ASPEN SNOWMASS®

ASPEN MOUNTAIN

2018 MASTER DEVELOPMENT PLAN

January 2018

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January 2018

ACCEPTED BY: _____

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DATE: 3/2/2018

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IV. EXISTING FACILITIES

This section contains an examination and analysis of existing facilities at Aspen Mountain. 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 and on-mountain structures, guest services, other resort functions/activities, day-use parking, operations, and utilities/infrastructure. The analysis of the inventoried data involves the application of industry standards to existing conditions at Aspen Mountain. This process allows for the comparison of the resort's existing facilities to those facilities commonly found 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 strengths, weaknesses, opportunities, and constraints as a resort. The next step is the identification of any improvements which would bring the existing facilities into better equilibrium, and assist the resort in meeting the ever-changing expectations of its marketplace. Accomplishing these objectives will result in a well-balanced resort which provides an adequate array of services and experiences to satisfy guest expectations for a quality recreation experience.

The examination of existing facilities presented in this chapter correlates with Figure IV-1.

A. SUMMARY OF THE EXISTING GUEST EXPERIENCE

The overall infrastructure of lift installations, terrain offerings, snowmaking systems, on-mountain restaurants, and miscellaneous support buildings/facilities have been continually upgraded since 1946. Although the existing mountain infrastructure has basically remained the same for the past decade, the overall guest experience has steadily improved as a result of innovative grooming/snowmaking operations and constant attention to improved guest service. As a result, Aspen Mountain has maintained its iconic reputation as a premier destination at a regional, national, and international scale, offering nearly 700 skiable acres that includes some of the most interesting and varied terrain in Colorado.

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 recreational facility. Empirical observations and a close examination of principal components on Aspen Mountain reveal that the existing mountain is well-balanced.

A resort's CCC is computed by analyzing the resort's supply of, and demand for, vertical lift transport. The existing CCC at Aspen Mountain was determined to be 4,290 guests per day. From a terrain standpoint, the resort's trail network has a trail density of approximately 4 skiers-per-acre; which is low in terms of industry averages. This is

a desirable situation that ensures an uncrowded experience, even on peak days.

B. EXISTING LIFT NETWORK

Aspen Mountain currently operates eight lifts: one six-passenger detachable gondola, one detachable quad chairlift, one detachable triple chairlift, two fixed-grip quad chairlifts, and three fixed-grip double chairlifts. The resort's existing total uphill design lift capacity has been calculated at 12,430 people per hour (pph). Table IV-1 summarizes the technical specifications for the existing lifts, and Figure IV-1 illustrates the location of existing lifts.

Overall, the Aspen Mountain lift network services the available terrain effectively; however, some of the lift alignments at Aspen Mountain are redundant and inefficient. Specifically, the terrain accessed by the Bell Mountain and Little Nell chairlifts is easily accessible via other lifts. As a result, neither of these lifts operate on a regular basis and substantially limit lift and terrain network efficiency due to their redundancy with the Silver Queen Gondola. Additionally, the Gent's Ridge lift is often avoided by skiers and receives below optimal ridership because of its perceived long, slow ride. The current Gent's Ridge chairlift scenario also hinders lift and terrain network efficiency as it is underutilized and fails to adequately transport users throughout a portion of the terrain network.

The following list provides an overview of the lift network at Aspen Mountain.

- The Silver Queen Gondola, Ajax Express chairlift, and Ruthie's chairlift provide the majority of access to Aspen Mountain's terrain.
- The F.I.S. chairlift provides a key role transferring skiers from the Spar Gulch area to Ruthie's Ridge.
- The Shadow Mountain chairlift functions as a secondary portal on the west side of the mountain but is long past the average thirty-five-year life expectancy of fixed-grip lifts. It has been approved by the Forest Service to be replaced and realigned (refer to Chapter V – Previously Approved Projects, Not Yet Implemented).
- The Gent's Ridge chairlift has not been upgraded since its installation in 1985, is nearing the end of its operational life, and is currently underutilized due to skier perception of a long ride time.
- The Bell Mountain chairlift has been upgraded several times in the past forty years but, since the installation of the Silver Queen Gondola in 1986, the Bell Mountain Chair receives little use because of its redundancy with the Silver Queen Gondola and longer ride time. ASC, therefore, chooses to primarily limit operations for mountain access when the Silver Queen is inoperable, or for other special occasions only.
- Similarly, the Little Nell chairlift only operates as a back-up lift when the Silver Queen is inoperable and/or when a special event benefits from its operation.

Table IV-1. Lift Specifications – Existing Conditions

Lift Name, Lift Type	Top Elev. (ft)	Bottom Elev. (ft)	Vertical Rise (ft)	Slope Length (ft)	Avg. Grade (%)	Actual Design Capacity (pers/hr)	Rope Speed (fpm)	Carrier Spacing (ft)	Manufacturer/ Year Installed
Silver Queen Gondola/G6	11,194	7,952	3,242	13,061	26%	2,000	1,000	180	Poma 1986/ 2005
Ajax Express/DC4	11,212	10,100	1,112	4,618	25%	2,400	1,000	100	Poma/2003
Ruthie's/DC3	10,664	9,328	1,336	5,451	26%	1,800	1,100	110	Poma/1997
Gent's Ridge/C4	11,191	10,114	1,077	5,449	20%	1,330	450	81	Poma/1985
F.I.S./C2	10,457	9,892	565	1,365	46%	1,200	550	55	Poma/2004
Bell Mountain/C2	10,610	8,460	2,150	6,772	34%	1,000	500	60	Riblet 1957/1990
Shadow Mountain/C2	9,385	8,018	1,367	3,568	42%	1,000	500	60	SLI/Riblet/1972
Little Nell/C4	8,498	7,997	501	2,011	26%	1,700	450	64	Poma/1986

Source: ASC
C2 = fixed-grip double chairlift / C4 = fixed-grip quad chairlift
DC4 = detachable quad chairlift / DC3 = detachable triple chairlift
G6 = six-passenger gondola

C. EXISTING TERRAIN NETWORK

1. Terrain Variety

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). In Ski Magazine's Reader Resort Ratings, "terrain variety" is consistently 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 must have a wide variety of alternate-style terrain, such as mogul runs, bowls, trees, open parks, in-bounds "backcountry-style" (i.e., hike-to) terrain, and terrain parks and pipes. At resorts across the nation, there is a growing trend favoring these more natural, unstructured, "semi-backcountry" 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.

To provide the highest quality guest experience, resorts should offer groomed runs of all ability levels and some level of each of the undeveloped terrain types. Undeveloped terrain is primarily used by advanced and expert level skiers/riders during 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 represent the most intriguing terrain, and typically are the areas that skiers/riders strive to access. Even though some of these terrain types only provide opportunities when conditions warrant, variety is increasingly becoming a crucial factor in guests' decisions on where to visit.

As such, this analysis accounts for two separate types of terrain on Aspen Mountain, totaling 699 acres:

- Lift-accessed traditional, cleared, mostly groomable, ski trails for intermediate, advanced, and expert skiers—accounting for 475 acres of the developed terrain network. This terrain also includes some minimally maintained areas that typically offers great mogul skiing opportunities (such as Walsh's), but is comprised primarily of the developed trail network.
- Lift-accessed gladed and/or open but minimally maintained terrain for advanced and expert skiers—accounting for 224 acres of the available terrain (these areas include glades, steeps, dumps, steep moguls, and other tight terrain that exists between the traditional style trails at Aspen Mountain).

2. Terrain Parks

As previously discussed in Chapter II – Design Criteria, Aspen Mountain does not currently operate any terrain parks. ASC believes that the operation of terrain parks at Aspen Mountain is not necessary because of the expansive terrain park complexes available on Buttermilk Mountain and Snowmass Mountain; again, by virtue of the "Power of Four" brand.

3. Developed Alpine Trails

The existing developed Alpine terrain network on Aspen Mountain is depicted on Figure IV-1. This developed, or formalized, terrain network consists of the resort's named, defined, lift-serviced, maintained trails (including those that are left moguled, regularly open but minimally maintained). Despite the importance of undeveloped, alternate-style terrain, formalized runs represent the baseline of the terrain at any resort, as they are where the majority of guests ski/ride. Additionally, developed terrain is usually the only place to ski/ride during the early season, periods of poor or undesirable snow conditions, avalanche closures, and in certain weather conditions. As such, the developed trail network represents an accurate picture of the acreage utilized by the average skier/rider on a consistent basis, as well as that used by virtually

all guests during the aforementioned conditions. Therefore, the full capacity of the resort must be accommodated by the total acreage of the developed terrain network, rather than relying on undeveloped terrain (which is not always available).

Based on the rationale presented in the preceding paragraphs, and for the purposes of this analysis, the developed trail network is the basis for the trail acreage calculations, skier/rider classification breakdown, trail capacity, and density formulas. It does not include the undeveloped terrain described above. If this analysis were to account for terrain outside of the developed trail network, it would have a misleading effect on those calculations, likely resulting in lower trail densities, higher capacities, and an incorrect skier/rider classification breakdown.

The developed trail network accommodates intermediate- through expert-level guests on 89 lift-served, named trails or trail segments spanning approximately 699 acres. Most intermediate runs are groomed on a regular basis.

There is no beginner through low intermediate ability level terrain on Aspen Mountain. The original developers of Aspen Mountain (primarily members the 10th Mountain Division of the United States Army) realized this immediately when developing the initial lift and trail system in 1946. As a result, nearby Buttermilk Mountain was founded in the 1950s to provide the much-needed beginner and teaching terrain that was nonexistent on Aspen Mountain.

Key aspects of terrain on Aspen Mountain are explored in the following discussions.

a. Intermediate Terrain

Most of Aspen Mountain's intermediate terrain is found at the top of the mountain and easily accessed by the Silver Queen Gondola. Repeat skiing opportunities of intermediate terrain are available via the Ajax Express and Gent's Ridge chairlifts. Additional, but slightly more difficult, intermediate terrain exists on the Ruthie's side of the mountain. Although the main egress trails to the lower mountain (Spar Gulch and Copper Bowl) are rated intermediate, they are very long and contain continuous grades that are challenging for intermediate skiers/riders at the end of a long day on the upper mountain; therefore, many intermediate skiers/riders choose to "download" the Silver Queen after repeat skiing the intermediate terrain of the upper mountain the majority of the day.

b. Maintained Expert Trails

As has been discussed throughout this document, Aspen Mountain is well-known for its varied, interesting and plentiful expert terrain. From the varying aspects of Bell Mountain to the attention-grabbing "Dumps" and the world-famous "America's Downhill," this terrain creates an enjoyable experience for expert skiers/riders while also commanding their respect and attention.

