an open bid process for a concessionaire to operate the potential future fee collection and operation of amenities at future fee sites proposed by the Forest Service.*

How fees are paid, and the use of a concessionaire is outside the scope of this EIS. UDOT and the USDA Forest Service do not want users to have to pay both a toll and a user fee in upper Little Cottonwood Canyon. Paying the USDA Forest Service fee in addition to the toll would occur only during the winter above Snowbird Entry 1. Winter backcountry skiers who park at the end of S.R. 210 to ski might need to pay a toll or subsidized transit fare plus a parking fee to access winter backcountry skiing. If a recreation site fee is implemented, UDOT would work with the

USDA Forest Service to develop a system to prevent users from having to pay two fees. This system could include UDOT paying a yearly fee for winter operation and maintenance of amenities at the recreation site or potentially constructing the amenities for the USDA Forest Service.

The UDOT toll would apply only to busy winter periods and would not apply to non-busy winter days or days outside the ski season. UDOT would not implement fees for trailhead use since that is the responsibility of the USDA Forest Service.

T. *Save Our Canyons stated that the EIS did not evaluate the indirect effects of the primary alternatives to the watershed or consider other reasonably foreseeable cumulative actions such as SkiLink. They also commented that the indirect and cumulative impacts analysis did not consider the goals of federal, state, and local plans regarding protection of the natural environment in Little Cottonwood Canyon.*

UDOT conducted an extensive direct, indirect, and cumulative impact analysis. This analysis included evaluating the natural resources in Little Cottonwood Canyon including watershed and wildlife. This analysis was conducted with the assistance of the USDA Forest Service, the Salt Lake City Department of Public Utilities, the U.S. Environmental Protection Agency, and the U.S. Army Corps of Engineers. The analysis of impacts included review and evaluation of Forest Service, state, county, and city plans and how each alternative would meet the goals of these plans. Not meeting a goal of a plan is not a reason to eliminate an alternative.

The Little Cottonwood Canyon EIS purpose is only for solving mobility, reliability, and safety on S.R. 210, and none of the alternatives propose an interconnected system with other canyons or locations. Also, in working with the USDA Forest Service to determine reasonably foreseeable projects, UDOT did not identify any current or future known planning proposals to interconnect or link ski resorts. No such proposals are on Forest Service plans or have completed NEPA documents. A past consideration of a ski link does not make such a project reasonably foreseeable, and UDOT is not aware of any definite plans or proposals at the present time.

U. *The Salt Lake City Department of Public Utilities (SLCDPU) commented that the EIS does not address water resources, including water rights, water quality, and infrastructure from the additional users caused by the primary alternatives.*

Chapter 20, *Indirect Effects*, of the EIS addresses the increase in both winter and summer visitation caused by the primary alternatives. The increased number of visitors to the resorts during the summer would be below the number of visitors during the winter, so the resorts have the infrastructure to support the use and would likely open the necessary facilities to accommodate the use. The additional 198 people per day during the summer caused by the gondola and cog rail alternatives might stay around the immediate resort area or hike on the trails surrounding the resorts. Because not all 198 additional users per day would go hiking and because any hiking would be spread among the numerous existing trails surrounding the resorts, UDOT does not anticipate substantial indirect effects from summer use of the gondola on water quality, vegetation, soil, or wildlife.

For winter use, UDOT analyzed the potential for increased visitation to impact water resources. The analyzes states that the increase would be at the resorts, which have the facilities to accommodate users. The EIS states that the resorts would also need to work within the limits of

existing culinary water allotments (provided by Salt Lake City) and sanitary sewer capacity. According to discussions with a representative with Salt Lake County Service Area #3, which manages drinking water and sewer use in Little Cottonwood Canyon, contracted water use is 34% of the total available amount, and sewer use is about 6%. Overall, the representative with Service Area #3 believes that there is enough water and sewer capacity to accommodate the increased use generated by the primary alternatives.

UDOT is committed to working with SLCDPU regarding water requirements for the proposed transit facilities in Little Cottonwood Canyon.

V. *SLCDPU commented that, with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, the shoulder lane would be used by cyclists during the summer, which could increase impacts to water quality.*

Chapter 20, *Indirect Effects*, of the EIS provides the requested analysis. UDOT concluded that the alternative would not substantially increase cyclist use during the summer given the steep uphill and downhill grades in the canyon and the lack of barrier separation between cyclists and vehicles.

32.21 Cumulative Impacts

A. *Commenters stated that the cumulative impacts analysis study area was too small and should have included Big Cottonwood Canyon, Wasatch Boulevard, the entirety of Little Cottonwood Canyon, and all of the Wasatch Mountains.*

Chapter 21, *Cumulative Impacts*, of the EIS describes the study area used for each resource evaluated for cumulative impacts. The geographic scope of the cumulative impacts analysis was determined by establishing the area of project impacts and determining the geographic areas occupied by the affected resource. The scope of analysis for the resources did include all of Little Cottonwood Canyon and Wasatch Boulevard. The ecosystem resources geographic scope of the analysis is Little Cottonwood Canyon but includes a discussion of the greater central Wasatch Mountains because past changes in the central Wasatch Mountains influence Little Cottonwood Canyon.

What are cumulative impacts?

Cumulative impacts are the impact to the environment resulting from the incremental impact of a proposed action when added to other past, present, and reasonably foreseeable future actions.

B. *The Salt Lake Climbers Alliance commented that, because the Forest Service is considering the disturbance and elimination of climbing resources associated with the preferred alternatives, a cumulative effects analysis should be conducted to understand what reasonably foreseeable impacts are likely to result from implementing the preferred alternatives. For example, the Forest Service should determine whether climbers would become more reliant on other climbing resources, leading to increased impacts to those resources.*

Chapter 21, *Cumulative Impacts*, of the Final EIS was revised to address the commenter's concerns as follows. Some commenters stated that, with the reduction in roadside climbing boulders and reduced roadside pullouts for dispersed recreation parking, climbers and other

recreationists might choose to use other nearby canyons (Big Cottonwood, Mill Creek, and Parley's Canyons). Of the selectable alternatives, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have the most boulder impacts and thus would be the worst case for cumulative impacts. With the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, about 41 boulders of the about 477 boulders on either side of S.R. 210 would be directly impacted. Even if none of the impacted boulders were relocated, the majority of boulders would still be available to climb and access would still be provided by trailhead parking and connecting trails, so climbers would still have the majority of climbing boulders available to climb through convenient access. If some climbers decided to use other locations, it would not be possible to predict the number of recreationists who might no longer visit Little Cottonwood Canyon because of the peak-period shoulder lanes and associated impacts. However, it is possible that users might go to other areas along the Wasatch Front, thereby increasing use of those areas and causing additional degradation of the areas from the additional use and causing cumulative impacts to the natural environment and overall user recreation experience in other locations.

The USDA Forest Service believes that the revised analysis captures the potential cumulative impacts and that the Final EIS meets their NEPA obligations.

C. *A commenter asked what are the cumulative impacts to the ecosystem from increased visitation in Little Cottonwood Canyon.*

As stated in Chapter 21, *Cumulative Impacts*, of the EIS, continued population growth along the Wasatch Front is also anticipated to increase the number of people visiting the central Wasatch Mountains for recreation purposes. Overall visitation in Little Cottonwood Canyon could increase from 2.1 million to 3.4 million over an entire year by 2050. Aquatic ecosystems (for example, lakes, waterfalls, and streams) and adjacent terrestrial ecosystems are popular recreation destinations for hikers and other visitors to the mountains. High levels of use, especially when not appropriately managed, can damage and reduce the functionality of aquatic ecosystems. Increased visitation will strain the limited existing staff, budget, and other agency resources for law enforcement and visitor management. If visitation exceeds the ability of agencies to manage recreation users, the function of these ecosystems could further decline in the future.

It is unlikely that actions taken in Little Cottonwood Canyon would affect the watersheds in Parley's Canyon or City Creek Canyon. The Salt Lake City Department of Public Utilities, which manages the Little Cottonwood Canyon watershed along with the USDA Forest Service, made no such connection.

D. *Save Our Canyons commented during the scoping period that the EIS should consider direct, indirect, and cumulative impacts to the watershed and ecosystems, induced development, recreation uses, and Forest Service amendments. The commenter stated that UDOT should consider other watersheds outside Little Cottonwood Canyon in the cumulative impact analysis.*

This comment was provided during the scoping period. UDOT considered this comment during the development of the Draft EIS. As part of the EIS process, UDOT considered the alternatives' direct, indirect, and cumulative impacts to the watershed, ecosystem, and other related resources including those mentioned in the comment. The analysis found that the action alternatives would

have *de minimis* impacts to the watershed and impacts to the ecosystem and recreation. It is up to the decision-maker to consider these impacts when determining the selected alternative.

E. *During the EIS scoping period, Save Our Canyons commented that UDOT needs to consider connected actions as part of the cumulative impacts analysis. This should include other planned projects in the Wasatch Mountains.*

The EIS includes the cumulative impacts (see Chapter 21, *Cumulative Impacts*, of the EIS) of other reasonably foreseeable actions that have the potential along with the S.R. 210 action alternatives to cause cumulative impacts.

F. *A commenter said that UDOT's analysis does not review the cumulative impacts of property acquisition outside the right of way of S.R. 210, stating that land uses do not change, and there is no need for analysis.*

Property acquisition in itself is not a resource to evaluate for cumulative impacts.

G. *SLCDPU commented that the EIS does not include a cumulative assessment of ecosystem resources including mitigation measures.*

See Section 21.3.3, *Cumulative Impacts to Ecosystem Resources*, of the EIS. UDOT believes that the analysis addresses cumulative and indirect effects on wildlife and does provide a conclusion. The analysis also notes the decline in native wildlife and plant species. UDOT provided mitigation measures in the EIS to avoid, minimize, and rectify impacts to wildlife resources. UDOT has been working with the appropriate USDA Forest Service experts to address impacts to wildlife in the canyon. Mitigation measures for ecosystem resources are identified in Chapter 13, *Ecosystem Resources*, of the EIS.

32.22 Short-term Uses versus Long-term Productivity

No comments were received regarding short-term uses versus long-term productivity.

32.23 Irreversible and Irretrievable Commitment of Resources

A. *The Wasatch Backcountry Alliance commented that the alternatives focus on peak usage during weather-compromised days and not general daily usage, and that the alternatives would result in the loss of fiscal resources to address other regionally critical growth challenges.*

The mobility analysis in the EIS is based on the 30th-busiest day independent of weather. The safety portion of the analysis considers weather since it is a critical component of traffic on S.R. 210.

The use of financial resources to implement the alternatives is outside the scope of the EIS. The Utah legislature is responsible for determining the allocation of funding and project priority.

B. *A commenter stated that is it possible to reclaim the land back to natural state if the primary alternatives were ever removed.*

The land could be reclaimed if necessary; however, as stated in the EIS, there is no reason to believe that such a conversion would be necessary or desirable. UDOT assumes that the infrastructure would be a long-term commitment and therefore would not be necessary to remove.

The EIS states that implementing an action alternative would involve a commitment of a range of natural, physical, human, and fiscal resources. Land used for constructing the selected alternatives would be considered an irreversible commitment of these resources during the time that the land is used for the alternative. (See Chapter 3, *Land Use*, of the EIS for a description of the land that would be converted to project use by each action alternative, and Chapter 13, *Ecosystem Resources*, of the EIS for a description of the effects of the action alternatives on natural resources.)

32.24 Permits, Reviews, Clearances, and Approvals

A. *The Utah Department of Environmental Quality (UDEQ) commented that Gondola Alternative B would involve construction on the Davenport and Flagstaff Smelters National Priorities List (NPL) site, and this construction would fall under the Salt Lake County municipal code (Chapter 9.50,* Institutional Controls*). This is an institutional control (IC) applied to the completed remedial action at the Davenport and Flagstaff Smelters NPL site. In addition to Salt Lake County, please include coordinating with the Utah Division of Environmental Response and Remediation (DERR) and the U.S. Environmental Protection Agency (EPA) so we can ensure that the requirements of the IC are appropriately considered and incorporated into the preparation of this alternative.*

The Final EIS has been updated to state that impacts to the Flagstaff and Davenport Smelters site would require coordination with Salt Lake County, DERR, and EPA to ensure that the institutional control is appropriately considered and incorporated with the project.

B. *Save Our Canyons commented that the EIS should include a list of permits, licenses, and approvals.*

Chapter 24, *Permits, Reviews, Clearances, and Approvals*, of the EIS includes a list of all city, county, state, and federal permits and approvals required by UDOT for implementing the primary alternatives.

32.25 Mitigation Summary

A. *Commenters asked how the visual impacts of the gondola towers could be mitigated and presented some possible options.*

See Section 17.4.8, *Mitigation Measures*, of the EIS. UDOT will coordinate with the USDA Forest Service in the design of the mitigation measures for visual resources of the selected alternative.

B. *Save Our Canyons commented during the scoping period that UDOT should consider mitigation measures to avoid and minimize impacts, including improving trails and land use regulations.*

UDOT, in conjunction with the EIS cooperating agencies, developed appropriate mitigation measures when required for the resources evaluated in the EIS. The mitigation measures are detailed in Chapter 25, *Mitigation Summary*, of the Final EIS. UDOT is not required to develop mitigation measures that are not related to the impacts considered in the EIS.

32.26 Section 4(f) and Section 6(f) Evaluation

A. *The National Park Service concurred with the Section 4(f) and Section 6(f) evaluation in the Draft EIS and in the Revised Draft Chapter 26,* Section 4(f) and Section 6(f) Evaluation.

Comment noted.

B. *The Salt Lake Climbers Alliance (SLCA) commented that the Gate Buttress climbing area is a Section 4(f) resource, and additional Section 4(f) analysis is required in the Draft EIS. Other commenters stated that it should be a Section 4(f) property because of its historical and cultural significance (because it has been climbed since the 1930s). Another commenter stated that the Gate Buttress parking area provides access to public lands and thus should be considered a Section 4(f) resource.*

What is Section 4(f)?

Section 4(f) is an element of law and FHWA regulations that requires a project to avoid the use of protected historic properties and park and recreation areas unless there is no feasible and prudent alternative to such use or unless the lead agency determines that the impacts would be *de minimis*. If the project would use protected properties, all possible planning must be undertaken to minimize harm to these properties.

Gate Buttress as a Section 4(f) Resource. UDOT has reviewed a copy of the May 23, 2017, lease between the Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints (LDS Church) and the SLCA for the Gate Buttress climbing area and has determined that the area is not subject to protection under Section 4(f). For a recreation area to be a Section 4(f) property, the land occupied by the area must, among other things, be publicly owned—that is, owned by a governmental body on behalf of the public. The Section 4(f) statute itself states that its protections apply to "the use of any *publicly owned land* from a public park [or] recreation area," and the Section 4(f) regulations define "Section 4(f) property" as "*publicly owned land* of a … recreation area …" See 23 United States Code Section 138(a) and 23 Code of Federal Regulations Section 774.17.

