



**PARK CITY COUNCIL MEETING
SUMMIT COUNTY, UTAH
August 29, 2023**

The Council of Park City, Utah, will hold its regular meeting in person at the Marsac Municipal Building, City Council Chambers, at 445 Marsac Avenue, Park City, Utah 84060. Meetings will also be available online with options to listen, watch, or participate virtually. [Click here](#) for more information.

CLOSED SESSION - 2:00 p.m.

The Council may consider a motion to enter into a closed session for specific purposes allowed under the Open and Public Meetings Act (Utah Code § 52-4-205), including to discuss the purchase, exchange, lease, or sale of real property; litigation; the character, competence, or fitness of an individual; for attorney-client communications (Utah Code section 78B-1-137); or any other lawful purpose.

WORK SESSION

3:15 p.m. - Bonanza Park Small Area Plan and Feasibility Study Phase I Community Engagement Results

[Bonanza Park Small Area Plan and Feasibility Study Phase I Engagement Results Staff Report](#)

[Exhibit A: Phase I Community Engagement Results](#)

[Exhibit B: Overview of Bonanza Park Planning Efforts](#)

[Exhibit C: History of Art and Cultural Stakeholder Input](#)

[Exhibit D: Bonanza Park Financial History](#)

5:15 p.m. - Break

REGULAR MEETING - 5:30 p.m.

I. ROLL CALL

II. COMMUNICATIONS AND DISCLOSURES FROM COUNCIL AND STAFF

Council Questions and Comments

Staff Communications Reports

1. Update on UDOT's US-40 and SR-248 Interchange Project
[US Highway 40 and SR248 Interchange Project Staff Report](#)
[Exhibit A: US-40 and US-40 SR-248 Interchange](#)
[Exhibit B: Westbound US-40 Flyover to Westbound I-80 and Eastbound I-80 Off Ramp at Kimball Junction](#)
2. CivicPlus Meeting Management Software
[CivicPlus Software Staff Report](#)

III. PRESENTATION

1. Deer Valley Resort Expansion Presentation by Todd Bennett, President and Chief

IV. PUBLIC INPUT (ANY MATTER OF CITY BUSINESS NOT SCHEDULED ON THE AGENDA)

V. CONSENT AGENDA

1. Request to Authorize a Three-Year Service Provider Agreement, in a Form Approved by the City Attorney with Turbo Images Corp., Not to Exceed \$397,800.47, for Removal, Printing, and Installing Vehicle Wraps on Park City Transit Vehicles
[Bus Wrap Installation Staff Report](#)
[Exhibit A: Draft Bus Wrap Design](#)
2. Request to Authorize a Service Provider Agreement with Historic Park City Alliance (HPCA) for Centralized Communication and Waste Management for the Main Street Business District Not to Exceed \$80,000 Annually
[MSBD Contract for Centralized Communication and Waste-Recycling Management Staff Report](#)
[Exhibit A: Draft Scope for Centralized Communication and Waste-Recycling Services for MSBD](#)

VI. NEW BUSINESS

1. Consideration of a Request from Summit County, Utah, for an Interlocal Cooperative Agreement for Basic 911 Services between Summit County, Utah, the Park City Fire District, and Park City Municipal Corporation
 - Summit County Manager, Shayne Scott, will provide a briefing for the Mayor and City Council
2. Consideration to Approve Ordinance 2023-41, an Ordinance Approving an Extension of City Council's September 1, 2022, Approval of Ordinance No. 2022-33, an Ordinance Approving the Sommet Blanc Condominium Plat, Located at 9300 Marsac Avenue, Park City, Utah
(A) Public Hearing (B) Continue to September 14, 2023
[9300 Marsac Continuation Report](#)
3. Electric Assisted Bicycle Policy Update
(A) Public Input
[Electric Bike Policy Staff Report](#)
[Exhibit A: Park City Multi-Use Pathway Map](#)
[Exhibit B: 2020 E-MTB Survey Report](#)
[Exhibit C: Peer Communities E-Bike Policies](#)

VII. OLD BUSINESS

1. Consideration to Approve the Iron Mountain Open Space Donation Initiated by Summit Land Conservancy (SLC) and Iron Mountain Associates (IMA).
(A) Public Input (B) Action
[Iron Mountain Property Donation and Conservation Proposal Staff Report](#)
[Exhibit A: Iron Mountain Conservation Easement](#)
2. Consideration to Approve the Acquisition of a Sculpture by Matt Burney and Joseph M. Ross of So Metal Studios, LLC for the Daly West Headframe Project in a Form Approved by the City Attorney
(A) Public Hearing (B) Action
[Daly West Artwork Approval Staff Report](#)

[Exhibit A: Daly West Artwork Proposal](#)

3. Consideration of Deer Valley Development Company's Petition for the City to Vacate Portions of Right-Of-Way on Deer Valley Drive West and South, and to Dedicate Doe Pass Road to the City, as Part of the Snow Park Village Base Area Master Planned Development and Subdivision Application
(A) Public Hearing (B) Possible Action
[Snow Park Staff Report](#)
[Exhibit A: Deer Valley's Vacation Petition](#)
[Exhibit B: DV MPD Amendments Summary](#)
[Exhibit C: Snow Park Village Transportation Analysis April 2023](#)
[Exhibit D: WCG Review of Applicant's Transportation Analysis](#)
[Exhibit E: Public Comment Received Since July 6, 2023](#)

VIII. ADJOURNMENT

A majority of City Council members may meet socially after the meeting. If so, the location will be announced by the Mayor. City business will not be conducted. Pursuant to the Americans with Disabilities Act, individuals needing special accommodations during the meeting should notify the City Recorder at 435-615-5007 at least 24 hours prior to the meeting.

***Parking is available at no charge for Council meeting attendees who park in the China Bridge parking structure.**

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Planning

Item Type: Staff Report

Agenda Section: WORK SESSION

Subject:

3:15 p.m. - Bonanza Park Small Area Plan and Feasibility Study Phase I Community Engagement Results

Suggested Action:

Attachments:

[Bonanza Park Small Area Plan and Feasibility Study Phase I Engagement Results Staff Report](#)

[Exhibit A: Phase I Community Engagement Results](#)

[Exhibit B: Overview of Bonanza Park Planning Efforts](#)

[Exhibit C: History of Art and Cultural Stakeholder Input](#)

[Exhibit D: Bonanza Park Financial History](#)

City Council Staff Report



Subject: Bonanza Park Small Area Plan
City-Owned Five-Acre Feasibility Study
Authors: Jennifer McGrath, Deputy City Manager
Rebecca Ward, Interim Planning Director
Date: August 29, 2023
Type of Item: Work Session

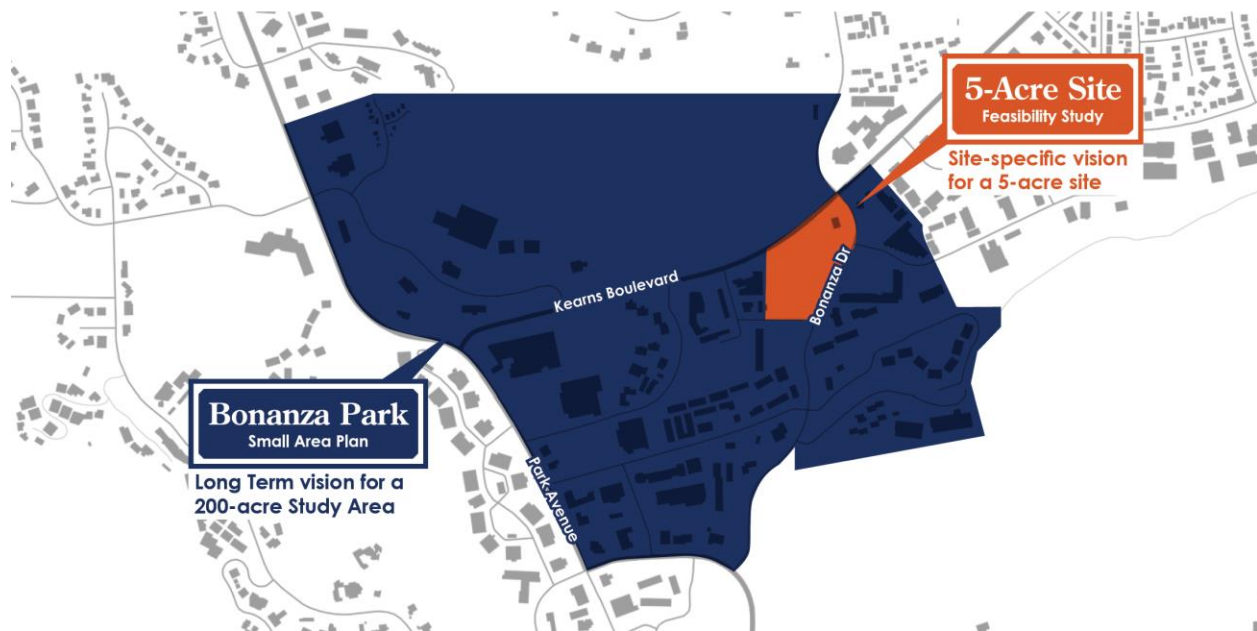
Summary

MKSK, the City's third-party consultant for the Bonanza Park Small Area Plan and the Feasibility Study for the City-owned five-acre property at the intersection of Kearns Boulevard and Bonanza Drive, will present the Phase I community engagement results. Included in the initial community engagement process was the question requested by the City Council: ***Does the community want an arts and culture district?***

