Bonanza Park

Small Area Plan

Stand-Alone Mobility Component

Adopted July 11, 2024

PARK CITY
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MKSK FEHR & PEERS future iQ

Stand-Alone Mobility Component

This appendix to the Bonanza Park Small Area Plan discusses transportation and mobility needs in the Bonanza Park Study Area.

This Chapter discusses transportation and mobility needs in the Bonanza Park/ Snow Creek study area, both with and without the development scenarios proposed in this plan. This Chapter addresses background traffic conditions, transit service and ridership, existing challenges to walking and bicycling activity in the study area, and current accessibility for people with limited mobility. It also discusses the impacts of proposed development on traffic conditions at intersections surrounding the study area, identifying some limited mitigation measures for those conditions, and demonstrating the amount of parking that may be needed to serve the development. It also identifies transit strategies and amenities that can support transportation choices for residents and visitors, and recommends a range of other strategies to incentivize travel choices that make more efficient use of the transportation network.

Stand-Alone Mobility Component Contents:

Existing Conditions

Vehicle Mobility

Introduction

The purpose of this section is to document the traffic analysis conducted as part of the Bonanza Park and Snow Creek Small Area Plan. The project encompasses proposed development in the study area. This memorandum documents the Existing (2023) conditions, analyzing the Friday PM peak hour for President's Day weekend, 2023 (capturing commuter peak traffic as well as peak ski season holiday weekend traffic).

Analysis Methodology

Level of Service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. The Highway Capacity Manual 6th Edition (HCM 2016) methodology was used in this study to remain consistent with "state of the practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For this study, the traffic analysis software Synchro was used to analyze the HCM results at the study intersections. This study is generally consistent with the recently adopted Traffic Impact Study guidelines governed by Park City (June 2023).

Table 1: Level of Service Descriptions

LOS	Description	Signalized Intersections	Unsignalized Intersections
		Avg. Delay (sec/veh)[1]	Avg. Delay (sec/veh)[2]
A	*Free Flow / Insignificant Delay* Extremely favorable progression. Individual users are virtually unaffected by others in the traffic stream.	< 10.0	< 10.0
B	*Stable Operations / Minimum Delays* Good progression. The presence of other users in the traffic stream becomes noticeable.	> 10.0 to 20.0	> 10.0 to 15.0
C	*Stable Operations / Acceptable Delays* Fair progression. The operation of individual users is affected by interactions with others in the traffic stream	> 20.0 to 35.0	> 15.0 to 25.0

D	*Approaching Unstable Flows / Tolerable Delays* Marginal progression. Operating conditions are noticeably more constrained.	> 35.0 to 55.0	> 25.0 to 35.0
E	*Unstable Operations / Significant Delays Can Occur* Poor progression. Operating conditions are at or near capacity.	> 55.0 to 80.0	> 35.0 to 50.0
F	*Forced, Unpredictable Flows / Excessive Delays* Unacceptable progression with forced or breakdown of operating conditions.	> 80.0	> 50.0

1. Overall intersection LOS and average delay (seconds/vehicle) for all approaches.
2. Worst movement LOS and delay (seconds/vehicle) only.

Source: Fehr & Peers descriptions, based on *Highway Capacity Manual, 6th Edition*.

Background

Study Intersections

This study analyzes the existing conditions of traffic operations of the Bonanza Park and Snow Creek area. The existing conditions are specifically addressed at the following study intersections, noting their existing intersection controls:

- SR-224 & Snow Creek Dr (signal)
- SR-224 & SR-248 (signal)
- SR-224 & Homestake Rd (WB stop)
- SR-224 & Iron Horse Dr (WB stop)
- SR-224 & Deer Valley Dr (signal)
- SR-248 & Snow Creek Dr (SB stop)
- Homestake Rd & SR-248 (NB stop)
- Woodbine Way & SR-248 (NB stop)
- Bonanza Dr & SR-248 (signal)
- Sidewinder Dr & SR-248 (NB stop)
- Bonanza Dr & Prospector Ave (EB/WB stop)
- Bonanza Dr & Munchkin Rd (EB/WB stop)
- Bonanza Dr & Iron Horse Dr (EB/WB stop)
- Deer Valley Dr & Bonanza Dr (signal)
- Woodbine Way & Munchkin Rd (WB stop)

Existing Background Conditions

The existing background conditions analysis examines the study intersections and roadways during the peak evening travel period (4:45 pm to 5:45 pm, based on

observed traffic volumes throughout the study area) under existing traffic and geometric conditions. Through this analysis, existing traffic operational deficiencies were identified to serve as a basis for the study area build conditions.

Roadway System

The primary roadways included in the analysis for this study are described below.

- **Bonanza Drive** has a posted speed limit of 25 and is classified as a minor arterial in the study area. Bonanza Drive has one northbound lane and one southbound lane divided by a 14-foot median and a two-way left turn lane (TWLTL) throughout its entirety.
- **Deer Valley Drive** has a posted speed limit of 35 and is classified as a principal arterial in the study area. Between SR-224 and Bonanza Drive, Deer Valley Drive has two westbound lanes, two eastbound lanes, and a TWLTL.
- **Homestake Road** has a posted speed limit of 25 and is classified as a major collector in the study area. Homestake Road has no lane markings.
- **Iron Horse Drive** has a posted speed limit of 25 and is classified as a major collector in the study area. Iron Horse Drive has no lane markings.
- **Munchkin Road** has no posted speed limit and is classified as a local road in the study area. Munchkin Road has no lane markings.
- **Prospector Avenue** has a posted speed limit of 25 and is classified as a major collector in the study area. Prospector Avenue has one westbound lane and one eastbound lane with sharrows.
- **Sidewinder Drive** has a posted speed limit of 25 and is classified as a major collector in the study area. Sidewinder Drive has no lane markings aside from sharrows.
- **Snow Creek Drive** has a posted speed limit of 25 and is classified as a local road in the study area.
- **SR-224** has a posted speed limit of 40 and is classified as a principal arterial in the study area. SR-224 has two northbound lanes, two southbound lanes, and one TWLTL from Snow Creek Drive to Deer Valley Drive.
- **SR-248** has a posted speed limit of 35 and is classified as a principal arterial in the study area. From SR-224 to Sidewinder Drive, the road has two westbound lanes, two eastbound lanes, and a TWLTL. Moving east from Sidewinder Drive, the road has one westbound lane, one eastbound lane, and a TWLTL.
- **Woodbine Way** has no posted speed limit and is classified as a local road in the study area. Woodbine Way has no lane markings.

Traffic Volumes

Fehr & Peers collected traffic counts at the study intersections to establish existing conditions for the study area. Counts were collected from 4:00 PM to 6:00 PM on Friday,

January 20, 2023 (during Sundance Film Festival), and on Friday, February 17, 2023 (President's Day weekend). The counts were compared between the two Fridays, and it was observed that the counts in February were higher in most locations. The February counts were used for analysis for this study.

Analysis Results

Using Synchro software and the HCM 6 delay thresholds described in the *Analysis Methodology* section of this memorandum, the existing 2023 background weekday PM peak hour LOS were computed for each study intersection. The results of this analysis are reported in Table 2.

Fehr & Peers initially performed a traffic operations analysis on the study intersections based on the counted demand volumes at each intersection. Since the Synchro software uses a deterministic model based on HCM calculations at each study intersection, it has limitations in capturing delays at intersections due to queue spillback from downstream intersections. The initial analysis showed acceptable LOS along SR-248 and Bonanza Drive. However, field observations indicated queues from downstream intersections on SR-248 (the merge point east of Bonanza Drive, and Comstock Drive) spilling back to the study intersections, affecting the demand volumes. Fehr & Peers modified the Synchro analysis to account for the latent demand due to the congested conditions, as shown in the "updated" results for some intersections in Table 2.

The modifications of the Synchro analysis included observing videos from the intersection turning movement counts to estimate the latent demand at the Bonanza Drive & SR-248 intersection. The volumes along SR-248 were then modified by adding the estimated latent demand at the intersections. Additionally, the LOS at the Bonanza Drive & SR-248 intersection was modified to be LOS F qualitatively based on the observed conditions.