Section 3.1 of FHWA's *Section 4(f) Policy Paper* (FHWA 2012) says, "Section 4(f) requires consideration of … [p]arks and recreation areas of national, state or local significance *that are both*

publicly owned and open to the public" and "*When private institutions, organizations, or individuals own … recreational areas … Section 4(f) does not apply, even if such areas are open to the public*." (Also see Section 1.3 of the *Policy Paper*.) The *Section 4(f) Policy Paper* does recognize that, under certain circumstances, a recreation area that is open to the public might be entitled to Section 4(f) protection where a governmental body owns less than a fee interest in the property—that is, "if a governmental body has a permanent proprietary interest in the land (such as a permanent easement, or in some circumstances, a long-term lease)". But where no governmental agency or entity owns any interest in the property, Section 4(f) by definition does not apply.

The commenter includes a citation to the answer to Question 1B in the *Policy Paper*, which mentions "non-profit groups or other advocacy organizations" and "non-public groups" in a discussion of whether an easement or encumbrance on private property can result in Section 4(f) protection. This discussion first simply recognizes that such groups or organizations might hold conservation easements or other interests in land that can be encountered by transportation agencies during project development, and then notes that there might be instances in which the identity of the party that obtained a conservation easement (public agency or private organization) might be a factor (which could, of course, be a disqualifying factor) in determining whether there was a sufficient public ownership interest to make the land a Section 4(f) property. Nowhere does the guidance say that a property in which no public agency or entity owns *any* interest can be a Section 4(f) property, nor could it say that without being contrary to the express language of the statute and the regulations.

In sum, because the Gate Buttress climbing area is owned in fee by the LDS Church and leased to the SLCA, a nonprofit corporation, neither of which is a public agency or entity, the area is not publicly owned and thus is not a property that is subject to Section 4(f) protection.

Gate Buttress as a Historic Climbing Resource. After the Draft EIS was released, UDOT received comments that climbing routes in Little Cottonwood Canyon are historic resources. To evaluate these comments, UDOT conducted an evaluation of the climbing resources in consultation with the USDA Forest Service and the Utah State Historic Preservation Officer (SHPO). The findings of the evaluation are described in the *Third Addendum for the Class III Archaeological Inventory for Little Cottonwood Canyon Environmental Impact Statement, Salt Lake County, Utah* (Mark and others 2022). Based on this evaluation, UDOT identified 25 climbing areas and 79 routes associated with a significant period of development spanning from 1960 to 1974. The climbing areas and routes have been documented as contributing resources to a newly defined historic district, the Little Cottonwood Canyon Climbing Area Historic District (site 42SL968).

None of the primary alternatives would not result in a use of any land within the historic district; therefore, there would be no Section 4(f) direct use. FHWA has determined that a constructive use does not occur when compliance with the requirements of 36 Code of Federal Regulations (CFR) Part 800.5 for proximity impacts of the proposed action, on a site listed on or eligible for the National Register of Historic Places, results in an agreement of **no historic properties affected** or **no adverse effect** [see 23 CFR Section 774.15(f)(1)]. UDOT determined that the Enhanced Bus Service Alternative would have no effect and the Enhanced Bus Service in Peak-period Shoulder Lane Alternative, gondola alternatives, and Cog Rail Alternative would have no adverse effect on the historic district. The SHPO concurred with those findings on May 13,

2022 (see Appendix 15B, *Determinations of Eligibility and Findings of Effect*, of the Final EIS). Therefore, there would be no constructive use pursuant to 23 CFR Section 775.15(f)(1).

C. *A commenter asked how the Land and Water Conservation Fund was considered in the EIS.*

Section 6(f) of the Land and Water Conservation Fund Act includes protection provisions and applies to properties that are purchased with funds from the Land and Water Conservation Fund State Assistance Program. No properties were identified in the project area that were purchased with those funds.

A commenter stated that Table 26.8-1 does not list the Alta Lodge as a historic property and disagrees that placing a gondola tower near the lodge is not an impact. Another commenter stated that the gondola tower would have an impact to the Snowbird resort's historic resources.

Table 26.8-1, *Measures to Minimize Harm to Section 4(f) Historic Properties*, of the EIS identifies the Alta Lodge and the Snowbird Lodge as historic properties. This is indicated by the column heading for the left column. UDOT coordinated with the official with jurisdiction (the State Historic Preservation Office, or SHPO) regarding the impact of the gondola towers. The SHPO agreed with UDOT's determination that there would be no adverse effects to the Alta Lodge or Snowbird resort historic buildings from the gondola towers or the base stations.

D. *Save Our Canyons commented that study area analyzed for Section 4(f) resources was too narrow and did not include the area under the gondola alignment. Other commenters stated that the study area was too narrow and did not address the problems of environmental, historical, recreation, or transportation concerns.*

The study area for Section 4(f) resources includes all areas where there is a potential for the action alternatives to use Section 4(f) resources and thus is not too narrowly focused. The study area for the Section 4(f) evaluation does include the gondola alignment. As described in Section 26.2.1.3, *Determination of Use*, of the EIS, *use* in the context of Section 4(f) is based on impacts to land associated with a Section 4(f) property. The Section 4(f) study area is shown in Section 26.4, *Affected Environment*, of the EIS and includes land that that could be affected through right-of-way acquisition, easement, or permit for any alternative. Potential gondola stations and towers located within the Section 4(f) study area shown in Section 26.4.

As described in Section 26.5.4.2, *S.R. 210 – North Little Cottonwood Road to Alta*, of the EIS, UDOT does not currently know whether an easement for the gondola alignment would include property rights for the land beneath the cables or aerial rights only, or a combination of both. Therefore, UDOT does not know whether land associated with a Section 4(f) property under the cables would be permanently incorporated into a transportation facility, thereby resulting in a direct use of Section 4(f) properties. For the EIS, UDOT assumed that the gondola easement would result in a direct use of land under the cables; however, public access to that land would be maintained.

E. *The Salt Lake Climbers Alliance, Save Our Canyons, and others commented that UDOT and the USDA Forest Service should have considered the Grit Mill and Alpenbock trails area as a significant recreation resource and thus a Section 4(f) property. They commented that UDOT should eliminate the two preferred alternatives because they would result in a use of this*

Section 4(f) property. Commenters stated that construction would close access to climbing resources, the land under the gondola easement would not be available for public access, and general forest lands that provide any recreation opportunities should be considered Section 4(f) properties. Commenters stated that UDOT should evaluate the constructive use of the Section 4(f) climbing resources and prudent and feasible alternatives. A commenter stated that UDOT must determine whether land would be permanently incorporated before stating a de minimis *impact. Commenters also stated that UDOT should have extended the public comment period for the Revised Draft Chapter 26,* Section 4(f) and Section 6(f) Evaluation*, longer than the 30 days provided by UDOT. A commenter stated that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would have less overall harm compared to the gondola alternatives. A commenter stated that individual boulders should be a Section 4(f) resource instead of just the area. A commenter stated that the Alpenbock and Grit Mill areas should be evaluated as separate Section 4(f) resources.*

After reviewing comments on the Draft EIS and further considering the resource, UDOT in coordination with the USDA Forest Service has determined that the Grit Mill area is a Section 4(f) property in combination with the Alpenbock Trail. For this reason, between the releases of the Draft and Final EISs, UDOT released a revised Section 4(f) chapter for public and agency review. The determination of the analysis was that the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the gondola alternatives would have a use with *de minimis* impact, the Cog Rail Alternative a use, and the Enhanced Bus Service Alternative no use.

UDOT also evaluated the impacts to all climbing resources including those identified as Section 4(f). These impacts are considered in the EIS assessment of impacts to recreation resources (see Chapter 4, *Community and Property Impacts*, of the EIS).

What is a *de minimis* impact?

The following are definitions of *de minimis* impact as used in Section 32.26 of this chapter.

For historic sites, a *de minimis* impact means that the historic property would not be affected by the project or that the project would have "no adverse effect" on the historic property.

For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the activities, features, or attributes of a property that is eligible for protection under Section 4(f).

- **Basis for the *de minimis* impact determinations.** For a recreation resource, a *de minimis* impact is one that would constitute a use of the resource but would not adversely affect the features, attributes, or activities of a property that qualify the resource for protection under Section 4(f). *De minimis* impact determinations are based on the degree of impact after the inclusion of any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) to address the Section 4(f) use (that is, the net impact). The Alpenbock and Grit Mill Climbing Opportunities area was determined to be a significant recreation resource as defined under 23 CFR Section 774.11(d) due to the quality, relative proximity, and ease of access to climbing, bouldering, and other recreation opportunities. Although multiple recreation uses exist in this area, climbing and bouldering are the predominant uses. The *de minimis* determination was based on the evaluation on the climbing and bouldering and the use of those resources by the climbing community. Although some commenters stated that the visual and noise change to the general public and access to the area for dispersed use would result in impacts, the primary evaluation

is based on the attributes that make the area a Section 4(f) resource, which are predominantly climbing and bouldering. The *de minimis* determination was based on the following considerations.

- **Enhanced Bus Service Alternative in Peak-period Shoulder Lane.** Based on the Section 4(f) evaluation, UDOT concluded that, with applicable mitigation, the Enhanced Bus Service in Peak-period Shoulder Lane Alternative would not adversely affect the climbing opportunities that make this area significant and thus made a *de minimis* impact determination. That determination was made based on the following considerations: only a small portion of the land would be incorporated into a transportation facility (0.2% permanently, 2.8% temporarily); less than 5% of the climbing boulders (7 of 143) in the area, which are not individually significant or essential, would be impacted, and, if feasible, impacts would be mitigated through relocation; none of the vertical climbing routes would be impacted; there would be no increase in noise during the late spring, summer, and fall seasons when most of the climbing occurs, and there would be only a minor noise increase in winter; less than 5% of the trails would be impacted, and connectivity would be maintained; and there would be no impact to trailhead parking. Realigning trails to maintain connectivity and function would not change the primary attribute of the trail system to access boulders. UDOT would maintain access to recreation resources during construction, but detour access might be required, resulting in additional walking distance. Noise modeling showed that, during bus operations during the winter (late November through April), the area near S.R. 210 would have an average increase of 2.3 dBA compared to the No-Action Alternative. Generally, noise increases of 3 dBA or less are not detectable to human hearing. There would be no increase in noise levels from May through mid-November when bus service is not in operation.

  Some commenters stated that boulders would be placed closer to S.R. 210, causing greater impacts. There is an existing boulder within about 15 feet of the road that is currently used for climbing despite the potential for being viewed from the road and roadway noise. After widening, there would be about nine climbing boulders within 15 feet of the road. Although some climbers might seek out different opportunities farther from the road, these areas would continue to be available for climbing. UDOT will look at including retaining walls to minimize impacts to boulders by providing a larger buffer between the cut slope and the boulder. However, the implementation of retaining walls did not factor into the *de minimis* determination.

  Other commenters stated that each boulder impacted could contain multiple routes, and therefore UODT is underestimating the climbing that would actually be impacted. The commenters stated that the seven boulders removed could be greater than 5% of the climbing boulder routes. Based on the evaluation, UDOT noted 143 boulders in the Alpenbock Loop and Grit Mill Climbing Opportunities area. It is likely that each of the 143 boulders contains multiple routes, so the percentage of lost routes would be similar to the loss of the number of boulders.

  During construction, UDOT in working with the USDA Forest Service will evaluate whether any of the impacted boulders could be relocated in the area and, if feasible, will relocate them. UDOT will determine the feasibility of moving boulders once a final alternative is

selected and a construction contractor is hired that can assess the feasibility. If the boulders could be relocated, it is likely that specific climbing routes, or "problems," would be changed; however, there would be opportunities for new problems to be developed. None of the vertical routes would be impacted. In addition, UDOT commits to work with the USDA Forest Service to design and develop new trails, including obtaining any required environmental clearances, to provide new sustainable access to boulders that currently do not have ready trail access. UDOT commits to ensure no net loss of accessible climbing boulder opportunities.

Gondola Alternatives. Based on the Section 4(f) evaluation, UDOT concluded that the gondola alternatives, with applicable mitigation, would not adversely affect the climbing opportunities that make this area significant and thus made a *de minimis* impact determination. That determination was based on the following considerations: only a small portion of the land would be incorporated into a transportation facility (4.9% to 5.5% for the station and one tower, and 7.9% to 8% within the 80-foot-wide easement beneath the gondola cables; between 0.7% and 2.8% (1 to 4 boulders) of the climbing boulders in the area, which are not individually significant or essential, would be impacted, and, if feasible, impacts would be mitigated through relocation; none of the vertical climbing routes would be impacted; there would be no increase in noise levels; between 2.4% and 2.6% of the trails would be impacted by realignment, and connectivity and function would be maintained; and between 7.9% and 8.1% of the trails would be located within the 80-foot-wide easement beneath the gondola cables but would not be directly impacted. Relocating trails to maintain access would not change the primary attribute of the trail system to access boulders. The public would still be allowed to access the land under the gondola easement. UDOT would maintain access to recreation resources during construction. UDOT expects that the noise levels from the gondola system would be about 54 dBA as cabins pass over towers (similar to a quiet office environment) or similar to the noise generated by vehicles on S.R. 210 (50 to 60 dBA). Tower noise levels when combined with background noise are predicted to increase by 1 to 2 dBA, which is not detectable to human hearing. The area of the highest noise levels would be adjacent to the gondola base or angle station at the Little Cottonwood Canyon park-and-ride lot. Under the no-action conditions, noise levels would be 62 dBA, and with the gondola base or angle station combined with existing S.R. 210 roadway traffic, noise levels would be 63 dBA. A noise level increase of 1 dBA is not detectable to human hearing. The gondola system would be visible from some climbing boulders and vertical routes. Climbers could be visible to passengers as gondola cabins pass overhead; however, many of the bouldering areas are shielded by vegetation. Some climbers might feel that the gondola system detracts from their scenic views of the canyon or might feel uncomfortable that they could be viewed by gondola passengers. However, serenity and privacy are not attributes that can be expected while climbing because the area is adjacent to the road and is occupied by trails used by other climbers and hikers.

UDOT notes that there would be a reduction in parking capacity at the Little Cottonwood Canyon park-and--ride lot from the gondola alternatives. However, not all of the parking capacity was used for climbing (HDR 2022b). UDOT in working with the USDA Forest

Service determined that the reduction in parking capacity would not change the attributes and features of the area.

During construction, UDOT in working with the USDA Forest Service will evaluate whether any of the impacted boulders could be relocated in the area and, if feasible, will relocate them. UDOT will determine the feasibility of moving boulders once a final alternative is selected and a construction contractor is hired that can assess the feasibility. In addition, UDOT commits to work with the USDA Forest Service to design and develop new trails, including obtaining any required environmental clearances, to provide new sustainable access to boulders that currently do not have ready trail access. UDOT commits to ensure no net loss of accessible climbing boulder opportunities.

- **Assumption on Aerial Easement in the Section 4(f) Analysis.** The Section 4(f) analysis assumes that the gondola easement would result in a direct use of land under the cables. The easement is an 80-foot-wide area centered on the gondola cables and would encompass the area of gondola cabin overflight and the footprint of the gondola towers. If the right-of-way instrument ultimately used for the gondola system would not result in a direct use of the land under the cables (that is, aerial rights only), a constructive-use evaluation would be appropriate to determine whether proximity impacts from the gondola cabins passing overhead would result in a constructive use of Section 4(f) properties that do not have a direct use for towers or stations, but are entirely spanned by the gondola. Constructive use occurs when a transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Use with *de minimis* impact occurs when land is permanently incorporated into a transportation facility but the project would not adversely affect the activities, features, or attributes that make these resources eligible for Section 4(f) protection. When a *de minimis* impact finding has been made based on the assumption that the easement beneath the gondola alignment would result in a use, it necessarily means that there could not be a constructive use with an aerial easement.