However, it should be noted that most of the expert level terrain available is in minimally developed and maintained areas. There are not many groomed expert or advanced runs available on Aspen Mountain. This means that, during times when snow conditions are unfavorable or early season, there are not many options or skiing looking for maintained expert terrain.

Table IV-2 lists the specifications for the developed terrain network at Aspen Mountain. The table also includes some less developed terrain; however, undeveloped terrain is not included in the individual "pod capacity" analyses.

In addition to the 475 acres of developed terrain depicted in Table IV-2, there are also 224 acres of glades that comprise the 699-acre terrain network at Aspen Mountain. Table IV-3 depicts the various gladed areas at Aspen Mountain and their size.

Table IV-2. Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bottom Elev. (ft)	Vertical Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (pers/hr)	Avg. Grade (%)	Max. Grade (ft)	Ability Level
Aztec	9,679	9,285	395	940	205	4.4	47	60	Expert
Back of Bell 1	10,512	10,115	397	958	182	4.0	46	56	Expert
Back of Bell 2	10,373	10,006	367	882	126	2.6	46	51	Advanced
Bellisimo	10,870	10,637	232	1,243	96	2.7	19	34	Low Intermediate
Blazing Star	10,599	10,343	256	1,048	150	3.6	26	59	Expert
Blondie's	10,716	10,431	285	994	121	2.8	31	60	Expert
Buckhorn	11,216	10,853	363	1,691	124	4.8	22	44	Intermediate
Buckhorn Cutoff	11,205	11,041	164	820	136	2.6	21	36	Intermediate
Copper Bowl	10,152	9,082	1,070	3,707	184	11.6	30	42	Intermediate
Copper Connector	10,112	10,028	84	516	209	2.5	17	22	Intermediate
Deer Park	10,646	10,147	499	2,262	181	9.4	23	32	Low Intermediate
Dipsy Doodle	11,199	10,105	1,094	4,865	228	25.5	23	45	Intermediate
Easy Chair	11,005	10,849	156	504	91	1.1	33	44	Intermediate
F.I.S.	10,589	10,044	545	1,558	458	16.4	38	54	Advanced
Franklin Dump	8,665	8,361	304	588	71	1.0	61	77	Expert
Gent's Ridge	10,684	9,338	1,346	6,490	164	24.5	21	53	Advanced
Gretl's	10,438	10,210	228	690	198	3.1	35	44	Intermediate
Hyrup's	10,915	10,400	515	1,115	159	4.1	53	79	Expert
International	10,473	9,565	907	3,611	82	6.8	26	55	Expert
Keith Glen	10,091	9,779	312	633	171	2.5	57	65	Expert
Knowlton's	10,580	10,211	369	991	138	3.1	41	65	Expert
Kristi's	10,777	10,425	352	748	259	4.4	55	81	Expert
Last Dollar	9,738	9,238	500	1,019	292	6.8	57	70	Expert
Lazy 8 Gully	8,572	8,336	237	580	197	2.6	45	59	Expert
Lazy Boy	10,592	10,425	167	481	222	2.5	37	45	Intermediate
Lift 1A Liftline	9,060	8,915	145	293	52	0.4	59	56	Expert
Little Nell	8,754	7,952	802	2,984	300	20.6	28	43	Intermediate
Little Percy's	10,675	10,439	236	585	200	2.7	45	63	Expert
Lower 5th Avenue	8,360	8,019	341	1,256	271	7.8	28	42	Intermediate
Lower Copper Trail	10,903	10,126	777	3,815	177	15.5	21	38	Intermediate
Lower CorkScrew	8,339	8,130	209	564	212	2.7	40	47	Advanced
Lower Corkscrew Gully	8,531	8,403	127	347	76	0.6	40	45	Advanced
Lower FIS Slalom Hill	8,283	8,216	66	140	159	0.5	54	67	Expert
Lower Lift 1A Liftline	8,903	8,567	336	557	52	0.7	76	81	Expert
Lower Magnifico	8,607	8,346	261	613	151	2.1	48	59	Expert
Lower Roch Run	9,183	9,034	149	399	182	1.7	40	45	Intermediate
Lower Ruthie's	9,563	9,334	230	842	316	6.1	29	45	Intermediate
Lower Schuss Gully	8,258	8,187	72	596	25	0.3	12	17	Intermediate
Lower Spring Pitch	9,233	9,014	218	489	396	4.5	50	52	Advanced
Lower Strawpile	8,467	8,415	52	162	277	1.0	34	34	Low Intermediate
Lud's Lane	10,424	10,342	82	1,982	32	1.5	4	31	Expert
Magnifico Road	9,026	8,806	220	1,504	37	1.3	15	28	Low Intermediate
Middle Corkscrew	8,532	8,344	188	455	233	2.4	46	49	Advanced
Middle Lift 1A Liftline	9,142	9,078	64	181	68	0.3	38	36	Intermediate

Table IV-2. Terrain Specifications – Existing Conditions

Trail Area/Name	Top Elev. (ft)	Bottom Elev. (ft)	Vertical Rise (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (pers/hr)	Avg. Grade (%)	Max. Grade (ft)	Ability Level
Middle Roch Run	9,488	9,387	102	302	179	1.2	36	40	Intermediate
Midnight	10,873	10,617	256	1,116	135	3.5	24	39	Intermediate
Midway Road	10,847	10,682	165	2,683	40	2.5	6	25	Low Intermediate
Niagra	8,587	8,459	128	536	152	1.9	25	56	Expert
North American	10,707	10,393	314	1,146	306	8.0	29	39	Intermediate
Northstar	10,955	10,193	761	3,171	161	11.7	25	61	Expert
Norway	8,408	8,060	349	867	241	4.8	45	60	Expert
One & Two Leaf	11,180	10,632	548	3,482	124	9.9	16	28	Low Intermediate
Perry's Prowl	9,876	9,400	476	930	300	6.4	60	72	Expert
Pumphouse Hill	10,580	10,368	211	939	120	2.6	23	44	Intermediate
Pussyfoot	11,021	10,579	442	1,821	110	4.6	25	46	Advanced
Reardon's Run	9,813	9,444	368	1,118	90	2.3	35	44	Intermediate
Red's	10,659	10,137	522	1,194	260	7.1	49	57	Expert
Ridge of Bell	10,588	9,409	1,179	3,103	222	15.8	41	65	Expert
Roch Run	9,383	9,204	179	543	160	2.0	35	49	Advanced
Schiller Road	9,545	9,414	131	710	30	0.5	19	20	Advanced
Seibert's	10,566	10,257	309	971	205	4.6	34	56	Expert
Short Snort	9,978	9,626	352	834	97	1.9	47	63	Expert
Shoulder of Bell	9,977	9,322	654	1,472	143	4.8	50	63	Expert
Silver Bell	11,208	10,326	882	4,306	169	16.8	21	31	Low Intermediate
Silver Dip	10,742	10,354	388	1,465	237	8.0	28	44	Intermediate
Silver Queen	9,550	8,751	798	1,980	149	6.8	45	78	Expert
Spar Gulch	10,104	8,761	1,343	5,916	153	15.7	23	44	Intermediate
Summer Road	9,735	8,213	1,522	10,179	37	8.6	15	25	Intermediate
Summit	11,028	10,733	296	777	58	1.0	41	51	Advanced
Sunrise Sunset	10,583	10,214	369	887	243	4.9	46	55	Advanced
Super 8 Gully	8,881	8,601	281	536	121	1.5	62	70	Expert
Tourtelotte Park	10,642	10,306	336	1,433	264	8.7	24	38	Intermediate
Tower 10 Road	8,698	8,475	223	2,564	24	1.4	9	15	Intermediate
Upper 5th Avenue	8,486	8,380	106	279	236	1.5	42	53	Advanced
Upper Copper Trail	11,198	10,956	242	1,393	201	6.4	18	32	Low Intermediate
Upper CorkScrew	8,959	8,557	402	769	138	2.4	61	65	Expert
Upper Corkscrew Gully	8,958	8,546	412	988	94	2.1	46	58	Expert
Upper FIS Slalom Hill	8,607	8,291	316	636	295	4.3	57	69	Expert
Upper Lift 1A Liftline	9,364	9,161	203	649	81	1.2	33	47	Advanced
Upper Magnifico Dump	8,821	8,620	202	446	257	2.6	51	53	Advanced
Upper Roch Run	9,998	9,510	489	1,457	159	5.3	36	45	Intermediate
Upper Ruthie's	10,673	9,584	1,089	4,573	323	34.0	25	44	Intermediate
Upper Schuss Gully	8,363	8,263	100	321	96	0.7	33	37	Intermediate
Upper Spring Pitch	9,356	9,259	98	444	162	1.7	23	28	Advanced
Upper Strawpile	8,853	8,494	359	970	267	5.9	40	45	Intermediate
Walsh's	11,043	10,422	621	1,543	397	7.1	45	72	Expert
Zaugg Dump	9,933	9,554	379	794	89	1.6	55	71	Expert
Total				**128,944**		**474.5**			

Table IV-3. Gladed Terrain Specifications – Existing Conditions

Glade Area/Name	Slope Area (acres)
Back of Bell 1 glade	6.1
Back of Bell 2 glade	4.8
Bear Paw Glade	12.8
Bell Meadow	18.6
Bingo Glade	13.7
Bonnie Bell Glade	4.5
Cone Dump Glade	13.1
Face of Bell	15.5
Glade 1	6.4
Glade 2	8.0
Glade 3	7.2
Gretl's glade	2.8
Jackpot Glade	23.9
Knowlton's Glade	5.0
Midnight Glade	12.2
Northstar Glade	4.5
Nose of Bell	15.2
Percy Glade	2.7
Pink Slip Glade	2.2
Rayburn's Glade	3.5
S1 Glade	5.1
Seibert's Glade	2.4
Silver Queen Ridge	1.7
Silver Rush	2.3
Sunrise Glade	4.0
Trainor's Glades	25.6
Total Acres	**223.8**

c. Terrain Distribution by Ability Level

This terrain distribution analysis considers the 475-acre developed terrain network at Aspen Mountain. Because there is no beginner, novice or low intermediate terrain at Aspen Mountain, the terrain distribution through the full range of ability levels does not compare favorably to the ideal breakdown for the regional destination skier/rider market. As previously discussed, this deficiency is addressed by lower ability level terrain at Buttermilk Mountain. Further, the "Power of Four" brand developed for the ASC Resorts has proven successful in addressing varying guest demands through unique and different opportunities at each of the four mountains. When combining the terrain distribution of all three "Town Mountains" (i.e., Aspen Mountain, Aspen Highlands and Buttermilk Mountain) this ratio much more closely matches the ideal breakdown for the regional destination skier/rider market.

