



ARCTIC VALLEY MASTER PLAN

2023 | ANCHORAGE SKI CLUB



ARCTIC VALLEY

ARCTIC VALLEY MASTER PLAN 2023

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Executive Summary

The Anchorage Ski Club (ASC) has developed a master plan to guide development of Arctic Valley over the next 20 years. This master plan fulfills a promise made in the 2020 Strategic Plan to ourselves as a Board, our membership, our landlords (Chugach State Park or “CSP”), and our community.

At the start of the planning process, ASC established the following:

- Arctic Valley’s beloved ski lifts from the 1960s and 1970s are aging and need to be replaced.
- Skiing and snowboarding in Chugach State Park are still good uses of state lands, and are valued by the local community.
- Ski areas throughout the industry, small and large, have increasingly turned to summer revenue streams in order to thrive year-round and to mitigate the financial impact of challenging winters.
- Any new infrastructure at Arctic Valley needs to accommodate both summer and winter recreation wherever possible in order to be economically feasible.
- Arctic Valley needs to provide a stable economic basis for its employees and remain affordable to the public at large while doing what is necessary to fund these improvements.

A key goal of the Arctic Valley Master Plan (AVMP) is to identify development opportunities that will increase resident and visitor use of the area while preserving the qualities for which Arctic Valley is so highly valued. An underlying assumption of the AVMP is that ski area capacity will be used to determine maximum development of the area. In other words, summer specific activities will be provided and summer usage will increase, but extra guest services/parking will not be developed to make summer capacity greater than winter capacity. Balance will be needed when weighing the financial costs against the benefits, as well as when comparing the relative cost of a changed experience against the benefits of an improved experience or an increase in community use.

The AVMP identifies multi-season recreational and commercial opportunities that are potentially feasible for the area and meet the community’s vision for compatible uses at the mountain, and it provides a basic view of what could happen in the future. The AVMP is conceptual and as such there has been no detailed engineering or site planning performed for the various development concepts. Each potential project must be evaluated and approved on its own merit based on technical and financial feasibility, as well as other factors that may change over time, and each project must be individually approved by CSP. Furthermore, the AVMP calls out several instances where additional planning efforts are required or recommended, otherwise it is presumed that final planning will occur at the individual project level.

ASC’s top priorities for Arctic Valley are as follows:

- 1 Replace the T-Bar (1961) and Chair 1 (1969), which are rapidly nearing the end of their service life spans. Several options have been suggested, all of which require further engineering and a financial feasibility study. In pursuing the best option for replacing these lifts, ASC acknowledges the difficulties for a non-profit to raise capital to purchase and install a new lift, while making Arctic Valley more attractive to beginner and lower-intermediate skiers and riders. A detailed Lift Alignment Study will be completed as a top priority of the Planning Committee in fulfilling the goals of this Master Plan before moving ahead with lift replacement projects.
- 2 Improve access to Arctic Valley. This includes improvements to the Arctic Valley Road, upgraded parking lots and trailhead facilities, increased parking capacity, and improved pedestrian and vehicle circulation around

the base area. It is important to acknowledge that ASC has little control over these improvements that will require collaboration with both state and federal entities. The State of Alaska owns all the lands and land improvements within the concession area, including roads, parking lots, and trails. Most of Arctic Valley Road is owned by Joint Base Elmendorf-Richardson (JBER), as is much of the land adjacent to the base area that would be suitable for additional parking lots and access.

- 3 Develop a Public Use Cabin (PUC) expansion plan and phase in several new cabins with adjoining toilet facilities. Some proposed cabin locations will require minor expansion of the Core Infrastructure Area of the concession.
- 4 Add building square footage to improve and expand guest services to match capacity. This would be accomplished through a combination of renovation and expansion of the Alpenglow Lodge, repurposing and remodeling existing outbuildings, as well as through new construction.
- 5 Improve existing trails and develop an Arctic Valley Master Trails Plan to guide future long-term trail improvements and upgrades.
- 6 Add feature summer attractions such as a zipline, in order to leverage summer use of ski lifts and provide additional income streams to finance maintenance and master plan improvements.

These are seen as the most critical infrastructure needs for Arctic Valley. But there are other needs as well. Additional proposed winter upgrades include mountain lighting for night skiing, snowmaking, expanding the tube park, and establishing a permanent terrain park. In the longer term, ASC would like to install a new intermediate lift near the southern boundary of the concession area, and eventually Chair 2 (built in 1978) will need to be replaced.

For summer operations, ASC envisions a dedicated outdoor concert space for Chugach Fest, and a dedicated wedding/special event venue that would allow Alpenglow Lodge to be used for year-round food and beverage service. ASC anticipates a trails plan that will define trail updates, additional trails, trail connections, signage and an increased variety of summer activities as well.

These future projects are compiled in the AVMP, which is an effort to ensure Arctic Valley's long-term operations, maintenance of current assets, and financial sustainability.

Throughout the implementation process the Anchorage Ski Club Board of Directors (ASC Board or the Board) will undertake periodic reviews of the overall AVSA operations, as well as market conditions, and formalize specific findings and future direction in the ASC Strategic Plan, which is updated every three years.

The Anchorage Ski Club, owners and operators of Arctic Valley Ski Area, looks forward to maintaining and improving Arctic Valley through the recommendations of this AVMP, and would like to thank stakeholders and the community for their engagement and participation.

1. Arctic Valley Master Plan Overview

1.1. Introduction

Arctic Valley Ski Area (referred to as Arctic Valley or AVSA) is a mountainous area within the periphery of Chugach State Park (CSP) that has served generations of Alaskans and visitors as a popular destination for alpine-based recreation. AVSA serves families, individuals, and groups seeking outdoor experiences ranging from lift-served skiing and snowboarding, tubing, backcountry skiing, hiking, berry picking, and events such as weddings and festivals.

The Anchorage Ski Club (ASC) is a volunteer-run 501(c)(3) nonprofit organization that owns and operates AVSA and Alpenglow Lodge. Founded in 1937, ASC is a well-established community organization providing recreational and educational opportunities. ASC operates the AVSA within CSP through a concession agreement with the State of Alaska Department of Natural Resources (DNR) to provide concession, recreational, educational, and maintenance services defined by the agreement (see Attachments for the Concession Agreement Contract Map).

ASC has teamed up with local Alaskan companies Huddle AK, Interior Trails, and McKinley Research Group, as well as the internationally experienced ski area and mountain resort planning team of SE Group, to create this Arctic Valley Master Plan (AVMP). This document capitalizes on the collective knowledge of all parties to evaluate existing operations and development potential within Arctic Valley. The result is a master plan that outlines short and long-term upgrades that are designed to provide an improved balance of services to meet the needs of visitors to Arctic Valley.

1.2. Location, Road Access, and Land Ownership

1.2.1. Location

Arctic Valley is situated east of Anchorage, Alaska between an elevation of 2,500 and 4,000 feet in the Chugach Range. AVSA is conveniently located 11 miles from downtown Anchorage and about 14 miles from Eagle River off of the Glenn Highway. Between the Anchorage and Mat-Su Boroughs, approximately 400,000 people live and work within an easy day trip distance of Arctic Valley.

Arctic Valley lies within Dena'ina Elnena (Dena'ina Country) and is home to the K'enaht'ana, the indigenous people of Nuti (Knik Arm), who today are members of the Eklutna (Eydlughet) and Knik (K'enakatnu) tribes.

1.2.2. Road Access and Parking

The Arctic Valley Road (historically Ski Bowl Road) exits off the Glenn Highway and winds seven miles up above tree line, with picturesque views of the Chugach Mountains, Ship Creek drainage and the Cook Inlet. The first 6.5 miles of the Arctic Valley Road are owned by the US military and is controlled by Joint Base Elmendorf-Richardson (JBER), while the remaining 0.5 miles are within Chugach State Park and are maintained by ASC. Approximately 5.5 miles of this road are unpaved. ASC has a cooperative agreement with the US military for road maintenance and as part of the concession agreement is responsible for coordination with the US Army for the maintenance and opening of the portion of Arctic Valley Road located on JBER lands, as well as for the maintenance of the portion of the Arctic Valley Road located on CSP land.

Arctic Valley Road is a dirt and gravel road, and because of the military's limited use of the area, is not a high priority for maintenance. This leads to inconsistent conditions and access especially in winter, although washboard/rutted

conditions affect summer use as well. The road is also subject to periodic closures due to military training and live fire exercises.

At the top of Arctic Valley Road, ASC maintains three large gravel parking lots. There is additional space to park along the road on the approach to AVSA.

1.2.3. Land Ownership and Management

All land in and around Arctic Valley (the entire valley, not just the ski area) is owned by either the State of Alaska or the US Government. Arctic Valley is mostly state land on the south side of Toklat Creek, with the western portion being on military land controlled by JBER. This is the site of the old military ski area base facilities which were decommissioned in the 1990s and early 2000s, as well as the trailhead and initial stage of the Arctic to Indian Trail. The north side of the creek and road is a mix of state and military land, and contains an active antenna site and the abandoned Nike Site Summit that is currently being preserved by Friends of Nike Site Summit (FONSS) and the military. Military activities in the surrounding area are mostly centered around training, and include live fire exercises.

Constructed as a joint venture between ASC and the US Army in the early 1940s, AVSA originally operated on federally controlled lands. After transfer of these lands to the State of Alaska, the State granted ASC a 55-year lease in 1961 to continue to operate the ski area. In 1970, CSP was formed, encompassing Arctic Valley and the leased area. Because the ASC lease could not be renewed within the State Park, the disposition of the land agreement was in question for many years. In 2020, ASC and CSP completed a 20-year concession agreement with the option for two 20-year extension periods that defines ASC's role as owners/operators of AVSA for the next 20 to 60 years. Execution of the concession contract has allowed ASC to once again focus on long-term planning and capital fundraising in order to serve future generations.

ASC owns all of the facilities at AVSA while the State of Alaska owns all of the lands and land improvements, including roads, parking lots, and trails. ASC is authorized to manage and maintain the roads, parking lots, and trails within the concession area on behalf of CSP and may be partially reimbursed for some expenses. ASC is allowed to construct trails, consistent with the Chugach State Park Trail Plan. However, any new roads, parking lots, and trails constructed automatically become the property of CSP.

The concession agreement states a summer operations plan shall be submitted to the Project Director each spring. Any new summer operations should be provided within the summer operations plan for approval prior to operations. Similarly, a winter operations plan must be submitted each fall. As stated in the concession agreement additional facilities may not increase the amount of infrastructure visible from the north or east of the Rendezvous Peak, Mount Gordon Lyon ridge, or from the Ship Creek Valley. Specific siting of infrastructure should include a viewshed analysis to meet this criterion.

1.3. Background and Development History

The ASC has been providing low-cost recreational opportunities for Southcentral Alaska youth and adults for over 85 years. Throughout this time the ASC has built and operated infrastructure to provide recreational opportunities for the communities it serves.

In the 1930s, the Club concentrated on developing the old City Ski Bowl, which was a rope tow and ski jump located in downtown Anchorage. In the 1940s the Club collaborated with the US Army and began focusing on the Arctic Valley area, where they jointly used and operated the military ski facility. When skiers became so numerous that the

Army's warming hut was no longer adequate, the Ski Club moved up the valley and began developing its own area. A small lodge with accompanying outhouse and several rope tows were built. At that time, the civilian ski area required its own patrol, and the volunteer Denali Ski Patrol was formed.

In the 1930s, '40s and '50s, ASC was a very active social group, sponsoring ski trains, group outings, dances, and many after hour parties. In the late 1950s, the Club began focusing on expansion of the ski area. The first life memberships were sold to help fundraise for construction of the T-Bar/Platter lift in 1961-62 to replace the old Thompson and Ptarmigan rope tows. The Thompson Chairlift (Chair 1) opened in 1969. In 1972 the Club finished construction of a new lodge, which is the building that you see today. In 1979, the Little Teton Chairlift (Chair 2) was completed.

In the late 1980s and throughout the '90s, the Club concentrated on bringing snow grooming and night skiing to the ski area, and providing a youth ski race team. Ski area operations were increased to 7 days a week, but that proved to be too much wear and tear on the aging infrastructure. The recession in the State and in Anchorage due to oil decline, plus overdevelopment at Alyeska and the new area at Hilltop took a toll on Arctic Valley's customer base as well. ASC was forced to go back to weekend only operations in 1998, and once again became completely reliant on volunteers.

In the early 2000s, the ASC focused on repairing and refurbishing the ski area, and increasing the quality of summertime recreational activities. Both Chair 1 and Chair 2 were completely refurbished. Trails were improved and trailhead facilities were added – including outhouses and picnic shelters. The Rendezvous Café was opened to provide summer shelter and snacks. The ASC also started building up its summer lodge rentals, with the dual aims of providing revenue to support the mission and to introduce people to Arctic Valley who would not normally come.

Starting in 2010 the ASC began concentrating on sustainability, resilience, improving the user experience and enlarging the user base. Club membership was expanded to include summer users. In 2010 a beer and wine permit was granted and ASC opened a wintertime bar in the lodge with live music during the ski season. The tube park opened in 2011-2012, which has allowed non-skiers an awesome venue for winter recreation – especially children and youth. Snowmaking for the tube park was added shortly thereafter.

In 2014 ASC began the transition back to running operations with paid staff. In 2017 the Club hired a full-time general manager who had been heavily involved as a volunteer with many years of knowledge and experience. ASC improved the skier experience by purchasing a winch cat in 2016 to provide grooming on Arctic Valley's steep slopes. This allowed the Club to restart a youth alpine racing program in 2018. In 2018-2019 a public use cabin was built at the top of Chair 2 that is part of the lift substructure, requiring no ground disturbance. In 2022 the groomer fleet was upgraded to provide more consistent high-quality grooming.

1.4. Anchorage Ski Club

ASC was formed in 1937 and currently enjoys a membership of well over 1,000 Annual and Life Members. ASC is governed by a 15-member volunteer board of directors (Board). The Board is engaged in all aspects of management, operations, and planning, and works closely with staff and volunteer leadership to ensure that the organization will effectively fulfill its mission.

1.4.1. ASC Vision, Mission, Values, and Purpose

Vision: To become the premier alpine recreation location in south-central Alaska.

Mission: To provide recreational and educational opportunities at Arctic Valley.

Core Values: Preservation, Education, Recreation, Community

Purpose: ASC's core purpose is to provide an alpine experience at Arctic Valley through the following actions:

- Provide facilities and infrastructure for and access to recreational and educational opportunities within the alpine environment of Chugach State Park, specifically at Arctic Valley.
- Promote interest, education, and participation in outdoor recreation in the state of Alaska with special emphasis on the sports of hiking, skiing, and snowboarding.
- Benefit the mental and physical condition of the general public and of its members as a result of such interest and participation.
- Promote and cooperate with other organizations in furthering community interest in outdoor recreation by offering a platform of education towards the goals of alpine enthusiasts.
- Engage in all other associated activities which will aid in accomplishing these purposes without any profits to this organization or the members thereof.

1.4.2. Education

ASC has long supported ski-related education. For many years, Arctic Valley hosted robust ski school and ski racing programs. For the past twenty years, ASC has worked closely with the Alaska Avalanche School and other groups to provide avalanche and backcountry skiing/riding education.

In 2018, Arctic Valley started a new ski racing program, which enrolled almost 100 kids for the 2022-23 season. In addition to racing, there's a strong freeride-focused program, and a new learn-to-ski program. ASC also started a new learn-to-ski program for low-income kids, where ASC provides rentals, instruction, meals, and transportation, in conjunction with the Alaska Community Foundation. In 2023, Arctic Valley restarted a ski and snowboard lesson program, and plans to grow the program to provide further opportunities in Anchorage.

1.5. Planning Process

ASC's last Master Plan was prepared in the early 1970s and resulted in the existing lodge, Chair 2, and additional parking lots being constructed. This older plan was not used in preparation of the new master plan due to its age and most of its goals and objectives being completed long ago. It was decided to start a new planning cycle concurrent with the new concession agreement that was signed in 2020.

In 2021 ASC adopted a strategic plan. The planning process included comprehensive engagement and outreach to ASC members and community organizations. The first goal of the strategic plan was to develop an Arctic Valley Master Plan (AVMP), the result being this planning effort and document.

1.5.1. Purpose of the Plan

The purpose of this master plan is to create development concepts for short and long-term infrastructure improvements that will help ASC continue to serve its membership and the larger community as well as sustainably grow its services to meet its vision and mission. The AVMP is meant to capture the vision ASC has for the AVSA and provide a tool for planning, funding, and implementing actions. As ASC continues to revisit its strategic plan, the AVMP should be used as a guide for determining project phasing and next steps on the path to realizing ASC's vision.

1.5.2. Master Plan Process and Outline

In the fall of 2021 ASC engaged Huddle AK, SE Group, McKinley Research Group, and Interior Trails to provide consulting services to develop this master plan. Over the course of a year the consultant team worked collaboratively with the ASC Board Planning Committee to create the AVMP. The process used to develop the master plan is outlined in three steps:

Listen and Learn:

- Conduct initial site visits.
- Initial workshops and meetings with ASC.
- Market Analysis – create visitor and resident profiles that provide an overview of the populations and visitor trends related to existing recreation data.
- Conduct a community survey.
- Stakeholder engagement by ASC members with consultant guidance.

Envision:

- Complete an initial T-bar replacement lift plan for ASC to pursue grant funding.
- Additional site visits.
- Develop draft concepts.
- Additional workshops/review meetings with ASC.

Share and Finalize

- Develop the final AVMP based on ASC review and feedback.

This document is the result of the process outlined above and is divided into five chapters with additional attachments.

1. Arctic Valley Master Plan Overview
2. Winter Mountain Specifications
3. Summer Mountain Specifications
4. Base Area Specifications
5. Development Concepts
6. Conclusion

1.5.3. Community Outreach

ASC solicited input from its membership and the public with an outreach process that included both a community survey and contact with various Arctic Valley stakeholder groups. The AVMP survey was available online from April 8th through May 9th, 2022, and was distributed via email, social media, posters, and on the Arctic Valley website. Respondents to the community survey included over 800 people, approximately 300 ASC members and 500 non-members. The intent of the survey was to understand who is currently using Arctic Valley, how visitors are using the area, and what type of activities, infrastructure improvements, and amenities visitors would like to see in the future. The survey results were considered alongside best trail and ski area management practices and ASC capacity. A summary of the community survey is available in the Attachments.

