Little Cottonwood Canyon EIS

Purpose and Need and Screening Methodology Meeting

October 30, 2019

MEETING PURPOSE

- Review and discuss:
  - The Purpose and Need
  - Alternative Screening Methodology

PROJECT BACKGROUND

- NOI – March/May 2019
- Scoping March – June 2019
- Purpose and Need – November 2019
- Screening Methods – November 2019

OVERALL SCHEDULE

LITTLE COTTONWOOD CANYON EIS PURPOSE AND NEED

PROJECT OVERVIEW

LITTLE COTTONWOOD CANYON BY THE NUMBERS

ANNUAL VISITORS
2.1 MILLION

REGIONAL POPULATION GROWTH BY 2050

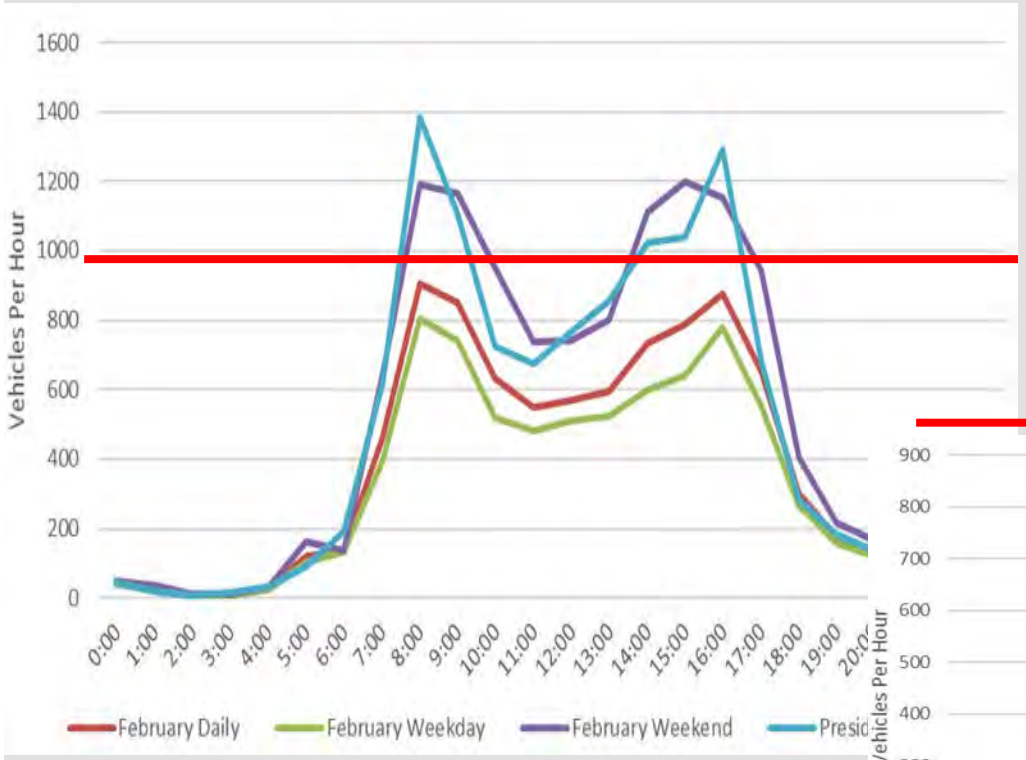
Salt Lake County	37% GROWTH
Utah County	108% GROWTH
Combined new residents	1 MILLION

LITTLE COTTONWOOD CANYON EIS NEED

- Reduced mobility in winter AM/PM in LCC
- Traffic delay and safety related to avalanche hazards
- On-road parking conflicts with pedestrians and bicyclist at trailheads
- Reduced safety and operation conflicts with on-road parking at ski resorts
- Reduced mobility on Wasatch Blvd from commuter traffic

