

Draft Alternatives- development and Screening Methodology Report

Little Cottonwood Canyon Environmental Impact Statement Wasatch Boulevard to Alta

Lead agency:
Utah Department of Transportation

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Contents

1.0	Introduction	1
2.0	Alternatives-development and Screening Process	4
2.1	Develop Proposed Alternatives	4
2.2	Alternatives Screening Level 1: Purpose and Need	4
2.2.1	Urban Segment	5
2.2.2	Rural Segment	6
2.3	Refine Alternatives	7
2.4	Level 2 Screening	7
3.0	Preliminary Engineering Phase	10
4.0	Agency and Public Involvement	10
5.0	Reasons Why Alternatives Might Be Eliminated	11
5.1	NEPA Regulations and Council on Environmental Quality Guidance	11
5.2	Clean Water Act Requirements	12
5.3	Section 4(f)/Section 6(f) Requirements	13
5.4	Wilderness Act of 1964 (Public Law 88-577; 16 USC Sections 1131–1136)	14
5.5	Appropriation of Lands Owned by the United States for Highway Purposes	14
6.0	Tools Used	15
6.1	Travel Demand Model	15
6.2	GIS Data	15
6.3	Public and Agency Review of This Report	15

Tables

Table 1.	Level 1 Screening Criteria for the Urban Segment (Purpose and Need)	5
Table 2.	Level 1 Screening Criteria for the Rural Segment (Purpose and Need)	7
Table 3.	Level 2 Screening Criteria for the Urban and Rural Segments (Impacts)	8

Figures

Figure 1.	Study Area for the Little Cottonwood Canyon EIS	2
Figure 2.	Overview of the Little Cottonwood Canyon EIS Alternatives-development and Screening Process	3

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1.0 Introduction

The purpose of this report is to describe the alternatives-development and screening process that will be used for the Little Cottonwood Canyon Environmental Impact Statement (EIS). The Utah Department of Transportation (UDOT) is preparing the EIS to study proposed transportation solutions to State Route (S.R.) 210 from Fort Union Boulevard to the town of Alta in Little Cottonwood Canyon in Salt Lake County, Utah.

Transportation improvements are needed to improve the reliability of, mobility on, and safety on S.R. 210 for residents, visitors, and commuters who use this highway. The study area extends along the S.R. 210 corridor from its intersection with S.R. 190/Fort Union Boulevard in Cottonwood Heights to its terminus in the town of Alta. Figure 1 shows the study area for the Little Cottonwood Canyon EIS.

S.R. 210 consists of two distinct areas based on different characteristics of transportation use. The first area is the **urban segment** from Fort Union Boulevard to North Little Cottonwood Road that supports commuter and recreation traffic, and the second area is the rural segment in Little Cottonwood Canyon that primarily supports recreation traffic. The urban segment is the portion of S.R. 210 that is designated Wasatch Boulevard. The **rural segment** includes the portion of S.R. 210 that is designated North Little Cottonwood Road and Little Cottonwood Canyon Road and terminates in the town of Alta.

UDOT is developing, with public and agency input, a Purpose and Need Statement for the project that will guide the development of project alternatives. The alternatives-development and screening process will consist of the following phases (Figure 2):

1. Develop proposed alternatives that respond to the Purpose and Need Statement. For the urban segment, this refers mostly to roadway and transit improvements. For the rural segment, this includes avalanche mitigation and trailhead parking.
2. Apply initial (Level 1) screening criteria to eliminate alternatives that do not meet the purpose of and need for the project.
3. Refine alternatives that pass the Level 1 screening process.
4. Apply secondary (Level 2) screening criteria to eliminate alternatives that might meet the purpose of and need for the project but would be unreasonable alternatives for other reasons—for example, an alternative would have unreasonable impacts to the natural and human environments, would not meet regulatory requirements, or could be replaced by a less costly alternative.
5. Conduct preliminary engineering. The alternatives that pass Level 1 and Level 2 screening will be further developed to avoid and minimize impacts to the natural and human environment and designed to a higher level of detail before UDOT performs the detailed impact analyses for the EIS.

