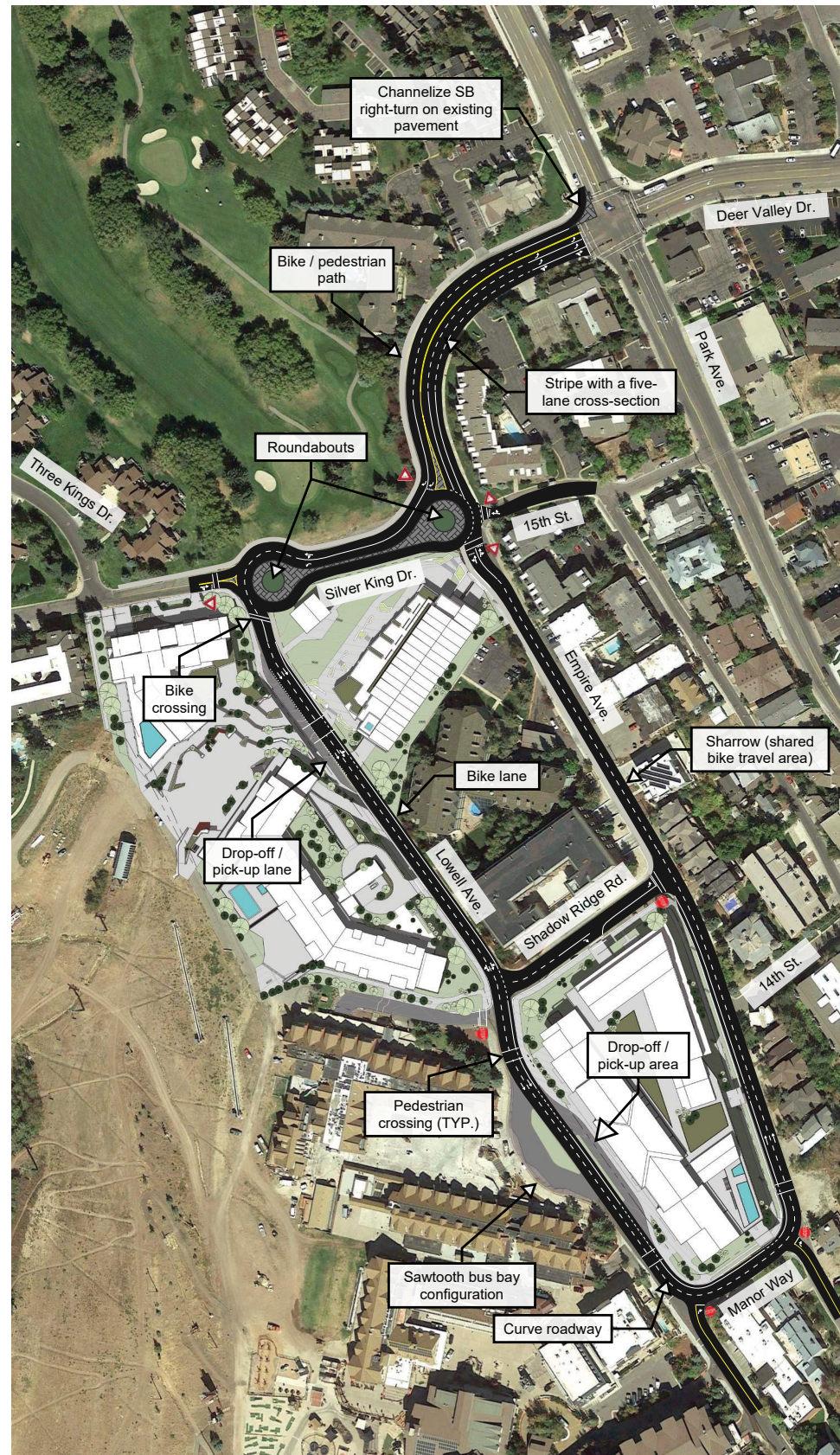


6. TRANSPORTATION IMPROVEMENTS

1. *WALKABILITY*
2. *BIKE ROUTES*
3. *BUS ROUTES*
4. *TRAFFIC ROUTES*
5. *PARKING WAYFINDING*
6. *DAY SKIER PARKING ANALYSIS AND PARKING PROGRAM*
7. *RESIDENTIAL AND COMMERCIAL PARKING ANALYSIS*