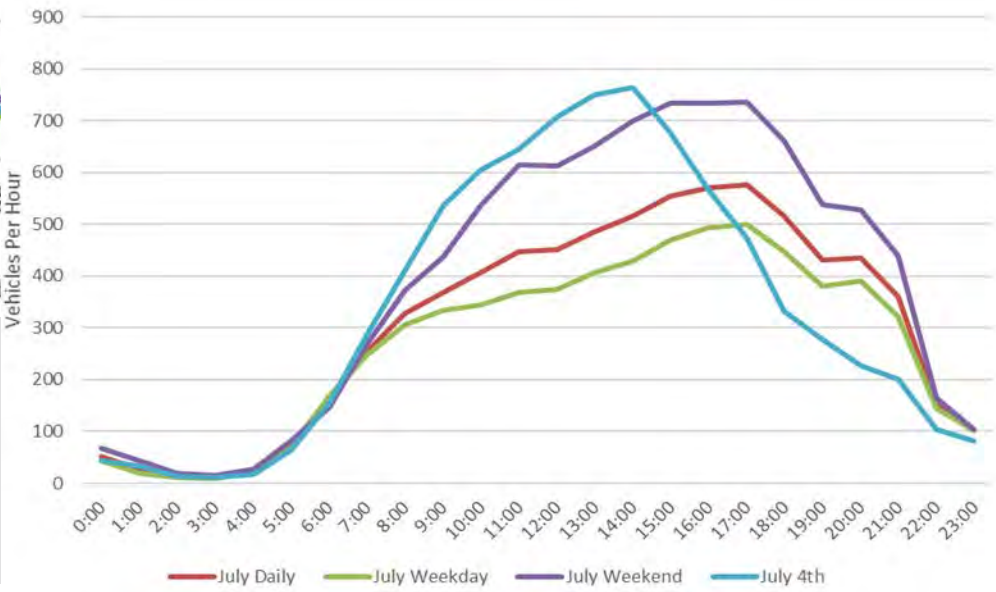
REDUCED MOBILITY IN LCC - TRAFFIC

Winter



Road Capacity

Summer



REDUCED MOBILITY IN LCC - TRAFFIC

- Current Conditions
  - No congestion conditions
    - Travel times: 25-30 minutes
    - Less than 1,000 vehicles in peak hour
    - Less than 1,850 people in peak hour
  - 30th busiest hour
    - Travel times: 50-55 minutes
    - About 1,100 to 1,200 vehicles in peak-hour
    - About 2,300 people in peak hour
- 2050 No-Action conditions
  - 30th busiest hour
    - Travel times: 80-85 minutes
    - About 1,500 to 1,600 vehicles in peak-hour
    - About 3,200 people in peak hour

REDUCED MOBILITY LCC - TRAFFIC

Days of High Traffic Volumes in Little Cottonwood Canyon by Year					
Threshold Volume (Vehicle Trips)[a]	Number of Days per Year When Threshold Volume Is Exceeded				
	2015–2017	2020	2030	2040	2050
10,000	48	≥50	≥50	≥50	≥50
12,000	13	22	41	≥50	≥50
14,000	1	2	9	23	42
16,000	0	0	0	3	12
18,000	0	0	0	0	2

Source: Fehr & Peers 2018c

[a] Two-way traffic flow, which equates to half the traffic going up the canyon and the other half going down the canyon.

REDUCED SAFETY AND OPERATIONS – ON-ROAD PARKING AT SKI RESORTS

- On-Road parking at ski resorts
  - Impedes roadway operations
    - Vehicles blocking road
    - Reduced lane width
    - Illegal maneuvers that block traffic
    - Conflicts with snowplow operations
  - Pedestrian safety concerns

RELIABILITY AND SAFETY LCC AVALANCHE HAZARD

KEY AVALANCHE LOCATIONS

ON AVALANCHE CLOSURE DAYS, TRAVEL TIMES FROM I-215 TO ALTA RANGE FROM

45 TO 120 MINUTES

COMPARED TO

28 MINUTES

UNDER IDEAL CONDITIONS.