Table 2: Existing Conditions LOS Results

Intersection					Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Results	Movement [3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	SR-224 & Snow Creek Dr	PM	Signal	Initial	-	-	-	7	A
2	SR-224 & SR-248	PM	Signal	Initial	-	-	-	22	C
3	SR-224 & Homestake Rd	PM	WB Stop	Initial	WB L/R	59	**F***	-	-
4	SR-224 & Iron Horse Dr	PM	WB Stop	Initial	WB L/R	38	**E***	-	-
5	SR-224 & Deer Valley Dr	PM	Signal	Initial	-	-	-	102	**F**

6	SR-248 & Snow Creek Dr	PM	SB Stop	Initial	SB Left	23	C	-	-
7	Homestake Rd & SR-248	PM	NB Stop	Initial	NB L/R	15	B	-	-
				Updated	NB L/R	-	C	-	-
8	Woodbine Way & SR-248	PM	NB Stop	Initial	NB L/R	18	C	-	-
9	Bonanza Dr & SR-248	PM	Signal	Initial	-	-	-	30	C
				Updated	-	-	-	-	**F****
10	Sidewinder Dr & SR-248	PM	NB Stop	Initial	NB Left	34	D	-	-
				Updated	NB Left	-	**E***	-	-
11	Bonanza Dr & Prospector Avenue	PM	EB/WB Stop	Initial	WB Left	198	**F**	-	-
12	Bonanza Dr & Munchkin Rd	PM	EB/WB Stop	Initial	WB L/T/R	33	D	-	-
				Updated	WB L/T/R	-	**E***	-	-
13	Bonanza Dr & Iron Horse Dr	PM	EB/WB Stop	Initial	EB Left	213	**F**	-	-
14	Deer Valley Dr & Bonanza Dr	PM	Signal	Initial	-	-	-	12	B
				Updated	-	-	-	-	B***
15	Woodbine Way & Munchkin Rd	PM	WB Stop	Initial	WB L/R	9	A	-	-

Notes:
1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
   *Unsignalized intersections with high levels of delay, though capacity is sufficient to serve volume with reasonable queues.
   **HCM methodology indicates LOS D based on demand volume, however, field observations suggest unacceptable operations due to downstream queue spillback.
   ***During some days in the winter, queues from SR-248 & Bonanza and SR-224 & SR-224 frequently spill back through this intersection, sometimes reaching as far back as Aerie Drive. This capacity analysis reflects conditions for Friday, February 17, 2023 , though operations on other days may appear to be worse than the conditions shown.

Source: Fehr & Peers.

As shown in Table 2, the study intersections operate at acceptable LOS (LOS D or better) for the weekday PM peak hour, except for the following locations:

- SR-224 & Homestake Rd – LOS F
    - This is caused by the stop-controlled westbound approach attempting find a gap in traffic to turn left onto SR-224

- SR-224 & Iron Horse Dr
    - This is caused by the stop-controlled westbound approach attempting find a gap in traffic to turn left onto SR-224, despite left turn restrictions from Iron Horse between 3pm-6pm
- SR-224 & Deer Valley Dr
    - This signalized intersection experiences high delays due to high volumes in the eastbound, westbound, and southbound approaches.
- Bonanza Dr & SR-248
    - This intersection operates unacceptably due to queue spillback from the downstream delays due to the signal at Comstock Drive and the merge. However, in isolation this intersection would be able to handle the current demand, or with improvements downstream at the lane drop or the signal at Comstock Drive.
- Sidewinder Dr & SR-248
    - This is caused by the stop-controlled northbound approach attempting find a gap in traffic to turn left onto SR-248.
- Bonanza Dr & Prospector Ave
    - This is caused by the stop-controlled westbound approach attempting find a gap in traffic to turn left onto Bonanza Drive.
- Bonanza Dr & Munchkin Rd
    - This is caused by the stop-controlled westbound approach attempting find a gap in traffic to turn left onto Bonanza Drive.
- Bonanza Dr & Iron Horse Dr
    - This is caused by the stop-controlled eastbound approach attempting find a gap in traffic to turn left onto Bonanza Drive.

Transit Circulation and Ridership

Between Park City Transit and High Valley Transit, up to 12 different transit routes go through the study area depending on the season. These trips vary from every 15 minutes to only 6 trips daily. Most of the routes have a winter frequency of 20-30 minutes in the winter, dropping to 30 minutes during summer service. All of the routes that interact with the study area are listed in Table 3, with their respective operator and frequencies.

Table 3: Transit Route Frequency. Source: Park City Transit & High Valley Transit

Route	ID	Operator	Winter Frequency	Summer Frequency
Red	1	Park City Transit	20-30 min	30 Minute
Green	2	Park City Transit	20-30 min	30 Minute
Blue	3	Park City Transit	20-30 min	30 Minute
Yellow	5	Park City Transit	20-30 min	30 Minute
Silver	6	Park City Transit	40 min	40 min
Grey	7	Park City Transit	20 min	Suspended
Brown	8	Park City Transit	20 min	Suspended
White*	10	Park City Transit	15-30 min	*Transfers to High Valley Transit Spring 2024
Teal	50	Park City Transit	20 min	20 min
Spiro / 224 Local	101	High Valley Transit	15 min	15 min
Gateway / Kamas Valley Commuter	102	High Valley Transit	6 daily trips	6 daily trips
Wasatch Back Connector	106	High Valley Transit	8 daily trips	8 daily trips

Table 4 shows the current amenities available to users at each transit stop in the study area, as observed in the field. Most stops in the study area only have a sign to denote the stop and no amenities for users.

Table 4: Current Transit Amenities

Location	Sign	Bench	Trash	Shelter
2060 Snow Park Drive	x			
1550 Snow Creek Drive	x	x	x	x
SR-248, west of Homestake (WB)	x			
SR-248, west of Homestake (EB)	x			
SR-248/Woodbine (WB)	x			
SR-248/Woodbine (EB)	x			

SR-248, west of Bonanza (EB)	x			
SR-248, east of Sidewinder (WB)	x	x	x	x
Monitor/bank access (NB)	x			
Monitor/bank access (SB)	x			
Bonanza, south of Prospector (NB)	x			
Bonanza, north of Munchkin (SB)	x			
Bonanza/Rail Trail (NB)	x			
Bonanza/Rail Trail (SB)	x	x	x	
Iron Horse near picture framing shop (WB)	x			
Iron Horse near Walgreens (WB)	x			
Short Line (SB)	x			
SR-224/Homestake (NB)	x	x	x	x
SR-224/Homestake (SB)	x	x	x	x
SR-224 near Roadhouse Grill (NB)	x			
SR-224 near Hotel Park City (SB)	x			
Prospector east of Bonanza (EB)	x			
Prospector east of Pretty Bird (EB)	x			

Figure 1 and Figure 2 show the winter (2022-2023) and summer (2023) ridership for the study area stops. The stops with the highest ridership are the Fresh Market and the surrounding Park Ave Condos and Walgreens stops. The Fresh Market stop is located at approximately 1760 Park Avenue (also referred to as SR-224) and is the most frequented stop in the study area year-round. This stop is a primary connection point, serving both Park City Transit and High Valley Transit, providing connections between the two agencies. Additionally, this stop is located next to many services, including a grocery store, pharmacies, and several hotels. The Iron Horse Drive stops on Bonanza also show significant ridership. These stops are located next to the Park City Rail Trail, several small businesses, and high-density housing accessed via the Iron Horse Loop Road. These are all areas that typically show higher transit ridership due to the concentrations of housing and retail.

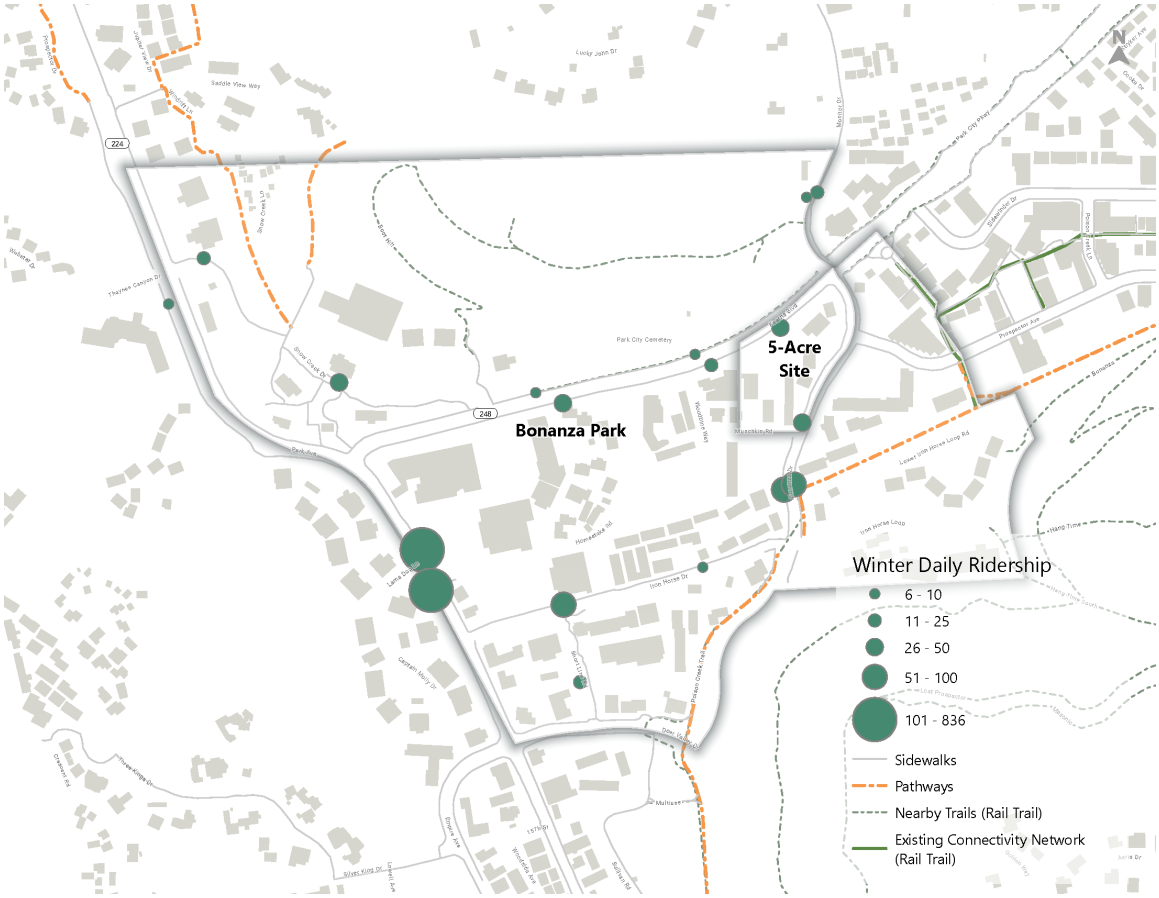

Figure 1: Average Transit Stop Daily Ridership for the 2022-2023 winter season. Source: Park City Transit.