Background

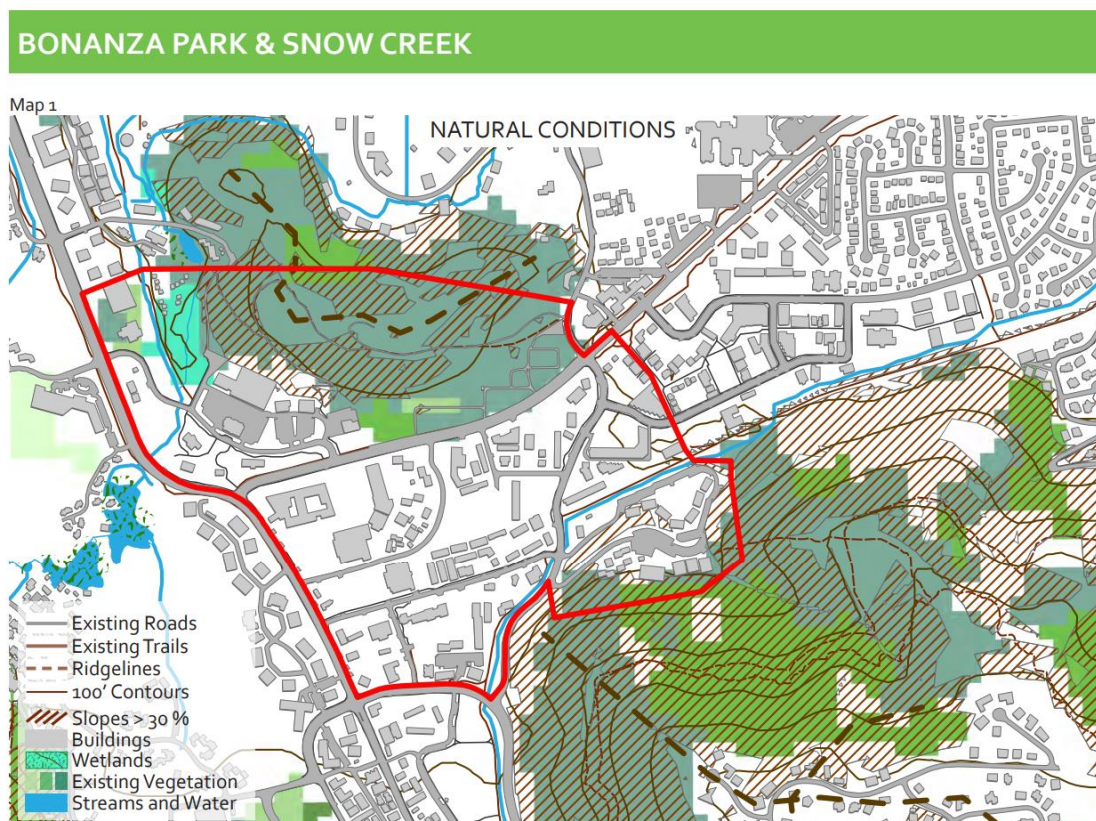
On October 24, 2022, the City issued a Request for Proposals for [the Bonanza Park Small Area Plan](#) and [the Feasibility Study](#). On March 2, 2023, the City Council approved a contract with [MKSK](#) and subconsultants Future IQ, Fehr & Peers, and Development Strategies ([Consent Agenda](#) staff report and exhibits) for both the 200-acre Small Area Plan and five-acre Feasibility Study, two planning initiatives with one consultant team.

Two Planning Efforts | One Approach



I. BONANZA PARK SMALL AREA PLAN

The Bonanza Park Small Area Plan encompasses the Bonanza Park and Snow Creek neighborhoods and covers nearly 200 acres in the geographic center of Park City. The General Plan notes this area is an authentic neighborhood and local employment hub and identifies challenges to roadway, sidewalk, and trail connectivity due to the historic rail lines that shaped development in the area. The General Plan recommends a Small Area Plan to help shape pedestrian-scale redevelopment and improvements to connectivity.¹ The map below, taken from the General Plan, illustrates the neighborhood boundary:



In 2011, the City initiated a Bonanza Park Area Plan. A 2017 City Council staff report outlines the history of previous planning efforts for the Bonanza Park neighborhood. An excerpt is provided below:²

A history of planning efforts in the Bonanza Park Area

Visioning – 2009 Vision Park City completed and incorporated into Bonanza Park planning.

¹ General Plan, [Neighborhoods](#), p. 25

² Please see the [July 20, 2017 City Council Staff Report](#) to review the full background.

On January 25, 2011, Planning staff presented a white paper entitled “From Visioning to Planning to Implementation – A Case Study of Bonanza Park”. This paper recommended that the 2009 Community Vision Core Values should be used as the foundation for the proposed General Plan and Bonanza Park Area Plan. The Planning Commission and City Council fully supported this approach and, ultimately, the Vision’s Core Values were fully utilized as the base for both documents. The Park City General Plan, adopted on March 6, 2014 included a neighborhood approach to address specific planning issues relative to individual neighborhoods. The “plan” for Bonanza Park is built upon the Core Values from community visioning and recommends: a mixed-use neighborhood in which locals live and work, a neighborhood which maintains its authenticity, a district that serves as the local employment hub, sustainable redevelopment practices, improved connectivity, a central hub for public transportation, improved entryways for the city, and a commitment to maintain the current character of the district.

Very early on in the planning process, the Planning staff was most concerned about the possible gentrification of the neighborhood in light of the fact that the entire city of Park City had essentially gentrified over the past two decades (e.g. significant increase in household incomes and transition to majority second home owners). Anecdotally, many Parkites have lamented the fact that over the past 20 years, an average income family cannot afford to live in Park City. This is gentrification on a citywide level. The Planning Commission and City Council were both supportive of the “plan” for Bonanza Park that stressed maintaining a place for locals. Recognizing the fact that development and redevelopment pressures within Park City have been significant over the past two decades, and that change and/or growth is inevitable in Bonanza Park, Planning staff created a plan that incorporated tools that would create a local’s neighborhood while also encouraging a better connected and walkable community.

Planning –The Bonanza Park Area Plan was completed on December 31, 2011 and incorporated into the 2014 Park City General Plan (adopted March 6, 2014). Upon completion of the City’s General Plan in March 2014, Planning staff reinitiated work with Gateway Planning on the proposed [Form Based Code] FBC for Bonanza Park. The FBC is the implementation tool for the Bonanza Park Area Plan in terms of achieving desired land uses, building fabric, design standards, block configuration, and connectivity. This code also incorporates an incentivized program to encourage additional affordable/attainable housing if a developer intends to add a partial fourth or fifth story. This provision within the proposed code stemmed from a series of City Council meetings that took place in the summer of 2011 regarding redevelopment planning. The consultant walked City Council members and city staff through a number of growth scenarios for Park City and how these growth pressures could best be addressed – everything from “do nothing” to the utilization of a strong set of planning tools to shape this future growth. Ultimately, the City Council and Planning Commission recommended a proactive approach to planning for this neighborhood with the intent to protect the uses and residential mix that currently exists. There was recognition that the aesthetic character of the neighborhood could be improved but the local businesses and

demographic mix were to be preserved to the greatest extent possible. However, upon extensive public input on the proposed FBC and its complexity in 2015, the City Council decided not to pursue the code changes and instead focus on the General Plan and Area planning implementation with existing (and updated) Master Plan Development regulations.

For a general overview of Bonanza Park planning efforts, including FBC, please see Exhibit B.

Since the last planning process, several properties within the Bonanza Park neighborhood have proposed redevelopment – now is a unique opportunity for additional community engagement to envision and shape the future of the neighborhood.