The terrain classification breakdown of the existing conditions at Aspen Mountain is set forth in Table IV-4 and Chart IV-1. The last column in this table represents what can be considered the skill level distribution in the relevant skier/rider market and provides a comparison with the actual skier/rider distribution on Aspen Mountain.

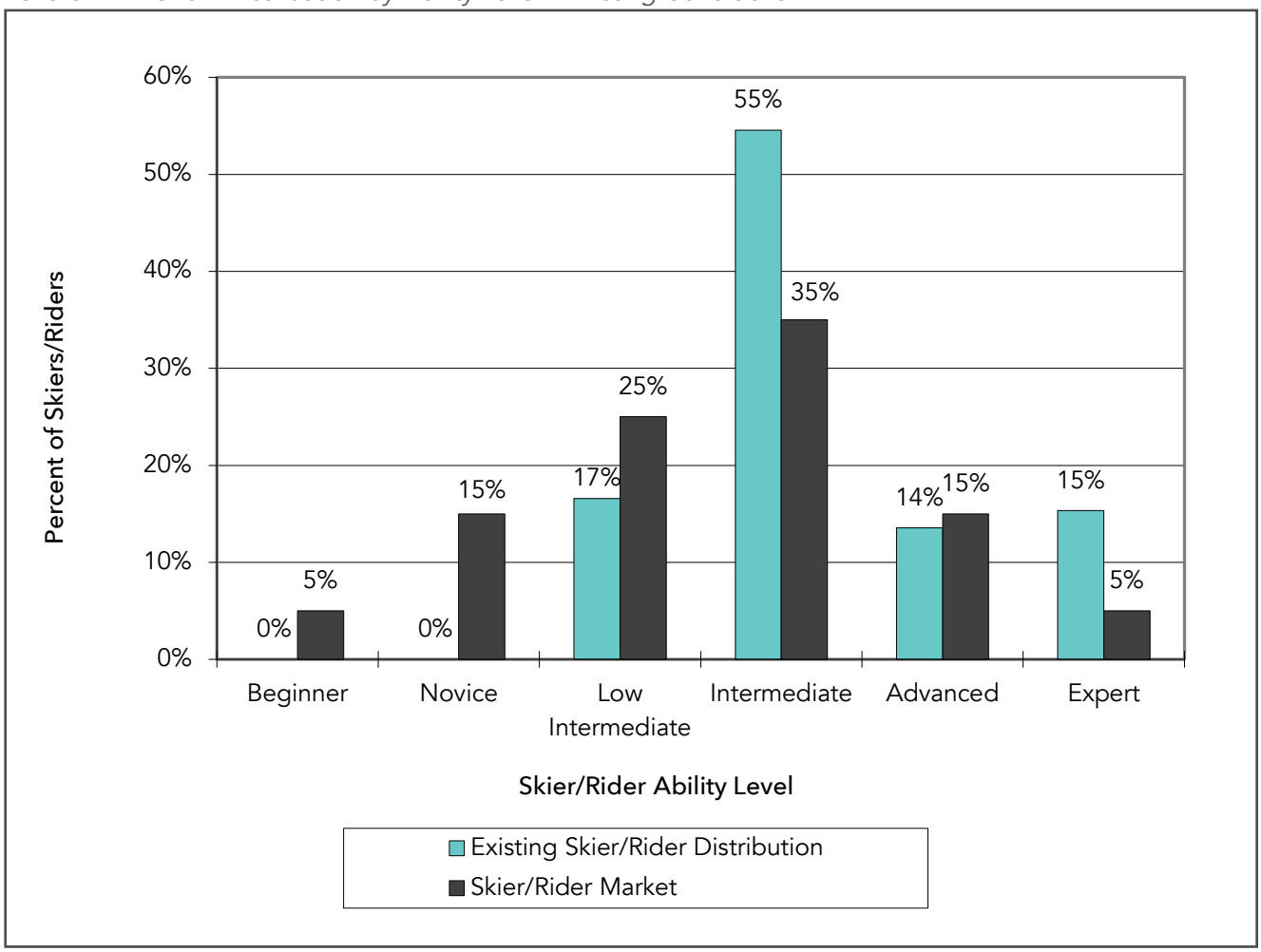
Chart IV-1 illustrates how the lack of beginner, novice and low-intermediate ability level terrain skews the existing terrain distribution on Aspen Mountain towards the more advanced level skier/rider population as compared to the ratios of the average regional market. The fact that the advanced and expert terrain capacity ratios exceed the national market average reflects Aspen Mountain's caters to an advanced and expert skier market while still providing a substantial amount of terrain for intermediate skiers/riders. As previously discussed, this terrain distribution is desirable from the type of experience that Aspen Mountain is hoping to provide as lower ability level terrain is provided on nearby Buttermilk Mountain and Snowmass Mountain also managed by ASC.

Table IV-4. Terrain Distribution by Ability Level – Existing Conditions

Skier/Rider Ability Level	Trail Area (acres)	Skier/Rider Capacity (guests)	Actual Skier/Rider Distribution (%)	Relevant Skier/Rider Market (%)
Beginner	0.0	0.0	0	5
Novice	0.0	0.0	0	15
Low intermediate	50.0	450	17	25
Intermediate	211.9	1483	55	35
Advanced	73.7	368	14	15
Expert	138.9	417	15	5
Total	**474.5**	**2,719**	**100%**	**100%**

Source: SE Group

Chart IV-1. Terrain Distribution by Ability Level – Existing Conditions



Source: SE Group

D. EXISTING CAPACITY ANALYSIS

1. Comfortable Carrying Capacity

The reader is referred to Chapter II (Section D) for a detailed discussion of capacity analysis and design, defined as CCC.

A detailed calculation of CCC was completed for this MDP, as shown in Table IV-5. The CCC of Aspen Mountain was calculated at 4,290 guests per day.

2. Density Analysis

An important aspect of resort design is the balancing of uphill lift capacity with downhill trail capacity. Trail densities are derived by comparing the uphill, at-one-time capacity of each individual lift pod (i.e., CCC) with the trail acreage associated with that lift pod.

At any one time, skiers and riders are dispersed throughout the resort, using guest facilities and milling areas, waiting in lift mazes, riding lifts, or descending on ski terrain. For the trail density analysis, 25% of each lift's CCC is presumed to be "inactive"(i.e., using guest service facilities or milling areas and otherwise not actively skiing or riding lifts).

The active skier/rider population can be found in lift lines, on lifts, or on trails. The number of people 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 people on each lift is the product of the number and capacity of uphill carriers. The remainder of the skier/rider 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.

Trail density is calculated for each lift pod by dividing the number of guests on the trails by the amount of trail area that is available within each lift pod. The trail density analysis compares the calculated trail density for each lift pod to the desired 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).

Again, it is important to point out that the trail density analysis considers only the acreage associated with the developed trail network. Since Aspen Mountain attracts a large number of advanced- and expert-level skiers, it is typical to see a large portion of the skiers at the resort utilizing the undeveloped terrain available. However, it is important for a resort to have enough developed terrain) to accommodate the full capacity of the resort, as there are many days that skiing the undeveloped terrain is undesirable due to snow and/or weather conditions. As a result, the density analysis presented here looks at the capacity of the developed terrain of Aspen Mountain (475 acres).

The density analysis for Aspen Mountain is illustrated in Table IV-6. This table shows that the average trail density is 4 skiers-per-acre, a density that is low compared to the industry standard range.[4] This situation is certainly desirable from the perspective of the recreational experience, as low skier/rider densities are a defining factor in the quality of the recreational experience.

The density figures included in the Table IV-6 show that, for all of the individual lift/trail systems on Aspen Mountain, the actual trail densities are at or below the target design criteria, meaning that trails are generally less crowded than at most resorts. While typically desirable, low density numbers can also indicate underutilization of the existing terrain, meaning that there could comfortably be more skiers/riders on the terrain at any one time than there are at current visitation levels. This situation indicates that the amount of effort required to properly maintain the quantity of terrain could be disproportionately high when compared to the overall number of skiers/riders on the mountain, as presented in the following discussion.

