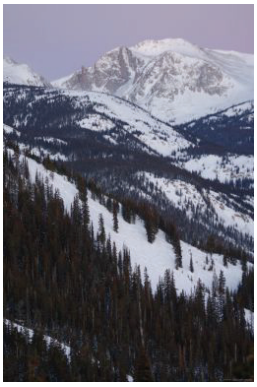
ELDORA

MOUNTAIN RESORT

2011 MASTER PLAN



Prepared by:

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MOUNTAIN RESORT

2011 Master Plan

February 2011

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TABLE OF CONTENTS

List of Tables

List of Charts

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

1. INTRODUCTION

The purpose of this Master Plan is to provide future direction for the development of Eldora Mountain Resort (Eldora) to ensure a balance of facilities and a variety of amenities to afford an exceptional guest experience in a sustainable manner in regards to business, operations, and the environment. SE Group has prepared this Master Plan, which provides a thorough assessment of existing operations and facilities at Eldora and identifies a comprehensive plan for future improvements to the resort. With over 50 years of mountain planning experience, SE Group maintains an in-depth knowledge of the mountain resort industry, including ski area planning and industry norms. When developing Master Plans, SE Group applies innovative concepts in response to emerging trends—including demographic shifts, equipment technology, and consumer needs. Many of the trail specification and density guidelines referenced in this Master Plan have been compiled and utilized throughout the hundreds of SE Group-prepared Master Plans across North America, both on public and private lands.

This Master Plan has been prepared in compliance with the terms and conditions of Eldora's Forest Service-issued 30-year Term Special Use Permit (SUP), which was re-issued in 1991. Eldora is located partially on private land and partially on public lands; even though the ski area operates on both private and public lands, this Master Plan focuses on winter recreation projects located on public lands directly related to the operation of an Alpine ski area.

This document replaces Eldora's 1994 Master Plan, which has been largely implemented to date.

It is important to note that Forest Service "acceptance" of this Master Plan does not convey "approval" of any projects contained herein. Implementation of any projects on National Forest System (NFS) lands within Eldora's SUP area is contingent upon site-specific environmental review and approval via the National Environmental Policy Act (NEPA). This Master Plan is consistent with the terms and conditions of Eldora's SUP and the general direction of the 1997 Revised the Land and Resource Management Plan for The Arapaho and Roosevelt National Forests and Pawnee National Grassland (1997 Forest Plan), discussed in greater detail below. This Master Plan is a dynamic document, which may be amended periodically to accommodate technological innovations and evolving guest expectations over a ten-year planning horizon.

A. LOCATION

Eldora is located partially on private land and partially on National Forest System (NFS) lands administered by the Arapaho and Roosevelt National Forests and Pawnee National Grassland (ARP), in Boulder and Gilpin Counties, Colorado. The ski area is located outside of Nederland, approximately 21 miles west of Boulder, and 47 miles northwest of Denver, along Colorado's Front Range (see Figure 1). Eldora is accessed via a 3-mile access road off of State Highway 119 from both east and south. The ski area occupies approximately 1,160 acres of land: 480 acres are NFS lands (as described in the SUP); 220 acres are privately owned by Eldora; and 460 acres are private lands leased by Eldora. Elevations range from 9,200 feet elevation at the base of the ski slopes to 10,800 feet at the summit.

B. RESORT SUMMARY

Eldora currently operates eight chairlifts, three surface lifts, and one beginner conveyor lift. Developed skiable terrain includes 49 maintained alpine trails totaling 188 acres. The remainder of Eldora's skiable terrain is comprised of un-developed and developed glades that total approximately 165 acres.[1] Skier support facilities include the Indian Peaks lodge and Timbers Lodge, and associated buildings, in the main base area; and The Lookout restaurant at the summit. Day skier parking is provided in the base area. Snowmaking covers nearly all of the developed, groomed terrain and ensures optimal snow conditions throughout the mountain. Summer activities are limited to special events, conferences, weddings, and races—with no general openings to the public, other than access to hiking trails.

There are no other ski areas in the immediate vicinity of Eldora, with primary competition coming from the numerous resorts up the I-70 corridor, which cater to a mix of destination visitors and day skiers. Eldora has registered increasing day ticket sales since the 2006/07 season and their annual ten-year skier visit average is 271,000.

Eldora's market is primarily composed of day skiers from Boulder and the Front Range. With no overnight lodging at the ski area, and limited lodging available in Nederland, most destination skiers tend to stay in Boulder and surrounding communities. Due to Eldora's close proximity to Boulder and the Denver metropolitan area, Eldora does a significant portion of its business during weekends and holiday periods.

[1] "Glades" are trees stands that have been thinned specifically in varying degrees to improve the skiing experience by increasing the spacing between individual trees or groups of trees. Stands with less thinning are sometimes described as "Tree Skiing" areas. Stands with tree clearing to the extent that they can be groomed are described as "Groomable Glades."

C. BACKGROUND AND DEVELOPMENT HISTORY

The Eldora and Nederland area has a rich history. First in the area were Native American groups who hunted and traveled through. In the mid-19th century the first white homesteaders settled in the area. Abel Breed bought the silver-rich Caribou Mine in 1871 and decided to bring his ore from Caribou Hill to the area for milling. In 1873 Breed sold the Caribou Mine to the mining company Nederland from Holland. In 1874 when the town incorporated, the people chose Nederland as the new name. The mines at Caribou soon declined, however, and the Dutch company pulled out just a few years later. A second mining boom began just after the turn of the century. Sam Conger, who had discovered the Caribou silver mine, found tungsten in areas to the north and east of Nederland, and he knew its value in making steel. The old silver mill in Nederland was converted to process tungsten. By 1916 Nederland had a population of nearly 3,000, about twice its present number. Though there were short-lived revivals of tungsten mining during World War II and in the early 1950s, the area's mining fortunes gradually faded since World War I.

Eldora first opened for skiing in 1961 when George Sweeney, Gabor Cseh, Frank Ashley, and Donald Robertson approached the U.S. Forest Service. The principal owners bought a parcel of land at the base of the proposed area that totaled 400 acres. This now contains the area's lodge, parking facilities, and a number of beginner and lower intermediate chairlifts. In 1962 construction was under way for the "Shelf Road," which connects Nederland to the ski area. Along with the access road, two T-bars were constructed for the first season, one up the Challenge lift line and the other up the EZ lift line. A base lodge was erected for the 1963/64 season. Eldora changed ownership in 1967 when the Ertl family bought the area. In 1968 the resort purchased its first chairlift, the Little Hawk chair, still in use today. Little changed until 1973 when the resort invested in a major mountain upgrade. The Cannonball lift was constructed to replace the T-bar up the front side of the area. The Corona Double, which was aligned along the same line as the current quad, was also built. The Sundance lift was added in 1975 and the Caribou lift in 1980.

The mid-1980s was a time of instability at the resort, partly as a result of declining skier visits—which in turn can be attributed to the opening of the Eisenhower Tunnel and its improved access to other Colorado ski resorts. Rett Ertl, the son of the area's owner, became manager in 1982. During the 1985/86 season, Eldora was managed by O.Z. and Terri Minkin, which ended in a failed attempt to purchase the resort the following year. The resort did not open for the 1986/87 season due to ownership issues. Andrew Daly, former president of

Copper Mountain, was brought on to manage the area in 1987. Expansion plans were submitted to local officials, including a cross country ski facility, a hotel, new ski lifts, cabins, and an inn. These plans were not implemented.

In 1989 Vail Associates took over the ski area operations; it had an option to buy the ski area, which it did not exercise. In 1991 the resort came under new ownership, when the Ertl family sold the area to local resident Chuck Lewis. The Nordic Center was established in 1991. In 1992 a used triple chairlift—the Challenge lift—was installed to add capacity to the front side. In 1993 Eldora reopened the Corona Bowl, which was left defunct since the mid-1970s. The bowl added 85 acres of new terrain and over 1,400 feet of vertical drop. Following a lawsuit regarding funding for improvements of the Shelf Road with Boulder County in the mid-1990s, Eldora pursued the Indian Peaks expansion project in 1997. This included a new quad chairlift as well as 150 additional skiable acres, and provided a connection between the Corona area and the front side of the resort. The upper parking lot was also built in 1997. Since then, the old Corona chairlift was replaced in 1998, and in 2000, another beginner lift was installed—the EZ chairlift. In 2001 the Indian Peaks lodge was constructed. Since that time, the only other major project includes the construction of a 45-acre foot snowmaking reservoir in 2007.

D. ABSTRACT OF THE MASTER PLAN

- Chapter 2 describes the site inventory of the resort, including physical resources, opportunities and limitations, and environmental determinants.
- Chapter 3 describes the design criteria used for mountain planning purposes specific to Eldora.
- Chapter 4 addresses the existing conditions at Eldora and evaluates the balance of resort operations, facilities, and infrastructure including components such as, lifts, guest services, snowmaking, and parking capacities. This section provides the baseline conditions from which the planning strategies for future upgrades are based.
- Chapter 5 includes the Upgrade Plan.

In summary, projects in the Upgrade Plan include:

1. Lift Replacements

- Remove Tenderfoot I & II and replace them with two carpets in conjunction with re-grading and an improved parking lot interface. (private lands)
- Remove the Challenge and Cannonball chairlifts and replace them with a high-speed detachable chairlift. (private + NFS lands)

- Replace the fixed-grip Corona chairlift with a high-speed detachable chairlift. (private + NFS lands)

2. Lift Additions

- Construct a new dual-purpose, out-of-base, fixed-grip quad to access Novice terrain on lower *Four O'Clock* trail as well as to provide access to the Indian Peaks/Corona Bowl areas during wind events when access to the summit is not an option. (private lands)
- Construct the new Jolly Jug detachable chairlift and Intermediate trail pod on the southern portion of the SUP boundary. Requires SUP boundary adjustment. (private + NFS lands)
- Construct the new Placer detachable chairlift and Intermediate/Advanced trail pod on the northern portion of the SUP boundary. Construction and emergency access to the bottom terminal of the Placer lift will need to be provided by the construction of a bridge across Middle Boulder Creek. (NFS lands, requires SUP boundary adjustment)[2]
- Construct the new Moose Glade detachable chairlift and Advanced trail pod on the northwestern portion of the SUP boundary. Requires SUP boundary adjustment. (NFS lands)

3. Terrain Improvements[3]

- Approximately 7 acres of trail grading within the Little Hawk and EZ pods. (private lands)
- Additional Intermediate terrain in the Jolly Jug and Placer lift/terrain pods. (private + NFS lands)
- Additional Advanced terrain in the Placer and Moose Glade lift/terrain pods. (NFS lands)
- In total, 88 acres are planned to supplement to the existing 188 acres of lift-served developed trails.
- 23.5 acres of additional glades across the ski area. (private + NFS lands)

4. Guest Services

- Expand and renovate the Indian Peaks Lodge. (private lands)
- Expand and renovate the Lookout Restaurant. (NFS lands)
- Construct a new on-mountain guest services facility in the Indian Peaks pod. (NFS lands)

[2] Lift service out of Middle Boulder Creek was not proposed in the 1994 Master Plan, but that concept was considered. During the mid-1990s the lands below Corona and Indian Peaks chairlifts and outside of Eldora's SUP were privately owned and Eldora was in lease negotiations with that land owner. That lease was never executed, a subsequent land exchange was completed, and ownership of those lands transferred to the USFS. At that time those actions did not allow Eldora to move forward the concept of lift service out of Middle Boulder Creek.

[3] Refer to Chapter 5, Section C, page 5-7, for a detailed discussion of planned terrain improvements.

5. Snowmaking

- Provide snowmaking coverage on all new trails. (private + NFS lands)
- Construct an additional snowmaking reservoir. (private lands)

6. Operations

- Construct a new ski patrol duty station at the summit of Challenge Mountain. (NFS lands)

E. GOALS AND OBJECTIVES OF THIS MASTER PLAN

Based on SE Group's industry observations, as a result of evolving expectations and demands in today's skier/rider market, resorts are increasingly focusing on raising service standards, improving the recreational experience, and addressing shortcomings in their terrain offerings and operations. Eldora must strive to improve its offerings in order to remain viable in the competitive regional skier/rider market.

The purpose of this Master Plan is to provide direction and rationale for the future development of Eldora which ensures a balance of facilities and variety of amenities to improve the guest experience and operational efficiencies. Through the identification of opportunities and constraints at the ski area, Eldora will remain competitive in the local skier market, better retain existing guests, and attract new visitors. A number of general and specific objectives have been identified to guide the future direction of Eldora. These include:

- Expand Intermediate level skiing opportunities, as this is the majority of Eldora's clientele.
- Provide upgraded facilities in order to improve the quality of the alpine ski experience.
- Expand and improve support facilities and services to meet the needs of the existing number of guests, as well as plan for increasing numbers of visitors within the context of this Master Plan.
- Enhance skiing opportunities for entry-level and low ability level skiers, by reconfiguring Novice and teaching lifts and terrain.
- Design a lift and trail network to address the frequent wind closures, and wind-related snow problems, prevalent at certain parts of the resort.
- Continue to provide a high quality skiing experience within the natural constraints and hazards present at this area.

The 2010 Master Plan is a conceptual planning document, essentially serving as a "road map" for future improvements at Eldora. By identifying the type, size, capacity, and location of

improvements that are appropriate to achieve the goals of the resort, this Master Plan establishes the direction and priorities for the physical improvement of mountain and base area facilities at Eldora over the next decade. Thus, this Master Plan provides a comprehensive portrayal of how Eldora will function across the public and private lands interface. It is expected that additional site-specific NEPA and design will be warranted and completed prior to individual project implementation on both NFS and private lands.

F. MANAGEMENT OF NATIONAL FOREST SYSTEM LANDS

The ARP is located in north central Colorado, encompassing 2 million acres and extends north to the Wyoming border, south to Mount Evans, west across the Continental Divide to the Williams Fork area and east into the short grass prairie east of I-25. It is an administrative unit of the Rocky Mountain Region (Region 2) of the U.S. Department of Agriculture, Forest Service. The ARP is divided into five ranger districts; Eldora is administered by the Boulder Ranger District.

The Forest Service is authorized to approve certain uses of NFS lands under the terms of a SUP.[4] Generally, SUPs for recreational developments are issued and administered for uses that serve the public, promote public health and safety, and provide land stewardship. Eldora's 30-year Term SUP was issued by the ARP in 1991. In accomplishing these objectives, the Eldora's SUP authorizes the following:

> *"Eldora Enterprises Ltd. Liability Co. is hereby authorized to use National Forest System lands, on the Roosevelt National Forest, for the purposes of constructing operating, and maintaining a winter sports resort including food service, retail sales, and other ancillary facilities."*

1. 1997 ARP Land and Resource Management Plan

Land and Resource Management Plans (Forest Plan) define the direction for managing National Forests across the country. The ARP's 1997 Forest Plan provides guidance for all resource management activities on the Forest. Therefore, Eldora's operations that are conducted on NFS lands within its SUP area must be consistent with the management direction provided in the 1997 Forest Plan. That is not to say that full consistency with the Forest Plan must be realized in this master planning process, as this is a conceptual plan; Forest Plan

[4] 16 USC 497

consistency will be addressed at the site-specific project proposal and approval stage during a future NEPA process.

The 1997 Forest Plan uses geographic areas to apply management direction which is too specific to apply across the ARP as a whole. Geographic areas also identify what Forest-wide and management area direction will generally receive most emphasis within the area. The 1997 Forest Plan divides ARP into 59 geographic areas. The Eldora SUP area is within the Boulder Creeks Geographic Area.

The Goals and Desired Conditions of the Boulder Creeks Geographic Area include (but are not limited to): emphasis on motorized and non-motorized recreation, downhill skiing, and management of the area for year-round recreational use.[5] The projects included in this Master Plan are consistent with these general desired conditions. Specific to the Eldora SUP area, *Goals and Desired Conditions* within the Boulder Creeks Geographic area include:[6]

> *Continue authorization of downhill skiing at Eldora Ski Area under their special-use permit and master development plan. Further improvements of the base facilities, infrastructure, and ski runs within the current boundary are expected. There will be no expansion of the area outside the boundaries currently specified in the Master Development Plan. It is anticipated that actual use levels will increase. There will, however, be no increase in the established maximum daily capacity.*[7]
>
> *Work and cooperate with the Eldora Mountain Resort to develop a sustainable vegetation management plan for the Eldora Ski Area and to formalize access through the ski area for the Jenny Creek cross country ski trail.*

Consistent with this direction, the Upgrade Plan presented in this Master Plan proposes an adjustment to Eldora's SUP boundary.

Further refining the management of NFS lands within the 1997 Forest Plan, "Management Areas" define where differing kinds of resource and use opportunities are available to the public and where different management practices may be carried out. Management Areas are organized within eight "Management Area Categories;" each with a detailed prescription to

[5] USDA Forest Service, 1997a p. 53
[6] Ibid. p. 54
[7] The "maximum daily capacity" is not defined by the 1997 Forest Plan or the SUP, but rather by agreement with Boulder County.

guide its management, specifying: the theme; desired condition; and standards and guidelines. The Eldora SUP area is within Category 8:[8]

> *Ecological conditions in Category 8 are likely to be permanently altered by human activities to levels beyond those needed to maintain natural-appearing landscapes and ecological processes. Ecological values are protected where they affect the health and welfare of human occupancy. Human activities are generally commercial in nature, and directly or indirectly provide jobs and income.*

The projects included in this Master Plan are consistent with Category 8 of the 1997 Forest Plan.

Management Area 8.22

The Eldora SUP area is within Management Area (MA) 8.22 Ski-Based Resorts – (Existing and Potential). The "Theme" for MA 8.22 is: "Areas with ski-based resorts or potential for ski-based resorts are managed to provide for skiing and related recreational uses." The projects included in the Master Plan are consistent with the MA 8.22 Theme. The 1997 Forest Plan provides the following direction for Management Area 8.22:[9]

Desired Condition:

> *Physical/Biological – Maintain or improve vegetation composition and structure to provide a pleasing appearance, maintain scenic views from the site and provide for sustainable vegetation cover. Manage scenic resources so that the character is one of forested areas interspersed with openings of varying widths and shapes. Manage tree stands and islands to provide a variety of species and size classes, stability, longevity, esthetics, and wind firmness to sustain forest cover and complement recreational values. Ski operations that affect water, including snowmaking and other water-depleting activities, will be compatible with maintenance of healthy aquatic ecosystems.*
>
> *Social – Design new human modifications to vegetation to resemble natural patterns or patterns typical of the particular area. Recreational opportunities are primarily those at the developed level. The base area is often an urban setting. Views and vistas outside the area, but visible from within, may be featured. Blend*

[8] Ibid. p. 330
[9] Ibid. p. 384

existing improvements such as improved roads, primitive roads, trails, bridges, fences, shelters, signs or water diversions into the landscape where feasible or remove them if no longer needed. Design new improvements to be minimally intrusive into the landscape.

Administrative – Facilities provided on site vary from rustic to highly developed, depending on the individual site. Improve areas to restore the desired appearance. Improvements are owned by permittee. Master plans for special-use permits ensure that facilities harmonize and blend with the natural setting. Travelways constructed and maintained under terms of the permit will meet Forest Service standards. Design ski runs to avoid snow scour and to favor snow deposition. Assess land-adjustment strategies on a case-by-case basis. Allow only special uses that do not interfere with the permittee's business operations of the ski area.

Standards and Guidelines

- Withdraw the area from locatable mineral entry. (Standard)
- Retain vegetation for screening around structures where vegetation recovery will be slow. (Goal)
- Prohibit cutting trees or locating structures in areas that promote snow loading in avalanche zones. (Goal)

The conceptual projects included in this Master Plan are generally consistent with the MA 8.22 direction and desired conditions. Furthermore, during future site-specific project proposals, project design measures will be included, as necessary, to ensure compliance.

2. Visual Management and the Built Environment Image Guide

Scenery Management System

In October 2006 the ARP amended the 1997 Forest Plan (Amendment No. 9) to replace the Visual Management System with the Scenery Management System (SMS).

In addition to providing recreation experiences and the production of numerous resources, public landscapes provide beauty, which is a valuable resource to many Forest Service constituencies. This resource is explicitly recognized in the law. NEPA requires equal consideration of aesthetics and science. The Forest Service requires application of Scenery Management to all NFS lands. In brief, the SMS is a systematic approach for assessing visual resources in a project area and then using the assessment findings to help make management

decisions regarding proposed projects. The system is founded on an ecological aesthetic, which recognizes that management which preserves the integrity, stability, and beauty of the biotic community preserves the scenery as well.

The Forest Plan establishes acceptable limits of change for Scenic Resources. The acceptable limits of change are the documented Scenic Integrity Objectives (SIO), which serve as a management goal for scenic resources.

Scenic Integrity Objectives

A project can cause visual resource change that can be objectively measured. Viewer response to this change, although subjective, usually displays broad patterns of consensus. Thus, visual impacts comprise both the landscape change and viewer response to that change. By assessing the existing visual character of an area in terms of pattern elements (form, line, color and texture) and pattern character (dominance, scale, diversity, and continuity), it is possible to identify the extent to which the visual character of a facility will exhibit visual contrast with the landscape, or its converse, visual compatibility.

People experience the visual environment as an integrated whole, not as a series of separate objects. Scenic Integrity is a measure of the degree to which a landscape is visually perceived to be complete, indicating the degree of intactness and wholeness of the landscape character. The SMS uses SIOs, which range from Very High (unaltered) to Very Low (heavily altered). The SIO for the Eldora SUP is "Low" as designated in the 1997 Forest Plan, as amended. In an area with a Low SIO, the landscape character appears "moderately altered," and deviations begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed. Deviations should not only appear as valued character outside the landscape being viewed but compatible or complimentary to the character within. The 2006 Forest Plan Amendment No. 9 amended the Forest Plan Final Environmental Impact Statement to specify that MA 8.22 Ski Based Resorts maintain a predominant SIO of Low.[10] The Low SIO is defined as:

> *Refers to landscapes where the valued landscape character "appears moderately altered." Deviations begin to dominate the landscape character being viewed but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles*

[10] USDA Forest Service, 1997b p. 402

outside the landscape being viewed. They should not only appear as valued character outside the landscape being viewed but compatible or complimentary to the character within.

Forest-wide direction for Scenery Management (relative to the Eldora SUP area) includes:[11]

- Prohibit management activities that are inconsistent with the scenic integrity objective unless a decision is made to change the scenic integrity objective. A decision to change the scenic integrity objective will be documented in a project level NEPA decision document. (Standard 154)
- The scenic classes, which are a measure of the relative importance or value of landscapes to people, are usually accepted as the base for scenic integrity objectives unless special documented circumstances warrant a change. (Standard 155)
- Design and implement management activities to meet the adopted scenic integrity objective for the area as shown on the SIO Map enclosed with this document. (Guideline 157)
- Rehabilitate all existing facilities and areas that do not meet the scenic-condition objectives specified for each management area. (Guideline 158)

Built Environment Image Guide

In 2001 the Forest Service adopted the Built Environment Image Guide (BEIG) as a way of incorporating "thoughtful design and management" of the built environment across National Forests and grasslands.[12] The Forest Service defines the built environment as "the administrative and recreation buildings, landscape structures, site furnishings, structures on roads and trails, and signs installed or operated by the Forest Service, its cooperators, and permitees.[13] Per the BEIG, the cultural context of the built environment influences appropriate building designs, and the amount and type of surrounding development requires careful consideration.

The BEIG provides guidance for improving the image, sustainability, and overall quality of Forest Service facilities consistent with the Agency's role as a leader in land stewardship. To achieve this aim, the BEIG:[14]

- Describes an approach to designing recreation and administrative facilities that highlights key elements of the Agency's national identity and image.

[11] USDA Forest Service, 1997c Amendment No. 9 p. 1
[12] USDA Forest Service, 2001
[13] Ibid. p. ii
[14] Ibid. p. 2

- Describes a process to "fit" facilities within the context of their ecological, physical and cultural settings.
- Establishes architectural character types for National Forests and grasslands across eight provinces, nationwide.
- Incorporates the principles of sustainability as an integral part of architectural character.
- Illustrates the role everyone plays in maintaining a quality facility.

To ensure sensitive responses to the contexts of ecology and culture, the BEIG addresses eight geographic areas known as provinces. The ARP is within the Rocky Mountain Province. Designs should synthesize rustic precedents with contemporary needs and realities. Rocky Mountain structures may not always use natural materials, yet they can still compliment their settings, be more durable, consume less energy, and lay more lightly within the landscape than structures from previous eras.

The architectural design of proposed structures on NFS lands would be subject to Forest Service review and approval during future project proposal.