WALKABILITY

As a natural extension of the trail that enters the Park City Base Area Lot Redevelopment area on Empire Avenue, a connected path will extend along the north side of Silver King Drive to the west side of Lowell Avenue where the pedestrian walking path will continue south and circumnavigate the resort while providing pedestrian crossings at key / strategic locations to enhance safety within the resort. Parcel B will have an integrated walking path on the perimeter, facilitating pedestrian connectivity from Lowell Avenue to Empire Avenue with strategically placed crosswalks to maximize pedestrian safety and connect to the Park City Transit bus stops. Additional walking routes are shown on the map.

BIKE ROUTES

Bikes entering the resort will have an opportunity to enter a bike lane on the east side of Lowell Avenue at Silver King Drive that will travel through the active area of the resort where additional safety is needed. The bike lane will extend south to Manor Way, loop around onto Empire Avenue, and terminate near Shadow Ridge Road. The bike lane will then transition to a sharrow between Shadow Ridge Road and Silver King Drive.

BUS ROUTES

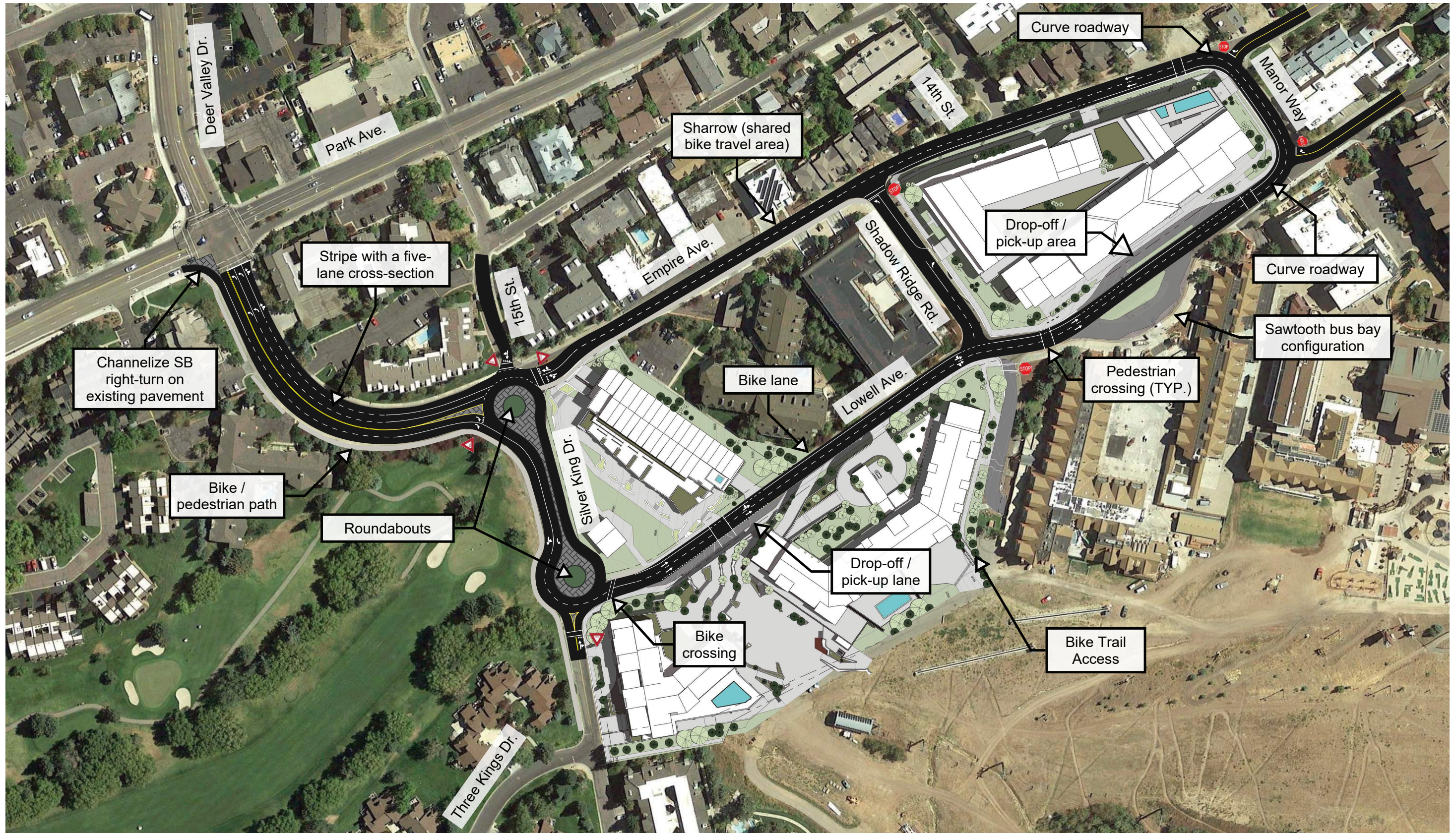
Multiple transit routes enter the resort area from Park Avenue, Deer Valley Drive, or Three Kings Drive with stops on the south end of Lowell Avenue near The Lodge, and at the northern end of Empire Avenue near the Edelweiss Haus. Working collaboratively with the land owner and the City, it is being proposed that the existing bus routes will be in a new revised, more efficient traffic circulation pattern with a one directional counterclockwise flow that will allow continued right-side access to the Park City Transit bus stops, with two travel lanes in the direction of flow, and an expanded and more efficient (4 bus) sawtooth stop area near The Lodge, for buses only. Uber, Lyft, black car and other drop off's will occur at the north end of site near in a designated area, eliminating the multiple conflicts at the bus stop.

