TAHOE DONNER DOWNHILL SKI LODGE STUDY

Working Paper – Study assumptions

May 13, 2020

General

In programming the space needs for a new lodge, one metric that can be used is the square footage per skier factor that Ecosign 2018 used (represented to be industry standards adjusted for Tahoe Donner's user characteristics). When replacing an existing building, another metric can be developed by analyzing how the existing spaces meet the current and projected needs. Both of these metrics can be considered in programming the space requirements for the Lodge.

From a guest service perspective, the existing Food & Beverage seating and service areas, and Rental Shop, are Lodge areas that are clearly undersized for the current demand and operational efficiency. The following sets forth assumptions to be used in developing metrics to assist in programming the size of these spaces.

Definition of terms

In evaluating capacity of the existing Lodge and planning for the new lodge, to be consistent, the following terms will be used.

Skier (Comfortable) Carrying Capacity (SCC) – The number of skiers that a given ski area can comfortably support on the slopes and lifts without overcrowding, or those that may be accommodated at one time and still preserve a congenial environment. A ski area's comfortable carrying capacity is a function of VTF demand per skier, VTF supplied per hour, difficulty of terrain and scope of support facilities. The Skier Carry Capacity of an area is calculated assuming all the terrain is available for skiers and that the skiers are evenly distributed over the available terrain. If weather and or snow conditions make parts of the area more attractive than others, the more attractive areas may feel overcrowded even though there are fewer skiers on the mountain than the areas's theoretical SCC. Skier Carrying Capacity assumes that there will be lift queues of up to approx. 10 minutes. SCC is also commonly referred to as "Mountain Capacity", Comfortable Carrying Capacity (CCC), or "Skiers at one time (SAOT)".

(Ecosign 2018, p. I - 4)

> *Note: Typically, a ski area's base facilities are sized to accommodate the CCC of the mountain terrain and uphill lift capacity. It has been established by Ecosign 2018 that Tahoe Donner's mountain terrain and uphill lift capacities are not the existing constraints on CCC. Furthermore, it is not Tahoe Donner Association's intent to maximize the ski area's utilization by upgrading the lift system to be in balance with the skiable terrain (trail system). As a result, the ski area's base facilities and amenities will determine the Comfortable Carrying Capacity of the ski area.*

Peak Day – maximum number of Skiers on the busiest of days; facilities will be busier than customers would prefer, which is "acceptable" 5 – 10 days of the season.

(Ecosign 2018, p. II - 15)

Design Day – The number of skiers for which a ski area's base facilities are designed. Typically, the Design Day is 15% to 25% less than the anticipated peak business level, on the basis that should be adequate for most days of the year.

(Ecosign 2018, p. II - 15)

Skier Visits / Skiers – the total number of lift tickets sold, whether full-day or half day, adults or children.

Visitors / Guests – the number of people using the Lodge, Skiers and non-skiers.

Statistical Recap for Assumptions

Existing Trail Capacity – SCC = 1,980 skiers
Existing Lift Capacity – SCC = 1,130 skiers

(Ecosign 2018, p. II - 12)

Improved Lift Capacity potential – SCC = 1,900 with multiple lift improvements
SCC = 1,572 if/when only Eagle Rock chairlift upgraded

(Ecosign 2018, p. II - 12)

Peak Day Skiers for planning purposes –

	Peak Day	Ave. Top 10 Days
2015/16 season	1,812	1,468
2016/17 season	1,632	1,249
Average	1,700	1,300

Peak Day – 32% of Skiers (544) are Members and Member Guests
68% of Skiers (1,156) are general public arriving by car For the day.

(Ecosign 2018, p. II - 15)

Design Day - 1,300 Skiers; 75% of Peak Day average of 1700 Skiers.

(Ecosign 2018, p. II - 15)

Note: If the Design Day were to be based on an average of the Top 10 Peak Days for the two seasons referenced above, the Design Day would be approx. 1000 Skiers (75% of 1300 Skiers - average of Top 10 Peak Days).

Existing Lodge CCC - 1,000 CCC ("Visitors"); constraint is Lodge and parking; 1,400 w/ compromise in service level; > 1,500 – experience "not as desirable" for visitors and employees, per "management".

(Ecosign 2018, p. II - 13)

The existing Lodge currently provides 68% of the recommended total functional floor space for 1,300 Skiers, based on Ecosign's square footage targets developed for Tahoe Donner. According to the target space/Skier, the existing ski area could comfortably satisfy 882 Skiers (or theoretical peak of 1,150 Skiers) "which is much lower than usual busier periods confirming the feedback from users and the task force."

Using Ecosign's planning standards, the existing Lodge theoretically provides a Design Day capacity of 882 skiers.

(Ecosign 2018, p. II - 22)

Note: TD Staff does not agree with the Ecosign's estimate of the CCC of the existing Lodge. Staff has indicated that the Lodge is packed full of users, with guests sitting in the stairwells, with under 500 Skiers. See "Assumptions" below for explanation.

Food & Beverage seating capacity

Day Lodge indoor – 150 seats; 3 turns/seat; guests served 450.
Day Lodge outdoor – 220 seats; 3 turns/seat ; guests served 660.
Total seats – 370; guests served 1,287

(Ecosign 2018, Table II.16, p. II - 25)

Note: TD Staff agree with the number of seats, but do not agree with the number of turns and resulting capacity for guests served. See "Assumptions" below for explanation. Staff recommended 300 seats minimum (Design Day - 300 seats x 1.5 turns = 450 minimum).