  Finally, since the gondola base or angle stations and towers would result in a direct use, there would be a permanent incorporation of property from the Alpenbock Loop and Grit Mill Climbing Opportunities area into the transportation facility. Therefore, the *de minimis* impact finding would not change whether the aerial easement is incorporated into the transportation facility or not.

- **Dispersed Recreation Areas.** Some commenters stated that the entirety of Little Cottonwood Canyon or specific undesignated areas used for recreation should be considered a Section 4(f) resource because the land is used for recreation. Section 4(f)'s applicability for multiple-use public land holdings such as the Uinta-Wasatch-Cache National Forest is defined in 23 CFR Section 774.11(d). Section 4(f) applies only to those portions of lands that function for or are designated in USDA Forest Service plans as being for significant park, recreation, or wildlife and waterfowl refuge purposes (such as designated trailheads and trails). Figures 26.4-1 through 26.4-11, *Section 4(f) Resources*, of the EIS show the Section 4(f) resources considered in the evaluation as meeting the significant park and recreation designation. These areas are either included in the 2003 *Revised Forest Plan: Wasatch-Cache National Forest* as

designated recreation areas or provide a unique and significant recreational opportunity supported by Forest Service–approved facilities as was determined to be the case for the Alpenbock Loop and Grit Mill Climbing Opportunities area. The determination regarding which lands so function or are so designated, and the significance of those lands, is made by the USDA Forest Service as the official(s) with jurisdiction. Unofficial paths or trails or general forest lands used for recreation that are not designated or maintained by a public agency are not considered Section 4(f) resources. Section 4(f) does not apply to land under private ownership.

- **Constructive Use.** Some commenters stated that UDOT should consider the constructive use of the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the gondola alternatives on the climbing resources. All three alternatives would result in a direct use of the Alpenbock Loop and Grit Mill Climbing Opportunities area. A constructive use involves no actual physical use of the Section 4(f) property via permanent incorporation of land or a temporary occupancy of land into a transportation facility. Because there would be a direct use of the land, a constructive use does not apply.
- **Prudent and Feasible Alternatives to Avoid a Direct Use.** Some commenters stated that UDOT should consider alternatives to the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and the gondola alternatives that do not result in use of the climbing resources. A *de minimis* finding results in the determination that the transportation program or project would not adversely affect the activities, features, and attributes of the park, recreation area, or wildlife or waterfowl refuge eligible for protection. With a *de minimis* finding, UDOT does not need to consider prudent and feasible alternatives to the *de minimis* impact. Feasible and prudent avoidance alternatives apply only to a use with greater–than–*de minimis* impact (see 23 CFR Section 774.3).
- **Least Overall Harm Analysis. A** commenter stated that UDOT should do a least overall harm analysis comparing the Enhanced Bus Service in Peak-period Shoulder Lane Alternative and Gondola Alternative B. The least overall harm analysis does not apply to *de minimis* impacts. A least overall harm analysis is required when there is a use with greater–than–*de minimis* impact.
- **Individual Boulders as Section 4(f) Resources.** Commenters stated that each individual boulder should be considered a Section 4(f) resource.

  The USDA Forest Service is the official with jurisdiction over the climbing resources. The Forest Service determined that individual boulders and groups of boulders in Little Cottonwood Canyon are not significant resources as defined under 23 CFR Section 774.11(d). The Forest Service does not consider individual boulders or individual groups of boulders as significant resources or essential features. See correspondence dated September 15, 2020, November 19, 2021, and February 17, 2022, in Appendix 26A, *USDA Forest Service Letter Regarding Section 4(f) Determination for Climbing Boulders*, of the EIS. Note that the gondola alternatives would not remove any popular roadside boulders.
- **Alpenbock Loop and Grit Mill Climbing Opportunities Area as a Single Section 4(f) Resource.** The Alpenbock Loop Trail, the Grit Mill Trailhead, and the area between the two are evaluated as a single Section 4(f) property and recreation resource referred to as

Alpenbock Loop and Grit Mill Climbing Opportunities. Because the trail network and activities are interconnected, the USDA Forest Service determined that they make up single Section 4(f) recreational resource. In addition, analyzing the areas separately would not have changed the *de minimis* determination since the type of impacts would be the same. Finally, the USDA Forest Service considered the area as a single recreation area in the Environmental Assessment prepared for the Grit Mill trailhead.

- **Public Comment Period.** Commenters requested an extension to the comment period and stated that UDOT should have provided summary information about the revised chapter. UDOT released the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, for a 30-day public comment period from December 10, 2021, to January 10, 2022. Because there was only one important change to the chapter and there are no minimum required number of days for public comment, UDOT determined that a 30-day public comment period on the new *de minimis* finding was appropriate. However, some commenters requested that the comment period be extended to January 31, 2022. UDOT considered the request but, given the few changes made by UDOT to the revised chapter, determined that the 30-day comment period was sufficient for the public to provide meaningful comments. To help the public understand the information in the revised Chapter 26, UDOT provided a summary of the changes to the chapter on the project website and in email notifications sent to the public. UDOT considered the comments provided during the public comment period and has taken those comments into account in the Section 4(f) evaluation in this Final EIS.

F. *A commenter stated that Riparian Habitat Conservation Areas (RHCAs) should be considered Section 4(f) resources.*

Publicly owned land is considered to be a wildlife and waterfowl refuge when the land has been officially designated as such by a federal, state, or local agency, and the officials with jurisdiction over the land determine that its primary purpose is as a wildlife and waterfowl refuge.

The official with jurisdiction over the RHCAs in Little Cottonwood Canyon is the USDA Forest Service. The *Revised Forest Plan: Wasatch-Cache National Forest* defines Riparian Habitat Conservation Areas as follows:

> Riparian Habitat Conservation Areas include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams, (2) providing root strength for channel stability, (3) shading the stream, and (4) protecting water quality. This designation still allows for a full range of activities but it emphasis the achievement of riparian management objectives that are identified on a site-by-site basis. These objectives should include riparian vegetation and instream habitat condition.

Although RHCAs are important for maintaining wildlife and waterfowl habitat, they are not officially designated by the USDA Forest Service as a wildlife or waterfowl refuge, nor is their primary purpose as a refuge. For this reason, RHCAs do not meet the requirements to be Section 4(f) resources.

G. *A commenter did not believe that noise and visual impacts to Tanners Flat Campground from the gondola alternatives could be mitigated.*

Noise. To better estimate gondola noise levels, UDOT conducted noise monitoring at the 3S (tri-cable) gondola system at Whistler Blackcomb Resort in British Columbia, Canada. The monitoring showed that the average noise level below the gondola tower was about 54 A-weighted decibels (dBA). Based on the distance of the proposed tower from Tanner Flats Campground, the noise level would be 44 dBA. UDOT combined the gondola noise level with the existing No-Action Alternative noise level (59 dBA) and determined that the noise level from the gondola in combination with the background noise would be 59.2 dBA (HDR 2021). An increase of 0.2 dBA is not detectable by human hearing.

With the gondola alternatives, an angle station would be located about 1,000 feet from Tanners Flat Campground. The noise level at a 225-foot distance for the gondola angle station during operations is predicted to be 57 dBA. For every doubling of distance, the sound level reduces by 6 decibels (dB); therefore, UDOT expects that the noise from the angle station would be less than 50 dBA at Tanners Flat Campground, which is below the noise level of the existing S.R. 210 or Little Cottonwood Creek. If gondola operation noise is combined with the roadway noise, noise levels at Tanners Flat Campground could increase by 1 to 2 dBA, which is not audible to human hearing. Furthermore, the gondola system would not operate during the campground quiet hours of 10 PM to 7 AM.

Visual. UDOT conducted a visual impacts analysis for the gondola alternatives. A key observation point (KOP) represents a viewing location from which sensitive viewers would typically view the project elements. The term *sensitive viewers* has been used to refer to what the USDA Forest Service Scenery Management System terms “constituents.” KOP 9 is Tanners Flat Campground Group Site C, which was identified during a site visit with the USDA Forest Service as a representative site for the campground. Tourists and recreation users are considered to have moderate viewer sensitivity (a moderate degree of concern for changes to the landscape or viewshed). The gondola alternatives would result in a low level of visual impact. Project elements, such as overhead gondola cables, would be visually subordinate. Views toward the gondola infrastructure would be heavily screened by vegetation and topography at this location.

Mitigation for impacts to Tanners Flat Campground from the gondola alternatives was identified in cooperation with the USDA Forest Service and is described in Section 26.8.2, *Section 4(f) Recreation Resources*, of the EIS. If a gondola alternative is selected, a landscape architect would evaluate impacts at each site during final design. Potential mitigation could include reconfiguring sites to visually shield tables and fire pits from the gondola cabins overhead, relocating the group area to a location with less visual impact, redesigning sites to accommodate different user groups, adding shade structures or pavilions to screen sites from visual impacts, and planting trees to create a visual screen over time.

To avoid collisions between aircraft and the gondola towers and cables, the Federal Aviation Administration (FAA) requires structures greater than 200 feet above ground level to have obstruction lighting. Given the enclosed nature of Little Cottonwood Canyon, and for analysis purposes, obstruction lighting might be required for all gondola towers for safe operation of aircraft in the area. Although the gondola alternatives would follow FAA’s obstruction marking and lighting

requirements as defined by Advisory Circular No. 70/7460-1L, UDOT would coordinate with FAA regarding implementing an aircraft detection lighting system (ADLS) to reduce the impacts of nighttime lighting. An ADLS (or a similar system) would remain off until it detects nearby aircraft. It would then turn on and would turn off again after the aircraft leaves the area. The synchronized flashing of the ADLS, if implemented, would cause strong, shorter-duration night sky impacts to the surrounding landscape. Because there is little air traffic in Little Cottonwood Canyon at night, and such air traffic is generally limited to emergency evacuations or heli-skiing flights, the ADLS would activate infrequently, further reducing the intensity of visual impacts compared to the standard FAA warning system. In addition, when Tanner Flats Campground is in operation, there would be no heli-skiing flights, so most flights would be associated with infrequent emergencies.

In addition to the obstruction lighting requirements for structures greater than 200 feet above ground level, the gondola cabins would be illuminated during the winter from 7 AM to sunrise and from sunset to 7 PM. During winter twilight hours, the movement of the lighted gondola would attract more attention from viewer groups recreating, including backcountry skiers in the early morning hours. With regard to the effect on night skies, these effects would be minimal since the cabins would not typically be illuminated during the prime astronomical viewing window (astronomical dusk to dawn). During the summer, the gondola would likely run from 8 AM to 8 PM and, because there would be enough ambient light, the gondola cabins would not need to be illuminated.

H. A commenter stated that the USDA Forest Service should have drafted the Section 4(f) [de minimis *impact*] *concurrence letters instead of UDOT.*

Coordination required prior to making a Section 4(f) *de minimis* impact determination is provided in 23 CFR Section 774.5(b). For parks and recreation areas, the official(s) with jurisdiction over the property must be informed of the intent to make a *de minimis* impact determination, after which an opportunity for public review and comment must be provided. After considering any comments received from the public, if the official(s) with jurisdiction concur in writing that the project would not adversely affect the activities, features, or attributes that make the property eligible for Section 4(f) protection, then UDOT may finalize the *de minimis* impact determination.

For the Little Cottonwood Canyon EIS, UDOT coordinated with the USDA Forest Service regarding the recreation resources under their jurisdiction to understand the activities, features, and attributes that make the property eligible for Section 4(f) protection. During the impact analysis, UDOT worked with the USDA Forest Service to evaluate whether and how impacts could be mitigated. Based on this coordination, UDOT made preliminary *de minimis* impact determinations for several Section 4(f) resources and notified the USDA Forest Service of their intent to make these determinations. This is standard practice and is consistent with 23 CFR Section 774.5(b) and the Section 4(f) guidance issued by FHWA.

I. *Save Our Canyons commented that UDOT had initially excluded the Cog Rail Alternative because of Section 4(f) impacts but then carried the alternative forward because of political pressure. Save Our Canyons commented that UDOT did not address the indirect effects from the Cog Rail Alternative to Tanners Flat Campground and that the Forest Service agreed.*

UDOT's initial design of the Cog Rail Alternative included a double track for the entire length of Little Cottonwood Canyon and would have resulted in substantial use of Section 4(f) resources. However, after the initial design and analysis, comments were provided that the cog rail could be implemented as a single track in portions of Little Cottonwood Canyon. As required by the National Environmental Policy Act (NEPA), UDOT evaluated the comment and found that a single track could be implemented, which would minimize impacts to Section 4(f) resources and reduce cost. With the single-track design, UDOT determined that the impacts to Section 4(f) resources would be *de minimis*. The single-track design allowed the Grit Mill, Gate Buttress, and Lisa Falls Trailheads to continue to be utilized. Following the release of the Draft EIS, UDOT, in coordination with the USDA Forest Service, revisited and revised the Section 4(f) evaluation and concluded that the Cog Rail Alternative would cause a greater–than–*de minimis* use of the combined Grit Mill and Alpenbock Loop climbing area. The Cog Rail Alternative is retained in the Final EIS to ensure evaluation of a reasonable range of alternatives, but it is not identified as the preferred alternative.

The comment regarding the impacts to Tanners Flat Campground is referring to a cog rail alternative that was eliminated from further consideration because of its impacts to Tanners Flat Campground. This alternative was a valley floor alignment that would have directly impacted the campground and would have put the campground between S.R. 210 and the rail alignment. Because this alternative was not carried forward for detailed consideration, an indirect effects analysis was not required.

J. *A commenter asked UDOT and the USDA Forest Service to expand the Section 4(f) analysis area beyond the existing study area boundaries and conduct a Section 4(f) analysis of areas in the canyon detailing which resources might qualify for this protection.*

The Section 4(f) evaluation study area includes land that could be affected through right-of-way acquisition, easement, or permit. This is an appropriate study area for Section 4(f) because use (or impact) is generally land-based. There are three types of use as described in Section 26.2.1.3, *Determination of Use*, of the Draft EIS.

- The most common form of use occurs when land is permanently incorporated into a transportation facility.
- A second type of use, temporary occupancy, occurs when land is temporarily used for construction-related activities.
- The third type of use, constructive use, occurs when the proximity impacts of a proposed project adjacent to, or nearby, a Section 4(f) property result in substantial impairment to the property's activities, features, or attributes that qualify the property for protection under Section 4(f). As a general matter, this means that the value of the resource, in terms of its Section 4(f) purpose and significance, would be meaningfully reduced or lost. A project's proximity to a Section 4(f) property is not in itself an impact that results in constructive use. A finding of constructive-use by FHWA or a state department of transportation is rare. It is

unusual for proximity impacts to be so great that the purpose of the property that qualifies the resource for protection would be substantially diminished. UDOT considered constructive use and determined that there would be no constructive use of Section 4(f) resources from the project alternatives.