In 2020, the City submitted a preliminary Master Planned Development application for the City-owned five-acre property on the corner of Kearns Boulevard and Bonanza Drive, proposing the development of an Arts and Culture District. However, as the City Council deliberated and evaluated the potential Arts and Culture District, the application was ultimately placed on hold. Further evaluation of the five-acre parcel is the focus of the Feasibility Study, discussed below. While the future of the City-owned five-acre property is explored, an additional ten acres within the Bonanza Park neighborhood will likely be redeveloped in the coming years.

On October 26, 2022, the Planning Commission approved [the Engine House Affordable Master Planned Development](#) (formerly known as the Homestake Affordable Master Planned Development) for the construction of 99 affordable and 24 market-rate apartments on a 1.86-acre lot central to the Bonanza Park neighborhood. Additionally, the property owners of 3.05 acres within the Iron Horse properties submitted a Master Planned Development application for redevelopment, and an applicant representative for the property owners of the 4.5-acre Yarrow Hotel property also applied for redevelopment. These applications are pending and are not actively before the Planning Commission; the applicants are participating in the Bonanza Park Small Area Plan process. Development and adoption of a comprehensive plan for the area presents an opportunity to work through some of the challenges within the neighborhood and to identify community priorities for the future of this area.

The consultant team completed Tasks 1 and 2 of the Bonanza Park Small Area Plan scope of work and finalized the evaluation of existing conditions and adopted plans, convened an advisory group, launched a [project website](#), conducted stakeholder roundtables, and hosted a community meeting on July 19, 2023. We also launched an online survey for the Bonanza Park Small Area Plan, which was open from July 19 through August 4, 2023, promoted through Park City's social media accounts, distributed through email, publicized in English and Spanish, and shared by project partners. The survey was available through SurveyMonkey or Park City's Polco platform.

The consultants will provide the City Council with an overview of the Phase I community input for the Bonanza Park Small Area Plan. Based on the community and Council input, the consultants will begin the Phase II community engagement in the development of a vision statement for the neighborhood and plan components including land use and mobility elements that address traffic, transportation demand management, and transit stop analysis.

II. FIVE-ACRE FEASIBILITY STUDY

Arts and culture has a rich history in Park City, dating to the late 1800s. Since then, Park City is fortunate to have vested community members who have supported local, grassroots organizations throughout the decades. This is unique to Park City, as many other resort towns do not have these local cultural institutions. Additionally, the City Council has financially supported the arts from a government level. Understanding the importance of arts, the City Council formally created a Public Art Advisory Board, Public Art Policies, and Public Art Strategic Plan, which is updated annually. Today, we have more than 100 works in the collection. To review the background of History of Art and Cultural Stakeholder Input, please see Exhibit C.

On July 11, 2017, the City, Sundance Institute, and Kimball Art Center held a community open house in the Park City Library Community Room. On July 20, 2017, the City Council approved Letters of Intent with Kimball Arts Center and the Sundance Institute for joint planning and development of an Arts and Culture District, and adopted a Municipal Transient Room Tax to fund the purchase and development of the five-acre site ([Staff Report](#); [Meeting Minutes](#), p. 6 – 8). In 2017, the City entered into a purchase agreement for five acres at the intersection of Kearns Boulevard and Bonanza Drive for \$19.5 million. During the due diligence period, on October 12, 2017, the City contracted with Webb Management Services ([Packet](#), p. 215; [Minutes](#), p. 12) to perform a community needs assessment and stakeholder engagement regarding a potential Arts and Culture District ([December 14, 2017 City Council Packet](#), p. 67 – 110; [Minutes](#), p. 8). On December 21, 2017, the City Council approved a contract with Lake Flato for an Arts and Culture District Mixed-Use Development Project ([Packet](#), p. 52; [Minutes](#), p. 9). The City also performed initial site development feasibility and closed on the property in 2018.

Over the next several years, the City engaged consultants, planning professionals, stakeholders, affordable housing staff, and the public in additional rounds of feasibility, visioning, and planning regarding potential partnerships, uses and build-out of a potential mixed-use project anchored by arts and cultural focus. However, due to the COVID-19 pandemic and rising costs, the project was put on hold. Now the City seeks to re-engage with the community to understand their vision for this 5-acre site. (See Exhibit D to review the Bonanza Park Financial History.)

To review the post-COVID City Council discussions regarding the Arts and Culture District on the City-owned five-acre property, please see the following:

[July 9, 2020 City Council Staff Report](#); [Meeting Minutes](#)

[December 15, 2020 City Council Staff Report](#); [Meeting Minutes](#)

[January 7, 2021 City Council Staff Report](#); [Meeting Minutes](#)

[January 21, 2021 City Council Staff Report](#); [Meeting Minutes](#)

[February 4, 2021 City Council Staff Report; Meeting Minutes](#)

[February 25, 2021 City Council Staff Report; Meeting Minutes](#)

[March 31, 2021 City Council Staff Report; Meeting Minutes](#)

[April 1, 2021 City Council Staff Report; Meeting Minutes](#)

[April 29, 2021 City Council Staff Report; Meeting Minutes](#)

Prior to re-establishing new budget and policy parameters, the City Council also wanted to confirm whether the community still supported the underlying concept of the arts and cultural focus for the five-acre property, or whether other priorities had shifted, in addition to the other elements of the Bonanza Park Small Area Plan and Feasibility Study. On September 14, 2022, during the City Council's Strategic Planning Retreat, the City Council reiterated a question they wanted posed to the community: ***Does the community want an arts and culture district?*** ([Minutes](#), p. 4 – 9).

The consultants will provide an overview for the City Council regarding Phase I community input and survey results for the five-acre site.

Department Review

The Planning Department, Executive Department, and City Attorney's Office reviewed this report.