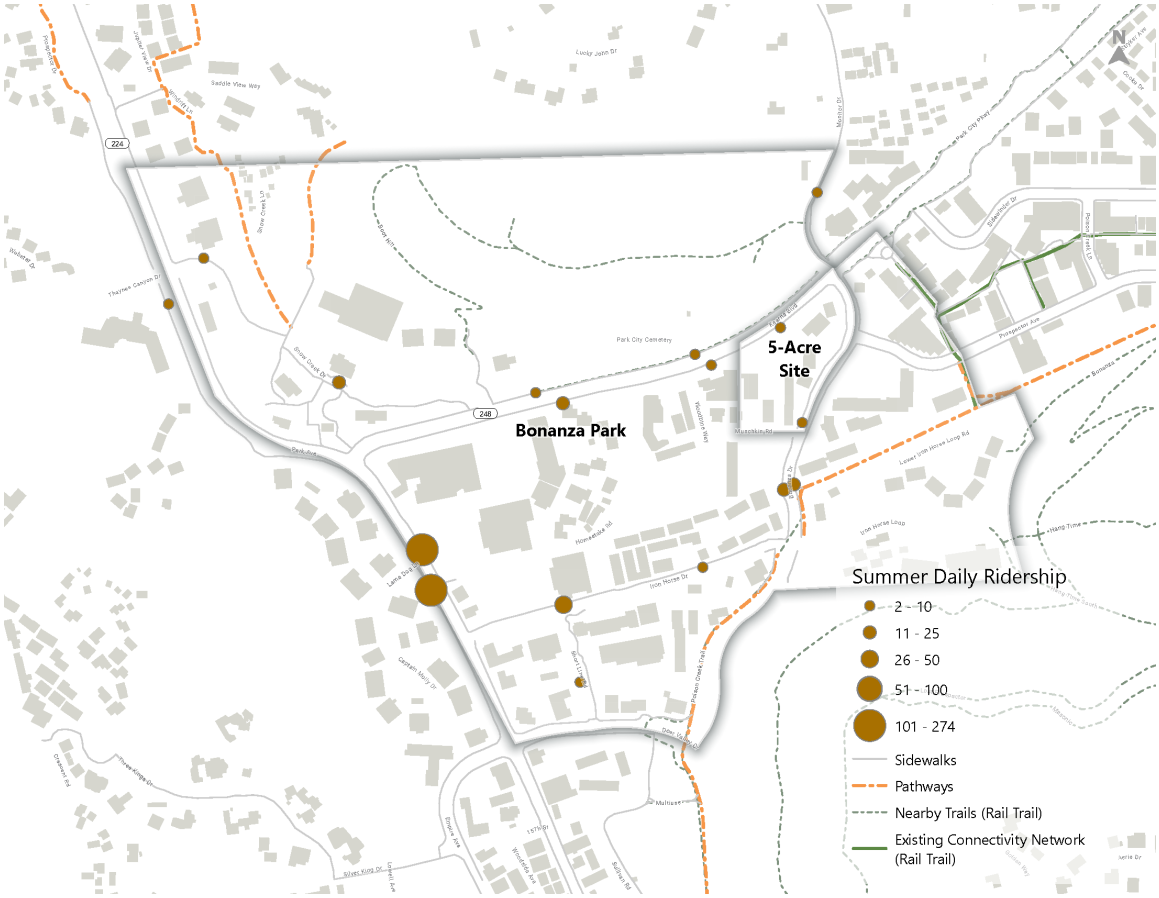

Figure 2: Average Transit Stop Daily Ridership for April - December 2023. Source: Park City Transit

Existing Active Transportation Conditions

Conditions for people walking and bicycling in the study area vary widely depending on the roadway. For example, Bonanza Drive has bicycle lanes, consistent sidewalks, a tunnel connecting the Rail Trail to the Poison Creek Trail, a pedestrian crossing with a Rapid Rectangular Flashing Beacon, and wayfinding signage for trail users. In contrast, many of the roads internal to the Bonanza Park portion of the study area lack consistent sidewalks, bicycle facilities, or crosswalk markings. Figure 3 shows an overview of active transportation facilities in the study area, including on-street facilities, bike racks and e-bike stations, crosswalks, and existing sidewalks and trail.

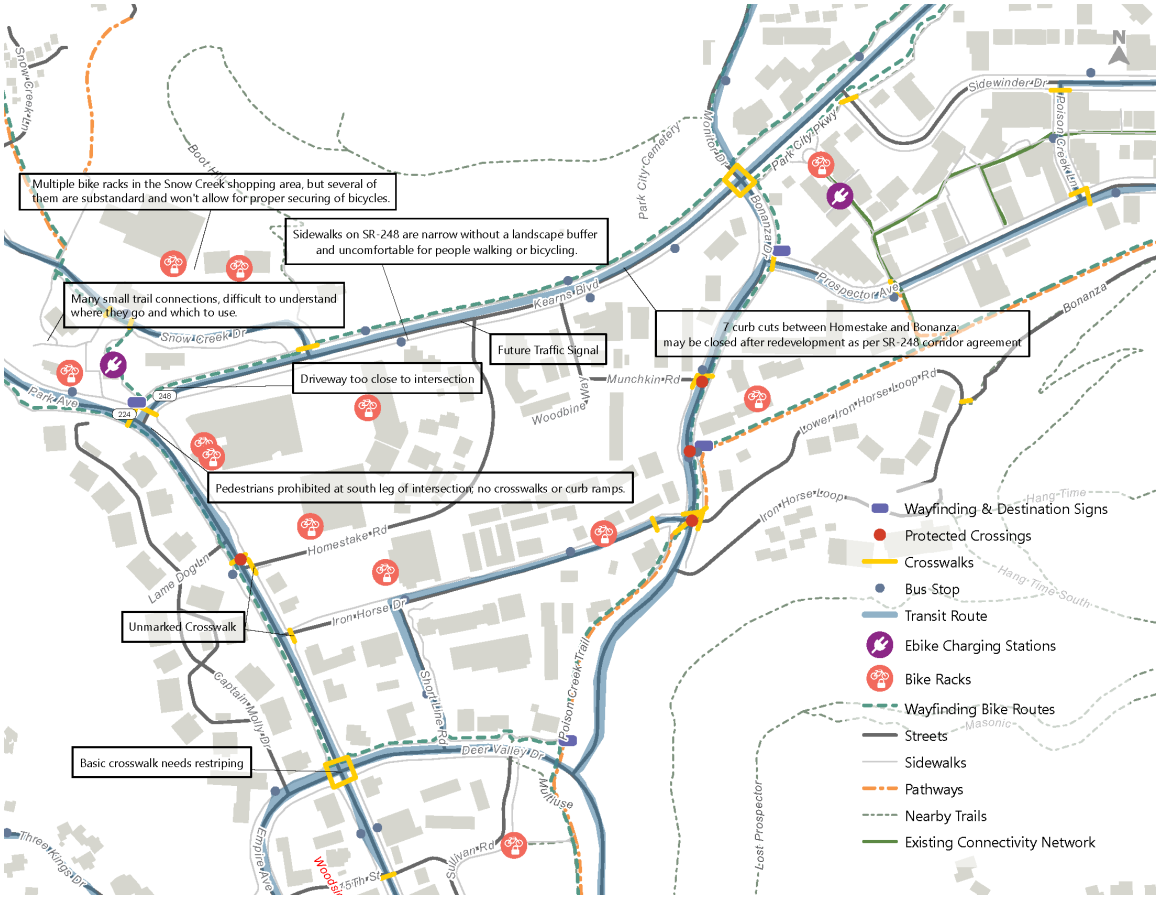

Figure 3: Existing Active Transportation Conditions

While the area generally has a strong active transportation network and connects well to other parts of the City (especially via paved trails), this connectivity is hindered by the inconsistent sidewalk network with the area, limited crossing opportunities on major roads such as SR-248 and SR-224, and infrequent wayfinding signage (or existing wayfinding signage that is difficult to interpret, such as the colored dots marking different trail segments). Additionally, the current layout of the Bonanza Park area makes it impenetrable to people attempting to cross through by walking or bicycling – internal

roads curve through the space or dead-end, leaving few opportunities to cross through the space north to south. In the Snow Park area, trails make twists and turns that are likely navigable only by people who already know the way, and then end uncomfortably at the intersection of SR-224 and SR-248. For people on bicycles, there is little indication on how to continue into the Bonanza district or to points south such as Main Street; the only option is to continue on the sidewalk along either SR-224 or SR-248, until a better option reveals itself.