K. *A commenter stated that there might be an "actual use" of Tanners Flat Campground because the gondola alternatives might require placing towers within the Tanners Flat boundaries.*

With the gondola alternatives, no gondola stations or towers would be located in the campground; there would be no physical impacts to the campground or its features. UDOT does not currently know what type of right-of-way instrument (appropriation, easement, or special-use authorization) would be used where the gondola alignment crosses over USDA Forest Service land, or whether an easement for the gondola alignment would include property rights for the land beneath the cables or aerial rights only. Therefore, UDOT does not know whether land associated with Tanners Flat Campground under the cables would be permanently incorporated into a transportation facility, thereby resulting in a direct use. The Section 4(f) analysis in the EIS assumes that the gondola easement would result in a direct use of land under the cables. UDOT, with the USDA Forest Service's concurrence, has made a preliminary determination of use with *de minimis* impact for Tanners Flat Campground from the gondola alternatives, under the assumption of direct use.

L. *A commenter stated that UDOT did not assess the constructive use of Tanners Flat Campground from the gondola alternatives.*

If the right-of-way instrument ultimately used for the gondola system would not result in a direct use of the land under the cables (that is, if it grants aerial rights only), a constructive-use evaluation would be appropriate to determine whether proximity impacts from the gondola cabins passing overhead would result in a constructive use.

Per FHWA's *Section 4(f) Policy Paper*, the analysis of proximity impacts and potential constructive use should be documented in the project file.

> The analysis of proximity impacts and potential constructive use should be documented in the project file. Documentation of a finding of no constructive use should apply the legal standards and terminology used in 23 CFR 774.15, Constructive Use Determinations. The use of the term "constructive use" is not required in such documentation, but should be used when appropriate—for example, when responding to comments in NEPA documents that specifically address constructive use, or where it is useful in demonstrating that FHWA has specifically considered the potential for a constructive use. (FHWA 2012)

UDOT evaluated potential constructive use for Tanners Flat Campground with the gondola alternatives (if the gondola system is granted an aerial-only easement by the USDA Forest Service) and documented the conclusions in a memorandum, *Section 4(f) – No Constructive Use Determination Memorandum* (see Appendix 32D, *Section 4(f) – No Constructive Use Determination*, of the Final EIS). UDOT evaluated constructive use under this scenario and determined that the gondola alternatives would not result in a constructive use. If the gondola easement is aerial rights only, there would be no use of Tanners Flat Campground.

M. *A commenter requested that UDOT and the USDA Forest Service re-evaluate the* de minimis *impact determination for Tanners Flat Campground under the gondola alternatives because constructive use was not evaluated and because noise and aesthetic impacts cannot be mitigated.*

UDOT evaluated constructive use and determined that the gondola alternatives would not result in a constructive use under the gondola alternatives. See response 32.26L.

UDOT evaluated noise and visual impacts to Tanners Flat Campground. The gondola alternatives would result in projected noise levels at the campground that are within the existing noise conditions created by the S.R. 210 roadway (see Chapter 11, *Noise*, of the EIS). Regardless, the gondola system would not operate during campground quiet hours of 10 PM to 7 AM. Mitigation for impacts to Tanners Flat Campground from the gondola alternatives was identified in cooperation with the USDA Forest Service. See response 32.26G.

Based on the Section 4(f) evaluation including avoidance, minimization, and mitigation, UDOT made a preliminary *de minimis* impact determination for Tanners Flat Campground under the gondola alternatives. The USDA Forest Service concurred with this determination (see Appendix 26B, De Minimis *Correspondence*, of the EIS).

N. *A commenter stated that UDOT did not assess the constructive use of Tanners Flat Campground from the Cog Rail Alternative.*

The Cog Rail Alternative would not result in a direct use of the land. A constructive-use evaluation would be appropriate to determine whether proximity impacts from cog rail noise would result in a constructive use.

Per FHWA's *Section 4(f) Policy Paper*, the analysis of proximity impacts and potential constructive use should be documented in the project file.

> The analysis of proximity impacts and potential constructive use should be documented in the project file. Documentation of a finding of no constructive use should apply the legal standards and terminology used in 23 CFR 774.15, Constructive Use Determinations. The use of the term "constructive use" is not required in such documentation, but should be used when appropriate—for example, when responding to comments in NEPA documents that specifically address constructive use, or where it is useful in demonstrating that FHWA has specifically considered the potential for a constructive use. (FHWA 2012)

UDOT evaluated constructive use under this scenario and determined that the Cog Rail Alternative would not result in a constructive use (see Appendix 32D, *Section 4(f) – No Constructive Use Determination*, of the Final EIS).

O. *A commenter stated that UDOT used the wrong boundary for Tanners Flat Campground in the Section 4(f) evaluation.*

It is unclear what boundary the commenter is suggesting should be used. The boundary for Tanners Flat Campground was provided by the USDA Forest Service, the official with jurisdiction over the campground.

P. *SLCDPU commented that UDOT states in Section 26.1 (Introduction) that "the study area shifts or widens in some locations to accommodate the topography of Little Cottonwood Canyon and the*

project alternatives." The City asks UDOT to include a map specific to each project alternative and how and where the 100-foot-wide Section 4(f) study area shifted according to each alternative. Other commenters questioned what resources in Little Cottonwood Canyon are considered Section 4(f) resources.

Figures 26.4-1 through 26.4-11, *Section 4(f) Resources*, of the EIS show the Section 4(f) resources and study area boundary used for analysis. The study area includes land that could be affected through right-of-way acquisition, easement, or permit.

Q. *The Town of Alta commented that the Alta Town Park should be considered a Section 4(f) property.*

UDOT revised Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, of the Final EIS to include the Alta Town Park as a Section 4(f) property. UDOT's evaluation of the park determined that there would be no direct or constructive use of the park.

R. *A commenter stated that the Bridge Trailhead should be considered a Section 4(f) resource.*

There is currently no USDA Forest Service designated Bridge Trailhead in Little Cottonwood Canyon to assess for Section 4(f) use. UDOT is proposing to create a designated Bridge Trailhead under all primary alternatives to improve current roadside parking in that area. Section 4(f) applies to planned recreation resources when the land is publicly owned and the public agency that owns the property has designated and determined it to be significant for park, recreation area, or wildlife and waterfowl refuge purposes. The proposed Bridge Trailhead is on National Forest System lands, but the USDA Forest Service has not designated it as a planned trailhead in any plans other than this EIS.

S. *A commenter asked how can historic property NV3 have a* de minimis *impact from the gondola when it is not considered a Section 4(f) property as stated in footnote b of Table 26.5-10.*

The table footnote has been revised to say that the property was evaluated. As the table states, a *de minimis* finding for the property was evaluated as a Section 4(f) resource.

T. *A commenter stated that it should be clarified how 51% of the boulders would be removed with the cog rail but "most of the boulders are more than 105 feet from the cog rail tracks" (Table 26.5-12).*

The table lists resources in the USDA Forest Service decision document, which includes only certain climbing resources, not every boulder in the climbing area (these are two different data sets). Most of the boulders in the USDA Forest Service decision document would be greater than 105 feet from the cog rail tracks.

U. *A commenter stated that UDOT did not communicate with the Town of Alta regarding uses of the Alta Town Park and did not consider all uses and purposes of the park (for example, Tracy Aviary raptor programs, resting, scenic viewing, and nature photography). The commenter further stated that UDOT's determination that there would be no substantial impact to the use of the park with the gondola alternatives is premature or incorrect without considering these other activities.*

The Town of Alta (Chris Cawley, Assistant Town Administrator) provided UDOT a link to the website describing the Alta Town Park (https://townofalta.com/town-services/parks-recreation) and

a copy of the special-use permit for the park. According to the website, the park "features a volleyball court and bench seating, and barbecue grills and covered picnic tables." The website shows an image of the volleyball court, barbecue pavilion, and a swing set. The special-use permit—issued by the USDA Forest Service to the Town of Alta—authorizes "operating and maintaining a park, playground, and volleyball court." Based on this information, UDOT determined that the park's activities, features, or attributes that qualify the property for protection under Section 4(f) include a volleyball court with bench seating, a barbeque or picnic area, and a playground area.

With the gondola alternatives, there would be no physical impacts to the volleyball court or bench seating, picnic area, or playground area. No land from the Alta Town Park would be needed for the gondola alternatives; there would be no direct use. A constructive use occurs when the proximity impacts of a project would substantially impair the property's activities, features, or attributes that qualify the property for protection under Section 4(f). A noise analysis was conducted, and UDOT concluded that the gondola alternatives would result in a noise increase of about 3 dBA (the existing noise level is 53 dBA, and with the gondola alternatives the noise level would be 56 dBA). An increase of 3 dBA or less is not detectable to human hearing.

UDOT evaluated potential constructive use for the Alta Town Park with the gondola alternatives and determined that they would not result in a constructive use. The evaluation and conclusions are documented in a memorandum (see Appendix 32D, *Section 4(f) – No Constructive Use Determination*, of the Final EIS).

V. Commenters stated that the S.R. 210 Scenic Byway should be considered a Section 4(f) resource.

As stated in Section 26.4.1.2.2, *Properties Evaluated but Determined Not To Be Section 4(f) Properties*, of the Draft EIS and Question 22 of FHWA's *Section 4(f) Policy Paper*, the designation of a road as a scenic byway is not intended to create a park or recreation area within the meaning of Section 4(f). In order for recreation areas to qualify for Section 4(f), they must be officially designated as a park or recreation area, and the officials with jurisdiction of the land must determine that their primary purpose is as a park or recreation area. UDOT is the official with jurisdiction over S.R. 210 and has determined that the primary purpose is for transportation, not recreation. For this reason, S.R. 210 does not qualify as a Section 4(f) resource.

W. A commenter stated that there is a subtle contradiction that parking areas are included in Section 4(f) elements for Snowbird and Alta "which are needed to support recreation use" (Section 26.4.1.2.3) yet are excluded from consideration as impacts in Section 26.5.3.5, Trailhead Parking Alternatives*.*

Section 4(f) applies only to portions of the resort that are on National Forest System lands and are identified on the resort's USDA Forest Service special-use permit as being used primarily for public parks or recreation. The designated parking areas at the resorts support the recreation use. For trailheads, the designated parking areas are considered part of the Section 4(f) resource similar to the parking at the resorts. However, roadside parking is not designated parking and is not part of the trailhead amenity, and thus is not considered a Section 4(f) resource. Roadside parking at the ski resorts is also not considered a Section 4(f) resource.

X. *A commenter stated that the EIS fails to recognize the historic significance of numerous historic elements of Little Cottonwood Canyon, particularly the history, location, and significance of the Temple Quarry.*

The EIS went through an extensive analysis of historic resources in Little Cottonwood Canyon (see Chapter 15, *Cultural Resources*, of the EIS for more details). The State Historic Preservation Office concurred with UDOT's identification and determination of eligibility of cultural resources in Little Cottonwood Canyon. UDOT did identify the Temple Quarry (42SL109 – Little Cottonwood Grit Mill Property) as an National Register–eligible archaeological resource as part of the evaluation. However, the site does not warrant preservation in place due to extensive modern impacts and continual, heavy recreational public use. The integrity of feeling, design, and setting are not retained. Therefore, site qualifies for the exception under 23 CFR Section 774.13 [see Table 26.4-1, *Section 4(f) Applicability for NRHP-eligible Archaeological Sites*, of the EIS].

Y. *A commenter stated that the public open space adjacent (east side of S.R. 210) to the Gondola Alternative B base station, including the Bonneville Shoreline Trail, should be considered a Section 4(f) resource.*

None of the primary alternatives would result in a use of the open space; therefore, it is not included as a Section 4(f) resource. Only resources with potential uses are identified. The planned Bonneville Shoreline Trail is included in the Section 4(f) analysis, and the USDA Forest Service determined that the gondola alternatives would have a use with *de minimis* impact on the trail. Because the planned Bonneville Shoreline Trail is adjacent to S.R. 210, noise levels would be dominated by roadway traffic. UDOT modeled noise levels at the Bonneville Shoreline Trail where it crosses the open space (receptor 4-242 shown on page 21 in Attachment D, *Existing Conditions and Alternatives Noise Levels*, of Appendix 11A, *Noise Technical Report*, of the EIS). The analysis showed that the existing noise level was 59 dBA, and the Gondola Alternative B noise level with the combined existing noise level and base station noise would still be 59 dBA. Finally, the area along S.R. 210 is a residential area with already urban views of the surrounding area. The gondola towers would not substantially impair the use of the trail or block the majority of the view. The open space has existing electrical lines along with the adjacent properties. The expected impacts to the open space as a recreation resource are described in Chapter 4, *Community and Property Impacts*, of the EIS.

Z. *A commenter stated that the gondola alternatives would have a substantial (greater–than–* de minimis*) impact on the Temple Quarry and Little Cottonwood Creek trails and that these trails were not considered as Section 4(f) resources.*

As shown in Table 26.4-2, *Section 4(f) Parks and Recreation Resources in the Study Area*, of the Final EIS, both the Temple Quarry and Little Cottonwood Creek trails were considered Section 4(f) resources. Neither of the trails would be directly impacted by the gondola alignment (requiring trail relocation), so there would be no direct Section 4(f) use. However, because the gondola alignment with Gondola Alternative A would cross the Little Cottonwood Creek Trail, UDOT evaluated the alternative as shown in Table 26.5-9, *Use of Section 4(f) Recreation Resources from North Little Cottonwood Road to Alta with Gondola Alternative A*. The analysis states that the gondola system would require an easement or special-use permit from the USDA Forest Service where the gondola cables would pass over about 100 feet of the Little Cottonwood Creek Trail. The location

of the crossing would be near the east end of the trail near the Lisa Falls Trailhead. There would be no physical impact to the trail. Therefore, UDOT made a determination of a *de minimis* impact. Because there would be a direct use of the trail, there could not be a constructive use.

A proximity impact would be a constructive use (see response 32.26K). Noise levels associated with the gondola system would be primarily at tower locations when a cabin goes over the tower. Based on noise monitoring conducted for a similar 3S (tri-cable) system at Whistler Blackcomb Resort, the noise level is projected to be 54 dBA (HDR 2021). This noise level would be similar to the existing S.R. 210 or that of Little Cottonwood Creek. Regarding visual impacts, recreation users are considered to have moderate viewer sensitivity (a moderate degree of concern for changes to the landscape or viewshed). Project elements, such as overhead gondola cables, would be visually subordinate. Views toward the gondola infrastructure would be screened by vegetation and topography along most of the Temple Quarry and Little Cottonwood Creek trails.

See Chapter 4, *Community and Property Impacts*, of the EIS for more details regarding the gondola alternatives' impacts to recreation users.

AA. *A commenter stated that the gondola alternatives would have a greater–than–*de minimis *impact to the Lisa Falls and White Pine Trailheads.*

The gondola alternatives would not result in a direct use of either trailhead (see response 32.26K for definitions of uses), so the only potential use would be a constructive use. The noise levels with the gondola alternatives would be less than those at the Tanner Flats Campground (see response 32.26G) at 59.2 dBA because of the greater distance of the trailheads from the gondola towers compared to Tanner Flats Campground and that the trailheads are adjacent to S.R. 210, which would dominate the noise environment. Regarding visual impacts, recreation users are considered to have moderate viewer sensitivity (a moderate degree of concern for changes to the landscape or viewshed). In addition. trailhead users would have a lower visual sensitivity in a parking lot with restrooms adjacent to S.R. 210. Project elements, such as overhead gondola cables, would be visually subordinate. Views toward the gondola infrastructure would be screened by vegetation and topography.