Exhibits

Exhibit A: Community Engagement Phase I Results

Exhibit B: Overview of Bonanza Park Planning Efforts

Exhibit C: History of Art and Cultural Stakeholder Input

Exhibit D: Bonanza Park Financial History

Bonanza Park

Small Area Plan

5-Acre Site

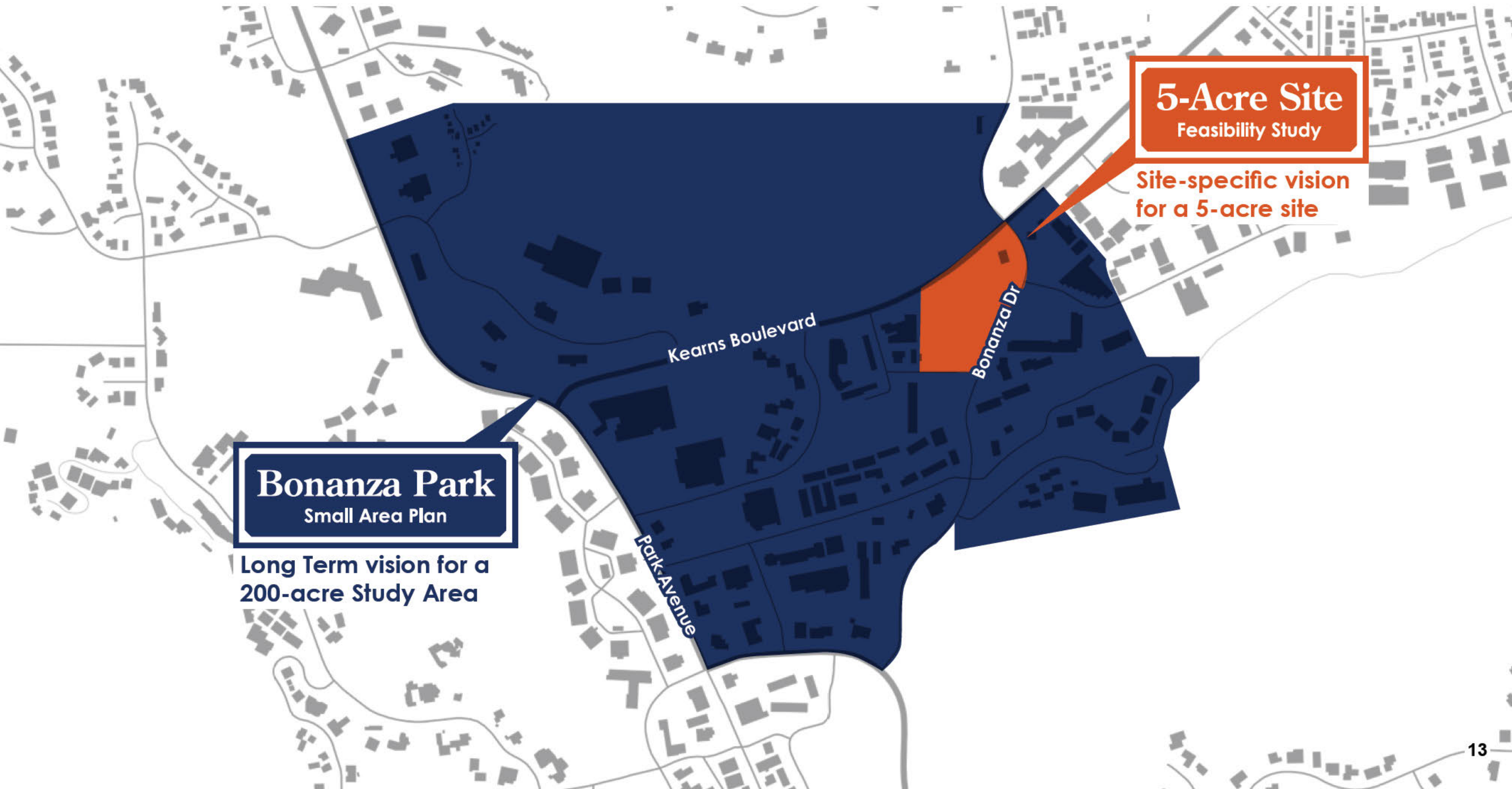
Feasibility Study

Community Engagement
Phase 1 Results
August 29, 2023

PARK CITY

1884

Two Planning Efforts | One Approach



5-Acre Site
Feasibility Study

Site-specific vision
for a 5-acre site

Bonanza Park
Small Area Plan

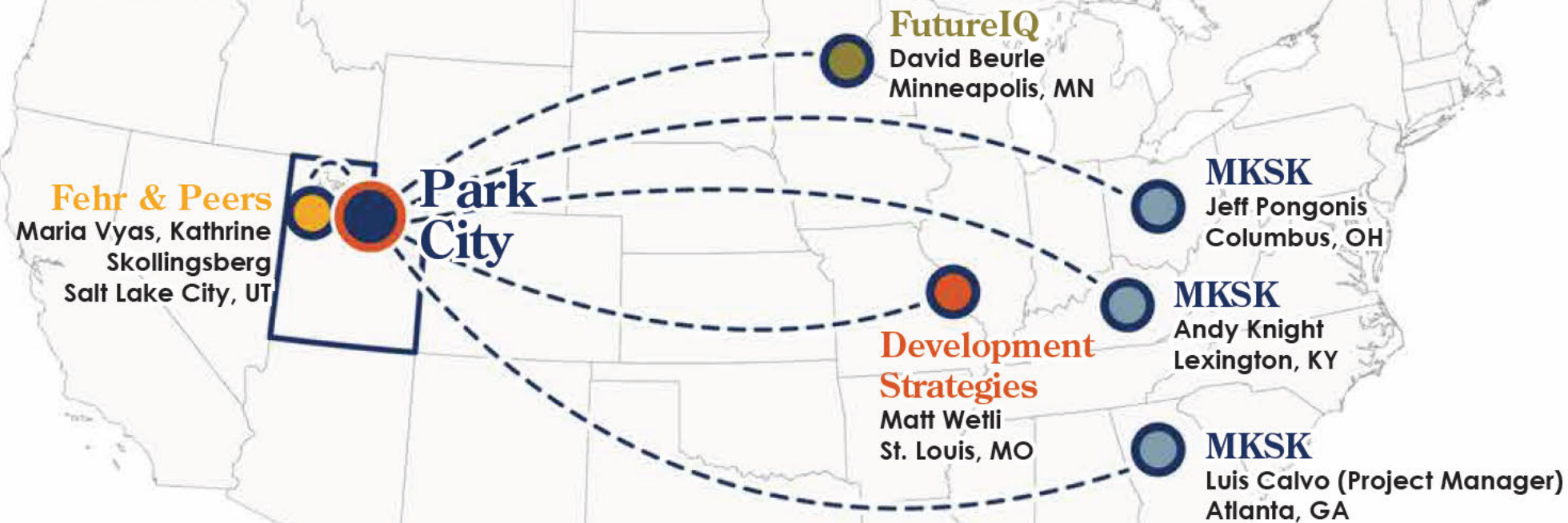
Long Term vision for a
200-acre Study Area

Consultant Team



National Reach & Local Knowledge

- MKSK: Urban & Land Use Planning - Lead Consultant
- Development Strategies: Economic & Market Analysis
- Fehr & Peers: Transportation Planning
- FutureIQ: Public & Stakeholder Engagement



Today's Meeting

Share Phase 1
Engagement Results



Introduce Key
Findings from Phase 1
Engagement



Collect feedback for
Phase 2 of project

Bonanza Park
Small Area Plan

5-Acre Site
Feasibility Study

How We Engaged

Engagement

2 Advisory Groups

**Online
Project Portal**

Meetings

**1 Community
Meeting (of 3 Total)**

**11 Stakeholder
Roundtables**

**Additional Outreach
in Spanish**

Surveys

2 Online Surveys
(English & Spanish)

Engagement Groups



Community Meeting 1: July 19, 2023

We hosted the first Community Meeting on July 19, at the Doubletree by Hilton Park City The Yarrow. This open-house event took place between 5:30 p.m. and 7:30 p.m.



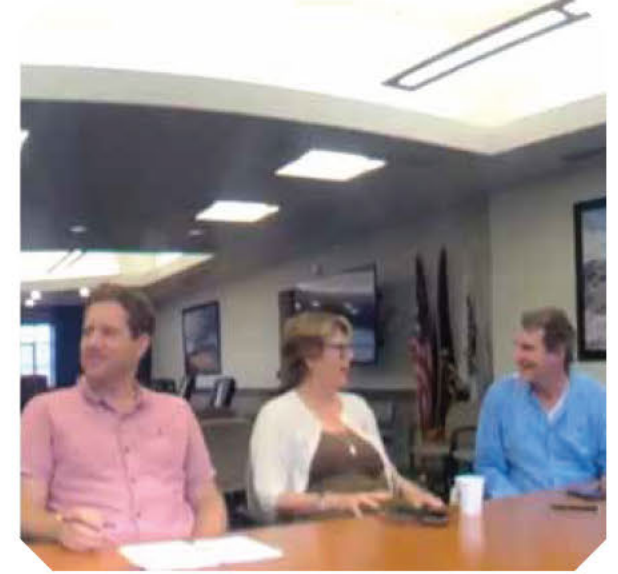
Online Surveys: July-August 2023

Two online surveys directed at Park City residents, businesses, and those interested in the project was conducted between July 19 and August 4 of 2023.



Stakeholder: Roundtables on July 20, 2023

The planning team facilitated 11 one-hour stakeholder roundtables, held in person at City Hall. Stakeholders representing a wide spectrum of interests and expertise were invited.



Advisory Group Meetings: Started May 2023

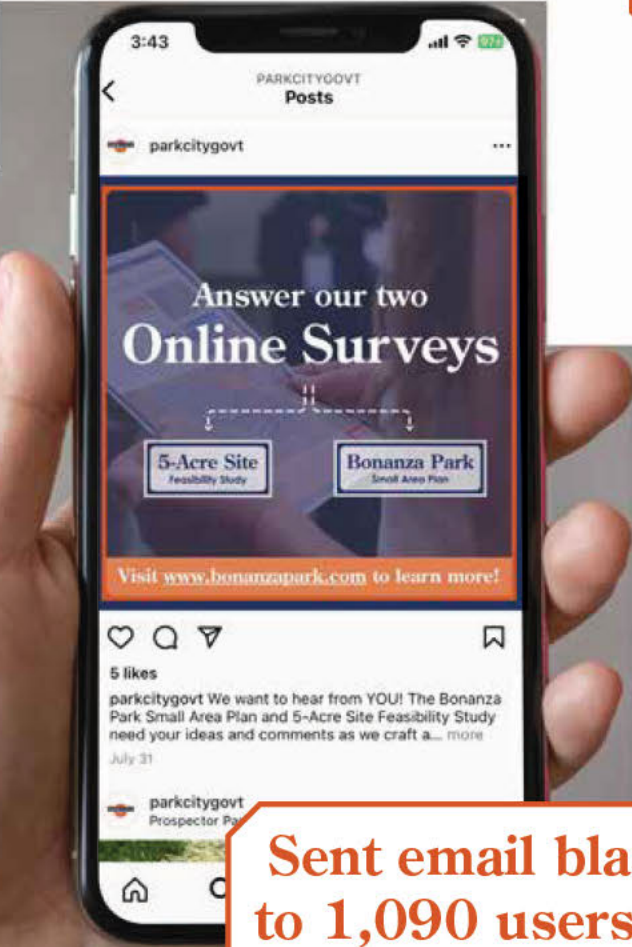
Selected after an extensive application process, the planning team has met with both Advisory Groups on two occasions, including an in-person meeting on July 19, 2023.