Current Accessibility

The study area was assessed for accessibility based on the latest Public Right-of-Way Accessibility Guidelines (PROWAG) published in 2023. Currently, some roadways in the interior of the study area (such as Short Line Road, Homestake Road, and Munchkin Road) do not have accompanying sidewalks, forcing pedestrians into roadways or adding crossings and travel time to their desired route. A complete pedestrian network will benefit all users, and increase the safety of pedestrians traveling in the study area. Additionally, the Public Right-of-Way Accessibility Guidelines state that sidewalks or a similar pedestrian access route are needed to connect all accessible elements, spaces, and pedestrian facilities in the study area.

The major intersections at the site all have pedestrian signals, but most lack features required in the latest PROWAG updates including audio messages and tactile arrows. These are most consistently lacking at intersections under UDOT's full jurisdiction, such as the intersection of SR-224 and SR-248. Most non-signalized intersections and driveways have the appropriate signage and detectable warning surfaces, but the lack of consistent sidewalks in the area limit intersection accessibility.

Several intersections have detectable warning surfaces that were heavily worn, damaged, or missing at major intersections with heavy vehicular traffic. This was especially notable at the intersection of SR-224 and Deer Valley Drive. These detectable warning surfaces may no longer adequately perform and should be repaired or replaced. Additionally, detectable warning surfaces should be sized accordingly with the curb cut and crosswalk they service. The southernmost pedestrian crossing at the intersection of SR-224 and SR-248 is wider than the crosswalk it serves, potentially leading pedestrians into the intersection. The design of a curb ramp should not indicate pedestrian travel is permitted if a crosswalk is not available, as is currently indicated on the southern and western legs of the intersection of Bonanza Drive and Iron Horse Drive.

Future Recommendations

Private Vehicles

Plus-Project Traffic Scenarios

Plus-project traffic scenarios were analyzed for the Bonanza Park/Snow Creek small area plan, to assess how the development proposed in the plan might potentially change traffic conditions. All plus-project traffic scenarios are for the PM peak hour. The analysis of project-based traffic built upon traffic models developed for the existing conditions analysis described earlier in this chapter. To analyze plus-project conditions, a future background volume was calculated for the project area. To calculate the background volume, the land uses within the project extents were used to develop trip generation rates according to ITE and applied to the network. Those volumes were then subtracted from existing conditions volumes to get existing conditions minus the current project boundary uses, and these volumes were used as the background volume for plus-project trips. All plus-project traffic scenarios were based on the preferred land use plan developed for the study area, which had two versions: a high-density version and a low-density version. The primary difference between the two versions was the amount of residential units proposed: 4,925 multi-family residential units in the high-density version, and 3,844 multi-family residential units in the low-density version. All other land uses (hotel, dorms, art center, professional office, retail, restaurants, and grocery store) were the same for each version. The land use plan is described in more detail elsewhere in this Small Area Plan. The plus-project analysis results are described for each scenario in the following sections. A comparison of all scenarios including the existing background conditions can be found in Table 5. More detailed information about individual scenarios is provided in the following section.

Table 5: Comparison of Existing and Future Density Scenarios

Intersection				Existing Conditions	Existing + High Density Project	Existing + Low Density Project	2032 + High Density Project	2032 + Low Density Project
ID	Location	Period	Control	LOS	LOS	LOS	LOS	LOS
1	SR-224 & Snow Creek Dr	PM	Signal	A	C	C	C	C
2	SR-224 & SR-248	PM	Signal	C	**F**	**F**	**F**	**F**
3	SR-224 & Homestake Rd	PM	WB Stop	**F**	**F**	**F**	**F**	**F**
4	SR-224 & Iron Horse Dr	PM	WB Stop	**E**	**F**	**F**	**F**	**F**

5	SR-224 & Deer Valley Dr	PM	Signal	**F**	**F**	**F**	**F**	**F**
6	SR-248 & Snow Creek Dr	PM	SB/NB Stop (right in right out)	C	B	B	B	B
7	Homestake Rd & SR-248	PM	Signal (plus-project only)	C	C	C	C	C
8	Woodbine Way & SR-248	PM	NB Stop (right in right out)	C	B	B	C	C
9	Bonanza Dr & SR-248	PM	Signal	**F**	**F**	**F**	**F**	**F**
10	Sidewinder Dr & SR-248	PM	NB Stop	**E**	**F**	**F**	**F**	**F**
11	Bonanza Dr & Prospector Avenue	PM	EB/WB Stop	**F**	**F**	**F**	**F**	**F**
12	Bonanza Dr & Munchkin Rd	PM	EB/WB Stop	**E**	**F**	**F**	**F**	**F**
13	Bonanza Dr & Iron Horse Dr	PM	EB/WB Stop	**F**	**F**	**F**	**F**	**F**
14	Deer Valley Dr & Bonanza Dr*	PM	Signal	B	B	B	B	B
15	Woodbine Way & Munchkin Rd	PM	WB/EB Stop	A	D	D	D	D
27	SR-224 & Project Drive	PM	WB Stop (right in right out)	N/A	**F**	**F**	**F**	**F**

Notes:

*During some days in the winter, queues from SR-248 & Bonanza and SR-224 & SR-224 frequently spill back through this intersection, sometimes reaching as far back as Aerie Drive. This capacity analysis reflects conditions for Friday, February 17, 2023 , though operations on other days may appear to be worse than the conditions shown.

Source: Fehr & Peers.

Existing + High Development Density Project

This scenario evaluated how traffic conditions would look if the high-density land use plan were built out immediately, assuming project-related traffic would be added on top of the calculated background traffic circulating on the network, the calculation for which was detailed above Table 5. Table 6 provides the results of this analysis.

Table 6: Existing Plus Project: High Density Development

Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	SR-224 & Snow Creek Dr	PM	Signal	-	-	-	30	C
2	SR-224 & SR-248	PM	Signal	-	-	-	**155**	**F**
3	SR-224 & Homestake Rd	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
4	SR-224 & Iron Horse Dr	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
5	SR-224 & Deer Valley Dr	PM	Signal	-	-	-	**177**	**F**
6	SR-248 & Snow Creek Dr	PM	SB/NB Stop (right in right out)	NBR	14	B	-	-
7	Homestake Rd & SR-248	PM	Signal	-	-	-	26	C
8	Woodbine Way & SR-248	PM	NB Stop (right in right out)	NBR	15	B	-	-
9	Bonanza Dr & SR-248	PM	Signal	-	-	-	**136**	**F**
10	Sidewinder Dr & SR-248	PM	NB Stop	**NBL**	**>200**	**F**	-	-
11	Bonanza Dr & Prospector Avenue	PM	EB/WB Stop	**EB L/R**	**>200**	**F**	-	-
12	Bonanza Dr & Munchkin Rd	PM	EB/WB Stop	**WB L/T/R**	**>200**	**F**	-	-
13	Bonanza Dr & Iron Horse Dr	PM	EB/WB Stop	**EB T/R**	**>200**	**F**	-	-
14	Deer Valley Dr & Bonanza Dr	PM	Signal	-	-	-	14	B
15	Woodbine Way & Munchkin Rd	PM	WB/EB Stop	WB L/T/R	33	D	-	-
27	SR-224 & Project Drive	PM	WB Stop (right in right out)	**WBR**	**140**	**F**	-	-

Notes:

1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

Source: Fehr & Peers.