BB. *A commenter stated that UDOT should evaluate alternatives that would not impact Section 4(f) resources.*

UDOT evaluated more than 100 alternatives suggested by the public and agencies. Based on that evaluation, UDOT found five primary alternatives to meet the project purpose. All of the primary alternatives would result in Section 4(f) uses. There were no primary alternatives that would not result in a Section 4(f) use. See the responses in Section 32.2.2, *Alternatives Development and Screening Process*, of this chapter for the alternatives UDOT evaluated through the EIS process.

CC. *A commenter stated that new alternatives, such as the cog rail, that were not included in the EIS were added to the revised Chapter 26 and thus other new alternatives should also be added.*

The Cog Rail Alternative was included and evaluated in the Draft EIS, including a full analysis and cost estimate. UDOT did not add any new alternatives to the revised Chapter 26. The Draft EIS included the full range of alternatives that were evaluated. The revised Chapter 26 noted only changes to how certain resources were identified as Section 4(f) resources.

DD. SLCA commented that each boulder should be protected individually, just as each historic home is protected individually.

A Section 4(f) property is defined in 23 CFR Section 774.17 as "publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance." The key is that Section 4(f) resources are based on an area of land. For historic sites, Section 4(f) applies only to sites that are listed in or eligible for listing in the National Register of Historic Places (NRHP) (23 CFR Section 774.11). Historic sites can include any prehistoric or historic district, site, building, structure, or object. Because buildings are listed (or eligible for listing) individually on the NRHP, they are evaluated individually under Section 4(f).

EE. SLCA commented that the Forest Service's determination that individual boulders are not significant enough for Section 4(f) protections when assessed individually is unfounded and illogical because it ignores the significance of referenced climbing resources.

Section 4(f)'s applicability for multiple-use public land holdings such as the Uinta-Wasatch-Cache National Forest is defined in 23 CFR Section 774.11(d). Section 4(f) applies only to those portions of lands that function for, or are designated on USDA Forest Service plans as being for, significant park, recreation, or wildlife and waterfowl refuge purposes. The determination regarding which lands so function or are so designated, and the significance of those lands, is made by the USDA Forest Service as the official(s) with jurisdiction. As stated in correspondence dated November 19, 2021, the Forest Service made a determination that the Alpenbock Loop Grit Mill area is a significant resource based on considerations including: (1) a trail system was developed and approved under the 2014 *Grit Mill and Climbing Master Plan Environmental Assessment* and associated Finding of No Significant Impact, and (2) the Forest Service's decision to provide improved access, and the associated *Forest Plan* amendment to allow parking to support climbing use in the area demonstrate actions taken by the Forest Service to specifically manage sustainable access to the climbing resources in this area. The documents and decisions to focus on access management predominantly for climbing use in this area make this area unique and differentiates it from general forest area access to climbing and bouldering opportunities elsewhere on National Forest System land. SLCA references reports prepared internally or articles in *The Salt Lake Tribune* to support their claim that individual boulders are significant. However, there are no USDA Forest Service plans, documents, or decisions for access or management of individual climbing routes, climbing boulders, or bouldering problems, and the USDA Forest Service reasonably determined that individual boulders or groups of boulders were not Section 4(f) resources.

FF. SLCA commented that 5-mile Boulder is located on the privately owned Gate Buttress property, so the USDA Forest Service should not be making a determination for this boulder.

The Draft EIS and USDA Forest Service correspondence dated September 15, 2020, incorrectly identify 5-mile boulder as being located on USDA Forest Service land. It is located north of S.R. 210 at about milepost 5 on private land. The Final EIS corrects this error.

GG. UDOT should conduct a cumulative impact analysis of Section 4(f) climbing resources at the Alpenbock Loop, Grit Mill, and the Gate Buttress.

Note that the Gate Buttress is not a Section 4(f) property. However, Chapter 21, *Cumulative Impacts*, of the Final EIS was revised to address concerns regarding cumulative impacts to climbing resources. See response 32.21.B.

HH. SLCA commented that impacts to the Alpenbock Loop and Grit Mill Climbing Opportunities from the Enhanced Bus Service in-Peak Period Shoulder Lane Alternative are understated and that UDOT's de minimis *impact determination is in error because of the following five reasons.*

UDOT did not design alternatives in enough detail to evaluate impacts. Preliminary design takes place during the NEPA process as necessary to identify impacts and complete the environmental review process. Final design, including detailed design drawings for construction, are not prepared until after a Record of Decision is issued for the selected alternative (23 CFR Section 771.13A). Preliminary design defines the general project location and design concepts. The locations of retaining walls used to minimize impacts to climbing boulders are shown in Appendix 2D, *Enhanced Bus Service in Peak-period Shoulder Lane Alternative Plans*, of the EIS as well as on the interactive alternative maps on the project website. Project designers made conservative assumptions for preliminary design of the Little Cottonwood Canyon EIS alternatives which generally overestimate impacts but reduce the potential that a re-evaluation would be required. The goal is to allow flexibility during final design while keeping impacts at or below the levels disclosed in the EIS. A re-evaluation would be required if impacts are greater than those disclosed in the EIS and is undesirable because of schedule delays, costs, and legal risk.

Design engineers tried to avoid or minimize impacts to climbing boulders during alternatives development based on boulder locations provided by SLCA. First, the road was shifted away from boulders where possible. It was not possible to avoid all climbing boulders because in some locations shifting it away from one boulder would impact another boulder or Little Cottonwood Creek. Where it was not possible to avoid boulders, designers evaluated whether boulders located in potential cut slopes could be protected by constructing new retaining walls or extending existing walls. Soil nail walls were assumed for preliminary design to reduce the amount of excavation needed for construction. Further geotechnical investigation would be necessary if the Enhanced Bus Service in Peak-period Shoulder Lane Alternative is the selected alternative. Most of the walls also have a 12-foot concrete gutter above them to help keep runoff from the hillsides from flowing over the wall and onto the roadway. Retaining walls are generally located outside the roadway clear zone for safety (to reduce the risk of cars striking them), to maintain the proposed shoulder width, and to help with snow storage. In some locations where the road is tightly pinched between boulders or other obstacles and relocating the roadway centerline is difficult, the retaining walls are moved against the peak-period shoulder lane, with a 2-foot-wide shoulder plus a 2-foot-wide buffer in front of a concrete barrier to protect the wall.

UDOT did not disclose retaining wall locations or quantify the number of boulders with retaining walls constructed around them. The Enhanced Bus Service in Peak-period Shoulder Lane Alternative includes two retaining walls to protect climbing boulders in the Alpenbock Loop and Grit Mill Climbing Opportunities area. These walls are shown in Appendix 2D, *Enhanced Bus Service in Peak-period Shoulder Lane Alternative Plans*, of the EIS as well as on the interactive

alternative maps on the project website. The westernmost wall would protect the boulders in the Secret Garden bouldering area, identified on the interactive map as a single point (boulder data shown in the interactive map were provided by SLCA prior to publication of the Draft EIS). The easternmost wall is just west of the Cabbage Patch bouldering area. SLCA provided a second data set of boulder locations after publication of the Draft EIS with more boulders—a total of 143 boulders in the Alpenbock Loop and Grit Mill Climbing Opportunities area. Based on the second data set, which is used to quantify impacts in the Section 4(f) evaluation, the retaining walls would protect a total of 9 climbing boulders, or about 6% of the total boulders in the area. The western wall would protect 5 boulders (Shorty, Shot Hole Arete, Copperhead, Unknown – No Climbing 1, and Unknown – No Climbing 2). The eastern wall would protect 4 boulders (Concrete, Tiger Snake, Unnamed_312, and Unnamed_313).

UDOT did not provide mitigation for impacts to seven boulders that would be removed. As stated in Table 26.5-7, *Use of Section 4(f) Recreation Resources from North Little Cottonwood Road to Alta with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative*, of the Draft EIS, impacts to climbing opportunities would be minimized by constructing retaining walls where possible to protect some bouldering areas adjacent to S.R. 210; however, about seven climbing boulders (4.9% of the total climbing boulders in the area) would be removed. During construction, UDOT will evaluate whether any of these boulders could be relocated within the area. If the boulders could be relocated, it is likely that specific climbing routes, or "problems," would be changed by the relocation; however, there would be opportunities for new problems to be developed.

UDOT commits to working with the USDA Forest Service and SLCA to ensure no net loss of climbing boulder opportunities. If possible, removed boulders would be relocated near the Grit Mill parking lot. If it is not possible to relocate boulders, new trails would be constructed to provide sustainable access to boulders that do not currently have trail access within the Alpenbock Loop and Grit Mill Climbing Opportunities area.

UDOT did not demonstrate how trails would be rerouted and whether connectivity would be maintained, and, if necessary, propose and commit to mitigation. Impacted trail segments, shown in Figure 26.5-3, *Use of the Alpenbock and Grit Mill Climbing Opportunities and the Temple Quarry Nature Trail with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative*, of the EIS, are generally north of and parallel to S.R. 210—located in the temporary construction easement where earthwork (cut and/or fill) would take place. The trail segment could be relocated slightly to the north, beyond the limits of the earthwork. The final alignment will be determined during final design. As stated in Table 26.5-7, *Use of Section 4(f) Recreation Resources from North Little Cottonwood Road to Alta with the Enhanced Bus Service in Peak-period Shoulder Lane Alternative*, of the EIS, "the removed trail segment would be relocated to maintain connectivity," and as stated in Table 26.8-2, *Measures to Minimize Harm to Section 4(f) Recreation Properties*, of the EIS, under *Avoidance, Minimization, and Mitigation*, "Impacts to USDA Forest Service trails would be mitigated through trail realignment so that connectivity would be maintained."

UDOT inaccurately underestimated noise impacts because it did not recognize the additive effect of "noise loads" when additional vehicles are added to an existing road. Traffic noise impacts were evaluated using the noise model and methodologies approved by FHWA, the

Federal Transit Administration, and UDOT. Also see response 32.11.A in this chapter and Section 11.4.4, *Enhanced Bus Service in Peak-period Shoulder Lane Alternative*, of the EIS. The noise model's noise predictions are additive. The noise model considers future (2050) No-Action noise conditions (traffic noise along S.R. 210 in 2050) and then considers the cumulative results of adding the gondola or buses to the 2050 No-Action conditions.

II. *SLCA commented that impacts to the Alpenbock Loop and Grit Mill Climbing Opportunities from the gondola alternatives are understated. UDOT's* de minimis *impact determination is in error and needs to be reconsidered because of the following four reasons.*

UDOT approached the entire use case for the gondola from a faulty premise when it stated that, if an impact is determined to be *de minimis*, then there cannot be a constructive use of a Section 4(f) resource by being located in the easement for the gondola. Constructive use occurs when a proposed project's proximity effects would substantially impair the protected features, activities, or attributes of a Section 4(f) property. It can occur only in the absence of permanent incorporation of land into a transportation facility. A *de minimis* impact finding can be made only where the transportation use (when land is permanently incorporated into a transportation facility) would not adversely affect the activities, features, and attributes that qualify a property for protection under Section 4(f). FHWA determined that a constructive use can never be a *de minimis* impact because a constructive use—by definition—involves a "substantial impairment" of the protected activities, features, or attributes of a Section 4(f) property, and as such cannot be considered *de minimis* (FHWA 2012, page 34).

The gondola alternatives would permanently incorporate land from the Alpenbock Loop and Grit Mill Climbing Opportunities into a transportation facility, as described in Table 26.5-9, *Use of Section 4(f) Recreation Resources from North Little Cottonwood Road to Alta with Gondola Alternative A*, and Section 26.5.5.1.2, *Section 4(f) Recreation Resources*, and shown in Figures 26.5-6 and 26.5-7, *Use of Alpenbock Loop and Grit Mill Climbing Opportunities*, of the EIS. Land would be needed to construct a base station and one tower within the area. Accordingly, constructive use cannot occur, and "substantial impairment" is not the appropriate test. The question is whether the gondola alternatives would "adversely affect" the activities, features, and attributes that qualify the Alpenbock Loop and Grit Mill Climbing Opportunities for protection under Section 4(f). If so, there would be a use with greater–than–*de minimis* impact. If not, there would be a use with *de minimis* impact.

SLCA is concerned that accessibility to the Alpenbock Loop Trail and climbing access would be negatively impacted due to reduced parking and that a *de minimis* impact is not appropriate. Parking for the Alpenbock Loop Trail is currently provided at the existing park-and-ride lot. The park-and-ride lot was designed to accommodate multiple users including people using the Alpenbock Loop Trail, people carpooling up the canyon, and people taking the bus up the canyon (although UTA buses no longer stop there). The total number of parking spaces at the park-and-ride lot would be reduced from about 160 to 95. Although the total number of parking spaces would be reduced, with the discontinuation of the bus service park-and-ride lot, UDOT expects that there would be enough parking for those users wanting to access the Alpenbock Loop and Grit Mill Climbing Opportunities area. The existing restroom at the park-and-ride lot would be removed, but a new one would be provided.

UDOT did not provide mitigation for impacts to four boulders that would be removed, so a *de minimis* impact is not appropriate. As stated in Table 26.5-9, *Use of Section 4(f) Recreation Resources from North Little Cottonwood Road to Alta with Gondola Alternative A*, of the EIS, about four climbing boulders (2.8% of the total boulders in the area) would be removed with Gondola Alternative A. Gondola Alternative B would require the removal of one climbing boulder (less than 1% of the total boulders in the area). During construction, UDOT will evaluate whether any of these boulders could be relocated within the area. If the boulders could be relocated, it is likely that specific climbing routes, or "problems," would be changed by the relocation; however, there would be opportunities for new problems to be developed.

Gondola Alternative A would result in direct impacts to four boulders (Honk My Horn, No Parking, Holy Hell, and Rays), which is less than 3% of the total boulders in the area based on data provided by SLCA after release of the Draft EIS. These boulders are within the proposed gondola base station at or adjacent to the existing Little Cottonwood Canyon park-and-ride lot. UDOT was able to refine the design to avoid the Roadside, Bathroom, and three unnamed (1, 116, and 117) boulders. Gondola Alternative B would impact only one boulder (Rays), which is less than 1% of the total boulders in the area. If a gondola alternative is selected, UDOT will continue to refine the gondola design at the existing Little Cottonwood Canyon park-and-ride lot to avoid impacts to boulders. In addition, UDOT might be able to shift tower 5 to avoid Rays boulder.

UDOT commits to working with the USDA Forest Service and SLCA to ensure no net loss of climbing boulder opportunities. If possible, removed boulders would be relocated near the Grit Mill parking lot. If it is not possible to relocate boulders, new trails would be constructed to provide sustainable access to boulders that do not currently have trail access within the Alpenbock Loop and Grit Mill Climbing Opportunities area.

SLCA commented that the climbing or hiking experience would be negatively impacted by a gondola overhead due to noise and viewshed impacts, so a *de minimis* impact is not appropriate. UDOT's claim that the gondola would impose no additional noise impacts is inaccurate and unsupported by evidence. The activities, features, and attributes that qualify the Alpenbock Loop and Grit Mill Climbing Opportunities for protection under Section 4(f) include climbing routes and bouldering areas, as well as the trail system and parking which provide sustainable access to the climbing opportunities. As stated in USDA Forest Service correspondence dated November 19, 2021, the area is a significant recreation resource due to the quality, relative proximity, and ease of access to climbing, bouldering, and other recreation opportunities in the finite area. Although there are multiple recreation uses in the area, climbing and bouldering are the predominant uses. UDOT, in consultation with the USDA Forest Service, determined that the Alpenbock Loop and Grit Mill Climbing Opportunities do not derive their value in substantial part due to setting, visual qualities, or aesthetic features. These are secondary or tangential qualities of the area but are not the primary features that qualify the area for protection under Section 4(f).