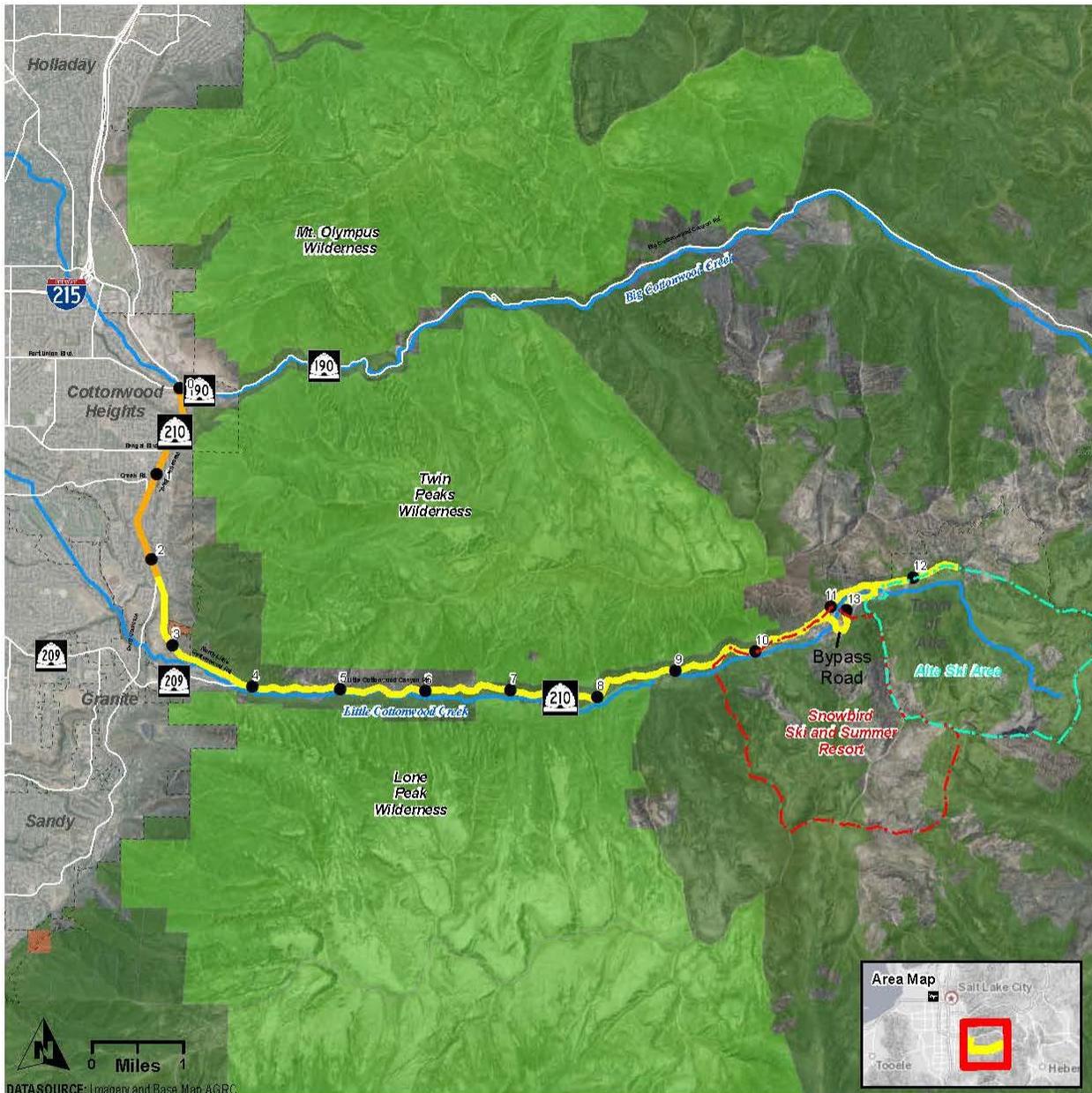
What is the purpose of this report?

The purpose of this report is to describe the alternatives-development and screening process that will be used for the Little Cottonwood Canyon EIS.

What are Sections 4(f) and 6(f)?

For more information about Sections 4(f) and 6(f), see Section 5.3, Section 4(f)/Section 6(f) Requirements.