Accessibility to Public Lands

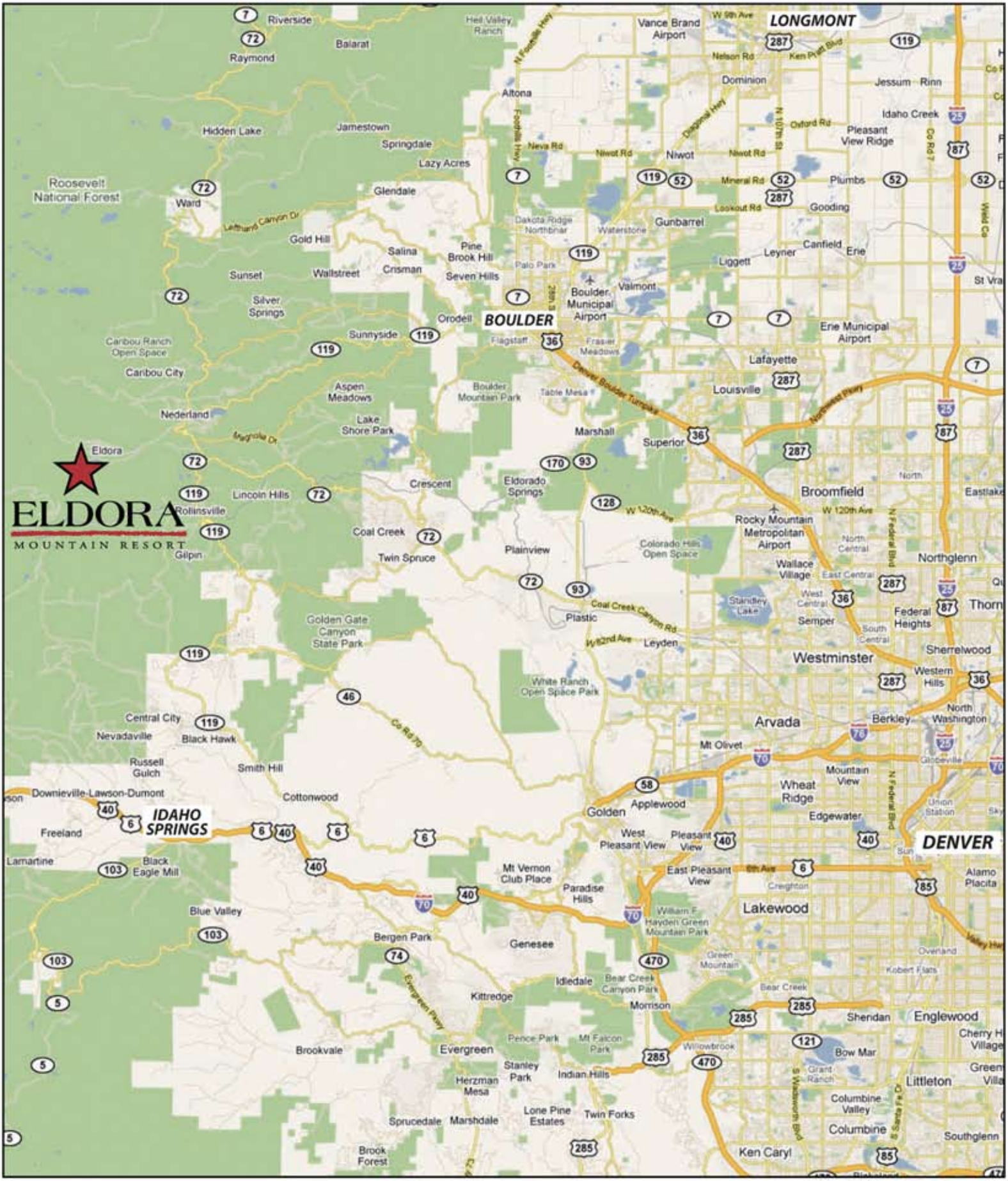
In June 2005, the Forest Service released the Accessibility Guidebook for Ski Areas Operating on Public Lands, 2005 Update. This guidebook provides information for ski areas authorized under a SUP to work with the Forest Service in providing equal opportunities for all people, including those with disabilities. Eldora will ensure consistency with this guidebook for future development projects occurring on public lands.

Ski areas operating under special-use authorization from the Forest Service are required to comply with both the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504). The ADA applies because Eldora operates as a "public accommodation;" moreover, Eldora is a business open to the public. Section 504 applies because Eldora operates under a SUP authorized by the Forest Service. Through the SUP, the ski area agrees to abide by these and all other laws, regulations, and policies of the federal government.

Significant legislation that preceded the ADA includes the Architectural Barriers Act (ABA) of 1968 and the Rehabilitation Act of 1973, as amended. ABA was the first measure passed by Congress to ensure access to facilities. The ABA requires that all facilities built, bought, or leased by or for a Federal agency be accessible. Section 504 of the Rehabilitation Act states: "No otherwise qualified individual with a disability in the United States shall, solely by reason of

his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive Agency."

Eldora currently complies with this legislation through their active involvement in assisting disabled guests with skiing and other recreation activities. Through future site-specific NEPA and design development reviews, Eldora will work closely with the Forest Service to ensure accessibility measures are taken to provide equal opportunity to all users of public lands.



NORTH

2 MILES

FIGURE 1

VICINITY MAP

CHAPTER 2
DESIGN CRITERIA FOR RESORT PLANNING

2. DESIGN CRITERIA FOR RESORT PLANNING

Design criteria are important in resort master planning. Chapter 2 provides an overview of the basic design criteria for which Chapter 4 (Existing Ski Area Facilities) and Chapter 5 (Upgrade Plan) are based. By design, information presented in Chapter 2 is general in nature, and related to the concept of resort master planning, rather than to Eldora specifically. Chapters 3, 4 and 5 present information that is specific to Eldora.

A. REGIONAL DESTINATION RESORTS

Regional destination resorts largely cater to a "drive" market. While day-use guests play a large role, the regional destination resort also appeals to vacationers. Where the regional destination resort has evolved from within, or adjacent to, an existing community, services are often supplied by proprietors in the existing community.

B. BASE AREA DESIGN

Particular consideration should be given to the relationship between the base area and the mountain facilities. Upon arrival at the ski area, skiers should be able to move directly from parking, through ticketing or rentals, to the base of the lifts. Walking distance and vertical differential between the base area facilities and lifts should be minimized in an effort to move skiers directly onto the mountain. Vehicle, pedestrian, and skier circulation should be coordinated to create an organized and pleasant base area environment.

Design of the base lands for a mountain resort involves establishing appropriate sizes and locations for the various elements that make up the development program. The complexion and interrelationship of these elements varies considerably depending on the type of resort and its intended character.

Planners rely on resort layout as one tool to establish resort character. The manner in which resort elements are inter-organized, both inside the resort core and within the landscape setting, along with architectural style, help to create the desired character.

C. MOUNTAIN DESIGN

1. Trail Design

Slope Gradients and Terrain Breakdown

Terrain ability level designations are based on slope gradients and terrain features associated with the varying terrain unique to each mountain. In essence, ability level designations are based on the maximum sustained gradient calculated for each trail. While short sections of a trail can be more or less steep without affecting the overall run designation, a sustained steeper pitch may cause the trail to be classified with a higher difficulty rating.

The following general gradients are used to classify the skier difficulty level of the mountain terrain.

Table 2-1:
Terrain Gradients

Skier Ability	Slope Gradient
Beginner	8 to 12%
Novice	to 25%
Low Intermediate	to 35%
Intermediate	to 45%
Advanced Intermediate	to 55%
Expert	over 55%

Source: SE Group planning guidelines

The distribution of terrain by skier ability level and slope gradient is compared with the market demand for each ability level. It is desirable for the available ski terrain to be capable of accommodating the full range of ability levels reasonably consistent with market demand. The market breakdown for the Rocky Mountain skier market is shown in Table 2-2 on page 2-3.

Table 2-2:
Rocky Mountain Skier Ability Breakdown

Skier Ability	Percent of Skier Market
Beginner	5%
Novice	15%
Low Intermediate	25%
Intermediate	35%
Advanced	15%
Expert	5%

Source: SE Group planning guidelines

Trail Density

The calculation of capacity for a ski area is based in part on the target number of skiers and riders that can be accommodated, on average, on a typical acre of terrain at any one given time. The criteria for the range of target trail densities for Rocky Mountain ski areas are listed below in Table 2-3.

Table 2-3:
Target Density – Skiers per Acre

Skier Ability	Trail Density
Beginner	25 to 40 skiers/acre
Novice	12 to 30 skiers/acre
Low Intermediate	8 to 25 skiers/acre
Intermediate	6 to 20 skiers/acre
Advanced Intermediate	4 to 15 skiers/acre
Expert	2 to 10 skiers/acre
Alpine Bowls	0.5 skier/acre

Source: SE Group planning guidelines

These density figures account for the skiers that are actually populating the trails and do not account for other guests who are either waiting in lift lines, riding the lifts, using the milling areas or other support facilities. Empirical observations and calculations indicate that, on an average day, approximately 40% of the total number of skiers/riders at a typical resort are on the trails at any given time. Additionally, areas on the mountain, such as merge zones, convergence areas, lift milling areas, major circulation routes, and egress routes, experience higher trail densities periodically during the day.

Trail System

A resort's trail system should be designed to provide a wide variety of terrain to meet the needs of the entire spectrum of ability levels as well as the resort's particular market (see Table 2-2 on page 2-3). Given Eldora's proximity to the Colorado Front Range market, this Master Plan assumes Eldora's skier market is equal to the Rocky Mountain skier market. Each trail should provide an interesting and challenging experience within the ability level for which the trail is designed. Optimum trail widths vary depending upon topographic conditions and the caliber of the skier/rider being served. The trail network should provide the full range of ability levels consistent with each level's respective market demand.

In terms of a resort's ability to retain guests, both for longer durations of visitation and for repeat business, one of the more important factors has proven to be variation in terrain. This means providing developed trails for all ability levels, including trails groomed on a regular basis and some trails not, as well as bowls, trees, and terrain parks and pipes. This concept is explored in greater detail in Chapter 4, Section C.

In summary, a broad range of terrain satisfies skiers/riders from Beginner through Expert ability levels within the natural topographic characteristics of the ski area.

Terrain Parks

Terrain parks have become a vital part of most mountain resorts' operations, and are now considered an essential mountain amenity. The presence of terrain parks at mountain resorts has changed various operational and design elements. The demand for grooming can increase, as terrain parks often require specialized or dedicated operators, grooming machines, and equipment (such as half-pipe cutting tools). Terrain parks typically require significant quantities of snow, either natural or man-made, often increasing snowmaking demand. Terrain parks can affect circulation on the mountain, as the parks are often points of destination.

2. Lift Design

The goal for lift design is to serve the available terrain in an efficient manner, i.e., having the minimum number of lifts possible while fully accessing the terrain and providing sufficient uphill capacity to balance with the available downhill terrain capacity. In addition, the lift design has to take into consideration such factors as: wind, round-trip utilization of a the terrain pod, access needs, interconnectability between other lift pods, the need for circulation space at the lower and upper terminal sites, and the presence of natural resources (e.g., visual impacts,

wetlands, and riparian areas). The vertical rise, length and ride time of lifts across a mountain are important measures of overall attractiveness and marketability of any resort.

3. On-Mountain Guest Services

On-mountain guest service facilities are generally used to provide food service (cafeteria-style or table service), restrooms, and limited retail, as well as ski patrol and first aid services, in closer proximity to upper-mountain terrain. This eliminates the need for skiers and riders to descend to the base area for similar amenities. It has also become common for resorts to offer ski/board demo locations on-mountain, so skiers and riders can conveniently test different equipment throughout the day.

4. Capacity Analysis and Design

Comfortable Carrying Capacity (CCC) is defined as a level of visitation for a given resort that provides a pleasant recreational experience, without overburdening the resort infrastructure. CCC does not indicate a maximum level of visitation, but rather the optimal number of visitors that can be "comfortably" accommodated on a daily basis. This distinction is important, as CCC is a planning tool only and does not represent a regulatory cap on visitation. The accurate estimation of the CCC of a ski area is a complex process and is the single most important planning criterion for the resort. CCC is used to ensure that capacities are balanced across facilities and are sufficient to meet anticipated demand. Related skier service facilities, including base lodge seating, mountain restaurant requirements, restrooms, parking, and other guest services are planned around the proper identification of the mountain's CCC. Calculation of CCC is based on a comparison of uphill vertical lift supply to downhill vertical skiing demand. Eldora's CCC is discussed in detail in Chapter 4.

Note: It is not uncommon for resorts to experience peak days during which visitation exceeds the CCC by as much as 25 to 30%.

D. BALANCE OF FACILITIES

The mountain master planning process emphasizes the importance of balancing recreational facility development. The sizes of the various guest service functions are designed to match the CCC of the mountain. The future development of a resort should be designed and coordinated to maintain a balance between accommodating guest needs, resort capacity (lifts, trails, and other amenities such as tubing), and the supporting equipment and facilities (e.g., grooming machines, day lodge services and facilities, utility infrastructure, access, and parking). Note that it is also important to ensure that the resort's CCC balances with these other

components, facilities, and services at the resort. Since CCC is primarily derived from the resort's lift network, it is possible to have a CCC that is effectively lower than the other components.

CHAPTER 3
SITE INVENTORY

3. SITE INVENTORY

Chapter 3 provides a brief overview of the some of the unique characteristics of the ski area, including private and NFS lands that were taken into consideration when assembling this Master Plan.

A. TOPOGRAPHY

Eldora is located on the east and north facing slopes of Bryan Mountain, with a summit elevation of just over 10,800 feet above sea level. The upper reaches of the resort are located close to this peak, with the resort continuing east down a ridge. As the ski area is located on a ridge, flat sections at the top restrict circulation around the resort. The ridge ends at the top of the Cannonball and Challenge chairlifts, with consistent slopes heading down the base area. Topographic features are defined by the large ridge and prominent sub-ridge located between the Cannonball and Indian Peaks chairlifts.

The base area sits in a valley just south of Ute Mountain, at an elevation of approximately 9,350 feet above sea level. The highest point at the ski area (lift serviced) is around 10,600 feet above sea level. The average slope gradient from the base area to the summit of Eldora Mountain is around 17%. The trails at Eldora are located off this ridge, extending east from the summit down to the base area.

B. SLOPE GRADIENTS AT ELDORA

As discussed in Chapter 2, terrain ability level designations are based on slope gradients and terrain features associated with the varying terrain unique to each mountain. Regardless of the slope gradient for a particular trail, if it feeds into a trail that is rated higher in difficulty, its ability level must be rated accordingly (*Wayback*, for example). Conversely, if a trail is fed only by trails of a higher ability level than the maximum slope of the trail would dictate, it also must be rated accordingly (*Sunset*, for example).

Slope gradients at Eldora are depicted on Figure 2.

- **0 to 8% (0 to 5 degrees):** too flat for skiing and riding, but ideal for base area accommodations, and other support facility development
- **8 to 25% (5 to 15 degrees):** ideal for Beginners and Novices, and typically can support some types of development

- **25 to 45% (15 to 25 degrees):** ideal for Intermediates, and typically are too steep for development
- **45 to 70% (25 to 35 degrees):** ideal for Advanced and Expert skiers/riders, and pose intermittent avalanche hazards
- **>70% (>35 degrees):** too steep for all but the highest level of skiing/riding. These areas are typically allocated as Expert only and are closely managed by the resort operator for avalanche control.

C. SLOPE (SOLAR) ASPECT AT ELDORA

Eldora is located on a distinct ridge, with exposures predominantly east and north. The primary ski runs off the long lifts on the backside face northeast to northwest. The run coming off the Cannonball and Challenge chairlifts face almost due east, with the novice and training runs facing more northeast. As such, the vast majority of runs face east to northeast, with a few runs having a slight northwest exposure.

Slope aspect plays an important role in snow quality and retention. The variety of exposures present opportunities to provide a range of slope aspects that can respond to the changes in sun angle, temperature, wind direction, and shadows. Typical constraints in relation to the various angles of exposure are discussed in the following text.

Slope aspects at Eldora are depicted on Figure 3.

- **North-facing**: ideal for snow retention, minimal wind scour, minimal sun exposure
- **Northeast-facing:** ideal for snow retention, minimal wind scour, minimal sun exposure
- **East-facing**: good for snow retention, some wind scour, morning sun exposure
- **Southeast-facing:** fair for snow retention, moderate wind scour, morning and early afternoon sun exposure
- **South-facing:** at lower elevations, poor for snow retention, moderate wind scour, full sun exposure
- **Southwest-facing:** poor for snow retention, high wind scour, full sun exposure
- **West-facing:** fair for snow retention, high wind scour, late morning and afternoon sun exposure
- **Northwest-facing:** good for snow retention, moderate wind scour, some afternoon sun

D. PREDOMINATE WIND DIRECTION

Winds at Eldora come from the North to Northwest (see Figure 3). The backside lifts and trails are affected more by the wind compared to the frontside lifts and trails.[15] Trail surfaces are negatively impacted (deteriorating snow quality) by the wind and the affects increase at higher elevations. Trails between the Challenge/Cannonball and Indian Peaks top terminals are impacted along with the backside trails (*Muleshoe, Corona, Cascade, and West Ridge*). The wind can also affect the operation of many lifts, specifically Challenge, Cannonball, Indian Peaks, and Corona.

The predominate wind direction along with the upper elevations at Eldora should be considered when locating planned lift terminals and when determining new trail alignments and trail widening projects.

[15] The lift and trail network at Eldora can generally be separated into "Frontside" and "Backside" lifts and trails. The Indian Peaks and Corona lifts along with their associated trails are considered to be "Backside," while the remaining lifts and associated trails are on the "Frontside." Some of the trails between the Challenge/Cannonball and Indian Peaks top terminals fall into an area that could be described in either area (e.g., *Windmill, Dream & Scream, Hornblower*).

ELDORA
MOUNTAIN RESORT

SLOPE ASPECT ANALYSIS

2011 MASTER PLAN FIGURE 3

Prepared By:
SE GROUP

GILPIN COUNTY
BOULDER COUNTY
PRIVATE LAND
USFS LAND
SUP Boundary
9,700'
9,350'
10,375'
10,700'
8,925'
JOLLY JUG GLADES
PLACER GLADES
BRYAN GLADES
SALTO GLADES
MOOSE GLADES
1 INDIAN PEAKS
2 CORONA
3 Little Hawk
4 EZ
5 CARIBOU
6 SUNDANCE
7 RACE
9 CHALLENGE
10 CANNONBALL
11
12
HI TIMBER
BUNNYFAIR
SNAIL
SUNDANCE
QUICKWAY
CORKSCREW
CHUTE
BONANZA
SUNSET
INTERNATIONAL
FOUR O'CLOCK TRAIL
KLONDIKE
JOLLY JUG
POWDERHORN
CHALLENGE
PSYCHOPATH
LA BELLE DAME
WIDOWMAKER
DREAM & SCREAM
HORNBLOWER
PIPELINE
WAYBACK
UPPER DIAMONDBACK
LOWER DIAMONDBACK
AMBUSH
LOWER AMBUSH
MOUND THE HORN
CORONA
CASCADE
WEST RIDGE
CORONA LOWER

Slope Aspect Legend

S, SW, W, NW, N, NE, E, SE

LEGEND

- Prevailing Wind Direction
- SUP Boundary
- Existing Lift
- Private Land Boundary

25' Contour Interval

North 0 400 800 1200'

ELDORA MOUNTAIN RESORT

SLOPE GRADIENT ANALYSIS

2011 MASTER PLAN FIGURE 2

Prepared By:

SE GROUP

GILPIN COUNTY
BOULDER COUNTY

PRIVATE LAND
USFS LAND

SUP Boundary

9,700'
9,350'
10,375'
10,700'
8,925'

11 Hi Hum
12
3 Little Hawk
4 EZ
5 CARIBOU
6 SUNDANCE
7 RACE
9 CHALLENGE
10 CANNONBALL
11 INDIAN PEAKS
12 CORONA

BUNNYFAIR
SNAIL
SUNDANCE
DUFFICWAN
CORKSCREW
CHUTE
BONANZA
SUNSET
FOUR O'CLOCK TRAIL
INTERNATIONAL
KLONDIKE
JOLLY JUG
JOLLY JUG GLADES
POWDERHORN
CHALLENGE
PSYCHOPATH
LA BELLE DAME
WINDMILL
DREAM A SCREAM
HORNBLOWER
PIPELINE
WAYBACK
HORSESHOE
AMBUSH
UPPER DIAMONDBACK
LOWER DIAMONDBACK
LONE AMBUSH
AROUND THE HORN
PLACER GLADES
BRYAN GLADES
SALTO GLADES
CORONA
CASCADE
WEST RIDGE
CORONA ROAD
MOOSE GLADES

25' Contour Interval
North 0 400 800 1200'

Slope Gradient Legend

70% and Above	Expert Only
45-70%	Most Difficult
25-45%	More Difficult
8-25%	Easier
0-8%	Unsuitable for Sliding

LEGEND

- Existing Lift
- SUP Boundary
- Private Land Boundary

CHAPTER 4
EXISTING FACILITIES

4. EXISTING FACILITIES

The following section contains an examination and analysis of existing facilities at Eldora. Completion of a thorough resort inventory is the first step in the master planning process and involves the collection of data pertaining to the resort's existing facilities. This inventory includes lifts, trails, the snowmaking system, base area structures, guest services, other resort functions/activities, day-use parking, operations, and utilities/infrastructure. The analysis of the inventoried data involves the application of current industry norms to Eldora's existing facilities. This process allows for the comparison of the resort's existing facilities to those facilities commonly found today at resorts of similar size and composition.

The overall balance of the existing resort is evaluated by calculating the capacities of various facility components and then comparing these capacities to the resort's CCC. This examination of capacities helps to identify surpluses, deficiencies, opportunities, and constraints as a resort. The next step is the identification of improvements which would bring the existing facilities into better equilibrium, and will assist the resort in meeting the ever-changing expectations of their marketplace. Accomplishing these objectives will result in a well-balanced resort that provides an adequate array of services and experiences to satisfy guest expectations for a quality recreational experience.

The examination of existing facilities presented in this chapter correlates with Figure 4.

A. SUMMARY OF THE EXISTING GUEST EXPERIENCE

Determining the resort CCC is an important first step in evaluating the overall guest experience because it enables planners to understand the overall balance of the resort facility. Empirical observations and a close examination of Eldora's principal components reveal some key surpluses and deficiencies.

Eldora's CCC is computed by analyzing the resort's supply of, and demand for, vertical transport (see Chapter 2 for a definition of CCC). The capacity of the lift and trail network was determined to be approximately 4,250 guests.[16] From a terrain standpoint, the resort's trail network appears to be capable of providing a good ski terrain experience for 5,862 guests, or

[16] CCC is detailed in Section D.1, page 4-16.

about 38% more than CCC—this is a desirable situation that generally ensures an uncrowded, comfortable ski experience on days that are at or slightly above the CCC.[17]

Generally speaking, the current guest experience at Eldora is good. There is a friendly atmosphere, the skiing is conveniently located proximate to Boulder and the Front Range (i.e., accessing the ski area does not require driving up the I-70 corridor) and the skiing is good. On most weekdays and non-peak weekends, actual daily visitation levels at the resort are below the calculated CCC, meaning that generally, long lift lines are uncommon, and most skier service facilities are not over-burdened. However, on days at or above the calculated CCC, lift lines at popular lifts can be long and guest service facilities are crowded due to an overall deficit of space (square footage). Eldora typically receives adequate snowfall, and when snowfall is below average, a sophisticated snowmaking system is in place to provide adequate snow coverage to all of the ski terrain. This snowmaking system is the only one in Colorado to provide 100% coverage of all developed terrain and insures opening by Thanksgiving and a long season on the entire developed trail network.

There are a number of deficiencies at Eldora that detract from the guest experience and may contribute to the resort's inability to capture and retain market share. While Eldora has a variety of trails for all abilities, there is a significant deficiency of true Intermediate level trail acreage. There are a number of areas on trails that could be improved with strategic grading, and trail additions would be beneficial to increase the amount of effective Intermediate trails. Furthermore, wind events result in multiple lift closures that significantly reduce the CCC and skiable trail acreage during these events (further detailed below). With the exception of Indian Peaks Lodge, existing base area buildings are generally old and in relatively poor physical condition, which can create a negative first impression of the resort. The on-mountain Lookout Restaurant is in poor condition and needs to be updated and expanded. Additionally, the overall size of the guest services space is too small for existing CCC visitation levels. Particularly deficient are restaurant preparation and seating space, rental space, and space for children's programs and facilities. Many of the existing lifts are old and have low hourly capacities. In addition, long lift lines occur at popular lifts (e.g., Corona lift) on or above CCC days. Overall, these conditions create a negative impression of the ski area.

[17] This is the "Trail/Resort Capacity," which represents an overall resort capacity that is based on the developed alpine trail capacity. Trail network capacity is detailed in Section D.2, page 4-18.

B. EXISTING LIFT NETWORK

Eldora's lift network consists of eight aerial chairlifts, one platter lift, two beginner tows, and one beginner conveyor. These lifts include:

- Two fixed-grip quad chairlifts: Indian Peaks and Corona
- Two fixed-grip triple chairlifts: Challenge and EZ
- Four fixed-grip double chairlifts: Cannonball, Sundance, Caribou, and Little Hawk
- A platter (surface) lift: the Race lift
- The two Tenderfoot surface tows
- The Sunkid surface conveyor

The resort's total uphill design lift capacity has been calculated at 11,167 people-per-hour (pph). Table 4-1 (page 4-4) summarizes the technical specifications for the existing lifts, and Figure 4 illustrates the location of existing lifts.

It is important to note that Eldora routinely experiences wind events that force the closure of the Challenge, Cannonball, Indian Peaks and Corona chairlifts (a combined pph capacity of 6,527, or 60% of the overall ski area capacity). All these lifts being fixed-grips, individual chairs are lightweight and susceptible to winds, and when these chairlifts are put on wind hold (particularly Challenge and Cannonball) Eldora's available terrain becomes very limited, as the backside terrain is not accessible. Moreover, when these lifts are inoperable, the CCC of Eldora is reduced by 2,700 guests, from 4,250 to 1,550 guests (see Section D below for the Existing Capacity Analysis). Again, wind susceptibility creates major operational difficulties for the ski area and quickly diminishes the guest experience.

Table 4-1:
Lift Specifications – Existing Conditions

Lift Ref	Lift Name, Lift Type	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Average Grade (%)	Actual Design Capacity (pers./hr.)	Rope Speed (fpm)	Carrier Spacing (ft.)	Year Installed
1	Tenderfoot I (S)	9,393	9,350	43	384	386	11	325	175	32	Stadeli 1991
2	Tenderfoot II (S)	9,393	9,350	43	384	386	11	325	175	32	Stadeli 1993
3	Little Hawk (C-2)	9,463	9,352	111	794	806	14	280	120	51	Miner Denver 1968
4	EZ (C-3)	9,612	9,374	238	1,421	1,448	17	1,200	300	45	Riblet 2000
5	Caribou (C-2)	9,611	9,374	237	1,202	1,230	20	610	300	59	Yan 1980
6	Sundance (C-2)	9,698	9,357	341	1,554	1,601	22	780	275	42	Yan 1975
7	Race (S)	9,630	9,374	256	1,043	1,080	25	400	320	48	Heron Poma 1979
8	Sunkid Conveyor	9,361	9,354	8	128	129	6	720	80	7	Sunkid 1998
9	Challenge (C-3)	10,373	9,389	984	3,760	3,919	26	1,800	450	45	Hall 1976
10	Cannonball (C-2)	10,375	9,388	987	3,792	3,952	26	1,127	480	51	Heron Poma 1973
11	Indian Peaks (C-4)	10,399	9,305	1,093	4,003	4,193	27	1,800	450	60	CTEC 1997
12	Corona (C-4)	10,602	9,253	1,349	3,816	4,077	35	1,800	450	60	CTEC 1998

S = Surface lift
C2 = fixed-grip double chairlift
C3 = fixed-grip triple chairlift
C4 = fixed-grip quad chairlift
Source: SE Group

1. Lift Discussion and Overview

The following lift overview follows Eldora's lift network across the mountain from east to west (private to NFS lands).

Teaching Lifts

The two Tenderfoot surface handle tows were installed in the early 1990s and are primarily used by ski school for beginner classes. Tenderfoot 2 is operated every day, but Tenderfoot 1 is typically only operated on holiday periods and peak weekends. Handle tows are difficult to load and ride, particularly for lower ability level guests. Replacing both of these lifts with newer technology (i.e., surface conveyor) would substantially improve the comfort level and teaching experience for lower ability level guests.