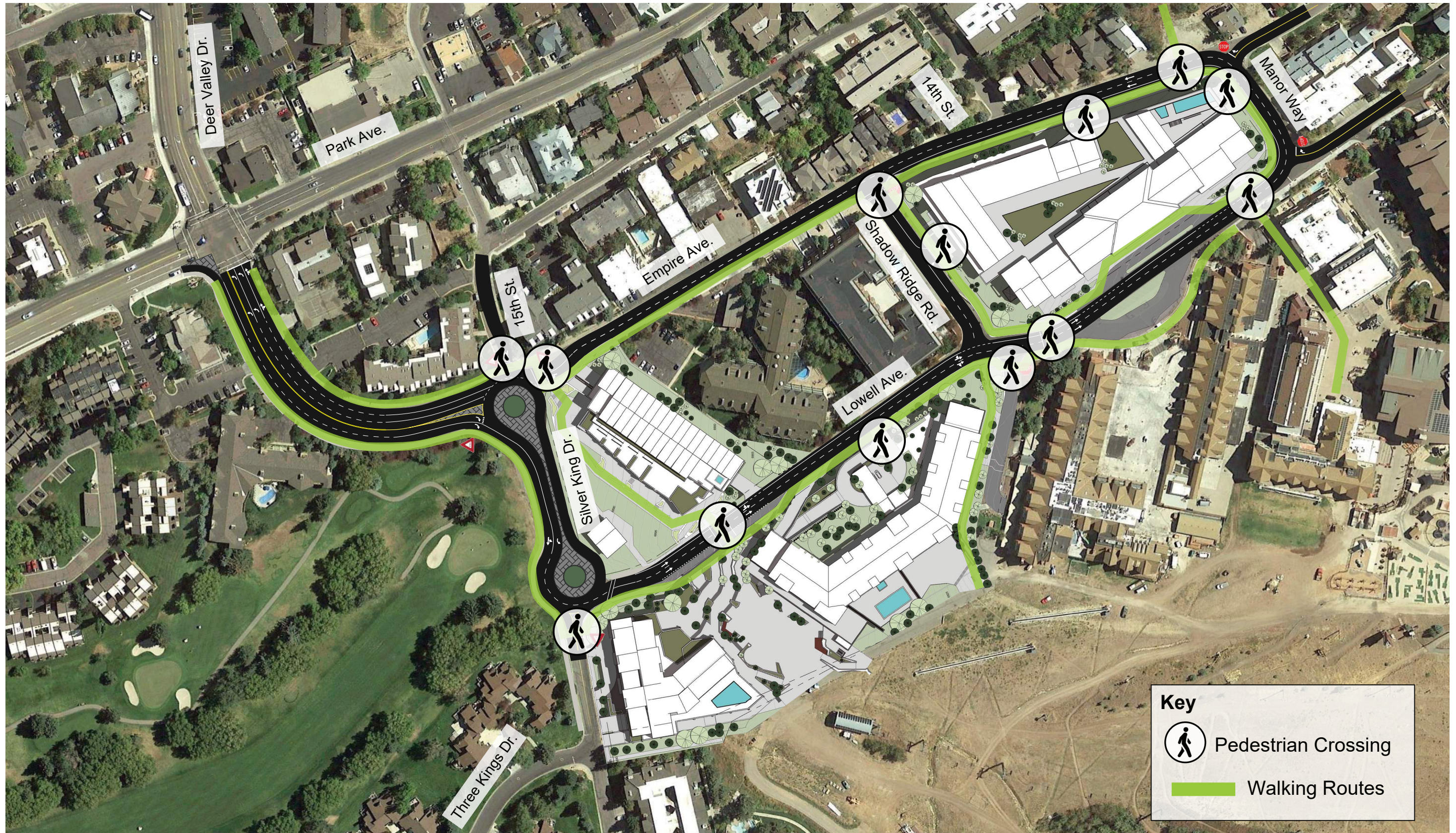
TRAFFIC ROUTES

A new traffic circulation pattern is being proposed through the resort to provide more efficient and safe movement for all modes of travel including pedestrian, bike, bus, and vehicles. This flow pattern will include new roundabouts at the Empire Avenue / Silver King Drive, and Lowell Avenue / Silver King Drive intersections with a two directional traffic flow between the roundabouts, and a one directional flow south of the Lowell Avenue roundabout and through the resort. The one directional circulation pattern will allow for two travel lanes around the resort with southbound travel on Lowell Avenue, to eastbound travel on Manor Way, and northbound travel on Empire Avenue to the Silver King Drive roundabout. It is proposed that both upper Lowell Avenue and upper Empire Avenue roads be de-emphasized by making the resort circulation the major traffic flow movement, and hopefully discouraging resort traffic from entering these area. Additionally, Shadow Ridge Drive will be one-way eastbound connecting Lowell Avenue to Empire Avenue. Within the proposed circulation pattern an Uber, Lyft, black car, skier drop-off area is being planned on the north end of the project at the ski beach location, and a guest area drop-off is being planned adjacent to Parcel B.

PARKING WAYFINDING

Important to the overall operation of the resort are wayfinding signs dynamically directing vehicles to the open parking stalls / lots. It is anticipated that dynamic signs showing the number of parking stalls available will be placed at strategic locations including one on Silver King Drive near Lowell Avenue, one on Lowell Avenue near Shadow Ridge Drive, and one on Manor Way as shown in the exhibit.









DAY SKIER PARKING ANALYSIS

Parking for the new Master Plan Proposal is a key element of the project, it is a vital resource to the project, to the existing base village, and to the ski operations. At the same time parking can be over-done. Too much parking could increase traffic. This section will detail the parking analysis for the ski operations in conjunction with the Mountain Upgrade Plan, and will also analyze and provide parking standards for the new facilities at the base such as the hotel and condos.