2. Winter Mountain Specifications

This Winter Mountain Specifications chapter is organized in four sections.

- Section 2.1, “Design Criteria,” provides an overview of the ski area planning principles used throughout this document.
- Section 2.2, “Existing Conditions,” analyzes current ski area operations.
- Section 2.3, “Short-Term Winter Upgrade Concept,” explores development concepts within the confines of the existing concession contract, allowing for reduced restrictions on the southern “Winter Operations” area.
- Section 2.4, “Long-Term Winter Upgrade Concept (Expanded Boundary),” explores development concepts assuming a right-of-way access agreement across military land at the southwest boundary of the concession contract; reduced restrictions on the southern “Winter Operations” area and use allowed in surrounding State Park land.

Near-term upgrades, which are designed to increase operational efficiency, should occur within the next five to ten years. Long-term upgrades are contingent upon securing access to additional land, and they are only recommended for implementation once Arctic Valley reaches certain metrics of growth. Further explanation is provided in Section 2.4.

2.1. Ski Area Design Criteria

The upgrading and expansion of a ski area is influenced by a variety of facility design criteria that contribute to a quality ski/ride experience.

2.1.1. Terrain Types

This document refers to two separate types of skiable/ridable terrain that fall within Arctic Valley’s operational boundary:

- Lift-accessed, definable ski/ride trails for beginner, intermediate, advanced, and expert skiers and riders are referred to as “runs”. The system of runs that fall within a ski area’s boundary is referred to as its “run network”. Portions of the run network that cater to skiers and riders of different ability levels are referred to by their user group, followed by the term “terrain”. Examples include “learning terrain” and “expert terrain”.
- Other “natural terrain” that falls between and outside of designated runs comprises the remainder of the terrain within the Arctic Valley’s operational boundary. Together, the ski area’s defined runs and this other natural terrain comprise the Arctic Valley’s “total terrain”.

Throughout this document, the terms “operational boundary” and “ski area boundary” are used interchangeably to refer to the skiable acreage with Arctic Valley’s concession agreement.

2.1.2. Run Network

The most commonly skied and/or ridden slopes within a ski area’s boundary define its runs. At many ski areas, trees delineate the borders of runs and separate runs from each other. Terrain above tree line within a ski area’s boundary also typically has named runs, though the borders of these runs may be less intuitive. Even when runs lack

distinctive borders, most skiers and riders still ski/ride within a definable area on either side of the most intuitive lines down the mountain. This definable area in which most guests ski/ride is considered the run.

Each run must have a relatively consistent grade corresponding with the identified ability level to provide an interesting and challenging ski and ride experience. Optimum run widths vary depending upon the specific topography and the identified ability level of the run. The run network must minimize cross-traffic and provide ski and ride terrain for every ability level consistent with market demand. Runs must be designed and constructed to minimize non-fall-line alignments, bottlenecks and convergence zones, which can produce skier/ride congestion. The cluster of runs around each lift is referred to as the lift's "pod."

2.1.3. Lift Design

Lifts should be carefully located to serve the available terrain in the most efficient manner, while also considering factors such as wind conditions, round-trip skiing/riding, access needs, connectivity between other lifts and runs, and circulatory space at the lower and upper lift terminals.

2.1.4. Capacity Analysis and Design

Comfortable Carrying Capacity (CCC) is defined as the optimal level of utilization for a ski area that guarantees a pleasant recreational experience and at the same time preserves the quality of the environment. In other words, CCC is the number of visitors that can be accommodated at any given time. The accurate estimation of a mountain's CCC is a complex calculation and is the single most important planning criterion for any ski area. CCC is calculated by balancing the uphill hourly capacity of the lift system with the downhill capacity of the run network. It considers the typical amount of vertical terrain desired by skiers and riders of varying ability levels. An accurate estimation of a mountain's CCC can be used to plan all other ski area facilities, including base lodge seating, mountain restaurant requirements, sanitary facilities, parking, and other services.

2.1.5. Balance of Facilities and Limiting Factors

The mountain master planning process emphasizes the importance of balancing the quantity of skier/ride services with the mountain's CCC. The limiting factor for a ski area's plan can be run network capacity, lift capacity, support facility capacity, or parking capacity. The true capacity of the overall ski area is determined by the most restrictive of these limiting factors.

The future development of a ski area should be designed and coordinated to maintain a balance between skier/ride demand, lift and run network capacity, and supporting equipment and facilities (e.g., grooming machines, base lodge services and facilities, utility infrastructure, access, and parking).

2.2. Existing Ski Area Conditions

The overall balance of the existing ski area is evaluated by calculating the capacities of Arctic Valley's existing facilities, then comparing them to its CCC. This examination helps to identify Arctic Valley's strengths, weaknesses, surpluses, and deficiencies. The next step is to identify improvements that would bring Arctic Valley into better equilibrium and help it meet the ever-changing needs of the marketplace. Existing conditions are shown in Figure 1.

At present, Arctic Valley Ski Area holds a concession agreement to operate on Chugach State Park land. The land directly to its west is under military control, and the portion of military land to the northwest of Arctic Valley is off limits to recreation.

2.2.1.Lifts

The existing terrain at Arctic Valley is served by two chairlifts, one T-bar, and one rope-tow. A separate handle-tow serves the tube park. All of Arctic Valley’s lifts are aging, with the oldest (the T-bar) having been manufactured in 1958 and installed at Arctic Valley in 1961. Lifts over a certain age are no longer serviced by lift manufacturers, which often makes their maintenance difficult and the replacement of their parts prohibitively expensive.

Arctic Valley’s T-bar primarily serves advanced terrain. It also provides access to novice terrain directly above the base area through an unofficial midway offload area. This green run is important to Arctic Valley’s operation, since it offers developing skiers and riders the opportunity to practice on a gentler gradient before committing to more advanced terrain. Arctic Valley’s rope-tow serves its true beginner terrain, which is south of the Alpenglow Lodge. Some of the T-bar’s terrain may also be accessed via Chair 1.

T-bars and rope-tows have many benefits, such as better performance in windy conditions and ease of evacuation. These advantages are particularly relevant to Arctic Valley, which frequently has high winds. Some common T-bar drawbacks include insufficient snow on the track beneath the lift and periodic closures during the day for track grooming. These rarely apply to Arctic Valley. However, other T-bar drawbacks include the fact that surface lifts are difficult to ride and can be tiring and/or uncomfortable. This does apply to Arctic Valley and may be a contributing factor to the ski area’s low utilization rates.

Chair 1 was manufactured in 1968 and serves both intermediate and advanced terrain. To access it, skiers and riders must traverse south from the Alpenglow Lodge, potentially interfering with beginners on the rope-tow. Chair 1’s upper terrain may also be accessed via the T-bar. Chair 1’s lower terrain can be repeat-skied only from Chair 1, since this lift has the lowest base of any on the mountain.

Chair 2 was manufactured in 1978 and is Arctic Valley’s longest lift. It begins just uphill of the T-bar and terminates below the saddle between Rendezvous Peak and Little Teton Mountain. It serves intermediate and expert terrain, and it adds significant acreage to Arctic Valley’s total terrain. Opening this Chair 2 terrain to guests requires considerations of avalanche exposure, weather, backcountry access, and additional factors.

Lift specifications are provided in Table 1

Table 1 – Lift Specifications – Existing Conditions

Lift Name	Top Elevation (ft)	Bottom Elevation (ft)	Vertical Rise (ft)	Slope Length (ft)	Avg. Grade (%)	Hourly Capacity (pph)	Rope Speed (ft/min)	Carrier Spacing (ft)	Lift Maker / Manufacture Year
T-bar	3,645	2,669	976	2,825	37%	600	650	130	Doppelmayr / 1958
Chair 1	3,348	2,535	813	2,205	40%	720	435	73	Riblet / 1968
Chair 2	3,903	2,700	1,203	4,561	28%	1,200	450	45	Riblet / 1978
Rope Tow	2,657	2,608	49	384	13%	500	330	40	Multirer / 1984

Top Elevation – The elevation of the lift’s top terminal.

Bottom Elevation – The elevation of the lift’s bottom terminal.

Vertical Rise – The difference in elevation between the top and bottom terminals.

Slope Length – The length of the lift, from top terminal to bottom, as measured on the ground (i.e., a three-dimensional measurement).

Average Grade – The average slope gradient (in percent) of the terrain under the lift, from top terminal to bottom terminal.

Hourly Capacity – The number of guest trips per hour accommodated by a lift (one ride for one guest = one guest trip).

Rope Speed – The speed that a lift can transport guests, as expressed in feet per minute.

Carrier Spacing – The distance in feet between each guest carrier (chair, gondola cabin).

2.2.2. Terrain

Arctic Valley is known for its open bowl features, lift-served backcountry, and proximity to Anchorage. The entire ski area is located above tree line, leaving no clear delineation between its runs or distinction between developed and natural terrain. On clear days, this high-alpine experience offers world-class views. On lower-visibility ones, this warrants additional signage, fencing, and other distinguishable elements to visibly anchor skiers and riders who may experience vertigo.

Arctic Valley’s aspects range from northeast to southwest and are primarily northwest-facing, as depicted in Figure 2. Northern slopes have optimal snow retention, as they receive the least direct sunlight of any aspect in the northern hemisphere. Having slopes with varying sun and wind exposures benefits ski areas, especially those above tree line such as AVSA, as it allows skiers and riders to select runs based on changing snow conditions throughout the day and season. In this respect, Arctic Valley offers adequate diversity.

Relative to Arctic Valley’s aspect diversity, its slope angles offer less variety, as depicted in Figure 3. At present, Arctic Valley has insufficient lower-level terrain. Its rope-tow serves a single beginner run, and its T-bar offers novice skiing and riding near its bottom terminal. At present, those who have graduated from rope-tow to T-bar ride up the mountain as far as their nerves allow. Advancing from “the sixth pole” to “the seventh pole” signifies incremental mastery of terrain— or incremental bravery! Once leaving the T-bar, novice skiers and riders repeat a single run back to its base.

Arctic Valley’s lack of beginner terrain and lift progression beyond the rope-tow diverts most potential newcomers to nearby Hilltop and Hillberg ski areas, which cater more effectively to beginners. Once these skiers and riders become proficient, they often bypass Arctic Valley for Alyeska, which offers the most in-bounds vertical and terrain diversity of any ski area near Anchorage. Thus, establishing additional beginner terrain and improving the overall beginner experience is crucial to Arctic Valley’s ability to build and retain loyal clientele.

After gaining confidence on Arctic Valley’s rope-tow and lower T-bar, Arctic Valley’s novices graduate to intermediate terrain. Because Arctic Valley lacks low intermediate terrain, newer skiers and riders are often forced to ski intermediate runs before they are ready to do so.

Relative to its deficit of learning terrain, Arctic Valley offers a surplus of intermediate, advanced, and expert terrain. These steeper slopes are enjoyed by Arctic Valley’s expert clientele, many of whom also partake in backcountry skiing and riding.

As defined in Section 2.1.1, this analysis accounts for two separate types of skiable/rideable terrain within Arctic Valley’s operational boundary:

- Lift-accessed, definable runs for beginner, intermediate, advanced, and expert skiers and riders. These comprise Arctic Valley’s run network and amount to 149 acres, as shown in Table 2.

- Other natural terrain that falls outside of defined runs but within Arctic Valley’s operational boundary, adding another 171 acres.

Together, Arctic Valley’s run network and natural terrain comprise its total terrain: approximately 320 acres.

Table 2 – Run Network Specifications – Existing Conditions

Map Ref	Run	Top Elev.	Bottom Elev.	Vertical Drop	Slope Length	Avg. Width	Slope Area	Avg. Grade	Max. Grade	Ability Level
		(ft)	(ft)	(ft)	(ft)	(ft)	(ac)	(%)	(%)	
1a	Chair 1 Line	3,331	2,530	801	2,280	254	13.3	38%	45%	Intermediate
1b	Thompson Run	3,323	2,556	766	1,983	359	16.3	42%	58%	Expert
2a	Shooter	3,881	2,827	1,054	3,204	190	14.0	35%	54%	Advanced
2b	Rock Garden	3,853	3,446	407	1,075	355	8.8	41%	56%	Expert
2c	High Traverse	3,890	3,827	63	1,798	20	0.8	4%	21%	Advanced
2d	Dave & Doris Drive	3,378	2,710	669	5,123	40	4.7	13%	27%	Low Intermediate
2e	Avalanche Gully	3,835	3,290	545	1,432	189	6.2	42%	60%	Expert
2f	Duane’s	3,833	3,153	680	1,599	326	12.0	47%	61%	Expert
2g	Champagne	3,789	3,379	410	1,340	318	9.8	32%	38%	Intermediate
2h	Powder Town	3,471	2,889	582	2,069	286	13.6	30%	44%	Intermediate
3a	Brandy Bowl	3,628	2,932	696	1,618	271	10.1	48%	54%	Advanced
3b	Ptarmigan Bowl	3,376	2,680	695	1,819	356	14.9	42%	50%	Advanced
3c	Rondy Bowl	3,599	3,300	299	774	321	5.7	42%	45%	Intermediate
3d	Skiers Right T-bar	3,619	2,758	861	2,248	273	14.1	42%	49%	Advanced
3e	Beginners	2,742	2,682	60	494	184	2.1	12%	13%	Novice
3f	T-Bar Cornice	3,630	3,321	310	1,284	41	1.2	25%	52%	Advanced
4	Pony	2,652	2,608	44	368	127	1.1	12%	15%	Beginner
Total					30,509		148.6			

Top Elevation – The elevation at the beginning (top) of the run.

Bottom Elevation – The elevation at the end (bottom) of the run.

Vertical Drop – The difference in elevation between the beginning and end of the run.

Slope Length – The three-dimensional length of the run centerline, from beginning of the run to the end, as measured on the ground or by use of 3D mapping technology.

Average Width – The average width of the entire run, from top to bottom. This may be determined by field measurements, or by a calculation utilizing the given run acreage and slope length.

Slope Area – The total number of acres of terrain occurring within a run boundary. This may be determined by GIS measurement, or by a calculation utilizing the slope length and average width.

Average Grade – The average slope gradient (in percent) of the run’s centerline, from the beginning of the run to the end.

Maximum Grade – The maximum gradient (in percent) occurring anywhere on the run.

Ability Level – The following gradients were used to determine the skier/rider ability level of each run:

Skier/Rider Ability	Slope Gradient
Beginner	8 to 12%
Novice	to 25% (short pitches to 30%)
Low Intermediate	to 35% (short pitches to 40%)
Intermediate	to 45% (short pitches to 50%)
Advanced Intermediate	to 55% (short pitches to 60%)
Expert	over 55% (maximum of 80%)

Source: SE Group

Exceptions to these specifications occur when access to a run is limited to a higher ability level. For example, if a novice run can only be accessed by a low intermediate run, then it is designated low intermediate because it is not readily accessible to the novice skier/rider. Alternatively, if an otherwise intermediate run contains a substantial pitch of 55 percent terrain, then the run is designated expert because only expert skiers and riders can easily navigate the entire run.

2.2.3. Terrain Park

Arctic Valley usually operates a terrain park north of the Alpenglow Lodge. Terrain parks add important variation in terrain to ski areas. This variation helps ski areas retain guests, both for longer durations of visit and for repeat business. Ski area operators should aim to provide a progression in terrain parks so that novices may practice and experts may improve their skills. Providing this low-pressure environment for novices is important for their growth and progression. If features for skiers/riders of different ability levels are located within the same terrain park, they should be separated into distinct lines so that novices and experts don’t need to cross paths. Signage should clearly and simply delineate the difficulty of the various parks and features. Cross traffic should be minimized with good visibility provided in merge zones. Park features should flow easily from one to another and avoid creating bottle necks and traffic jams.

2.2.4. Snowmaking

Arctic Valley typically makes snow for their tube park. Depending on natural snow conditions, snowmaking usually occurs for three weeks at the beginning of the season, from November 1 through November 21. The tube park needs a base depth of 18” to operate.

Currently, Arctic Valley does not have snowmaking infrastructure on its lift-served terrain. This limits Arctic Valley’s operations during winters with low or inconsistent snowfall.

2.2.5. Lighting

At present, Arctic Valley’s tube park has lighting, but its ski terrain does not. Lighting the ski slopes would increase Arctic Valley’s appeal and ability to operate during Alaska’s dark winter months. Relative to nearby ski areas, Arctic Valley’s alpine setting further necessitates lighting: without trees to serve as visible anchors, skiers and riders may struggle to discern features and slope gradients in low-light conditions. Lighting would improve Arctic Valley’s skier/rider experience and extend its hours of operation.