The Sunkid conveyor is located adjacent to the Indian Peaks Lodge and is used for beginners' and children's lessons. Despite the limited terrain available, this lift serves its function well.

Little Hawk Chairlift

Little Hawk was the first chairlift built at Eldora, in 1968, and is still in use today. The chairlift caters to Beginner and Novice skiers, providing Ski School and the resort with a nice progression for first time and beginner skiers who graduate from the adjacent Tenderfoot handle tows. Little Hawk has a very low hourly capacity by modern standards, which results in long lift lines on peak days, due to the popularity of the Beginner terrain it serves.

EZ Chairlift

The EZ chairlift is the most recent lift installation at Eldora, built in 2000. It is quite popular and accesses quite a bit of the Novice level terrain. Being the newest lift at the resort, this lift is in good condition and does not need replacement.

Caribou & Sundance Chairlifts

The Caribou and Sundance chairlifts are similar in alignment to EZ and are not always operated. The Caribou chairlift is operated only during holidays and peak weekends; in essence, providing additional capacity to EZ. The Sundance chairlift provides direct access to the terrain park that is operated on Thursdays through Sundays, in addition to holiday periods.

Race Lift

The Race platter lift is operated specifically for race training needs, which is usually a full day on weekends and holidays and on afternoons during the midweek. The race lift is the only lift that operates at night. Despite the older technology and low hourly capacity of this lift, it serves the race training needs well.

Challenge & Cannonball Chairlifts

The Challenge and Cannonball chairlifts, which provide out-of-base access to the summit of Challenge Mountain, are parallel and redundant. They provide repeat lift service to numerous runs on the front side of the resort as well as providing access from the base area to the runs and lifts on the backside. They are often not operated at the same time. Challenge is typically operated more frequently, and Cannonball is essentially a back up for Challenge. During holiday periods and busy weekends, Cannonball is operated from 10:00 a.m. to 3:00 p.m. to provide additional capacity. Additionally, Cannonball is sometimes operated midweek in place of Challenge. Cannonball provides the ski area with redundant access to the upper mountain in the event that the Challenge lift experiences any technical difficulty. While the Challenge lift is 20 years newer than the Cannonball lift, they are both older lifts. The Challenge lift is operated on natural gas. There is certainly an opportunity to more efficiently serve frontside terrain and access the backside by replacing these two lifts with a single, higher capacity lift in a slightly different alignment.

Indian Peaks Chairlift

The Indian Peaks chairlift provides access to Intermediate, Advanced Intermediate, and Expert terrain in addition to acting as the link between the front side and the Corona chairlift. This lift is relatively new, in good condition, services the terrain in an efficient manner, and has enough capacity to provide both repeat skiing and circulation across the mountain. This lift occasionally shuts down during high wind events that occur along the upper elevations of the lift-line. To access Indian Peaks chairlift, guests must ride Challenge or Cannonball lift, which as previously stated, shuts down fairly frequently due to wind conditions; thereby closing access to the Indian Peaks chairlift.

Corona Chairlift

The Corona chairlift services Advanced and Expert terrain, as well as numerous gladed areas, on Eldora's backside terrain. This is extremely popular terrain, particularly when snow is good. The Corona chairlift has similar access issues as the Indian Peaks lift during wind events.

Two Forest Service backcountry access points, located on the western boundary of Eldora's SUP boundary, are accessed from this lift. The Lookout—Eldora's only on-mountain food service facility—is located at the top of Corona.

The fixed-grip Corona chairlift was installed in 1998 (replacing the original lift) and is in very good condition. However, due to the popularity of the terrain served by this lift based on lift line wait times, the Corona chairlift does not provide enough uphill capacity to meet the demand placed upon it.[18] A detachable installed within the existing profile would have far greater performance than a fixed grip when operating in windy conditions.

C. EXISTING TERRAIN NETWORK

1. Terrain Variety

Terrain variety is the key factor in evaluating the quality of the actual guest experience (as opposed to lift quality, restaurant quality, or any other factor). In SKI Magazine's Reader Resort Ratings, "terrain variety" is ranked as the second most important criterion in readers' choice of a ski destination, behind only snow quality, and ahead of such other considerations as lifts, value, accessibility, resort service, and others. This is a relatively recent industry trend, representing an evolution in skier/rider tastes and expectations. The implication of the importance of terrain variety is that a resort must have a diverse, interesting, and well designed developed trail system, but also have a wide variety of alternate style terrain, such as mogul runs and glades.[19] At resorts across the nation, there is a growing trend favoring these more natural, unstructured types of terrain, since the availability of this style of terrain has become one of the more important factors in terms of a resort's ability to retain guests, both for longer durations of visitation and for repeat business. In addition, terrain parks and pipes are more prevalent throughout the ski industry, and guests expect ski areas to provide this type of experience.[20] Eldora currently provides an adequate terrain park experience that meets guest demand.

To provide the highest quality guest experience, resorts should offer groomed runs of all ability levels and some level of all the undeveloped terrain types to the extent practical. Undeveloped terrain is primarily used by Advanced and Expert level skiers/riders during

[18] Wait times and guest demand at Corona lift are based on visual observations made by Eldora staff.
[19] "Glades" are trees stands that have been thinned specifically in varying degrees to improve the skiing experience by increasing the spacing between individual trees. Stands with less thinning are sometimes described as "Tree Skiing" areas. Stands with tree clearing to the extent that they can be groomed are described as "Groomable Glades."
[20] National Ski Areas Association & RRC Associates, 2010

desirable conditions (e.g., periods of fresh snow, spring corn, etc.). Even though some of these types of terrain only provide skiing/riding opportunities when conditions warrant, they typically represent the most intriguing terrain, and are the areas that skiers/riders strive to access. In Eldora's case, this type of terrain is primarily in the form of glades.

In summary, to provide the highest quality guest experience, resorts should offer some level of all these terrain types, to the extent practical. Even though some of these terrain types only provide opportunities when conditions warrant, variety is increasingly becoming a crucial factor in guests' decisions for where to visit.

2. Developed Alpine Trails

The developed, or formalized, terrain network at Eldora consists of the named, defined, lift-serviced, maintained trails at the resort. Despite the importance of undeveloped, alternate-style terrain (in Eldora's case, this refers to glades), formalized runs represent the baseline of the terrain at any resort, as they are where the majority of guests ski and ride, and they are usually the only place to ski/ride during the early season, periods of poor or undesirable snow conditions, avalanche closures, and certain weather conditions. As such, the developed trail network represents a true reflection of acreage used by the average skier/rider on a consistent basis, as well as that used by virtually all guests during the aforementioned conditions. Therefore, the total acreage of the terrain and the ability level breakdown must be sufficient to accommodate the full capacity of the resort.

Based on the rationale presented in the preceding paragraph, and for the purposes of this analysis, only the developed trail network is applied to the trail acreage calculations, skier/rider classification breakdown, trail capacity, and density formulas.

The existing trail configuration is shown in Figure 4. The ski area is served by a network of approximately 49 trail segments accommodating a variety of ability levels, as depicted in the Table 4-2 on page 4-11. The trail system accounts for roughly 188 acres of terrain, with additional opportunities for gladed skiing (discussed separately in Table 4-3 on page 4-13).

The wind issue that was previously discussed under "Existing Lift Network" also has a considerable negative effect on portions of Eldora's terrain network. The upper elevation sections of the trails off Challenge, Cannonball, Indian Peaks, and Corona are susceptible to high degrees of wind scour, in particular the *Muleshoe* trail. This trail has north-northwest facing aspect and is particularly susceptible to the predominant winds in the area. The wind scour can create difficult grooming and skiing conditions. On days when the lifts are shut for wind

closures, this terrain is obviously not skied, but even on days when these chairlifts are operated, the wind situation can make these runs undesirable, detracting from the guest experience. Many of the smaller existing inter-trail tree islands on the backside of the ski area act as effective wind breaks. These tree islands must be protected in the future to minimize wind exposure on existing trails.

A summary of Eldora's terrain network, organized by lift pod, is provided below.

Teaching Terrain

First-time beginner skiers are well served by the quantity of beginner terrain available off the Sunkid conveyor and the terrain off the two Tenderfoot tows, although the distance between the two areas results in a logistical challenge for ski school.

Race Terrain

Race training—on the *Chute* trail—is available throughout the entire week and weekends. The Race lift is only operated on afternoons during the midweek, one day on weekends, and on holidays. Eldora's "Nighthawks" program uses the Race lift on Wednesday nights between 4:30 p.m. and 8:00 p.m. for Alpine, telemark and snowboard races in a dual GS format.

Little Hawk/EZ/Caribou Pod

The Little Hawk, EZ, and Caribou chairlifts service all of Eldora's Novice terrain. While there is some terrain that has gradients low enough to be considered Novice, skiers must go down Intermediate level trails to access the terrain, making it inaccessible for Novice skiers. While this quantity of terrain is sufficient to meet the needs of Novice skiers, there are sections near the top of Little Hawk, near the top of EZ on *Upper Bunnyfair* and at the bottom of EZ that have short steep pitches that can be intimidating for Novice level skiers. There is also a section at the bottom of *Snail* that is at the very upper limit of acceptable grades for Novice terrain. It is desirable to have Novice terrain available in other parts of a resort, other than just the beginner area, as teaching terrain typically does not hold the interest of Novice level skiers for long.

Sundance Pod

The Sundance pod consists of two Intermediate trails—*Upper Bunnyfair* and *Sundance*—but is defined by terrain park features. After an initially short, steep pitch from the top of the Sundance lift, *Upper Bunnyfair* turns from and Intermediate to a Novice trail.

Challenge/Cannonball Pod

Intermediate and Advanced terrain on Eldora's frontside can be repeat-skied by either of these lifts; however, the Cannonball lift is only operated when additional lift capacity is needed to support Challenge. While frontside terrain accessed by either of these lifts is interesting and varied, many of Eldora's visitors do not spend time repeat-skiing here, and instead move onto Advanced and Expert on the backside served by the Indian Peaks and Corona lifts.

Indian Peaks Pod

Enjoyable, relatively long, consistent, Intermediate, Advanced and Expert terrain can be accessed from the Indian Peaks lift. The terrain to the East of the lift maintains decent snow quality, has a desirable variety of grades, and receives heavy use.

Corona Pod

While Advanced and Expert terrain served by the Corona chairlift is popular and challenging, it is relatively limited in extent, composed for four trails—*Muleshoe*, *Corona*, *Cascade* and *West Ridge*. As discussed below, numerous gladed areas also exist within this pod. Opportunities certainly exist to develop more defined trails between the Corona and Indian Peaks chairlifts.

Table 4-2 on the following page lists the specifications for all the developed trails at Eldora.

Table 4-2:
Terrain Specifications – Existing Conditions

Ref	Trail Area/Name	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
1-1	Tenderfoot I	9,377	9,344	33	304	86	0.6	11	12	Beginner
2-1	Tenderfoot II	9,397	9,343	54	482	84	0.9	11	12	Beginner
3-1	Ho Hum	9,459	9,345	114	931	286	6.1	12	20	Novice
4-1	Easy Way	9,589	9,491	99	1,259	28	0.8	8	13	Novice
4-2	Bunnyfair	9,610	9,357	253	1,747	126	5.1	15	21	Novice
4-3	Fox Tail	9,511	9,456	56	749	61	1.0	7	12	Novice
4-4	Snail	9,618	9,355	263	1,698	110	4.3	16	24	Novice
6-1	Quickway	9,620	9,362	257	1,233	96	2.7	21	35	Low Intermediate
6-2	Sundance	9,699	9,355	344	1,697	138	5.4	21	35	Low Intermediate
6-3	Upper Bunny Fair	9,709	9,530	179	1,047	89	2.1	17	27	Low Intermediate
7-1	Corkscrew	9,630	9,369	261	1,210	120	3.3	22	35	Low Intermediate
7-2	Little Hawk TRV	9,369	9,348	21	821	67	1.3	3	8	Beginner
7-3	Bonanza	9,595	9,378	217	1,050	120	2.9	21	32	Low Intermediate
7-4	Chute	9,630	9,371	259	1,214	147	4.1	22	35	Low Intermediate
8-1	Sunkid Slope	9,361	9,354	8	157	67	0.2	6	6	Beginner
9-1U	Upper Jolly Jug	10,369	9,722	647	2,567	119	7.0	26	46	Adv. Intermediate
9-1M	Middle Jolly Jug	9,722	9,651	71	848	78	1.5	8	12	Intermediate
9-1L	Lower Jolly Jug	9,651	9,548	103	342	71	0.6	32	36	Intermediate
9-3	Mary's Way	9,664	9,427	238	1,116	89	2.3	22	36	Adv. Intermediate
9-4	Powderhorn	10,358	9,722	636	2,112	114	5.5	32	44	Intermediate
9-5	Summer Road	9,656	9,640	16	294	23	0.2	5	8	Intermediate
9-6	Sunset	9,660	9,383	276	1,340	105	3.2	21	33	Intermediate
9-7	Challenge	10,266	9,613	653	2,496	95	5.5	27	50	Adv. Intermediate
9-8	Challenge Liftline	10,355	9,632	722	2,604	68	4.0	29	58	Expert
10-1	Crewcut	9,622	9,559	64	244	75	0.4	27	29	Intermediate
10-2	Hornblower	10,369	9,946	423	2,430	84	4.7	18	35	Low Intermediate
10-3	Hotdog Alley	9,727	9,541	186	738	67	1.1	26	34	Intermediate

Table 4-2:
Terrain Specifications – Existing Conditions

Ref	Trail Area/Name	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
10-4	International	9,946	9,390	556	2,818	102	6.6	20	35	Low Intermediate
10-5	Klondike	9,932	9,669	263	821	57	1.1	34	45	Intermediate
10-6	Windmill	10,371	9,940	431	1,820	118	4.9	24	32	Low Intermediate
10-7	Corona Road	9,500	9,386	113	1,509	22	0.8	8	17	Intermediate
10-8	La Belle Dame	10,369	9,663	706	2,684	113	7.0	28	41	Intermediate
10-9	Psychopath	10,196	9,727	468	1,276	93	2.7	40	63	Expert
10-10	Corona TRV	10,364	10,331	33	792	35	0.6	4	7	Intermediate
11-1	Dream & Scream	10,275	10,025	250	1,038	111	2.7	25	35	Low Intermediate
11-2	Four O' Clock Trail	9,806	9,459	347	2,833	41	2.7	12	23	Low Intermediate
11-3	Liftline	10,403	9,675	729	2,826	31	2.0	27	69	Expert
11-4	Lower Ambush	9,792	9,336	456	1,783	92	3.8	27	35	Low Intermediate
11-5	Lower Diamond Back	9,756	9,303	453	2,200	106	5.3	21	32	Intermediate
11-7	Sidewinder	9,828	9,740	88	314	65	0.5	29	39	Intermediate
11-8	Upper Diamond Back	9,952	9,756	196	538	97	1.2	39	56	Expert
11-9	Ambush	10,295	9,831	464	1,545	112	4.0	32	62	Expert
11-10	Around the Horn	10,009	9,254	756	4,096	89	8.4	19	38	Intermediate
12-1	Corona	10,595	9,274	1,321	4,123	162	15.4	34	48	Adv. Intermediate
12-2	Muleshoe	10,410	9,268	1,141	4,281	153	15.0	28	49	Adv. Intermediate
12-3	Pipeline	10,604	10,359	245	3,384	66	5.1	7	18	Intermediate
12-5	Wayback	10,559	10,188	371	2,836	86	5.6	13	27	Intermediate
12-6	West Ridge	10,604	9,293	1,310	4,802	135	14.9	29	78	Expert
12-8	Cascade	9,723	9,381	342	1,044	59	1.4	35	54	Adv. Intermediate
TOTAL					**82,092**		**188**			

3. Terrain Variety/Alternate Terrain

In terms of a resort's ability to retain guests, both for longer durations of visitation and for repeat business, one of the more important factors has proven to be variation in terrain. This means having developed runs of all ability levels, some groomed on a regular basis and some not, as well as mogul runs, bowl skiing, gladed skiing, back-country style (hike-to) skiing, and terrain parks and pipes. To provide the highest quality guest experience, resorts should offer some level of all terrain types to the extent it is practical. Even though some of these types of terrain only provide opportunities when conditions warrant, terrain variety is increasingly becoming a crucial factor in guests' decisions of ski destinations.

Glades

Due to topography, there are no open bowls, natural meadows, or chutes at Eldora. However, Eldora provides a good quantity of glade skiing on the sides of, and in between, developed trails (shown on Figure 4). Five naturally gladed areas (limited thinning by Eldora has occurred)—Jolly Jug, Placer, Bryan, Salto, and Moose—constitute 164.4 acres, as detailed in Table 4-3 below. Depending on snow conditions, these five areas are popular destinations for Eldora's more advanced guests.

Eldora has identified opportunities throughout its SUP boundary to selectively thin and manage forested areas in conjunction with mountain pine beetle mitigation in a manner that would improve glade skiing and make it more functional for a wider range of ability levels.

Table 4-3:
Glades Specifications – Existing Conditions

Trail Area/Name	Vertical Rise (ft.)	Slope Length (ft.)	Average Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Jolly Jug Glades	298	1,338	306	9.4	23	37	Intermediate
Placer Glades	769	2,078	841	40.1	41	80	Expert
Salto Glades	713	2,037	569	26.6	38	76	Expert
Bryan Glades	1,168	3,413	441	34.5	36	45	Adv. Intermediate
Moose Glades	866	2,724	860	53.8	34	61	Expert
TOTAL				**164.4**			

Source: SE Group

Terrain Parks

Terrain parks have become a vital part of most mountain resorts' operations, and are now considered an essential mountain amenity. Popularity of terrain parks continues to increase, and is dependent on regional location of the resort, demographics of the resort's target guests, and, significantly, the quality of the parks.

Eldora has two terrain parks, all accessed off the Sundance lift. They are located on the *Bonanza* and *Bunnyfair Bowl* and feature various rails, boxes, and rollers, as well as other features. Eldora updates and modifies the terrain parks throughout the season in response to market demands and user preferences.

4. Terrain Distribution by Ability Level

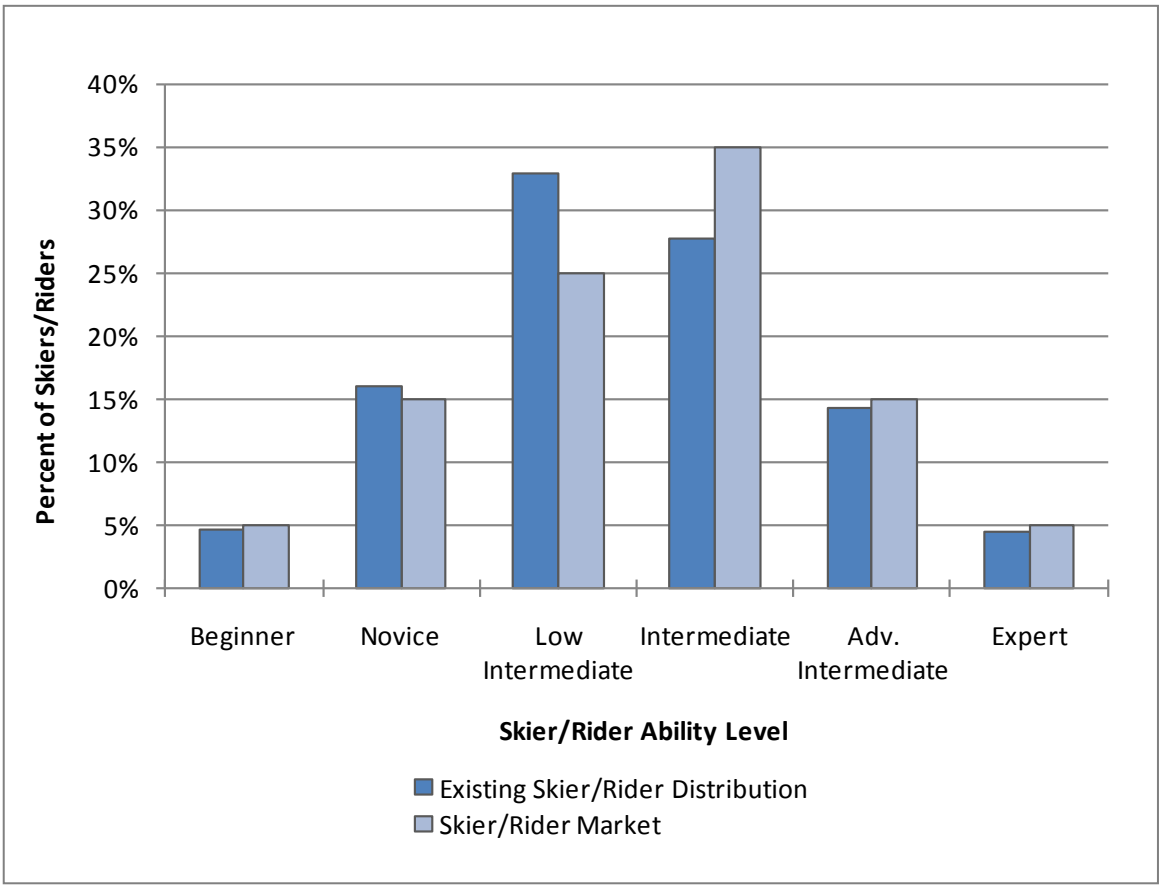
The potential demand for terrain through the full range of skill levels is close to the ideal breakdown for the regional destination skier market, with two notable exceptions—Low Intermediate and Intermediate. The terrain classification breakdown of the existing ski area is set forth Table 4-4 below and Chart 4-1 on page 4-15. The last column in this table represents what can be considered the ideal skill level distribution in the relevant skier market and provides a comparison with the existing breakdown at Eldora.

Table 4-4:
Terrain Distribution by Ability Level – Existing Conditions

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider Capacity (guests)	Eldora Skier/Rider Distribution (%)	Skier/Rider Market (%)
Beginner	3.0	91	4.7	5
Novice	17.3	312	16.0	15
Low Intermediate	45.8	641	32.9	25
Intermediate	53.9	539	27.7	35
Adv. Intermediate	39.6	277	14.2	15
Expert	28.8	87	4.5	5
TOTAL	**188.5**	**1,946**	**100**	**100**

Note: Skier/Rider Capacity is calculated by multiplying the trail area by the target density (see page 2-3) for each specific ability level.
Source: SE Group

Chart 4-1:
Terrain Distribution by Ability Level – Existing Conditions



Source: SE Group

Table 4-4 (page 4-14) and Chart 4-1, above, clearly illustrate a close match between Eldora's existing terrain distribution and the market demand for all ability levels other than Low Intermediate and Intermediate.[21] Since both of these categories are rated the same Blue Square on trail maps, this discrepancy may not be immediately apparent. If both categories were to be merged together, the analysis would show a close match to the overall intermediate level market. However, the surplus of Low Intermediate terrain, and the lack of true Intermediate terrain, indicates that skiers and riders within this skill level do not find the trail network to be sufficiently challenging. Another effect of this situation is that Intermediate level skiers at Eldora likely have a difficult time progressing up to Advanced levels, since there is a 7.3% deficiency of Intermediate terrain suitable for progressing from Low Intermediate to Advanced levels.

[21] Market demand is based on SE Group's industry knowledge

D. EXISTING CAPACITY ANALYSIS

1. Comfortable Carrying Capacity

As stated earlier, the accurate calculation of a ski area's CCC is an important, complex analysis and is the single most important planning criterion for the ski area. All other related skier service facilities can be evaluated and planned based on the proper identification of the mountain's capacity. The detailed calculation of Eldora's current CCC is described in Table 4-5 (page 4-17) and is calculated at 4,250 guests per day. It is not uncommon for ski areas to experience peak days during which skier visitation exceeds the CCC by as much as 25% to 30%.

Table 4-5:
Comfortable Carrying Capacity – Existing Conditions

Map Ref.	Lift Name, Lift Type	Slope Length (ft.)	Vertical Rise (ft.)	Actual Design Capacity (guests/hr.)	Oper. Hours (hrs.)	Up-Mtn. Access Role (%)	Misloading/ Lift Stoppages (%)	Adjusted Hourly Capacity (guests/hr.)	VTF/Day (000)	Vertical Demand (ft./day)	CCC (guests)
1	Tenderfoot I (S)	241	43	325	7.00	0	30	228	68	1,495	45
2	Tenderfoot II (S)	386	43	325	7.00	0	30	228	68	1,495	45
3	Little Hawk (C-2)	806	111	280	7.00	0	10	252	196	937	210
4	EZ (C-3)	1,448	238	1,200	7.00	0	10	1,080	1,797	3,533	510
5	Caribou (C-2)	1,230	237	610	7.00	0	10	549	910	3,915	230
6	Sundance (C-2)	1,601	341	780	7.00	0	10	702	1,676	4,813	350
7	Race (S)	1,080	256	400	7.00	0	5	380	680	9,895	70
8	Sunkid (C)	129	8	720	7.00	0	5	684	36	406	90
9	Challenge (C-3)	3,919	984	1,800	7.00	30	10	1,080	7,437	11,107	670
10	Cannonball (C-2)	3,952	987	1,127	5.00	40	10	564	2,781	12,285	230
11	Indian Peaks (C-4)	4,193	1,093	1,800	6.75	10	10	1,440	10,628	12,053	880
12	Corona (C-4)	4,077	1,349	1,800	6.75	0	5	1,710	15,573	16,845	920
	TOTAL	**23,062**		**11,167**				**8,896**	**41,850**		**4,250**

Source: SE Group

2. Density Analysis

An important aspect of ski area design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by contrasting the uphill, at-one-time capacity of each lift system (CCC) with the trail acreage associated with each lift pod. At any one time, skiers are dispersed throughout the resort, while using guest facilities and milling areas, waiting in lift mazes, riding lifts, or enjoying descents. For the trail density analysis, 25% of each lift's capacity is presumed to be using guest service facilities or milling areas.

The active skier population can be found in lift lines, on lifts, or on trails. The number of skiers waiting in line at each lift is a function of the uphill hourly capacity of the lift and the assumed length of wait time at each lift. The number of guests on each lift is the product of the number of uphill carriers and the capacity of the lift's carriers. The remainder of the skier population (the CCC minus the number of guests using guest facilities, milling in areas near the resort portals, waiting in lift mazes, and actually riding lifts) is assumed to be descending trails.

Trail density is then modeled by dividing this calculated number of guests on the trails (for analysis purposes, assumed to be evenly distributed across the trail acreage) by the amount of trail area that is available within each lift pod. The trail density analysis then compares this modeled trail density for each lift pod to the target trail density for that pod (i.e., the product of the ideal trail density for each ability level and the lift's trail distribution by ability level). Note that the trail density analysis considers only the acreage associated with the developed trail network, as described above (see Existing Conditions Figure 4).