Figure 1. Study Area for the Little Cottonwood Canyon EIS

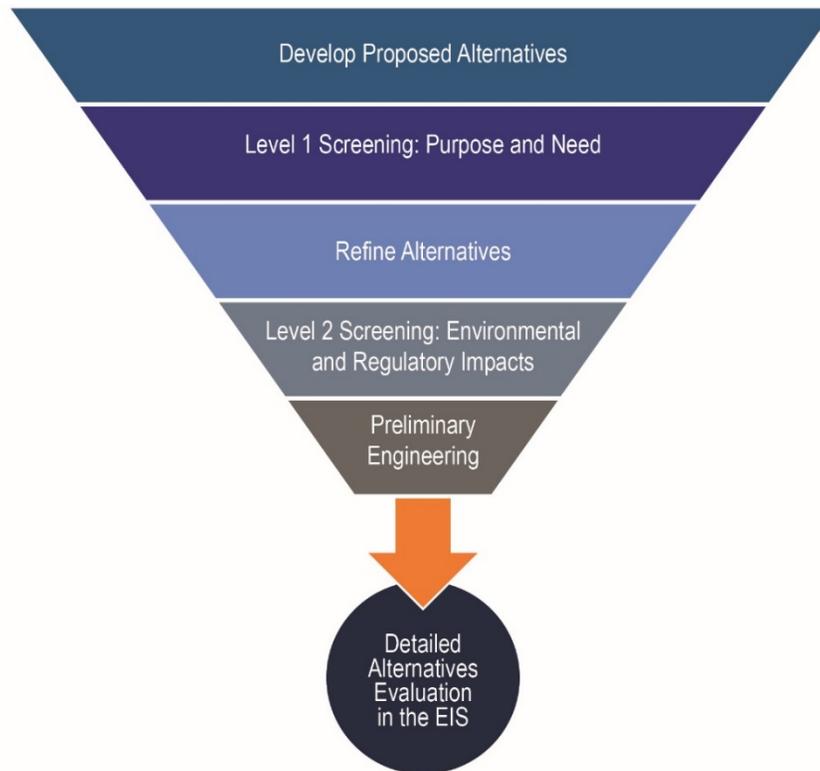


DATASOURCE: Imagery and Base Map AGRC

LEGEND

- Milepost
- S.R. 210 Study Segments
 - Yellow line: Rural Segment
 - Orange line: Urban Segment
- Land Use/Ownership
 - Light green box: Bureau of Land Management
 - Dark green box: National Forest
 - Lightest green box: National Wilderness Area
 - No color box: Private (No color)
- Red dashed line: Snowbird Ski and Summer Resort
- Cyan dashed line: Alta Ski Area
- Black dashed line: City Boundary
- Blue line: Creek/Stream

Figure 2. Overview of the Little Cottonwood Canyon EIS Alternatives-development and Screening Process



The alternatives-development and screening process described in this report will provide critical information about how well an alternative satisfies the project's purpose and meets the transportation needs, and whether it is reasonable under the National Environmental Policy Act (NEPA), practicable under the Clean Water Act, and prudent and feasible under Section 4(f) of the Department of Transportation Act of 1966. For more information regarding regulations considered in this screening process, see Section 5.0, Reasons Why Alternatives Might Be Eliminated. The results of the screening process will be presented in a memorandum and summarized in the EIS.

The alternatives-development and screening process is designed to be dynamic throughout the EIS process. If a new alternative is developed later in the process, it will be subject to the same screening process as all of the other alternatives, as described in this report.

Because of their different transportation characteristics, the two segments of S.R. 210 have different transportation needs. Although the alternatives-development and screening process is the same for the two segments, the specific alternative elements and screening criteria are different. Therefore, the alternatives in the urban and rural segments will be developed and screened separately, as described in this report. The process is described in Section 2.0, Alternatives-development and Screening Process.

It is important to note that, because the urban residential and rural mountainous settings of the S.R. 210 corridor are geographically separated by North Little Cottonwood Road, and because transportation solutions for both segments would have independent utility, an alternative on one segment would not restrict the consideration of alternatives on the other segment.

2.0 Alternatives-development and Screening Process

2.1 Develop Proposed Alternatives

In the first phase of the alternatives-development and screening process, UDOT will develop proposed alternatives to address the project's objectives for the urban and rural segments of S.R. 210. UDOT will identify a range of alternatives from previous studies, public and agency input during the scoping process, and local and regional land use and transportation plans.

When developing alternatives for the **urban segment** of S.R. 210, UDOT will consider elements of the Cottonwood Heights Wasatch Boulevard Master Plan Corridor Study.¹ UDOT will consider different travel modes (for example, transit, automobile, walking, and bicycling) and how they can be changed to improve transportation on the urban segment of S.R. 210 in support of the project's purpose and need.