2.2.6. Skier/Rider Distribution

The distribution of available terrain is evaluated based on the percentage of skiers and riders on terrain of each ability level. The acres of available terrain for each ability level, and the acceptable skier/rider density—or the “target density”—for runs of each ability level, are used to determine capacity. Generally, higher ability level terrain supports a lower density of skiers and riders. Skier/rider distribution is determined as follows:

- Each run has a designated ability level, and each ability level has a target density range for the ideal number of skiers/riders occupying each acre of terrain at one time. The widely accepted target density criteria for ski areas are listed below:

Skier/Rider Ability	Target Density
Beginner	25 to 35 skiers/acre
Novice	12 to 25 skiers/acre
Low Intermediate	8 to 20 skiers/acre
Intermediate	6 to 15 skiers/acre
Advanced Intermediate	4 to 10 skiers/acre
Expert	2 to 5 skiers/acre

Source: SE Group

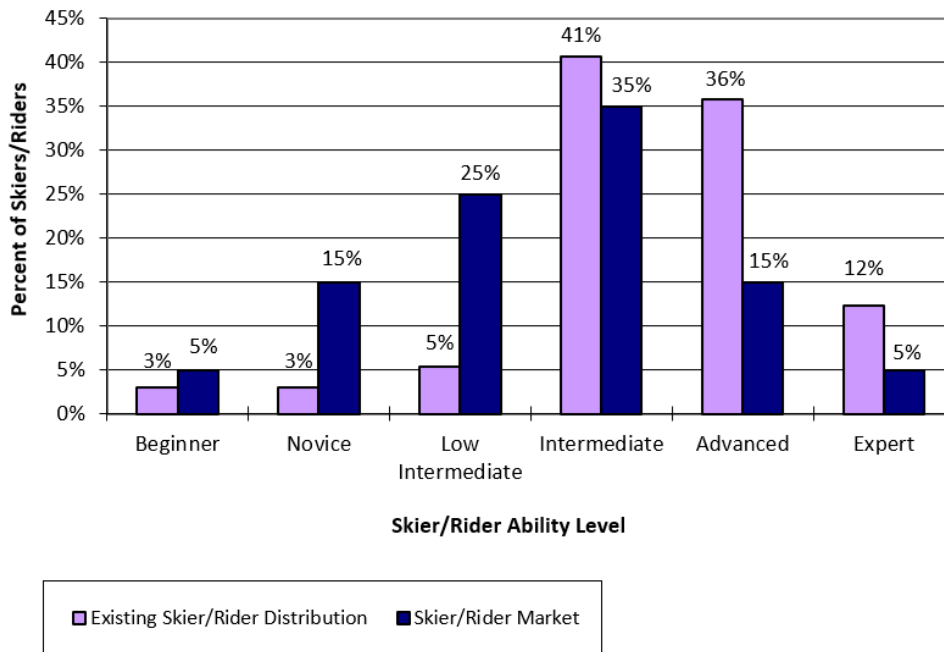
- The number of acres of terrain designated to each ability level is multiplied by target density for that ability level.
- The total for each ability level is expressed as a percentage of the total skiers/riders.
- This percentage (skier/rider distribution) is compared with the market demand for terrain of each ability level.

Table 3 and Illustration 1 compare Arctic Valley’s skier/rider distribution (expressed as percent of skiers/riders) with market demand for each ability level. The “Skier/Rider Market” percentages below approximate the North American market. Arctic Valley should aim to match this.

Table 3 – Skier/Rider Distribution Relative to Market – Existing Conditions

Skier/Rider Ability Level	Arctic Valley's Run Area	Arctic Valley's Capacity	Arctic Valley's Skier/Rider Distribution	North American Skier/Rider Market
	(ac)	(guests)	(%)	(%)
Beginner	1.1	32	3%	5%
Novice	2.1	31	3%	15%
Low Intermediate	4.7	57	5%	25%
Intermediate	43.2	432	41%	35%
Adv. Intermediate	54.2	380	36%	15%
Expert	43.3	130	12%	5%
Total	148.6	1,062	100%	100%

Illustration 1 - Skier/Rider Distribution Relative to Market – Existing Conditions



Arctic Valley’s available terrain should be capable of accommodating the full range of ability levels, consistent with market demand. As shown in Illustration 1, Arctic Valley currently has a deficit of beginner, novice, and low intermediate terrain relative to the skier/rider market. As previously noted, this lack of learning terrain poses challenges to Arctic Valley’s ability to attract and retain customers.

2.2.7. Comfortable Carrying Capacity

CCC, which is defined in Section 2.1.4, is the single most important planning criterion for any ski area. The CCC of Arctic Valley’s existing lift and run network is calculated at 810 guests per day, as shown in Table 4. It is common for ski areas to experience peak days during which skier/rider visitation exceeds CCC by as much as 25 percent.

However, ski areas should not consistently exceed their CCC, as the quality of the recreational experience decreases considerably under this condition.

Table 4 – Comfortable Carrying Capacity – Existing Conditions

Lift Name	Slope Length	Vert. Rise	Actual Capacity	Oper. Hours	Load Eff.	Adj. Hourly Cap.	VTF/Day	Vertical Demand	CCC
	(ft)	(ft)	(pph)	(hrs)	(%)	(pph)	(000)	(ft/day)	(guests)
T-bar	2,825	976	600	6.00	15	510	3,484	24,298	140
Chair 1	2,205	813	720	6.00	15	612	3,484	15,119	230
Chair 2	4,561	1,203	1,200	6.00	15	840	7,076	17,056	410
Rope Tow	384	49	500	6.00	10	450	154	4,553	30
Total	9,976		3,020			2,412	14,198		810

Oper. Hours (hrs) – The number of hours per day that the lift operates during the ski area’s busiest season.

Load Eff. (%) – The percentage of time within a given operating hour that a lift is stopped due to factors such as misloading.

Adj. Hourly Cap (pph) – The actual capacity of a lift adjusted for operating hours and loading efficiency.

Vertical Transport Feet (VTF) per Day (000) – The number of persons a lift can transport in a day. VTF/day is derived by multiplying a lift’s uphill capacity (measured in persons per hour) by the lift’s vertical rise (measured in feet), then by the number of hours the lift operates in a day.

Vertical Demand (ft/day) – The aggregate number of runs demanded on the ski area’s lifts multiplied by the vertical rise associated with those runs.

CCC (guests) – An optimal level of daily utilization for the ski area which guarantees a pleasant recreational experience without overburdening the ski area’s infrastructure.

2.2.8. Density Analysis

Arctic Valley’s existing terrain density is analyzed in Table 5.

Table 5 – Terrain Density Analysis – Existing Conditions

Lift Name	CCC	Guest Dispersal				Density Analysis				
		Support Fac./Milling	Lift Lines	On Lift	On Runs	Run Network Area	Run Network Density	Target Run Network Density	Diff.	Density Index
		(guests)	(guests)	(guests)	(guests)	(acres)	(guest/ac)	(guest/ac)	(+/-)	(%)
T-bar	140	35	17	37	51	36.0	1	2	-1	50%
Chair 1	230	58	51	52	69	28.6	2	2	0	100%
Chair 2	410	103	28	142	137	70.1	2	5	-3	40%
Rope Tow	30	8	0	9	13	1.1	12	30	-18	40%
Total	810	204	96	240	270	135.8	2	5	-2	48%

CCC (guests) – An optimal level of daily utilization for the ski area which guarantees a pleasant recreational experience without overburdening the ski area’s infrastructure.

Support Fac./Milling (guests) – The number of skiers and riders using facilities and milling areas.

Lift Lines (guests) – The number of skiers and riders actively waiting in lift lines.

On Lift (guests) – The number of skiers and riders actively riding a lift.

On Runs (guests) – The number of skiers and riders actively skiing and riding.

Run Network Area (acres) – Acres of the total run network servicing the referred lift. These acres comprise the lift’s “pod” of runs.

Run Network Density (guest/ac) – The density of each lift’s pod, calculated by dividing the number of skiers/riders on the runs by the amount of run area available within each pod.

Target Run Network Density (guest/ac) – The product of the target density, as explained in Section 2.2.6, and the lift’s trail distribution by ability level.

Diff. (+/-) – Calculated run network density comparing actual run network density to target run network density. A negative number indicates an actual run network density lower than target run network density; a positive number indicates an actual run network density higher than target run network density.

Density Index (%) – The density comparison stated as a percentage. A 100 percent index represents a balance between actual run network density and target run network density: optimal utilization. A percentage less than 100 indicates an actual run network density lower than target run network density (i.e., uncrowded), and a percentage higher than 100 indicates an actual run network density higher than target run network density (i.e., crowded).

These criteria calculate the number of skiers and riders in lift lines, riding the lifts, or utilizing support services. The remainder are on the runs themselves. Table 5 indicates that three of Arctic Valley’s four lifts have actual run network densities that are far lower than their target run network density. The overall density index score shows that, overall, Arctic Valley’s runs are at 48 percent of target density. While skiers and riders may enjoy uncrowded slopes, maintaining more terrain than necessary decreases operational efficiency.

2.2.9. Backcountry

A “backcountry feel” has always been a significant part of Arctic Valley’s character. Many visitors come to Arctic Valley to learn how to backcountry ski or to ski when backcountry conditions are unsafe. Others bring their kids to Arctic Valley so they can enjoy the backcountry feel when they can’t get out deep in the backcountry because of family obligations. During much of the winter AVSA provides a groomed run to the popular backcountry access areas.

Many backcountry skiers have an annual basic membership which includes parking at the area and makes it difficult to track how many backcountry visitors AVSA gets in any one day. It is estimated that AVSA sees a maximum of around 50 backcountry visitors on any given day, normally on weekends. They tend to come alone or in very small groups.

From Arctic Valley, guests may access additional terrain within the Chugach Mountain Range. Points to exit the ski area boundary are convenient along the ridge between the upper terminals of Chair 2 and Chair 1, and the Proposed

Replacement Chairlift will serve this ridge as well. Given this, Arctic Valley should use ropes to create clear “backcountry gates” and warn users of the risks associated with exiting the ski area boundary in this manner.

2.2.10. Tube Park

Arctic Valley’s existing tube park does well. The number of sessions per day varies based on weekday versus weekend day and hours of daylight throughout the season. Currently, capacity is capped at 60 tubers per session with a maximum of 5 back-to-back sessions per day on our most popular days in the spring (maximum 300 guests per day). It is often sold out on weekends during the winter season when the weather is favorable.

Tubing guests usually come up to Arctic Valley in family or other groups. It is important to note that tubers generally don’t spend the entire day at Arctic Valley. Since the sessions are back-to-back, there are rarely more than 120 tubers on location at any one time – 60 in a session and another 60 either just arriving for the next session or just leaving from the previous session. They may grab a snack and use the restrooms in the lodge, but rarely stay for very long. Depending upon what time of day their session is, some may stay for lunch. The exception might be private parties that reserve space in the lodge for a birthday or other special event. This activity is mostly encouraged for midweek when the ski area is less crowded.

Presently, the tube park is oriented in a north-northwest to south-southeast direction. Its number of lanes varies year to year, typically ranging from three to five. If the tube park continues to experience success, opportunities for expansion should be considered.

2.2.11. Other Winter Activities

At present, tubing and backcountry skiing/riding comprise Arctic Valley’s other winter activities. These supplement lift-served skiing and riding—Arctic Valley’s primary winter offering. Informally, some visitors Nordic ski, hike, and snowshoe on Dave and Doris Drive, the groomed run up to the Saddle. And kids will find places to sled around the base area. The ski area does not have trails dedicated for specific winter use.

2.2.12. Guest Services

Table 6 shows the existing total available guest use space in the Alpenglow Lodge, as well as the recommended amount of space to accommodate Arctic Valley’s current CCC. In the summer, Arctic Valley operates a separate Rendezvous Café, which is not included in this space use analysis.

Administrative and storage space for respective functions is included in the function itself. For example, administrative space for food and beverage operations is included in “Kitchen/Scramble”. Storage space for the youth ski programs/race team is included in that category itself. The “Administration” category includes space for overall ski area administrative functions, the “Storage” category includes space for overall ski area indoor storage, and the “Employee Locker/Lounge” category includes space for ski area employees who are not included in another category (such as “Youth Ski Programs/Race Team” or “Administration”).

In addition to Arctic Valley’s downhill skiing/riding guests, other user groups benefit from certain guest services as well. These user groups include Arctic Valley’s employees, tubing clientele, and backcountry skiers/riders, and others. For the purposes of this analysis tubing clientele are estimated at 120 (see section 2.2.10), and the other user groups are assumed to comprise 10% of Arctic Valley’s CCC of 810 guests per day, which amounts to 81 additional non-downhill-skiing/riding/tubing guests per day.

Space for these 201 additional guests is included in certain guest service space recommendations, such as restaurant seating and restrooms. Guest service space recommendations that are specific to the lift-served operation, such as rentals, do not include space for these other user groups.

Table 6 – Space Use Recommendations – Existing Conditions

Service Function	Existing Total (sf)	Recommended Range	
		Low (sf)	High (sf)
Ticket Sales/Guest Services	310	320	390
Public Lockers	40	550	670
Rentals/Repair	-	710	910
Retail Sales	-	450	560
Youth Ski Program/Race Team	-	440	530
Restaurant Seating	4,070	5,060	6,070
Kitchen/Scramble	1,040	1,518	1,821
Restrooms	340	730	890
Ski Patrol	350	360	440
Administration	200	450	560
Employee Lockers/Lounge	200	180	220
Storage	800	480	720
Circulation/Walls/Mechanical	1,480	1,940	2,870
Total	8,830	13,190	16,650

As shown above, Arctic Valley has shortages in many guest service space categories. Most significant shortages of existing services occur in public locker and restroom space; however, these shortages may not be noticed under current operating conditions because Arctic Valley’s visitation rarely reaches its CCC.

Historically, Arctic Valley has partnered off and on with local outfitters to provide rentals for guests. Arctic Valley has purchased 14 adult and 14 child ski setups, and 6 adult and 6 child snowboard setups (totaling 40 rental units), which will be available to guests at the ski area starting with the 22/23 season. To ensure the success of this new program, Arctic Valley should dedicate space for an on-site rental shop.

In 2021, Arctic Valley offered snowboard lessons for riders of all ability levels on its inbounds and lift-served backcountry terrain. Arctic Valley plans to offer both ski and snowboard lessons in the future. To ensure the success of this new program, Arctic Valley should dedicate on-site ski school space as well.

2.2.13. Food and Beverage Service

The following table compares the existing number of restaurant seats in the Alpenglow Lodge with the recommended number of restaurant seats for the ski area, given Arctic Valley’s CCC, 120 tubing clientele, and an assumed 10% additional guests (employees, and backcountry skiers/riders, etc.) per day. It does not include seats at the Rendezvous Café, since this venue exclusively operates during the summer, or outdoor seats, since Arctic Valley’s climate is not consistently suitable for outdoor dining.

Restaurant seating includes designated restaurant seating space in the upper level of the Alpenglow Lodge (70 seats), as well as the multi-use lower-level seating areas (80 seats). The lower-level seating areas are used by guests who purchase food, as well as those who bring their own food, need to rest/warm up, wait for friends, and more.

Table 7 – Recommended Restaurant Seats – Existing Conditions

	Alpenglow Lodge
Lunchtime Capacity (CCC)	1,011
Average Seat Turnover	3
Existing Seats	250
Recommended Seats	337
Difference	-87
Existing Seating Capacity	750

As shown above, Arctic Valley currently has a seating shortage relative to its CCC. This would be exacerbated by guests lingering over lunch and/or the lodge seating used for warming up vs. eating: both situations would decrease the average seat turnover and affect the overall seating capacity. On low visitation days, this shortage is not noticed; on high visitation days, it may be felt. If Arctic Valley’s visitation increases, seating shortages will become more pronounced.

2.2.14. Parking and Access

Guests access Arctic Valley via a steep, winding, seven-mile road that becomes gravel approximately 1.5 miles from the Glenn Highway. The grade, switchbacks, and general condition of the road are harsh. Arctic Valley’s parking and drop-off areas can also be difficult to navigate, with blind corners and inefficient circulation creating frequent traffic jams during peak arrival periods. Arctic Valley should consider changes to its circulation and parking to mitigate bottlenecks and improve the overall guest experience.

Upon arrival, Arctic Valley’s guests may park in one of three free lots. When Arctic Valley’s operators have the requisite heavy equipment to move snow, its main lot contains approximately 80 spaces, its upper lot contains 96, and its lower lot contains 82. An additional 74 spaces can be created along the access road. This heavy equipment is paramount to Arctic Valley’s ability to reach its visitation potential: without it, access road parking cannot be achieved, and fewer spaces are available in each designated lot.

The following table compares Arctic Valley’s existing number of parking spaces to its recommended number, given Arctic Valley’s CCC, 120 tubing guests and an assumed 10% additional non-downhill skiing/riding guests (employees, and backcountry skiers/riders, etc.) per day. Existing counts assume all spaces are available in the main, upper, and lower lots. Access road parking is not included. The “2.0” multiplier for “Recommended car parking spaces” reflects Arctic Valley’s current Average Vehicle Occupancy (AVO) of 2.0 guests per car. The “35” multiplier for “Recommended bus parking spaces” reflects the average charter bus capacity of 35 guests per bus.

Table 8 – Recommended Parking – Existing Conditions

	Multiplier	Total
CCC + other guests		1,011
# of guests arriving by car	90%	910
# of guests arriving by charter bus	10%	101
Recommended car parking spaces	2.0	455
Recommended bus parking spaces	35	2.9
Equivalent car spaces (1 bus=4.5 car)	4.5	13
Total recommended spaces		468
Existing parking spaces		332
Surplus/deficit (spaces)		-136
Existing parking capacity (guests)		664

As shown above, Arctic Valley has a parking deficit. This limits the ability of its lifts, terrain, and guest services to serve the number of patrons for which they were designed. Additionally, the numbers shown assume that AVSA has the heavy machinery and labor necessary to clear snow from all of its 332 parking spaces. As with guest service space shortages, Arctic Valley’s parking shortage will become more pronounced if visitation increases.