The density analysis for the existing conditions at Eldora is illustrated in Table 4-6 on page 4-20. The total density index is 79%, due to a greater target trail density than the modeled density. A balanced relationship of target and modeled trail density would be a density index of 100%. This calculation indicates a slight surplus of overall terrain capacity when compared to CCC. The overall downhill trail capacity was calculated at 5,862 guests, or around 38% higher than the overall CCC. Downhill trail capacity considers existing trail acreages and target trail densities. This situation is desirable from the quality of skiing perspective, and is reflected in the generally low average modeled trail densities. However, even with the overall low average densities, densities at specific locations can vary significantly. Additionally, since Eldora has a deficit of existing Intermediate terrain (as shown in Table 4-1 on page 4-4), trail densities are

certain to be higher than targets on Intermediate trails.[22] Moreover, even with a slight surplus of overall trail capacity, Eldora should, as it develops additional terrain, strive to achieve a greater diversity of terrain and skiing experiences.

[22] Since Intermediates represent 35% of the overall market, it can be assumed that 35% of the skiers (on average) are Intermediates. Since Table 4-1 shows that less than 35% of the terrain capacity is Intermediate level, it can be assumed that demand for Intermediate terrain is high and that densities would be above target design densities.

Table 4-6:
Density Analysis – Existing Conditions

Map Reference	CCC	Guest Dispersal				Density Analysis				Density Index
		Support Fac./Milling	Lift Lines	On Lift	On Trails	Trail Area	Modeled Trail Density	Target Trail Density	Diff.	
		(guests)	(guests)	(guests)	(guests)	(acres)	(guests/ac.)	(guests/ac.)	(+/-)	(%)
Tenderfoot I (S)	45	11	11	8	15	0.9	18	30	-12	60
Tenderfoot II (S)	45	11	11	8	15	1.2	13	30	-17	43
Little Hawk (C-2)	210	53	71	28	58	6.4	9	18	-9	50
EZ (C-3)	510	204	90	87	129	8.5	15	18	-3	83
Caribou (C-2)	230	58	46	38	88	6.0	15	17	-2	88
Sundance (C-2)	350	105	82	68	95	7.9	12	14	-2	86
Race (S)	70	18	13	21	18	8.1	2	14	-12	14
Sunkid (C)	90	36	23	18	13	0.5	26	30	-4	87
Challenge (C-3)	670	168	90	157	255	37.0	7	10	-3	70
Cannonball (C-2)	230	58	47	77	48	22.9	2	9	-7	22
Indian Peaks (C-4)	880	220	48	224	388	37.8	10	9	1	111
Corona (C-4)	920	230	143	258	289	51.3	6	7	-1	86
TOTAL	**4,250**	**1,172**	**675**	**992**	**1,411**	**188.5**	**9.54**	**12.07**	**-2.53**	**79**

Source: SE Group

The density figures set forth show that for most of the individual lift/trail systems, the modeled trail densities are lower than the target trail densities. The one exception to this is the Indian Peaks area, where the modeled trail density is higher than the target trail density. Therefore, opportunities should be pursued to develop additional trails off the Indian Peaks chairlift, if practical. Developing additional trails would lower the per-acre density and bring it closer to the target trail density. The average densities for the overall resort are listed along the bottom row of Table 4-6 (page 4-20). This average has been weighted for the lift system's CCC. When compared with industry norms, the actual average skier densities experienced at Eldora are approximately 79% of the target design densities. This is an indication that overall, trail crowding is not a common occurrence at Eldora. Note that specific trails, such as egress trails towards the end of the day, can consistently have high densities. As discussed above, also note that densities on Intermediate trails are likely higher than target. However, the low density numbers also indicate under-utilization of the existing terrain, indicating that there may be more skiers than necessary waiting in lift lines or on slow lifts. This can indicate an opportunity to upgrade existing lifts and/or install new lifts within the existing boundaries of the resort, without creating undesirably high skier densities.

The analysis presented in Table 4-6 (page 4-20) assumes that the entire resort is operating. As discussed previously, wind events cause lift and trail closures that significantly impact densities on trails that remain open. Again, a significant proportion of the resort's lift capacity can be lost, which then displaces those guests to a limited amount of trail acreage. Depending on the length of the closure, situations can arise where guests potentially leave the resort. Either way, the guest experience is significantly compromised and/or lost.

3. Lift and Terrain Network Efficiency

Overall resort efficiency is becoming an increasingly important factor in the industry. This relates not only to energy efficiency and operational efficiency, but also to efficiency of the design and layout of the resort. The idea behind ski area design efficiency is to have a well balanced lift and trail network (i.e., the uphill lift capacity balances with the downhill trail capacity that it serves) that is efficiently served by its lifts, while maintaining desired CCC rates, circulation routes, and service to the full spectrum of skier ability levels and types.

Within the context of ski area design, the term "Lift and Terrain Network Efficiency" refers to the amount of effort and cost required to operate and maintain the lift and developed terrain network, as compared to the number of guests served (i.e., CCC). The energy and costs related to ski area efficiency include, but are not limited to: power use, operational labor,

maintenance costs and labor, increased indirect administrative costs, and various direct and indirect costs associated with higher staff levels to perform these tasks. From this standpoint, the most efficient scenario is to have the fewest number of lifts possible that can comfortably and effectively serve the uphill capacity and circulation requirements of the resort, while creating a balance of lift capacity with the available terrain.

One way to analyze Lift Network Efficiency is to calculate the CCC divided by total number of lifts at the resort. Note that this calculation only considers aerial lifts, and does not include surface lifts or conveyors, as the CCC calculations for them are so low that it would skew the overall average (see Table 4-5 on page 4-17). While this calculation does not relate to the overall capacity of the resort, it can indicate if: 1) the resort is not getting maximum utilization out of its lifts; or 2) there are more lifts than necessary for the needs of the resort. Optimally, and as a planning goal, the average CCC per lift would likely be close to 1,000. Industry-wide, as observed through the analysis of other previously accepted Master Development Plans, the average CCC per lift is approximately 650. The average CCC per lift at Eldora is about 500. This indicates that, at Eldora, there is likely a somewhat higher lift cost, in terms of both energy use and financial/operational cost, per skier/rider than the target. Primary contributing factors to this include the three lifts on the frontside (EZ, Caribou, and Sundance) that serve essentially the same terrain and have relatively low CCC calculations for each individual lift, and the redundancy of the Challenge and Cannonball lifts.

In the case of Eldora, this analysis of lift efficiency indicates that the CCC of several of the lift systems should be higher. Since the above capacity analysis shows that there is a decent balance between the uphill and downhill capacities at Eldora, the low CCC per lift indicates that there are too many lifts for the given CCC. A combination of removing redundant, low capacity lifts, increasing the uphill capacity of the lift pods, and adding lifts to better utilize the available terrain would address this issue.

Terrain Network Efficiency refers to the amount of effort required to properly maintain the ski trails (snowmaking costs, grooming costs, energy costs, ski patrol costs, summer trail maintenance costs, increased administrative costs, costs associated with higher staff levels to perform these tasks, etc). A helpful tool from a planning standpoint to measure terrain network efficiency is to have a quantity of terrain that closely meets the target trail density (as displayed in the Density Analysis above). Eldora is very close to meeting that target trail density, having a modeled trail density slightly less than the target trail density. A modeled density approximately equal to the target density is a planning indication that Eldora has very good

Terrain Network Efficiency. This is especially impressive when compared to other Western Regional Destination Resorts, most of which have a far lower terrain network efficiency due in part to the to the availability of bowls and above treeline terrain.

E. EXISTING GUEST SERVICES FACILITIES, FOOD SERVICE SEATING & SPACE USE ANALYSIS

1. Skier Services Locations

Skier service facilities are located at base area staging locations and in on-mountain buildings. Base area staging locations, or portals, are "gateway" facilities that have three main functions:

- Receiving arriving guests (from a parked car, a bus, or from adjacent accommodations)
- Distributing the skiers onto the mountain's lift and trail systems
- Providing the necessary guest services (e.g., tickets, rentals, food and beverage, and restrooms)

Portal-related skier services are currently offered in a single base area staging location at Eldora: the main base area.

On-mountain skier service facilities are generally used to provide restaurant seating, as well as ski patrol and first aid services, in closer proximity to upper-mountain ski terrain. It has also become common for ski areas to offer ski demo locations on-mountain, so skiers can conveniently test different skis throughout the day. At Eldora, on-mountain services are provided at the Lookout facility at the top of the Corona lift.

Base Area

Eldora's main base area is the day-skier portal to the mountain. Skier service facilities in the base area include day skier parking lots (accommodating roughly 2,000 vehicles), the Indian Peaks Lodge, the Timbers Lodge, the Nordic Center, and a few other small buildings in the base area. The various skier service functions that are available in the base area include: food service, bars/lounge, rest rooms, guest services, ski school, rental/repair shop, retail, ticket sales, public lockers, ski patrol/first aid, and administrative offices.

On-Mountain

On-mountain skier services are available at the top of the Corona lift, in The Lookout facility. Services available at The Lookout are limited to food service, restrooms, and ski patrol. There is a small kitchen, indoor seating, and an outdoor deck.

2. Space Use Analysis

Sufficient guest service space should be provided to accommodate the existing resort CCC of 4,250 guests per day. The distribution of the CCC is utilized to determine guest service capacities and space requirements for skier services at base area portals and on-mountain facilities. The CCC should be distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with each facility.

In addition to distributing the CCC amongst the base area and on-mountain facilities, guest service capacity needs and the resulting spatial recommendations are determined through a process of reviewing and analyzing the current operations to determine specific guest service requirements that are unique to the resort.

Based upon a CCC of 4,250 skiers, Table 4-8 (page 4-27) compares the current space use allocations of the visitor service functions to industry norms for a resort of similar market orientation and regional context as Eldora. Square footage contained in this table is calculated to illustrate how the ski area compares to industry averages, and should not be considered absolute requirements. Service functions include:

- **Restaurant Seating:** All areas designated for food service seating, including: restaurants, cafeterias, and brown bag areas. Major circulation aisles through seating areas are designated as circulation/waste, not seating space.
- **Kitchen/Scramble:** Includes all food preparation, food service, and food storage.
- **Bar/Lounge:** All serving and seating areas designated as restricted use for the serving and consumption of alcoholic beverages. If used for food service, seats are included in seat counts.
- **Restrooms:** All space associated with restroom facilities (separate women, men, and employees).
- **Guest Services:** Services including resort information desks, kiosks, and lost and found.
- **Adult Ski School:** Includes ski school booking area and any indoor staging areas. Storage and employee lockers directly associated with ski school are included in this total.
- **Rentals/Repair:** All rental shop, repair services, and associated storage areas.
- **Kid's Ski School:** Includes all daycare/nursery facilities, including booking areas and lunch rooms associated with ski school functions. Storage and employee lockers directly associated with ski school are included.
- **Retail Sales:** All retail shops and associated storage areas.
- **Ticket Sales:** All ticketing and season pass sales areas and associated office space.

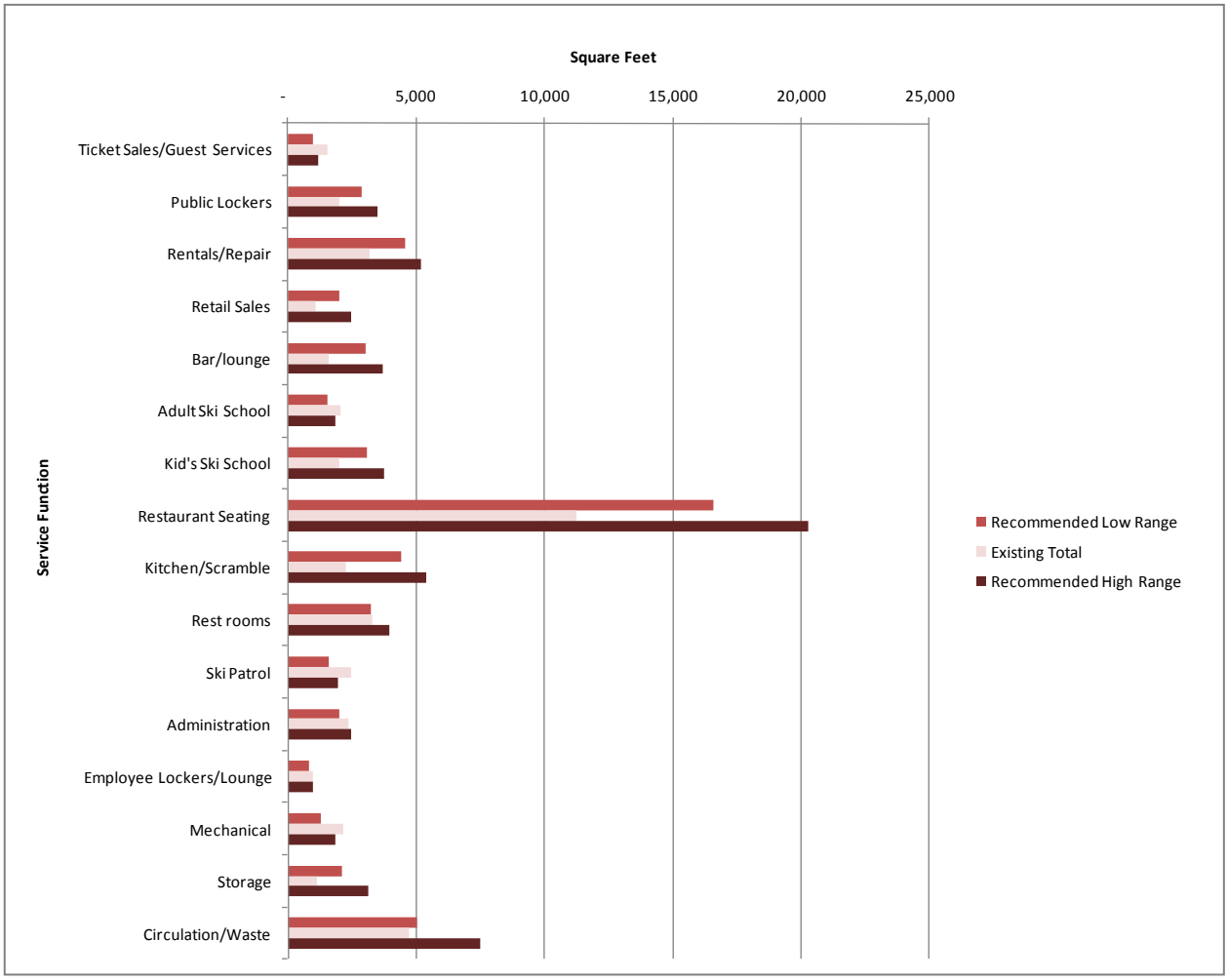
- **Public Lockers:** All public locker rooms. Any public lockers located along the walls of circulation space are included, as well as the 2 feet directly in front of the locker doors.
- **Ski Patrol/First Aid:** All first aid facilities, including clinic space. Storage and employee lockers directly associated with ski patrol are included in this total.
- **Administration/Employee Lockers & Lounge/Storage:** All administration/ employee/storage space not included in any of the above functions.

Table 4-7:
Industry Average Space Use
Resort Total – Existing Conditions

Service Function	Existing Total	Recommended Range	
		Low	High
Ticket Sales/Guest Services	1,540	960	1,170
Public Lockers	1,997	2,870	3,510
Rentals/Repair	3,170	4,590	5,160
Retail Sales	1,064	2,010	2,450
Bar/lounge	1,610	3,010	3,680
Adult Ski School	2,046	1,530	1,870
Kid's Ski School	2,007	3,060	3,740
Restaurant Seating	11,227	16,590	20,270
Kitchen/Scramble	2,275	4,420	5,400
Rest rooms	3,297	3,210	3,930
Ski Patrol	2,460	1,600	1,970
Administration	2,342	2,010	2,450
Employee Lockers/Lounge	980	800	980
Mechanical	2,136	1,260	1,860
Storage	1,136	2,100	3,110
Circulation/Waste	4,719	5,040	7,470
TOTAL SQUARE FEET	**44,006**	**55,060**	**69,020**

Source: SE Group

Chart 4-2:
Total Space Use and Recommendations – Existing Conditions



Source: SE Group

As shown in Table 4-7 on the previous page and Chart 4-2, above, Eldora is short on space (square feet) in many of the skier service functions. Overall, as pointed out in Table 4-7, the ski area is short between roughly 11,000 to 25,000 square feet of building space. While several categories of existing space are relatively close to the recommended range of space, there are a few notable exceptions where there are deficiencies. The food service areas of restaurant seating, kitchen area and bar space are all notably short on space, as are kid's ski school and rentals/repair. Those are all revenue-generating functions related to guest services. There are only a few categories that show a slight surplus of space.

The following tables and text address the existing space use at each guest service facility. The space recommendations are directly related to the distribution of the resort's capacity to the various guest service facilities located in the base area and on-mountain.

Base Area

Eldora's base area facilities provide guest services in a series of buildings: the Indian Peaks Lodge, the Timbers lodge, the "Old Trek" Building, the Nordic Center, and a few other small buildings.

Table 4-8:
Industry Average Space Use
Base Area – Existing Conditions

Service Function	Existing Total	Recommended Range		Difference from Recommended Range	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	1,540	960	1,170	580	370
Public Lockers	1,997	2,870	3,510	(873)	(1,513)
Rentals/Repair	3,170	4,590	5,160	(1,420)	(1,990)
Retail Sales	1,064	2,010	2,450	(946)	(1,386)
Bar/lounge	1,610	3,010	3,680	(1,400)	(2,070)
Adult Ski School	2,046	1,530	1,870	516	176
Kid's Ski School	2,007	3,060	3,740	(1,053)	(1,733)
Restaurant Seating	10,227	15,170	18,540	(4,943)	(8,313)
Kitchen/Scramble	1,775	3,970	4,860	(2,195)	(3,085)
Rest rooms	2,647	2,890	3,530	(243)	(883)
Ski Patrol	1,810	1,440	1,770	370	40
Administration	2,342	2,010	2,450	332	(108)
Employee Lockers/Lounge	980	800	980	180	-
Mechanical	1,936	1,200	1,770	736	166
Storage	1,136	1,990	2,950	(854)	(1,814)
Circulation/Waste	4,719	4,790	7,090	(71)	(2,371)
TOTAL SQUARE FEET	**41,006**	**52,290**	**65,520**	**(11,284)**	**(24,514)**

Notes:
1. Public lockers in Timbers Lodge include 99 small, 10 medium, and 18 large lockers
2. Public lockers in West Wing include 50 small and 12 medium lockers
3. East Wing restaurant seating (920 sq. ft.) is included in Timber Lodge total
4. Lockers in "Old" Trek Building are (125) seasonal rental lockers
5. Ski Patrol-Admin-HR total includes 621 sq. ft. of admin from the admin trailer
6. Public lockers in Indian Peaks is a basket check that has 110 baskets.
7. Percentage of CCC for rental units set at 27% to match the 1,150 existing rental units.

Source: SE Group

As shown in the table above, Eldora's base area facilities fall below the low end of the recommended range in total square footage and in several categories, and almost all categories fall below the high end of the range. As discussed above, there are significant deficits of space in lockers, rentals, retail, ski school, and food service. These deficits directly impact the guest

experience, especially new guests as they are attempting to learn a new sport. These shortages are significant enough that they likely affect the guest experience and lead to restrictions in visitation. Furthermore, the lack of guest service space degrades the guest experience and can lead to an erosion of guest visitation over time.

On-Mountain Facilities

Eldora's only on-mountain guest services facility—The Lookout facility—is limited to food service and ski patrol. Other services that are often successfully offered at on-mountain facilities include retail sales and ski demos.

Table 4-9:
Industry Average Space Use
On-Mountain Facility – Existing Conditions

Service Function	Existing Total (The Lookout)	Recommended Range		Difference from Recommended Range	
		Recommended Low Range	Recommended High Range	Low	High
Ticket Sales/Guest Services	-	-	-	-	-
Public Lockers	-	-	-	-	-
Rentals/Repair	-	-	-	-	-
Retail Sales	-	-	-	-	-
Bar/lounge	-	-	-	-	-
Adult Ski School	-	-	-	-	-
Kid's Ski School	-	-	-	-	-
Restaurant Seating	1,000	1,420	1,730	(420)	(730)
Kitchen/Scramble	500	450	540	50	(40)
Rest rooms	650	320	400	330	250
Ski Patrol	650	160	200	490	450
Administration	-	-	-	-	-
Employee Lockers/Lounge	-	-	-	-	-
Mechanical	200	60	90	140	110
Storage	-	110	160	(110)	(160)
Circulation/Waste	-	250	380	(250)	(380)
TOTAL SQUARE FEET	**3,000**	**2,770**	**3,500**	**230**	**(500)**

Source: SE Group

This analysis of space use suggests that space available at The Lookout facility is in-line with the current demand.[23] However, the demand for this facility is likely restricted due to the small size and condition of the facility; it is sized to accommodate approximately 25% of the skiers on the backside of the mountain, implying that the remaining guests descend to the base area for food service. Eldora is confident that the small size, seating capacity (discussed below), and quality of the facility is limiting the demand placed on it, and that a larger, better designed facility would be well used.

3. Food Service Seating

Food service seating at Eldora is provided at the following locations:

- *Base Area*: Indian Peaks Lodge and Timbers Lodge
- *On-Mountain*: The Lookout

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of 2 to 5 times is the typical range utilized in determining restaurant capacity. Sit-down dining at ski areas typically results in a lower turnover rate, while "fast food" cafeteria style dining is characterized by a higher turnover rate. Furthermore, weather has an influence on turnover rates at ski areas, as on snowy days skiers will spend more time indoors than on sunny days. As a result of input from Eldora management, an average seating turnover rate of 3.5 times was used for on-mountain guest seating, whereas a seating turnover rate of 2.5 times was used for base area seating in this analysis. Note that this turnover rate applies specifically to indoor seating, while a lower turnover rate of 2 is used for outdoor seating, due to its lower average utilization.

Table 4-10 on the following page summarizes the seating requirements at Eldora, based on a logical distribution of the CCC to each service building/location.

[23] "Demand" is derived by allocating portions of CCC of the lifts that serve the trails adjacent to The Lookout facility.

Table 4-10:
Existing and Recommended Restaurant Seating

	Base Area	The Lookout	Total Resort
Lunchtime Guests (CCC + other guests*)	4,013	450	4,463
Existing Indoor Seats	755	54	809
Average Indoor Seat Turnover	2.5	3.5	
Existing Indoor Seating Capacity	1,888	189	2,077
Required Seats (Lunchtime Guests divided by Avg. turnover)	1,605	129	1,734
Difference between existing and required seats	-850	-75	-925
Existing Outdoor Seats	550	30	580
Average Outdoor Seat Turnover	2	2	
Existing Outdoor Seating Capacity	1,100	60	1,160
Total Seating Capacity - Including Outdoor Seats	**2,988**	**249**	**3,237**

Notes:
* "other guests" include non-skiing guests—an additional 5% of Eldora's CCC
1. Existing indoor seats were inventoried by Eldora staff.
2. Base area outdoor seating is based on 11,000 of deck space and 20 square feet per seat.
3. If weather permits, outdoor seating is set up at The Lookout, 30 seats.
4. Base area indoor seats include: 385 Indian Peaks, 232 Timbers, 108 West Wing, 30 East Wing.
Source: SE Group

As shown in the Table 4-10, above, there is a deficit of indoor seating capacity at all locations, totaling a deficit of 925 restaurant seats. Even if all the outdoor seats are included, there is still a shortage of seats. It is important to note that inclement weather is not uncommon at Eldora, particularly in regards to high winds, so the outdoor seating is often not used.

F. EXISTING PARKING AND RESORT ACCESS

All day skier parking at Eldora is located in the base area on private lands. There are four separate parking areas, totaling 12.5 acres: the Main lot, the Lower lot, the North lot, and the entry road.

Vehicle occupancy counts confirm that average car occupancy at Eldora is 2.5 people per car, a ratio that is in line with the national average of 2.3 to 2.7 people per car.

On typical days, employees do use some of these parking spaces, estimated to be around 100 spaces. On peak weekends and holidays, however, employees are required to park at the Nederland High School and Eldora runs a shuttle bus to the resort. This arrangement works well and is anticipated to be expanded to more days in coming years.

Table 4-11 analyzes Eldora's existing parking capacity.

Table 4-11:
Existing Parking Spaces and Capacity

	Assumptions	Total
CCC + other guests*		4,463 people
Number of guests arriving by car	88%	3,927 people
Number of guests arriving by RTD bus	7%	312 people
Number of guests arriving by charter bus	5%	223 people
Required car parking spaces	2.5 guests/car	1,571 spaces
Equivalent car spaces for bus parking	1 bus = 4.5 cars	22.5 spaces
Required employee car parking spaces		100 spaces
Total required spaces		1,693 spaces
Existing parking spaces		2,000 spaces
Surplus		307 spaces

Notes:
* "other guests" include non-skiing guests—an additional 5% of Eldora's CCC
1. 324 guests arriving by RTD bus = 6 buses at 54 guests per bus.
2. 200 guests arriving by charter bus. 5 buses at 40 guests per bus.
3. Required employee car parking spaces = 100, During peak periods employees park at the high school.
Source: SE Group

The existing skier parking lots have sufficient capacity to park 2,000 cars, which is roughly 300 more cars than typically required on days when skier numbers are close to the CCC of 4,250. Parking this number of cars is achieved during peak periods by employing parking attendants to ensure that cars are parked tightly, therefore creating a high cars per acre parking rate. This capacity, in conjunction with charter buses, and RTD service, can accommodate a total of 5,286 guests at 2.5 guests-per-car.[24] As discussed above, on busy days when the parking lots are anticipated to be at capacity, employees are required to park at the Nederland High School, freeing up an additional 100 parking spaces and bringing the total capacity up to 5,536.[25]

Eldora operates a shuttle bus route that circulates guests from the parking lots (particularly the North lot) to the Timbers Lodge, Indian Peaks Lodge, adjacent to the Little Hawk Chairlift, and the Nordic Center. The shuttle bus service is operated everyday on an as-needed basis which is not tied to a particular time schedule. Three buses are available for the service and are

[24] Car counts and surveys throughout the ski industry have shown that, on average, 2.5 guests arrive in each car.
[25] Freeing up 100 parking spaces would allow 250 additional guests to park. Therefore, the existing capacity of 5,286 guests would increase to 5,536 guests.

deployed as more guests arrive and the demand increases. Typically it takes one bus 10 minutes to complete the route.