For the **rural segment** of S.R. 210, the initial list of alternatives will include avalanche mitigation and trailhead parking. Each of these alternative elements has independent utility and for this reason will be evaluated separately during the screening process.

All proposed alternatives for **both segments** will be developed to an equal level of detail to allow for objective screening. Although the proposed alternatives will not be fully developed during this phase, they will meet UDOT's safety standards and design criteria. To accommodate Level 1 screening, UDOT will develop the proposed alternatives in enough detail to allow UDOT to use travel demand modeling (see Section 6.1, Travel Demand Model) for the roadway alternatives to compare to other modes.

2.2 Alternatives Screening Level 1: Purpose and Need

During the Level 1 alternatives-screening phase, each of the proposed alternatives will be evaluated using criteria that identify whether the alternative reasonably meets the purpose of and need for the project.

The purpose of Level 1 screening is to eliminate alternatives that do not meet the project's purpose and need. Alternatives that are determined by UDOT to not meet the purpose of and need for the project will be considered unreasonable for NEPA purposes and not practicable for Clean Water Act Section 404(b)(1) purposes and will not be carried forward for further analysis. The basis for that determination will be documented in the screening results memorandum. For more information, see Section 5.1, Council on Environmental Quality Regulations and Guidance, and Section 5.2, Clean Water Act Requirements. Initial alternatives that are not eliminated during Level 1 screening will be refined and advanced to Level 2 screening.

What is scoping?

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

What is the purpose of Level 1 screening?

The purpose of Level 1 screening is to eliminate alternatives that do not meet the purpose of and need for the project.

¹ City of Cottonwood Heights, *Draft Wasatch Boulevard Master Plan*, June 2018.

Because the urban and rural segments of S.R. 210 have different purpose and need statements, their Level 1 screening criteria are different. These are described in the following sections.

2.2.1 Urban Segment

Purpose and Need: Urban Segment

For the urban segment of S.R. 210 (Wasatch Boulevard from Fort Union Boulevard to North Little Cottonwood Road), UDOT's objectives are to:

- Improve the level of service (LOS) in 2050 by meeting UDOT's goal of LOS D (LOS D is considered light congestion); and
- Improve safety.

UDOT's objectives also include coordinating with Cottonwood Heights City regarding its Wasatch Boulevard Master Plan Corridor Study (report anticipated in the summer of 2018).

The transportation needs in the urban segment are related primarily to relieving traffic congestion during weekday commuter peak periods and improve safety. Travel in this segment is unreliable during periods of peak congestion, which affects the transportation system.

What is level of service (LOS)?

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). LOS B through LOS E represent progressively worse operating conditions.

Level 1 Screening Criteria: Urban Segment

UDOT developed Level 1 screening criteria for the urban segment based on the need to reduce congestion on Wasatch Boulevard and improve safety. The proposed alternatives will be screened against criteria pertaining to travel demand and capacity, safety, and pedestrian and bicycle access (Table 1). To accommodate Level 1 screening, UDOT will develop the initial alternatives in enough detail to allow UDOT to use the Wasatch Front Regional Council's (WFRC) travel demand model to forecast the future traffic volumes and associated congestion. (For more information about the travel demand model, see Section 6.1, Travel Demand Model.)

Table 1. Level 1 Screening Criteria for the Urban Segment (Purpose and Need)

Criterion	Measure
Reduce delay and improve capacity (improve regional mobility) ^a	Achieve a level of service of LOS D on Wasatch Boulevard and intersections in 2050.
Consider the Wasatch Boulevard Master Plan Corridor Study	Meet the overall objectives identified in the master plan corridor study while addressing UDOT's safety and mobility requirements.
Improve safety	Meet UDOT's safety standards (such as lane and shoulder widths, access, and sight distance) for all roadway users including passenger and freight vehicles, cyclists, pedestrians, and recreational users.

^a Capacity analysis will be based on four highway segments to determine whether an alternative meets the level of service goal and safety needs for each segment.

2.2.2 Rural Segment

Purpose and Need: Rural Segment

UDOT's primary objectives for the rural segment of S.R. 210 (North Little Cottonwood Road to Alta) are to:

- Improve the road's reliability by substantially reducing the number of days and hours that the road is closed for avalanche mitigation and incidents.
- Improve safety by reducing the risk of avalanches to roadway users.
- Enhance roadway safety at trailhead parking areas for pedestrians and bicyclists and decrease conflicts between motorized and nonmotorized transportation modes.
- Prevent roadside pavement damage caused by on-road parking at trailheads.