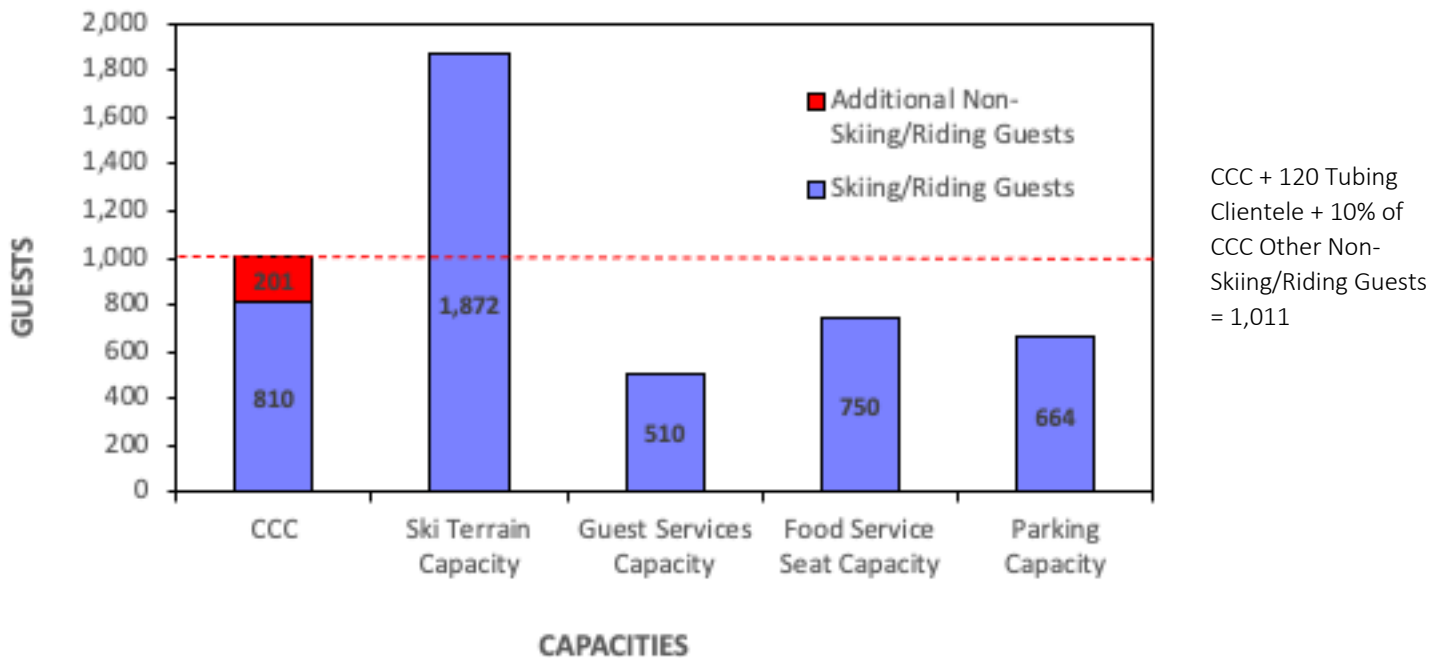
Arctic Valley’s AVO is low, as compared to similar ski areas. Two contributing factors include: 1) Arctic Valley’s employees typically travel in separate vehicles, and 2) Arctic Valley attracts fewer families than similar ski areas. To reduce its parking deficit, Arctic Valley should explore strategies to increase its AVO.

2.2.15. Ski Area Balance and Limiting Factors

Arctic Valley’s overall balance is evaluated by comparing the capacities of its facilities to its CCC (810) plus tubing clientele (120), plus its assumed 10% additional non-skiing guests (81), as shown in red in Illustration 2, for a total of 1,011 guests per day. These additional non-skiing guests (tubing clientele, and backcountry skiers/riders, etc.) are included in calculations for guest services, food service seating, and parking capacity. They are not included in calculations for ski terrain capacity.

As shown below, the ski area is not well balanced. Arctic Valley has a large surplus of ski terrain, which creates a pleasant, uncrowded experience for skiers and riders. Relative to its CCC and terrain capacity, Arctic Valley has a shortage of guest services, food service seating, and parking. These limit the ski area’s ability to realize its design capacity.

Illustration 2 - Existing Ski Area Capacity



2.3. Short-term Winter Upgrade Concept

Short-term upgrades are designed to increase Arctic Valley’s operational efficiency and improve the guest experience. They are recommended for implementation within the next five to ten plus years. All short-term recommendations fall within Arctic Valley’s existing ski area boundary.

2.3.1. Lifts

Given the age of Arctic Valley’s existing lifts, upgrades and/or replacements are likely imminent. Since Arctic Valley’s existing capacity needs could be met by fewer lifts, short-term upgrades are designed to improve the lift network’s efficiency:

- Replacing the T-bar with a new fixed-grip quad chairlift with a mid-unload station, referred to on the figures as the “Proposed Replacement Chairlift”
- Replacing the Rope-Tow with a Conveyor in a new location that is near the lower terminal of Chair 2, shown on the figures as the “Proposed Conveyor”

The Proposed Replacement Chairlift would service the terrain that skiers and riders currently access from the T-Bar and Chair 1. Its mid-unload station would provide access to novice level terrain similar to that which is currently accessed via the practice of getting off the T-bar early, allowing novices to continue to build skills. This mid-unload station would not be used for loading in the winter. Further site planning and engineering is required in order to finalize the proposed location of such a new lift, and it is recommended that a detailed Lift Alignment Study be

undertaken in order to pick the optimal location(s) for all future lifts that takes into account Concession Agreement requirements as well as summer usage patterns.

The Proposed Conveyor would maintain Arctic Valley’s current lodge-adjacent beginner experience while improving skier/rider circulation in the base area. Whereas the existing Rope Tow is located south of the Alpenglow Lodge, disrupting skier circulation between the lodge and Chair 1, the Proposed Conveyor would be located north of the Alpenglow Lodge. Though this area is between the lodge and Chair 2, the new location for the beginner terrain is anticipated to be less disruptive than its current site. Together with the mid-unload station of the Proposed Replacement Chairlift, the Proposed Conveyor helps address Arctic Valley’s dearth of learning terrain and improves the beginner/novice progression.

Specifications for the proposed lifts are provided in Table 9. Note that the new Proposed Replacement Chairlift is shown in two lines: the first encompasses the lift’s lower section, from its bottom terminal to its mid-unload station (for novice skiers/riders); and the second encompasses the lift’s full length, from its bottom terminal to its top terminal.

Table 9 – Lift Specifications – Upgrade Plan

Lift Name	Top Elevation	Bottom Elevation	Vertical Rise	Slope Length	Avg. Grade	Hourly Capacity	Rope Speed	Carrier Spacing	Lift Maker / Manufacture Year
	(ft)	(ft)	(ft)	(ft)	(%)	(pph)	(ft/sec)	(ft)	
Proposed Replacement Chairlift – Lower Section	2,702	2,531	170	791	22%	500	450	216	Proposed
Proposed Replacement Chairlift – Entire Lift	3,632	2,531	1,101	3,468	34%	1,500	450	72	Proposed
Chair 2	3,903	2,700	1,203	4,561	28%	1,200	450	45	Riblet / 1978
Proposed Conveyor	2,634	2,608	26	250	13%	600	120	12	Proposed

Carrier Spacing (feet) – The distance in feet between each guest carrier (chair, gondola cabin).

Actual chair spacing for the full lift would be 54 feet. However, in the table above, the carrier spacing for the Proposed Replacement Chairlift reflects the distance between chairs that are assumed to unload at the mid-unload station and the top terminal, respectively. The carrier spacing of the mid-unload station is three times higher than the carrier spacing for the proposed entire lift. This is because guests riding the Proposed Replacement Chairlift are anticipated to unload at the top station for three out of every four chairs. Guests riding the Proposed Replacement Chairlift are anticipated to unload at the mid-unload station for one out of every four chairs.

2.3.2. Terrain

Short term upgrades to terrain consist of modifying/adding to the run network within Arctic Valley’s existing ski area boundary. Some planned runs incorporate parts of Arctic Valley’s existing runs, and others include the natural terrain that was previously between or outside of existing runs. Thus, the acreage of Arctic Valley’s run network is increased in this short-term winter upgrade concept. Because the total terrain within Arctic Valley’s ski area boundary does not change, the natural terrain that falls between and around its runs is decreased:

- Lift-accessed, definable runs for beginner, intermediate, advanced, and expert skiers and riders comprise Arctic Valley’s run network and amount to 165 acres in the short-term winter upgrade concept, as shown in Table 10. In Arctic Valley’s existing condition, they amount to 149 acres.
- Other natural terrain that falls outside of defined runs but within Arctic Valley’s operational boundary accounts for the remaining 155 acres within Arctic Valley’s operational boundary in the short-term winter upgrade concept. In Arctic Valley’s existing condition, they amount to 171 acres.

Together, Arctic Valley’s run network and natural terrain comprise its total terrain. Since the operational boundary does not change, these two types of terrain still encompass 320 acres. Definitions are provided in Section 2.1.1.

Though no new total terrain is proposed for the short-term upgrades, modifications/additions to Arctic Valley’s run network are anticipated to improve the ski/ride experience. These modifications/additions will be done by grading sections of existing or planned runs so that they cater more effectively to specific ability levels and generally improve the ski/ride experience.

New runs are designed to address Arctic Valley’s deficit in existing learning terrain. They include the following:

- Beginner terrain adjacent to the Proposed Conveyor. Run C-01.
- Novice and low intermediate terrain accessible from the mid-unload station of the Proposed Replacement Chairlift. Runs B-01, B-02, B-03, B-04 and B-05.
- A novice route (A-01) from the upper terminal to the lower terminal of the Proposed Replacement Chairlift. Note that this run is primarily a proposed grading and re-routing of existing formalized and informal ski routes. By grading this out and making it a formal, groomable run, it could be skied/ridden by novice level skiers/riders. This run could also be built to serve as the summer Rendezvous Ridge hiking trail, mentioned in the Summer Mountain Specifications.
- Improved access to intermediate and advanced terrain that may be accessed from the Proposed Replacement Chairlift. Run A-04.
- In addition to these new runs, the High Traverse (from the top of Chair 2) should be re-routed and graded to make a formal, groomable run that could provide the only intermediate route all the way from the top of Chair 2 to the base. Currently the upper levels of Chair 2 are all advanced/expert, giving no clear access to intermediate runs that start further down the mountain.

Table 10 and Figure 4 detail the specifications of the planned runs.

Table 10 – Run Network Specification – Upgrade Plan

Map Ref	Run	Top Elev. (ft)	Bottom Elev. (ft)	Vertical Drop (ft)	Slope Length (ft)	Avg. Width (ft)	Slope Area (ac)	Avg. Grade (%)	Max. Grade (%)	Ability Level
1a	Chair 1 Line	3,331	2,530	801	2,280	254	13.3	38%	45%	Intermediate
1b	Thompson Run	3,304	2,749	555	1,223	379	10.7	51%	56%	Expert
2a	Shooter	3,881	2,827	1,054	3,204	190	14.0	35%	54%	Advanced
2b	Rock Garden	3,853	3,446	407	1,075	355	8.8	41%	56%	Expert
2c	High Traverse	3,890	3,827	63	1,798	20	0.8	4%	21%	Intermediate
2d	Dave & Doris Drive	3,378	2,710	669	5,123	40	4.7	13%	27%	Low Int.
2e	Avalanche Gully	3,835	3,290	545	1,432	189	6.2	42%	60%	Expert
2f	Duane’s	3,833	3,153	680	1,599	326	12.0	47%	61%	Expert
2g	Champagne	3,789	3,379	410	1,340	318	9.8	32%	38%	Intermediate
2h	Powder Town	3,471	2,889	582	2,069	286	13.6	30%	44%	Intermediate
3a	Brandy Bowl	3,628	2,932	696	1,618	271	10.1	48%	54%	Advanced
3b	Ptarmigan Bowl	3,376	2,680	695	1,819	356	14.9	42%	50%	Advanced
3c	Rondy Bowl	3,599	3,300	299	774	321	5.7	42%	45%	Intermediate
3d	Skiers Right T-bar	3,619	2,758	861	2,248	273	14.1	42%	49%	Advanced
3e	Beginners	2,742	2,682	60	494	184	2.1	12%	13%	Novice
	A_01	3,594	2,528	1,066	5,648	82	10.7	19%	25%	Novice
	A_04	3,061	2,553	508	1,474	129	4.3	37%	44%	Intermediate
	B_01	2,712	2,658	55	631	30	0.4	9%	14%	Novice
	B_02	2,702	2,551	151	737	123	2.1	21%	27%	Low Int.
	B_03	2,716	2,541	176	837	124	2.4	22%	32%	Low Int.
	B_04	2,651	2,533	119	1,100	122	3.1	11%	17%	Novice
	B_05	2,651	2,533	119	1,085	30	0.7	11%	17%	Novice
	C_01	2,695	2,666	29	157	123	0.4	10%	12%	Beginner
Total					39,764		164.8			

2.3.3.Terrain Park

Arctic Valley should consider upgrades and/or modifications to its current terrain park. Properly siting a terrain park may provide an optimal experience for skier/riders and minimize its maintenance requirements. The ideal slope range for a terrain park is 18% to 32%. Maintenance of the park is critical to ensure quality and the reputation of the park with the youth market. Maintenance requirements may be decreased by orienting the park’s features to face due north, since this minimizes sun/melting and keeps exposure consistent across features. Operators should aim to offer quality and diversity of features over quantity. As the locations of features, particularly pipes, become fixed, constructing them out of earth can greatly reduce the amount of snow coverage required.

2.3.4.Snowmaking

Snowmaking is designed to support Arctic Valley’s early season operations and winters with low or inconsistent snowfall. It is recommended for Arctic Valley’s lower learning terrain, as well as two top-to-bottom runs served by the Proposed Replacement Chairlift. Runs recommended for snowmaking and the required infrastructure to support snowmaking are shown in Figures 4 and 5.

Snowmaking coverage for the recommended area amounts to approximately 31 acres. Additional specifications and estimates are shown in the table below:

Total Snowmaking Coverage Area (acres)	31
Total Water Req'd/Year (gallons)	12,400,000
Total Length of Pipe (linear feet)	9,900
Number of Hydrants	66

2.3.5.Lighting

Lighting is recommended to stabilize Arctic Valley’s operating hours throughout the season and improve its skier/rider experience during low-light conditions. Since Arctic Valley’s terrain is entirely above tree line, lighting will provide additional benefit but may require more planning and expense than is typically required at ski areas. Runs recommended for night lighting are shown in Figures 4 and 5. For a standard 120-foot-wide run, SE Group recommends lighting every 150 feet, staggered across the run so that there is a light every 300 feet on each side.

Approximately 80 acres of terrain are recommended for lighting at Arctic Valley. Level of lighting and type of lightbulbs used will determine electricity needs. Some statistics and estimates are shown in the table below; however, final design will determine actual equipment requirements:

Total Lighting Coverage Area (acres)	80
Approximate Number of Light Poles	60
Average Number of Fixtures per Pole	4
Approximate Total Number of Fixtures	240
Electricity Req'd per Fixture (watts)	200
Estimated Total Electricity Req'd (watts)	48,000

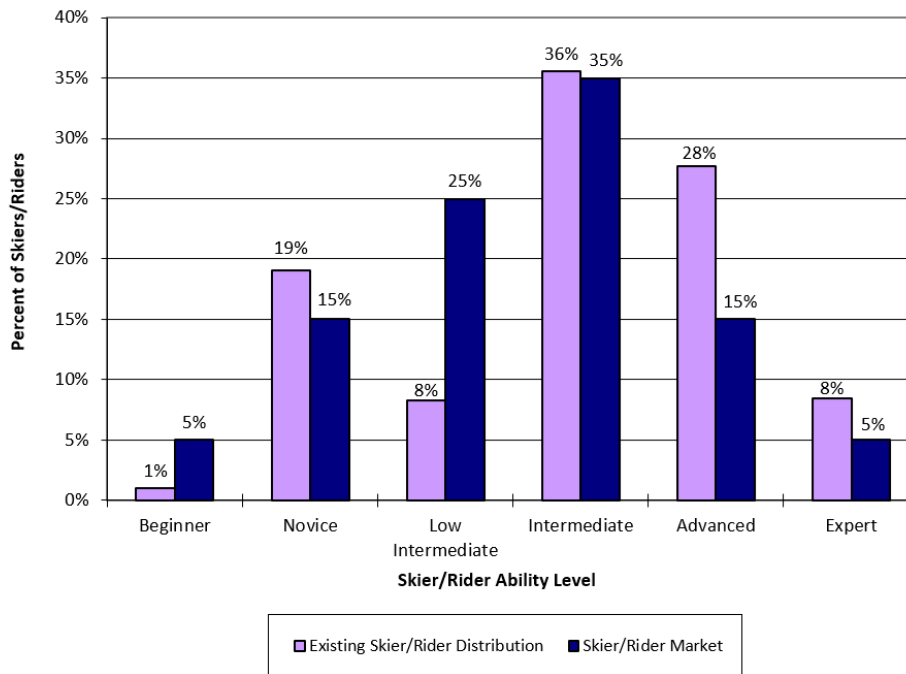
2.3.6.Skier/Rider Distribution

Specifications for the proposed skier/rider distribution are shown in Table 11 and Illustration 3. As shown, the expanded run network would primarily supplement Arctic Valley’s novice terrain. This will improve Arctic Valley’s experience for learning skiers/riders and strengthen their growth trajectory, and it will also better align Arctic Valley’s terrain with market demand.

Table 11 – Skier/Rider Distribution Relative to Market – Upgrade Plan

Skier/Rider Ability Level	Arctic Valley's Run Area (ac)	Arctic Valley's Capacity (guests)	Arctic Valley's Skier/Rider Distribution (%)	North American Skier/Rider Market (%)
Beginner	0.4	13	1%	5%
Novice	17.0	255	19%	15%
Low Intermediate	9.2	110	8%	25%
Intermediate	47.5	475	36%	35%
Adv. Intermediate	53.0	371	28%	15%
Expert	37.6	113	8%	5%
Total	164.8	1,338	100%	100%

Illustration 3 – Skier/Rider Distribution Relative to market – Upgrade Plan



2.3.7. Comfortable Carrying Capacity

The calculation of Arctic Valley's upgrade plan CCC is described in Table 12. The proposed lift network upgrades would increase CCC to 1,140 guests per day. Arctic Valley's current CCC is 810.

Table 12 – Comfortable Carrying Capacity – Upgrade Plan

Lift Name	Slope Length	Vert. Rise	Actual Capacity	Oper. Hours	Load Eff.	Adj. Hourly Cap.	VTF/ Day	Vertical Demand	CCC
	(ft)	(ft)	(pph)	(hrs.)	(%)	(pph)	(000)	(ft/day)	(guests)
Proposed Replacement Chairlift – Lower Section	791	170	500	7.00	15	425	507	6,138	80
Proposed Replacement Chairlift – Entire Lift	3,468	1,101	1,500	7.00	15	1,275	9,824	17,162	570
Chair 2	4,561	1,203	1,200	7.00	15	840	7,076	17,056	410
Proposed Conveyor	250	26	600	7.00	10	540	98	1,204	80
Total	9,070		3,800			3,080	17,505		1,140

The CCC for the Proposed Realignment Chairlift is split between the lower section (bottom terminal to the mid-unload station) and the entire lift (bottom terminal to top terminal). The actual capacity assigned to the lower section reflects the volume of skiers who are anticipated to unload at the mid-unload station. The actual capacity assigned to the entire lift reflects the volume of skiers who are anticipated to unload at the top terminal. The chairs occupied by guests using the mid-unload station will be empty from the mid-unload station to the lift’s top terminal, reducing the lift’s overall capacity.