The following points may be noted about this scenario:

- The intersection of SR-224 (SR-224) and Snow Creek Drive degrades from an LOS A to LOS C. This is a function of the amount of development proposed in the Snow Creek area as a result of this small area plan: 1,048 multi-family housing units, 241 hotel or condo units, 6,106 square feet of professional office, and 14,232 square feet of retail space. Moreover, only two intersections can serve this development (SR-224/Snow Creek, and SR-248/Snow Creek) and of those two, a signal is only possible at SR-224/Snow Creek. This means that much of the traffic circulating in and out of the Snow Creek area will be relying on the SR-224/Snow Creek intersection for access.
- The intersection of SR-224 (SR-224) and SR-248 (SR-248) degrades from an LOS C to an LOS F. This is primarily due to the volume of traffic generated by proposed land uses within this Small Area Plan.
- The intersection of SR-224 and Iron Horse Drive degrades from a LOS E to an LOS F. While this intersection currently restricts left turn movements from Iron Horse onto SR-224 between 3 – 6 pm, drivers make this movement anyway. The delay experienced by those drivers contributes to the poor LOS in both the existing and plus-project scenarios.
- The intersection of SR-248 and Snow Creek Drive improves from an LOS C to LOS B. Currently, all turning movements are allowed out of Snow Creek Drive onto SR-248, with some drivers experiencing delay as they attempt to turn left out of Snow Creek Drive. The plus-project scenarios assume that Snow Creek Drive will become right-in/right-out only, eliminating the delay experienced by drivers formerly attempting to turn left out of Snow Creek Drive.
- The intersection of Woodbine Way and SR-248 improves from an LOS C to B. While cars are allowed to make a left turn out of Woodbine Way in the existing conditions, this will become right-in/right-out in the plus-project scenarios, limiting the delay experienced by vehicles attempting to turn left.
- The intersection of SR-248 and Sidewinder Drive degrades from an LOS E to LOS F. This is a result of increased delay for drivers attempting to turn left out of Sidewinder Drive onto SR-248, due to increased traffic and fewer gaps on SR-248.
- The intersection of Munchkin Road and Bonanza Drive degrades from an LOS E to an LOS F. While people attempting to turn left off Munchkin onto Bonanza are already experiencing high levels of delay due to limited gaps in the traffic stream, this will become worse in the plus-project conditions due to increased traffic volumes on Bonanza Drive as well as higher numbers of cars attempting to make the left turn from Munchkin.

- The intersection of Woodbine Way and Munchkin Road degrades from an LOS A to an LOS D. Currently the development in this part of Bonanza Park is low-intensity, industrial in nature, and generates relatively few traffic trips. The changes proposed in the land use plan will add a significant amount of housing, retail, restaurants, and other types of development that will draw many more people to the site, which contributes to the drop in LOS as part of this plus-project scenario.

Existing + Low Development Density Project

This scenario evaluated how traffic conditions would look if the low-density land use plan were built out immediately, assuming project-related traffic would be added on top of the calculated background traffic. Table 7 provides the results of this analysis.

Table 7: Existing Plus Project: Low Density Development

Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	SR-224 & Snow Creek Dr	PM	Signal	-	-	-	25	C
2	SR-224 & SR-248	PM	Signal	-	-	-	**147**	**F**
3	SR-224 & Homestake Rd	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
4	SR-224 & Iron Horse Dr	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
5	SR-224 & Deer Valley Dr	PM	Signal	-	-	-	**170**	**F**
6	SR-248 & Snow Creek Dr	PM	SB/NB Stop (right in right out)	NBR	14	B	-	-
7	Homestake Rd & SR-248	PM	Signal	-	-	-	26	C
8	Woodbine Way & SR-248	PM	NB Stop (right in right out)	NBR	15	B	-	-
9	Bonanza Dr & SR-248	PM	Signal	-	-	-	**126**	**F**
10	Sidewinder Dr & SR-248	PM	NB Stop	**NBL**	**>200**	**F**	-	-
11	Bonanza Dr & Prospector Avenue	PM	EB/WB Stop	**EB L/R**	**>200**	**F**	-	-
12	Bonanza Dr & Munchkin Rd	PM	EB/WB Stop	**WB L/T/R**	**>200**	**F**	-	-

13	Bonanza Dr & Iron Horse Dr	PM	EB/WB Stop	**EB T/R**	**>200**	**F**	-	-
14	Deer Valley Dr & Bonanza Dr	PM	Signal	-	-	-	14	B
15	Woodbine Way & Munchkin Rd	PM	WB/EB Stop	WB L/T/R	31	D	-	-
27	SR-224 & Project Drive	PM	WB Stop (right in right out)	**WBR**	**126**	**F**	-	-

Notes:
1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

Source: Fehr & Peers.

As shown in the table, the traffic results for the existing + low-development density scenario are the same as for the high-density scenario. The decrease in housing units (1,081 units) is not enough to result in improved LOS because the amount of non-residential development proposed is still high, and has a heavy influence on travel patterns throughout the area. All traffic-related observations noted for the existing + high-development density scenario also apply to this scenario.

2032 Background + High Development Density Project

This scenario evaluated how traffic conditions would look if the high-density land use plan were built out by 2032. This accounts for both project-related traffic, as well as additional traffic increases in the area that will occur resulting from growth planned elsewhere in Park City and the region by 2032. Table 8 provides the results of this analysis.

Table 8: 2032 Plus Project: High Density Development

Intersection				**Worst Movement[1]**			**Overall Intersection[2]**	
ID	**Location**	**Period**	**Control**	**Movement[3]**	**Delay Sec/Veh**	**LOS**	**Avg. Delay Sec/Veh**	**LOS**
1	SR-224 & Snow Creek Dr	PM	Signal	-	-	-	30	C
2	SR-224 & SR-248	PM	Signal	-	-	-	**157**	**F**
3	SR-224 & Homestake Rd	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
4	SR-224 & Iron Horse Dr	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
5	SR-224 & Deer Valley Dr	PM	Signal	-	-	-	**182**	**F**

6	SR-248 & Snow Creek Dr	PM	SB/NB Stop (right in right out)	NBR	14	B	-	-
7	Homestake Rd & SR-248	PM	Signal	-	-	-	27	C
8	Woodbine Way & SR-248	PM	NB Stop (right in right out)	NBR	18	C	-	-
9	Bonanza Dr & SR-248	PM	Signal	-	-	-	**141**	**F**
10	Sidewinder Dr & SR-248	PM	NB Stop	**NBL**	**>200**	**F**	-	-
11	Bonanza Dr & Prospector Avenue	PM	EB/WB Stop	**EB L/R**	**>200**	**F**	-	-
12	Bonanza Dr & Munchkin Rd	PM	EB/WB Stop	**WB L/T/R**	**>200**	**F**	-	-
13	Bonanza Dr & Iron Horse Dr	PM	EB/WB Stop	**EB T/R**	**>200**	**F**	-	-
14	Deer Valley Dr & Bonanza Dr	PM	Signal	-	-	-	15	B
15	Woodbine Way & Munchkin Rd	PM	WB/EB Stop	WB L/T/R	33	D	-	-
27	SR-224 & Project Drive	PM	WB Stop (right in right out)	**WBR**	**154**	**F**	-	-

Notes:
1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

Source: Fehr & Peers.

As shown in the table, the traffic results for the 2032 + high-development density scenario are mostly the same as for the existing conditions scenarios. All traffic-related observations noted for the existing development density scenarios also apply to this scenario; the only difference in results between this scenario and the existing conditions scenarios is that the intersection of Woodbine Way and SR-248 performs slightly worse, slipping from an LOS B to LOS C. This is likely because vehicles making right turns out onto SR-248 are dealing with more traffic on SR-248 in 2032, and will need to wait longer until an adequate gap in traffic allows them to turn right.

2032 Background + Low Development Density Project

This scenario evaluated how traffic conditions would look if the low-density land use plan were built out by 2032. This accounts for both project-related traffic, as well as additional

traffic increases in the area that will occur resulting from growth planned elsewhere in Park City and the region by 2032. Table 9 provides the results of this analysis.

Table 9: 2032 Plus Project: Low Density Development

Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	SR-224 & Snow Creek Dr	PM	Signal	-	-	-	25	C
2	SR-224 & SR-248	PM	Signal	-	-	-	**148**	**F**
3	SR-224 & Homestake Rd	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
4	SR-224 & Iron Horse Dr	PM	WB Stop	**WB L/R**	**>200**	**F**	-	-
5	SR-224 & Deer Valley Dr	PM	Signal	-	-	-	**176**	**F**
6	SR-248 & Snow Creek Dr	PM	SB/NB Stop (right in right out)	NBR	14	B	-	-
7	Homestake Rd & SR-248	PM	Signal	-	-	-	27	C
8	Woodbine Way & SR-248	PM	NB Stop (right in right out)	NBR	18	C	-	-
9	Bonanza Dr & SR-248	PM	Signal	-	-	-	**131**	**F**
10	Sidewinder Dr & SR-248	PM	NB Stop	**NBL**	**>200**	**F**	-	-
11	Bonanza Dr & Prospector Avenue	PM	EB/WB Stop	**EB L/R**	**>200**	**F**	-	-
12	Bonanza Dr & Munchkin Rd	PM	EB/WB Stop	**WB L/T/R**	**>200**	**F**	-	-
13	Bonanza Dr & Iron Horse Dr	PM	EB/WB Stop	**EB T/R**	**>200**	**F**	-	-
14	Deer Valley Dr & Bonanza Dr	PM	Signal	-	-	-	14	B
15	Woodbine Way & Munchkin Rd	PM	WB/EB Stop	WB L/T/R	31	D	-	-
27	SR-224 & Project Drive	PM	WB Stop (right in right out)	**WBR**	**139**	**F**	-	-

Notes:

1. This represents the worst movement LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.

2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

Source: Fehr & Peers.