UDOT will work with the USDA Forest Service to determine appropriate mitigation for visual impacts if a gondola alternative is the selected alternative. Potential mitigation could include the following:

- Select materials and surface treatments for structures, gondola elements, and roads that repeat and/or blend with the existing form, line, color, and texture of the surrounding landscape.
- Use nonreflective gondola cable infrastructure to reduce glare and reflectiveness.
- Minimize vegetation clearing to the extent practicable; feather the edges where vegetation clearing is necessary to reduce the creation of geometric clearings incongruent with the existing landscape character.

The noise level of a gondola system is greatest at the stations and towers due to the movement of the cable and hangars through the shiv wheels. Virtually no noise is produced by the cable and cars as they move between the towers or stations. UDOT conducted a noise analysis and determined that the predicted noise levels at the base station for Gondola Alternative A or angle station for Gondola Alternative B (at the existing park-and-ride lot) would be 62 dBA with the No-Action Alternative and 63 dBA with the gondola alternatives. An increase of 1 dBA is not detectable to human hearing.

To better estimate gondola noise levels along the alignment (away from the base and angle stations), UDOT conducted noise monitoring at the Peak 2 Peak 3S (tri-cable) gondola system at Whistler Blackcomb Resort, which is expected to be similar to noise from the Little Cottonwood Canyon gondola alternatives due to the similarity of the two facility types. The monitoring showed that the noise level below the tower was about 54.4 dBA (HDR 2021). Therefore, the predicted noise level generated by the gondola cabin passing the tower is about 54.4 dBA, which falls within the range of the background noise created by S.R. 210 traffic.

Based on the Section 4(f) evaluation, UDOT concluded that the gondola alternatives, with applicable mitigation, would not adversely affect the climbing opportunities that make this area significant and thus made a *de minimis* impact determination.

JJ. Save Our Canyons commented that UDOT identified only two recreation sites as Section 4(f) resources in Little Cottonwood Canyon (being treated as one), giving short shrift to recreation in Little Cottonwood Canyon.

It is unclear why Save Our Canyons believes that UDOT identified only two Section 4(f) properties in Little Cottonwood Canyon. At least 11 Section 4(f) recreation properties in Little Cottonwood Canyon are described in Table 26.4-2, *Section 4(f) Recreation Resources in the Study Area*, of the Draft EIS. Recreation resources that do not qualify for protection under Section 4(f) are addressed in Section 4.3.3, *Recreation Resources*, of the EIS.

KK. Save Our Canyons commented that UDOT is disregarding existing protections (for example, Roadless Area Conservation Rule, Scenic Byways designation). Save Our Canyons further commented that S.R. 210 and inventoried roadless areas should be protected under Section 4(f).

The 2001 Roadless Rule refers to inventoried roadless areas on National Forest System lands. The intent of the rule is to provide lasting protection for inventoried roadless areas within the National Forest System in the context of multiple-use management. As described in Section 26.2.1 of the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*:

> Section 4(f) applicability for multiple-use public land holdings such as the Uinta-Wasatch-Cache National Forest is defined in 23 CFR Section 774.11(d). Section 4(f) applies only to those portions of lands that function for or are designated in USDA Forest Service plans as being for significant park, recreation, or wildlife and waterfowl refuge purposes. The determination regarding which lands so function or are so designated, and the significance of those lands, is made by the USDA Forest Service as the official(s) with jurisdiction.

UDOT worked with the USDA Forest Service to determine which portions of multiple-use public lands should be protected by Section 4(f). Section 4(f) recreation resources are identified in Table 26.4-2, *Section 4(f) Parks and Recreation Resources in the Study Area*, of the Final EIS.

As described in Section 26.4.1.2.2, *Properties Evaluated but Determined Not To Be Section 4(f) Properties*, of the EIS, two scenic byways were evaluated but determined not to be Section 4(f) properties. In accordance with Question 22 of FHWA's *Section 4(f) Policy Paper*, designating a road as a scenic byway does not create a park or recreation area as defined under Section 4(f); therefore, neither scenic byway is considered a Section 4(f) property. In order for a recreation area to qualify for Section 4(f), it must be officially designated as a park or recreation area, and the officials with jurisdiction of the land must determine that its primary purpose is as a park or recreation area. UDOT is the official with jurisdiction over S.R. 210 and has determined that its primary purpose is for transportation, not recreation. For this reason, S.R. 210 does not qualify as a Section 4(f) resource.

LL. In Appendix A of their comment, Save Our Canyons provided a list of sites they believe should qualify for protection under Section 4(f).

UDOT evaluated each site listed in Appendix A of the comment to determine whether the site:

- is located in the study area,
- qualifies for protection under Section 4(f),
- would be used by the action alternatives, and
- is addressed in the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, published in December 2021.

The findings are provided in Table 32.26-1 below. The table and page numbers listed in Table 32.26-1 below refer to those in the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, dated December 2021.

Table 32.26-1. Section 4(f) Applicability for and Use of Sites Listed in Appendix A of Comment from Save Our Canyons

Site	In Study Area	Qualifies for Section 4(f)	Used by Project (One or More Alternatives)	Addressed in Section 4(f) Evaluation	Notes[a]
Albion Meadows Trail (Trail No. 1006)	Yes	Yes	No	Yes	Included with (shares trailhead with) Alta Brighton Trail #1007. See Table 26.4-2 (listed on p. 26-35).
Albion Parking Lot (U.S. Forest System Road 80195)	Yes	Yes[b]	No	Yes	Some recreation facilities at Alta Ski Area qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35).
Alpenbock Loop (Trail No. 1020)	Yes	Yes	Yes	Yes	Included with Alpenbock Loop and Grit Mill Climbing Opportunities. See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-7, 26.5-9, and 26.5-12 and Section 26.5.5.1.2.
Alta-Brighton trail (Trail No. 1007)	Yes	Yes	No	Yes	See Table 26.4-2 (listed on p. 26-35).
Alta Loop 4×4 (U.S. Forest System Road 80239-Admin)	No	NA	NA	NA	Road is outside the study area.
Alta Ski Area/Alta Ski Lift Company (Area type: Recreation Area)	Yes	Yes[c]	Yes	Yes	Some recreation facilities at Alta Ski Area qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.
Baby Thunder Road/ Trail (U.S. Forest System Road 80289-Admin)	No	NA	NA	NA	Site is outside the study area. Roads generally do not qualify as Section 4(f) resources because their primary purpose is transportation, not recreation.
Grit Mill Connector (Trail No. 1020B)	Yes	Yes	Yes	Yes	Included with Alpenbock Loop and Grit Mill Climbing Opportunities. See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-7, 26.5-9, and 26.5-12 and Section 26.5.5.1.2.
Lisa Falls (Trail No. 1012)	Yes	Yes	Yes	Yes	See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-5, 26.5-7, and 26.5-12.

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Table 32.26-1. Section 4(f) Applicability for and Use of Sites Listed in Appendix A of Comment from Save Our Canyons

Site	In Study Area	Qualifies for Section 4(f)	Used by Project (One or More Alternatives)	Addressed in Section 4(f) Evaluation	Notes[a]
Lisa Falls Trailhead (USFS Road 80271)	Yes	Yes	Yes	Yes	Lisa Falls Trailhead is included with Lisa Falls Trail. See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-5, 26.5-7, and 26.5-12
Little Cottonwood Canyon Scenic Byway	Yes	No	NA	Yes	See Section 26.4.1.2.2.
Little Cottonwood Creek (Trail No. 1001)	Yes	Yes	Yes	Yes	See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-7 (shares trailhead with Temple Quarry Nature Trail #1000), 26.5-9, and 26.5-12.
Lone Peak Contiguous Roadless Area (Roadless Area Conservation Rule)	Yes	No	NA	Yes	See Section 26.2.1.2 for a description of how Section 4(f) is applied to multiple-use public land holdings.
Main Alta Entry (U.S. Forest System Road 80439)	Yes	Yes[d]	No	Yes	Some recreation facilities at Alta Ski Area qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.
Peruvian Gulch-2 (U.S. Forest System Road 80197-Admin)	Yes	No	NA	Yes	Some recreation facilities at Snowbird Resort qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). Roads generally do not qualify as Section 4(f) resources because their primary purpose is transportation, not recreation.
Rail Road Grade (U.S. Forest System Road 80238-Admin)	Yes	No	NA	Yes	A portion of this road (Powder Ridge Drive) is located within Alta Ski Area's special-use permit. Some recreation facilities at Alta Ski Area qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). Roads generally do not qualify as Section 4(f) resources because their primary purpose is transportation, not recreation.

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Table 32.26-1. Section 4(f) Applicability for and Use of Sites Listed in Appendix A of Comment from Save Our Canyons

Site	In Study Area	Qualifies for Section 4(f)	Used by Project (One or More Alternatives)	Addressed in Section 4(f) Evaluation	Notes[a]
Snakepit Trail (Trail No. 1015)	Yes	Yes	No	Yes	Included with (shares trailhead with) Alta Brighton Trail #1007. See Table 26.4-2 (listed on p. 26-35).
Snowbird Ltd./ Snowbird Ski Resort (Area Type: Recreation Area)	Yes	Yes[e]	Yes	Yes	Some recreation facilities at Snowbird Resort qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.
Snowbird Entry #1 (U.S. Forest System Road 80287)	Yes	Yes[d]	Yes	Yes	Some recreation facilities at Snowbird Resort qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.
Snowbird Entry #2 (U.S. Forest System Road 80235)	Yes	Yes[d]	Yes	Yes	Some recreation facilities at Snowbird Resort qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.
Snowbird Access 2 (U.S. Forest System Road 80283)	Yes	Yes[d]	Yes	Yes	Some recreation facilities at Snowbird Resort qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.
Base Road (U.S. Forest System Road 80287-A)	No	NA	NA	NA	Road is outside the study area.
Snowbird Nature trail (Trail No. 1016)	No	NA	NA	NA	Trail is outside the study area.
Tanners Flat Campground (Note "RECAREANAME")	Yes	Yes	Yes	Yes	See Table 26.4-2 (listed on p. 26-33). For use, see Tables 26.5-7, 26.5-9, and 26.5-12.
Transverse lift road (U.S. Forest System Road 80045-Admin)	Yes	Yes	Yes	Yes	Some recreation facilities at Alta Ski Area, including the transfer tow that runs along this road, qualify as Section 4(f) resources. See discussion in Section 26.4.1.2.2 and Table 26.4-2 (listed on p. 26-35). For use, see Table 26.5-9.

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Table 32.26-1. Section 4(f) Applicability for and Use of Sites Listed in Appendix A of Comment from Save Our Canyons

Site	In Study Area	Qualifies for Section 4(f)	Used by Project (One or More Alternatives)	Addressed in Section 4(f) Evaluation	Notes[a]
Twin Peaks Roadless Area (Roadless Area Conservation Rule)	Yes	No	NA	Yes	See Section 26.2.1.2 for a description of how Section 4(f) is applied to multiple-use public land holdings.
U.S. Forest System Roads: 80220, 80220A, 80220B, 80220C, 80220D	Yes	Yes	Yes	Yes	These roads are all part of and included with Tanners Flat Campground. See Table 26.4-2 (listed on p. 26-33). For use, see Tables 26.5-7, 26.5-9, and 26.5-12.
Temple Quarry Interpretive Trail (Trail No. 1000)	Yes	Yes	No	Yes	See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-7, 26.5-9, and 26.5-12.
Upper Alta Guard Station (U.S. Forest System Road 80040-Admin)	Yes	No	NA	No	Road is used primarily for transportation and does not qualify for Section 4(f).
White Pine Roadless Area (Roadless Area Conservation Rule)	Yes	No	NA	Yes	See Section 26.2.1.2 for a description of how Section 4(f) is applied to multiple-use public land holdings.
White Pine Snowbird Link Trail (Trail No. 1014)	Yes	Yes	Yes	Yes	Included with (shares trailhead with) White Pine Trail #1002. See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-5, 26.5-7, 26.5-9, and 26.5-12.
White Pine Trail (Trail No. 1002)	Yes	Yes	Yes	Yes	See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-5, 26.5-7, 26.5-9, and 26.5-12.
White Pine Trailhead (U.S. Forest System Road 80219	Yes	Yes	Yes	Yes	White Pine Trailhead is included with White Pine Trail. See Table 26.4-2 (listed on p. 26-34). For use, see Tables 26.5-5, 26.5-7, 26.5-9, and 26.5-12.

NA = not applicable

[a] Table and page numbers refer to the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, December 2021.

[b] (1) Ski resort parking within the special-use permit area (needed to support other recreation facilities) qualifies for Section 4(f).

[c] (2) Recreation facilities at Alta Ski Area and Snowbird Resort on USDA Forest Service land and identified in special-use permit that are used primarily for recreation qualify for Section 4(f).

[d] Ski resort parking within the special-use permit area (needed to support other recreation facilities) qualifies for Section 4(f).

[e] Recreation facilities at Alta Ski Area and Snowbird Resort on USDA Forest Service land and identified in special-use permit that are used primarily for recreation qualify for Section 4(f).

MM. In Appendix B of their comment, Save Our Canyons provided a list of plans containing references to recreation facilities that they believe should qualify for protection under Section 4(f).

UDOT reviewed the plans listed in Appendix B during development of the EIS. Many of the recreation resources identified in these plans are included in the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*. Not all recreation resources qualify for protection under Section 4(f). Section 4(f) laws, regulations, and guidance help define specific discrete areas that qualify for protection under Section 4(f). Resources that do not qualify for protection under Section 4(f) are addressed in Section 4.3.3, *Recreation Resources*, of the EIS.

32.27 Public and Agency Consultation and Coordination

A. A commenter asked why UDOT is working so closely with Snowbird and Alta when it is not working with Save Our Canyons or other organizations.

UDOT allowed all stakeholders to have input into the EIS process. Throughout the process, UDOT met with nongovernmental organizations to seek input on the EIS process and alternatives. For example, the climbing data used in the analysis came from the Salt Lake Climbers Alliance. UDOT also worked with the resorts because the alternatives would directly impact their operations, and UDOT needed to better understand how best to include transit into their resorts.

B. Save Our Canyons commented that new information and changing information was showing up on the project website during comment periods, making providing comments difficult. They also commented that some people were unable to provide comments to the website because the comments were rejected.

UDOT has conducted an extensive outreach effort and was not aware of any extensive rejection of comments on the website. Like with any EIS process, and especially during the scoping and alternatives development periods, data are constantly evolving as UDOT revises alternatives based on new information and public input. The UDOT EIS process through the EIS has generated over 15,000 comments, showing that UDOT has not hindered the public involvement process.

C. The Salt Lake City Department of Public Utilities (SLCDPU) made comments to the UDOT Draft Coordination Plan dated May 31, 2020.

UDOT incorporated the comments from SLCDPU into a revised Coordination Plan.