2.3.8. Density Analysis

Arctic Valley’s upgrade terrain density is analyzed in Table 13. Its increased lift capacity would balance more closely with the capacity of its terrain, as shown by the 10 percent improvement in Arctic Valley’s density index. Arctic Valley’s existing density index is 48%.

Table 13 – Terrain Density Analysis – Upgrade Plan

Lift Name	CCC	Guest Dispersal				Density Analysis				
		Support Fac./ Milling	Lift Lines	On Lift	On Runs	Run Network Area	Run Network Density	Desired Run Network Density	Diff.	Density Index
		(guests)	(guests)	(guests)	(guests)	(ac)	(guest/ha)	(guest/ac)	(+/-)	(%)
Proposed Replacement Chairlift – Lower Section	80	20	14	12	34	8.7	4	13	-9	31%
Proposed Replacement Chairlift – Entire Lift	570	143	43	164	220	85.6	3	5	-2	60%
Chair 2	410	103	28	142	137	70.1	2	5	-3	40%
Proposed Conveyor	80	32	18	19	11	0.4	25	30	-5	83%
Total	1,140	298	103	337	402	164.8	4	7	-3	58%

2.3.9. Backcountry

As proposed upgrades are implemented, backcountry skiing should remain a strong part of Arctic Valley's character. Like Chair 1 and the T-Bar, the Proposed Replacement Chairlift will serve convenient locations to exit the ski area boundary along Arctic Valley's ridge. As in Arctic Valley's existing condition, operators should use ropes to create clear "backcountry gates" and warn users of the risks associated with exiting the ski area boundary in this manner.

It is anticipated that as AVSA grows, interest in backcountry skiing at the area will increase as well. A modest increase from 50 to 65 backcountry skiers is anticipated, again mostly on weekends.

2.3.10. Tube Park

Because Arctic Valley's tube park does well, expanding its number of lanes is recommended in the short-term winter upgrade concept. This is anticipated to contribute to the overall operation positively by driving additional revenue. In its present orientation, the tube park has little room for additional lanes. Re-orienting the tubing park to be in a northwest to southeast direction is recommended so that Arctic Valley can serve more tubing clientele on busy days. This re-orientation will also allow for more runout. If its current handle-tow reaches the end of its useful life, it may be replaced by another handle-tow or a conveyor.

Current tube park capacity is 300 tubing guests per day, with 60 guests per session and a maximum of 5 sessions per day. It is anticipated that capacity could increase to 100 guests per session if the tube park is expanded, staying at the maximum of 5 sessions per day for a total of 500 tubing guests per day. Keeping the same assumption that only two sessions worth of guests would be at the area at any one time gives a total of 200 tubing guests at the area at once, with 100 in the tube park and the other 100 taking advantage of guest services either upon arrival or prior to departure.

2.3.11. Other Winter Activities

Interior Trails explored terrain possibilities for beginner to intermediate Nordic ski trails and winter fat tire biking downhill and southwest of the current lodge; this is also the region identified for beginner winter downhill runs. The two uses are not compatible so if future development prioritizes a beginner lift, Nordic development is not recommended in the same location. If ASC pursues an expanded boundary on existing JBER land they should explore the possibility of creating Nordic trails in that area. Future planning for these types of trails should consider the additional pressure on guest services and parking and how that is accommodated.

In the short-term upgrade plan, there is some room to improve conditions for snowshoers who wish to use Dave and Doris Drive. It is anticipated that as AVSA grows, there will be an increase in other users such as non-skiing/riding family members bringing snowshoes up to pass the time while the rest of their family is on the mountain. Therefore, a modest increase of other users from 6 to 14 guests per day is anticipated in the upgrade plan.

2.3.12. Guest Services

Additional guest service space should be built to support Arctic Valley's added capacity and address its existing space deficits. As visitation increases, this will be most important for functions that are already

spatially constrained, such as public lockers and restrooms. Additional capacity will also require Arctic Valley to add space for functions that are not constrained in their present condition, such as ski patrol. Table 14 shows space use recommendations for Arctic Valley’s upgrade CCC.

Other user groups are anticipated to continue benefitting from Arctic Valley’s guest services, food service seating, and parking facilities. These other user groups are assumed to comprise 200 tubing park guests plus 10% of Arctic Valley’s CCC for other non-skiing/riding guests and employees (see Sections 2.3.09-2.3.11). Since the ski area’s upgrade CCC is 1,140 guests per day, this additional 200 plus 10% amounts to 314 additional non-downhill-skiing/riding guests. This includes Arctic Valley’s employees, tubing clientele, backcountry skiers/riders, and others. If other winter activities become more popular at Arctic Valley, these other user groups will increase.

As in guest service space calculations for Arctic Valley’s existing condition, space for these 314 additional guests is included in certain guest service space recommendations, such as restaurant seating and restrooms. Other guest service space recommendations, such as rentals, do not include space for these other user groups.

Table 14 –Space Use Recommendations – Upgrade Plan

Service Function	Existing Total (sf)	Recommended Range	
		Low (sf)	High (sf)
Ticket Sales/Guest Services	310	460	560
Public Lockers	40	770	940
Rentals/Repair	-	1,000	1,280
Retail Sales	-	650	800
Youth Ski Program/Race Team	-	620	750
Restaurant Seating	4,070	7,270	8,720
Kitchen/Scramble	1,040	2,180	2,620
Restrooms	340	1,050	1,280
Ski Patrol	350	520	640
Administration	200	650	800
Employee Lockers/Lounge	200	260	320
Storage	800	690	1,030
Circulation/Walls/Mechanical	1,480	2,780	4,120
Total	8,830	18,900	23,860

Since the current Alpenglow Lodge lacks sufficient overall space to accommodate Arctic Valley’s existing needs, additional space will be required to meet Arctic Valley's guest service needs in the upgrade plan. This additional space may be added to the existing Alpenglow Lodge, provided in a separate structure, or both. Co-location of related functions should be considered. Space for the youth ski program/race teams may be provided in a separate building.

2.3.13. Food and Beverage Service

The following table compares the existing number of restaurant seats in the Alpenglow Lodge with the recommended number of restaurant seats for the ski area’s upgrade condition, given Arctic Valley’s upgrade CCC and an assumed 200 tubing guests plus 10% additional non-downhill skiing/riding guests per day. To accommodate a higher CCC, Arctic Valley will have to add at least 235 indoor seats—a significant increase from its current 250.

Table 15 –Recommended Restaurant Seats – Upgrade Plan

	Alpenglow Lodge
Lunchtime Capacity (CCC)	1,454
Average Seat Turnover	3
Existing Seats	250
Required Seats	485
Difference	-235
Existing Seating Capacity	750

The additional space required to accommodate this increase in seats may be created in existing (expanded) or new base area facilities.

2.3.14. Parking and Access

The following table compares the existing number of parking spaces at Arctic Valley to the number of parking spaces that will be required to accommodate the ski area’s upgrade CCC, given Arctic Valley’s upgrade CCC and an assumed 200 tubing guests plus 10% additional non-downhill skiing/riding guests per day. As in existing conditions, existing parking space counts assume all spaces are available in the main, upper, and lower lots, as well as the access road. This condition only occurs when Arctic Valley has the heavy machinery required to move snow.

Table 16 – Recommended Parking – Upgrade Plan

	Multiplier	Total
CCC + other guests		1,454
Number of guests arriving by car	90%	1,309
Number of guests arriving by charter bus	10%	145
Required car parking spaces	2.0	654
Required charter bus parking spaces	35	4.2
Equivalent car spaces (1 bus=4.5 car)	4.5	18.7
Total required spaces		673
Existing parking spaces		332
Surplus/deficit (spaces)		-341
Existing parking capacity (guests)		664

As shown above, Arctic Valley’s existing parking deficit will be exacerbated under the upgrade conditions if the ski area is unable to secure additional parking. Options to do so include acquiring the heavy machinery and securing the employee labor required to clear snow from all of its existing parking spaces, as well as the access road. Arctic Valley should also consider acquiring and/or leasing land adjacent to its existing base area to construct an additional parking lot. Options for doing so are shown in Figure 5.

To address its parking deficit, Arctic Valley should also explore strategies to 1) decrease the number of cars parked, for examples by operating a shuttle between Arctic Valley and Anchorage; and 2) to increase the average number of skiers/riders per car. Examples of this include incentivizing higher AVO rates through priority parking or food discounts or other incentives, or creating an incentive system for employees to carpool.

Efforts to increase parking volume should also address the access and circulation concerns discussed in the Existing Conditions section of this Winter Mountain Specifications report. Additional detail is provided in the “Base Area Specifications” chapter of the broader Master Plan.

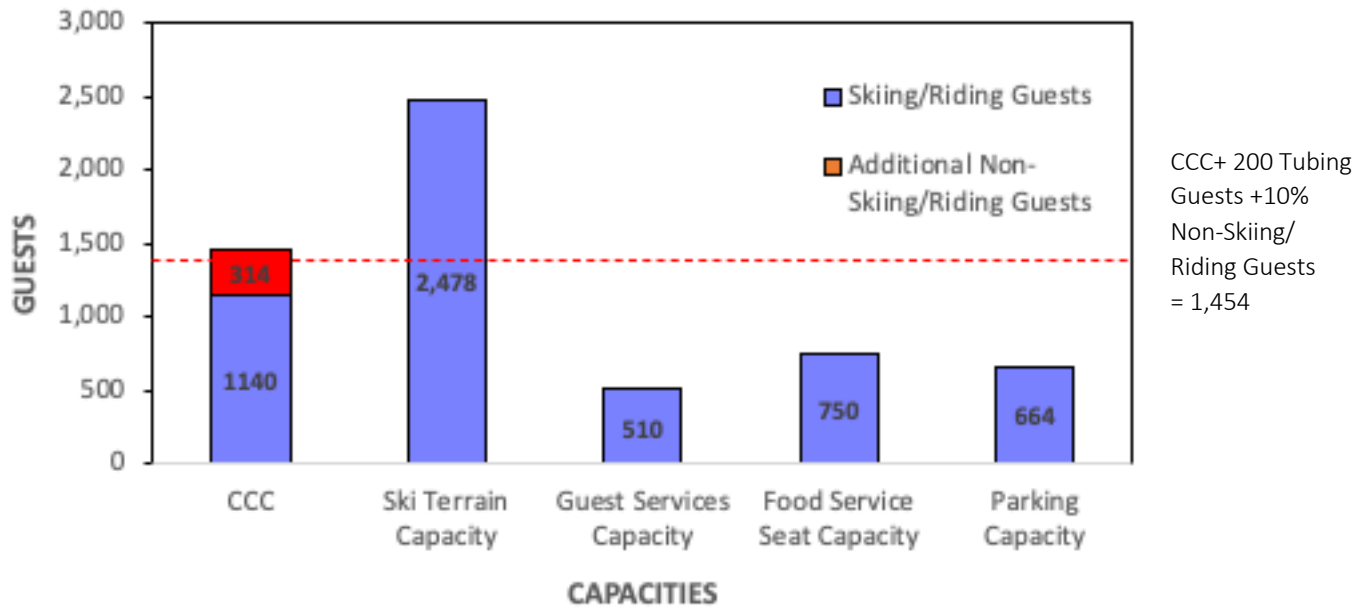
2.3.15. Ski Area Balance and Limiting Factors

In the short-term winter upgrade concept, Arctic Valley’s overall balance is evaluated by comparing the capacities of its facilities to its upgrade CCC (1,140) plus its assumed 200 tubing guests and 10% additional non-skiing guests (267), as shown in red in Illustration 4, for a total of 1,454 guests per day. These additional non-skiing guests (tubing clientele, and backcountry skiers/riders, etc.) are included in calculations for guest services, food service seating, and parking capacity. They are not included in calculations for ski terrain capacity.

As shown in Illustration 4, Arctic Valley’s guest services capacity, food service seat capacity, and parking capacity would all need to increase significantly to meet the demands of Arctic Valley’s upgrade CCC. Existing deficits exist in each of these areas and will be exacerbated in the upgrade condition unless they are increased significantly.

Moving forward, it will be important to monitor the levels of visitation of all winter users (lift-served skiers/riders as well as tubers and backcountry skiers/riders), to maintain capacity balance—and the desired recreational experience that it affords—as Arctic Valley grows.

Illustration 4 – Upgrade Plan Ski Area Capacity



2.4. Long-term Winter Upgrade Concept

After completing the recommended short-term upgrades and observing the need to satisfy additional customer demand, Arctic Valley should consider long-term upgrades. Signs that Arctic Valley may be ready to pursue these additions include:

- The completion of short-term upgrades;
- Multiple years of revenue exceeding expenses; and
- A record of daily visitation occasionally exceeding CCC.

If Arctic Valley experiences these conditions, the long-term upgrades should be reevaluated prior to implementation.

The proposed long-term upgrades are shown in Figure 5. They include the following lift upgrades: realigning Chair 2 (“Proposed Chair 2 Realignment”) and adding a lift south of the former Chair 1 (“Proposed Chair 1 Replacement Op 1” or “Proposed Chair 1 Replacement Op 2”). Additional terrain, some with lights and snowmaking, would be developed to accommodate these lifts with an emphasis on continuing to improve Arctic Valley’s learning progression.

The capacity added by these new lifts will warrant additional parking and guest services, which Arctic Valley may add near the lower terminal of the Proposed Chair 1 Replacement lift, should access to adjacent land be secured. Proposed Chair 1 Replacement Op 2 and its lower trails are also contingent upon Arctic Valley securing access to this adjacent land.

The land adjacent to Arctic Valley’s present concession boundary includes Chugach State Park land, Joint Base Elmendorf-Richardson (JBER) land that is accessible for recreation, and JBER land that is off-limits to recreation. Of these, topographic and access limitations make the JBER land that is accessible for recreation the best option for significant parking expansion at Arctic Valley. Since access to this land may

be difficult to secure, Proposed Chair 1 Replacement Op 1 remains entirely within Arctic Valley’s existing concession boundary, as do the short-term upgrades recommended in Section 2.3. The recommendations for parking and terrain expansions made in Section 2.4 acknowledge that access to JBER land for such purposes may be prohibited and/or revoked at any time. They are shown on Figure 5.

If Arctic Valley can secure access to adjacent land for parking prior to implementing a Proposed Chair 1 Replacement lift, or if Arctic Valley does not wish to construct lift infrastructure on JBER land, a shuttle system could transport guests to and from the main base area. If access to this adjacent land is granted, other opportunities could be explored as well.

3. Summer Mountain Specifications

This Summer Mountain Specifications chapter is organized in four sections.

- Section 3.1, “Overview,” provides an overview of Arctic Valley from a summer perspective.
- Section 3.2, “Existing Conditions,” analyzes current summer operations.
- Section 3.3, “Summer Activity and Facility Upgrade Opportunities,” explores options for summer development, many of which feed off of winter opportunities from Chapter 2.
- Section 3.4, “Summer Trail Upgrade Opportunities,” explores existing and future opportunities specific to trails and trailheads.

3.1. Overview

Many outdoor recreationists are familiar with AVSA primarily in winter, as a non-profit family-friendly ski area and an entry point for backcountry skiing, but it is less widely known as a summer destination. While many summer activities do draw small groups and larger crowds such as weddings, berry-picking, the Chugach Fest weekend music festival, lift-served and general hiking, and a cabin rental at the top of Chair 2, the area does not garner the same popularity as other CSP access points such as Glenn Alps or Prospect Heights. As such, AVSA has a sense of wildness, privacy and “having the place to myself” that is very desirable so close to an urban area. With substantial parking already available on site and plenty of terrain to disperse use, AVSA could see a significant increase in visitation while still retaining this wild character.

With the recently constructed Muktuk-Marston Connector/Hunter Pass Trail in CSP the timing is perfect for ASC to more assertively position AVSA as a gateway to the Chugach and a hiking destination in its own right. Expanding summer visitation would diversify revenue, stabilize staffing, add funds for winter maintenance and capital projects, and activate the AVSA year-round.

3.1.1. Seasons at Arctic Valley

The spectacular winter and summer seasons at Arctic Valley attract appreciable visitor numbers and warrant further development to support recent and anticipated future growth. In between are the two off seasons. The first is spring break-up, after the ski area is closed and before the terrain and trails are dry enough for summer activities. Post-season backcountry skiing gives way to a period of significant melting and drainage where any hiking is not only unpleasant, but can cause long-term damage to vegetation. Also, during this time there is significant runoff on the road and road conditions can be bad, made worse by vehicles causing severe rutting with late season frosts freezing the ruts in place.

The second off season is fall. During this time, berry season is almost done. There are frequent freezing and thawing events, and snow may come and go. This creates not only treacherous icy road conditions but also reduces recreational opportunities. What might be good hiking one day may turn into pre-season backcountry skiing the next day, which may turn into an icy mess the next. Weather and conditions can be described as unpredictable at best.

That being said, Arctic Valley can have some of the best accessible pre- and post-season backcountry skiing/riding conditions in Southcentral Alaska. However, due to the unpredictable nature of conditions in the off-season, it is best left to hardy individuals to discover those days and conditions on their own. ASC welcomes off-season visitors but has no plans to cater any development towards spring and late fall visitors other than carefully planned indoor only events.

3.1.2. Terrain Overview

GENERAL

AVSA encompasses classic Chugach front range terrain. From approximately 2300' at the parking lot to the +3000' summit ridges, AVSA's terrain is characterized by prominent north-facing slopes bisected by the west-flowing Toklat Creek that drains the saddle between Mt. Gordon Lyon (4134') and Rendezvous Peak (4101').

VEGETATION

Plant types vary by elevation, aspect and proximity to flowing water. Alder and willow line the disturbed/roadbed areas and the creek bottom, including the very saturated ground where the creek gradient slackens and substantial water pervades flatter ground. Dry alpine tundra plants like low-bush cranberry, blueberry, lichen, and a multitude of other native alpine plants and wildflowers carpet the steeper slopes. The entire AVSA is above tree-line.