As shown in the table, the traffic results for the 2032 + low-development density scenario are the same as for the high-density scenario. The decrease in housing units (1,081 units) is not enough to result in improved LOS because the amount of non-residential development proposed is still high, and has a heavy influence on travel patterns throughout the area. All traffic-related observations noted for the 2032 + high-development density scenario also apply to this scenario.

Mitigation Strategies

Most of the traffic conditions demonstrated in the plus-project scenarios are a direct result of the amount of development proposed in the land use plan for the Bonanza Park/Snow Creek area. Some mitigation measures may help alleviate poor traffic LOS conditions in a limited way. This could include:

- Install a traffic signal at the intersection of Bonanza Drive and Iron Horse Drive. This would allow traffic from Iron Horse Drive to more easily make left turns onto Bonanza Drive, and could potentially create gaps in the traffic flow to allow more opportunities for left turns onto Bonanza from Prospector Drive and Munchkin Road as well. The tradeoff associated with these benefits would be added delay for traffic traveling north and south on Bonanza Drive.
- Install a traffic signal at the intersection of Homestake Road and SR-248. UDOT and Park City already have a corridor agreement in place that allows for a signal to be installed in this location when warranted, and the addition of the proposed development at this site could likely generate enough traffic to warrant the signal. This signal is already assumed in the plus-project traffic analyses discussed in this chapter, and results in an acceptable LOS at this intersection in all plus-project scenarios.
- Limiting left turns at some intersections of side streets with major roads could improve LOS results, by eliminating the amount of waiting anticipated for vehicles attempted to make left turns onto very busy streets. While eliminating the left-turn movement could have a positive impact on LOS, it could have a corresponding negative impact at other intersections that drivers would be re-routed through to get where they want to go. These intersections could include:
    - Sidewinder Drive and SR-248
    - Bonanza Drive and Prospector Drive
    - Iron Horse Drive and SR-224
    - Shortline Road and Deer Valley Drive

These mitigation strategies have not been modeled. Therefore, their potential impact on traffic conditions for the plus-project scenarios is not known at this time.

Private Vehicle Strategies

A majority of traffic to and from the Bonanza Park/Snow Creek area is likely to be via private vehicle. Therefore, a robust transportation grid is needed within the site to connect to the external roadway network, in order to maximize connectivity, route choice, and dispersion of site-generated traffic across multiple access points. In addition to the transportation network proposed in the Bonanza Park/Snow Creek land use plan, Park City may wish to consider the following strategies.

- **Provide e-charging for every residential complex, businesses, and civic space built within the area.** This will encourage the use of electric vehicles within and to/from the project area, and reduce the overall environmental impact of the development. While EV's currently make up a small portion of overall vehicle registrations, EV adoption is forecast to increase considerably between now and 2050. Providing e-charging helps incentivize the faster adoption of electric vehicles, resulting in cleaner air and lower greenhouse gas emissions.
- **Provide facilities for car share and ride share.** Businesses such as ZipCar® allow residents to own fewer vehicles while maintaining the option to use a car when needed. Designated parking spaces for car shares throughout the study area would allow for residents to easily and safely access shared vehicles when needed. Ride share vehicles (Lyft®, Uber®) typically do not have designated parking places, but they could have designated curbside spots in more business-oriented parts of the development to accommodate safer entry/exit from ride share vehicles. Sections of the project area especially prone to event-related traffic, such as any proposed arts center near the Bonanza/SR-248 intersection, may want to specify curbside areas for ride share pickup/dropoff.
- **Provide buffering on-street parking designs** that can help provide a barrier between travel lanes and pedestrian and bicycle facilities. This makes these facilities safer and more comfortable while reducing the need for vehicles to share the road with other users.
- **Implementing traffic calming measures** to improve life quality for everyone in the development by reducing speeds, reducing traffic noise, and improving safety.

Shared Parking Analysis and Recommendations

When multiple land uses are present in an area, several separate trips may be consolidated into a single area, potentially reducing the number of parking spaces needed in an area. This potential is maximized when the variety of land uses have peak parking needs at different times, such as the combination of office space, retail, and housing. Two shared-use parking analyses were completed for the Bonanza Park study area, one with high development density and one with a lower housing density. A summary of the shared parking analysis by zone is shown below in Table 10 for the high-

density scenario, and Table 11 for the low density scenario. These analyses were completed with the proposed parking codes, anticipated to be passed in May 2024.

Table 10: High Density Shared Used Parking Analysis Results

Shared Parking High Density Demand Summary										
Development Blocks A-D, using Park City Parking Rates Modified Rates										
Development District / Area	Customer/Visitor		Employee/Resident		Reserved		Total		Shared Parking Reduction	
	Weekday	*Weekend*	*Weekday*	*Weekend*	*Weekday*	*Weekend*	*Weekday*	*Weekend*	*Weekday*	*Weekend*
A1-A6	531	535	132	128	1,415	1,415	2,078	2,078	12%	12%
B1-B13	622	538	249	218	2,427	2,427	3,298	3,184	20%	23%
C1-C7	241	209	112	106	1,004	1,004	1,356	1,319	12%	15%
D1-D8	564	512	192	176	1,988	1,988	2,744	2,676	13%	15%

Table 11: Low Density Shared Used Parking Analysis Results

Shared Parking Low Density Demand Summary										
Development Blocks A-D, using Park City Parking Rates Modified Rates										
Development District / Area	Customer/Visitor		Employee/Resident		Reserved		Total		Shared Parking Reduction	
	Weekday	*Weekend*	*Weekday*	*Weekend*	*Weekday*	*Weekend*	*Weekday*	*Weekend*	*Weekday*	*Weekend*
A1-A6	536	537	133	130	931	931	1,600	1,597	12%	12%
B1-B13	628	548	250	219	2,014	2,014	2,892	2,782	21%	24%
C1-C7	245	214	112	106	802	802	1,159	1,122	12%	15%
D1-D8	568	519	193	177	1,626	1,626	2,387	2,322	13%	15%

Public Transit

Transit can be an effective means of providing multimodal regional transportation access to future residents while strengthening the livability and safety of their community. By aggregating trips to and from the project area, transit serves to reduce traffic congestion and air pollution experienced within the immediate area and can also support the utilization of the active transportation network by helping close distance gaps between destinations.

Public Transit Strategies

Ensuring that transit can be provisioned in the future is an attractive way of cultivating regional interest in investment while building a promise of future connectivity for residents. This could include the following strategies:

1. **Preserve space to accommodate future premium transit** (e.g., green space that could be converted to BRT stations and guideways). Banking land for future fixed guideway transit preserves the ability to cost effectively add transit to the development at a later point. It also allows the land to be used as public open space, such as trails or community gardens, until it is converted to transit use, providing an additional amenity to residents. The Park City Forward plan identifies potential high-capacity transit in the future on both SR-224 as well as SR-248, and the layout of future development at the Bonanza Park and Snow Creek areas may need to accommodate future right-of-way for potential transit lanes or stations.
2. **Provide a highly permeable and connected street network**. The network should incorporate quality active transportation facilities to increase first/last mile connections to transit stops, promoting conditions which support high ridership. This has the additional benefit of building an attractive environment as the region deliberates future transit investments.
3. **Apply level of service (LOS) standards to all modes of transportation**. Include and prioritize the evaluation LOS of active transportation and transit along with vehicular traffic when assessing traffic impacts. Some traffic congestion may be considered acceptable in key locations if it results in safer and more comfortable conditions for people walking and biking. This approach also considers that transit vehicles carry more occupants than cars.
4. **Establish modal priorities for Park City streets.** For example, Salt Lake City's Typology Design Guide identifies streets on which pedestrians or bicyclists are a higher priority than vehicles, providing recommendations on streetscape design to make those corridors more comfortable for people walking or bicycling. These types of policies could be adopted at a project-wide level or applied on a case-by-case basis to individual streets. One possibility would be to make Bonanza Drive a transit-priority street, dedicating ample curbside space near high-ridership transit stops to provide enhanced amenities, and to keep internal roads such as Homestake, Short Line, and Munchkin as bicycle-pedestrian streets with extremely

slow speeds, narrow lanes, traffic calming features, and other measures to elevate bicycles and pedestrians above other transportation users.

Transit Stop Amenities

The assessment of existing transit conditions indicated that winter season ridership is generally higher than summer season ridership on PC Transit routes, and that most stops throughout the study area have less than 50 riders per day. Most stops in the study area have only a sign, with some having a trash can, bench, or a shelter.

Near Term Recommendations

Based on recent ridership patterns, the number of routes served, and the average headway, Table 12 below lists potential recommended amenities for each stop. Stops with higher ridership or longer wait times typically need greater amenities than those with few riders or frequent service intervals. Improved amenities improve the transit experience for users, especially in the strong winter conditions often present in Park City.