(TD Staff, April 2020)

Existing Food & Beverage Service capacity -

The Kitchen and Scramble service area is 39% of Ecosign's recommendation of SF/Skier, serving a theoretical CCC of 501 Skiers.

(Ecosign 2018, P. II – 23, Table II-15)

TD Staff estimates the existing Kitchen and Scramble service has a CCC of 650 - 750 Skiers. With 1000 Skiers, wait time for a hamburger is 20 to 30 minutes.

(TD Staff, April 2020)

Rental Shop –

Existing Rental Shop operational characteristics:

- 2065 sq. ft. for front and back-of-house operations, plus 400 sq. ft. for equipment repair area. Size is approx. 30 – 40% of industry standard for number of units.
- High percentage of Skiers rent equipment (market characteristic).
- Existing inventory accommodates rental needs with 1900 Skier visits.
- Approx. 40% to 45% of skiers rent equipment.
- Wait time – from entering the registration queue to exiting the Rental Shop, 30 minutes is acceptable.
    - Wait time is 25 min. on a typical busy day – 600 to 700 Skiers.
    - Wait time over 1 hour with 1500 Skiers

A limited amount of additional inventory is needed. Additional space is needed for increasing operational efficiency and improving customer experience.

(TD Staff, April 2020)

Bottom Shop –

Existing stand-alone building at bottom of Race Course run; 660 sq. ft. Provides space for parking 4 snowmobiles, tool shop, parts stores, Lift Ops Manager workspace, and Transportation Management workspace.

(TD Staff, April 2020)

New Lodge Size Recommendation –

- 1300 CCC/1700 Peak Day - 23,349 sq. ft.
- 1425 CCC/1900 Peak Day (Preferred Concept") - 25,603 sq. ft.

(Ecosign 2018, p. II-23 and p. IV-24)

Assumptions

Visitors / guests – represent Skiers and non-skiers; TD staff estimate non-skiers add 30% - 50% to the number Skiers using the Food & Beverage seating and service areas, and restrooms. For this Study, 30% is used.

Design Day / CCC – to be determined. New Lodge sizing for 1000 and 1200 CCC provided for consideration.

Visitor / Guest characteristics –

- Higher than typical percentage of beginner skiers and occasional skiers who need to rent equipment and take lessons;
- High percentage of non-skiers to skiers occupying food and beverage service seating area.

Existing Lodge Food & Beverage seating capacity –

- 350 Skiers on a bad weather day (max. capacity, with little or no use of Deck for eating);
- 700 – 800 Skiers on sunny days when deck is in use;
- 1000 Skiers (1300 – 1500 Visitors) is "pushing the limit".

(TD Staff, April 2020)

Turnover of food and beverage seats by Skiers and non-skiers is lower than industry norms, due to Visitors / Guests 1) not turning over seats, and 2) spreading personal items out, taking up more than one seat/person. Therefore, the normal seat turnover of 3x (per Ecosign 2018) that might be expected does not occur.

- Of the 150 seats indoors, 30% of the seats do not turn over, due to non-skiers "camping out" for a good part of the day.
- With non-skiers camping out, and skiers and non-skiers who spread out, the net effect is that the normal capacity of guests served comfortably, based on 3 turnovers, is reduced. Seats can only be expected to turnover 1.5 times.

Note: In addition to non-skiers "camping out" and patrons spreading out, assuming 3 turnovers is high, due to the high percentage of skiers in ski lessons who all must eat in a certain time frame. This results in those skiers not having the option of spreading their lunch period out over the normal 2 to 3-hour period, also reducing the turnover potential.

(TD Staff, April 2020)

Based on the above, the comfortable capacity (Design Day Capacity) of the existing 150 seats is 225 people indoors during 2 to 3-hour lunch period. Assuming the Design Day Capacity is 70% of the Peak Day capacity, the Peak Day capacity is considered to be 321 Visitors (Skiers and non-skiers).

The existing 2180 sq. ft. area with 150 seats yields just under 15 sq. ft. per seat. The existing seating density of the cafeteria type food service is within the norm for ski areas, which ranges between 12 – 15 sq. ft. per seat. At 12 sq. ft. per seat, the area might be able to accommodate 180 seats.

TD Staff's estimate is the existing seating accommodates 350 Skiers on a bad weather day, but the seating area is "packed".

The Ecosign 2018 report addresses indoor space required for the Lodge and does not factor in outdoor Deck area for adding to space to accommodate Food & Beverage seating needs. Therefore, seating area sizing should accommodate the Design Day with bad weather conditions. This seems a reasonable approach for a positive user experience. However, some adjustment may be made, considering that most Design Days and Peak Days likely occur with sunny/good weather.

Assumptions for sizing food and beverage service seating area for new Lodge:

- the user characteristics are unlikely to change;
- the utilization of the existing seating area could be increased somewhat by 1) different tables/seating types to get higher efficiency (making it less desirable to "spread out"), 2) providing space to hang/store clothing and personal items, and 3) some use of seating on the Deck, even on bad weather days (although not a positive guest service option).
- Yield of sq. ft. per seat may need to be 15+ with incorporating program needs for an entertainment "niche" and a soft play area for children.

Size F & B seating area to accommodate 300 seats, minimum, to accommodate a Design Day of 450 Visitors (300 seats x 1.5 turns).

Rental Shop –

Approx. 33% more space is needed for existing operations.

Bottom Shop –

Incorporate space in new Lodge – TBD.