G. EXISTING ALTERNATE AND NON-WINTER ACTIVITIES

1. Winter

Nordic Center

Eldora's Nordic Center consists of an extensive network of trails (see Figure 4), totaling 15.4 miles of individual trails which are looped together to create 40 kilometers of designated Nordic trails. These trails accommodate classic and skate skiing as well as snowshoeing. Rentals, lessons and clinics are available.

Jenny Creek Trail

Currently, public access is provided to the Jenny Creek trail through private lands owned by Eldora and adjacent landowners. Trail users occasionally utilize Eldora's guest parking in the base area to access the trailhead and trail on private lands and the Jenny Creek Trail on NFS lands. Eldora, being only one of the landowners, intends to provide this access into the future.

2. Summer

Currently, summer activities are limited to non-organized hiking (property owners, Eldora and others, have provided access to the Jenny Creek Trail on a summer trail that goes through the resort) and special events. Special events include corporate events, and races—including bike races, running races, and triathlons. At various summer events, as appropriate, the Nordic trail system is opened to mountain biking.

H. EXISTING RESORT OPERATIONS

1. Ski Patrol/First Aid

The primary ski patrol/first aid facility at Eldora, which has limited space but adequate medical services, is located at the base area in the Ops Building. In addition to the primary facility there are two ski patrol duty stations; one is located at the top of the Corona lift and the other is located in the basement of The Lookout adjacent to the top of the Corona lift. These three facilities serve the terrain near the base area and the terrain off the Corona lift, but do not effectively serve the Indian Peaks lift terrain or the upper parts of the terrain accessed from the Challenge and Cannonball lifts.

2. Snowmaking Coverage

As stated previously, Eldora's robust snowmaking system covers nearly all of the developed trail network (which does not include gladed areas). The only exception to this is that there is no snowmaking coverage on the *Pipeline* trail and the upper portion of the *West Ridge* trail (roughly half of that trail's area). The total area covered by snowmaking is approximately 170 acres. The snowmaking season usually lasts an average of 90 days, and is usually started around the 15th of October and is finished by the 15th of January.

The snowmaking system has a major positive effect on Eldora's operation, assuring that adequate snow coverage is present throughout the resort, especially during the early part of the season. While providing for early season skiing, snowmaking also extends the spring season by creating a good base for subsequent snow to build upon. In summary, snowmaking has allowed the ski area to be open more days, and ensures snow quality throughout the resort, thereby achieving greater continuity of operation and a resultant increase in ski area utilization.

3. Grooming Operations

Under current operations, Eldora presently operates two or three grooming vehicles nightly to groom approximately 80 to 115 acres of terrain. This acreage includes all of the Beginner and Intermediate terrain as well as some upper level trails.

4. Nightlighting

Infrastructure for nightlighting covers the *Windmill, International, Jolly Jug, Sunset, Chute* trails, all of Little Mountain, and the 2K Nordic loop areas. Lights are mounted either from stand alone steel pole or portable lights, averaging 35 feet in height. The nightlighting on the Race hill has been operated for the race program only, with races on Wednesday nights.

Currently, the non-Race hill nightlighting is not operated due to the need to improve the electrical infrastructure.

5. Maintenance Facility

Eldora's maintenance facility is approximately 6,850 square feet in size and is located in the base area, above The Timbers lodge, off the *Four O'clock* Trail. Access to the facility is provided by a road from the day skier parking lot which runs behind The Timbers lodge. This location provides dry road as well as snow front access to the building. This building includes three vehicle maintenance bays, administration and employee space, space for lift operations, electrical, welding, mechanical and storage. Although this building was built in the 1970s, it is in

good condition and presently meets Eldora's maintenance requirements with no additional space needed for other mountain maintenance departments.

The outdoor storage yard (0.5 acre) is located adjacent to the maintenance shop.

I. EXISTING UTILITIES AND INFRASTRUCTURE

1. Water

The domestic water system for all of the base area buildings and facilities is a private system operated by a special district. The system consists of the Tank House, which is a buried concrete vault with 96,000 gallon storage capacity, the Jenny Creek vault which supplies surface water to the system and a back-up pump which runs on a generators. The system is adequate for current demand.

Eldora Mountain Resort's water supply is derived from the Middle Boulder Creek basin and the South Boulder Creek basin, in Boulder County and Gilpin County, Colorado. In total, Eldora owns or leases approximately 60.41 acre feet of fully reusable consumptive use credits in the Howard Ditch, the most senior water right on South Boulder Creek. These rights have been changed for use in Eldora's resort operations in Case Nos. W-7786-74, 02CW400 and 07CW231 (pending). In addition, Eldora has 299 acre feet of junior fully reusable water storage rights, in Kettle Pond (40 acre feet, Case No. 02CW400) and Peterson Lake (259 acre feet, Case No. 09CW106 [pending]), as well as single-use water rights in Peterson Lake (259 acre feet, Case No. 82CW239) and Lake Eldora (33.3 acre feet, Case No. 92CW153). Accordingly, Eldora has a total of approximately 332.3 acre feet of water storage rights.[26] In addition, Eldora owns a surface diversion known as the Jenny Creek Pipeline water right (0.20 cfs, decreed in Case No. W-324).

Fully reusable water is generally used in the resort's snowmaking operations. This water is diverted, stored in the on-mountain storage, and then pumped from storage for snowmaking. After the first use of its fully reusable water, Eldora recaptures the return flows, either directly, such as when the man-made snow melts into Peterson Lake and other on-mountain storage each spring, or by exchange up Middle Boulder Creek and South Boulder Creek, for those return flows that do not accrue directly into the on-mountain storage structures. The small amount of in-house commercial and landscape irrigation uses (2 to 3 acre feet annually, combined) are

[26] Peterson Lake's total capacity is 259 acre feet. Therefore, the water stored under a Peterson Lake water right will either be fully reusable or one-use, or some combination of each, depending upon the priorities under which the lake may fill in that year, but only one complete fill under a Peterson Lake right is included in the foregoing total.

typically supplied via the Jenny Creek Pipeline water right. The Water Court has approved an augmentation plan for the resort (Case No. 02CW400), which allows Eldora the flexibility to divert water out of priority and replace the depletions with its senior fully reusable consumptive use credits (60.41 acre feet). This augmentation plan, which utilizes storage and senior consumptive use credits, provides a reliable and dependable water supply for the resort.

2. Sewer

The sewer system for the resort is operated by the Lake Eldora Water and Sewer Special District. The system consists of a blower building and two lagoons. The lagoons provide primary treatment with a system capacity of 30,000 gallons per day and an annual output of around two million gallons. This quantity is considered adequate and is consistent with the industry standard of 7 to 10 gallons per person per day.

3. Power

Power is supplied by Xcel Energy, through a primary line that follows the access road, as shown in Figure 6. Approximately 3.5kw to 5kw supply is available, which is adequate for current use. Eldora is currently working with Xcel Energy and an independent electrical engineer to determine future needs.

4. Natural Gas Pipeline

A major natural gas pipeline, running from Wyoming to Durango, is routed through Eldora, as shown in Figure 6. The line is owned and maintained by Xcel Energy, Eldora is not responsible for any maintenance or safety issues related to this line. Natural gas from this line is used to power the Challenge lift as well as other incidental equipment at the resort.

5. Fuel Storage

Fuel storage is located adjacent to the snowmaking building and maintenance shop facilities, as shown in Figure 6. A 6,000-gallon primary diesel tank and a 2,000-gallon unleaded tank are located at the maintenance shop. A 2,000-gallon diesel tank is located at the snowmaking building for the generator. All tanks are above ground, comply with applicable codes, and are adequate for current demand.

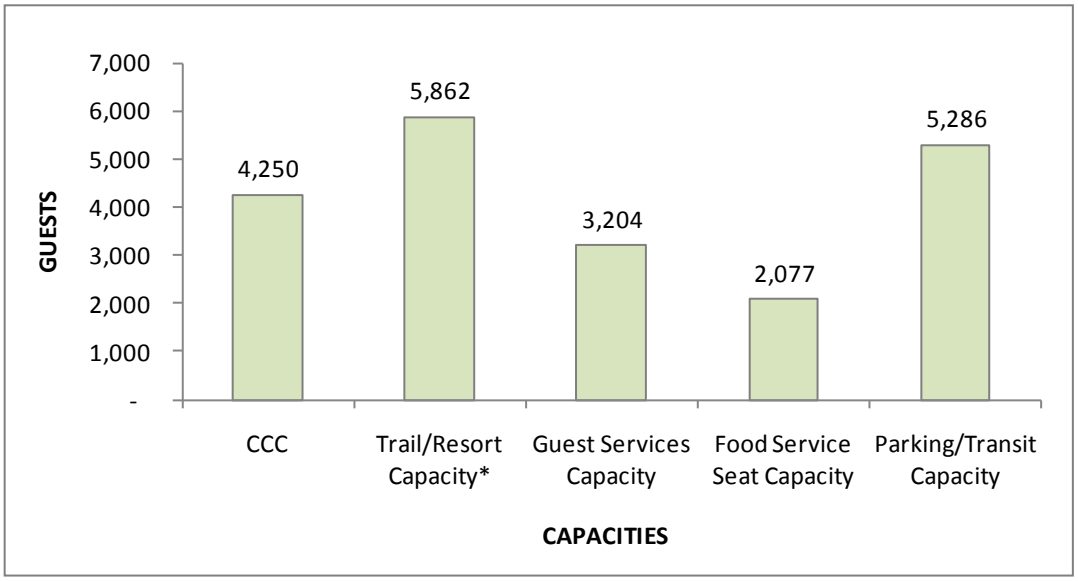
6. Road Network

Approximately 5.2 miles of mountain access roads exist between the private, base area lands and the SUP area. Locations of existing roads are shown in Figure 6.

J. RESORT CAPACITY BALANCE AND LIMITING FACTORS

The overall balance of the existing ski area is evaluated by calculating the capacities of the resort's various facilities and comparing those facilities to the resort's CCC. The above discussed capacities are shown in Chart 4-3.

Chart 4-3:
Resort Balance – Existing Conditions



*Trail/Resort Capacity represents an overall resort capacity that is based on the developed alpine trail capacity.
Source: SE Group

As Chart 4-3, indicates, the CCC is lower than both the trail/resort and parking capacities. The existing trail/resort capacity of 5,862 and the existing parking/transit capacity of 5,286 skiers are higher than the lift network capacity (CCC) of 4,250. This is an indication that average skier-per-acre slope densities are quite low and that trails are generally uncrowded, but that long lift lines are likely to occur on a relatively frequent basis. Note that this CCC level is only achieved when all lifts are operating, which is not often the case. With a lower effective CCC, there would be an even higher surplus of terrain capacity. This situation indicates that there are opportunities to better balance the resort by upgrading the lift network (e.g., replacing Challenge and Cannonball with a single lift) without any degradation of skiing quality. The most noteworthy aspect of the chart is the deficit of guest space in general, and food seating space in particular. This situation needs to be remedied to meet the demands of existing levels of public visitation. As discussed, parking is not currently a limiting factor, particularly with increased bus usage and mitigation measures like busing employees in from the high school parking lot.

ELDORA
MOUNTAIN RESORT

EXISTING CONDITIONS
2011 MASTER PLAN FIGURE 4

Prepared By:
SE GROUP

GILPIN COUNTY
BOULDER COUNTY
PRIVATE LAND
USFS LAND
SUP Boundary
Snowmaking reservoir
ESRP Buildings and Bathrooms
Nordic Center
Lower Lot
Main Lot
North Lot
Peterson Lake
Access Road
Snowmaking Building
Indian Peaks Lodge
Admin and Ski Patrol
The Timbers Lodge
West Wing
Old Trek Building
Maintenance Shop
Ski patrol duty station
The Lookout
9,700'
9,350'
10,375'
10,700'
Middle Fork Creek
JOLLY JUG GLADES
PLACER GLADES
BRYAN GLADES
SALTO GLADES
MOOSE GLADES
He Haw
Little Hawk
CARIBOU
SUNDANCE
RACE
CHALLENGE
CANNONBALL
BUNNYFAIR
SNAIL
QUICKEN
CORKSCREW
CHUTE
BONANZA
SUNSET
JOLLY JUG
POWDERHORN
PSYCHOPATH
LA BELLE DAME
WINDMILL
DREAM & SCREAM
HORNBLOWER
PIPELINE
WAYBACK
MULESHOE
INTERNATIONAL
FOUR O'CLOCK TRAIL
KLONDIKE
UPPER DIAMONDBACK
LOWER DIAMONDBACK
AMBUSH
AROUND THE HORN
LOWER AMBUSH
INDIAN PEAKS
CORONA
CORONA ROAD
CASCADE
WEST RIDGE

25' Contour Interval
North 0 400 800 1200'

LEGEND

- Existing Lift
- Existing Trail
- Private Land Boundary
- SUP Boundary
- USFS Boundary
- Existing Glades
- Nordic Trails
- Mountain Access Roads

CHAPTER 5
UPGRADE PLAN

5. UPGRADE PLAN

The purpose of this Upgrade Plan is to provide direction for the future development of Eldora, which ensures a balance of facilities and a variety of amenities and opportunities—all leading to an improved recreational experience. It is designed to improve the recreational experience, as well as operational efficiencies. This plan will allow Eldora to continue sustainability in its operations and remain competitive in the regional destination skier market, help retain existing guests, and attract new visitors. The Upgrade Plan is depicted on Figure 5.

A. SUMMARY OF THE UPGRADE PLAN

Paramount to this Upgrade Plan is addressing deficiencies in Eldora's antiquated lift network, as well as the amount of Intermediate terrain available. The Upgrade Plan addresses the lift network in two ways: increased out-of-base lift capacity; and strategic lift replacements and installations. By addressing both of these areas, access to, and circulation throughout, the resort will be improved. Intermediate terrain is planned to be added on both the frontside and the backside.

Out-of-base lift capacity and dispersal across the mountain will be improved with removal of the Challenge and Cannonball lifts and the installation of a single, high-speed detachable "express" chairlift that will provide direct access to the summit from the base area.[27] In order to improve teaching and learning, both Tenderfoot 1 and 2 surface lifts will be removed and replaced with two carpets. Corona will be updated with a new high-speed detachable. Finally, four new chairlifts will be installed—one out of the base area, another on the frontside and two others on the backside. The two lifts on the backside are planned at lower overall elevations when compared to the two existing backside lifts to improve the ability to operate during high winds.

Planned grading projects in the Little Hawk area, and on *Upper Bunnyfair*, will improve teaching and Novice terrain. In addition, the Upgrade Plan increases Intermediate, Advanced Intermediate, and Expert developed trail acreage. Additionally, new gladed areas are planned to be developed at the resort. Snowmaking coverage is planned on all new trails (excluding glades).

[27] Throughout the Upgrade Plan, high-speed detachable chairlifts will also be referred to as "express" chairlifts.

In addition to expanding and remodeling the Lookout facility, a new restaurant is planned for near the summit of Challenge Mountain. These guest service projects will improve Eldora's on-mountain food service capabilities and guest service space.

With implementation of the Upgrade Plan, Eldora's CCC will increase from 4,250 to 6,580 guests per day.

B. LIFT NETWORK

As discussed above, the cornerstone of the Upgrade Plan is a substantial upgrade to the lift network. Overall, three of Eldora's primary chairlifts are planned to be removed and replaced, the two teaching surface lifts will be replaced with two carpets, and four new chairlifts will be installed. Table 5-1, on the following page, includes detailed information on the lift specifications in the Upgrade Plan.

Note that four of the new lift installations are planned to be six-passenger "express" chairlifts. One of the primary reasons that these locations are planned for this specific model of lift is the ability to operate six-passenger lifts in higher wind speeds. A significant factor in this ability is the heavier weight and construction (grips, rope diameter, etc.) of detachable six-passenger chairs, an advantage that enables operation at approximately 10 to 20% higher wind speeds than four-passenger lifts.[28] Other factors that contribute to the ability of the planned "express" lifts to operate at higher wind speeds than the existing lifts include technological improvements such as rope position detectors, which give an operator knowledge to confidently run a lift in higher winds, and the option to have the lift unload at a right angle to the alignment of the lift.

[28] Beely, M., 2010

Table 5-1:
Lift Specifications – Upgrade Plan

Lift Ref	Lift Name, Lift Type	Top Elev. (ft.)	Bot. Elev. (ft.)	Vert. Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Grade (%)	Actual Design Capacity (pers./hr.)	Rope Speed (fpm)	Carrier Spacing (ft.)	Lift Maker/ Year Installed
1	*Tenderfoot I c (lower)*	*9,393*	*9,350*	*43*	*382*	*385*	*11*	*1,000*	*120*	*7*	*Proposed*
2	*Tenderfoot II c (upper)*	*9,460*	*9,395*	*65*	*395*	*400*	*16*	*1,000*	*120*	*7*	*Proposed*
3	Little Hawk (C-2)	9,463	9,352	111	794	806	14%	280	120	51	Miner Denver 1968
4	EZ (C-3)	9,612	9,374	238	1,421	1,448	17	1,200	300	45	Riblet 2000
5	Caribou (C-2)	9,611	9,374	237	1,202	1,230	20	610	300	59	Yan 1980
6	Sundance (C-2)	9,698	9,357	341	1,554	1,601	22	780	275	42	Yan 1975
7	Race (S)	9,630	9,374	256	1,043	1,080	25	400	320	48	Heron Poma 1979
8	Sunkid (C)	9,361	9,354	8	128	129	6	720	80	7	Sunkid 1998
9	*Challenge (DC-6)*	*10,382*	*9,383*	*999*	*3,911*	*4,071*	*26*	*3,000*	*1,000*	*120*	*Replaced*
11	Indian Peaks (C-4)	10,399	9,305	1,093	4,003	4,193	27	1,800	450	60	CTEC 1997
12	*Corona (DC-6)*	*10,602*	*9,253*	*1,349*	*3,816*	*4,077*	*35*	*2,400*	*1,000*	*150*	*Replaced*
13	*Jolly Jug (DC-4)*	*10,362*	*9,613*	*749*	*3,150*	*3,257*	*24%*	*1,200*	*800*	*90*	*Proposed*
14	*Four O'Clock (C-4)*	*9,732*	*9,387*	*345*	*2,329*	*2,362*	*15*	*1,500*	*400*	*64*	*Proposed*
15	*Placer Express (DC-6)*	*9,887*	*8,927*	*960*	*3,078*	*3,238*	*31*	*2,400*	*1,000*	*150*	*Proposed*
16	*Moose Glade Express (DC-6)*	*9,870*	*8,998*	*872*	*2,855*	*3,017*	*31*	*1,800*	*1,000*	*200*	*Proposed*

Italicized text identifies proposed or upgraded lifts.
S = Surface lift
C2 = fixed-grip double chairlift
C3 = fixed-grip triple chairlift
C4 = fixed-grip quad chairlift
DC6 = Detachable Six Passenger chairlift
Source: SE Group

The following lifts are not planned to change with the Upgrade Plan: Little Hawk, EZ, Caribou, Sundance, Race and Indian Peaks.

1. Planned Lift Removals/Replacements

Teaching Lifts

In order to improve Eldora's ability to cater to Beginner level skiers and riders, the Upgrade Plan includes removing the Tenderfoot 1 & 2 surface lifts. These two lifts will be replaced with two carpets, which are much more efficient from a learning and teaching perspective, and provide a significantly better guest experience.

This entire project is located on private lands at Eldora's base area.

Challenge Express (Lift #9)

Because of the redundancy and age of the Challenge and Cannonball chairlifts, they are not efficient from an operational or recreational perspective. The Upgrade Plan includes removing Challenge and Cannonball chairlifts and replacing them with a single, high-speed chairlift in an alignment that provides direct out-of-base access to the summit of Challenge Mountain. This Challenge Express is planned at roughly 3,900 feet in length.

By design, chairlifts with detachable technology are less prone to shut down due to wind than fixed-grips (due to the weight of individual chairs), and it is anticipated that the Challenge Express will operate with much more regularity than the existing Challenge/Cannonball lifts. However, it is anticipated that the new Challenge Express would periodically shut down due to high winds, eliminating direct, out-of-base access to the summit of Challenge Mountain, and restricting the ability to circulate skiers from the frontside to the backside without the additions of the Four O'Clock and Jolly Jug chairlifts as described below in Section B.2.

The Challenge Express installation is located on both private and NFS lands.

Corona Express (Lift #12)

As discussed in Chapter 4, the Corona chairlift was installed in 1998, and while it is still in good working order, it does not provide enough uphill capacity to meet the demand placed upon it. The Upgrade Plan includes replacing the fixed-grip Corona chairlift with an "express" chairlift in order to maximize its hourly capacity. The Corona Express is planned in the exact same alignment as the existing Corona chairlift, and is approximately 3,800 feet in length (same as existing). Additionally, the planned "express" chairlift should allow operation of the lift at higher wind speeds, although wind speeds may still be high enough that this lift could remain

subject to closures. When compared to existing conditions, however, the frequency of lift closures would be reduced.

The majority of the Corona replacement is located on NFS lands with the exception of a portion of the lower length of the lift that crosses private land.

2. Planned Lift Additions

Four 0'Clock Chairlift (Lift #14)

The planned Four O'Clock chairlift is designed with two operational purposes in mind:

1. It will add an important link in the "learning progression" for skiers and riders who have moved past Beginner and Novice terrain served by the teaching surface lifts, and the Little Hawk, EZ, Caribou and Sundance chairlifts.[29]

2. It will allow access to existing and planned backside lifts—including Placer and Moose Glade—to supplement the Challenge Express when the existing "summit lifts" or the proposed Challenge Express are on wind hold.

The Four O'Clock chairlift is planned to be approximately 2,330 feet in length, with a bottom terminal located near the existing bottom terminal of the Challenge lift, and topping out above the intersection of *Four O'Clock* and *Klondyke*.

The Four O'Clock chairlift is located entirely on private lands.

Jolly Jug Express (Lift #13)

The planned Jolly Jug Express is designed with three functions in mind:

1. It will provide access to existing (*Jolly Jug* and *Powderhorn*) and planned Intermediate level terrain on the frontside of the mountain.

2. It will also provide an additional circulation route to the summit; this is a minor component of the functions of this lift. Skiers would be able to ride the Sundance Chair, ski down to the Jolly Jug lift, then ride to the summit. This route would likely prove popular with skiers parked in the eastern parking lot, as it could be an alternative to the walk to the Challenge Express.

[29] Eldora's "learning progression" is discussed in Chapter 4, Section C "Terrain Distribution by Ability Level."

3. The Jolly Jug Express orientation to the southeast would be less susceptible to wind closures than the Challenge Express, and therefore could provide a supplemental circulation route to the summit if the Challenge Express closes due to high winds.

The Jolly Jug Express is planned to be approximately 3,250 feet in length, with a bottom terminal located on a flat spot approximately 400 feet to the south-west of the Sundance top terminal; and with a top terminal location at the summit.

The Jolly Jug Express would be located on both NFS and private lands.

Placer Express (Lift #15)

A high-speed/detachable chairlift—The Placer Express—is proposed in a more-or-less parallel alignment to the Indian Peaks chairlift; extending from the mid-way point along the Indian Peaks corridor and approximately 375 vertical feet lower than the Indian Peaks bottom terminal. Construction of the planned 3,075-foot long Placer Express will provide lift service to additional Intermediate and Advanced-Intermediate terrain in the northwestern portion of the Indian Peaks pod. This lower elevation will allow the lift to be operated more consistently than the Indian Peaks lift during high winds, as the high winds tend to be concentrated at the higher elevations and along the ridgelines. As discussed above, the benefits of detachable six-passenger lifts will also contribute to the ability to operate this lift at higher wind speeds. Construction access to the planned bottom terminal of the Placer Express will come from Hessie Road with a bridge across Middle Boulder Creek. This access will also serve as a medical emergency access and egress route during the winter season. This would not be a public access point to the backside of Eldora.

Moose Glade Express (Lift #16)

The new Moose Glade Express (a high speed, detachable chairlift) is planned to provide round-trip skiing/riding throughout the western extent of the SUP area. Its alignment is northwest of the Corona Express, with a bottom terminal approximately 250 vertical feet lower than the Corona Express—at 9,000 feet. As with the Placer Express, this lower elevation will allow this lift to be operated more consistently during high winds, as the lower elevations are not as susceptible to high winds as the higher elevations and ridgelines. Additionally, this lift is also planned as a detachable six-passenger lift, with the corresponding improvement in ability to operate at higher wind speeds.

As with the Corona Lift, the Moose Glade Express is located mostly on NFS lands with the exception of a portion of the lift crossing Eldora's private land.

C. DEVELOPED TERRAIN NETWORK

1. Terrain Variety

As discussed in the previous chapter, terrain variety is the key factor in evaluating the quality of the actual skiing and riding guest experience (as opposed to lift quality, restaurant quality, or any other factor). The implication of the importance of terrain variety is that a resort must have a diverse, interesting, and well designed developed trail network, but also have a wide variety of alternate style terrain, such as mogul runs, trees, glades, open parks, and terrain parks and pipes.

2. Developed Alpine Trails

Overall, 88 acres of formal trails are planned to be added to Eldora's lift-served terrain network. Terrain planned for the new Placer and Moose Glade pods would require an adjustment to Eldora's special use permit boundary. The trail configuration under the Upgrade Plan is depicted in Figure 5.

Grading

As this Upgrade Plan is implemented, Eldora plans to undertake strategic grading and trail widening projects on select trails on the frontside, as discussed below. These projects are designed to improve skier/rider circulation and eliminate steep, abrupt pitches on teaching and novice terrain. Additional grading may be required as part of future on-going trail maintenance and would be addressed in future specific project proposals.

Ho Hum

The extent of the Beginner trail *Ho Hum* is planned to be graded in conjunction with removal and replacement of the Tenderfoot I and II surface lifts. Grading will extend to the parking lot interface. Grading this area will improve access to the new Tenderfoot conveyor lifts that are planned here, as well as circulation throughout this teaching terrain.

Upper Bunnyfair

Upper Bunnyfair—from the top terminal of the Sundance chairlift past the top terminal of the EZ chairlift top terminal—is planned to be graded to achieve a consistent slope. This will make *Upper Bunnyfair* more accommodating for Beginner skiers and riders who have difficulty negotiating the relatively steep, upper section on this otherwise Novice trail.

Trail Improvements and Additions

Trail additions are identified on Figure 5 and are given map reference numbers (e.g., 15-7), which are noted throughout the description of this Upgrade Plan. Under the Upgrade Plan, Eldora's developed trail network would increase from 188 acres to approximately 276 acres.