Table 12: Proposed Transit Stop Amenities

Stop	Recommended Amenities
Fresh Market	Digital Sign, Light Fixture, Custom Shelter, Two benches, Trash Can, ADA Pad, Pole, Sign
SR-224 Condos	Digital Sign, Light Fixture, Custom Shelter, Two benches, Trash Can, ADA Pad, Pole, Sign
Ironhorse Dr West	Light Fixture, 6*16' Shelter, Two benches, Trash Can, ADA Pad, Pole, Sign
Ironhorse Dr East	Light Fixture, 6*16' Shelter, Two benches, Trash Can, ADA Pad, Pole, Sign
Walgreens	6*16' Shelter, Two benches, Trash Can, ADA Pad, Pole, Sign
Liquor Store-N	6*16' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Munchin Rd	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
SR-248 & Bonanza	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Homestake	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Copperbottom	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Wells Fargo	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Kimball Art Center	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Police Station	4*8' Shelter, Bench, Trash Can, ADA Pad, Pole, Sign
Hotel PC 224	Bench, Trash Can, ADA Pad, Pole, Sign
Zions Bank	Bench, Trash Can, ADA Pad, Pole, Sign
Windy Ridge	Bench, Trash Can, ADA Pad, Pole, Sign
PC Cemetery	Bench, Trash Can, ADA Pad, Pole, Sign
Wells Fargo W	Bench, Trash Can, ADA Pad, Pole, Sign

Recommendations Aligned with Future Plans

Park City's Short Range Transit Plan, adopted in 2020, indicates route changes proposed in the study area:

- Red Route: proposed 30-minute service along SR-224 and SR-248 throughout the day and evening;
- Yellow Route: proposed 15-minute service on Bonanza Drive, Iron Horse, and Short Line Road from 6:30 am to 6:30 pm during the winter season, 15-minute service during peak commute times during summer and shoulder season, and 30-minute service during the rest of the day/evening hours;
- Green Route: proposed 15-minute service on SR-224 from 6:30 am to 6:30 pm during the winter season, 15-minute service during peak commute times during sumer and shoulder season, and 30 minute service during the rest of the day;
- Teal Express Route: proposed 15-minute service on Bonanza Drive during the peak summer and winter seasons during peak commute times;
- Pink Express Route: proposed 10-minute service on Bonanza Drive during peak commute times in the winter, and 20-minute service during midday in the winter, with 20-minute service throughout the day for the rest of the year;
- Blue Route: 30-minute service throughout the day on SR-224 and SR-248 during the shoulder season; and
- White Express: 15-minute service in the peak, 30-minute service in the off-peak, on SR-224 and operated by High Valley Transit.

As service changes are implemented, Park City may wish to monitor ridership further along the revised routes and determine whether the transit amenities proposed in this chapter remain appropriate based on observed ridership.

Active Transportation

Street design is one of the key factors that users consider when determining which transportation mode to use for a trip. The design of a robust transportation network considers all modes of transportation and balances the need to provide throughput capacity while serving all users. For the project area, an overarching guideline is to provide mobility options and safe access to bicycles and pedestrians. A well-connected active transportation network supports residents and visitors by providing attractive active transportation options.

Bicycle Strategies

Quality cycling infrastructure provides efficient access to nearby destinations, while also supporting the health and connectivity of a community. Only a small portion of the population will ride bikes on streets that have not made any accommodations for biking or lack pathways; therefore, to ensure residents and visitors are able to fully enjoy cycling benefits, bicycle infrastructure should be fully incorporated into the design of the Bonanza Park/Snow Creek area. These amenities can adjust to different street contexts, like width and speed, and balance the needs of all roadway users by incorporating the following strategies:

- **Provide protected bicycle/active transportation facilities**. Protected facilities are safer and more attractive for a variety of users because they provide additional separation from automobile traffic. Providing facilities like buffered bike lanes and separated multi-use paths (particularly on or adjacent to roadways with high speeds and/or high traffic volumes) improves safety and makes bicycling or walking a more desirable option for residents and visitors, including children and the elderly.
- **Plan for e-bikes**. With e-bikes readily available for rental within Park City, pathways throughout the project area need to accommodate cyclists traveling at a wide range of speeds. Moreover, some visitors to the area who are renting e-bikes may not have the skill sets necessary to adequately maneuver these vehicles, which are heavier and travel much faster than a standard bicycle. The recent Park City Rail Trail Master Plan envisioned a wider trail cross-section to accommodate this range of users and travel speeds; new pathways proposed within the Bonanza Park/Snow Creek area should similarly consider a larger path to safely accommodate users. Educational materials on how to safely ride an e-bike can be provided at rental shops, and placards placed along pathways to remind visitors that a fall from an e-bike could ruin their planned vacation or even result in death.
- **Provide end-of-trip facilities**. Bicycle repair stands offer an air pump and basic tools to make minor bike repairs, encouraging bicycle use by removing concerns related to common maintenance and repair issues. Bike showers and lockers help promote bicycling and walking as a commute option by providing storage and

hygiene facilities after active transportation. Some of these features will be part of the udpated Park City zoning ordinances as potential transportation demand management strategies for new developments, anticipated for adoption in 2024.

- **Organize and publish cycling information.** This could include bicycle route and facility maps, locations of nearest bicycle racks or locker storage facilities, and bicycle safety information (including tips on safely using e-bikes and local/state regulations on their use).
- **Include multi-use paths along SR-248**. Multi-use paths at least 12' wide would provide a safe and pleasant cycling experience along the new alignment. A pathway on one or both sides will require on-going coordination with UDOT and other partners during the design phase.
- **Provide marked on-street bicycle waiting areas at signalized intersections**. This provides a visible designated area at the front of a traffic lane for bicyclists to wait at traffic signals. Bike boxes are especially beneficial for facilitating direct left turns at the intersection approach for bicycle traffic.
- **Provide colored bicycle lane paving through intersections**. Carry lane markings through the intersection to indicate where cyclists will be operating within the intersection, alerting automobile traffic to the presence of cyclists and guiding cyclists through the intersection.

Pedestrian Strategies

Providing quality pedestrian infrastructure gives residents and visitors the option to walk to destinations. Whether they walk the entire trip, or just walk from their car or transit to their destination, everyone must inevitably use pedestrian facilities. Ensuring a comprehensive set of pedestrian design considerations enhances the quality of life in the project area, reduces constraints, and improves safety for everyone, especially the young and elderly. To meet this demand and support the needs of all people, the following strategies are recommended:

- **Provide sidewalks of at least 6' on all roadways**. Wide sidewalks are important to ensure that people can walk alongside one another and comfortably navigate devices such as strollers and wheelchairs. Areas with higher anticipated pedestrian activity should implement even wider sidewalks. In Park City, wider sidewalks are especially useful when dealing with snow storage issues during winter conditions.
- **Provide pedestrian refuge islands/medians** at intersections with more than one lane in each direction. This improves safety for people crossing and can help to soften automobile traffic speeds. Research suggests that pedestrian refuge islands reduce conflict with vehicles and are associated with a notable reduction of pedestrian collisions.
- **Provide pedestrian countdown timers at all signalized intersection crossings** and consider the implementation of leading pedestrian intervals (LPI) at busier

intersections to address safety concerns. LPIs allow pedestrians to enter the crosswalk before vehicles are given a green indication. This increases pedestrian visibility and the likelihood that auto traffic will yield to pedestrians.

- **Provide accessible Pedestrian Actuation Buttons** to ensure that people of all ages and abilities can safely cross streets.
- **Include bulb-outs/curb extensions at most intersections**. This extends the sidewalk or pedestrian space to narrow the roadway. Bulb-outs/curb extensions reduce crossing distances for pedestrians and help to slow traffic, particularly turning vehicle movements, improving pedestrian safety.
- **Use raised crosswalks on low volume streets** to slow traffic and provide improved visibility for pedestrians. Raised crosswalks provide safety thanks to slower speeds and make crossings more accessible for people living with mobility issues.
- **Reduce curb corner radii on neighborhood roadways** to manage traffic speeds in residential areas. Sharper corners reduce speeds, helping create safer streets.
- **Provide streetscape improvements** such raised planters, special pavers, special street lighting, flags, banner poles, and hanging baskets that exceed minimum standards. These support a sense of place and make streets a safer, more comfortable environment for all users.
- **Provide benches** in areas where pedestrians might naturally wait or sit to enjoy the outdoors or rest.
- **Provide trash and recycle receptacles**, especially in areas with higher anticipated pedestrian activity.
- **Include streetlights and pedestrian-scaled lighting** to support safety and comfort for all users of a street.

Accessibility

The Public Right of Way Access Guidelines were updated in 2023. As the study area is redeveloped, the existing AT network may need to be adapted to match current guidelines. The recommended updates noticed by staff during observational visits are listed below, but exact design specifications will need to be determined during project development. The technical specifications referenced below are available from the US Access Board. [1]

Sidewalks:

Provide sidewalks that connect all accessible elements, spaces, and pedestrian facilities in accordance with CFR title 36 Chapter 11 part 1191 section 206. Ensure that sidewalks

[1] https://www.access-board.gov/prowag/

are at least 48" wide throughout the study area. When sidewalks are less than 60" wide, a 60" by 60" passing space shall be provided at least every 200'.