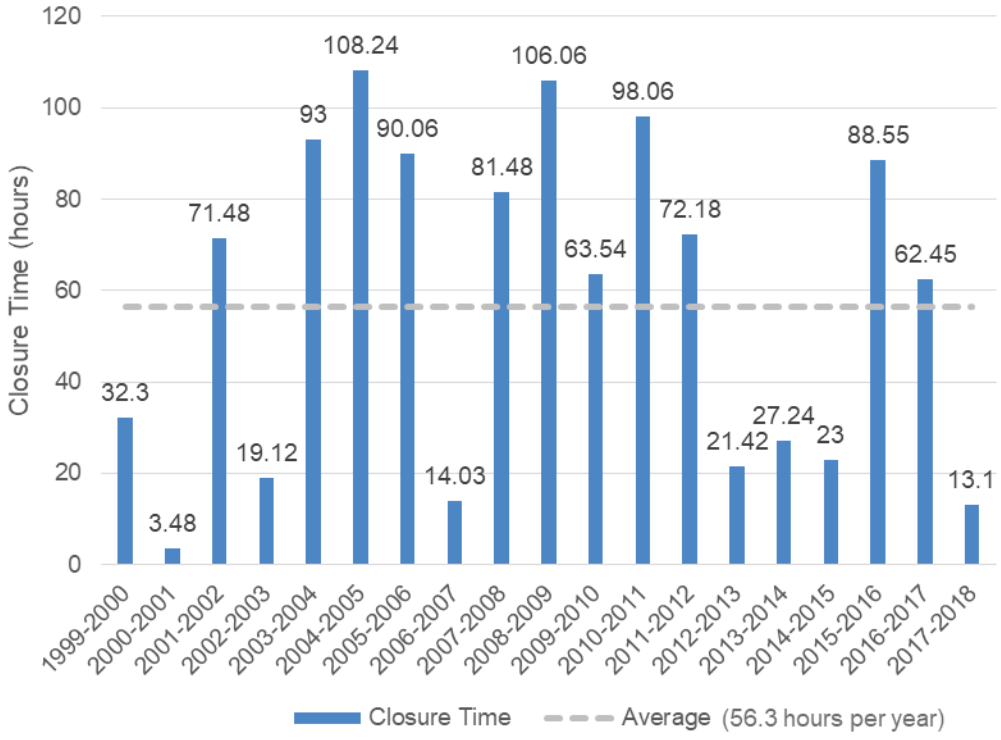
CURRENT AVALANCHE HAZARD INDEX (AHI)

Hazard Category	AHI	
Very Low	Less than 1	
Low	1 to 10	
Moderate	10 to 40	
High	40 to 150	← LCC AHI=90 *(Mitigated)*
Very High	Greater than 150	← LCC AHI=7,304 *(Unmitigated)*

Source: Dynamic Avalanche Consulting 2018

RELIABILITY AND SAFETY LCC AVALANCHE HAZARD

Average Hours of Closure 56.3



Blocks entrance to neighborhoods
Blocks emergency vehicles

RELIABILITY AND SAFETY LCC
AVALANCHE HAZARD

SAFETY – TRAILHEADS

- On-Road parking at trailheads
  - Loss of shoulder area for cyclists and pedestrians, which forces them into the roadway travel lane and creates a safety concern
  - Creation of informal trailheads that contribute to erosion, mineral soil loss, the spread of invasive weeds, and loss of native vegetation in the canyon
  - Damage to the pavement along the roadway edge, which causes increased soil erosion and runoff into nearby streams

REDUCED MOBILITY - WASATCH BLVD

- Mobility Wasatch Blvd
  - AM/PM weekday traffic
  - 45% growth in traffic 2017-2050
  - Severe crash rate above state average (8.6 vs 7.1)
  - 2017 travel time: 4:44
  - 2050 travel time: 10:21

EXISTING CONDITIONS (2015)
P.M. PEAK-PERIOD

FUTURE NO-ACTION CONDITIONS (2050) *P.M. PEAK-PERIOD*

LEVEL OF SERVICE

A | NO DELAYS
Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed.

B | NO DELAYS
Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability.

C | MINIMAL DELAYS
Stable traffic flow, but less freedom to select speed.

UDOT Goal

D | NOTICEABLE DELAYS
Traffic flow becoming unstable. Speed subject to sudden change.