4 Specific trails, particularly the egress trails towards the end of the day, can consistently have high densities.

Table IV-5. Comfortable Carrying Capacity – Existing Conditions

Lift Name, Lift Type	Slope Length (ft)	Vertical Rise (ft)	Actual Design Capacity (guests/hr)	Oper. Hours (hrs)	Up-Mtn. Access Role (%)	Misload/ Lift Stop (%)	Adjusted Hourly Cap. (guests/hr)	VTF/ Day (000)	Vertical Demand (ft/day)	CCC (guests)
Silver Queen Gondola/G6	13,061	3,242	2,000	7.00	40	5	1,100	24,963	21,402	1,170
Ajax Express/DC4	4,618	1,112	2,400	6.50	0	5	2,280	16,479	14,946	1,100
Ruthie's/DC3	5,451	1,336	1,800	6.50	0	5	1,710	14,845	20,710	720
Gent's Ridge/C4	5,449	1,077	1,330	6.50	0	10	1,197	8,380	11,780	710
F.I.S./C2	1,365	565	1,200	6.50	75	10	180	661	23,860	30
Bell Mountain/C2	6,772	2,150	1,000	6.50	50	10	400	5,591	22,820	250
Shadow Mountain/C2	3,568	1,367	1,000	7.00	50	10	400	3,828	25,269	150
Little Nell/C4	2,011	501	1,700	6.50	50	10	680	2,213	13,654	160
Total	**42,295**		**12,430**				**7,947**	**76,960**		**4,290**

Source: SE Group
Notes:
C2 = fixed-grip double chairlift / C4 = fixed-grip quad chairlift
DC4 = detachable quad chairlift / DC3 = detachable triple chairlift
G6 = six-passenger gondola

Table IV-6. Density Analysis – Existing Conditions

Lift Name, Lift Type	Daily Lift Capacity	Guest Dispersal				Density Analysis				
		Support Fac./Milling (guests)	Lift Lines (guests)	On Lift (guests)	On Terrain (guests)	Terrain Area (acres)	Terrain Density (guests/ac)	Target Trail Density (guests/ac)	Diff. (+/-)	Density Index (%)
Silver Queen Gondola/G6	1,170	293	92	239	546	104.7	5	6	-1	83
Ajax Express/DC4	1,100	275	190	175	460	92.7	5	6	-1	83
Ruthie's/DC3	720	180	86	141	313	104.5	3	5	-2	60
Gent's Ridge/C4	710	178	40	242	250	56.1	4	5	-1	80
F.I.S./C2	30	8	6	7	9	8.9	1	1	0	100
Bell Mountain/C2	250	63	7	90	90	37.6	2	3	-1	67
Shadow Mountain/C2	150	38	13	48	51	59.2	1	4	-3	25
Little Nell/C4	160	40	11	51	58	10.8	5	7	-2	71
Total	**4,290**	**1,075**	**445**	**993**	**1,777**	**474.5**	**4**	**5**	**-1**	**77%**

Source: SE Group
Notes:
C2 = fixed-grip double chairlift / C4 = fixed-grip quad chairlift
DC4 = detachable quad chairlift / DC3 = detachable triple chairlift
G6 = six-passenger gondola

3. Lift and Terrain Network Efficiency

Overall resort efficiency is becoming an increasingly important factor in the ski industry. This relates not only to energy 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 the fewest number of lifts possible, while maintaining desired CCC rates, circulation routes, and service to the full spectrum of skier ability levels and types.

a. Lift Network Efficiency

Within the context of ski area design efficiency, the term "Lift Network Efficiency" refers to the amount of effort and cost required to operate and maintain the lift network, as compared to the number of guests served by the lift network. The energy and costs related to the lifts 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 capacity and circulation requirements of the resort.

One way to analyze Lift Network Efficiency is to calculate the average CCC per lift of the resort. 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) if there are more lifts than necessary for the capacity levels of the resort. When calculating this average, conveyors used for teaching, as well as lifts that are used for access only, are not included. Optimally, and generally speaking, the average CCC per lift would likely be close to 1,000. Industry-wide, the average CCC per lift is approximately 650. The average CCC per lift on Aspen Mountain is 536. This rating is below average, and attributable to inefficiencies with the Little Nell, Bell Mountain, and Gent's Ridge chairlifts, which are underutilized due to either redundancy with other lifts at Aspen Mountain or sub-par guest experiences (i.e., long ride times).

This rating indicates that Aspen Mountain could improve its overall lift network efficiency by reconfiguring certain lifts in its network and that the majority of the resorts in the country operate at a higher overall lift network efficiency.

b. Terrain Network Efficiency

To further the above discussion, an offshoot of the terrain density analysis is an analysis that provides an indication of the efficiency of the terrain network as compared to the lift network serving it. In this usage, the term "Terrain Network Efficiency" refers to the amount of effort required to properly maintain the terrain (e.g., costs related to snowmaking, grooming, energy, ski patrol, summer trail maintenance, administration, etc.).

From this standpoint, the most efficient scenario is to have a quantity of terrain that closely meets the target density requirements. This can be easily achieved by reviewing the density analysis above, as a density index of 100% would imply that the resort had exactly the right amount of terrain to match target densities. Aspen Mountain has a density index of 77%, meaning that densities are 77% that of target densities. This is quite close to the target, indicating a good degree of terrain network efficiency. The slightly lower than target number reflects a policy by ASC to intentionally maintain lower trail densities than industry standards to ensure the higher quality experience expected by its destination guests.

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

1. Guest Services

Guest services are provided both at the base of the mountain, on-mountain and at nearby businesses within the City of Aspen. Existing guest service facilities are identified on Figure IV-1.

a. Base Area Guest Services

Guest services are found at the base of the Silver Queen Gondola within the city limits of Aspen. There are essentially no guest services at the base of the Shadow Mountain lift portal. While ASC owns and operates the primary property adjoining the Gondola Plaza, The Little Nell Hotel and Ajax Tavern, there are several other food/beverage service opportunities and ski shops within a short walk of the gondola terminal.

This existing space use analysis considers only guest service facilities that are owned and operated by ASC. As a result, the comparisons to the total recommended amount of space will be inherently low, as the existing totals do not account for guest service space that is not owned by ASC. Examples of this are third-party rental shops and restaurants near the gondola terminal. It is beyond the scope of this document to analyze third-party base village guest service space.

b. On-Mountain Guest Services

ASC offers a variety of on-mountain skier services within the NFS and private lands of Aspen Mountain. There are two on-mountain restaurants, as well as ski/snowboard school, patrol, and additional ski "concierge"/restroom facilities.

2. Space Use Analysis

Sufficient guest service space should be provided to accommodate the existing resort CCC of 4,290 guests per day. A logical distribution of the CCC to each facility location is utilized to determine guest service capacities and space requirements at base area and on-mountain facilities. The CCC is distributed between each guest service facility location according to the number of guests that would be utilizing the lifts and terrain associated with these locations. Since the on-mountain guest services are convenient, and returning to the base area for lunch is not necessary, the majority of skiers address their guest service needs on the mountain rather than returning to base area or utilizing offerings within the City of Aspen.

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 4,290 guests per day, Table IV-7 compares the current total space use allocations of the guest service functions to industry norms for a resort of similar market orientation and regional context as Aspen Mountain. Square footages contained in this chart are calculated to illustrate how Aspen Mountain compares to industry averages, and should not be considered as absolute requirements.

Service functions that were considered in the total square footage recommendations include restaurant seating, kitchen/scramble, bar/lounge, restrooms, guest services, ski school (adult and kid's; includes booking areas and any daycare/nursery facilities), rentals/repair, retail shops, ticket/season pass sales areas, public lockers (day use and seasonal), ski patrol/first aid (includes clinic space); administration/employee lockers and lounge/storage.

A recommended amount of each function was calculated for each location, then totaled and compared to the total space for that location.

As shown in Table IV-7, the total Aspen Mountain guest use space is 62,650, which is below the recommended range. As noted above, the existing space analysis only reflects guest service space that is owned and operated by ASC, and does not account for the other restaurants, ski rental shops, retail, and other amenities that are within a short walking distance of Aspen Mountain in the City of Aspen. It is reasonable to assume that these third-party restaurants and stores (which are outside the scope of this analysis) make up the space deficiency highlighted in Table IV-7.

3. Food Service Seating

Food service seating for Aspen Mountain is provided at the gondola base and in three separate locations on the mountain.

A key factor in evaluating restaurant capacity is the turnover rate of the seats. A turnover rate of 2 to 5 times throughout the day is the standard range utilized in determining restaurant capacity. Sit-down dining at resorts 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 resorts, as on snowy days guests will spend more time indoors than on sunny days. Based on observed operating characteristics on Aspen Mountain, an average turnover rate of 3.5 was used for the various facilities in this MDP, as shown in the Table IV-8.

Table IV-8 summarizes the seating requirements on Aspen Mountain. As with the total guest use space analysis, it is important to note that this analysis only accounts for restaurant seats that are owned and operated by ASC. Since ASC does not own or operate any of the food and beverage facilities in the adjacent City of Aspen, none of those seats are taken into account; therefore, it is reasonable to assume that any deficiency is easily made up by the numerous other restaurants near the Gondola Plaza.

Table IV-7. Industry Average Space Use – Existing Conditions

Service Function	Existing Total (sq. ft.)	Recommended Range (sq. ft.)	
		Recommended Low Range	Recommended High Range
Base Area (Ajax Tavern and other ASC-owned space)	24,000	40,560	50,750
Sundeck Restaurant/Aspen Mountain Club	28,130	26,380	33,540
Bonnie's Restaurant	4,420	8,250	10,308
Ruthie's Restaurant*	6,100	4,990	6,246
Total Resort	**62,650**	**66,940**	**84,290**

Source: SE Group
* Ruthie's Restaurant has been closed for the past ten years

Table IV-8. Recommended Restaurant Seating

	Base Area	Sundeck/ AMC	Bonnie's	Ruthie's	Total Resort
Lunchtime Capacity (CCC + other guests)	1,051	2,299	720	435	4,505
Average Seat Turnover	3.5	3.5	3.5	3.5	3.5
Existing Indoor Seats	78	637	216	200	1,131
Existing Outdoor Seats	96	318	160	150	724
Existing Total Seats	174	955	376	350	1,855
Required Seats	300	657	206	124	1,287
Difference	-222	-20	10	76	-156
Existing seating capacity (existing seats x turnover)	273	2,230	756	700	3,959

Source: SE Group
Notes:
CCC + other guests is accounting for the non-skiing guests who come to Aspen Mountain with larger groups or families that use the guest service facilities just as the skiing guest does. Other guests are being calculated at 5% of CCC.

F. EXISTING PARKING CAPACITY

Aspen Mountain is unusual in that it entirely utilizes City of Aspen parking infrastructure to accommodate guest parking and has no dedicated parking options of its own. Parking for Aspen Mountain guests arriving by private vehicle is provided via:

- Aspen City Streets and Parking Structure
- Parking associated with all lodging properties
- Park & Ride lots associated with Roaring Fork Transit Agency (RFTA) transfer nodes

Many Aspen Mountain skiers travel to the ski area from nearby lodging properties within the City of Aspen and do not need a private vehicle to access the base. Additionally, the RFTA's regional, city and skier shuttle bus lines provide multiple options for mass transit access to Aspen Mountain. Hotel shuttles also serve as an alternative mode of transportation that moves skiers from their hotels within the City of Aspen to the base area.