SOILS

In addition to the silt-heavy soils that typify the Chugach, gravel is intermittently evident below the surface on all aspects, especially south-facing, above 3000' and along ridge tops. There is also durable rock at the surface in many areas.

SUITABILITY FOR TRAIL BUILDING

In general, the terrain at AVSA provides a good baseline for trail construction, with well-drained soils and ideal side-slopes between 30-50%. (See slope shading on maps/diagrams.) Professional trail design that avoids over-steep side-slopes and flat, saturated areas, and maximizes traversing layouts with bench cut construction, should produce sustainable trails that can handle increasing traffic. The open views and lack of tree or brush cover will provide the biggest challenge, and quality layouts will utilize micro-topography to give visual buffers whenever possible and avoid stacked switchbacks that invite trail cutting and erosion.

3.2. Existing Conditions

3.2.1. Current Summer Activities and Facilities

Current summer activities include:

- Hiking, wildflower, and wildlife viewing
- Berry picking

- Lift-served hiking
- Outdoor Concerts
- Overnight camping in a Public Use Cabin (PUC)
- Weddings and other private/public event lodge rentals

Current summer facility use includes:

- Alpenglow Lodge – Day use lodge with kitchen and restroom facilities currently reserved for weddings and private events and not open to the general public.
- Main parking lot – gated and kept reserved for private lodge rental events.
- Rendezvous Café – Open to public as staffing allows, with an espresso stand and small seating area.
- Upper and lower parking lots not gated, open to the general public.
- Vault Toilets located at the end of the lower parking lot.
- Trailhead kiosk and parking ranger (structure to submit parking payment manually) at the front of the upper parking lot.
- Separate small trailhead at the start of the Marston Trail.
- A new Public Use Cabin (PUC) at the top of Chair 2.

There are several issues with the current summer facility use that this master plan hopes to address. The vault toilets are located at the end of the lower parking lot, out of sight and a long walk from either trailhead. The espresso shack is located near the lodge within the gated main parking lot area and is therefore easily mistaken as part of the private lodge rental events. This makes it somewhat inadequate as a summer food and beverage station. The PUC at the top of Chair 2 is continuously booked well in advance, proving that there is significantly more demand for cabin use than can be provided by one cabin. And with a location that requires a long hike, it does nothing to serve the portion of the population unable to make the trek. There is no dedicated concert space, so any outdoor concerts end up using the main parking lot – which greatly reduces the remaining available parking for guests.

3.2.2.Trails

AVSA currently has a small network of social trails within the concession area, and has invested significant effort into some improvements; however, the existing trails have not been professionally or sustainably designed. Most of the summer foot traffic follows one of the following:

- Rendezvous Peak/South Fork Overlook Trail (4 miles, round trip): Begins on the old military roadway which intersects a gravel trail that follows the north side of Toklat Creek until crossing at a footbridge and leading steeply uphill to the obvious saddle. This trail is used primarily by day hikers heading to the summit of Gordon Lyon or Rendezvous Peak; by berry pickers (leaving visible social trails branching from the main route); and by renters accessing the Chair 2 public-use cabin. Views of the Eagle River Valley from the ridge line are spectacular and the Rendezvous Peak/South Fork Overlook (RP/SFO) trail provides excellent alpine access; however, the trail is over-steep, with problematic drainage issues in places and the degradation typical of fall-line alignments. Most hikers seem to view it as a “grind” that gets you to good places, not as a desirable experience in and of itself. Because of this, many default to using the Chair 2 fall-line trail which, while also a grind, is shorter and feels slightly more direct.

- “Chair 2 Gully” (1 mile, one way)—This social trail runs up the fall-line beneath Chair 2. This trail is not on the map and not an encouraged route, but because people know from winter use or from visual canvassing that it’s the shortest way from the bottom of the chairlift to the ridge top, hikers regularly use it, especially to access the public-use cabin beneath the Chair 2 terminus. Although the RP/SFO trail has been publicized as the preferred alternative, many hikers experience the two trails similarly and so they default to using the shorter one despite its degraded condition. Some ridgetop users also ascend via the recommended RP/SFO Trail and descend the Gully when they see it as the shortest route to the parking lot. It will be difficult to mitigate this tendency entirely, as some alpine hikers will use the most visibly-direct route no matter what, but the use could be lessened by providing a significantly more enjoyable route than either of the two options currently available.
- Marston Trail (1-mile round trip): This gradually descending gravel trail leaves the lower end of the main parking lot, and follows an old Cat road/groomer trail, terminating at a bench/overlook with stellar views of the Ship Creek Valley. This is also a connection point to the lower Rendezvous Ridge, enabling a loop experience if hikers descend the west shoulder. Though the surface is durable, the trail is currently extremely brushy and would benefit from corridor widening and a gravel capped crown.

These alignments are all inherited, so the lack of intentional trail design has led to a series of expensive short-term repairs wherever significant trail braiding, erosion, or other resource damage is occurring. Developing new trails without addressing how increased traffic will affect the overall system will result in serious degradation. With the 2022 completion of the Muktuk-Marston Trail extension to Hunter Pass, which was designed and constructed with sustainable principles by a qualified professional trail builder, AVSA has entered a new phase. The rich potential for world-class summer recreation opportunities, and trail connectivity to CSP, is more evident than ever.

3.3. Summer Activity and Facility Upgrade Opportunities

3.3.1. Summer Activities and Attractions

Hiking and berry picking remain the core summer recreational activities at Arctic Valley, while wedding and other private event rentals provide a successful revenue stream and offer guests an alpine setting that is unique relative to other wedding venues in the Anchorage area. In general, this master plan outlines the potential for new summer facilities to enhance existing activities or provide for new programs and activities. Some activities included in the narrative of this section are not recommended for development at this time. If future demand warrants further analysis of such activities, ASC has a starting point to begin exploration. ASC should use their Strategic Plan to define and execute the details of potential programs.

3.3.2. Lift-Served Activities

Currently, ASC hosts a few Chair 2 chairlift ride days during the summer for hikers and berry pickers that have proven quite popular. In addition, there are a few private chairlift rides offered for some lodge rentals. These events are not frequent enough to retain additional summer staff and tend to cause a disruption to regular summer maintenance activities as maintenance staff are pulled away. The existing ski lifts were not designed specifically with summer riders in mind and require significant resources to

transport summer guests. The chair lifts are aging, which means minimizing run hours is critical to prolonging their useful winter life. For these reasons, Chair 1 is specifically excluded from summer use.

The short-term winter upgrade plan calls for a new chairlift to replace the existing T-Bar. This lift could be purpose built to handle both summer and winter riders and would be a key step towards increasing summer guests, enhancing existing activities, and adding new activities. Preliminary estimates indicate it would not be economic to run any chairlift all summer long to just enhance existing activities and support a few added smaller programs and activities. However, many activities held at Arctic Valley could be made better and attract more users through the use of chairlift rides: hiking, berry picking, educational and nature programs, even physical activity programs. The chairlift could be used to disperse users away from the base area and allow users with mobility issues to experience the top of the mountain. Therefore, as ASC continues to develop the AVSA in the summer it should consider alignment with other summer programs that could help justify running a chairlift more frequently in the summer.

3.3.3. Summer Feature Attractions

The following summer attractions were explored as a part of this master plan process. Below are descriptions of the activities with design parameters, operations considerations, and general cost guidance. Not all the elements considered and described below are included in the development concepts. If ASC decides to pursue any of the summer attraction described, more detailed studies should be conducted to determine feasibility.

SUMMER TUBING

Summer tubing uses synthetic, turf-like material over graded gravel for individuals to slide down a sloped hill on an innertube sled and can be either completely dry or lubricated using a mist or water jet system. Summer tubing lanes are typically 300-400 feet in length and are recommended to be located on a slope that is 15%-20% grade on average. The top of the slope is recommended to be a 30% grade with a 100-foot flat or uphill runout. A two-lane project is estimated to cost about \$100,000 for the synthetic product. Additional costs need to be factored including earthwork, design, and permitting, subbase, labor, surface lift, and innertubes.

Summer tubing is included in one of the long-term concepts because it presents an opportunity to activate the base area in the summer and create synergy with a potential pub-style restaurant. While summer tubing offers some positive opportunities, other issues need to be considered:

Potential Opportunities/Issues:

- Winter tubing has proven to be a popular activity at AVSA and summer tubing has the potential to attract that same user group year-round.
- Some small ski areas have had success installing summer tubing areas and hosting pizza nights creating a popular summer attraction for families and community members that may not otherwise be summer visitors.
- Summer tubing is highly impactful to the terrain requiring a gravel base and synthetic slopes. The facility will create a large visual impact, so it is important to consider its impact on other summer users such as hikers and wedding parties and their expectations for views in the alpine environment.

- Too much rain can prohibit tubing use by reducing friction and increasing speeds beyond recommended. Summer tubing areas pause operations once the rain increases tube speed excessively. Weather closures could reduce feasibility.
- The siting of the summer tubing area and surface lift needs to consider visual impacts and the location's compatibility with winter operations.
- The master plan survey results indicate that 63% of respondents are not interested in summer tubing. However, ASC may continue to explore its feasibility due to the success of winter tubing at the AVSA and the potential for bringing new users to the area.

ALPINE COASTER OR ALPINE SLIDE

An alpine coaster is prefabricated track system with a mounted slide. The coaster length is recommended to be 3,000 – 3,500 feet long with a 12% to 15% grade drop. The coaster is built on a metal frame structure which allows the design to include a variety of dips and curves without heavy earthwork. Coaster construction includes a lift to bring riders back to the top. Coaster projects typically start around \$5 million, half of which would go to site construction and half to the prefabricated coaster.

An alpine slide is a fiberglass track that uses proprietary sleds. Construction can be in-ground or above-ground. Like the coaster, the slide's grade is recommended to be 12% to 15% but with a shorter run range from 2,000 – 2,500 feet. Slides do not come with a lift; a lift would need to be provided for slide use or the slide would need to be aligned with an existing lift. A slide construction is likely \$2.5-3 million in capital costs not including a lift.

The coaster and slide elements have not been included in the summer concepts due to the large amount of space needed for these attractions. ASC is not interested in impacting potential ski terrain. There are ski areas that co-locate in-ground alpine slides in the summer with ski slopes in the winter, however the AVSA snowpack variability and winds likely wouldn't allow this to occur without significant snowmaking to maintain a sufficient snow base over the slide structure. If ASC decides to pursue these elements further market analysis would need to be pursued to understand the potential for return on investment.

ZIPLINE

Zip lines are suspended cables where riders glide down attached to a harness. Zip lines can be popular tourist attractions providing a scenic experience for thrill-seekers. ASC initiated conversations with a zipline company to assess the potential to construct and operate a zipline. The AVSA terrain provides sufficient relief and scenery to create a desirable zip line ride experience. The zip line company proposed three zip line routes starting at the top of Chair 2 and ending along the Muktuk Marston Trail at an estimated cost of \$4.2 million. Although the master plan survey showed little interest from existing AVSA users, with 64% of respondents saying they are not interested in a zip line, the goal would be to attract tourists as well as local residents who currently don't visit Arctic Valley.

The daily capacity of a zipline would be ~160 guests. As a part of the market assessment for this plan, McKinley Research Group compared multiple ziplines throughout the state (see the Zip Line Analysis attachment). The research provides a first step to assess the potential for typical ridership. If ASC pursues the development of a zipline, a more detailed market analysis and financial model should be conducted.

Considerations for next steps related to the zip line:

- Conduct further investigation into potential market size, pricing, timing, and other factors. This investigation should include interviews with companies that work with cruise, independent, and group travelers (examples include Princess/Holland America, Premier, John Hall’s Alaska, Salmonberry Tours, Magic Bus, and tour brokers).
- The zipline company’s projections illustrate AVSA’s capacity for revenues but does not analyze how much of the market ASC can attract to AVSA for a zip line experience.
- Consider how the weather will impact the number of days open, lift operation costs, transportation costs, marketing expenses, fees to potential concessionaires, increase in ancillary spend (food and beverages) and partnerships with tour operators.

Recommendations

Of the feature summer attractions listed above, a zipline offers the most income with the least amount of ground disturbance and disruption to other summer and winter activities, while bringing in the least number of additional users. If the ASC has continued interest in providing a large summer attraction such as a zipline, additional market studies and financial modeling should be developed based on recommendations above.

3.3.4. Public-Use Cabins

ASC recently opened the first AVSA PUC at the top of Chair 2. There has been a large demand for renting the cabin with the available rental dates selling out quickly. High demand for cabins is common across southcentral Alaska and public cabins offered by other agencies regularly book up far in advance. ASC wants to meet that demand by expanding cabin options. During a site visit with ASC members, the group explored several possible locations. Four (4) potential locations were selected. The goal in selecting the various locations is to provide a range of accessibility and scenery.

POSSIBLE PUBLIC-USE CABIN LOCATIONS

Potential Public-Use Cabin (PUC) locations are referred to using the labels used on Figures 8 and 9 located in the attachments.

The first location, PUC/S A, is adjacent to the existing lower parking lot on a flat bench. The term ‘bench’ is used to refer to an existing flat area that has previously been graded or is naturally flat. The area provides views that overlook the Ship Creek valley and the inlet. There is an existing vault toilet that could be used by cabin guests and there are existing picnic shelters in the area that could either remain in place or be removed/moved depending on the final cabin location. This location would offer a high level of accessibility due to its proximity to parking and the consistently flat terrain.

The second location, PUC/S B, is located on an existing bench adjacent to the Muktuk Marston Trail. The bench has a stand of willows and alders that allows the area to feel secluded. ASC has also discussed creating enough infrastructure at this location to host small weddings such as 2-3 yurts and outdoor space.

A third location, PUC/S C, is located on a broad slightly-sloped area along the Rendezvous ridge line. The ground surface is low-growing alpine vegetation, and the location provides views of Ship Creek Valley.

The fourth location, PUC/S D, is located on a bench north of the parking area adjacent to an existing gravel trail. This location is a short walk from the parking lot and provides a view of the Alpenglow Lodge area.

If ASC is successful in expanding their boundaries to the southwest on existing JBER land there should be consideration to adding cabins there as well, referred to as #16 Additional Cabin/s in Figure 9.

Each location provides different levels of access and seclusion, and all have the potential for 1-4 cabins depending on structure-size and spacing. The details of construction type, cabin siting, and required utilities will need to be explored. While the Accessible PUC location has an existing vault toilet, the other locations would require the construction of additional toilet facilities to manage waste. Therefore, it might be best to plan PUC construction in groups of 2-4 with each group having a shared toilet facility. The level of access to potable water will also need to be determined; whether the cabins are completely dry or a resource for potable water is provided.

ASC should phase in new cabin construction so that operations are not overwhelmed by the addition of too many cabins all at once. ASC should begin with the construction of 1-2 cabins at one location. There may be a point where ASC will need a full-time on-site caretaker to help manage cabin rentals. Donation and grant-based funding should be explored for construction.

Additional Considerations:

- The ASC Cabin Sub-committee should develop a cabin expansion plan that further considers more details including specific cabin locations, cabin construction type, toilet facilities, water access, seasonal operation plans, caretaker strategy, detailed phasing, and funding opportunities.
- The ASC Cabin Sub-committee should develop a review and approval process for the plan with the ASC Board, CSP, and other stakeholders as appropriate.
- The next cabin to be built should be in the Accessible PUC location, as this area has the easiest access both for construction and for guests, and already has an existing vault toilet.

3.3.5. Visitor Contact Station

The existing espresso shack does not function well as a visitor contact station, due to its location away from the trailhead, behind a gated area reserved for private events. ASC has been awarded a grant to replace the existing espresso shack with a new Visitor Contact Station at the main trailhead.

The new Visitor Contact Station will be constructed with an American Rescue Plan Act (ARPA) grant that was awarded to ASC. Language from the successful grant is included below as a guide for the implementation of the Visitor Contact Station.

ARPA grant: "Develop a new visitor contact station immediately next to the trailhead, move an existing but unsuitably located coffee stand to the new facility, and repurpose the vacated structure as a community educational meeting room. The project includes the purchase and installation of the new structure, new utilities, and outdoor seating. The contact station would be staffed by two persons during summer, who would provide visitor information, manage parking, the existing public restroom, and use of the public meeting room. A wider range of snacks and drinks would be provided including coffee, soft drinks, beer, and sandwiches."

One issue with the location of the new building is the distance from public restroom facilities. As the new visitor contact station will be serving food and beverages, it will require suitable handwashing facilities and closer toilet facilities. A new vault toilet should be constructed near the trailhead, suitably sized and placed to be used both by guests of the facility and the future PUC/S D grouping.

Additional Considerations:

- ASC sub-committee to plan and design a suitable structure within the bounds of the awarded grant.
- Pursue funding for a vault toilet to be constructed near the new trailhead facility.

3.3.6.Adaptive Summer Facilities and Accommodations

One of the main goals of the AVSA Strategic Plan is to provide accommodation for visitors with different abilities and needs. Two accessible themes emerged during the master plan process: (1) renovate existing circulation and access to facilities; (2) create new universally accessible programs and infrastructure.

Additional Considerations:

- Improve accessibility and circulation in and around the lodge-area facilities.
- Build an accessible cabin so that families with a range of abilities can have an alpine cabin experience as described in the section above.
- Provide summer chairlift rides for those who want to have a scenic alpine hiking experience. This is something that ASC has done on occasion but would like to offer more frequently.

3.3.7.Outdoor Event Space

ASC hosts Chugach Fest in the summer, a weekend concert event. While ticket sales can be weather dependent, the festival has become a popular, valued community event. The event is currently set up in the main parking lot below the Alpenglow Lodge with a temporary stage and food trucks. The parking lot is not ideal for this use, its slope and drainage conflict with the audience space and it limits parking. An alternative site for an outdoor event space could be near the existing T-Bar building. The grade in the proposed location has a slight slope that would be conducive to an amphitheater area and a permanent stage could be built to take advantage of the slope and views. Moving the event area away from the parking lot frees up space for parking, overnight camping, and creates a more formalized event area. The new event space could also be rented out for other uses in the summer. A more detailed layout of the amphitheater and stage should consider the winter circulation to prevent conflicts with ski runs or access to the tube park, and should be part of an overall detailed site plan for the base area.