Jolly Jug

As discussed above, one of the primary functions of the Jolly Jug lift is to provide access to 20 additional acres of Intermediate level terrain on the frontside. Three new Intermediate level trails, as well as Intermediate level glades (gladed terrain acreage is not included in the 20 additional acres stated above), are planned for the terrain accessible from the Jolly Jug lift. An access trail, identified as 13-4, from the top of Sundance to the bottom terminal of Jolly Jug would also be created.

Four O'Clock

As previously discussed, one of the purposes of the planned Four O'Clock chairlift is to provide an important link in the learning progression for skiers and riders who have moved past the Beginner and Novice terrain on the frontside. The *Four O'Clock* trail is actually a Novice grade trail, but since there is no current route for Novice level skiers to access this trail, it cannot be used by Novices and therefore is currently rated as an Intermediate level trail. However, with installation of the Four O'Clock chairlift, the *Four O'Clock* would be easily and directly accessible by Novice level skiers, so would be reclassified to a Novice level trail. Additionally, this trail is planned to be widened along its entire extent to accommodate increased use. It is anticipated that *Four O'Clock* will become a critical component of the learning progression at Eldora. In order to create a skiable link between the top terminal of the Four O'Clock chairlift and *Four O'Clock* trail, a new trail segment (map reference 14-1) is planned. This new trail segment along with the widening on Four O'Clock adds 2.3 acres of Novice trail area.

Another important component to the planned Four O'Clock chairlift is to provide a connection to the backside. A new Intermediate connection trail (map reference 14-2) is planned to provide this link, from the top of the Four O'Clock chairlift terminal to *Corona Road*. Trail 14-2 (2.8 acres) will allow access to the backside lifts, thus fulfilling the second purpose of installing the Four O'Clock chairlift. This link would be particularly important on occasions when the Challenge Express is placed on wind hold.

Lower Diamondback and Lower Ambush

As with *Four O'Clock*, Eldora anticipates that *Lower Diamondback* and *Lower Ambush* will receive increased Intermediate traffic with installation of the Four O'Clock and Placer Express chairlifts (see Figure 5). Therefore, both of these Intermediate trails are planned to be widened in total by slightly over 1 acre.

As discussed previously in Chapter 4, the density analysis provided in Table 4-6 (page 4-20) indicates that the Indian Peaks area has a modeled trail density that is slightly higher than the target density; the implication being a slight over-utilization of the terrain off that lift.

Placer Pod

The planned Placer Express pod consists of the Placer Express and associated trails (map reference 15-1 through 15-10). As identified, many of these trails are categorized at Intermediate, with the remainder Advanced Intermediate, totaling roughly 27 acres of new terrain.

Corona Pod

The Upgrade Plan includes supplementing the Corona pod with additional glades and four new trails—map reference 12-10 (Advanced/Intermediate), 12-11 (Expert), 12-12 (Intermediate), and 12-13 (Expert). These trails combine for approximately 20 acres of additional terrain.

Moose Glade Pod

Three new trails—map reference 16-1 (Intermediate), 16-2 (Advanced-Intermediate) and 16-3 (Expert)—are planned in association with the new Moose Glade Express. However, as the name implies, and as depicted on Figure 5, the Moose Glade Pod will primarily be associated with additional gladed terrain. Trails 16-1 through 16-3 combine for around 15 acres of additional trails.

Table 5-2:
Terrain Specifications – Upgrade Plan

Ref	Trail Area/Name	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
1-1	Tenderfoot I	9,377	9,344	33	303	304	86	0.6	11	12	Beginner
2-1	Tenderfoot II	9,397	9,343	54	479	482	84	0.9	11	12	Beginner
3-1	Ho Hum	9,459	9,345	114	922	931	286	6.1	12	20	Novice
4-1	Easy Way	9,589	9,491	99	1,244	1,259	28	0.8	8	13	Novice
4-2	Bunnyfair	9,610	9,357	253	1,726	1,747	126	5.1	15	21	Novice
4-3	Fox Tail	9,511	9,456	56	745	749	61	1.0	7	12	Novice
4-4	Snail	9,618	9,355	263	1,672	1,698	110	4.3	16	24	Novice
6-1	Quickway	9,620	9,362	257	1,199	1,233	96	2.7	21	35	Low Intermediate
6-2	Sundance	9,699	9,355	344	1,656	1,697	138	5.4	21	35	Low Intermediate
6-3	Upper Bunny Fair	9,709	9,530	179	1,026	1,047	89	2.1	17	27	Low Intermediate
7-1	Corkscrew	9,630	9,369	261	1,174	1,210	120	3.3	22	35	Low Intermediate
7-2	Little Hawk TRV	9,369	9,348	21	816	821	67	1.3	3	8	Beginner
7-3	Bonanza	9,595	9,378	217	1,021	1,050	120	2.9	21	32	Low Intermediate
7-4	Chute	9,630	9,371	259	1,177	1,214	147	4.1	22	35	Low Intermediate
8-1	Sunkid Slope	9,361	9,354	8	155	157	67	0.2	6	6	Beginner
9-1U	Upper Jolly Jug	10,369	9,722	647	2,471	2,567	119	7.0	26	46	Intermediate
9-1M	Middle Jolly Jug	9,722	9,651	71	843	848	78	1.5	8	12	Intermediate
9-1L	Lower Jolly Jug	9,651	9,548	103	326	342	71	0.6	32	36	Intermediate
9-3	Mary's Way	9,664	9,427	238	1,083	1,116	89	2.3	22	36	Adv. Intermediate
9-4	Powderhorn	10,358	9,722	636	2,007	2,112	114	5.5	32	44	Intermediate
9-5	Summer Road	9,656	9,640	16	293	294	23	0.2	5	8	Intermediate
9-6	Sunset	9,660	9,383	276	1,304	1,340	105	3.2	21	33	Intermediate
9-7	Challenge	10,266	9,613	653	2,386	2,496	95	5.5	27	50	Adv. Intermediate
9-8	Challenge Liftline	10,355	9,632	722	2,479	2,604	68	4.0	29	58	Expert
10-1	Crewcut	9,622	9,559	64	235	244	75	0.4	27	29	Intermediate
10-2	Hornblower	10,369	9,946	423	2,381	2,430	84	4.7	18	35	Low Intermediate
10-3	Hotdog Alley	9,727	9,541	186	713	738	67	1.1	26	34	Intermediate

Table 5-2:
Terrain Specifications – Upgrade Plan

Ref	Trail Area/Name	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
10-4	International	9,946	9,390	556	2,749	2,818	102	6.6	20	35	Low Intermediate
10-5	Klondike	9,932	9,669	263	774	821	57	1.1	34	45	Intermediate
10-6	Windmill	10,371	9,940	431	1,764	1,820	118	4.9	24	32	Low Intermediate
10-7	Corona Road	9,500	9,386	113	1,499	1,509	22	0.8	8	17	Intermediate
10-8	La Belle Dame	10,369	9,663	706	2,557	2,684	113	7.0	28	41	Intermediate
10-9	Psychopath	10,196	9,727	468	1,178	1,276	93	2.7	40	63	Expert
10-10	Corona TRV	10,364	10,331	33	791	792	35	0.6	4	7	Intermediate
11-1	Dream & Scream	10,275	10,025	250	1,005	1,038	111	2.7	25	35	Low Intermediate
11-2	Four O' Clock Trail	9,806	9,459	347	2,806	2,833	65	4.2	12	23	Novice
11-3	Liftline	10,403	9,675	729	2,690	2,826	26	1.7	27	69	Expert
11-4	Lower Ambush	9,792	9,336	456	1,718	1,783	110	4.5	27	35	Low Intermediate
11-5	Lower Diamond Back	9,756	9,303	453	2,142	2,200	114	5.8	21	32	Intermediate
11-7	Sidewinder	9,828	9,740	88	299	314	65	0.5	29	39	Intermediate
11-8	Upper Diamond Back	9,952	9,756	196	498	538	97	1.2	39	56	Expert
11-9	Ambush	10,295	9,831	464	1,444	1,545	112	4.0	32	62	Expert
11-10	Around the Horn	10,009	9,254	756	3,999	4,096	89	8.4	19	38	Intermediate
12-1	Corona	10,595	9,274	1,321	3,884	4,123	162	15.4	34	48	Adv. Intermediate
12-2L	Muleshoe Lower	9,627	9,268	359	1,254	1,309	146	4.4	29	42	Intermediate
12-2U	Muleshoe Upper	10,410	9,627	782	2,849	2,972	156	10.6	27	49	Adv. Intermediate
12-3	Pipeline	10,604	10,359	245	3,368	3,384	66	5.1	7	18	Intermediate
12-5	Wayback	10,559	10,188	371	2,807	2,836	86	5.6	13	27	Intermediate
12-6L	West Ridge Lower	9,863	9,293	570	2,010	2,103	151	7.3	28	49	Adv. Intermediate
12-6U	West Ridge Upper	10,604	9,863	740	2,540	2,697	122	7.6	29	78	Expert
12-8	Cascade	9,723	9,381	342	978	1,044	59	1.4	35	54	Adv. Intermediate
12-10		10,447	10,112	335	1,375	1,415	112	3.6	24	30	Adv. Intermediate
12-11		10,009	9,390	619	1,722	1,838	118	5.0	36	61	Expert
12-12		10,522	9,605	917	2,635	2,792	103	6.6	35	45	Intermediate

Table 5-2:
Terrain Specifications – Upgrade Plan

Ref	Trail Area/Name	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
12-13		10,156	9,479	678	1,891	2,018	100	4.6	36	58	Expert
13-01		10,368	9,613	755	3,670	3,762	129	11.1	21%	41%	Intermediate
13-02		9,920	9,647	273	1,377	1,405	135	4.4	20%	28%	Intermediate
13-03		9,770	9,612	158	1,231	1,243	123	3.5	13%	18%	Intermediate
13-04		9,709	9,614	95	523	534	108	1.3	18%	30%	Intermediate
14-01		9,734	9,681	53	360	364	96	0.8	15	19	Novice
14-02		9,734	9,488	246	1,320	1,347	91	2.8	19	32	Intermediate
15-01		9,886	9,823	63	357	363	53	0.4	18	22	Intermediate
15-02		9,746	9,702	43	285	288	77	0.5	15	19	Intermediate
15-03		9,869	9,698	171	451	484	78	0.9	38	46	Adv. Intermediate
15-04		9,302	8,940	362	1,094	1,157	104	2.8	33	44	Intermediate
15-05L		9,196	8,949	247	719	765	91	1.6	34	44	Intermediate
15-05M		9,432	9,196	236	667	710	85	1.4	35	44	Intermediate
15-05U		9,528	9,435	92	406	417	96	0.9	23	25	Intermediate
15-06L		9,414	9,184	230	633	677	79	1.2	36	47	Adv. Intermediate
15-06U		9,521	9,417	104	416	430	80	0.8	25	32	Intermediate
15-07L		9,397	8,954	443	1,309	1,397	97	3.1	34	52	Adv. Intermediate
15-07M		9,494	9,399	95	334	347	94	0.7	28	31	Intermediate
15-07U		9,886	9,512	374	1,060	1,127	76	2.0	35	47	Adv. Intermediate
15-08		9,370	8,967	402	1,287	1,356	107	3.3	31	41	Intermediate
15-09		9,265	9,011	254	928	979	91	2.0	27	59	Expert
15-10		9,022	8,928	94	2,424	2,427	57	3.2	4	5	Intermediate
15-LftL		9,054	8,928	126	555	569	68	0.9	23	27	Intermediate
15-LftM		9,319	9,120	199	519	557	58	0.7	38	44	Intermediate
15-LftU		9,822	9,538	284	746	799	54	1.0	38	49	Adv. Intermediate
16-01		9,255	8,997	258	1,000	1,038	107	2.6	26	42	Intermediate
16-02		9,305	9,158	147	524	545	104	1.3	28	33	Adv. Intermediate

Table 5-2:
Terrain Specifications – Upgrade Plan

Ref	Trail Area/Name	Top Elev. (ft.)	Bottom Elev. (ft.)	Vertical Rise (ft.)	Plan Length (ft.)	Slope Length (ft.)	Avg. Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
16-03L		9,479	8,996	482	1,959	2,046	98	4.6	25	57	Expert
16-03U		9,832	9,471	361	1,275	1,326	103	3.1	28	36	Expert
16-Lft		9,460	8,998	462	1,728	1,813	73	3.0	27	55	Expert
TOTAL						**120,426**		**276.7**			

Source: SE Group

3. Terrain Distribution by Ability Level

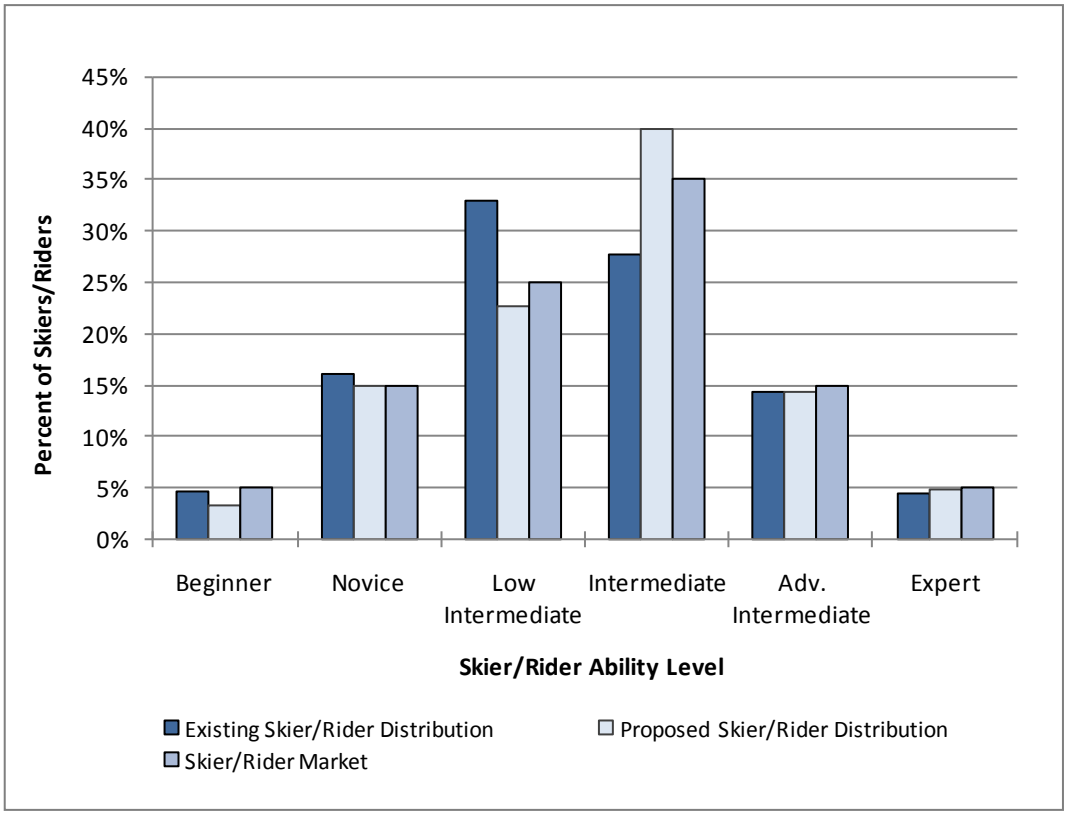
Demand exists for terrain through the full range of ability levels, in-line with the breakdown for the skier market (Table 2-2 on page 2-3). The terrain classification breakdown of the Upgrade Plan is set forth in Table 5-3 and Chart 5-1, on the following page. The last column in this table represents what can be considered the ideal overall skill level distribution and provides a comparison with the Upgrade Plan.

Table 5-3:
Terrain Distribution by Ability Level – Upgrade Plan

Skier/Rider Ability Level	Existing Trail Area (acres)	Planned Trail Area (acres)	Skier/Rider Capacity (guests)	Eldora Skier/Rider Distribution (%)	Skier/Rider Market (%)
Beginner	3.0	3.0	91	3.4	5
Novice	17.3	22.3	402	14.8	15
Low Intermediate	45.8	43.8	614	22.6	25
Intermediate	53.9	108.4	1,084	40.0	35
Adv. Intermediate	39.6	55.6	389	14.4	15
Expert	28.8	43.6	131	4.8	5
TOTAL	**188.5**	**276.7**	**2,710**	**100**	**100**

Note: Skier/Rider Capacity is calculated by multiplying the trail area by the target density (see page 2-3) for each specific ability level.
Source: SE Group

Chart 5-1:
Terrain Distribution by Ability Level – Upgrade Plan



Source: SE Group

As illustrated in Table 5-3 (page 5-14), and Chart 5-1, above, the proposed upgrades will bring Eldora closer to the market demand, for all segments except for intermediate which has jumped nearly higher as the deficit in the existing conditions. As discussed in Chapter 4, a primary goal of the upgrade plan is to significantly increase the quantity and variety of true Intermediate level terrain. The upgrade plan has identified many locations for developing terrain for Intermediates, throughout the resort. In fact, at full build-out, Eldora would have slightly (5%) more Intermediate level terrain than the market demand. However, since Eldora caters strongly to intermediate level skiers, this is seen as a beneficial situation.

4. Gladed Expert Terrain

Under the Upgrade Plan, Eldora's five existing gladed areas—Jolly Jug, Placer, Bryan, Salto, and Moose—are planned to be thinned to improve skiability. With installation of the Moose Glade Express, the skiable extent of the Moose Glades (which are currently skied) would increase to the north (see Figure 5). Finally, one additional gladed area (Placer Glades II) will become available once the Placer Express goes on-line. Beyond improving existing gladed areas,

the Upgrade Plan will increase the extent of gladed terrain at Eldora from approximately 165 to 188 acres, as detailed in Table 5-4 below.

Glades will be constructed with varying degrees (i.e., percentages) of tree removal to improve and support Expert skiing and riding. The percent of tree removal (stems) throughout these areas will be dependent on the density of vegetation in relation to the recreational experience that Eldora is striving for, but will likely range from 10 to 25%.

Table 5-4:
Glades Specifications – Proposed Upgrades

Trail Area/Name	Vertical Rise (ft.)	Slope Length (ft.)	Average Width (ft.)	Slope Area (acres)	Avg. Grade (%)	Max Grade (%)	Ability Level
Jolly Jug Glades	465	1,750	361	14.5	28	43	Intermediate
Placer Glades	769	2,078	731	36.8	41	80	Expert
Salto Glades	713	2,037	701	32.8	38	76	Expert
Bryan Glades	1,168	3,413	310	27.8	36	45	Adv. Intermediate
Bryan Glades II	415	1,392	503	16.1	31	37	Intermediate
Placer Glades II	298	977	507	11.4	32	44	Intermediate
Moose Glades	1,549	5,174	409	48.6	32	53	Adv. Intermediate
TOTAL				**187.9**			

Source: SE Group

5. Terrain Parks

Eldora's terrain parks, located on *Bonanza* and *Bunnyfair Bowl*, will continue to meet the needs of Eldora's skiers and riders. While these terrain parks are not planned to be expanded or relocated under this Upgrade Plan, it is reasonable to assume that it will continue to evolve along with technology and customer preferences throughout, and between, each season.

D. SPECIAL USE PERMIT BOUNDARY ADJUSTMENT

To accommodate three planned projects in the Upgrade Plan: one trail served by Jolly Jug Express, Placer Express and associated trails, and Moose Glade Express and associated trails, the SUP boundary would be adjusted. The SUP boundary would be adjusted on the southern portion of the ski area for one planned trail served by the planned Jolly Jug Express and would add approximately 16 acres to the Eldora SUP. The Placer Express, Moose Glade Express and associated trails would necessitate an approximately 70-acre SUP boundary adjustment (addition) on the northern portion of the ski area near Middle Boulder Creek.

As depicted on Figure 7, the southern boundary adjustment would extend into NFS lands allocated as Management Area 8.22 (Ski Based Resorts) and Management Area 1.3 (Backcountry Recreation), and the northern boundary adjustment would extend into NFS lands allocated as Management Area 8.22, Management Area 4.3 (Dispersed Recreation), and Management Area 7.1 (Intermix). It is anticipated that a future site-specific NEPA process would analyze the planned SUP boundary adjustment and potentially the reallocation of management areas to Management Area 8.22 within the planned SUP boundary.

E. CAPACITY ANALYSIS

1. Comfortable Carrying Capacity

As discussed previously in Chapter 2, the accurate calculation of a resort's Comfortable Carrying Capacity (CCC) is the single most important planning criterion for a resort. All other related guest service facilities can be evaluated and planned based on the proper identification of the mountain's CCC, which is based on a comparison of uphill vertical lift supply to downhill vertical skiing demand. Eldora's existing CCC has been calculated at 4,250. Under the Upgrade Plan, CCC will increase, as detailed in Table 5-5 (page 5-18), and is calculated at 6,580 guests per day.

Table 5-5:
Comfortable Carrying Capacity – Upgrading Plan

Map Ref.	Lift Name, Lift Type	Slope Length (ft)	Vertical Rise (ft)	Actual Design Capacity (guests/hr)	Oper. Hours (hrs)	Up-Mtn. Access Role (%)	Misloading/ Lift Stoppages (%)	Adjusted Hourly Cap. (guests/hr)	VTF/Day (000)	Vertical Demand (ft/day)	CCC (guests)
1	*Tenderfoot I c (lower)*	*385*	*43*	*800*	*7.00*	*0*	*5*	*760*	*227*	*1,487*	*150*
2	*Tenderfoot II c (upper)*	*400*	*65*	*800*	*7.00*	*0*	*5*	*760*	*346*	*2,472*	*140*
3	Little Hawk (C-2)	806	111	280	7.00	0	10	252	196	1,290	150
4	EZ (C-3)	1,448	238	1,200	7.00	0	10	1,080	1,797	3,768	480
5	Caribou (C-2)	1,230	237	610	7.00	0	10	549	910	4,177	220
6	Sundance (C-2)	1,601	341	780	7.00	20	10	546	1,303	5,808	220
7	Race (S)	1,080	256	400	7.00	0	5	380	680	9,895	70
8	Sunkid (C)	129	8	720	7.00	0	5	684	36	433	80
9	*Challenge (DC-6)*	*4,071*	*999*	*3,000*	*7.00*	*20*	*5*	*2,250*	*15,738*	*14,429*	*1,090*
11	Indian Peaks (C-4)	4,193	1,093	1,800	6.75	10	10	1,440	10,628	12,566	850
12	*Corona (DC-6)*	*4,077*	*1,349*	*2,400*	*6.75*	*0*	*5*	*2,280*	*20,764*	*21,253*	*980*
13	*Jolly Jug (DC-4)*	*3,257*	*749*	*1,200*	*6.75*	*10*	*10*	*960*	*4,856*	*11,133*	*440*
14	*Four O'Clock (C-4)*	*2,362*	*345*	*1,500*	*7.00*	*20*	*10*	*1,050*	*2,539*	*5,089*	*500*
15	*Placer Express (DC-6)*	*3,238*	*960*	*2,400*	*6.75*	*0*	*5*	*2,280*	*14,774*	*19,017*	*780*
16	*Moose Glade Express (DC-6)*	*3,017*	*872*	*1,800*	*6.50*	*0*	*5*	*1,710*	*9,696*	*22,750*	*430*
TOTAL		**31,295**		**19,690**				**16,981**	**84,490**		**6,580**

Italicized text identifies proposed or upgraded lifts.
Source: SE Group

2. Density Analysis

As discussed in Chapter 4, an important aspect of resort design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by contrasting the CCC with the trail acreage associated with each lift pod. The trail density analysis considers only the acreage associated with the developed trail network. The density analysis compares a modeled trail density to the target trail density for the trails associated with each lift pod. These target densities are discussed in Chapter 2 (section C.1) and shown in Table 2-3 (page 2-3). The density analysis for the Upgrade Plan is illustrated in the Table 5-6, on the following page.

Table 5-6:
Density Analysis – Upgrading Plan

Lift Name	CCC	Guest Dispersal				Density Analysis				Density Index
		Support Fac./Milling	Lift Lines	On Lift	On Trails	Trail Area	Modeled Trail Density	Target Trail Density	Diff.	
		(guests)	(guests)	(guests)	(guests)	(acres)	(guests/ac.)	(guests/ac.)	(+/-)	(%)
Tenderfoot I c (lower)	150	38	25	51	36	2.8	13	23	-10	57
Tenderfoot II c (upper)	140	35	19	53	33	2.4	13	23	-10	57
Little Hawk (C-2)	150	38	46	28	38	3.1	12	23	-11	52
EZ (C-3)	480	192	90	87	111	8.5	13	18	-5	72
Caribou (C-2)	220	55	46	38	81	6.0	14	17	-3	82
Sundance (C-2)	220	66	46	53	55	9.2	6	14	-8	43
Race (S)	70	18	13	21	18	8.1	2	14	-12	14
Sunkid (C)	80	32	23	18	7	0.6	11	30	-19	37
Challenge (DC-6)	1,090	273	188	153	476	53.4	9	10	-1	90
Indian Peaks (C-4)	850	213	24	224	389	36.1	11	9	2	122
Corona (DC-6)	980	245	190	155	390	58.6	7	7	0	100
Jolly Jug (DC-4)	440	110	64	116	150	22.1	7	10	-3	70
Four O'Clock (C-4)	500	125	88	103	184	8.0	23	15	8	157
Placer Express (DC-6)	780	195	114	123	348	35.1	10	9	1	109
Moose Glade Express (DC-6)	430	108	86	86	150	22.8	7	5	2	139
TOTAL	**6,580**	**1,743**	**1,062**	**1,309**	**2,466**	**276.7**	**10**	**11**	**-1**	**91**

Source: SE Group

Table 5-6 (page 5-20) shows that with the upgrades to the lift system, the overall Density Index will increase from 79% (existing condition) to 91% (proposed condition)—indicating that a closer balance will be achieved between uphill and downhill capacities. The overall density analysis shows that overall densities, while increasing, will remain below targets (100%)—meaning that the trails will generally not feel overly crowded. Despite this overall balance, areas on the mountain, such as merge zones, convergence areas, lift milling areas, major circulation routes, and egress routes, would experience higher densities periodically during the day. Additionally, two of the proposed lift systems have calculated densities that are over targets: the Four O'Clock and Moose Glade lifts. However, it is thought that neither of these situations would be a significant problem, for reasons detailed separately below:

- The modeled density for the Four O'Clock lift system is 23 skiers per acre, which is above the target of 15, but within the overall target range for Novice level skiers, which is 12-30, as detailed in Chapter 2. Additionally, it is likely that the times when this lift would receive the highest use would be days when the Challenge Express might be on wind hold for some time throughout the day, and on those days, it is likely that a higher percentage of skiers riding the Four O'Clock lift would not be skiing back down the associated terrain, but rather would take trail 14-2 down to the Indian Peaks or Placer Express lifts.