Day-skier public parking is available at the Rio Grande Parking Plaza, a City of Aspen maintained parking garage adjacent main street. Short-term, paid street parking is also available on most streets within downtown Aspen, while two-hour free street parking is available beyond the downtown area.

1. Employee Parking and Transportation

ASC encourages the use of mass transit by all employees by subsidizing RFTA pass options. Recent surveys indicate that more than 50% of ASC employees regularly use mass transit; however, the number of Aspen Mountain employees using mass transit to access the workplace is likely to be much higher given the fact that many live in Aspen and have shorter commutes. Accordingly, the majority of the arrival capacity is in the form of shuttles and buses. RTFA provides several Park & Ride locations, providing free satellite parking all along the Roaring Fork corridor. RFTA Free Skier-Shuttle service from Snowmass Village, from which at least 30% of Aspen Mountain guests travel from/to each day, is also subsidized by ASC.

The combination of parking capacity and mass transit options provides sufficient access capacity to Aspen Mountain.

G. EXISTING RESORT OPERATIONS

1. Patrol/First Aid

The Aspen Mountain Patrol works in cooperation with Pitkin County emergency services and Aspen Valley Hospital (AVH) to provide first aid to injured guests. Patrol duty stations are located at the top of the Silver Queen Gondola and the Ruthie's chairlift. From these facilities, patrol has access to all points of the developed trail network.

Injured skiers/snowboarders requiring medical attention are transferred to AVH via ambulance from a transfer point at the base of the Shadow Mountain lift.

2. Snowmaking Coverage

a. Snowmaking System

Aspen Mountain's snowmaking system and existing coverage is shown on Figure IV-2. Typically starting in the beginning of November and operating through the end of December, the system has a capacity of 2,400 gallons per minute (gpm) of water.

Table IV-9 summarizes the snowmaking system's statistics, averaged over the past five years of operation.

Table IV-9.
Snowmaking Operations – Existing Conditions

	Five-Year Average (2012 to 2017)
Total operational hours	550–650
Water consumption (gallons)	50,000,000–60,000,000
Power consumption (KWH)	1,600,000

b. Water Supply

Aspen Mountain obtains its snowmaking water supply from the nearby 1-million-gallon domestic water tank, owned and operated by the City of Aspen. ASC pays the City of Aspen for use of treated water from the domestic water tanks and The City of Aspen owns the water rights for this use.

Aspen Mountain's snowmaking system includes one on-mountain storage pond, the Gent's Ridge Pond at the base of the Gent's Ridge lift. This pond starts the snowmaking season at full capacity as a result of seasonal run-off and/or available overflow from the Loushin Spring system located on the "back side" of Aspen Mountain. The Loushin Spring, for which ASC owns adjudicated water rights, primarily provides the domestic water supply for the Sundeck and Bonnie's restaurants. As a key part of the overall snowmaking infrastructure, the Gent's Ridge Pond is drained and filled several times during the course of the snowmaking season as necessary with system water from the City of Aspen domestic water supply. Typically, refilling of the pond takes place during periods of warm temperatures when pumped water cannot be processed into snow.

Records maintained by Aspen Mountain snowmaking personnel indicate that during the snowmaking season (November 1st through December 31st), there are approximately 800 hours when temperatures are sufficient for snowmaking. On average, the Aspen Mountain snowmaking crew completes their snowmaking operations in approximately 550 hours, or 68% of the total time typically available.

Man-made snow is currently applied on approximately 168 acres of ski trails. Thus, the average ratio of pumped water to the acreage of ski trails with snowmaking is approximately 1 acre foot/acre, which is very close to the average for resorts in a similar altitude and climate. A portion of the volume of water pumped during snowmaking operations is subject to losses due to evaporation, sublimation, and evapotranspiration (watershed losses). Mostly, these losses depend upon air temperatures during the snowmaking process, the volume of water pumped, and the type of year (dry, average, or wet). Calculations conducted for the study watersheds show that snowmaking water losses during average year conditions total approximately 26%; the remaining 74% of snowmaking water is returned to the watershed.

3. Grooming

Aspen Mountain grooms approximately 200 to 300 acres of terrain per night, which includes approximately 75% of all intermediate terrain, as well as a few advanced trails per shift as time/snow conditions allow. As is typical with most ski areas, terrain is groomed in two eight-hour shifts, with approximately 5 to 9 acres groomed per vehicle, per hour.

Aspen Mountain typically operates up to five groomers and one winch cat per shift.

4. Maintenance Facilities

Table IV-10 details the uses and sizes of the various maintenance facilities on Aspen Mountain.

5. Power and Other Utilities

All electric power at Aspen Mountain is supplied by Holy Cross Energy, which maintains and upgrades transmission lines and transformers as necessary. In addition to main transmission lines, there is a network of secondary lines (owned by ASC) that branch off from the Holy Cross transformer locations to connect to various on-mountain facilities.

Natural gas is provided by Source Gas, with underground gas lines servicing the following on-mountain facilities: Sundeck Restaurant, VMF, Bonnie's Restaurant, Ruthie's Building.

Underground communication (i.e., telephone) lines connect to all on-mountain facilities, lift terminals, and emergency phones. The system consists of main trunk lines extending up the mountain, with branch lines to existing facilities. Overhead communication lines exist along lift lines, and are located on lift towers. Some of these include fiber optic cables for high-speed data communication.

Radio communication systems provide repeaters for ASC on-mountain communications between, and on all four, mountains. Additional communication equipment exists for various local,

state and federal agencies. Lastly, communications equipment owned and operated by various wireless communication vendors also exists. Such antennae, repeaters, etc. exist at the top of Buckhorn trail, and on the roofs of certain patrol buildings, restaurants, and lift terminals.Existing utilities are shown on Figure IV-4.

6. Culinary Water and Sewer

Table IV-11 details the uses and sizes of the domestic water system on Aspen Mountain.

All Aspen Mountain facility wastewater is tied into, and processed by, the municipal Aspen Consolidated Sanitation District's wastewater treatment system, which has the ability to provide current and projected needs.

Table IV-10. Maintenance Facilities – Existing Conditions

Building/ Location	Year Built	Total Square Footage	Number of Maintenance Bays	Attributes*	General Condition
Control-Compressor Building	1981	9,940	2	EL, RR, M, S, WS, CS	Very Good
Primary Pumphouse	1981	1,942	1	M	Very Good
Booster Pump Station (beneath Ruthie's)	1981	800	1	M	Very Good
VMF	1979	6,690	5	A, EL, RR, M, S, WS	Very Good
Gondola Cabin Storage	1985	18,770	4	A, EL, RR, M, S, WS, LO	Very Good

*KEY:
A = administration; EL = employee lockers/lounge; RR = restrooms, M = mechanical, S = storage (parts and supplies), WS = welding shop, CS = carpentry shop, ES = electrical shop, PS = plumbing shop, LO = lift operations maintenance, VMF = vehicle maintenance facility.

Table IV-11. Domestic Water System – Existing Facilities

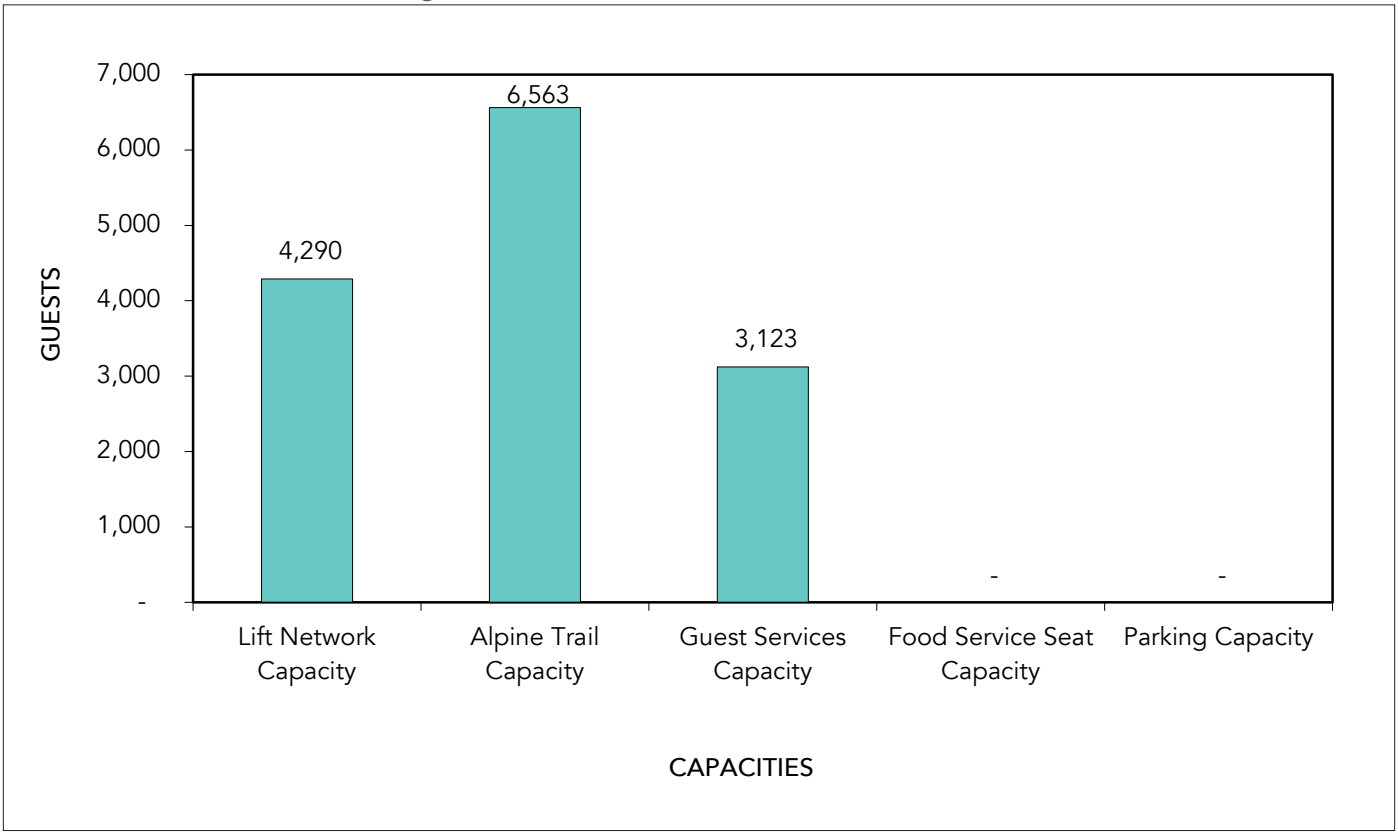
Building/Location	Public or Private System	Source of Water	Capacity of Source (gpm)	Type of Storage	Storage Capacity (gallons)	Annual Consumption (gallons)	Adequacy of Water Supply
Sundeck Restaurant	Private	Loushin Spring	40 gpm	Above-ground Steel Tank Buried Concrete Tank	66,000 33,000	1,500,000	Adequate
Bonnie's Restaurant	Private	Loushin Spring	20 gpm	Below ground Steel Tank	27,000	750,000	Adequate
VMF	Private	Loushin Spring	40 gpm	Above-ground Concrete Tank	(same as Sundeck)	250,000	Adequate
Ruthie's Building	Public	COA	NA	Buried Steel Tank	25,000	2,000	Adequate
Loushin Spring Collection Gallery and Pump Station (serves Sundeck, Bonnie's and VMF)	Private	Loushin Spring	50 gpm	NA	NA	NA	Adequate

H. RESORT CAPACITY BALANCE AND LIMITING FACTORS

The overall balance of the existing resort 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 IV-2.