32.28 U.S. Department of Agriculture Forest Service Forest Plan Amendments

A. *A commenter stated that the Federal Highway Administration's (FHWA) determination regarding whether they would appropriate lands under 23 United States Code (USC) Section 317 must be made and included in the EIS in order to determine the feasibility of the primary alternatives.*

To ensure that the analysis in the EIS is adequate to support USDA Forest Service decision-making, the analysis assumes that FHWA might not appropriate lands for the project and that USDA Forest Service actions and approvals might be needed. Any of the primary and sub-alternatives can be implemented with or without FHWA appropriations, so all of the alternatives are reasonable and can be implemented in regard to FHWA actions. FHWA stated that it will provide a decision regarding land appropriation once a final alternative is selected, and that it did not want to influence or predetermine an outcome, and ensure that a fair comparison of the alternatives could be made.

B. *The Wasatch Backcountry Alliance commented that, while conventional takings, easements, and exchanges are normal and common along roadway rights of way, they are curious whether the code anticipates and was intended for such a broad interpretation as to accommodate a resort/tourist amenity such as the gondola. If such a transaction is complex, the document and analysis should analyze the impacts of that more substantively for cost, policy implications, and schedule impacts.*

FHWA's decision regarding whether to approve an appropriation, and the appropriation process itself, are not particularly complex and are guided by statute and FWHA regulations and guidance. The *Forest Plan* amendment process does take into account transportation rights of way. The gondola system is a transportation system, not a resort amenity, since it would improve the mobility of S.R. 210. The gondola system's capacity is similar to that of a travel lane. The plan amendment process does not need to consider cost and schedule impacts since that is factored in the overall decision process of selecting an alternative. The plan amendment process does consider policy as it relates to the *Forest Plan*.

C. *The Salt Lake Climbers Alliance and Access Fund commented that the USDA Forest Service fails to meet its obligations under the National Environmental Policy Act (NEPA) by seeking to make decisions based on a* Forest Plan *that is 20 years old. They also stated that the Forest Service proposes undertaking several* Forest Plan *amendments in order to implement the preferred alternatives; such an approach fails to meet its obligations under the Planning Rule. Specifically, the Forest Service has not adequately assessed the current conditions within the Forest to be able*

to make an informed decision regarding how the preferred alternatives would impact climbing resources.

The Preface to the Record of Decision for the *Revised Forest Plan: Wasatch-Cache National Forest* states:

> Recognizing that conditions on the National Forests do not remain static, that public desires change, and that new information is constantly being developed, the Revised Plan embraces an adaptive management approach. This means that as conditions change, so will the management plan. That is why there will be Forest Plan amendments that will, if you wish, involve you. Through both scientific research and talking to the people who use the Forests, I intend to keep the Revised Plan current in respect to the needs of people as well as nature's processes.

As a cooperating agency, the USDA Forest Service believes that the EIS provides the analysis to the resources on Forest System lands to make an informed decision on any plan amendments and any special-use authorizations.

UDOT has worked closely with the USDA Forest Service regarding the expected impacts from all reasonable alternatives. Based on the analysis, the USDA Forest Service believes that the alternatives considered in the EIS are reasonable for implementation. In addition, UDOT and the USDA Forest Service have coordinated extensively throughout the EIS process to ensure that both agencies can meet their statutory requirements to render a decision from the EIS, as necessary.

D. *The Salt Lake Climbers Alliance commented that the existing* Forest Plan *is inadequate under the Planning Rule and that the Draft EIS fails to remedy any of the existing* Forest Plan*'s deficiencies.*

The USDA Forest Service believes that the EIS provides the analysis of the resources on National Forest System lands to make an informed decision about potential plan amendments. The EIS details the impacts to climbing resources, including how dispersed recreation parking might be limited, potential removal of climbing boulders, relocation of trails, noise impacts, visual impacts, and impacts to the quality of the recreation experience.

The EIS discloses the number of trails that could be impacted and states that the function of all trails would be retained and the trails would be available for use so as not to restrict the local climbing community. The function of the Alpenbock Loop Trail would be retained and trailhead parking maintained so that no substantial impacts would occur to access. The Gate Buttress trails and access would also be maintained. With the peak-period shoulder lanes, there would be a reduction in the number of boulders adjacent to the road, but the majority of boulders would still be available for use. The USDA Forest Service does not believe that monitoring the use would change the analysis in the EIS regarding how climbing resources would be impacted. When making a final decision, the use of the area and the impacts to climbing resources will be considered.

Monitoring and evaluation requirements have been established through the National Forest Management Act at 36 Code of Federal Regulations (CFR) Part 219. Additional direction is provided by the Forest Service in Chapter 30, *Monitoring*, of the *Land Management Handbook*

(FSH 1909.12). The Wasatch-Cache National Forest monitoring program was updated on November 20, 2015 (see Amendment 14, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd578954.pdf) for consistency with the 2012 planning regulations [36 CFR Section 219.12 (c)(1)].

Current *Forest Plan* monitoring reports are located at https://www.fs.usda.gov/detailfull/uwcnf/landmanagement/planning/?cid=stelprdb5076923&width=full.

E. *The Salt Lake Climbers Alliance commented that the Forest Service failed to analyze how the preferred alternatives might impact multiple-use requirements pursuant to 36 CFR Section 219.10.*

The regulation at 36 CFR Part 219 provides direction on *Forest Plan* development and meeting multiple-use objectives across the planning area. Project-specific direction is then provided in the *Forest Plan* as amended.

The USDA Forest Service has been involved in the EIS process as a cooperating agency. The EIS discloses the expected impacts to recreation use but does not need to balance the impacts among the alternatives. The EIS must disclose the impacts, and it will be up to the decision-maker in determining the selected alternative to consider the impacts along with the ability of each alternative to meet the project purpose.

F. *A commenter stated that the plan amendment process was not applied correctly regarding visual resources. They stated that the only way the gondola alternatives could be implemented is to ignore Standard S22 for Scenery Management or simply write an exemption. Does that suggest that the alternative is no longer acceptable?*

Both gondola alternatives were determined to be in conformance with USDA Standard S22 as referenced since they would not result in an unacceptably low scenic integrity level (see Sections 17.4.5.7 and 17.4.6.5 of the EIS). Therefore, the proposed *Forest Plan* amendment would not be required for conformance to Standard S22 if either gondola alternative were selected since the alternative would not result in an unacceptably low level of scenic integrity. The proposed *Forest Plan* amendment is based on the analyses and impacts identified in the EIS. The *Forest Plan* amendment is therefore specific to the scope, impacts, and analyses described in these documents and does not "grandfather in" any future activities not included as part of the Little Cottonwood Canyon EIS/Record of Decision without additional analyses and approval.

G. *SLCDPU commented that UDOT and the USDA Forest Service did not analyze the connected action of amending the 2003* Forest Plan*.*

Chapter 28, *U.S. Department of Agriculture Forest Service Forest Plan Amendments*, of the EIS analyzes how the project alternatives would require potential amendments to the 2003 *Forest Plan*.

H. *SLCDPU commented that, regarding the transfer of lands under 23 United States Code Section 317, the City requests that any lands transferred from National Forest System management to UDOT due to this project be maintained for watershed and water quality purposes.*

The appropriation of lands by FHWA is in the form of an easement but not a complete transfer of property ownership. The underlying *Forest Plan*'s watershed-related objectives, prescriptions, standards, and guidelines (or "management objectives" as described in Section 12.4.8, *Forest*

Plan–related Management Objectives, of the EIS) would still apply to those lands within the transfer easement not being directly used for transportation, such as a roadway travel lanes. The area under the gondola alignment, for example, would remain under USDA Forest Service management, and all watershed management objectives would still apply. Therefore, UDOT believes that, if FHWA appropriates an easement, the transportation facilities would be consistent with the *Forest Plan*. Also see response 32.2.6W.

UDOT conducted an extensive analysis of each of the reasonable alternatives and believes that the alternatives would be in general conformance with the 2003 *Revised Forest Plan: Wasatch-Cache National Forest* regarding its watershed management objectives. The alternatives would not cause water quality impacts since the quantitative modeling analysis shows *de minimis* changes to the water quality of Little Cottonwood Creek. In addition, the alternatives would not conflict with drinking water Source Water Protection Plans. Therefore, the alternatives would not affect the City's culinary water supply.

Chapter 3, *Land Use*, of the EIS states the amount of Forest Service lands that might be necessary for the alternatives and the types of management prescriptions that would be changed (see Table 3.4-1, *Summary of Acres of Land Required in USDA Forest Service Management Prescriptions and Total Acres of Land Required from Project Component*, of the EIS).

If a special-use permit or other special authorization is required, UDOT will work with the Forest Service regarding the conditions of the permits or authorizations. At this time, it has not been determined which lands would be appropriated and which would require a special-use permit or other special-use authorization. The type of land transfer would be determined once an alternative is selected.

UDOT in working with the USDA Forest Service believes that all of the reasonable alternatives in the EIS can be implemented since they are consistent with the watershed-related objectives, prescriptions, standards, and guidelines identified in the USDA Forest Service's 2003 *Revised Forest Plan: Wasatch-Cache National Forest*, which guides all management activities and which was written with watershed health as a primary objective.

I. *SLCDPU commented, with regard to each alternative: how much of a buffer of watershed priority lands would remain between transportation sources and Little Cottonwood Creek if UDOT successfully acquires the land?*

The underlying *Forest Plan*'s watershed-related objectives, prescriptions, standards, and guidelines (or "management objectives" as described in Section 12.4.8, *Forest Plan–related Management Objectives*, of the EIS) would still apply to those lands within the transfer easement not being directly used for transportation, such as a roadway travel lanes. The area under the gondola alignment, for example, would remain under USDA Forest Service management, and all watershed management objectives would still apply. Therefore, UDOT believes that, if FHWA appropriates an easement, the transportation facilities would be consistent with the *Forest Plan.* Also see response 32.2.6W.

J. *A commenter asked: If the USDA Forest Service does not conduct a visitor management study, is the permittee required to perform the analysis as part of a master plan development? Is the permittee on National Forest System lands exempt from local zoning? Is the permittee required to address the public safety and health of its customers rather than rely on municipal services? Is the permittee operating on National Forest System lands considered exempt from municipal zoning which requires provision for adequate on-site parking spaces for all new residential units? What metrics must the permittee follow to ensure "high-quality services" to its patrons; when and how is this monitored?*

UDOT is assuming the commenter is referring to ski resorts when discussing "the permittee." Ski area permittees are required, as part of the special-use permit, to establish a comfortable carrying capacity (CCC) for master development planning purposes. The CCC is a formula that assists planning for a balance of facilities and services including skiable terrain, lifts, base and mountain facilities, restrooms, operations, and parking and transportation facilities. The CCC represents a design day and recognizes that use will exceed the design day on a number of days each season, generally on holiday and peak weekend days. This is a common planning practice for a wide range of facility and infrastructure planning, including transportation.

The CCC is not intended to be a cap or limit on use, and the Forest Service does not impose it as that, but rather uses the required planning process to address changes in use and proposed development. The ski area has a range of management options to address capacity including proposals for operational and business plan changes as well as changes and upgrades to their infrastructure and facilities to address changes in use. The CCC, as part of the master planning process, is the foundation and starting point for projects that the ski area proposes for its short- and long-term goals and needs, and all proposed projects are subject to environmental review and consistency with forest plans (see response 32.20C).

Section C of ski area term permits states that the holder, in exercising the privileges granted by this term, shall comply with all present and future regulations of the Secretary of Agriculture and federal laws, and all present and future state, county, and municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit to the extent that they are not in conflict with federal law, policy, or regulation. The Forest Service assumes no responsibility for enforcing laws, regulations, ordinances, and the like which are under the jurisdiction of other government bodies. There are no residential units proposed in any of the preferred alternatives evaluated in the EIS. There are no requirements for the permittee to contract for public safety and health for its customers, and they can rely on local municipal services. There are no metrics to ensure "high-quality services."

Local zoning does not apply to National Forest System land.

32.29 Other

A. *Commenters requested an extension of the Draft EIS 45-day comment period to either 60 days or 90 days.*

UDOT extended the Draft EIS comment period on July 12, 2021, from 45 days to 70 days. The comment period ran from June 25 to September 3, 2021.

B. *A commenter asked for UDOT to eliminate the billboard at the entrance to Big Cottonwood Canyon.*

Removal of billboards is outside the scope of the EIS.

C. *A commenter stated that they would not ride the gondola because they are afraid of heights.*

Comment noted.

D. *The comment provided was unclear, was vague, was about projects unrelated to Little Cottonwood Canyon, or the commenter just wanted to be contacted for information, so a response was not possible.*

Commented noted. No specific response is provided.

E. *A commenter suggested the use of snow banks to address roadway avalanches.*

UDOT is not aware of any examples of using snowbanks to effectively control avalanches. All of the proposed alternatives, developed in consultation with avalanche-control experts, recommend snow sheds to mitigate the effects of avalanches closing the road.

F. *Commenters supported the gondola alternatives because Snowbird resort would implement a conservation easement on Mount Superior. Other commenters wanted more wilderness or conservation area designations or implementation of federal legislation that protects areas in Little Cottonwood Canyon.*

The Mount Superior Conservation Easement or establishing new wilderness or new protection areas is outside the scope of the UDOT EIS since it would not improve the mobility, reliability, and safety of S.R. 210. The conservation of land and associated federal legislation is not necessary to meet the project purpose or to mitigate for environmental impacts from the project alternatives.

G. *Commenters asked that UDOT consider impacts to the natural and human environment and to preserve Little Cottonwood Canyon. Other commenters asked UDOT to evaluate the alternatives in a more thorough manner and consider the impacts to the communities and the environment.*

The EIS evaluates impacts to both the natural and human environment. The impact to these resources is considered throughout the EIS process in accordance with regulations and guidelines established under the National Environmental Policy Act. In making the final decision UDOT will consider the impacts to the natural and human environment along with the benefits of the primary alternatives.

H. *A commenter suggested that UDOT build an alternative that has redundancy and limits human impacts.*

UDOT has analyzed five primary action alternatives, each with benefits to the traveling public and different negative impacts to the environment. UDOT believes that it has evaluated a reasonable range of alternatives and considered all alternatives suggested by the public.

I. *A commenter asked UDOT to force the Alta resort to eliminate their no-snowboard policy if the project gets funded with taxpayer dollars. Other commenters asked for the resorts to change the way they operate the mountains.*

UDOT does not have the authority to remove the policies of a private commercial business.

J. *A commenter asked whether better signage to improve safety could be added to the canyon to reduce congestion.*

The signage on S.R. 210 meets current UDOT standards, as would any signage installed in connection with the selected alternative. UDOT would continue to evaluate signage during implementation of the selected alternative to ensure that it is up to date and effective.

K. *A commenter suggested that there should be more chain-up areas in Little Cottonwood Canyon.*

UDOT has a chain-up area prior to entering Little Cottonwood Canyon and has signs identifying when chains are required. There is limited space in Little Cottonwood Canyon to provide additional chain-up areas.

L. *A commenter asked whether the future of transportation technology was considered in selecting an alternative.*

It is not possible to know where transportation technology will be in 20 to 30 years, and it would not be possible to make decision based on unknowns. UDOT selected the preferred alternatives based on what is known, proven transit technology that is operating today.

M. *A commenter asked about reconfiguring the Alta and Snowbird resorts.*

Changes to the resorts are outside the scope of the EIS.