3.3.8.Weddings and Private Events

ASC currently rents out the Alpenglow Lodge in the summer for weddings and other private events. Wedding events are a successful revenue stream and offer guests an alpine setting that is unique relative to other wedding venues in the Anchorage area. ASC should continue to offer wedding events at the lodge in the short term, but there is interest in using the lodge area for other uses. ASC should explore building an alternative wedding venue site. Initially, the wedding infrastructure could be minimal and summer only, to save capital costs, such as a wedding pavilion, seasonal tents, and temporary restroom

facilities. Eventually, ASC could construct a permanent wedding lodge as shown in the long-term concepts that would be part of the overall base area development. A suitability analysis for a permanent wedding venue should be conducted. Analysis should also include feasibility of a multi-purpose building that could accommodate private events, educational programs, expanded winter day lodge use, and other compatible uses.

3.4. Summer Trail Upgrade Opportunities

3.4.1. Trail Zones

The summer trail analysis and recommendations presented here are a preliminary introduction to the relevant issues, and further planning should be considered before major trail development is undertaken. It is recognized that a comprehensive Trails Master Plan is needed for Arctic Valley. In the interim, this master plan will address some immediate actions and elements that need further planning in a comprehensive trails master plan process. The trail scoping and recommendations in this report remain at a very conceptual level. Understanding that ASC would like to make attainable, targeted improvements that will serve longer-term goals, it can be useful to think of the parcel in question in terms of zones. Providing a big-picture framework prepares AVSA for incremental development, where early stages can be building blocks to larger goals, while not unintentionally precluding other desired uses. The following trail zones are indicated on the attached map (Figure 6: Trail Zone Concept).

TRAILHEADS

Trailheads are often visitors' introduction to a site—the place where they meet others, look at a map and get oriented, find information and safety recommendations, pay a fee, and make a plan for their use of the area. When the trailhead is clear and welcoming users will have an improved experience. Confusion about where to park, where to go, and what to expect, are among the most likely conditions that may prevent a user from returning to an area in the future. AVSA could make a significant improvement by demarcating and clearly signing their trailhead.

The existing trailhead located at the terminus of the main road, between the parking areas and the lodge facilities could serve as the main trailhead with the new Visitor Contact Station and clear mapping. While this could serve as the trailhead hub directing visitors on how to access hiking trails, CSP connections, and berry-picking areas, future secondary trailheads should also be considered. A secondary trailhead could include parking and a small kiosk that directs visitors to other branches of the system. For example, if a lower parking area is developed associated with the JBER land, a secondary trailhead could be developed for people to access the Muktuk-Marston trail. Increasing clarity around how to access the site upon arrival will make users significantly less likely to leave frustrated about their overall experience and paying the user fee.

HIKING (YELLOW ZONE)

AVSA is an exceptionally scenic area for hiking and with proper attention and investment, could become more widely known as a must-do for hikers in the Anchorage Bowl, akin to the popularity of trailheads like Glen Alps and South Fork Eagle River. Hiking is the default activity onsite in the summer, the baseline to provide access to berries, cabins, ridges, summits and other trails in the Chugach. As discussed in the Terrain section, there is a lot of very suitable ground on which to construct sustainable trails. The zones marked in yellow on the map are areas or corridors where existing hiking patterns are well-established and unlikely to change, and areas that are recommended for new sustainable trail development. A more

thorough discussion of individual recommendations is provided in the project descriptions in the Potential Summer Trail Projects section.

LIMITED TRAIL DEVELOPMENT (RED ZONE)

Berry-picking and off-trail wandering is a beloved historical and current practice at AVSA and should be protected even if further trail development is implemented. Berry-producing plants are distributed throughout the hillside allowing for different rates of berry-ripening depending on micro-climates and sun exposure. While berry-picking occurs throughout the ridge zones, marked in red on the map are areas where development should be limited, ensuring there are large areas of unimpacted vegetation. Of course, berry picking would also be allowed adjacent to any existing trail, but demarcating sections for limited development ensures that some of the berry-producing areas are preserved.

ADA TRAILS

The most compatible alignments for gravel-cap ADA trail would be the 300' section to the photo overlook at the top of Chair 2; a spur trail from northside parking lot, past the picnic shelters and to the potential cabin site; and the Marston Trail to the Ship Creek Overlook. Because the existing Marston Trail does run underneath the proposed replacement lift alignment consideration, if that chairlift is installed there will need to be consideration into rerouting the Marston trail, which is further described below.

3.4.2. Potential Summer Trail Projects

Trail development at Arctic Valley could be thought of in two (or more) phases. Near-term improvements could be fairly low-investment projects, building on current assets, with the goal to increase access, support revenue generation, and provide for a more user-friendly interface for existing user groups. These improvements could occur immediately and in the near future.

The long-term upgrades will require further planning. A more specific site plan and exact trail layouts would be determined via a summer trails-specific master plan before long-term changes were implemented. The following improvements are a way to think about prioritization, with the easiest to implement first.

TRAILHEAD DEVELOPMENT AND IMPROVED TRAIL SIGNAGE

Many first-time visitors experience confusion about how to efficiently access the site. With four different parking lot options (main lot, upper lot, lower lot, and roadside) and multiple ways to reach the same hiking destinations, user confusion is justifiable. Redesigning a main trailhead at the new Visitor Contact Station would improve this by clearly defining a starting point. If future secondary trailheads are developed additional wayfinding should be included to identify which trailheads access which trails/destinations.

CHAIR 2 PHOTO POINT AND LITTLE TETON LOOP

Wedding parties and other lodge rental groups have shown a clear interest in riding chair two to the ridge top. After unloading at the top, with no formal trail to follow, users walk to the viewpoints and spread impact across the area. The ultra-durable tread surface comprised of ridge-top gravel and bedrock make for a perfect trail bed. Following the short spur to the prime overlook spot, a wider trail with more consistent tread would be easy to construct. This would be a very easy near-term project that could be accomplished with volunteer labor. Also, in the short term, the same trail type could be continued to form a short loop to the top of Little Teton Mountain and back to the lift. A current social trail makes this loop, and could function well with a few tweaks to the grades to avoid fall line sections. In the future, the

South Fork overlook would also make a great spot for an interpretive panel/map identifying the skyline features.

MARSTON TRAIL TO SHIP CREEK OVERLOOK

The current alignment of the Marston Trail cuts through developable ski terrain and could be impacted by future circulation and safety plans. If a land use agreement is reached with JBER in the future, new parking lots to the west could provide a much closer trailhead location to the Ship Creek Overlook and Hunter Pass trails that removed all conflict with ski area infrastructure, terrain, and traffic circulation. Therefore, it may be prudent to defer any significant work to the Marston Trail until these other plans are solidified. Any Marston Trail related project should be considered as a mid to long-term upgrade. In the short term, there is opportunity to improve the entire general area around the lower Marston trail by aggressively brushing back the alders around the trail and elsewhere, to improve alpine views and slow down additional alder encroachment.

CHAIR 2 CABIN TRAVERSE VIA RENDEZVOUS RIDGE

In order to provide a sustainable trail option from the parking lot to the Rendezvous ridgetop and the Chair 2 Cabin, it makes sense to consider a traversing route with controlled grades, integrated water control, and full bench construction. Although improvements have tried to reduce grades a bit, it is still too steep and functions like fall-line. Rather than continue to try and improve an unsustainable trail route, it makes sense to look at other approaches to the ridge.

Some of the winter plan options feature a beginner (green) ski run descending from the western Rendezvous Ridge back toward the lodge, with low grades to accommodate the intended user group. This winter trail/run, if designed properly, could serve a dual purpose by also providing a sustainable summer route onto the ridge from the southern trailhead. This route would access the Chair 2 Cabin in 1.5 miles, providing a more desirable option that splits the difference between the “Chair 2 Gully” (1 mile of steep, unsustainable fall-line) and Rendezvous Peak Trail (2 miles of indirect, still muddy, and maintenance-heavy trail). A traversing trail joining the ridge would provide a more pleasant hiking experience that utilizes existing traffic patterns. It would take a little time for the new traffic pattern to take hold, as people are not used to hiking from the West side of the area to access the ridge/cabin, but if well-signed, and well-built, the trail would likely become the preferred access.

If the winter plan that includes this green trail is not pursued, the new trail traverse (approximately 1,500 feet to where it joins the ridge) could still be constructed at a much narrower width, for summer hiking use only. This addition to the trail system would also serve as a more direct return route to the trailhead parking lot from the Rendezvous Ridge Trail loop. As is, hikers have a longer, indirect descent to the junction with the Marston Trail, which then requires going back uphill to the trailhead/parking.

With the newly constructed Muktuk-Marston Trail extension to Hunter Pass opening in 2023, we anticipate hikers and mountain runners will create a very scenic loop: parking at Arctic Valley, taking the Muktuk-Marston to Hunter Pass, and returning to Arctic Valley off-trail via ridges, and descending Rendezvous Ridge back to the parking lot. This has the potential to be a new Chugach classic car-to-car alpine route, with increasing use as word-of-mouth spreads. The traversing trail proposed here will stay ahead of the anticipated increase in use by providing a trail that meets users’ needs, which will therefore perpetuate efficient traffic flow and take pressure off of other alignments.

CHUGACH STATE PARK TRAIL CONNECTIONS

In addition to the connection to the South Fork Eagle River trails, there is a lot of potential to connect with other experiences in CSP. High on the dream list for many hikers/skiers/runners would be a more elegant start to “Arctic Valley to Indian,” a classic 21-mile Chugach traverse connecting the Ship Creek Valley with Indian Creek/Turnagain Arm. The current access at the northern (Arctic Valley) end provides poor parking, crosses military land, and the steep descent off the road is one of the most awkward stretches of the route, requiring many less-expert skiers to take off their skis and walk.

The best option for improvement would move parking up to Arctic Valley proper, starting on the existing Marston trail, and then, at the point where the Muktuk-Marston Extension begins to climb upwards, build a new trail dropping from this point into the Ship Creek Valley to join the Arctic to Indian route. (Preliminary map lines have been proposed by ASC members.) This would require permissions, expanded boundaries, or “land swap” agreements from JBER; however, all of the other trailhead/trail connectivity proposed in this plan would support such an alignment if it ever came to fruition. This project would be an excellent long-term goal for AVSA to continue to explore.

DEVELOP A TRAILS-SPECIFIC MASTER PLAN

Building on the momentum generated by this process, start an ASC Board working group dedicated to developing a Master Trails Plan, which will generate specific recommendations, priorities and on-the-ground trail alignments and trailhead locations, as well as a vision for interpretive content for signs and brochures.

MOUNTAIN BIKING

Mountain biking at Arctic Valley is currently prohibited by CSP regulation, and could disrupt traditional and active hiking and berry picking. Additionally, the aging lifts are unsuitable for currently available bike racks, and no trails within Arctic Valley’s concession area are designed or built to bike standards, with the exception of the 0.5-mile Marston Overlook Trail.

Building mountain bike trails in areas above tree line is expensive, and requires significant erosion mitigation and maintenance to combat damage from melt off in the spring. Given the success of bike parks elsewhere within the Municipality of Anchorage in more favorable terrain and with more resources available, planning and constructing a bike park at Arctic Valley is unlikely to be affordable or profitable.

That all being said, a serious look at what would constitute sustainable bike use at Arctic Valley will be looked at as part of the trails specific master planning process.

CONSIDER LARGER SCALE DEVELOPMENT

There is a lot of potential for trail routes beyond those addressed here. Once a Master Trails Plan has been developed, consensus has been reached, and permissions acquired, professional trail contractors should be involved to help implement these larger-scale changes.

4. Base Area Specifications

The intent of this section is to explore a comprehensive and cohesive base area that not only works for both summer and winter, but also is able to work while AVSA transitions from existing, to short-term, to long-term developments.

4.1. Base Area Overview

4.1.1. Existing Conditions

As described in the Winter and Summer Mountain Specifications sections the base area of Arctic Valley includes an assemblage of various buildings and facilities that accommodate year-round activity. The base area infrastructure includes:

- Arctic Valley Road
- Parking Lots
- Alpenglow Lodge
- T-Bar Building
- Rendezvous Café
- Trailhead Kiosk
- Temporary Maintenance Tent Structure

4.2. Base Area Upgrade Opportunities

4.2.1. Arctic Valley Road

Arctic Valley Road is in dire need of a total upgrade as it lacks proper water management, in many places without an uphill ditch and proper culverts, and needs to be brought up to current standards. Increased summer traffic without commensurate road maintenance will lead to more aggressive degradation of the road. The unpredictability of road conditions and length of drive time—due to snow/ice in winter and washboard/rutting in summer—is consistently mentioned by locals as a slight deterrent to regular AVSA visitation and something that degrades the overall Arctic Valley guest experience. It also deters new visitors from coming up to explore Arctic Valley in the first place.

The master plan community survey results indicate that 78% of respondents are ‘very interested’ or ‘somewhat interested’ in significant road upgrades. 89% of respondents are ‘very interested’ or ‘somewhat interested’ in more road maintenance. The concession agreement with CSP outlines facility ownership and responsibilities; ASC owns the facilities, such as the buildings and lifts, but the terrain and road is owned by CSP. Additionally, much of the road leading up to the AVSA is on JBER land.

Recommendations:

- While ASC does not have direct control over road upgrades, knowing that it is a desired improvement from their users, ASC should work with partners at the state and within JBER to advocate for road upgrades. ASC should improve road maintenance, such as snow removal within the concession area.

4.2.2. Expanded Boundaries

ASC is interested in expanding its boundary to the southwest of the current concession area, adding access to land that is currently within Joint Base Elmendorf-Richardson (JBER) military land. The land is the former site of a military ski area lodge and parking area. Expansion would help ASC achieve facility goals of a new parking area and day lodge with permanent wedding venue without creating new grading impacts. The boundary expansion is included in the Long-term Development Concept (Expanded Boundary).

The viability of this expansion is a long-term vision that requires collaboration and negotiation with CSP and JBER.

Recommendations:

- ASC should explore the feasibility of expanding the AVSA boundary by working collaboratively with CSP and JBER. A short-term solution may be an access agreement on the military land, like the road access agreement; a long-term option may be an actual land swap between the State of Alaska and the military.

4.2.3. Parking

As noted in the Winter Mountain Specifications, Arctic Valley’s existing parking deficit will be exacerbated under the upgrade conditions. In addition to the recommendation to improve snow removal and incentivizing higher car-sharing to maximize existing spaces in the winter, ASC should also consider expanded parking areas. Figure 5 shows options for acquiring and/or leasing land adjacent to its existing base area to construct an additional parking lot. In addition to that area ASC should consider other areas to expand. Areas could include expanding the parking lot adjacent to the Alpenglow Lodge, improving the parking along the Arctic Valley Road, and creating a new parking area above the current two parking benches and pond. Parking expansion plans should accompany a detailed base area planning effort. ASC should also work closely with CSP on surface improvements since CSP will be the ultimate owners of such improvements, and have indicated in their 2016 CSP Management Plan that a site planning process may be necessary.

Recommendations:

- Develop an improved snow removal/storage plan for winter.
- Develop ride sharing plans and incentivize their use for winter.
- ASC should work with CSP and other state agencies to create an upgrade plan and new design for the parking lots and trailhead areas.

4.2.4. Accessibility and Circulation

The sloped nature of AV’s alpine setting creates drainage, access and circulation challenges. The Alpenglow Lodge Area Upgrade Concept illustrates improved accessibility, vehicle, and pedestrian circulation. Improvements include developing a designated drop-off area, a pedestrian ramp to the lodge, and identifying accessible parking.

Recommendations

- Use the Alpenglow Lodge Area Upgrade Concept as a starting point to develop a more detailed site plan.
- Work with CSP to assess the feasibility of certain terrain improvements including expanded parking, improved drainage and water management, improved pedestrian and vehicle circulation, as well as improved base area trails.

4.2.5. Building Improvements

The analysis completed in the Winter Mountain Specifications section notes that AVSA has a shortage of guest service space, even with the existing Comfortable Carrying Capacity (CCC) of 810 skiers/riders per

day (1,011 including all users). Table 6 of that section provides an adequate range of square footage recommendations for each service function compared to existing space at Alpenglow Lodge (also described as the day lodge), that totals to a range of 12,620-15,860 compared to the existing 8,830 square foot lodge footprint.

For the new recommended CCC of 1,140 skiers/riders per day (1,454 including all users), Table 14 in the AVSA upgrade plan shows a recommended total guest services square footage of 17,955-22,600, which is well over double the square footage of Alpenglow Lodge today. The Alpenglow Lodge Area Upgrade Concept shows how the various service functions could be distributed between a renovated day lodge and outbuildings; including a new building replacing the Rendezvous Café and a remodeled T-Bar building.

ALPENGLLOW LODGE

The service space recommendations in the Winter Mountain Specification section and the Alpenglow Lodge Area Upgrade Concept serve as a starting point; ASC should move into a more detailed facility study working with architects to assess existing building conditions, future building program requirements, and renovation opportunities. The day lodge improvements should be driven by the facility requirements of winter services; however, spaces should also accommodate summer uses to include weddings in the short-term, and special events, education programs, and a pub-style restaurant with an outdoor dining area in the long-term.

RENDEZVOUS CAFÉ AS COMMUNITY RENTAL SPACE

With the acquisition of a new and better placed visitor contact station at the trailhead in the short-term, the existing Rendezvous Café building will no longer be needed as a café and visitor contact station. This building is slated to be re-used as a community educational meeting room during the summer. In the winter there is potential for this to be used as the ski patrol facilities, but ski patrol could also be housed in the main lodge. There are pros and cons to each location and a more detailed building remodel/space analysis should look at both opportunities.

T-BAR BUILDING AS A MOUNTAIN EDUCATION CENTER

Similarly, once the T-Bar and Chair 1 are replaced with a new chairlift as part of the short-term upgrade plan, the concrete structure at the base of the T-Bar will lose much of its purpose. In the short-term, it should be considered for use by the ski school and youth race team. One of the biggest considerations for re-use of this building is it currently lacks a water supply and plumbing, which would need to be addressed. For its summer use ASC should explore facility rentals for other organizations looking for educational opportunities in the alpine environment. If a remodeled T-Bar building becomes a year-round education space then the Rendezvous Café could phase out as a summer rental space and be completely dedicated to ski patrol.

