

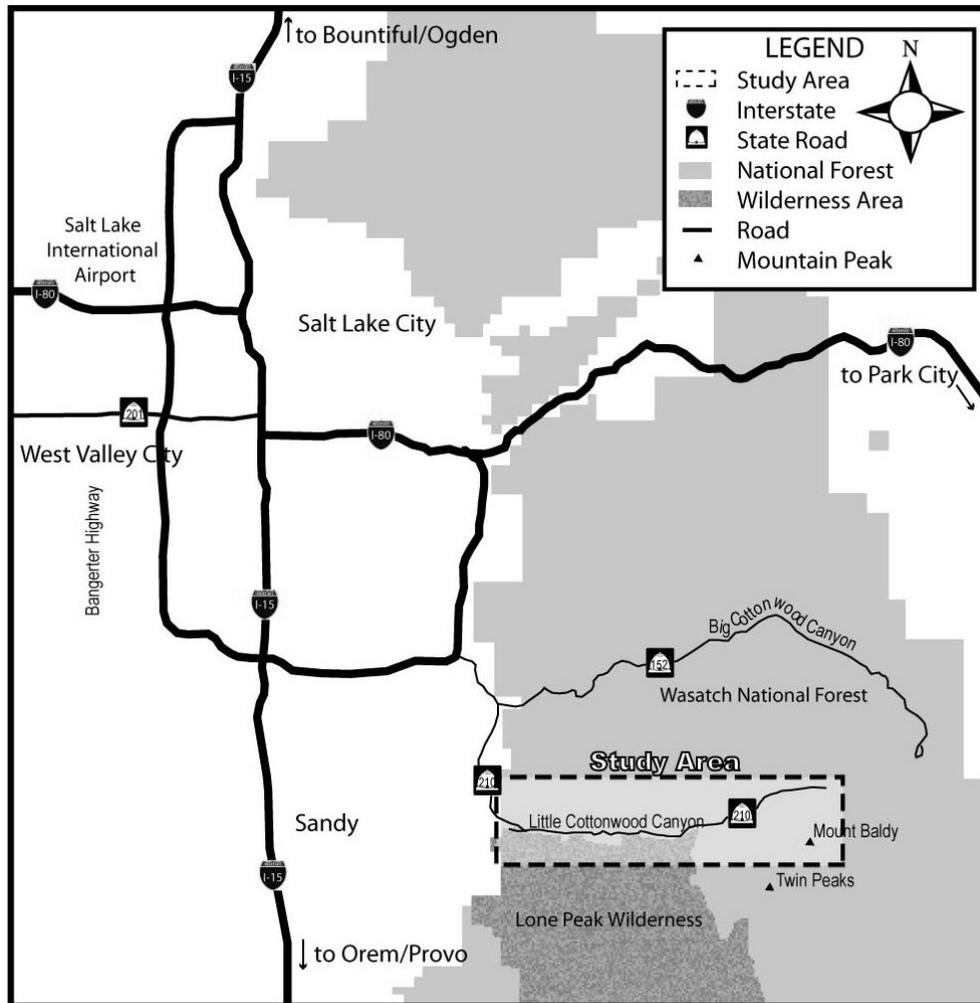
1. Introduction

The Little Cottonwood Canyon Transportation Study seeks to identify the risk to the road from winter conditions, evaluate strategies that could reduce risk to canyon users in the short-, mid-, and long-term, and develop strategies for implementation. This chapter describes the project location, outlines the study goals and objectives, and outlines stakeholder involvement and the study process.

Project Location

Little Cottonwood Canyon Road, or SR-210, connects the Salt Lake Valley with the Town of Alta, Alta Ski Lifts, and Snowbird Ski Resort at the top of Little Cottonwood Canyon (Figure 1-1). SR-210 is a state highway, so the operation and maintenance is the responsibility of the Utah Department of Transportation (UDOT). The road is the only method of access for the communities, resorts, trailheads, and private properties along the canyon's length. The section of SR-210 examined in this report is from the canyon's mouth, between mileposts 3 and 4, to the connection of SR-210 and Albion Basin Road, east of Alta.

Figure 1-1: Study Area



Study Goals and Objectives

The primary goal of the Little Cottonwood Canyon Transportation Study is to improve safety and mobility in Little Cottonwood Canyon. The Study is generally a descriptive document; it simply discloses the existing conditions, provides a range of solutions with associated costs and possible impacts, and gives an effectiveness rating in terms of risk. For the more capital intensive solutions, it does not identify a preferred alternative over another. That is left for policy-makers. This Study will give those making decisions accurate information on which to base future decisions.