Getting the Word Out

Reached 14,314 views from 21 social media posts, engaged by users 552 times.

Mailed postcards to property owners citywide.

Sent email blasts to 1,090 users in 11 distribution lists.



Bonanza Park

Bonanza Park Small Area Plan

5-Acre Site Feasibility Study

Park City está desarrollando un Plan de Área Pequeña para las comunidades de Bonanza Park y Snow Creek.

Park City está realizando un estudio de factibilidad para una propiedad de la ciudad de 5 acres.

Nuestro estudio va a definir el carácter y las oportunidades de desarrollo para esta propiedad en la intersección de Kearns Boulevard y Bonanza Drive. Ayúdenos a crear una visión para el futuro de esta propiedad.

a dos encuestas por internet!

pagina web www.bonanzapark.com para los dos cuestionarios por internet y ayudanos una vision para el futuro de esta area.

Comunicate con nuestro

Community Meeting

You are invited to the first of three, open house-style meetings for the Bonanza Park Small Area Plan and the 5-Acre Site Feasibility Study.

Bonanza Park Small Area Plan

5-Acre Site Feasibility Study

Park City Municipal is currently conducting two community-driven visioning efforts: a small area plan for the Bonanza Park neighborhood and a feasibility study for determining a future use for City-owned land off the Kearns Boulevard/Bonanza Drive intersection.

Pursuant to the Americans with Disabilities Act, individuals needing special accommodations during this event should contact planning@parkcity.org or (435) 615-5060 at least 24 hours prior to the event.

For more information and to RSVP, please visit bonanzapark.com

When: Wednesday, July 19 from 5:30-7:30 p.m.
Where: Doubletree by Hilton Park City-The Yarrow (1800 Park Ave.)

Distributed printed flyers (English/Spanish)

Continuing to Engage Spanish-Speaking Communities

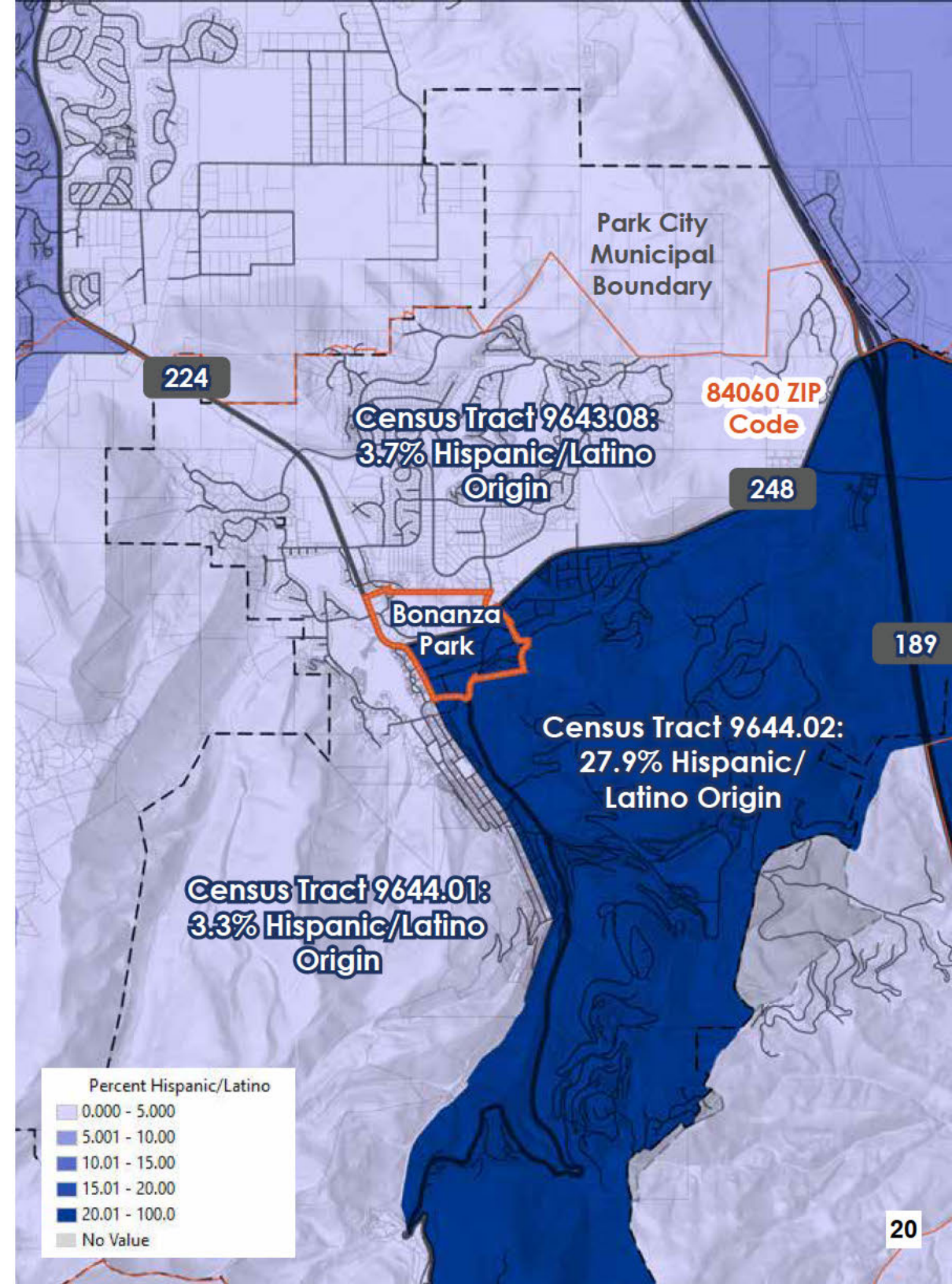
The project team is committed to engaging all Parkites, with a focus on reaching groups traditionally underrepresented in a planning process.

15% of Park City's population is of hispanic/Latino origin, according to estimates by the U.S. Census (2023 ACS).

The project portal includes a Spanish-language project page with relevant project information.

The project team will continue translating materials as appropriate in future phases.

Phase 2 of this project will focus on additional in-person engagement with the support of partners.



Community Meeting: Overview

The planning team hosted the first **Community Meeting on July 19, at the Doubletree by Hilton Park City The Yarrow.**

This meeting included open-house style activities with interactive stations and informational displays, the results of which are summarized in the following slides.

250

Approximate number of total people in attendance throughout the 2-hour open house event.