As a secondary objective and in recognition of the importance of the Little Cottonwood Canyon watershed to Salt Lake City's water supply, UDOT will identify, analyze, and incorporate, where feasible, best management practices into the transportation solutions proposed for this project. These best management practices will be designed to maintain the integrity of the watershed, mitigate short-term impacts, and minimize potential long-term transportation system impacts to water quality. The secondary objective was used to further refine project alternatives (for example, to consider different best management practices) but was not used to determine whether an alternative was reasonable or practicable.

The transportation needs in the rural segment are related primarily to relieving traffic congestion during peak periods and improving safety. The following deficiencies occur in the study area:

- The avalanche hazard poses a risk to winter travelers in Little Cottonwood Canyon. The current avalanche-control program requires periodic road closures that can cause 2- to 4-hour travel delays, which can cause traffic to back up in the neighborhoods at the entrance of the canyon.
- Vehicles parked on the shoulder force cyclists and pedestrians into the roadway travel lane, which is a safety concern. The on-road parking also damages the pavement edge, thereby increasing soil erosion into nearby streams.
- There are limited parking and restroom facilities at trailheads to support recreation in the canyon.

Level 1 Screening Criteria: Rural Segment

UDOT developed Level 1 screening criteria for the rural segment based on the need to improve reliability, mobility, and safety for residents and visitors traveling in Little Cottonwood Canyon. Table 2 presents the Level 1 screening criteria for the rural segment.

Table 2. Level 1 Screening Criteria for the Rural Segment (Purpose and Need)

Criterion	Measure
<i>Avalanche Mitigation</i>	
Improve avalanche related roadway reliability and safety in 2050	<ul style="list-style-type: none"> Substantially reduce number of hours and/or days that avalanches delay users. Substantially reduce the avalanche hazard at for roadway users.
<i>Trailhead Parking</i>	
<ul style="list-style-type: none"> Improve roadway safety by reducing conflicts Reduce parking-related congestion 	<ul style="list-style-type: none"> Improve parking at existing trailheads to support travel modes while improving safety. Reduce traffic conflicts at existing trailhead locations. Keep parking levels at year 2000 levels.

2.3 Refine Alternatives

The alternatives that pass Level 1 screening will be developed in enough detail to estimate their preliminary impacts and cost. This development will consist of conducting preliminary engineering so that UDOT can determine the right-of-way requirements for estimating impacts to the natural and human environment. In addition, through the roadway engineering process, UDOT will develop high-level cost estimates for each alternative.

2.4 Level 2 Screening

The purpose of Level 2 screening is to identify alternatives that are practicable and reasonable and should be evaluated in detail in the EIS. During Level 2 screening, UDOT will collectively evaluate the alternatives that passed Level 1 screening against criteria that focus on the alternative's impacts to the natural and built environment, estimated project costs, logistical considerations, and technological feasibility. Table 3 lists the Level 2 screening criteria for the urban and rural segments.

What is the purpose of Level 2 screening?

The purpose of Level 2 screening is to identify alternatives that are practicable and reasonable and should be evaluated in detail in the EIS.

Table 3. Level 2 Screening Criteria for the Urban and Rural Segments (Impacts)

Criterion	Measure
<i>Urban Segment</i>	
Compatibility with local plans	<ul style="list-style-type: none"> Alternative's consistency with local and regional land use and transportation plans^a
Compatibility with permitting requirements	<ul style="list-style-type: none"> Permit requirements
Impacts related to Clean Water Act	<ul style="list-style-type: none"> Acres and types of wetlands and other waters of the United States^c
Impacts to natural resources	<ul style="list-style-type: none"> Acres and types of sensitive habitat Acres of floodplain Acres of critical habitat
Impacts to the built environment	<ul style="list-style-type: none"> Number and area of parks Number of community facilities Number of potential property acquisitions including residential, business, and utility acquisitions Number of Section 4(f)/Section 6(f) uses^d Number of cultural resources (for example, historic and archaeological resources) affected
<i>Rural Segment</i>	
Compatibility with local plans	<ul style="list-style-type: none"> Alternative's compliance with the Wilderness Act of 1964 and consistency with the 2003 Revised Wasatch-Cache Forest Plan. Alternative's consistency with local and regional land use and transportation plans^a
Compatibility with permitting requirements	<ul style="list-style-type: none"> Permit requirements
Impacts related to Clean Water Act	<ul style="list-style-type: none"> Acres and types of wetlands and other waters of the United States^c
Impacts to natural resources	<ul style="list-style-type: none"> Acres of floodplain Acres of sensitive habitat Consistency with watershed protection regulations
Impacts to the built environment	<ul style="list-style-type: none"> Number and area of parks, trailheads, and trails Number of linear feet of canals or pipelines Number of community facilities Number of potential property acquisitions including residential, business, and utility acquisitions Number of Section 4(f)/Section 6(f) uses^d Number of cultural resources (for example, historic and archaeological resources) affected