- The Moose Glade Express lift has a modeled density of seven skiers per acre, with a target of five skiers per acre. This is a result of the relatively small amount of developed trails associated with this lift. A significant quantity of glade skiing would be developed in conjunction with this lift, which would effectively reduce the developed trail densities.

As discussed in Chapter 4 (section D.3), since there is an existing deficit of Intermediate level trails, it is reasonable to assume that densities are above target levels on the existing terrain. With the addition of additional Intermediate level trails, this imbalance would be corrected and densities for Intermediate level trails should be at or below the design targets.

Another situation is discussed in Chapter 4 (section D.3), regarding increasing densities when some lifts are put on wind-hold. Since the skiers who were on trails that are accessed from the lifts put on wind-hold largely transfer to lifts that are still running, it is logical that densities on the remaining lifts and associated trails would increase in these scenarios. Typically, the lifts that are put on wind-hold are on backside of the ski area, so the frontside lifts get higher densities during these periods. However, given that the planned lift upgrades are intended to significantly reduce the length and frequency of wind-hold events, it is assumed

that the instances of increased densities on the frontside (as a result of wind closures on the backside) would be similarly reduced.

3. Lift and Terrain Network Efficiency

As discussed in Chapter 4, overall resort efficiency is becoming an increasingly important factor in the industry, relating not only to energy/operational efficiency, but also to efficiency of the design and layout of the resort. The idea behind resort design efficiency is to have a well balanced lift and trail network (i.e., the uphill lift capacity balances with the downhill trail capacity that it serves) that is efficiently served by the its lifts, while maintaining desired CCC rates, circulation routes, and service to the full spectrum of ability levels and types.

As discussed in Chapter 4 (Section D), this Master Plan analyzes Lift Network Efficiency by calculating the average CCC per aerial lift. Optimally, and as a planning goal, the average CCC per lift will likely be close to 1,000. Industry-wide, as observed through the analysis of other previously accepted Master Development Plans, the average CCC per lift is approximately 650. The existing average CCC per lift at Eldora is about 500. With the planned removal of the Challenge, and Cannonball lifts and the addition of five lifts, Eldora is planning a net increase of three lifts, with corresponding increases to CCC. As a result, the average CCC per lift in the Upgrade Plan will be about 560, or about a 12% increase. While this does not bring the average up to industry averages, it represents an improvement.

As discussed in Chapter 4, Eldora currently has good terrain efficiency. Using the density analysis as one tool to measure terrain network efficiency, the increased utilization of the trails indicates that the density index and terrain network efficiency will improve when compared to existing conditions.

F. SKIER SERVICES FACILITIES AND FOOD SERVICE SEATING

1. Skier Services Locations

Eldora will continue to function with a single base area staging portal under the Upgrade Plan. On-mountain guest services will continue to be offered at the expanded Lookout facility, as well as at a new facility near the summit of Challenge Mountain between the Challenge and Indian Peaks Lifts.

Base Area Guest Services

In the future, Eldora will likely plan for improvements to its base area facilities located on private lands. However, this Master Plan does not define what those improvements might

entail. At the appropriate time, and based on need, Eldora will work with Boulder County to develop and implement base area improvement projects.

On-Mountain Guest Services

The architectural design of planned new and expanded structures on NFS lands would be subject to Forest Service review and approval during future project proposal (e.g., NEPA). The Forest Service will utilize the BEIG in any respective review of these facilities, as defined in Chapter 1 of this document.

The Lookout

On-mountain guest services on Eldora's backside will be greatly improved with an expansion and remodel of The Lookout facility. After expansion, the Lookout facility would be between 7,700 and 9,700 square feet with (up to) approximately 300 additional seats. Refer to Tables 5-9 (page 5-27) and 5-11 (page 5-29) for specifications.

Challenge Mountain Facility

An additional on-mountain facility will be constructed on Challenge Mountain, as shown in Figure 5. This facility will meet the significantly increased demand for on-mountain lunch service that will result from the numerous new backside and access lifts. The building is recommended to be between 16,000 to 20,000 square feet with up to 850 restaurant seats.

2. Space Use Analysis

As discussed, the distribution of CCC is utilized to determine guest service capacities and space requirements for guest services at base area portals and on-mountain facilities. The CCC should be distributed between each guest service facility location according to the number of guests that will be utilizing the lifts and terrain associated with each facility. Sufficient guest service space should be provided to accommodate Eldora's planned CCC of 6,580 guests per day.

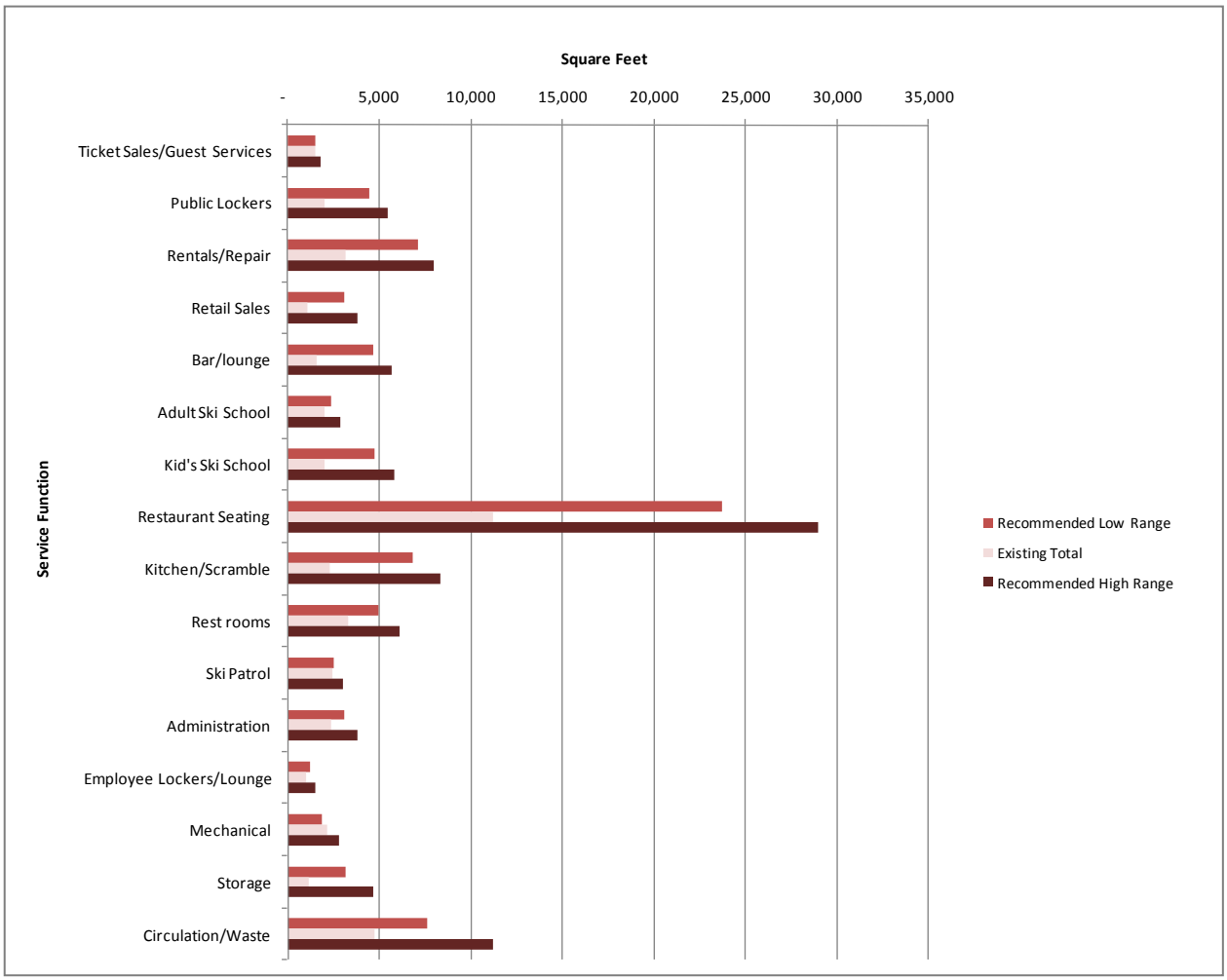
Based on the planned CCC level of 6,580 guests, Table 5-7 on the following page and Chart 5-2 (page 5-25) compare existing space use allocations of the guest service functions to recommended ranges. Square footage contained in this chart illustrate recommended ranges based on industry averages, and should not be considered absolute requirements.

Table 5-7:
Industry Average Space Use
Resort Total – Upgrade Plan

Service Function	Existing Total	Recommended Range*		Difference from Recommended Range	
		Low	High	Low	High
Ticket Sales/Guest Services	1,540	1,480	1,810	60	(270)
Public Lockers	1,997	4,440	5,430	(2,443)	(3,433)
Rentals/Repair	3,170	7,110	7,990	(3,940)	(4,820)
Retail Sales	1,064	3,110	3,800	(2,046)	(2,736)
Bar/lounge	1,610	4,660	5,700	(3,050)	(4,090)
Adult Ski School	2,046	2,370	2,900	(324)	(854)
Kid's Ski School	2,007	4,740	5,790	(2,733)	(3,783)
Restaurant Seating	11,227	23,700	28,960	(12,473)	(17,733)
Kitchen/Scramble	2,275	6,840	8,360	(4,565)	(6,085)
Rest rooms	3,297	4,970	6,080	(1,673)	(2,783)
Ski Patrol	2,460	2,480	3,040	(20)	(580)
Administration	2,342	3,110	3,800	(768)	(1,458)
Employee Lockers/Lounge	980	1,240	1,520	(260)	(540)
Mechanical	2,136	1,900	2,810	236	(674)
Storage	1,136	3,160	4,690	(2,024)	(3,554)
Circulation/Waste	4,719	7,590	11,240	(2,871)	(6,521)
TOTAL SQUARE FEET	**44,006**	**82,900**	**103,920**	**(38,894)**	**(59,914)**

*Recommended Range is based on the upgrade CCC of 6,580 guests and therefore is different from the Recommended Range in Chapter 4 which is based on the existing CCC of 4,250
Note: Future site-specific NEPA analysis would define the specific size of structures (square feet) and requisite ground disturbance.
Source: SE Group

Chart 5-2:
Total Space Use and Recommendations – Upgrade Plan



Source: SE Group

The following tables and text address the Upgrade Plan space use at Eldora's base area and on-mountain facilities. The space recommendations are directly related to the distribution of the resort's capacity to the various guest service facilities located in the base area and on-mountain.

Base Area

Table 5-8 shows the combined recommended total space of the base area buildings.

Table 5-8:
Industry Average Space Use
Base Area – Upgrade Plan

Service Function	Existing Total	Recommended Range		Difference from Recommended Range	
		Low	High	Low	High
Ticket Sales/Guest Services	1,540	1,480	1,810	60	(270)
Public Lockers	1,997	4,440	5,430	(2,443)	(3,433)
Rentals/Repair	3,170	7,110	7,990	(3,940)	(4,820)
Retail Sales	1,064	3,110	3,800	(2,046)	(2,736)
Bar/lounge	1,610	4,660	5,700	(3,050)	(4,090)
Adult Ski School	2,046	2,370	2,900	(324)	(854)
Kid's Ski School	2,007	4,740	5,790	(2,733)	(3,783)
Restaurant Seating	10,227	11,590	14,170	(1,363)	(3,943)
Kitchen/Scramble	1,775	3,040	3,710	(1,265)	(1,935)
Rest rooms	2,647	2,210	2,700	437	(53)
Ski Patrol	1,810	1,100	1,350	710	460
Administration	2,342	3,110	3,800	(768)	(1,458)
Employee Lockers/Lounge	980	1,240	1,520	(260)	(540)
Mechanical	1,936	1,360	2,000	576	(64)
Storage	1,136	2,260	3,340	(1,124)	(2,204)
Circulation/Waste	4,719	5,420	8,010	(701)	(3,291)
TOTAL SQUARE FEET	**41,006**	**59,240**	**74,020**	**(18,234)**	**(33,014)**

Notes:
1. Public lockers in Timbers Lodge include 99 small, 10 medium, 18 large lockers
2. Public lockers in West Wing include 50 small and 12 medium lockers
3. East Wing restaurant seating (920 sq.ft.) is included in Timber Lodge total
4. Lockers in "Old" Trek Building are (125) seasonal rental lockers
5. Ski Patrol-Admin-HR total includes 621 sq. ft. of admin from the admin trailer
6. Public lockers in Indian Peaks is a basket check that has 110 baskets
7. Percentage of CCC for rental units set at 27% to match the 1,150 existing rental units

Source: SE Group

On-Mountain Facilities

As discussed above, the expanded and renovated Lookout and a new facility near the top of Challenge Mountain will constitute Eldora's on-mountain guest service facilities under build-out. The two facilities are addressed separately below.

As shown in Table 5-9, the size of The Lookout facility will be increased by around 4,700 to 6,700 for a total of 7,700 to 9,700 square feet to accommodate the increased demand.

Table 5-9:
Industry Average Space Use
The Lookout – Upgrade Plan

Service Function	Existing Total	Recommended Range		Difference from Recommended Range	
		Low	High	Low	High
Ticket Sales/Guest Services	-	-	-	-	-
Public Lockers	-	-	-	-	-
Rentals/Repair	-	-	-	-	-
Retail Sales	-	-	-	-	-
Bar/lounge	-	-	-	-	-
Adult Ski School	-	-	-	-	-
Kid's Ski School	-	-	-	-	-
Restaurant Seating	1,000	3,950	4,820	(2,950)	(3,820)
Kitchen/Scramble	500	1,240	1,520	(740)	(1,020)
Rest rooms	650	900	1,100	(250)	(450)
Ski Patrol	650	450	550	200	100
Administration	-	-	-	-	-
Employee Lockers/Lounge	-	-	-	-	-
Mechanical	200	180	260	20	(60)
Storage	-	290	440	(290)	(440)
Circulation/Waste	-	710	1,050	(710)	(1,050)
TOTAL SQUARE FEET	**3,000**	**7,720**	**9,740**	**(4,720)**	**(6,740)**

Source: SE Group

As shown in Table 5-10, and on Figure 5, the upgrade plan calls for a proposed lunch service restaurant facility on Challenge Mountain, with a size of around 16,000 to 20,000 square feet.

Table 5-10:
Industry Average Space Use
Proposed Facility (Challenge Mountain) – Upgrade Plan

Service Function	Recommended Range	
	Low	High
Ticket Sales/Guest Services	-	-
Public Lockers	-	-
Rentals/Repair	-	-
Retail Sales	-	-
Bar/lounge	-	-
Adult Ski School	-	-
Kid's Ski School	-	-
Restaurant Seating	8,160	9,970
Kitchen/Scramble	2,560	3,130
Restrooms	1,860	2,280
Ski Patrol	930	1,140
Administration	-	-
Employee Lockers/Lounge	-	-
Mechanical	360	550
Storage	610	910
Circulation/Waste	1,460	2,180
TOTAL SQUARE FEET	**15,940**	**20,160**

Source: SE Group

3. Food Service Seating

Food service seating will continue to be provided, and will be increased, at all existing restaurants, in addition to the Challenge Mountain Restaurant facility.

Table 5-11 summarizes the seating requirements at Eldora, based on a logical distribution of the CCC to each service building/location.

Table 5-11:
Recommended Restaurant Seating – Upgrade Plan

	Base Area	The Lookout	Proposed Facility (Mtn Top)	Total Resort
Lunchtime Capacity (CCC + other guests*)	3,067	1,253	2,590	6,909
Existing Indoor Seats	755	54	0	809
Average Indoor Seat Turnover	2.5	3.5	3	
Upgraded Indoor Seating Capacity	3,067	1,253	2,590	6,909
Required Seats (Lunchtime Guests divided by Avg. Turnover)	1,227	358	863	2,448
Difference between upgraded capacity and required seats	*472*	*304*	*863*	*1,639*
Existing Outdoor Seats	550	30	0	580
Proposed Outdoor Seats	0	0	0	0
Total Outdoor Seats	550	30	0	580
Average Outdoor Seat Turnover	2	2	2	
Outdoor Seating Capacity	1,100	60	0	1,160
Total Seating Capacity – Including Outdoor Seats	**4,167**	**1,313**	**2,590**	**8,069**

Notes:
* "other guests" include non-skiing guests—an additional 5% of Eldora's Upgrade CCC
1. Base area outdoor seating is based on 11,000 of deck space and 20 sq. ft. per seat
2. If weather permits, outdoor seating is set up at The Lookout, 30 seats.
3. Base area indoor seats include: 385 Indian Peaks, 232 Timbers, 108 West Wing, 30 East Wing
Source: SE Group

Seating and restaurant space recommendations are directly related to the lunchtime capacity. The lunchtime capacity is determined by the distribution of each lift system's CCC. It is assumed that guests will prefer to dine at the facility closest to the area they are using. To allow for this convenience, it is important to provide restaurant seating to accommodate the lunchtime capacity requirement of the area. Additional seating will be supplied per the recommendations in the above table, with increases per facility commensurate with the deficiencies shown in the "Difference" line in the above table.

G. PARKING AND RESORT ACCESS

1. Parking

Table 5-12 details the required parking capacity, taking into account the Upgrade Plan CCC + other guests.[30] This table also indicates that with the increased CCC, there would be a deficit of 568 spaces. At current car per acres ratios, this would equate to a need for about 3.5 additional acres of parking (see Figure 5). To meet the increased parking needs, Eldora will expand the North Lot. Additionally, Eldora plans to work with Boulder County to incentivize its patrons to use public transit and carpooling (effectively increasing average vehicle occupancy rates) in order to reduce traffic coming up Boulder Canyon as well as to reduce parking needs at the resort. Options for increasing public transit and other shuttle services will be explored. In addition, by growing the rideshare program, Eldora will minimize vehicle emissions from guest transit. Finally, Eldora will improve parking efficiencies in its lots through various parking management techniques and a more focused campaign directed by its parking attendants.

Table 5-12:
Recommended Parking Spaces and Capacity – Upgrade Plan

	Assumptions	Total
CCC + other guests		6,909 people
Number of guests arriving by car	88%	6,080 people
Number of guests arriving by RTD bus	7%	484 people
Number of guests arriving by charter bus	5%	345 people
Required car parking spaces	2.5 guests/car	2,432 spaces
Equivalent car spaces for bus parking	1 bus = 4.5 cars	36 spaces
Required employee car parking spaces		100 spaces
Total required spaces		2,568 spaces
Existing parking spaces		2,000 spaces
Deficit		-568 spaces
Proposed Parking Spaces	**160 cars/acre**	**560 spaces**

Notes:
1. Percentages of skiers arriving by RTD and charter bus are anticipated to remain the same, meaning that total bus ridership will increase.
2. Required employee car parking spaces = 100, Employees will continue to park at the high school during peak periods.
3. A negligible amount of parking is used by the Jenny Creek trail users and is not factored into these calculations.
Source: SE Group

[30] "Other guests" are defined as non-skiing guests arriving at the resort and using the resorts' base area facilities. The parking analysis quantifies "other guests" as an additional 5% of Eldora's proposed CCC.

The upgrade plan parking capacity (at 2.5 guests-per-car), in conjunction with charter buses, and RTD service, can accommodate a total of 6,979 guests.

As discussed in Chapter 4, on busy days when the parking lots are anticipated to be at capacity, employees are required to park at the Nederland High School, freeing up an additional 100 parking spaces and increasing the total capacity by around 250 guests. This policy will continue and could potentially be expanded. Therefore, Eldora will meet parking needs to accommodate additional projects included in the Upgrade Plan.

The parking lot shuttle bus will continue to operate as described in Chapter 4, page 4-31. No additional routes or changes to the operation are planned at this time. As mentioned on page 5-5, the Jolly Jug Express would improve access to the Challenge Mountain for guests that park at the eastern end of the main parking lot. This may ease demand for the shuttle bus from that parking lot location.

H. ALTERNATE AND NON-WINTER ACTIVITIES

1. Winter

Nordic Center

No plans for Eldora's Nordic Center have been sufficiently developed for inclusion in this Master Plan. As all of Eldora's Nordic trails are on private land, the resort will work with private landowners to develop and implement improvement to its Nordic system, as appropriate.

Jenny Creek Trail

Currently, public access is provided to the Jenny Creek Trail through private lands owned by Eldora and adjacent landowners. Trail users occasionally utilize Eldora's guest parking in the base area to access the trailhead and trail on private lands and the Jenny Creek Trail on NFS lands. Eldora, being only one of the landowners, intends to provide this access into the future.

2. Summer

As noted in Chapter 4. Eldora does not currently offer any on-going summer activities or opportunities to the public. Should Eldora determine that summer activities are in its best interest, it will take appropriate steps with the Forest Service and Boulder County.

I. RESORT OPERATIONS

1. Ski Patrol/First Aid

As noted in Chapter 4, Eldora's existing ski patrol facilities effectively serve the terrain near the base area and that off the Corona lift, but the facilities have limited space available. The Upgrade Plan includes a replacement of the existing ski patrol duty station at the top of the new Challenge lift, on Challenge Mountain. The addition of this facility will round out Eldora's ski patrol capabilities and allow better service to the public.

In the future, as Eldora plans for improvements to its base area facilities, the ski patrol facility located in the base area will be included in these plans. However, this Master Plan does not define what those improvements might entail. At the appropriate time, and based on need, Eldora will work with Boulder County to develop and implement base area improvement projects.

2. Snowmaking Coverage

In addition to on-going, routine maintenance to Eldora's extensive snowmaking system, the Upgrade Plan includes snowmaking line installations on all new lift-served developed trails. Trails with planned snowmaking coverage are shown in Figure 6.

The Upgrade Plan also includes installing infrastructure necessary to support the existing and planned snowmaking system (e.g., pumps, valves and hydrants). A snowmaking reservoir will be constructed near the top of the Race lift, as shown in Figure 6.

Under the Upgrade Plan, snowmaking coverage at Eldora will increase from 170 acres to 258 acres. This includes all new lift-served developed trails and additional snowmaking coverage due to widening existing trails. All existing and planned snowmaking coverage can be accomplished within Eldora's existing diversionary right.

3. Grooming Operations

Based on the limited additions to traditional terrain included in the Upgrade Plan, the existing grooming fleet will be sufficient to accommodate trail maintenance. Vehicles from the existing grooming fleet may be replaced as necessary according to age and hours of operation.

4. Maintenance Facilities

Eldora's maintenance facility at the base area (above The Timbers lodge) is in good condition and presently meets Eldora's maintenance requirements with no additional space needed for other mountain maintenance departments.

5. Nightlighting

Eldora plans on maintaining the existing nightlighting infrastructure on an as needed basis and does not plan to change or expand the areas currently covered by the existing nighlighting.

J. UTILITIES AND INFRASTRUCTURE

No specific independent utility or infrastructure projects are included in the Upgrade Plan. Upgrades and improvements to existing infrastructure such as power, water, and sewer (e.g., new lifts, the new on-mountain food and beverage facility, etc.) will take place commensurate to the individual project.

1. Water

The domestic water system for all of the base area buildings and facilities is a private system operated by a special district. The system consists of the Tank House, which is a buried concrete vault with 96,000 gallon storage capacity, the Jenny Creek vault which supplies surface water to the system and a back-up pump which runs on a gen set. The system is adequate for current demand and the expected demand in result of implementing the Upgrade Plan.

Eldora Mountain Resort's water supply is derived from the Middle Boulder Creek basin and the South Boulder Creek basin, in Boulder County and Gilpin County, Colorado. In total, Eldora owns or leases approximately 60.41 acre feet of fully reusable consumptive use credits in the Howard Ditch, the most senior water right on South Boulder Creek. These rights have been changed for use in Eldora's resort operations in Case Nos. W-7786-74, 02CW400 and 07CW231 (pending). In addition, Eldora has 299 acre feet of junior fully reusable water storage rights, in Kettle Pond (40 acre feet, Case No. 02CW400) and Peterson Lake (259 acre feet, Case No. 09CW106 [pending]), as well as single-use water rights in Peterson Lake (259 acre feet, Case No. 82CW239) and Lake Eldora (33.3 acre feet, Case No. 92CW153). Accordingly, Eldora has a total

of approximately 332.3 acre feet of water storage rights.[31] In addition, Eldora owns a surface diversion known as the Jenny Creek Pipeline water right (0.20 cfs, decreed in Case No. W-324).

Fully reusable water is generally used in the resort's snowmaking operations. This water is diverted, stored in the on-mountain storage, and then pumped from storage for snowmaking. After the first use of its fully reusable water, Eldora recaptures the return flows, either directly, such as when the man-made snow melts into Peterson Lake and other on-mountain storage each spring, or by exchange up Middle Boulder Creek and South Boulder Creek, for those return flows that do not accrue directly into the on-mountain storage structures. The small amount of in-house commercial and landscape irrigation uses (2 to 3 acre feet annually, combined) are typically supplied via the Jenny Creek Pipeline water right. The Water Court has approved an augmentation plan for the resort (Case No. 02CW400), which allows Eldora the flexibility to divert water out of priority and replace the depletions with its senior fully reusable consumptive use credits (60.41 acre feet). This augmentation plan, which utilizes storage and senior consumptive use credits, provides a reliable and dependable water supply for the resort.

2. Sewer

The sewer system for the resort is also located on private lands and consists of the Blower building and the two lagoons. The lagoons provide primary treatment with a system capacity of 30,000 gallons per day and an annual output of around two million gallons. This quantity is considered adequate and is consistent with the industry standard of 7 to 10 gallons per person per day. The current system is adequate for providing service of the Upgrade Plan. Any increases to capacity in the future, if required, will be made commensurate to increases in visitation.

3. Power

Power will be required for the new lifts as well as other planned projects. Power needs will be addressed on a site-specific basis, in conjunction with each given project.

4. Natural Gas Pipeline

A major natural gas pipeline, running from Wyoming to Durango, is routed through Eldora, as shown in Figure 5. The line is owned and maintained by Xcel Energy, and Eldora is not

[31] Peterson Lake's total capacity is 259 acre feet. Therefore, the water stored under a Peterson Lake water right will either be fully reusable or one-use, or some combination of each, depending upon the priorities under which the lake may fill in that year, but only one complete fill under a Peterson Lake right is included in the foregoing total.

responsible for any maintenance or safety issues related to this line. Natural gas from this line is used to power the Challenge lift as well as other incidental equipment at the resort. Eldora does not have plans to use additional natural gas from this pipeline.

5. Fuel Storage

Current fuel storage is considered adequate for current and anticipated near-term future use which includes this Upgrade Plan. If additional fuel storage is required in the future, the need will be addressed at that time and any new facility would comply with current and applicable codes.