E | CONSIDERABLE DELAYS
Unstable traffic flow. Speed changes quickly and maneuverability is low.

F | CONSIDERABLE DELAYS
Heavily congested traffic. Demand exceeds capacity and speed varies greatly.

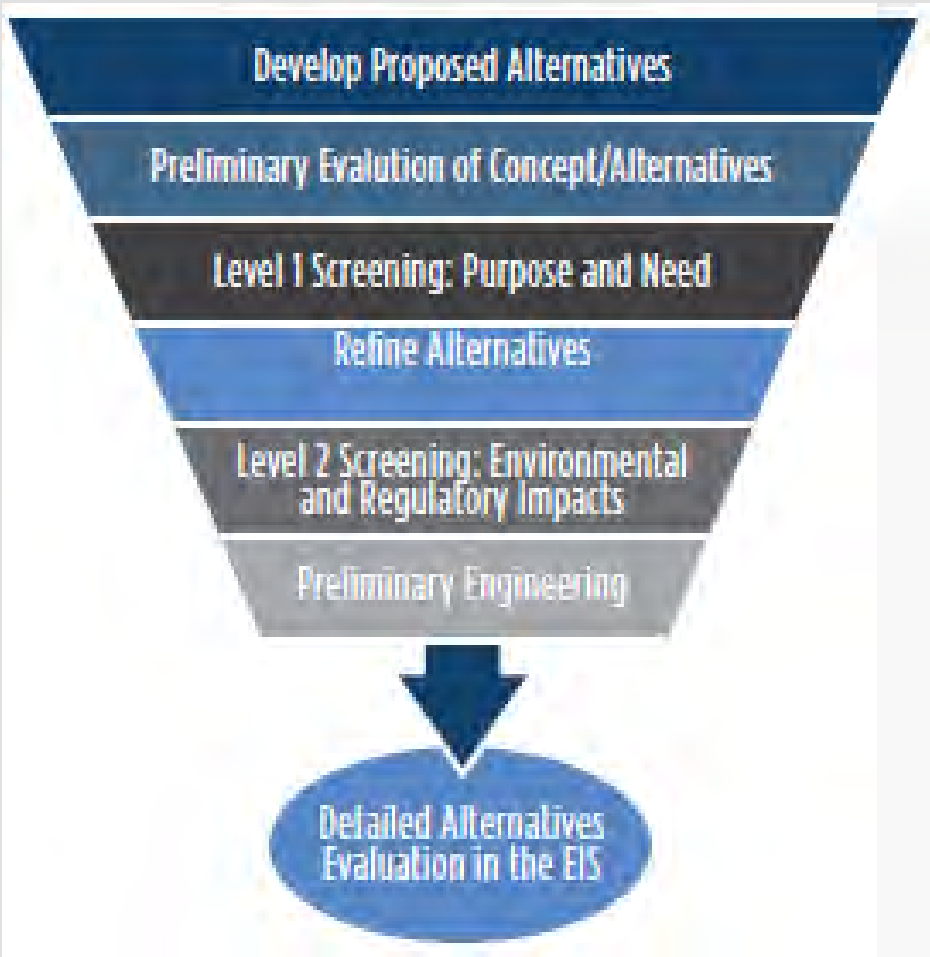
LCC EIS – PROJECT PURPOSE

- Primary Objective:
  - "Substantially improve safety, reliability, and mobility on S.R. 210 from Fort Union Boulevard through the town of Alta for all users on S.R. 210."
    - Purpose used to screen alternatives in level 1.
- Secondary Objectives:
  - Consider Cottonwood Heights *Wasatch Boulevard Master Plan* goals
  - Minimize potential short and long-term transportation system impacts to water quality
    - These secondary objectives were used to further refine the project alternatives

SCREENING METHODOLOGY

- Purpose
  - Describe alternative screening process
  - Shows criteria to use in screening process
  - Describe other considerations in screening process

Screening Process



ALTERNATIVES

- Where do alternatives come from?
  - Public and agency scoping comments
  - Local and regional plans
  - Previous studies
- Scoping comments
  - 100 suggestions