^a This criterion will not be used to determine whether an alternative is reasonable or practicable but will be used to make minor shifts to alternatives' alignments.

^b Based on Clean Water Act requirements, an alternative with a substantially greater number of wetland impacts could be eliminated from detailed study in the EIS. For more information, see Section 5.2, Clean Water Act Requirements.

^c Based on the requirements of Section 4(f) of the Department of Transportation Act of 1966 and Section 6(f) of the Land and Water Conservation Fund Act of 1965, an alternative with substantially greater Section 4(f) or Section 6(f) impacts could be eliminated from detailed study in the EIS. For more information, see Section 5.3, Section 4(f)/Section 6(f) Requirements.

The overall process for Level 2 screening will be:

- Estimate the impacts of each alternative that passed Level 1 screening on various resources.
- Evaluate the alternatives for costs, logistical considerations, and technological feasibility.
- Determine whether any of the alternatives would have substantially greater impacts or costs without having substantially greater benefits.

Using the information gathered from Level 2 screening, UDOT will determine which alternatives to study in detail in the EIS. More information about each of these steps is provided below.

Estimate Impacts on Resources. Using geographic information systems (GIS) software, UDOT will estimate how each alternative that passed Level 1 screening might affect resources such as wetlands and other waters of the United States, Section 4(f) and Section 6(f) resources, wildlife habitat, existing and planned parks and trail systems, cultural resources, camping areas, wilderness areas, and community facilities such as schools, senior centers, fire stations, and community gathering places. The amount of impacts will be determined by overlaying the estimated right-of-way for each alternative on the GIS datasets for these resources. UDOT will use the same approach to identify the potential number of impacts to homes and businesses, potential property acquisitions, potential utility impacts, and potential community impacts.

Evaluate Alternatives for Consistency with Permitting Requirements. UDOT will evaluate the alternatives independently for their consistency with applicable permitting requirements, including consideration of whether an alternative is practicable for Clean Water Act Section 404(b)(1) purposes. If an alternative is found by UDOT to be practicable and to have less adverse impacts to the aquatic environment, it will be retained for detailed analysis in the EIS. For more information, see Section 5.0, Reasons Why Alternatives Might Be Eliminated.

Compare Impacts and Costs to Benefits. UDOT will use the screening results to determine whether any of the alternatives would have substantially greater impacts or costs without having substantially greater benefits. Alternatives that have the same or similar benefits to other alternatives but have substantially greater impacts or costs will be eliminated and considered unreasonable for NEPA purposes.

Although public and agency involvement is critical throughout the entire alternatives-development and screening process, the comments received from the public during the public scoping period will be particularly relevant during Level 2 screening. Several of the Level 2 screening criteria focus on local and community elements, so the public scoping comments that pertain to these elements will be critical to this phase of screening. These comments include input received from the public at the open house, comments received at stakeholder meetings, and comments received from agencies that identified specific resources of concern that should be considered during the alternatives-development and screening process.

Comments received outside the scoping period are equally valuable to the process and will be considered and incorporated into alternatives development and screening as they are received.

3.0 Preliminary Engineering Phase

The alternatives that pass the screening process will be further developed through preliminary engineering to support detailed analysis in the EIS. The preliminary engineering phase will include design work to provide details such as horizontal and vertical alignments, intersection design, parking lot and bicycle lane configurations, access design, and potential drainage designs. All alternatives will be designed to a similar level of detail.

Once the preliminary engineering phase is complete, the expected effects of the alternatives will be characterized and compared to the No-Action Alternative in the EIS, as required by NEPA.