Parking calculations in Exhibits J and K of the Development Agreement are based on two things; 1. The proposed programming of the original Base Area Master Plan Study (Exhibit D), and the anticipated demands as outlined in the Mountain Upgrade Plan. The new Base Area Master Plan has changed the program dramatically, with far fewer Unit Equivalents and Allowable Square Footage than allowed in the Development Agreement, and subsequently has changed the parking requirements. In addition, there have been unforeseen changes to both lodging and transportation modes such as AirBnB and Uber, that require updated parking calculations. This new parking analysis is presented below.

The Mountain Upgrade Plan identified the CCC (Comfortable Carrying Capacity) in 1998 as 9,910 skiers. Appendix A of the Mountain Upgrade Plan provides a succinct overview of the anticipated parking needs based on the CCC and the comprehensive analysis of skier supply i.e. private vehicle, lodging, bus, etc. Appendix A demonstrates that it was anticipated that the CCC would increase fairly substantially. Page 8, 3rd paragraph of Appendix A discusses anticipated mountain improvements stating, "These improvements will result in a design capacity of 13,700 skiers." Paragraph 4 on the same page states, "Table 4 shows the supply of skiers at the completion of the project to be 17,051. These skier volumes can be accommodated by the expansion terrain identified in the Ski Area Master Plan". It should be noted that the ratio of 17,051 to 13,700 as outlined in the Mountain Upgrade Plan is a ratio of 124% of capacity. A recently updated CCC Analysis conducted by SE Group, the same group that did the 1998 Mountain Upgrade Plan analysis, concludes that current 2019 CCC is 12,570, and that skier supply is 11,733 as demonstrated on the table to the right.

Existing parking conditions are identified as shown on the table below.

EXISTING PARKING CONDITIONS	
Parking Lot	Spaces
Main Lot (Parcel B)	388
Lower Lot (Parcel C&E)	584
Underground P-2 Green	149
Underground P-3 Red	148
Silver King Lot (Parcel D)	214
Existing Mountainside/Legacy ⁽¹⁾	17
Total Skier Parking	1500
Sweetwater Lot Admin	75

(1) As part of Phase I, 7 ADA spaces within the parking garage were to count towards the overall development. 10 surface spaces currently exist across from the PC Team Building

2019 SE GROUP EXISTING CONDITIONS	
Source	Skiers Provided
I. Parking	
1500 available parking spaces @ 2.7 skiers per space	4,050
II. Lodging at Base Area	
Existing Beds (4274 beds)	
<i>Net skiers from existing beds</i>	3,249
New Hotels	
<i>Additional skiers from new hotels (i.e. Marriott Mountainside)</i>	437
New Nightly Rentals, i.e. Airbnb, VRBO, etc. (260 units)	
<i>Net skiers from nightly rentals</i>	624
III. Town Lift	
Actual usage	950
IV. Transit	
Park City Transit Usage	1,800
Hotel Shuttles	398
Drop-off/Ride-share	225
Total skiers supply at peak destination occupancy	
	11,733
Existing CCC	
	12,570
Ratio	
	93%

Changes from the 1998 Mountain Upgrade Plan include a reduction in AVO (Average Vehicle Occupancy) from 3.7 to 2.7 reflecting actual conditions and current industry standards. Additionally, there is a substantial increase in skiers from nightly rentals such as homes rented on Airbnb and VRBO, that weren't a reality in 1998. Also unforeseeable in 1998 was the advent of ride-sharing services. Additional skiers now arrive via Uber and Lyft as well as shuttles from hotels in town that wasn't previously anticipated. Usage of both the Town Lift and Park City Transit are down a little from what was anticipated in Table 4 of Appendix A.

The new proposed plan would increase the AVO to 3.7 using paid parking, eliminating any on-site employee parking within the 1,200 new day-skier, structured parking stalls. The new proposed plan will provide a significant supply of skiers who will come from the new condos and hotel. The table to the right estimates the new supply of skiers and the upgraded CCC.

It is important to note that the Mountain Upgrade Plan states that it is common for a resort to experience peak day visitation up to 25% above its CCC.