Curb Ramps:

Ensure that the clear width of the curb ramp run or blended transition is at least 48" wide. On a shared use path, the width of the curb ramp or blended transition shall match the width of the shared use path. Confirm that all curb ramps, landings, or a minimum of 48" for a blended transition shall be contained wholly within the width of the crosswalks they serve.

Perpendicular Ramps:

When a change in direction is required to use or access a curb ramp, a 48" by 48" clear area shall be provided at the bottom of the curb ramp, and outside of vehicular travel lanes. At a shared use path, the width of this clear area shall be as wide as the shared use path.

A landing space shall also be provided at the top of the curb ramp, and at minimum be at least 48" by 48", or match the width of the shared use path where applicable. When this curb ramp is crossed by a sidewalk, the edges of the curb ramp shall be flared.

Parallel Ramps:

When a change in direction is not needed to use a curb ramp, a minimum landing area of 48" by 48" shall be provided at the top of the curb ramp.

Blended Transitions:

When a blended transition serves more than one sidewalk, and has a running slope greater than 1:48, a bypass route shall be provided between the sidewalk so users may bypass the blended transition.

Detectable warning surfaces:

In the future, ensure that detectable warning surfaces remain in good condition. During the site visit staff found several locations where the detectable warning surface has been worn away entirely. The width of the detectable warning surface should be limited to the width of the crosswalk they serve. If a driveway has a stop or yield control device, and detectable warning surface should be provided.

Signals:

Pedestrian push buttons shall be located no further than 5 feet from the side of the crosswalk they serve, between 1.5 and 10 feet from the edge of the curb or pavement, and be parallel to the direction of travel. These buttons should also be equipped with a high visual contrast tactile arrow pointing in the direction of travel.

When possible, push buttons on the same corner should be at least 10 feet apart. When it is not possible to provide 10 feet of spacing during the alteration of an existing intersection, the pedestrian buttons may be placed closer together, but will also need to provide an information message compliant with 308.3.2.

Accessible intersections should provide an audio and vibrotactile indication during the walk interval. Additionally, a locator tone shall be provided by the pedestrian signal at an appropriate volume as defined in PROWAG section 307.8. During the walk phase, pedestrian signals shall provide audible and vibrotactile indications during the walk interval. Outside of this interval, the locator tone shall be provided. Both the locator tone and speech walk message need to be compliant with PROWAG 308.3.1 and 308.3.2 depending on the configuration. When a pedestrian push button is provided for an RRFB or similar crossing, the message will state the status of the beacon instead of an audible walk indication during a walk interval. If there is time remaining for a pedestrian to cross during the accessible walk interval, the accessible walk indication should be recalled with a button press.

Transit Shelters and stops:

At transit stops, provide a boarding and alighting area at least 60" wide by 96" perpendicular to the curb for each accessible entrance or exit. Ensure that this boarding area connects to a sidewalk. When a shelter is provided, ensure that it has an appropriately sized clear space at the edge of the seat to not block the area within 18 inches of the front of the seat.

Transportation Demand Management (TDM)

Transportation demand strategies provide communities with tools to influence people's travel behavior. These strateges can encourage people to make fewer trips, to travel at different times of day when the roadway network is less congested, or to travel using a different mode of transportation. The strategies described below often require partnerships between public and private agencies, and can be included in development agreements through negotiations between Park City and private property owners. Additional transportation demand management strategies are likely to be adopted into the Park City ordinance (section 15-3-1) in 2024.

Telecommute

Encouraging more telecommute trips, also known as remote work or teleworking, can reduce traffic congestion, lower greenhouse gas emissions, improve work-life balance, and increase productivity. While telework was gaining in popularity before COVID-19, technology surrounding remote work quickly evolved as most businesses were forced to temporarily adopt a remote work model. Many businesses have since returned to "business-as-usual," but others have adopted a hybrid work model where employees spend part of their time in the office and part of their time working from home. Fiber connectivity throughout the project area enhances the ability for telework through faster Internet connections. TDM strategies can complement telework by promoting alternative modes of transportation when employees do need to commute. This can include incentives for carpooling, public transit subsidies, and providing access to shared mobility options.

TDM Program Coordinator

A TDM Program Coordinator is typically responsible for facilitating strategies that reduce vehicular travel demand and shift behavior away from single occupant vehicles. For example, a TDM program coordinator could provide services such as providing information on typical peak drive times, transit trip times to major destinations, transit schedules, routes, and fares, and organizing carpools/vanpools. They could educate residents and visitors on tips for walking to work, pedestrian safety, and good walking shoes. They can also help facilitate collaboration with local transportation agencies and transit providers to integrate TDM strategies into broader transportation plans and policies. They could also help organize transit incentives for employees such as additional pay for carpoolers, flexible work times, and other tools to reduce peak hour trips. A position like this could be funded solely for the Bonanza Park/Snow Creek area or as a consortium of local developers with similar desires to reduce vehicular traffic through TDM strategies.

Influence Parking Behavior

Park City can use incentives and disincentives related to parking supply, pricing, and management to encourage residents and visitors to rely on other modes of transportation, thereby reducing trips onto and out of the Bonanza Park/Snow Creek study area. These could include "unbundling" parking from residential lease or purchase agreements, requiring residents to pay for parking separately or receive a lower cost in exchange for giving up parking (this concept could be applied to office lease space as well, encouraging employees to receive some financial incentive or other compensation in exchange for giving up a parking spot). Park City could also provide preferential parking for carpool or vanpool vehicles, placing those users closer to building entrances. In addition, the City could opt to provide funding for off-site, regional satellite park-and-ride lots instead of accommodating the desired amount of parking within the study area.

Delivery Management

The delivery of goods and service can add congestion to the network, and could be coordinated in order to minimize its impact. Park City could identify a centralized location for deliveries in each sub-area of the Bonanza Park/Snow Creek area in order to limit delivery vehicle circulation on the network. Similarly, the TDM Program Coordinator could work with tenants to plan for delivery of goods at off-peak times for applicable businesses, to shift that vehicle traffic out of the most congested times of day.

Shared Office Space

Shared office space, also known as coworking spaces, are setups where individuals or businesses share a common workspace. These are flexible environments where professionals from different industries or backgrounds work alongside each other in a shared office setting. These shared spaces often provide services such as reception services, mail handling, IT support, and amenities such as a kitchen or wellness facilities. They should also include video-conferencing facilities and equipment, especially in a format that can be shared among multiple businesses. These types of spaces are a great complement to teleworking initiatives to reduce not only the number of work trips completed during the week but also the distance traveled to access an office or meeting space.

On-Site Amenities and Services

While strategies often focus on reducing the number and distance home-based work trips, these only make up a portion of daily travel undertaken by households in the area. In fact, the 2012 Utah Travel Study identified 58% of trips in the Wasatch Front were home-based non-work trips, including school, shopping, medical, and personal trips. By providing on-site services and amenities such as a grocery store, medical offices, dental offices, cafeterias, restaurants, automated teller machines, child care facilities and other

services in the Bonanza Park/Snow Creek area, Park City can reduce the number of long distance trips generated by the project onto the external street network.

Additional Transportation Strategies

As transportation technology evolves, more options may come available to help transport people, goods, and services across the region. This section identifies potential transportation technology strategies that could become a reality in the timeframe that the development in this plan is proposed.

Drone Delivery Storage Lockers and Infrastructure

Drone delivery, a disruptive emerging technology, can potentially reduce the number of vehicles required to deliver or pick up goods. Drone delivery is already operating in parts of the Wasatch Front, and is expected to have a service area of more than 1 million people and a 50-mile service radius in the next five years. One concern related to drone delivery is package pickup/dropoff location. New technologies and service providers are attempting to address this by providing electronic package receptacles, otherwise known as smart mailboxes, or drone delivery stations for use in suburban environments to safely store drone deliveries until they can be retrieved.

Drone delivery also requires infrastructure to facilitate the delivery of goods and services. This could include launch and landing sites; control centers staffed with operators to monitor drone operations; and charging stations.

eVTOL Heliports

Electrical Vertical Take-Off and Landing (eVTOL) aircraft take-off and land vertically like a helicopter. These innovations in transportation technology are powered by batteries and carry two to six passengers including a pilot. While they are not yet operating commercially in the United States, they may be a reality by the time the redevelopment of Bonanza Park/Snow Creek is finalized. These would not be practical for many types of trip, but could have the potential to serve some Park City visitors (and residents) wishing to make the trip between Salt Lake City's airport and Park City a much shorter one. A necessary component of eVTOL technology would be heliports (or vertiports). A heliport would include the take-off and landing spot plus an additional safety area surrounding the landing pad. In addition to the landing pad itself, the heliport would need to provide charging capabilities for the aircraft to use in between runs.