4.0 Agency and Public Involvement

As part of the NEPA process, UDOT sought input on the range of alternatives during the agency and public scoping period. At the public scoping meeting, UDOT showed some initial alternative concepts and asked agencies and the public for input on initial alternatives that should be evaluated. Additionally, UDOT posted requests for input on the initial alternative concepts on the project website during the scoping process.

UDOT has made this *Alternatives-development and Screening Methodology Report* available to, and is requesting input from, the public, agencies, and tribal representatives on the alternatives-development and screening process for the Little Cottonwood Canyon EIS. During the alternatives-development process, UDOT will request comments from cooperating and participating agencies on the screening criteria to be used to evaluate alternatives and on the range of alternatives to be considered.

Following the screening process, UDOT will present the alternatives to the public for review and comment. This will include a public open house as well as information posted on the project website.

UDOT is currently consulting with Native American tribes under NEPA, Section 106 of the National Historic Preservation Act, and the coordinated environmental review process under 23 United States Code (USC) Section 139.

After the alternatives-development and screening process is completed, UDOT will prepare a screening results memorandum to document the input that was received and how it was considered during the screening process. This information will also be presented in the EIS.

What are cooperating and participating agencies?

A cooperating agency is any federal, state, or local agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative.

A participating agency is a federal or non-federal agency that might have an interest in the project.

5.0 Reasons Why Alternatives Might Be Eliminated

5.1 NEPA Regulations and Council on Environmental Quality Guidance

According to NEPA regulations and guidance issued by the Council on Environmental Quality, there are three primary reasons why an alternative might be determined to be not reasonable and eliminated from further consideration.

1. The alternative does not satisfy the purpose of the project (evaluated in the Level 1 screening for the Little Cottonwood Canyon Project).
2. The alternative meets the purpose of and need for the project but is unreasonable based on a combination of other factors such as costs, environmental impacts, or its inability to meet permitting or other regulatory requirements (evaluated in the Level 2 screening for the Little Cottonwood Canyon Project).
3. The alternative substantially duplicates another alternative; that is, it is otherwise reasonable but offers little or no advantage for satisfying the project's purpose, and it has impacts and/or costs that are similar to or greater than those of other, similar alternatives (evaluated in the Level 2 screening for the Little Cottonwood Canyon Project).

5.2 Clean Water Act Requirements

Because the area of analysis for the project might support federally regulated wetlands or other waters of the United States, UDOT will also consider the Clean Water Act *Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material* (40 Code of Federal Regulations 230) and Executive Order 11990, *Protection of Wetlands*, during the alternatives-development phase. The U.S. Army Corps of Engineers is responsible for determining compliance with the Section 404(b)(1) Guidelines and may permit only the least environmentally damaging practicable alternative.

The Section 404(b)(1) Guidelines state that “no discharge of dredged or fill material [to Section 404–regulated waters] shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences” [Section 230.10(a)]. This section of the guidelines further states that:

1. For the purpose of this requirement, practicable alternatives include but are not limited to:
 - a. Activities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters;
 - b. Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;
2. An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area not presently owned by the applicant which could reasonably be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity may be considered.
3. Where the activity associated with a discharge which is proposed for a special aquatic site (as defined in Subpart E of the guidelines) does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., is not water dependent), practicable alternatives that do not involve special aquatic sites are presumed to be available, unless clearly demonstrated otherwise. In addition, where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise.

To achieve compliance with the Section 404(b)(1) Guidelines, UDOT will need to demonstrate through an evaluation of alternatives in the EIS that the alternative selected in the project’s Record of Decision is the least environmentally damaging practicable alternative.

5.3 Section 4(f)/Section 6(f) Requirements

Section 4(f) of the Department of Transportation Act of 1966 (49 USC Section 303) applies to publicly owned parks, recreation areas, and wildlife and waterfowl refuges and publicly or privately owned significant historic properties. The requirements of Section 4(f) apply only to agencies within the U.S. Department of Transportation (USDOT)—for example, the Federal Highway Administration (FHWA). Pursuant to 23 USC Section 327 and the NEPA Assignment Memorandum of Understanding between FHWA and UDOT dated January 17, 2017, UDOT is responsible for meeting Section 4(f) and Section 6(f) requirements.