The proposed Master Plan day skier parking would be as follows:

PROPOSED MASTER PLAN	
Parking Lot	Spaces
Parcel B	786
Parcel E	414
Underground P-2 Green	149
Underground P-3 Red	148
Existing Mountainside/Legacy ⁽¹⁾	17
Total Skier Parking	1514
Sweetwater Lot Admin	75

(1) As part of Phase I, 7 ADA spaces within the parking garage were to count towards the overall development. 10 surface spaces currently exist across from the PC Team Building

The Mountain Upgrade Plan anticipated that increased CCC would in part be supplied by increased parking. However, the increased CCC has instead been supplied by unforeseen changes in the market, such as new innovations in the sharing economy (Airbnb, Uber) and increased AVO.

The ability to create a successful resort depends on also providing a variety of options for patrons to arrive and depart the area. This project has expanded the ability to increase transit ridership, provided a drop-off zone for Uber, Lyft, Black Car, other hotel shuttles, etc. In addition, other alternative modes of transportation, have been accommodated on-site including a bike lane and walking paths / routes. The result is a Skier to CCC ratio of 115%, which is well within the acceptable ratio of 125% and will allow for, and encourage future transit growth, while maintaining a quality skier experience.

2019 MASTER PLAN PROPOSAL	
Source	Skiers Provided
I. Parking	
1514 net parking spaces @ 3.7 skiers per space	5,602
100 Ski Club parking spaces @ 2 skiers per space	200
60 Flex Parking from condo/hotel parking @ 3.7	222
II. Lodging at Base Area	
Existing Beds (4274 beds)	
<i>Net skiers from existing beds</i>	3,249
New Hotels	
<i>Additional skiers from new hotels</i>	437
New Nightly Rentals, i.e. Airbnb, VRBO, etc. (260 units)	
<i>Net skiers from nightly rentals</i>	624
New skiers from Master Plan new residential program	710
III. Town Lift	
Actual usage (950 in 2019, but better useage could easily increase to 1100 without upgrade to the lift)	1100
IV. Transit	
Park City Transit Usage grown at 5%/year over 7 years	2,533
Hotel Shuttles	398
Drop-off/Ride-share grown at 5%/year over 7 years	317
Total skier supply at peak destination occupancy	15,391
Upgraded CCC	13,440
Ratio	115%

RESIDENTIAL AND COMMERCIAL PARKING ANALYSIS

In order to determine an adequate parking supply for the base area redevelopment, a parking study was completed. This study evaluates Park City Municipal Code parking requirements and proposes adjustments based on parking studies at nearby resorts, and by considering shared parking between land uses.

The master plan shows a total new parking supply of 1,694 parking spaces. Of these, 1,200 spaces are dedicated to day skiers (Parcel B & E parking in table above), bringing the total resort day skier parking to 1,514. The remainder 494 parking spaces in the master plan are reserved for residential (hotel and condo) and commercial resort patronage.

PARK CITY PARKING RATE	
LAND USE	PARKING RATE
Hotel	1 space per room plus 5 spaces per 1,000 sf of separately leasable commercial space
Condominium	<1,000 sf: 1 space per dwelling unit 1,000 – 2,000 sf: 1.5 spaces per dwelling unit >2,000 sf: 2 spaces per dwelling unit
Retail & Service Commercial, Minor	3 spaces per 1,000 sf of net leasable space
Retail & Service Commercial, Major	5 spaces per 1,000 sf of net leasable space
Multi-tenant commercial complex	3.5 spaces per 1,000 sf of leasable floor area
Meeting Space	5 spaces per 1,000 square feet
Restaurant, standard and bar	10 spaces per 1,000 square feet net leasable area

PARK CITY MUNICIPAL CODE

The Park City Municipal Code (PCMC), Section 15-3-6 specifies parking rates for various land use types. The City parking rates for land uses within the proposed area of the resort are summarized in the table below.

Based on initial calculations of the parking needed for the proposed land uses, the City would normally require 852 parking spaces. This requirement excludes resort day skier parking, which was addressed in the previous section.

NEARBY RESORT PARKING STUDY

Recently, Hales Engineering collected data at a nearby ski resort and identified how people arrive to a resort. The following data is an average of 9 separate locations counted within the studied resort area.