6. Road Network

Mountain roads will be required for construction and maintenance to both terminals of each planned lift.

Construction access to the planned bottom terminal of the Placer Express will come from Hessie Road with a bridge across Middle Boulder Creek, as shown on Figure 5, with access to the top terminal being an extension of an existing mountain road across the Ambush ski trail. The bottom terminal access from Hessie Road will also serve as a medical emergency access and egress route during the winter season. This would not be a public access point to the backside of Eldora Ski Area.

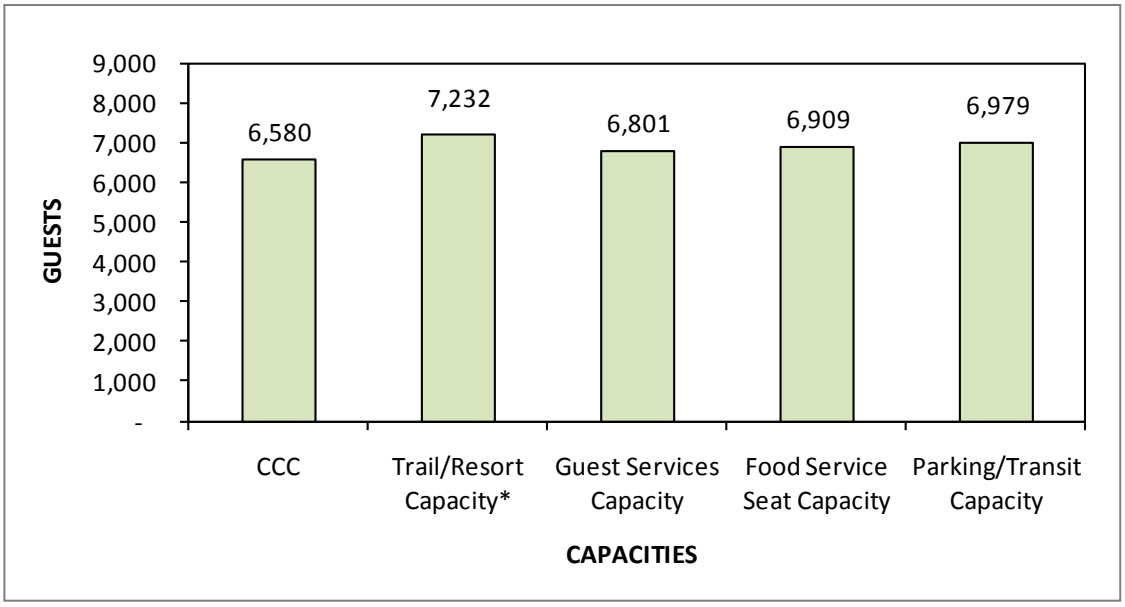
Access to the bottom terminal of the Moose Glade lift will be from the bottom terminal of the Placer Express lifts, then along planned skiway 15-10, with access to the top terminal being along the alignment shown in Figure 6. Access to the bottom terminal of the Jolly Jug lift will come off the existing mountain road adjacent to the top terminal of the EZ lift.

Access to all other planned lift terminals will be along existing mountain roads and short sections of planned road spurs from existing roads, as shown in Figure 6. In total, 1.6 miles of roads are planned in addition to the 5.2 miles of existing mountain access roads.

K. RESORT CAPACITY BALANCE AND LIMITING FACTORS

The overall balance of the existing ski area is evaluated by calculating the capacities of the resort's various facilities and comparing those facilities to the resort's CCC. The above discussed capacities are shown below in Chart 5-3.

Chart 5-3:
Resort Balance – Upgrade Plan



*Trail/Resort Capacity represents an overall resort capacity that is based on the developed alpine trail capacity.
Source: SE Group

The mountain master planning process emphasizes the importance of balancing recreational facility development. The sizes of the various skier service functions are designed to match the CCC of the mountain. Proposals described in this Upgrade Plan for improvements to Eldora have been configured to match the capacities of key resort operations, including lifts, terrain, guest services, food service seating, and parking with the planned resort CCC of 6,580 skiers.

As Chart 5-3 indicates, CCC will be brought closer in line with the trail/resort capacity. Capacity of all skier services, including food service seating capacity, will be increased through upgrades to existing facilities and the construction of the new on-mountain facility, and brought in line with CCC. Capacity for parking and transit will also be brought in line with CCC.

L. CONCLUSION AND SUMMARY OF MASTER PLAN PROJECTS

This Master Plan has been prepared in compliance with the terms and conditions of Eldora's Forest Service-issued 30-year Term SUP. As stated previously, Forest Service "acceptance" of this Master Plan does not convey "approval" of any projects contained herein. Implementation of any projects on NFS lands within Eldora's SUP area is contingent upon site-specific environmental review and approval via NEPA. Planned projects contained in this Master Plan are conceptual in nature and may be refined in the future, as long as the original intent of a planned project is maintained.

1. Master Plan Projects

Lift Network

- Tenderfoot 1 and 2 surface lifts – remove and replace with conveyor lifts
- Challenge Express – replace Challenge and Cannonball lifts with six-person detachable chairlift
- Corona Express – replace Corona fixed-grip lift with six-person detachable chairlift
- Four O'Clock Chairlift – planned fixed-grip lift along the *Four O'Clock* trail
- Jolly Jug Express – planned six-person detachable chairlift along Eldora's southern boundary
- Placer Express – planned six-person detachable chairlift adjacent to the Indian Peaks lift
- Moose Glade Express – planned six-person detachable chairlift along and below the *West Ridge* trail

Terrain Network Improvements

- Total developed trail additions would be 88.3 acres, including:
    - Trail Widening on *Four O'Clock*, *Liftline*, *Lower Ambush*, and *Lower Diamondback* – 2.4 acres
    - Jolly Jug Trails – 20.4 acres of Intermediate trails
    - Four O'Clock Trails – 3.6 acres of Low Intermediate and Intermediate trails
    - Placer Trails – 27.5 acres of Intermediate and Advanced Intermediate trails
    - Corona Trails – 19.8 acres of Intermediate, Advanced Intermediate, and Expert trails
    - Moose Glade Trails – 14.6 acres of Intermediate, Advanced Intermediate, and Expert trails
- Gladed terrain additions would be 23.5 acres
- Trail grading along *Upper Bunnyfair* and *Ho Hum* – 7.0 acres

SUP Boundary Adjustments

- Placer Express, Moose Glade Express and associated trails – 70-acre adjustment
- *Jolly Jug* trail 13-1 – 16-acre adjustment

Facilities Improvements

- Lookout facility expansion
- Planned Challenge Mountain facility
- North Lot parking expansion (additional 360 vehicles)
- Replace ski patrol facility at the top of Challenge Mountain

Snowmaking

- Expand coverage to all planned developed trails

Utilities and Infrastructure

- 1.6 miles of additional mountain access roads

ELDORA MOUNTAIN RESORT

UPGRADE PLAN

2011 MASTER PLAN FIGURE 5

Prepared By: SE GROUP

Trail grading on Ho Hum for carpet lift installation and improved ski school operations

Trail grading to reduce steep pitch on Upper Bunnyfair

Existing snowmaking reservoir

Planned snowmaking reservoir

Planned North Lot Parking Expansion
+3.5 acres (560 cars)

Existing snowmaking reservoir

SUP Boundary Adjustment

Construct new ski patrol duty station

Planned food & beverage facility

The Lookout facility expansion

Placer Lift bottom terminal construction/emergency access road and bridge

SUP Boundary Adjustment

GILPIN COUNTY
BOULDER COUNTY
PRIVATE LAND
USFS LAND

9,700'
9,350'
10,375'
10,700'
8,925'

13 JOLLY JUG
1 INDIAN PEAKS
2 Little Hawk
3
4 EZ
5 CARIBOU
6 SUNDANCE
7 RACE
9 CHALLENGE
REMOVE CHALLENGE
REMOVE CANNONBALL
12 REPLACE CORONA
14 FOUR O'CLOCK
15 PLACER EXPRESS
16 MOOSE GLADE EXPRESS

FOX TAIL
BUNNYFAIR
SUNDANCE
QUICKSCREW
CORKSCREW
CHUTE
BONANZA
SUNSET
HOTDOG ALLEY
INTERNATIONAL
FOUR O'CLOCK TRAIL
KLONDIKE
JOLLY JUG GLADES
POWDERHORN
CHALLENGE
PSYCHOPATH
LA BELLE DAME
WINDMILL
DREAM & SCREAM
HORNBLOWER
WAYBACK
PIPELINE
BRYAN GLADES II
BRYAN GLADES
UPPER DIAMONDBACK
LOWER DIAMONDBACK
SHOWBOAT
LOWER AMBUSH
AMBUSH
AROUND THE HORN
MULESHOE
PLACER GLADES
PLACER GLADES II
SALTO GLADES
CORONA
CORONA RUN
CASCADE
WEST RIDGE
MOOSE GLADES

PLANNED LIFT PROJECTS

- 1 2 Remove Tenderfoot I and II, replace with carpets
- 9 Planned Challenge express lift to replace Challenge and Cannonball
- 12 Replace Corona with express lift
- 13 Planned Jolly Jug express lift
- 14 Planned Four O'Clock fixed-grip lift to access novice terrain and backside lifts
- 15 Planned Placer express lift
- 16 Planned Moose Glade express lift

LEGEND

- Existing Lift
- Planned Lift
- Existing Trail
- Planned Trail Grading
- SUP Boundary
- Planned SUP Boundary Adjustment
- Lift to be Removed
- Lift to be Replaced
- Planned Trail Project
- Existing Glades
- Planned Glading Projects (Additional Glades and Improvement to Existing Glades)
- Facility Improvements

Note:
Planned projects are not approved for implementation. All projects on NFS lands depicted on the Upgrade Plan will require Forest Service review, including site specific NEPA review prior to potential approval and implementation.

North 25' Contour Interval 0 400 800 1200'

ELDORA MOUNTAIN RESORT

SNOWMAKING - INFRASTRUCTURE - UTILITIES

2011 MASTER PLAN FIGURE 6

Prepared By:

SE GROUP

Snowmaking reservoir

GILPIN COUNTY
BOULDER COUNTY

PRIVATE LAND
USFS LAND

Planned snowmaking reservoir

9,700'

Little Hawk
EZ
CARIBOU
SUNDANCE
RACE

Lower Lot

Snowmaking Building

9,350'

Main Lot

North Lot

Planned North Lot Parking Expansion

CHALLENGE
CANNONBALL

Maintenance Shop

Peterson Lake

10,375'

10,700'

INDIAN PEAKS

CORONA

SUP Boundary

8,925'

Placer Lift bottom terminal construction/emergency access road and bridge

25' Contour Interval

North 0 400 800 1200'

LEGEND

- Existing Lift
- Existing Trail
- Existing Fuel Storage
- Snowmaking Valve Houses - Pump Stations
- Primary Power
- Existing Snowmaking Pipe
- Natural Gas Pipline
- Existing Snowmaking Coverage
- Existing Mountain Access Roads
- Planned Snowmaking Coverage
- Proposed Mountain Access Roads

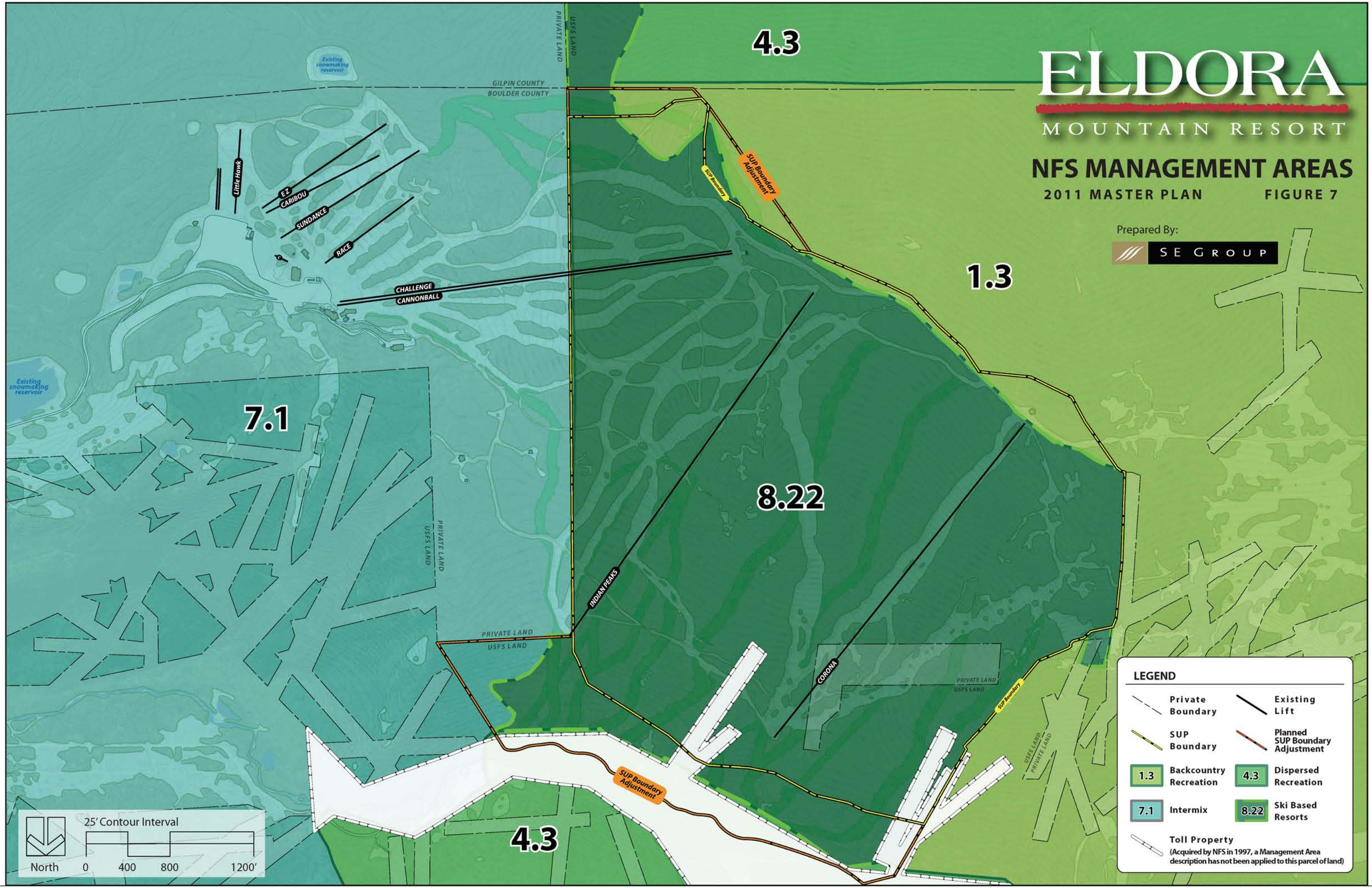
ELDORA MOUNTAIN RESORT

NFS MANAGEMENT AREAS

2011 MASTER PLAN FIGURE 7

Prepared By:

SE GROUP



LEGEND

- Private Boundary
- Existing Lift
- SUP Boundary
- Planned SUP Boundary Adjustment
- 1.3 Backcountry Recreation
- 4.3 Dispersed Recreation
- 7.1 Intermix
- 8.22 Ski Based Resorts
- Toll Property (Acquired by NFS in 1997, a Management Area description has not been applied to this parcel of land)

CHAPTER 6
GLOSSARY

6. GLOSSARY

Ability Level: The relative rank of a skier or snowboarder, or the relative rank given to alpine terrain. The six ability levels relied upon by SE Group are as follows: beginner, novice, low intermediate, intermediate, advanced intermediate, and expert.

Acre foot: The amount of water necessary to cover 1 acre to a depth of 1 foot, equals 43,560 cubic feet or 325,851 gallons.

Active Skiers and Snowboarders: Skiers and snowboarders are considered active if they are: (1) waiting in a lift line, (2) riding a lift, or (3) enjoying a downhill descent. Depending primarily upon weather and snow conditions, 70 to 85% of a resort's skiers and snowboarders are active. The remaining 15 to 30% of a resort's skiers and snowboarders are either using a resort's support facilities and amenities or are circulating in a resort's various staging and milling areas. These guests are considered non-active.

Best Management Practices (BMPs): Methods, measures, and practices specifically adopted for local conditions that deal effectively and practically with a given problem. BMPs include, but are not limited to, construction practices, structural and nonstructural controls, operations protocol, and maintenance procedures.

Comfortable Carrying Capacity (CCC): Comfortable Carrying Capacity is a planning tool used to determine the optimum level of utilization that facilitates a pleasant recreational experience. This is a planning figure only and does not represent a regulatory cap on visitation. CCC is used to ensure that different aspects of a resort's facilities are designed to work in harmony, that capacities are equivalent across facilities, and sufficient to meet anticipated demand. CCC is based on factors such as vertical transport and trail capacities.

Conveyor Lift: A conveyor is a type of surface lift used to transport passengers in a standing position. Passengers slide onto the belt at the base of the conveyor and remain standing on the moving belt to the top, where they slide off the belt onto the snow. They are the easiest, least threatening form of lift, and as such are ideal for first-time beginner skiers or snowboarders, children's ski school, and tubing. Typically installed at snow level, the machinery and return belt are located below the surface. Options include covers or enclosures and raised

sections. Maximum speed is 200 feet per minute and maximum (practical) length is around 1,000 feet.

Day-Use Skier/Snowboarder: Generally speaking, a skier or snowboarder that lives within the resort's day-use skier/snowboarder market. Given normal road and weather conditions, the day skier/snowboarder market is defined as the geographic area found within a 100-mile radius, or two-hour drive, of the resort. Day-use skiers and snowboarders drive to the resort and park in day-use lots.

Destination Skier/Snowboarder: Generally speaking, a skier or snowboarder that resides beyond a 250-mile, or five-hour, drive from the resort. On average, destination skiers and snowboarders stay at a resort for longer periods of time (i.e., ranging from three to seven days) and commonly comprise a majority of a resort's mid-week visitation. Destination skiers/snowboarders typically rely upon air travel and shuttle service for transport to the resort, and obligate overnight lodging and numerous other resort amenities.

Detachable Grip Chairlift: An aerial tramway system on which chairs circulate around the system—alternately attaching and detaching from a moving haul rope. Chairlift detachment occurs at the lower and upper terminals for ease of lift loading and unloading.

Developed Trail Network: The trails and other named terrain delineated on a resort's trail map. In addition to traditional trail corridors, the network might include named and patrolled bowls, glades, chutes, couloirs, hike-to areas, and tree skiing/snowboarding areas.

Express Lift: A chairlift that is comprised of detachable grip technology and the rope typically moves at a faster speed than fixed grip chairlifts. Also see Detachable Grip Chairlift.

Fall-Line: The path an object would naturally take as it descends a slope under the influence of gravity. Fall-line paths indicate the natural flow of potential trails, from the top of ridges to the elevations below. Fall-line terrain allows skiers and snowboarders to make equally weighted, left and right turns.

Fixed-Grip Chairlift: An aerial tramway system on which chairs remain attached to a haul rope.

Food Service Seat Turnover Rate: The turnover rate is used to evaluate a resort's aggregate food service seating capacity. The turnover rate is the estimated number of times a food service seat is used during a resort's peak food service operations. Sit-down dining at a resort lodge

typically has a turnover rate of 3, while cafeteria-style dining is characterized by a turnover rate in the range of 4 to 5. In addition to the type of food service, a resort's climate also impacts turnover rate (i.e., cold and snowy climates have lower turnover rates).

Forest Plan: A comprehensive management plan prepared under the National Forest Management Act of 1976 that provides standards and guidelines for management activities specific to each National Forest.

Glades: are trees stands that have been thinned specifically in varying degrees to improve the skiing experience by increasing the spacing between individual trees. Stands with less thinning are sometimes described as "Tree Skiing" areas. Stands with tree clearing to the extent that they can be groomed are described as "Groomable Glades."

Glading: The removal of up to 10 percent to 40 percent of a slope's trees, which enables a tree stand to be skied or rode by a larger percentage of a resort's guests.

Gradient: The vertical distance divided by the horizontal distance (i.e., commonly known as "rise over run"), which is measured as a percent, or a degree. Slope gradient is used to determine the ability level distribution of a resort's alpine terrain.

Grooming: The preparation and smoothing of the developed trail network's snow surface, using large over-the-snow vehicles (commonly referred to as "snow cats" or "grooming machines"). Grooming machines are equipped with front-mounted blades to push snow and a rear-mounted implement to flatten and/or till the snow to an improved consistency.

Guest Services Facilities or Guest Services: Facilities or services that are supplied by a resort to accommodate guests and enhance the quality of the recreational experience. Examples of guest services facilities include: restaurants, warming huts, general information desks, resort lost and found departments, restrooms and lounges, ski school, daycare, public lockers and ski-check facilities, ski patrol, first aid clinics, etc.

Management Area: Used by the Forest Plan to define where different management activities may be carried out and to show where different kinds of public uses occur.

Maze: A waiting area used to line up skiers and snowboarders just prior to lift loading (i.e., the corral area immediately adjacent to the loading point of the lift).

Mitigation: Actions taken to avoid, minimize, or compensate for adverse environmental impacts.

Mountain Roads: On-mountain primary and secondary roads that provide summertime access (for rubber tire vehicles) to all mountain buildings and lift terminal locations.

National Environmental Policy Act of 1969 (NEPA): A law enacted by Congress in 1969 that requires federal agencies to analyze the environmental effects of all major federal activities that may have a significant impact on the quality of the human environment.

National Forest System (NFS) lands: National Forests, National Grasslands, and other related lands for which the Forest Service is assigned administrative responsibility.

Off Fall-Line: The path an object takes as it crosses the fall-line slope. Off fall-line terrain compels skiers and snowboarders to make alternating long and short turns (turns that are not equally weighted) in order to accommodate the off fall-line condition. In some instances, and if properly designed, off fall-line terrain can be enjoyable to snowboarders.

Off-Piste: Alpine terrain not associated with a named and maintained ski trail.

Pod: A delineated parcel of land that, due to its favorable terrain characteristics, is suitable for lift and trail development. Pods are areas of relatively consistent terrain (both slope gradient and fall-line) that may be serviced by one or more lifts and may be easily integrated into the existing skier and snowboarder circulation patterns.

Quad: A common abbreviation for a four-passenger chairlift.

Rider: A commonly used term for a snowboarding guest.

Round-Trip Interval (RTI): The round-trip interval represents the aggregate time spent waiting in the lift line, riding the lift, and skiing or riding a particular trail of the lift. The RTI is used to calculate the number of runs an average skier/snowboarder is expected to take on a particular lift over the course of a day. Ultimately, the RTI is used to calculate the daily vertical demand of an average skier/snowboarder.

Skier/Snowboarder Circulation Analysis: An on-slope survey in which skier and snowboarder circulation characteristics are recorded for the full spectrum of ability levels. The on-slope survey is performed for each lift, yielding an accurate determination of the lift's average RTI and Alpine CCC.

Skiway: A trail that allows skiers and snowboarders to traverse the mountain and avoid additional chairlift rides. Skiways, or traverses, are also used in pods of intermediate, advanced intermediate, and expert terrain to provide an appropriate descent for guests of beginner and novice ability levels. A skiway is typically designed to maintain an average slope gradient of 10%.

Special Use Permit (SUP): A legal document, similar to a lease, issued by the U.S. Forest Service. These permits are issued to private individuals or corporations to conduct commercial operations on National Forest System lands. They specify the terms and conditions under which the permitted activity may be conducted.

Staging: An area, or zone, where guests assemble and are prepared for a particular recreational pursuit. Examples of staging areas include milling and maze areas, check-in and guest drop-off areas, plazas, etc.

Surface Lift: A lift on which passengers are propelled by means of a circulating overhead wire rope while remaining in contact with the snow surface. Connection between the overhead wire and the passenger is by means of a towing device (e.g., T-bar, J-bar, platter, etc.) attached and circulating with the lift's haul rope. (Note: For definitional purposes, conveyor and belt lifts are considered surface lifts.)

Target Trail Density: The maximum number of skiers and snowboarders that can slide on an acre of trail at any given time without causing uncomfortable crowding on the trail. Acceptable trail density is measured in skiers and snowboarders per acre. As a general rule, the difficulty of the trail and acceptable trail density share an inverse relationship.

Terrain Park: An area dedicated to the development and maintenance of a collection of alternative terrain features, which may include, but is not limited to, elements like halfpipes, quarterpipes, big air hits, ollies, spines, jibbing elements, barrel bonks, table tops, etc.

Trail Density Per Acre: The number of skiers and snowboarders that occupy an acre of trail at any one given time. Trail density is reported in a persons-per-acre ratio.

Uphill Hourly Capacity: A calculation of the number of skiers and snowboarders transported—per hour—from the lower to the upper terminal of the lift. A resort's combined uphill hourly capacity is the aggregation of the resort's individual lift capacities.

Vertical Demand: The vertical demand of a lift is the by-product of the lift's vertical rise, the average round-trip interval (i.e., number of runs per hour), and the number of hours the lift is used by an average skier or snowboarder. In short, vertical demand is the product of the lift's vertical rise and the number of runs skied/rode in a day of typical operation.

Vertical Transport Feet per Hour (VTF/hr.) (000): The number of persons a lift is able to transport 1,000 vertical feet in one hour. VTF/hour is derived by multiplying a lift's uphill capacity (measured in persons per hour) by the lift's vertical rise (measured in feet) and dividing by 1,000.

CHAPTER 7
REFERENCES

7. REFERENCES

16 USC 497. 1999. 64 FR 8681-8690. National Forest Ski Area Permit Act of 1986 – as adopted in 1999. February 22.

Beely, M. 2010. Personal Communication with Vice President of Doppelmayr USA. October 29.

National Ski Areas Association & RRC Associates. 2010. Kottke National End of Season Survey 2009/10. July.

USDA Forest Service (USFS). 1997a. 1997 Revision to the Land and Resource Management Plan. Arapaho and Roosevelt National Forests and Pawnee National Grassland. Fort Collins, CO.

———. 1997b. Final Environmental Impact Statement to Accompany the 1997 Revision to the Land and Resource Management Plan. Arapaho and Roosevelt National Forests and Pawnee National Grassland. Fort Collins, CO.

———. 1997c. 1997 Revision to the Land and Resource Management Plan. Arapaho and Roosevelt National Forests and Pawnee National Grassland. Fort Collins, CO. Amendment 9 Replaces the Visual Management System with the Scenery Management System.

———. 2001. The Built Environment Image Guide for the National Forests and Grasslands. FS-710. December.