MAINTENANCE BUILDING

Currently there is a temporary shelter being used as a maintenance facility next to the T-Bar. The current location was chosen to try and protect the temporary structure from the wind, but the preferred location of a permanent maintenance structure would be lower on the mountain down from the existing Chair 1 base. Before this maintenance building can be built however, land use agreements and access would need to be resolved with the military. It could either be a standalone building or built as a multi-use facility that could house wedding and private event rentals and an additional lodge space.

NEW LODGE

As part of a long-term upgrade, consideration should be made to adding another day use lodge – either on military land or on ASC concession land close to the border with JBER. This lodge should be purpose built to be used as a dedicated wedding and private event space in the summer, and a ski area day lodge that serves the western portion of the ski area in the winter. There are at least two options – a building on military land (dependent upon long-term land use agreement between JBER and the State of Alaska) or a multi-purpose building on concession land near the border that potentially has a drive-out basement maintenance facility, with the lodge above – ground level on mountain side and with a large deck overlooking Anchorage.

Second day lodges are not typically recommended until a ski area is seeing an 8,000 CCC, as described in the winter section. This is because it is not considered economical to duplicate all guest services such as lessons, equipment rentals, etc. at each location. But with the lack of flat ground around Alpenglow Lodge, it may be difficult to create all of the necessary guest service and parking space in one area. And two separate day lodges would allow one to be used as a restaurant and educational space and the other as a dedicated wedding/special event venue in the summer. Although the idea of an additional lodge facility is included in this master plan, its feasibility will need to be further explored in the long-term.

Recommendations

- Implement the Visitor Contact Station based on the ARPA funding.
- Develop a more detailed facility study of the lodge area to assess existing building conditions, future building program requirements, and renovation opportunities based on the Winter and Summer Mountain Specifications sections, and the Alpenglow Lodge Area Upgrade Concept.
- Consider phasing and funding opportunities for facility upgrades in collaboration with CSP.

4.2.6. Other Upgrade Opportunities

FOOD AND BEVERAGE

ASC conducted a survey as part of the master plan process that ranked preferences for the type and seasonal availability of food and beverage services at AVSA. Results indicated that respondents were most interested in pub-style food/beer year-round.

Although there is interest in a pub-style food/beer restaurant year-round there are a few constraints that ASC will need to explore. Currently, the Alpenglow Lodge functions as a wedding venue in the summer, limiting its ability to operate as a restaurant. Weddings provide a great source of revenue for ASC and the venue is valued by the community. Until ASC can build an additional wedding venue or remodel the lodge in such a way that the uses do not compete, the lodge should continue to function as a wedding venue. Therefore, the short-term concept shows the lodge as a wedding venue. However, to meet the interest of expanded food options in the short-term, the plan also shows food and beer service at the new Visitor Contact Station as described in the ARPA grant.

The long-term concepts relocate the wedding venue to an alternate location and a pub-style restaurant is located at the lodge during the summer. While the long-term plan meets the interest of a pub-style food service, further market analysis should be completed to understand the long-term financial viability.

Recommendations

- Provide improved food and beverage services at the new Visitor Contact Station during the summer.
- Monitor the Visitor Contact Station’s success to help determine demand for expanded summer food and beverage services into a pub-style service at the lodge in the summer. Complete additional detailed business modeling and financial feasibility for such an operation.
- When developing the more detailed facility plan explore day lodge renovations that could co-locate summer pub-style food and beverage services with a wedding venue. If co-location is not feasible continue to explore the feasibility of the long-term concepts for relocating the wedding venue and repurposing the lodge as a summer restaurant.

SIGNAGE

The AVSA would benefit from comprehensive, cohesive signage throughout the use area. Facility signage, directional signs, and trailhead signs would help visitors orient themselves and move through the area easily. As ASC upgrades facilities, trails, and trailheads wayfinding signage should be implemented alongside infrastructure improvements.

Recently the Anchorage Park Foundation (APF) completed the *Indigenous Place Names (IPN) Project – A Movement to Bring Dena’ina Culture to our Built Environment and Place Name Signage*. The project developed a sign design meant to highlight Dena’ina place names throughout areas in Anchorage, Eagle River, and Eklutna. The IPN mapping identifies AVSA with the placename “Dgheyay T’lu” meaning stickleback headwaters. ASC should consider implementing one of the IPN placename signs. The location could be at the Muktuk Marston trailhead or along the trail.

Recommendations

- In conjunction with a more detailed facility plan, develop a wayfinding plan for a signage system that should be implemented throughout the facilities operated by ASC, at trailheads, and along trails.
- ASC should work with the APF and representatives of the Eklutna tribe to implement an Indigenous Placename Sign.

LANDSCAPING AND LIGHTING

The entire base area would benefit from cohesive lighting and landscaping to help visitors orient themselves and move through the area more easily, as well as to provide a more pleasant guest experience. In winter, paths and suitable “hang out” spots can be created by moving and compacting snow, but lighting is an issue with short daylight hours. Conversely, in summer lighting is not really an issue – but the limited hardscaping is. The lodge and some buildings have exterior lighting, but the parking lots and paths to and between the outbuildings do not. Similarly, there are no well-defined paths from the parking lots and between the outbuildings and summer attractions. And there are no well-defined “hang out” spots like patios, fire pits, and outdoor seating.

Recommendations

- As part of an overall detailed base area site plan, develop landscaping and lighting plans.

5. Development Concepts

AVSA's recreational options span a huge range, suitable for visitors or new residents who have never walked on a trail before; people making their first forays into the mountains to pick berries or climb a ridge; cabin-renters who are pushing their comfort levels by staying overnight in a wild space; and expert mountain travelers doing long traverses or skiing rugged terrain. Increasing facilities, user-friendly and well-designed trails and interpretive information will help meet all of these users' needs and goals, while taking pressure off of other areas in the State Park system, and elevating AVSA to a year-round destination in its own right.

A number of planned projects are included in the AVMP, which are expected to be implemented in a phased approach over the next 10 to 20 years. Most projects fit within three overall strategies:

- Short-term Development Concept (Existing Boundaries)
- Long-Term Development Concept (Existing Boundaries)
- Long-Term Development Concept (Expanded Boundaries)

While all projects are considered viable and important to the overall vision of Arctic Valley in the future, the timeline is dependent on economics, opportunity, project specific approval by CSP, and how each project fits within the three-year strategic plan. ASC should continue to work closely with CSP when updating the strategic plan, implementing the AVMP, and updating operation plans.

5.1. Short-Term Development Concept (Existing Boundaries)

The Short-Term Development Concept (Figure 7) shows winter ski area, summer recreation, and base area improvements that could occur in the next 5-10 years, and is put together based on analysis of existing conditions and future potential laid out in Chapters 2, 3, and 4.

BOUNDARIES

- Work with CSP to convert the smaller Winter Operations Area located on the south end of the concession to Core Infrastructure Area. This area is where the decommissioned military ski area is located, the land has been developed with lifts and other infrastructure in the past, and it is where much of the future development potential remains.
- Work with JBER and CSP on some form of land use agreement for the area that encompasses the historic base of the Army's decommissioned ski area in order to obtain road access to currently stranded lands within ASC's concession area, and open up scarce flat land for future ski area infrastructure, parking, facilities, other winter activities, and more skiable terrain.

ACCESS AND PARKING

- Obtain heavy equipment capable of clearing and maintaining the parking lots to their fullest extent in winter, as well as widen the cleared road area to maintain access to side road parking. Map out areas for increased snow storage. Equipment should also be capable of helping clear Arctic Valley Road when JBER is unable to do so.
- If a land use agreement is reached between JBER and the State of Alaska, clear and refurbish the old military ski area parking lots for immediate use, possibly with a shuttle up to Alpenglow Lodge.

- Increased traffic on Arctic Valley Road without commensurate road maintenance will lead to more aggressive degradation. Begin working with JBER and the State of Alaska to prioritize road improvements and upgrades to Arctic Valley Road. Certain improvements can be made right away while others would fit in a long-term plan.
- Work with CSP on modernization of the upper 0.5 miles of Arctic Valley Road, parking lots, and trailhead facilities to bring them up to par with other CSP trailhead facilities bordering the Municipality of Anchorage. Again, some of this work could be done in the near future while more would be within a long-term plan.

BASE AREA AND FACILITY UPGRADES

- Build a new summer visitor contact station at the main trailhead, with food and beverage service and nearby vault toilets.
- Repurpose the Rendezvous Café as a community rental space.
- Develop a detailed facility and base area site plan that accounts for:
 - Remodeled T-Bar building as a ski race team and ski school hub
 - A new outdoor event space near the T-Bar building or other location
 - A new indoor/outdoor wedding venue near the base of Chair 1
 - New permanent maintenance building
 - Remodeled Alpenglow Lodge
 - Improved accessibility and pedestrian and vehicle circulation in and around the base area facilities
 - Landscaping, lighting, and improved signage and maps

WINTER SKI AREA UPGRADES

AVSA short-term winter upgrades are laid out in Chapter 2 “Winter Mountain Specifications”, and associated Figures 1-3, as well as summarized below. They can be seen stand alone in Figure 4, or in the overall short-term development concept in Figure 7.

- Replace the existing T-Bar and Chair 1 with one chairlift with a midway unload for beginners. Exact location to be determined as part of a detailed Lift Alignment Study.
- Add a beginner conveyor lift near the lodge.
- Add new runs to service the new lifts:
 - A-01, A-04 and A-08 novice and intermediate runs from the top of the new chairlift.
 - B-01, B-02, B-03, B-04 and B-05 beginner and novice runs from the midway unload station of the new chairlift.
 - C-01 beginner run to serve the new conveyor lift.
- Improve the existing High Traverse run to make it suitable for intermediate skiers and riders.
- Install night lighting.
- Install snowmaking.
- Make the terrain park permanent and add fixed terrain features.
- Relocate and expand the tube park.

SUMMER RECREATION UPGRADES

Short-term summer upgrades are laid out in Chapter 3 “Summer Mountain Specifications” and Figure 6, and summarized below. They can be seen in the overall short-term development concept in Figure 7.

- Improve existing trails and re-route as necessary.
- Develop a Master Trails Plan to guide future long-term trail improvements and upgrades.
- Ensure new ski lifts are accessible for summer passengers.
- Add a feature summer attraction such as a zipline, in order to make it economical to run ski lifts in the summer.
- Construct more public use cabins with adjoining toilet facilities.
 - Develop a cabin expansion plan
 - Develop a cabin review and approval process

5.2. Long-term Development Concept (Existing Boundaries)

The Long-term Development Concept (Existing Boundaries) (Figure 8) considers long-term improvements without an expanded boundary. This plan fits into a 10-20 year time horizon. While there are many factors that will impact what happens in 10-20 years, planning now will give ASC a path to explore what is feasible. This plan includes many of the improvements in the short-term plan that should be further developed over time; but what is different is that it includes:

- A new chair lift with a terminus within the existing concession boundary.
- A new wedding/private event venue and day lodge facility associated with the maintenance building location. This could be one building or two adjacent buildings and would include an access road and parking lots.
- Summer tubing. As noted in the Summer Mountain Specifications this use would need to be explored further, but there could be synergy with a pub-style restaurant at the Alpenglöck Lodge.

5.3. Long-term Development Concept (Expanded Boundaries)

The Long-term Development Concept (Expanded Boundaries) (Figure 9) considers how facilities could be expanded if the AVSA concession area were to expand to the southwest on to the existing military land. As noted throughout the master plan expansion onto military land would give ASC opportunities to add parking, move the wedding venue, and create a new trailhead for not only summer uses but also rerouting the Arctic to Indian starting point as described in the Trail sections of this plan. Again, this option is a long-term vision that would need additional planning and feasibility studies. The difference between this plan and figure 8 is:

- A new chair lift could have a terminus in an expanded concession boundary.
- A new wedding/private event venue and day lodge facility could be located in the expanded boundary with additional parking and new trailhead for summer and winter use.
- This expanded boundary could also serve as an area for new Nordic ski and fat biking trails, as well as additional public use cabin locations and potentially a campground.

5.4. Comparison of Long-term Development Concepts

The long-term development opportunities for Arctic Valley from above are summarized in the below table, which looks at the differences between both long-term solutions side by side. The first is using the existing concession boundaries and the second looks at development opportunities with boundaries extended through some sort of land use agreement with JBER, for use of some of the lands from their former ski area.

Table 17– Comparison of Long-Term Development Concepts:

	Existing Boundaries	Expanded Boundaries	Comments
New Ski Lift	Replace Chair 1 - Option 1 (Figure 5)	Replace Chair 1 - Option 2 (Figure 5)	Extending chairlift onto JBER land would add more much needed beginner/novice terrain.
New Terrain	Mostly Intermediate/Advanced terrain	Adds Beginner/Novice terrain to the existing boundary option.	JBER land option allows for significantly more Beginner/Novice terrain.
Road Access	New access road and bridge parallel to existing military road/bridge	Refurbish existing military access road	Significant ground disturbance for new road/bridge, with potential confusion caused by having a new road to the new lodge right next to the existing unused road to the abandoned military ski area.
Additional Parking	New parking lots on concession land that would need to be cleared.	Refurbish existing military parking lots.	Significant ground disturbance required for new parking lots versus reuse of existing military lots.
Guest Services	New Day Lodge on Concession land that would need to be cleared.	New Day Lodge on JBER land where old army day lodge was located.	Provide additional needed space for guest services as well as a new wedding/private event venue. Using JBER land would mean no additional clearing of vegetation.
Additional Public Use Cabins	N/A	Up to 3 new PUC on JBER land with shared latrine.	JBER land offers additional areas suitable for cabin locations.
Campground	N/A	Potential space on JBER land.	JBER land offers additional areas suitable for camping, as it extends below tree line.
New Trailhead	New Marston Trailhead near concession boundary served by new parking lots.	New Marston Trailhead on JBER land served by refurbished parking lots.	Relocate Marston Trailhead at new parking lot location. On concession land, some ski area conflicts would be avoided and on JBER land all could be avoided.

Note that these two options above are not necessarily mutually exclusive. For instance, a hybrid development scenario could occur, where major infrastructure like a new ski lift and new day lodge could be located on existing concession land, and a land use agreement between the State of Alaska and JBER

could allow for refurbishment of the existing access road and bridge, as well as existing and new parking areas on JBER land. This would significantly reduce the amount of vegetation clearing and ground disturbance required, and would reduce the duplicative effort of creating a new road, bridge, and parking lots right next to already existing ones. However, it would not optimize much needed beginner/novice terrain and infrastructure location, and it would not allow for additional summer uses in the form of camping and more public use cabins.

6. Conclusion

Arctic Valley Ski Area (AVSA) has great terrain that attracts skiers and riders from all over Southcentral Alaska, especially Anchorage, JBER, and the Mat-Su Valley. AVSA has significantly more terrain than its current base area supports, and no significant new or additional terrain is needed - although any additional low angle beginner terrain would be put to good use. Within the existing terrain, improvements can and should be made to the run network in order to better serve beginner and novice skiers and riders, and to improve the overall skiing and riding experience for everyone.

All the ski lifts at AVSA are aging and will need to be replaced in the near to medium term. This need provides an exciting opportunity to change the location and service of each lift in order to welcome beginner and novice skiers and riders, improve the overall user experience, improve operational efficiency, and to accommodate additional users. The new lifts will have an increased hourly capacity over the old ones, increasing the ski area Comfortable Carrying Capacity (CCC) from 810 skiers and riders per day to 1,140. This doesn't include the existing 300 tube park users and ~50 backcountry users per day, that are anticipated to grow to around 500 total per day in the future.

The existing base area facilities are inadequate to support existing and future usage. Alpenglow Lodge was built in 1972 and lacks modern amenities such as ADA access, and is too small to adequately service the growing user base. Arctic Valley has managed with a much smaller footprint than recommended by skimping on key guest services such as equipment rentals and repair, retail sales, lockers, ADA and family restrooms, and education services including ski school, youth ski programs and space for the race team. However, these services are seen as critical to the future of AVSA and as an essential offering to the communities AVSA serves. The square footage needs identified can be met through a combination of expanding Alpenglow Lodge, re-purposing several outbuildings, and new construction. This approach will allow for phasing of additional square footage.

There is not enough parking available for all of the winter activities that take place at Arctic Valley, and no area suitable to support public or group transportation drop-off and pick-up. In fact, parking is the tightest and most critical of all the constraints seen at Arctic Valley. The best available areas for additional parking are on the other side of the creek along the southern border of the concession agreement, which currently has to access, and on JBER land where the old military ski area access road, bridge, and parking lots are located – which would require some sort of land use agreement with JBER.

In addition, AVSA was developed as a ski area, so none of the existing infrastructure was designed for summer use. Arctic Valley has seen an explosion of summer usage in the last several years, and needs infrastructure designed to accommodate both summer and winter users. New lifts can be designed and built with summer foot traffic in mind. Trailhead facilities can be added and relocated to make a more cohesive summer use experience, with more summer guest services such as food and beverage, improved hiking, and public use cabins for overnight stays. Purpose built wedding and event facilities can

be created, providing a better user experience for special events at Arctic Valley. And a signature feature attraction such as a zipline would provide the draw necessary to make Arctic Valley a summer destination in its own right.

Arctic Valley Road, owned and operated by JBER, was not designed and is not maintained for existing year-round traffic, much less increased growth. While Anchorage Ski Club (ASC) does not have direct control over road upgrades, ASC should work with partners at the state and within JBER to advocate for road upgrades.

The Anchorage Ski Club is a small non-profit organization that will need to work with all of its neighbors and stakeholders to be able to realize the full potential of Arctic Valley. The range of possible development concepts described in this plan captures ASC's current vision for AVSA and provides a map for achieving that vision. As ASC pursues implementation, more in-depth planning, financial feasibility, and collaboration with CSP should be completed. ASC should use their three-year Strategic Plan and annual budget processes to update goals, objectives and actionable items in order to implement the master plan elements. Arctic Valley is a valued community asset, ASC should continue to operate, maintain, and expand the areas services to best serve the diverse spectrum of users in the community.