185

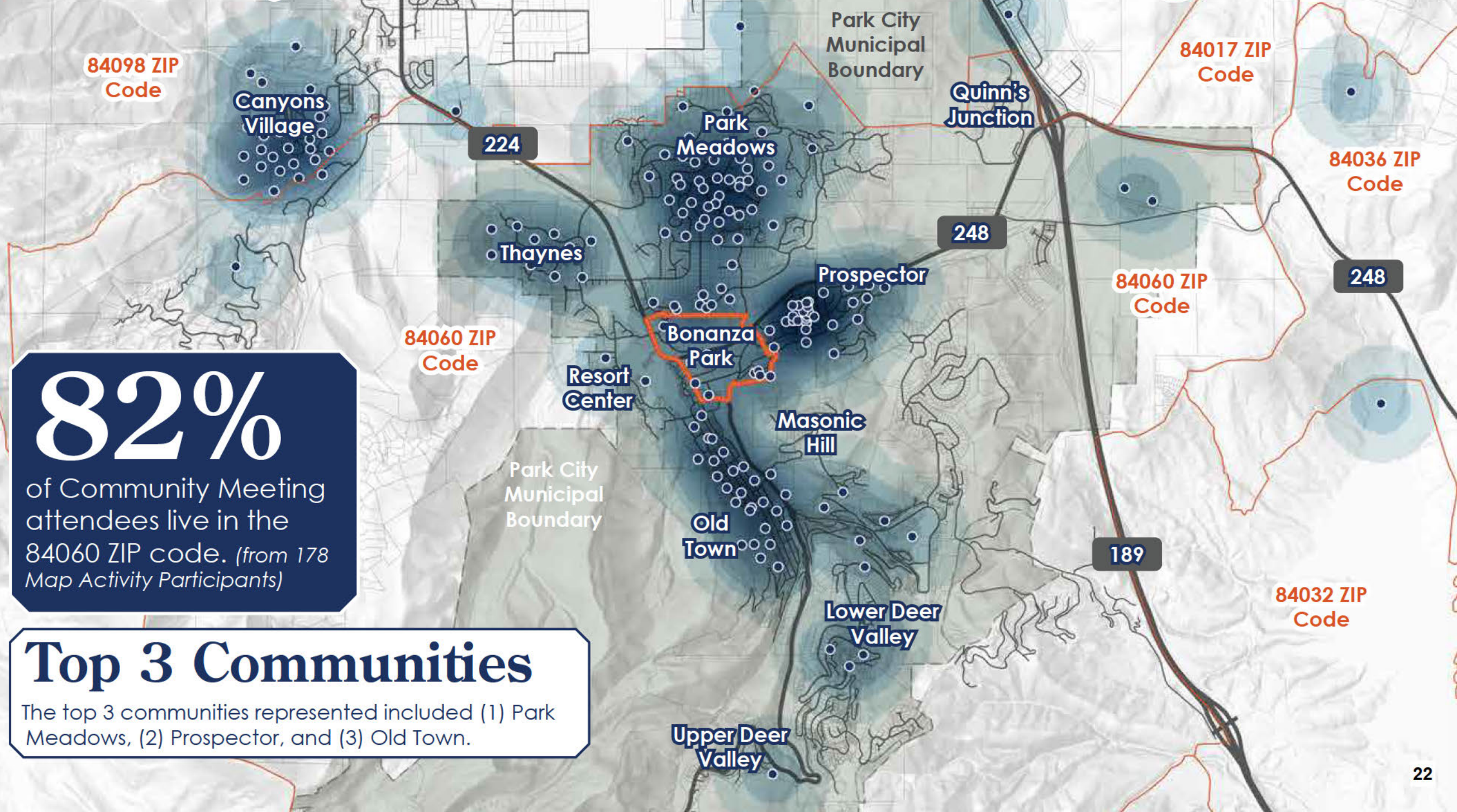
Total comment cards (115) and Vision Signs (70) received with feedback for both plans.



1,560

Total stickers placed on various maps and activities. (828 for the Small Area Plan, and 732 for the Feasibility Study)

Community Meeting: Who Came to the Meeting?



Stakeholder Roundtables

The planning team conducted 11 one-hour stakeholder roundtables with Park City residents, businesses, and leaders. Sessions included:

62

Stakeholders
Interviewed

**Bonanza Park
and Snow Creek
Restaurants**
(3 Stakeholders)

**Park City and
Area Residents**
(5 Stakeholders)

**City and Regional
Transportation**
(8 Stakeholders)

**State and County
Agencies, Utilities,
and Infrastructure**
(4 Stakeholders)

**Tourism and
Hospitality**
(8 Stakeholders)

**Employers,
Economic
Development,
Developers, and
Businesses**
(13 Stakeholders)

**Arts and Culture
Institutions**
(6 Stakeholders)

**Local Artists and
Makers**
(5 Stakeholders)

**Advocacy Groups
and Spanish
Speakers**
(4 Stakeholders)

**Housing and
Developers**
(6 Stakeholders)

Bonanza Park Small Area Plan

Engagement Results

Bonanza Park
Small Area Plan



Bonanza Park

Small Area Plan

Craft a Small Area Plan for Bonanza Park to address the planning needs and policy goals of residents, business owners, and stakeholders.

Identify community priorities

Describe the vision for Bonanza Park

Craft a Land Use Element

Develop a stand-alone Connectivity and Mobility Element

Identify implementation recommendations

Advisory Group Members ▼

■ Seth Adams

■ Veronica Monroy Alvaro

■ John Burdick

■ Craig Dennis

■ Mark J Fischer

■ Elyse Kats

■ Casey Metzger

■ Angela Moschetta

■ Deborah Rentfrow

■ Brian Richards

■ Joel Shine

■ Teri Whitney

■ Charlie or Mary Wintzer

Engagement Outcomes: Small Area Plan

Bonanza Park
Small Area Plan

1 Community Meeting
(250 Attendees)

12 Stakeholder Roundtables
(62 Stakeholders)

1,030+
Park City Voices
Engaged (so far)

Online/Paper Survey
(721 Responses)

Ongoing Project Website

Small Area Plan: Engagement Key Findings Summary

Bonanza Park Small Area Plan

Bonanza Park is a “Locals’
Neighborhood.”

Parks and open spaces are a
community priority.

Future redevelopment and
infill should focus on creating a
destination for locals.

The 5-acre site cannot alone
meet the city’s goals.

The community would like to see
arts and culture woven into the
neighborhood fabric.

The Kimball Arts Center is one of
Bonanza Park’s top assets and
needs a permanent home.

Moving through the study area
should be safer and more
intuitive.

Bonanza Park is the right place
for density and building height.

The Study Area lacks walkable
and bikeable connections.

Bonanza Park needs more
affordable and workforce
housing.

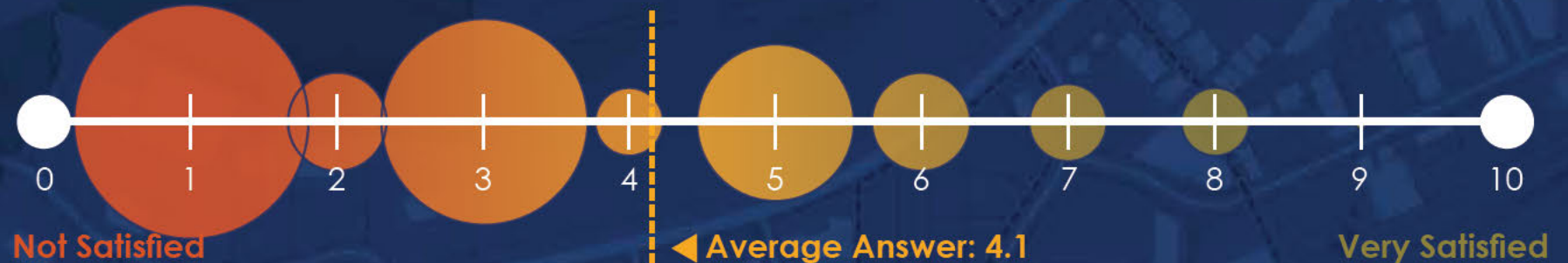
Community Meeting: Results

Bonanza Park
Small Area Plan

65%

currently shop or dine
in the Study Area, or
near the 5-acre site.

How satisfied are they with the Study Area?



When are they in the Study Area?

Daily (45%)

2-3 times per week (35%)

2-3 times per month (10%)

Once per week (9%)

Rarely, if at all (6%)

My Answer: 3

“Because it has so much potential to be diversified and repurposed for good. This is a golden opportunity to breathe new life into an area lacking vibrancy”

My Answer: 5

“This is a big and rather underrated area - I think through denser developments we could accommodate more housing while also boosting the creative arts community. Walkability here will be key!”

Community Meeting: Places Parkites Love

Bonanza Park Small Area Plan

57%
of written responses
mentioned the Kimball Art
Center (*post-it responses*)

Top 3 Favorites

The top 3 favorite places included (1) Kimball Art Center, (2) Restaurants/Shops on Iron Horse Drive, and (3) the Rail Trail.