This chart indicates that most of Aspen Mountain's capacities are fairly well-balanced. The guest services capacity and food service seating capacity are low, since they do not account for the third-party guest service space and restaurant seats that are available nearby in the City of Aspen. As parking capacity is solely provided within the City of Aspen, capacities for parking are not provided in Chart IV-2.

Chart IV-2. Resort Balance – Existing Conditions



Source: SE Group

I. SUMMER OPERATIONS

1. Summary of the Existing Summer and Multi-Season Guest Experience

The existing summer guest experience on Aspen Mountain is characterized by simply being able to experience and enjoy the high alpine vistas from 11,300 feet via the comfortable/convenient access of the Silver Queen Gondola. Existing summer activities and operations are shown on Figure IV-5, Existing Summer Use.

Summer operations on Aspen Mountain's summit include activities such as children's play/educational areas, hiking opportunities (guided or unguided), musical entertainment—all the while being surrounded by splendid views of the Roaring Fork Valley, Maroon Bells, and the surrounding 14,000-foot peaks.

2. *Existing Summer and Multi-Season Facilities*

The current summer strategy offers a variety of free activities on the summit to "add value" to the gondola ticket price. The current menu of free activities includes the following:

a. Existing on NFS and Private Lands

- Nature walks with the Aspen Center for Environmental Studies (ACES)
- Disc golf on an 18 "hole" (portable metal baskets) course located on the upper part of the mountain

b. Existing on Private Lands Only

- "Family Days" geared toward young children, which feature music, clowns, magicians, storytellers, lunch specials and nature walks
- Catered special events such as weddings and parties (the "Wedding Deck" on the Sundeck's north side is used for these and a wide variety of other functions)

Evening concerts on the wedding deck or the Sundeck patio (private lands)

- Classical music quartets (by Aspen Music Festival musicians) and bluegrass music (provided regularly in a nearby high alpine meadow)
- Outdoor and indoor religious services

3. Existing Summer Zones

As referenced in Chapter II, there are five distinct summer activity zone concept designations that are considered in the planning process. Four existing zones on Aspen Mountain have been identified, which distinguish four separate characteristics (*access, remoteness, naturalness, and infrastructure*) that define the summer and multi-season setting and guest experience within different landscapes across the SUP area. Even though the NFS lands within the SUP area are very fragmented by the large amount of privately-owned properties that exist on Aspen Mountain, ASC has chosen to map these zones over the entire operational boundary as if it were all NFS lands. Doing so would seem to help manage the overall visitor experience and perhaps address similar concerns that may surface during the MDP amendment review by Pitkin County.

The first step in designating specific activity zones is a careful consideration of the setting and the proximity to infrastructure supporting snow sports. Features such as watersheds, topography, vegetation structure, level of existing disturbance, and existing infrastructure were considered in establishing zone boundaries across the entire operational area.

The exercise resulted in the creation of 11 areas unique in their location and/or features. The second step in designating specific activity zones is applying a score for each characteristic on a scale of 1 to 3, with 1 being the most disturbed and 3 being the least disturbed.

Figure IV-6, Existing Summer Zones, illustrates the four existing zone designations within both the existing and planned Aspen Mountain operational boundary. For areas outside of the existing operational boundary, namely Area 9 and Area 10, Figure IV-6 depicts the current characteristics of these areas rather than including planned projects that could be incorporated in these areas. Planned projects and the associated changes to summer zoning will be discussed in Chapter VI – Upgrade Plan.

Because summer and multi-season uses are continually being developed and activities that do not currently exist may be popular within the next several years, a list of compatible activities is provided for each zone. The intent of the list of compatible activities is to allow for a certain amount of flexibility, since it is impossible to foresee exactly what new activities will be developed over this time.

a. Zone 1

Setting

The existing setting of Zone 1 is highly developed and disturbed. Within Zone 1, the built environment dominates the landscape. Within the context of the overall SUP area, the following summarizes the setting in Zone 1:

- Road access and roads are prevalent;
- Considerable human activity (people recreation and/or resort operations) occurs within and proximate to this setting—there is little to no feeling of remoteness;
- Terrain modifications (ground disturbance and vegetation removal) dominate the area; and
- Infrastructure, including chairlifts and buildings, are present.

Zone 1 is located at and adjacent the base area, at the summit, and along a contiguous area centered around the Aspen Mountain Summer Road which accommodates a significant amount of continuous public motorized traffic. The Aspen Mountain Summer Road is a public County Road that traverses the mountain from bottom to top, connecting the City of Aspen with a comprehensive road system to the south and outside of the SUP Boundary. The vast majority of Zone 1 is comprised of private lands, although there are slight overlaps with NFS land.

Desired Experiences

Within Zone 1, guests are expected to encounter a high concentration of other guests. The level of development reflects the current setting and function of these areas as hubs of activity and portals to other activities across the mountain. Most guests visiting Zone 1 initially access it via the base area, the Aspen Mountain Summer Road, or by riding the Silver Queen Gondola to the top. Within the portions of NFS lands within Zone 1, the concepts in the BEIG will be followed to ensure appropriate design guidelines for both landscape architecture and built architecture are followed. Zone 1 abuts Zone 2 on the fringes of developed on-mountain areas. This allows guests to experience a gradual transition between the built environment (Zone 1) and more-natural areas that still contain activities and facilities blending with the area's natural setting (Zone 2). Zone 1 could offer interpretive opportunities in a developed setting, with goals of enhancing guests' understanding of the natural environment as they prepare to venture into less-developed areas. The educational focus will continue to leverage existing partnerships with ACES and other organizations.

Compatible Activities and Facilities

Services and activities in Zone 1 include food and beverage operations, shelter and emergency services, restroom facilities, landscaped areas, and other activities. On Aspen Mountain, Zone 1 serves as the on-mountain hub, from which guests access surrounding activities and refuel between activities. Typically, guests first access these areas after riding the Silver Queen Gondola; however, guests could also access Zone 1 on their own from the surrounding trails network and/or Aspen Mountain Summer Road. Aspen Mountain already hosts several multi-season recreational activities, including live music, a playground, and others. In addition, there exists a wide variety of other separately owned and operated activities such as guided ATV Tours, para-sailing, etc. A host of private individuals engage in similar activities as well without any association with ASC.

b. Zone 2

Setting

The setting of Zone 2 is less disturbed when compared with Zone 1 and provides more naturalness due to a lesser degree of disturbance from the surrounding ski area. Within the context of the overall SUP area, the following summarizes the setting in Zone 2:

- Road access and roads are present;
- Human activity (people recreating) occurs within and proximate to this setting— there is little feeling of remoteness;
- Terrain modifications (ground disturbance and vegetation removal) are evident in the area, but past disturbance blends with the landscape; and
- Infrastructure, including chairlifts and buildings, are present.

Under existing conditions, four large areas on either side of the Aspen Mountain Summer Road are designated as Zone 2. These areas include the vast majority of ski area infrastructure and terrain network at Aspen Mountain that are still separated from the most highly developed Zone 1 areas. Areas designated as Zone 2 include a mix of private and NFS lands.

Desired Experiences

Most guests access Zone 2 from Zone 1. In moving between these zones, guests transition from the built environment to a setting characterized by both developed and passive activities proximate to existing infrastructure and facilities, but still offering a more natural feel. For many guests visiting Aspen Mountain, this may be their first real experience in the mountains, and providing a safe, comfortable environment for exploration which is critical to the success of Zone 2 and the overall plan. Zone 2 provides the initial opportunity for guests to learn about and engage in their natural surroundings through hands-on recreational, interpretive, and educational offerings. In addition to hosting activities such as guided hikes and various trails, Zone 2 serves as a buffer between higher levels of development within Zone 1, and the more natural settings of Zones 3 and 4.

Compatible Activities and Facilities

Activity offerings compatible with Zone 2 could include access to natural resource based recreation opportunities and passive activities such as educational/interpretive opportunities, sightseeing and light hiking, or simply visiting with friends and family.

As mentioned above, the Zone 2 serves two primary purposes—to provide activities in a natural setting in proximity to existing infrastructure and services, and to provide a buffer between Zones 3 and 4 and the more developed areas within Zone 1. Thus, areas within Zone 2 serve as transitional zones, encouraging guest exploration into more natural portions of the National Forest in a setting that still feels comfortable for less-experienced Forest users. The setting of Zone 2 and the activities that occur within offer sufficient challenge for first-time guests, and prepare others to venture into the less developed areas of Zones 3 and 4.

c. Zone 3

Setting

The setting of Zone 3 contains areas of disturbance from ski trail and chairlift development, but guests can still find a greater degree of remoteness and naturalness depending on their location within the zone. Generally speaking, Zone 3 includes areas where existing chairlifts are present or visible; however, this was not the determining factor for the designation. Within the context of the overall SUP area, the following summarizes the setting in Zone 3:

- Road access and roads are present, but limited to certain areas;
- Human activity (people recreating) can be seen at a distance or is out of site from within this setting—a stronger feeling of remoteness is present;
- The area is moderately disturbed by ski area activity, including vegetation removal from ski trail development and some ground disturbance; and
- Infrastructure, including chairlifts and buildings, are visible and may overlap this zone, but do not define the area.