How people arrive to the resort:

- 57% drove a vehicle to the resort
- 18% rode in a shuttle
- 15% rode in an Uber / Lyft vehicle
- 9.4% rode in a black car or other transport vehicle
- 0.6% rode in transit, an individual location identified that 5% rode transit

Hales Engineering also quantified how many spaces were occupied at the studied resort area per occupied hotel room, and condo units and determined that the parking demand was 0.6 spaces per unit. Since the manner of arrival has a direct correlation to the parking demand rate, Hales Engineering recommends parking the residential products at 0.6 spaces / unit, in lieu of the rate in the PCMC Section 15-3-6.

TIME-OF-DAY SHARED USE

Many land uses are able to share parking due to offsetting peaks in parking demand. It is anticipated that this will be the case for Parcels B, C, D and E of the Park City Base Area Lot Redevelopment. The time of day and shared use analysis only takes into consideration the 494 parking spaces reserved for residential and commercial resort patronage. The 1,200 day skier parking spaces provided in the master plan is not included within the shared parking calculations to remain conservative, and will remain at a fixed level. Designing for the actual parking demand for a mixed-use project results in efficient use of parking spaces. The Institute of Transportation Engineers (ITE) provides percentages of parking demand throughout the day for many land uses in the Parking Generation (5th Edition, 2019) manual. Hales Engineering made conservative estimates regarding the hourly parking demand of the meeting space land use, as these are not available from ITE. Based on analysis of shared use, this study takes into consideration that much of the commercial patronage will also be day skiers, for which parking is provided separately. The study takes the following percentage reductions; a reduction of 95% for commercial space, a reduction of 75% for restaurant space, and a reduction of 50% for meeting space.

Hales Engineering has identified a mixed use / time of day parking demand for each land use for every hour of the day to determine the actual parking demand for Parcels B, C, D, and E. As shown in the table on the following page, it is anticipated that the peak parking demand when considering shared use and time-of-day needs will be approximately 326 parking spaces at 8:00 pm. It is anticipated that at the peak parking demand hour (8:00 pm), a surplus of 168 parking spaces will still be available on-site.

CONCLUSIONS AND RECOMMENDATIONS

The proposed project has programmed 1,200 replacement day-skier parking spaces (current surface parking spaces on Parcels B, C, D and E) to be provided somewhere on the site during and after construction of the project. (See the phasing plans in the construction phasing and mitigation section to follow how parking supply will fluctuate during the course of the development.) This results in a day skier parking total of 1,514 space on the resort.

Hales Engineering completed a parking study at a near-by resort and has identified that actual parking rates per residential unit are lower than the projected ITE rates. Applying the actual Park City parking rates per occupied residential unit would require 852 spaces to meet the demand for the same parcels:

- Utilizing mixed use reductions, and time of day parking needs, while fixing the day-skier parking (1,200 spaces) results in a shared parking demand ranging from 195 to 326 spaces.
- The commercial and residential parking supply on-site will be 494 spaces; therefore, at peak demand (326 spaces) there will be a surplus of 168 spaces.

Dynamic parking signs will be placed in strategic locations within the resort and on the parking structures to guide patrons to open parking spaces within Parcels B, C, D and E, creating a more efficient hunt for parking availability. Parcels B, C, D, and E, will all have shuttle service provided to move patrons around Park City, if scheduled in advance:

- A shuttle pull-out is being provided on parcel B, a porte cochere is planned on parcels C and E, and a drop-off near parcel D can be used as a drop-off / pick-up site.