Community Meeting: Places Parkites Want Changed or Improved

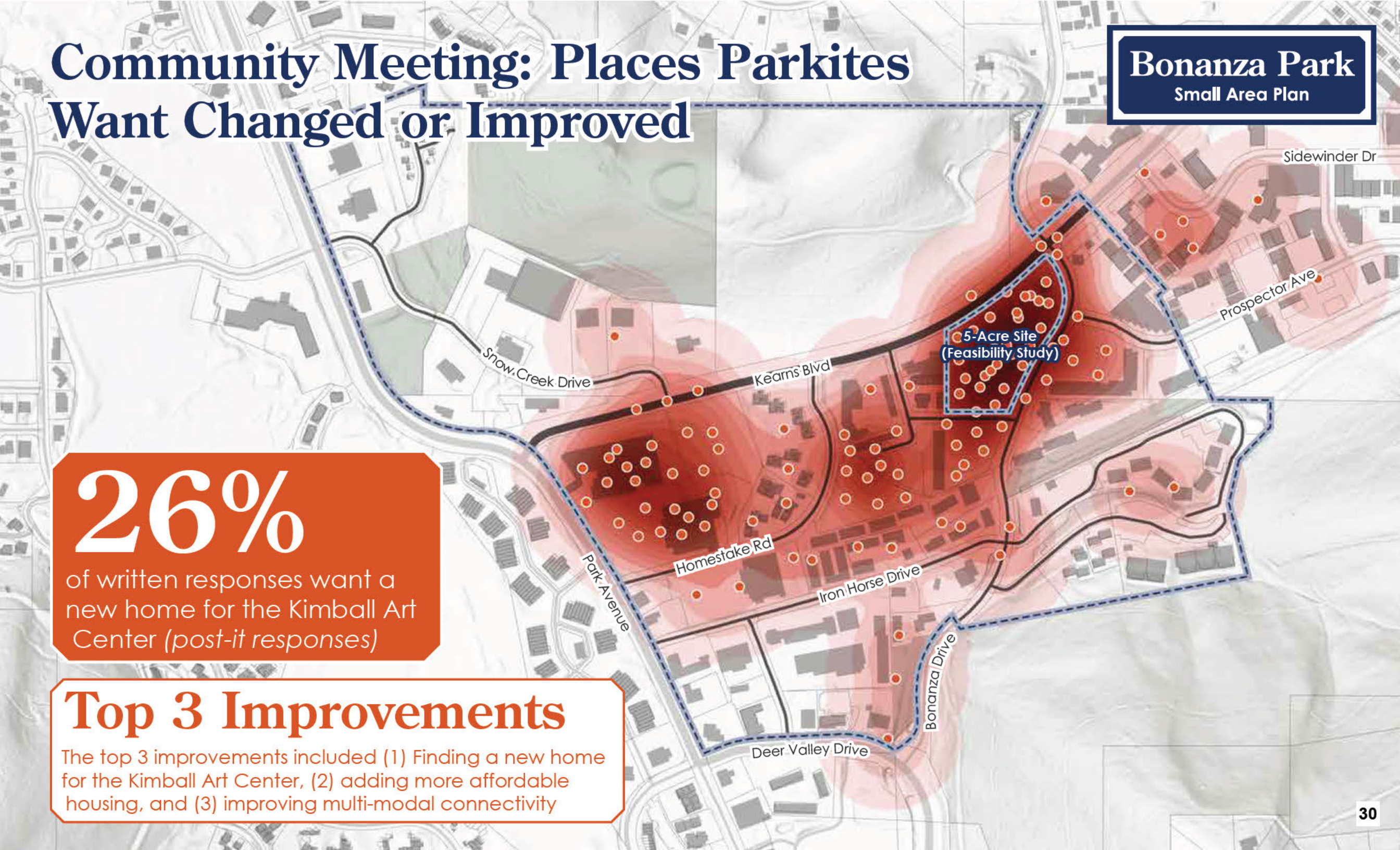
Bonanza Park Small Area Plan

26%

of written responses want a new home for the Kimball Art Center (*post-it responses*)

Top 3 Improvements

The top 3 improvements included (1) Finding a new home for the Kimball Art Center, (2) adding more affordable housing, and (3) improving multi-modal connectivity



Community Meeting: Mobility Improvements

Bonanza Park
Small Area Plan



38 Votes



44 Votes



48 Votes



48 Votes



2nd Choice:
51 Votes



50 Votes



40 Votes



Top Choice:
58 Votes

Stakeholder Roundtables: Bonanza Park

Through various conversations with stakeholders, the following common themes emerged:

Bonanza Park is a “locals neighborhood” where restaurants and businesses serve locals more than tourists.

There is a strong need for additional housing, especially affordable housing - not enough people live near the site and in Bonanza Park.

Bonanza Park lacks walkable connections, especially on major streets like Bonanza Park and Kearns Boulevard.

Future improvements should focus on transportation, as this is critical to redevelopment. The area has to be convenient for locals to move their way through.



Bonanza Park
Small Area Plan

Small Area Plan Online Survey Results

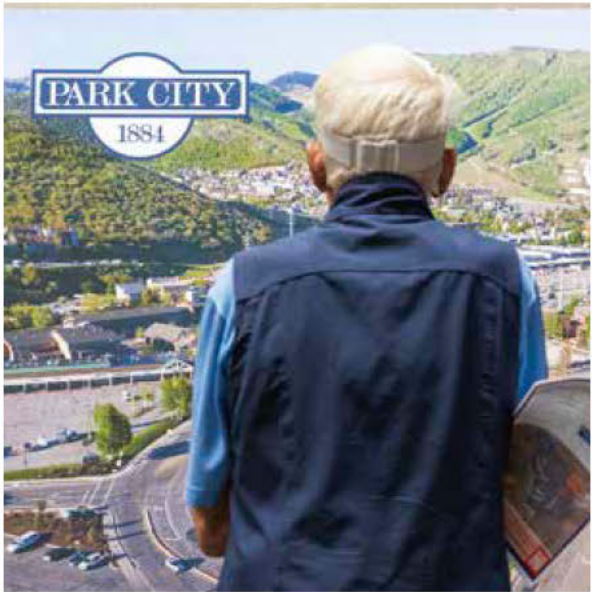
Bonanza Park
Small Area Plan

The planning team launched an online survey for the Bonanza Park Small Area Plan between July 19 and August 4.

The survey was promoted via Park City's Social Media accounts, distributed via email, publicized in English/Spanish flyers (digital and print), and shared by project partners via email. The survey was available via a SurveyMonkey link or through Park City's Polco platform.

721

Total responses to the online survey.
640 Responded via SurveyMonkey and 81 responded via Polco.



67%

of all survey responses are from 483 residents of the 84060 ZIP Code.