N. *A commenter did not want a community center built at the bottom of Emma's backcountry access.*

Building a community center in the town of Alta is not part of any UDOT primary alternative. The community center is being considered by the Town of Alta independent of the EIS.

O. *A commenter stated that UDOT did not send representatives to a Save Not Pave rally.*

UDOT has been working with representatives of the Cottonwood Heights City government throughout the EIS process to get a better understanding of the needs of the greater community. Throughout the EIS process, UDOT has met or communicated with members of Save Not Pave.

P. *Commenters requested that UDOT require ZIP Codes when submitting comments to determine where comments are coming from.*

Under the National Environmental Policy Act (NEPA), which set the guidelines for the EIS process, all comments must be considered equally. To consider some comments more important than others based on their ZIP Code would not meet the intent of NEPA and implementing regulations.

Q. *A commenter asked that the state route designations be changed.*

Changing route designations is outside the scope of the EIS.

R. *Commenters suggested that a temporary transit system be implemented while waiting for the selected transit alternative to be constructed. Others commenters asked for a phased plan that can start with immediate short-term solutions including adding more buses, increased parking at the mobility hubs, tolling, reducing vehicle occupancy, implementing more remote avalanche systems, better winter tire enforcement, and improving access to S.R. 210 from the ski resorts. The commenters stated that the project should be phased with less impactful options first to determine whether they are successful before implementing more impactful alternatives.*

Operating a temporary system or short-term solutions is outside the scope of the EIS. Many commenters suggested implementing just portions of the primary alternatives to determine how they work before implementing the next phase. The alternatives being evaluated are based on a 2050 planning horizon. All of the components identified with each of the primary alternatives are necessary to meet the project purpose in 2050. Implementing part of an alternative would not meet the project purpose.

Tolling would be implemented as part of any alternative. It is possible that the enhanced bus service alternatives could be phased and start with implementation of fewer buses and less parking to determine the success of the service before moving forward with more construction in Little Cottonwood Canyon. The gondola and cog rail alternatives would require immediate construction in order for the alternative to operate. It is possible for UDOT to start with bus service alternatives to determine success before moving into a gondola or cog rail alternative. The decision regarding how alternatives would be implemented would be made by UDOT. For the S.R. 210 Project, UDOT will select one of the primary alternatives and build and/or phase that alternative based on available funding and other considerations. If UDOT decides to phase an alternative, the phasing plan will be included in the Record of Decision.

UDOT and UTA will continue to work together on making short-term improvements to bus service, enforcement programs, and avalanche mitigation programs as allowed by funding. Adding more buses and installing remote avalanche equipment can still take up to 18 months. Buses are not immediately available and would need to be ordered and built, and remote avalanche devices need to be designed, purchased, and installed. There currently are programs in place such as tire inspection and enforcement, vehicle type inspections, and bus service.

S. *A commenter stated that there was not enough space on the website comment form to provide meaningful comments.*

The comment form did not restrict the size of the comment. Comments could also be emailed and mailed.

T. *Commenters asked whether there will be more comment periods or whether there will be a comment period after release of the Final EIS before the Record of Decision is signed.*

After the Draft EIS comment period, the comments that were received were reviewed, evaluated, responded to, and included in the Final EIS. After the release of this Final EIS and the announcement in the Federal Register, there will be a minimum 30-day public review period in which UDOT will accept public comments on the preferred alternative. After this public review period, UDOT will consider all comments received on this Final EIS, the analysis in this Final EIS, and the project file in preparing the Record of Decision for the S.R. 210 Project.

U. *A commenter stated that two lanes to the Grit Mill would solve the congestion problem and give traffic enough time to merge.*

The merge lane project to the Grit Mill was completed in 2020.

V. *A commenter wanted to know where they can get answers to their questions.*

The comments on the Draft EIS and the EIS process have been responded to in the Final EIS.

W. *A commenter stated that they were not provided the opportunity to speak at the July 13, 2021, public hearing.*

In order to speak at the public hearing, a comment request card needed to be filled out. At the public hearing, all speakers who submitted a comment request card were called on to speak. The hearing ended after all people who wanted to make a verbal comment had the opportunity. If a person left before their name was called, that was not within the control of UDOT.

X. *A commenter requested specific geographic information systems (GIS) information for a primary alternative.*

GIS data were provided on the project website with the requested URL to link to the GIS data.

Y. *A commenter suggested improvements to the merge lane at the Snowbird resort entrance to S.R. 210.*

UDOT recently improved the merge lane (in 2020). No further improvements are planned.

Z. *Commenters suggested that the State of Utah implement legislation to place additional taxes on ski passes or rental properties to fund any improvements.*

Changing the tax structure would not meet the project purpose and is not within UDOT's authority and thus was not considered further.

AA. *A commenter suggested heating slick spots on the road to improve traction.*

Although different road treatments could improve traction, they would not reduce the number of vehicles that use the canyon during the peak periods and thus would not meet the project purpose.

BB. A commenter stated that UDOT should determine the number of out-of-state users that use rental cars go to the ski resorts.

It would not be possible to determine what percentage of out-of-state users with rental cars go to a specific ski resort on any given day. Most rental cars have a Utah license plate. UDOT would need to stop each vehicle and asked whether the occupants are from out of state and do the survey on various days during the winter to get an accurate percentage.

CC. A commenter requested that comments to the EIS should be posted when they are received so others can consider those comments in making their own comments.

UDOT is not required to post comments on the Draft EIS until release of the Final EIS. In addition, UDOT received a substantial of comments through websites, email, and mail each day during the comment period, and therefore it would be difficult to get comments posted during the comment period. Finally, the purpose of the Draft EIS is to solicit comments on the content of the EIS, not on comments provided by others.

DD. A commenter asked which state representative would benefit from the gondola project.

UDOT is conducting an independent evaluation of all of the primary alternatives. UDOT is not aware if any state representative would benefit.

EE. A commenter stated that footnote d in Table 6 of Appendix 2G did not make sense.

That same footnote is used for the same table in Chapter S, *Executive Summary*, and in Chapter 2, *Alternatives*, of the EIS. The footnote now reads, “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.”

FF. A commenter stated that, if the gondola is required to be used by resort employees, it will take longer for them to travel to and from work. Will the resorts pay for this additional travel time?

How resort employees are compensated is outside the scope of the EIS.

GG. A commenter suggested that the ski resort Forest Service permits be revoked or the size of the resorts reduced.

Alta’s and Snowbird’s special-use permit boundaries consist of a mix of National Forest System (NFS) and private lands; hence, ski area infrastructure exists on both NFS and private lands. The mixed ownership within these two resort permit boundaries makes it infeasible for the ski areas to operate solely on private property. The Forest Service’s position is that Alta’s and Snowbird’s special-use permits are in the public interest. Downhill skiing is the second-most-popular primary activity on NFS lands nationally. As of 2017, permitted ski areas on NFS lands provided roughly 60% of the total capacity for downhill skiing in the United States.

HH. A commenter asked UDOT to install signs warning drivers of the steep downhill grades.

Additional signage for drivers about steep grades is outside the scope of this EIS and can be implemented outside the EIS process.

II. *A commenter requested that all politicians with financial interest in an alternative be disclosed.*

The NEPA process is an open public process, and the way that all decisions are made is documented in the EIS and Record of Decision. A politician's financial gain is not considered in the decision.

JJ. *A commenter suggested a messaging campaign to road users regarding the impacts of using personal vehicles in Little Cottonwood Canyon.*

A message campaign regarding the use of personal vehicles would not meet the project purpose since it would not incentivize users from driving their personal vehicles.

KK. *A commenter asked that UDOT work with the USDA Forest Service to improve hiking and biking trails.*

Improvements to hiking and biking trails is not necessary to meet the project purpose and therefore is outside the scope of the EIS.

LL. *A commenter asked whether, if a bus alternative is selected, could UDOT preserve the land for the gondola for future use.*

If UDOT selects one of the enhanced bus service alternatives, there would be no need to preserve land for a gondola alternative. However, UDOT could preserve land for potential future transportation projects using the corridor preservation program.

MM. *Commenters asked why UDOT left the Central Wasatch Commission during the EIS process.*

The Central Wasatch Commission was looking at issues of the broader central Wasatch Mountains, which was outside the scope of the Little Cottonwood Canyon EIS.

NN. *A commenter suggested that UDOT should have use cloud sourcing to develop the alternatives.*

UDOT had two scoping periods and alternative development open houses requesting input on what alternatives should be considered. This is similar to cloud sourcing. The public input resulted in UDOT evaluating over 120 ideas.

OO. *A commenter asked whether the EIS team has analyzed and published skier use data for Alta and Snowbird.*

The skier use data is proprietary information held by the ski resorts.

PP. *Save Our Canyons (SOC) commented that UDOT did not respond to a Government Records Access and Management Act (GRAMA) request in the required time.*

UDOT made an effort to comply with all GRAMA requests made during the NEPA process. Some requests were requesting large amounts of records and thus took more time to respond to. With a large data request, the requestor cannot expect that the information is readily available and can be turned over immediately.

By the end of May 2021, UDOT had fully complied with the public records requests to which SOC refers by providing it access to every public record that UDOT possesses that responds to the

requests. UDOT's response totaled more than 5,000 pages of public records. However, during the first week in June 2021, SOC informed UDOT it was not satisfied with what UDOT provided and requested that UDOT provide copies of all responsive emails in native format to make it easier for SOC to associate emails with original attachments.

UDOT agreed and asked all record custodians to re-search their inboxes for responsive emails and transfer them to legal counsel in the native format. Unfortunately, emails in native format are not secure documents. SOC would be able to make changes to the unsecured emails and the attachments if it wanted to.

UDOT is not willing to provide SOC with access to unsecured documents. However, UDOT used a vendor at its expense to process all responsive emails with the original attachments. The result totals more than 2,000 secure documents. UDOT's legal counsel had to re-review the responsive emails and attachments for privacy and privilege issues. UDOT provided SOC access to the emails with the attachments as soon as the UDOT's lawyers received answers to their final questions.

QQ. *As an appendix to their comments on the Draft EIS, Save Our Canyons provided comments that they made to the Central Wasatch Commission (CWC) Transportation Draft Alternative. Below is a summary of these comments.*

- *Save Our Canyon stated that they approved of the regional scope of the CWC transportation alternative process.*
- *Save Our Canyons commented that, without any legal jurisdiction of the roads and the National Forest, how can the CWC transportation alternatives be considered more than just a study.*
- *Save Our Canyons commented that CWC should look at more than the impact of the footprint of alternatives including the impacts of increased visitation.*
- *Save Our Canyons commented that CWC should have considered climate change in development of the alternatives.*
- *Save Our Canyons commented on the CWC bus alternative, gondola alternative, and rail alternatives. CWC preferred the bus alternative because of the limited environmental impacts and regional service.*

Central Wasatch Commission Transportation Draft Alternative Comments. The Central Wasatch Commission Transportation Draft Alternatives are a separate process done by a separate group than the UDOT Little Cottonwood Canyon EIS. Comments related to the CWC are not relevant to the scope of the EIS.

Regional Scope of CWC Transportation Alternative Process. The CWC study had a different purpose than the Little Cottonwood Canyon EIS, which focuses on S.R. 210 (also see responses 32.1.1C and 32.1.2B). Therefore, it is not possible to link the goals of the CWC process with the Little Cottonwood Canyon EIS.

Jurisdiction of Roads and National Forest. The Little Cottonwood Canyon EIS is being conducted by UDOT in cooperation with the USDA Forest Service. These agencies have jurisdiction of the transportation infrastructure and the National Forest System lands, making them the appropriate agencies to conduct the Little Cottonwood Canyon EIS.

Increased Visitation. The Little Cottonwood Canyon EIS did evaluate the potential for impacts from increased visitation. See responses 32.20A and 32.20C.

Climate Change. See response 32.2.2E.

CWC Transportation Alternatives. The UDOT Little Cottonwood Canyon EIS also evaluated bus, gondola, and rail alternatives focused on S.R. 210. The CWC alternatives evaluated a different purpose and looked at regional connections, which is a different goal than that of the UDOT Little Cottonwood Canyon EIS; therefore, it is not possible to compare the alternatives. However, the S.R. 210 analysis also included an evaluation of a regional bus service alternative similar to that requested by Save Our Canyons. Many of the concerns raised in the comments to the CWC were also presented by Save Our Canyons in their comments on the Little Cottonwood Canyon EIS.

RR. *Save Our Canyons commented during the EIS scoping period that UDOT was considering only road-widening improvements and not transit and preliminarily excluded many operational improvements from consideration that would have negated the need for roadway widening.*

The March 2019 Notice of Intent (NOI) to prepare the Little Cottonwood Canyon EIS did not focus on road widening but did reflect that the 2019–2050 *Wasatch Front Regional Transportation Plan* included a project for a third general-purpose lane in Little Cottonwood Canyon. Therefore, UDOT released a revised NOI stating that this was a possible alternative along with other alternatives including transit. The primary alternatives considered in the EIS are all transit-based alternatives, and adding a third general-purpose lane was not one of the primary alternatives.

During the EIS scoping periods in 2018 and 2019, UDOT received more than 1,500 comments, about 124 of which suggested concepts and alternatives for UDOT to evaluate in the EIS. As stated in the screening report, Table A-1 was the first part of screening, and the alternatives were evaluated against whether they would meet project objectives, would meet NEPA requirements, are within the project study area, are technically feasible, and whether they are state operational improvements that are in process and are considered independent safety improvements or are improvements considered within a larger alternative. Therefore, UDOT did not exclude operational improvements but determined whether they were ongoing, would not meet the project purpose, or were included within a larger alternative.

SS. *Save Our Canyons commented during the scoping period that, because UDOT might receive only Federal-Aid Highway Program funds, transit alternatives would not be considered.*

None of the alternatives considered in the EIS depend on UDOT receiving Federal-Aid Highway Program funds. The NEPA process for the Little Cottonwood Canyon EIS was not based on where funding originates but on the alternatives suggested during the NEPA process, including transit alternatives. UDOT is not legally constrained from considering transit alternatives in its NEPA documents, and the failure to do so could result in an inadequate NEPA document.

TT. *Save Our Canyons commented that the Little Cottonwood Canyon EIS process and related processes (that is, the Cottonwood Canyons Transportation Action Plan [CCTAP] EIS) have also been extremely confusing.*

UDOT did consider a Cottonwood Canyons Transportation Action Plan but decided not to proceed since many of the elements were being considered in the Little Cottonwood Canyon EIS and the two processes overlapped. Because of the confusion between the Little Cottonwood Canyon EIS and the CCTAP EIS, the CCTAP project was stopped.

UU. *During the public comment period for the Revised Draft Chapter 26,* Section 4(f) and Section 6(f) Evaluation*, from December 10, 2021, to January 10, 2022, commenters provided comments not related to the Section 4(f) evaluation. The comments were related to the Draft EIS and potential alternatives.*

During the public comment period for the Revised Draft Chapter 26, *Section 4(f) and Section 6(f) Evaluation*, UDOT was accepting comments only specifically related to the Section 4(f) evaluation in Chapter 26. The public had the opportunity to provide comments to the content in the Draft EIS during the 70-day public comment period from June 25 to September 3, 2021. In general, comments provided during the Chapter 26 comment period that are related to specific alternatives in the Draft EIS are included and responded to in this chapter.

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