DEVELOPMENT TIME OF DAY PARKING CALCULATIONS							
	LAND USE	RES	COMM	RESTAURANT	MTG	TOTAL	SUPPLY
	REQ'D PARKING	279	230	113	132	754	494
TIME	% REDUCTION	0%	95%	75%	50%		DELTA +/-
12:00 AM		243	0	3	0	246	248
1:00 AM		243	0	0	0	243	251
2:00 AM		243	0	0	0	243	251
3:00 AM		243	0	0	0	243	251
4:00 AM		243	0	0	0	243	251
5:00 AM		210	0	2	0	212	282
6:00 AM		182	4	2	7	195	299
7:00 AM		182	4	2	33	221	273
8:00 AM		193	6	2	66	267	227
9:00 AM		197	9	2	66	274	220
10:00 AM		183	10	2	66	261	233
11:00 AM		183	12	4	66	265	229
12:00 PM		181	13	11	66	271	223
1:00 PM		158	13	16	66	253	241
2:00 PM		163	13	9	66	251	243
3:00 PM		157	13	7	66	243	251
4:00 PM		170	12	4	66	252	242
5:00 PM		164	11	6	66	247	247
6:00 PM		191	10	12	53	266	228
7:00 PM		231	9	26	40	306	188
8:00 PM		263	7	29	27	326	168
9:00 PM		276	5	26	14	321	173
10:00 PM		277	4	23	0	304	190
11:00 PM		264	0	9	0	273	221

The Park City Mountain bus pull out area is being expanded with the proposed project from 3 to 4 spaces aligned in a more efficient layout to increase transit opportunities and potentially increase bus frequency, with landowner's cooperation:

- Paid parking will be instituted into the proposed project, and it is anticipated that transit ridership will increase, and passenger vehicle occupancy will also increase.

An Uber / Lyft, Black Car, day skier drop-off / pick-up area is being programmed into the site between Parcels C and E.

The following potential measures could be implemented to encourage alternative modes of arrival to the resort:

- Advertise remote day skier parking at Ecker Hill park and ride lot
- Promote employee remote parking (see Vail's employee parking management plan), promote employee existing retail / base to ride transit from remote areas
- Promote other remote lots including high school, etc.
- Parking allocated to condo / hotel will be actively managed and surplus will be made available to general public / day skiers
- Ski lockers for day skiers and season rentals can be added which will promote bus ridership
- Preferred parking for carpoolers
- Encourage residential properties to provide patron discounts for Uber / Lyft / Black Car Service arrivals / departures
- Encourage through the booking process alternative forms of arrival / departure other than rental vehicles

If Parcels B, C, D, and E, contain approximately 1,200 day skier parking spaces that will be held in reserve at all times, and the time of day demand for the proposed land uses identifies that adequate parking will be provided.

This in-depth parking analysis demonstrates that the proper number of day skier parking stalls are provided, contributing to a healthy and acceptable ratio of skiers to the CCC. The shared parking analysis is conclusive that for a large project shared parking is both feasible and desirable. It is important to arrive at the right number of parking stalls. Too few stalls mean that business and residents suffer. Business because there aren't enough patrons, and neighbors because people park on public streets. Too many stalls means that both patrons of the resort, and traffic suffer. This proposal has been balanced and is responsible in its design and analysis. The intent of the development improvements, including one-way circulation, parking wayfinding signage, charging for parking, effectively adding 50% more capacity to the bus stop, adding an Uber, Lyft, black car, hotel shuttle stop area is to increase transit ridership or other alternative mode options, and to increase the vehicle occupancy for patrons to the site, both of which help Park City with their goals to minimize vehicle trips within the resort.

The table provided below is a summary of the parking spaces proposed by parcel and type in the master plan and as shown in the program and planning section of this document.

PROPOSED MASTER PLAN PARKING SUMMARY (1)		
Parcel	Type	Spaces
Parcel B		
	Day Skier	786
	Condo	87
Total Parcel B Parking		873
Parcel C		
	Hotel Valet	183
Total Parcel C Parking		183
Parcel D		
	Retail	44
	Condo	51
Total Parcel D Parking		95
Parcel E		
	Day Skier	414
	Ski-Club and Condo	123
Total Parcel E Parking		537
Total Master Planned Parking		1688

(1) Proposed parking types are for example only. In order for time-of-day shared use parking to be effective, parking types need be be flexible. As stated above, for this study the day skier parking spaces remained fixed and were not include in the flexible time-of-day shared parking.