Four areas of Aspen Mountain are designated as Zone 3 under the existing conditions. These areas are typically located in the furthest extents of Aspen Mountain, with a greater degree of separation from ski area activity than Zone 1 and Zone 2. Like Zone 2, Zone 3 contains a mix of NFS and private lands.

Desired Experiences

The majority of guests initially experience Zone 3 via a hike and a lift ride from Zone 1 and Zone 2; however, guests could also access Zone 3 from adjacent NFS and private lands via road and trail networks outside the existing operational boundary. Once in Zone 3, guests have a variety of opportunities to engage in their surroundings in a more natural and remote environment.

In this zone, guests can enjoy nature hikes with interpretive signage that could provide education on their biological, cultural, and historical surroundings. Guests can hike to locations with views up Independence Pass toward the Continental Divide. Zone 3 offers a diverse set

of experiences for guests, which promote the WRNF as a recreationally-, biologically-, and geographically-diverse landscape.

Compatible Activities and Facilities

Compatible activities include developed and maintained hiking trails and similar natural resource-based activities. Activities within Zone 3 will not require substantial modifications to natural topography to facilitate construction.

d. Zone 4

Setting

The setting of Zone 4 is more remote and provides a great degree of naturalness. Ski area development is limited and, where ski trails are present, larger tree islands prevail. Within the context of the Aspen Mountain's existing and planned operational area, the following summarizes the setting in Zone 4:

- Little to no road access occurs;
- Human activity (people recreating and/or resort operations) is distant or out of site facilitating a high degree remoteness;
- The area is completely natural or has limited disturbance; and
- Infrastructure, including a chairlift and small buildings, are present.

Only one area designated was Zone 4—the planned Pandora area. This area does not currently includes ski trails or ski area infrastructure but abuts the existing terrain network at Aspen Mountain and receives some ski traffic associated with the Aspen Mountain Powder Tours. This area possesses a strong feeling of remoteness due to the nature of the terrain that is shielded from view of much of Aspen Mountain.

Desired Experiences

In Zone 4, guests connect with the more natural setting in a relatively undisturbed environment. Dispersed hiking opportunities allow guests to experience and interpret areas where natural processes are more evident, allowing for educational opportunities that are not available in more developed zones. Maintaining a more remote setting with opportunities for solitude is crucial to maintaining guests' expectations for this zone.

Compatible Activities and Facilities

Compatible activities promote the surroundings and inform guests of similar environments throughout the National Forest. Activities include slower-moving actions to match the setting and character, which provide even greater opportunities for environmental education and exposure to unique environments. Activities within Zone 4 will require minimal site modification to maintain the current level of naturalness. In this zone, the low density of guests is expected to maintain the feeling of remoteness.

e. Summary of Existing Summer Zones

In its existing condition, there are no Zone 5 areas located on Aspen Mountain. Table IV-12 describes the characteristics of each zone, and Table IV-13 provides information about the scoring of each zone at Aspen Mountain.

Table IV-12. Zone Characteristics

Zone Characteristics	Scores
Access	
Road Access within Area	1
Limited Road Access/Trails	2
No Road Access	3
Remoteness	
Proximate to Human Activity	1
Distant Sight of Human Activity within SUP	2
Out of Sight of Human Activity within SUP	3
Naturalness	
Heavily Disturbed by Ski Area Activity	1
Moderately Disturbed by Ski Area Activity	2
Undisturbed by Ski Area Activity	3
Infrastructure	
Adjacent to 2 or More Ski Area Infrastructure	1
Ski Area Infrastructure in Area	2
Out of Site of Ski Area Infrastructure	3
Minimum Score Possible	4
Maximum Score Possible	12
Zones	**Score Range**
1	4
2	5 to 6
3	7 to 9
4	10 to 11
5	12

Table IV-13. Existing Summer Zones at Aspen Mountain

Area Boundaries	Score	Appropriate Zone
Area 1		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	**4**	**Zone 1**
Area 2		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	**4**	**Zone 1**
Area 3		
Access	1	
Remoteness	2	
Naturalness	2	
Infrastructure	2	
Total Score	**7**	**Zone 3**
Area 4		
Access	1	
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	**5**	**Zone 2**
Area 5		
Access	1	
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	**5**	**Zone 2**
Area 6		
Access	1	
Remoteness	1	
Naturalness	2	
Infrastructure	1	
Total Score	**5**	**Zone 2**

Area Boundaries	Score	Appropriate Zone
Area 7		
Access	1	
Remoteness	2	
Naturalness	2	
Infrastructure	2	
Total Score	**7**	**Zone 3**
Area 8		
Access	1	
Remoteness	2	
Naturalness	2	
Infrastructure	2	
Total Score	**7**	**Zone 3**
Area 9		
Access	1	
Remoteness	2	
Naturalness	2	
Infrastructure	2	
Total Score	**7**	**Zone 3**
Area 10		
Access	2	
Remoteness	3	
Naturalness	3	
Infrastructure	2	
Total Score	**10**	**Zone 4**
Area 11		
Access	1	
Remoteness	1	
Naturalness	1	
Infrastructure	1	
Total Score	**4**	**Zone 1**

4. Lifts and Restaurants

ASC typically begins summer operations with Silver Queen Gondola rides on Memorial Day weekend and continues through late September. Gondola operations are scheduled seven days a week from the second Saturday of June through Labor Day, with weekend-only operations occurring before and after that period.

The Silver Queen Gondola operates from 10:00 a.m. until 4:00 p.m. daily during the summer season and as weather allows. The Sundeck Restaurant is open for food and beverage service whenever the Silver Queen Gondola is in operation. The Sundeck (private lands) is also available for catered functions such as weddings and parties. A "Wedding Deck" on the Sundeck's north side serves this purpose as well as a wide variety of other functions.

Generally speaking, mountain resorts with a restaurant, or other recreational amenities at the top of a scenic lift, typically experience higher summer and shoulder season utilization than resorts without specific activities. The quality of scenery also plays a large role in determining the overall success of the program. The scenery from the top of the Silver Queen Gondola in particular is some of the best in the state. Thus, additional activities on ASC-owned private lands and adjacent NFS lands within the SUP area could encourage further exploration and enjoyment of the WRNF.

5. Hiking

Both guided and non-guided hiking opportunities are available at Aspen Mountain. ACES offers daily hiking tours at the top of the Silver Queen Gondola. These tours vary in length and difficulty, and feature interpretation by qualified naturalists. They provide opportunities for guests to experience the WRNF and learn about the plants and wildlife that inhabit it. The tours are free, aside from the purchase of a gondola ticket.

Approximately 26 miles of trails open to hiking exist across the NFS and private lands within the operational boundary. Note that this does not include mountain service roads, which are also open to hiking. Table IV-14 shows the existing hiking trail distribution by ability level. Several of these trails are only open to hiking, but the majority are open to multiple uses, including mountain biking and equestrian use. There is a general lack of locational diversity in Aspen Mountain's hiking trails. Specifically, existing trails do not access more remote portions of Aspen Mountain. Many miles of hiking trails also exist outside of Aspen Mountain on NFS lands not included within the SUP area, including trails in the surrounding Maroon Bells-Snowmass Wilderness.

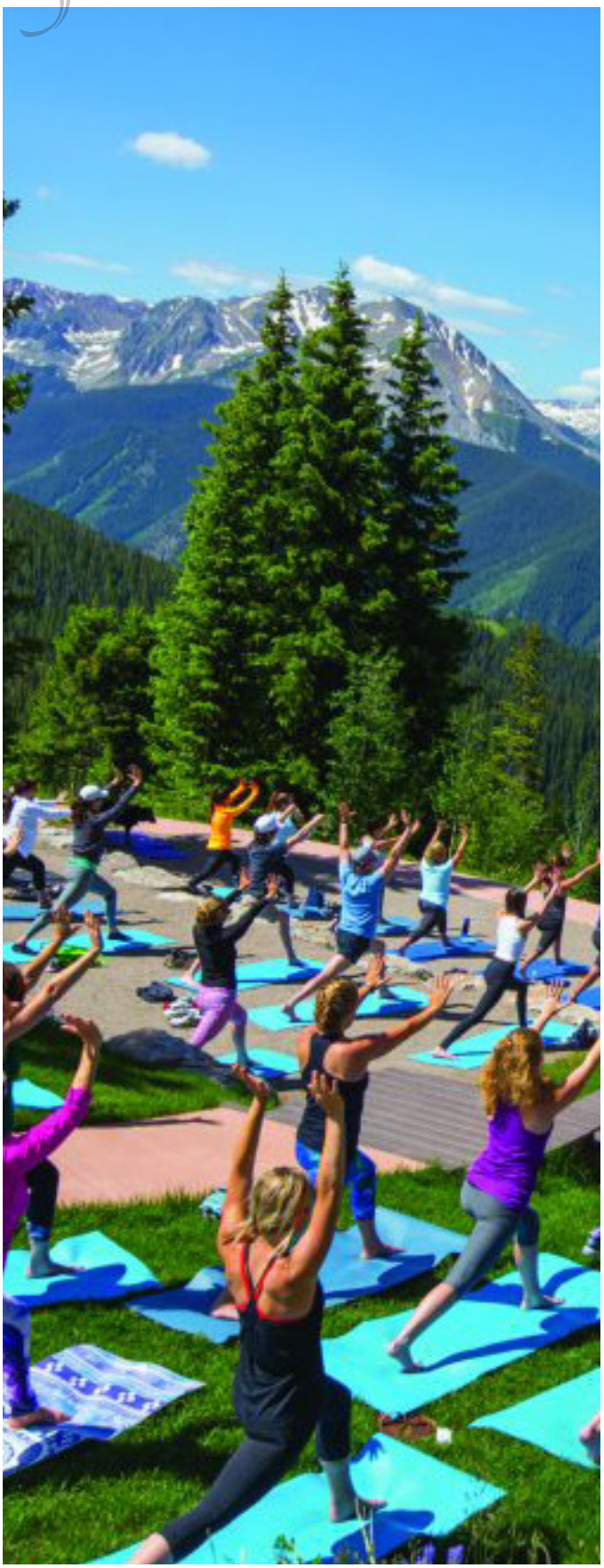
Hiking trails within the SUP area supplement those that exist on NFS, Pitkin County, and other lands in the surrounding area. These connections are essential to the overall trails system in the Roaring Fork Valley. Table IV-15 shows the distribution of hiking trails by ability level.