Section 4(f) prohibits USDOT agencies from approving the use of any Section 4(f) land for a transportation project, except as follows:

- First, the USDOT agency can approve the use of Section 4(f) land by making a determination that (1) there is no prudent and feasible alternative that would avoid the use of the Section 4(f) resource *and* (2) the project includes all possible planning to minimize harm to that property.
- Second, the USDOT agency can approve the use of Section 4(f) property by making a finding of *de minimis* impact for that property.

Section 6(f) of the Land and Water Conservation Act requires that the conversion of lands or facilities acquired with Land and Water Conservation Act funds be approved by the U.S. Department of Interior. Approval requires “substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.”

An alternative that would not be available because of the severity of Section 4(f) or Section 6(f) impacts could be eliminated during Level 2 screening. To achieve compliance with the Section 4(f) regulations, UDOT will need to demonstrate through an evaluation of alternatives that either (1) the alternative selected would have a *de minimis* use of Section 4(f) resources or (2) there is no feasible and prudent alternative that would avoid the use of Section 4(f) resources, and the project includes all possible planning to minimize harm to Section 4(f) resources.

What is a *de minimis* impact?

For publicly owned public 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 the property.

For historic sites, a finding of *de minimis* impact means FHWA has determined that either the project would not affect the historic property or the project would have “no adverse effect” on the historic property.

5.4 Wilderness Act of 1964 (Public Law 88-577; 16 USC Sections 1131–1136)

Little Cottonwood Canyon is in the Uinta-Wasatch-Cache National Forest. The canyon is home to two National Wilderness Areas: Twin Peaks Wilderness to the north of Little Cottonwood Canyon Road and Lone Peak Wilderness to the south. The Wilderness Act was established by Congress to secure for the American people of present and future generations the benefit of an enduring resource of wilderness. The Wilderness Act states there shall be no commercial enterprise and no permanent road within any Wilderness Area designated by the Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of the Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

An alternative could be determined not reasonable under NEPA if, during Level 2 screening, UDOT determines that the alternative requires activities in a designated wilderness area prohibited under the Wilderness Act and would require federal legislative approval to be built.

5.5 Appropriation of Lands Owned by the United States for Highway Purposes

Most of the rural segment of S.R. 210 crosses National Forest System (NFS) land; however, UDOT does not currently have a perfected easement for the entire length of the corridor on those lands. If proposed improvements would occur on NFS land not already appropriated by FHWA, this action would be subject to the conditions of 23 USC Section 317, *Appropriation for Highway Purposes of Lands or Interests in Lands Owned by the United States*. Through this appropriation process, the U.S. Secretary of Agriculture can certify that the appropriation of NFS land for transportation use is contrary to the public interest or inconsistent with the purposes for which the NFS land was originally reserved, or agree to the appropriation and transfer of the land to FHWA and UDOT, potentially with stipulated conditions to protect NFS land.

6.0 Tools Used

6.1 Travel Demand Model

A travel demand model is a computer model that predicts the number of transportation trips (travel demand) in an area at a given time. This prediction is based on projections of land use, socioeconomic patterns, and transportation system characteristics in the area.

UDOT will use the output from travel demand modeling to determine whether an alternative meets the purpose of improvements to Wasatch Boulevard and Little Cottonwood Canyon. For the Wasatch Boulevard (urban) segment, UDOT will use WFRC's travel demand model. UDOT will develop a separate travel demand model for the North Little Cottonwood Road to Alta (rural) segment.

6.2 GIS Data

GIS-based data will be used during the screening phases to help UDOT understand the locations and extents of a number of resources. Some GIS data are managed by the State of Utah, the federal government, Cities, or Counties and are readily available to UDOT. The data that will be checked regularly include data layers that show streets, parcels, land ownership, parks, and land use designations. UDOT will also use other data layers available from the State that provide information such as the locations of rivers, streams, and water bodies; jurisdictional boundaries (such as city and county boundaries); wildlife habitats; and geology.

UDOT is also developing GIS databases through reconnaissance-level field surveys in the Little Cottonwood Canyon EIS study area. The specific data layers that UDOT is creating and that will be used during Level 2 screening include wetland locations and types, wildlife habitat types by location, and cultural (prehistoric and historic) resources.

6.3 Public and Agency Review of This Report

This report will be provided to the cooperating and participating agencies and the public for a 30-day review period. After comments are received, UDOT will revise the report as necessary based on the public and agency input.

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