Both safety and mobility are inextricably tied to the avalanche hazard index (AHI). During the winter, there is heavy recreational usage with a steady stream of cars and buses traveling the canyon. Avalanche safety is an obvious concern because an avalanche imposes a safety threat to people and property on the hillsides as well as in the traffic stream below. Compounding this issue is the fact that an avalanche crossing SR-210 could stop passage between the canyon and the Salt Lake Valley. The queue of people and vehicles stranded in the canyon under these conditions would be immobile targets in the case of a second avalanche. This hazard is in addition to the other safety risks associated with traffic congestion.

The AHI measures the risk posed to individual vehicles by avalanches and is a function of avalanche path spacing, traffic volumes, traffic speeds, and avalanche frequency, among other things. Chapter 3 provides more detailed avalanche information.

While the ultimate goal of this study is improved safety and mobility through avalanche hazard reduction, this must be achieved within certain constraints. Little Cottonwood Canyon is an environmentally sensitive area: it is part of the Salt Lake Valley watershed, and it contains Congressionally designated Wilderness Areas, forest resources, wetlands, major recreation areas and routes, and steep slopes. Potential solutions for SR-210 must also consider the economic engines of Snowbird and Alta – measures that would negatively affect these businesses will likely be unsuccessful in the canyon. In addition, UDOT's stated needs for this study are provision of a range of long-term and short-term solutions, as well as reduced reliance on military artillery in avalanche control operations.

After several discussions with stakeholders regarding issues and needs in the canyon, the following statement of goals and objectives for the SR-210 Transportation Study were developed:

- GOAL: Improve safety and mobility in the canyon
- OBJECTIVE: Reduce SR-210's avalanche hazard index
- OBJECTIVE: Safely accommodate a variety of travel modes
- OBJECTIVE: Focus on environmentally sensitive solutions
- OBJECTIVE: Maintain/enhance economic viability
- OBJECTIVE: Reduce dependence on military artillery
- OBJECTIVE: Provide a range of recommendations, including short-term and long-term solutions

Stakeholder Involvement

This study sought participation from a range of stakeholders. Many agencies, several businesses, and non-profits have vested interests in the canyon or jurisdiction over lands inside

the study area. The study team sought input from these and other groups throughout the study process. The project owes its success to those agencies and individuals listed below:

UDOT: Snow Safety, Region Two, and Planning – Liam FitzGerald, Ritchie Taylor, Randy Park, Bob Pelly and Chris Covington
Alta Ski Area – Onno Wieringa, Gus Gilman and Titus Case
Town of Alta – Laura McIndoe and Gus Gilman
Snowbird Ski and Summer Resort – Bob Bonar, Jerry Giles and Peter Schory
Utah Transit Authority – Tom Cluff
Save Our Canyons – Lisa Smith
United States Forest Service - Loren Kroenke and Al Soucie
Salt Lake City Public Utilities - Mark Kayla and Vanessa Welch
Salt Lake County Planning and Development – Tom Roach
Salt Lake County Sheriff – Thad Moore and Todd Griffiths
Wasatch Front Regional Council – Ben Wuthrich

Representatives from all these agencies attended stakeholder meetings to share their knowledge of canyon issues, develop goals and objectives for the study, and identify potential solution alternatives. Stakeholder meetings were held throughout the study to discuss the items listed here. In addition, the members provided much of the background data and history, without which the study would have been incomplete.

Study Process and Recommendations

A comprehensive evaluation of existing conditions was performed, and the findings are described in Chapter 2. Chapter 2 discussed the environmental conditions of the canyon and describes the profile of canyon residents, businesses, and users. Chapter 2 also describes the Avalanche Hazard Index (AHI), a measure of risk of avalanches impacting road users. The AHI for Little Cottonwood Canyon is currently over 1000, where any AHI over 150 is considered 'Very High', which is the highest risk category.

A range of possible actions that would help reduce the AHI and improve the safety of canyon users are described in Chapter 3. The "measures of effectiveness", and the methodology used to evaluate the concepts (generally associated with risk reduction) is outlined as well. Reasonable alternatives are grouped by strategy, and the effectiveness at reducing the AHI is described for each alternative, along with order of magnitude cost information.

Chapter 4 outlines the next steps in the study, planning, and implementation processes along with possible funding options. It also identifies short term recommendations that will help reduce risks, are relatively lower in cost and impact, and can be easily implemented.

Relationship to Future Studies

Portions of this study may be utilized in future endeavors. Results of this study will likely trigger additional planning and regulatory efforts. For instance, applications for Federal Scenic Byway Status are already underway for both SR-210 and SR-190 (Big Cottonwood Canyon Road). The Town of Alta sponsored the Federal Scenic Byway Status application, including a request for \$300,000 to fund a Scenic Byway Corridor Management Plan and Interpretive Plan. If the application is successful, the SR-210 Transportation Study may be incorporated into the Corridor Management Plan and Interpretive Plan. Stakeholders may wish to initiate a former environmental process under the National Environmental Policy Act (NEPA). Many parts of this report can be utilized for those potential efforts as well.