Table IV-14. Hiking Trails by Ability Level – Existing Conditions

Trail Name	Ability Level	Length (miles)
Nature Trail - RT	Easier	0.9
Ajax Trail – One Way	More Difficult	1.0
Hidden Treasure – RT	More Difficult	1.4
Little Cloud - One Way	More Difficult	1.6
East Rim/Cherry Trail Loop – RT	More Difficult	1.9
Richmond Ridge – RT	More Difficult	2.2
Little Nell - One Way	More Difficult	1.1
Silver Bell	More Difficult	0.7
Ute Trail - One Way	Most Difficult	3.1
West Side Trail - One Way	Most Difficult	4.0
Summer Road - One Way	Most Difficult	4.7
Power of 1 - One Way	Most Difficult	2.5
Total		**26.1**

Table IV-15. Hiking Trails/Ability Level Distribution – Existing Conditions

Ability Level	Total Mileage	Percent of Total
Easier	0.9	4%
More Difficult	8.2	31%
Most Difficult	17.0	65%
Total	**26.1**	**100%**



6. *Miscellaneous Activities*

An 18-hole disc golf course is open to the public on Aspen Mountain. The course makes a relatively easy circuit around the summit area.

Parasailing activities are offered by a private vendor utilizing launch points near the top of Ruthie's and Walsh's ski trails depending on the winds.

Unique to Aspen Mountain is the fact that the Aspen Mountain Summer Road is a County Road open to the general public for motorized use. The public use of jeeps, ATV's and motorcycles takes place daily on the Aspen Mountain Summer Road, with users accessing additional Forest Service roads south of the Aspen Mountain summit.

7. *Summer and Multi-Season Guest Service Facilities Use*

Equipment rental, ticket and retail sales, food and beverage services, restrooms, and various other guest service facilities are available at the base of the Silver Queen Gondola, which also provides primary access to the NFS lands beyond Aspen Mountain's summit.

In the summer months (typically between mid-June and early September), on-mountain services are provided at the Sundeck Restaurant, which is open daily. The restaurant offers food service, restrooms, both indoor and outdoor table seating, and broad views to surrounding mountains.

8. *Existing Resort Summer Operations*

In addition to recreational activities/operations on Aspen Mountain, maintenance crews work on the mountain daily, implementing summer construction plans, lift and trail maintenance, facility and infrastructure maintenance, and other tasks related to offering a quality summer experience and preparing the mountain for the winter season.

FIGURE IV–1

EXISTING CONDITIONS

ASPEN MOUNTAIN MASTER DEVELOPMENT PLAN

ASPEN SNOWMASS®

SUNDECK
11,212 FT

BUCKHORN
CABIN

BONNIE'S
10,400 FT

RUTHIE'S
RESTAURANT

Walsh's
Hyrup's
Kristi's
Northstar
Glade
Lucky Lane
Northstar
One and Two Leaf
Silver Bell
Dipsy Doodle
Buckhorn
Chair
Pussyfoot
Summit
Midnight
Midnight
Glade
Mickey Road
GENT'S RIDGE
Bellbird
AJAX EXPRESS
Blondie's
Silver Dip
Gent's Ridge
Lazy Boy
Seibert's
Glade
Seibert's
Deer Park
Sunrise
Glade
Knowlton's
Knowlton's
Glade
Sunrise Sunset
Back of Bell 1
Back of Bell 1
Glade
Face Of Bell
Back of Bell 2
Copper
Connect
Copper Bowl
Back of
Bell 2
Glade
Keith Glen
Glade 1
Glade 2
Glade 3
BELL MOUNTAIN
Shoulder of Bell
Nose
of Bell
Glade
Bingo
Jackpot
Cone Dump
Glade
Silver Queen
Schiller Road
Rapscallion's Run
Rock Run
Pumphouse Hill
North American
Tourelotte Park
Percy
Glade
Little Percy's
Gwen's
Red's
Glade
Red's
F.I.S.
Ruthie's
F.I.S.
Bear Paw
Spar Gulch
S1
Short Snort
Zaugg Dump
Perry's Prowl
International
Last Dollar
Pink Slip
Aztec
Silver Rush
Summer Road
Spring Pitch
Summit Lift
Trainor's Glades
Glade
SILVER QUEEN GONDOLA
LITTLE NELL
Niagara
Lower Nell
Franklin
Dump
Tower 10 Road
Super 6
FIS Slalom Hill
Magnifico
Magnifico Road
Schuss Gully
Lazy 8 Gully
SHADOW MOUNTAIN
Corkscrew
Corkscrew Gully
Snowpine
Norway

LEGEND

- Existing SUP Boundary
- Ski Trails by ability level
- Operations Boundary
- Existing Lift
- Existing Building
- Backcountry Access Gate
- Glades
- Water Body
- Road

Note:
The property lines shown in this figure are representative and used at planning level accuracy.

Prepared by:
SE GROUP

N

SCALE (ft)
0 50 100 150 200

FIGURE IV–2

EXISTING SNOWMAKING

ASPEN MOUNTAIN MASTER DEVELOPMENT PLAN

ASPEN SNOWMASS®

SUNDECK 11,212 FT

BONNIE'S 10,400 FT

GENT'S RIDGE SNOWMAKING POND

GRAND JUNCTION VALVE STATION

RUTHIE'S RESTAURANT

BOOSTER PUMP STATION

LEGEND

- Existing SUP Boundary
- Water Body
- Operations Boundary
- Road
- Existing Lift
- Existing Snowmaking Coverage
- Existing Building
- Existing Snowmaking Line
- Glades

Note:
The property lines shown in this figure are representative and used at planning level accuracy.

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SCALE (ft)
0 50 100 150 200

FIGURE IV–3

EXISTING MOUNTAIN ROADS

ASPEN MOUNTAIN MASTER DEVELOPMENT PLAN

ASPEN SNOWMASS®

GENT'S RIDGE

AJAX EXPRESS

F.I.S.

RUTHIE'S

BELL MOUNTAIN

SILVER QUEEN GONDOLA

LITTLE NELL

SHADOW MOUNTAIN

LEGEND

- Existing SUP Boundary
- Existing Lift
- Mountain Road
- Road
- Operations Boundary

Note:
The property lines shown in this figure are representative and used at planning level accuracy.

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SCALE (ft)
0 50 100 150 200

FIGURE IV–4

EXISTING UTILITIES

ASPEN MOUNTAIN MASTER DEVELOPMENT PLAN

ASPEN SNOWMASS®

LOUSHINS PUMP STATION

SOUTH MIDDLE WET WELL

LAKE LOUSHIN

NORTH COLLECTION GALLERY

LOUSHINS PIPE VAULT

LOUSHINS PIPE TO NORTH STAR

SUPPLY LINE TO LMP A ND VMF

SUNDECK SQUARE TANK

SUNDECK RESTAURANT SUPPLY

SUNDECK WATERLINE

NORTH STAR PUMP STATION

NORTH STAR PIPE LINE TO DIPSY TANK

DIPSY STORAGE TANK

DIPSY PUMP STATION

BONNIES FEED

BONNIES TANKS #1-3

BONNIES LINE

OVERFLOW LINE GENT'S RIDGE POND

GENT'S RIDGE POND

GENT'S RIDGE

AJAX EXPRESS

F.I.S.

RUTHIE'S

BELL MOUNTAIN

SILVER QUEEN GONDOLA

LITTLE NELL

SHADOW MOUNTAIN

LEGEND

- Existing SUP Boundary
- Existing Lift
- Operations Boundary
- Sewer Line
- Transformer
- Conduit
- Overhead Primary
- Direct Buried
- Utility Pole
- Road
- Water Line

Note:
The property lines shown in this figure are representative and used at planning level accuracy.

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SCALE (ft)
0 50 100 150 200

FIGURE IV–5

EXISTING SUMMER USE

ASPEN MOUNTAIN MASTER DEVELOPMENT PLAN

ASPEN SNOWMASS®

SUNDECK 11,212 FT

DISC GOLF START

Nature Trail

Midnite Road

Hidden Treasure

East Rim

Power 1

Cherry

Silverbell

West Side

GENT'S RIDGE

AJAX EXPRESS

Ute

F.I.S.

RUTHIE'S

BELL MOUNTAIN

SILVER QUEEN GONDOLA

Little Nell

SHADOW MOUNTAIN

LITTLE NELL

Ajax

Little Cloud

LEGEND

- Existing Building
- Existing SUP Boundary
- Summer Trails
- Existing Summer Lift
- Water Body
- Existing Lift
- Road
- Operations Boundary

Note:
The property lines shown in this figure are representative and used at planning level accuracy.

Prepared by: SE GROUP

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SCALE (ft)

0 50 100 150 200

FIGURE IV–6

EXISTING SUMMER ZONES

ASPEN MOUNTAIN MASTER DEVELOPMENT PLAN

ASPEN SNOWMASS®

Area 10
Area 11
Area 9
Area 8
Area 6
Area 7
Area 5
Area 3
Area 2
Area 4
Area 1

Nastrie Trail
Midnite Road
Hidden Treasure
East Rim
Power 1
Cherry
Silverbell
West Side
GENT'S RIDGE
AJAX EXPRESS
Silverbell
Ute
F.I.S.
RUTHIE'S
BELL MOUNTAIN
Power 1
Power 1
West Side
SILVER QUEEN GONDOLA
Little Nell
SHADOW MOUNTAIN
LITTLE NELL
Ajax
Little Cloud
Ute

LEGEND

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Existing SUP Boundary
- Road
- Summer Trails
- Existing Building
- Water Body
- Existing Lift
- Existing Summer Lift

Note:
The property lines shown in this figure are representative and used at planning level accuracy.

Prepared by:
SE GROUP

N

SCALE (ft)
0 50 100 150 200