Safety	Mobility	Reliability
Avalanche Mitigation • Snow sheds • Snow-supporting structure • Road realignment and/or bridges • Berms • Stopping walls • Reduce traffic flow by implementing transit Parking • Reduce on-road user conflict • Reduce or eliminate on-road parking at ski resorts • Expand trailhead parking with elimination of on-road parking within 0.25 mile of each trailhead • Expand trailhead parking with elimination of on-road parking from S.R. 209/S.R. 210 intersection to Snowbird entry 1 • No trailhead parking expansion with elimination of on-road parking from S.R. 209/S.R. 210 intersection to Snowbird entry 1	Wasatch Boulevard • Transit • Roundabouts • Reversible lanes • Four lanes • Five lanes • Signalized intersection at Kings Hill Drive Little Cottonwood Canyon • Transit[b] o Gondola from Salt Lake Valley o Gondola from Park City o Train and/or light rail o Bus o SkyTran o Monorail • Additional road lanes[c] o Reversible o Peak-hour shoulders • One direction travel on existing road during the AM and PM peak periods • Roundabout at S.R. 210/S.R. 209 • Tolling • Eliminate or reduce on-road parking at ski resorts	• Increase transit service • Avalanche mitigation

PRELIMINARY EVALUATION OF ALTERNATIVES

- Eliminate alternatives that generally don't meet the project purpose
  - Example: Install more remote-activation avalanche systems
- Outside the scope of EIS
  - Example: Improve Temple Quarry Trail
- Technically not feasible
  - Example: Tunnel Wasatch Blvd
- Considered as part of design, environmental analysis, or mitigation
  - Example: Reduce toll for low-income

LEVEL 1 SCREENING – PROJECT PURPOSE

- Level 1 Criteria – Does the alternative meet project purpose

Criterion	Measure
Improve reliability and safety in 2050	• Substantially reduce number of hours and/or days during which avalanches delay users. • Substantially reduce the avalanche hazard for roadway users. • Improve roadway safety at existing trailhead locations. • Reduce or eliminate traffic conflicts between motorized and nonmotorized transportation modes at existing trailhead locations. • Reduce or eliminate on-road parking to improve the safety and operational characteristics of S.R. 210.
Improve mobility in 2050	• Substantially improve peak-hour (defined as the 30th-busiest hour) travel times in Little Cottonwood Canyon for uphill and downhill users in 2050 compared to travel times with the No-Action Alternative. • Meet peak-hour average total person demand on busy ski days in Little Cottonwood Canyon. • Substantially reduce vehicle backups on S.R. 210 and S.R. 209 through residential areas on busy ski days. • By 2050, meet UDOT's goal of LOS D in the weekday AM and PM peak periods on Wasatch Blvd.

LEVEL 2 SCREENING - IMPACTS

- Alternatives that pass level 1 screening
  - Eliminate similar alternatives
    - Example: Two similar gondola concepts
  - Used to refine alternatives
    - Example: Avoid wetlands

Criterion	Measure
Cost	• Alternative's cost compared to other alternatives that pass Level 1 screening
Consistency and compatibility with local and regional plans	• Alternative's consistency with local and regional land use and transportation plans • Alternative's compliance with the Wilderness Act of 1964 and consistency with the 2003 *Revised Wasatch-Cache Forest Plan*
Compatibility with permitting requirements	• Permit requirements
Impacts related to Clean Water Act	• Acres and types of wetlands and other waters of the United States
Impacts to natural resources	• Acres and types of sensitive habitat • Acres of floodplain • Acres of critical habitat
Impacts to the built environment	• 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 • Number of cultural resources (for example, historic and archaeological resources) affected

REVIEW

- Documents email and posted on Website – November 4, 2019
- 40-day review period
- Comments due – December 13, 2019
- Comments will be considered in revising documents
- Comments will be posted on-line

ALTERNATIVE SCREENING RESULTS

- Spring/Summer 2020
  - Screening process documented in screening report
  - Screening report released for agency and public review
  - Public open house
- Alternatives that pass screening evaluated in greater detail in EIS

FINAL QUESTIONS?