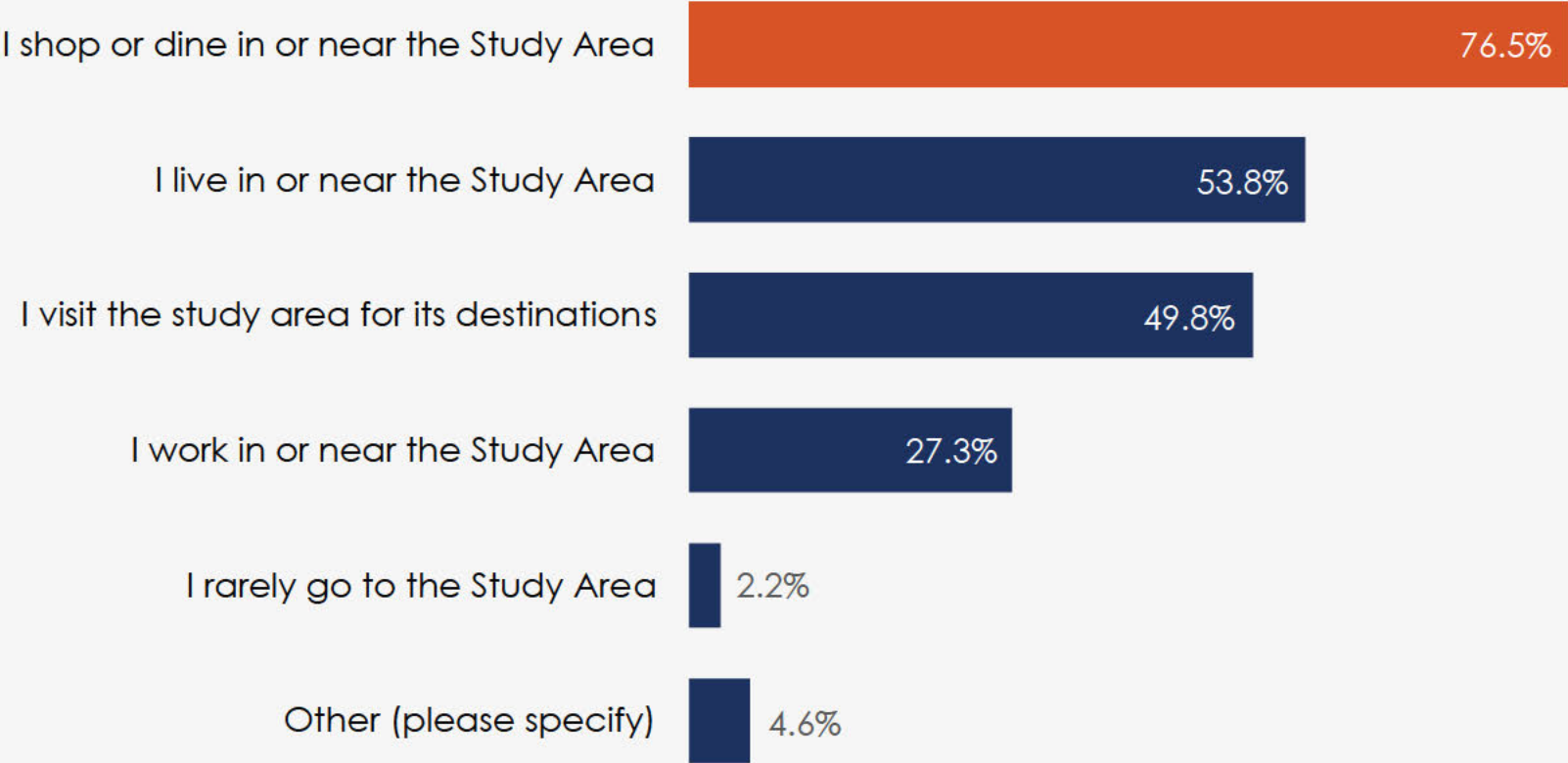


54%

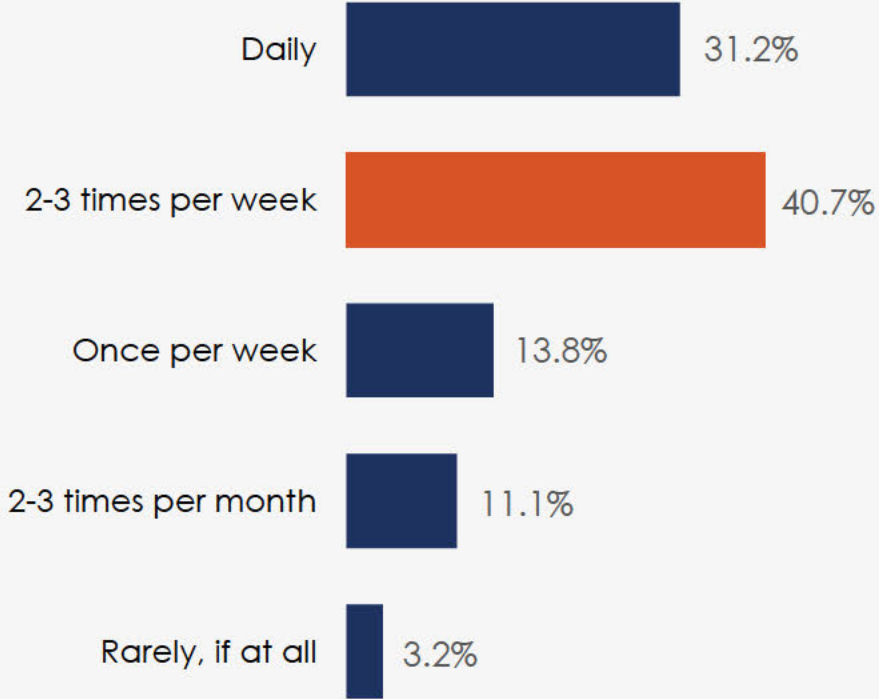
live in or near the study area.

Online Survey: Relationship to the Study Area

Select all of the below that describe your connection to the study area.

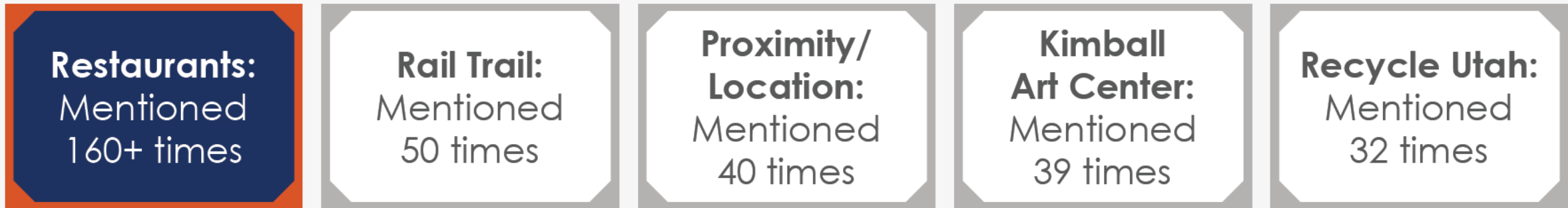


How much time do you spend in the study area?



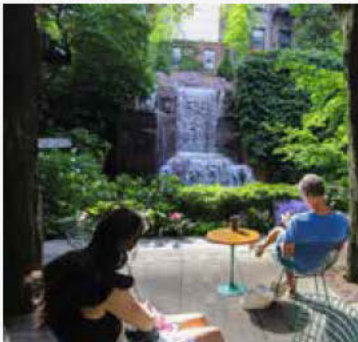
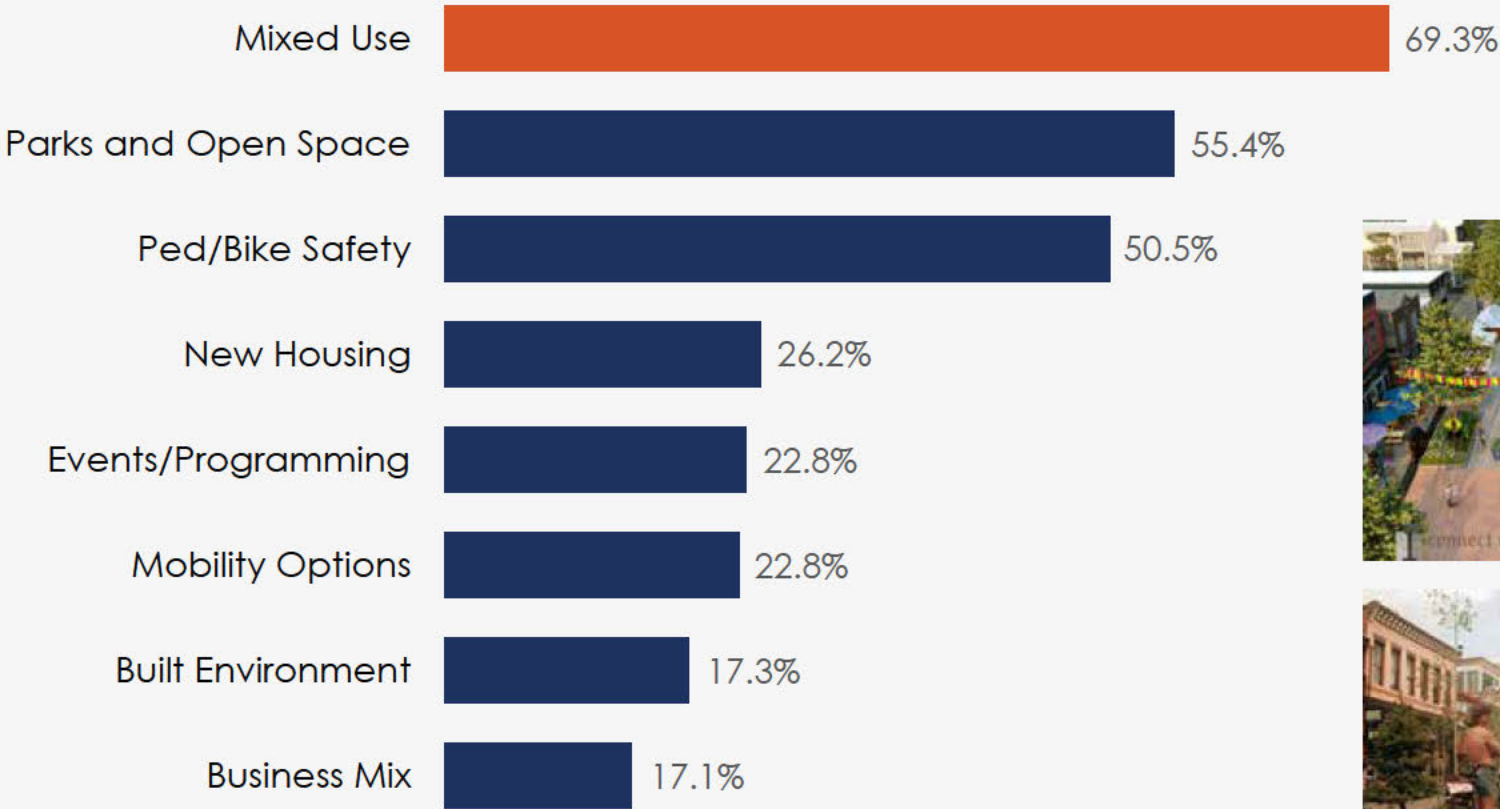
Online Survey: Favorite Things about the Study Area

Top 5 Mentions (460 Written Responses)



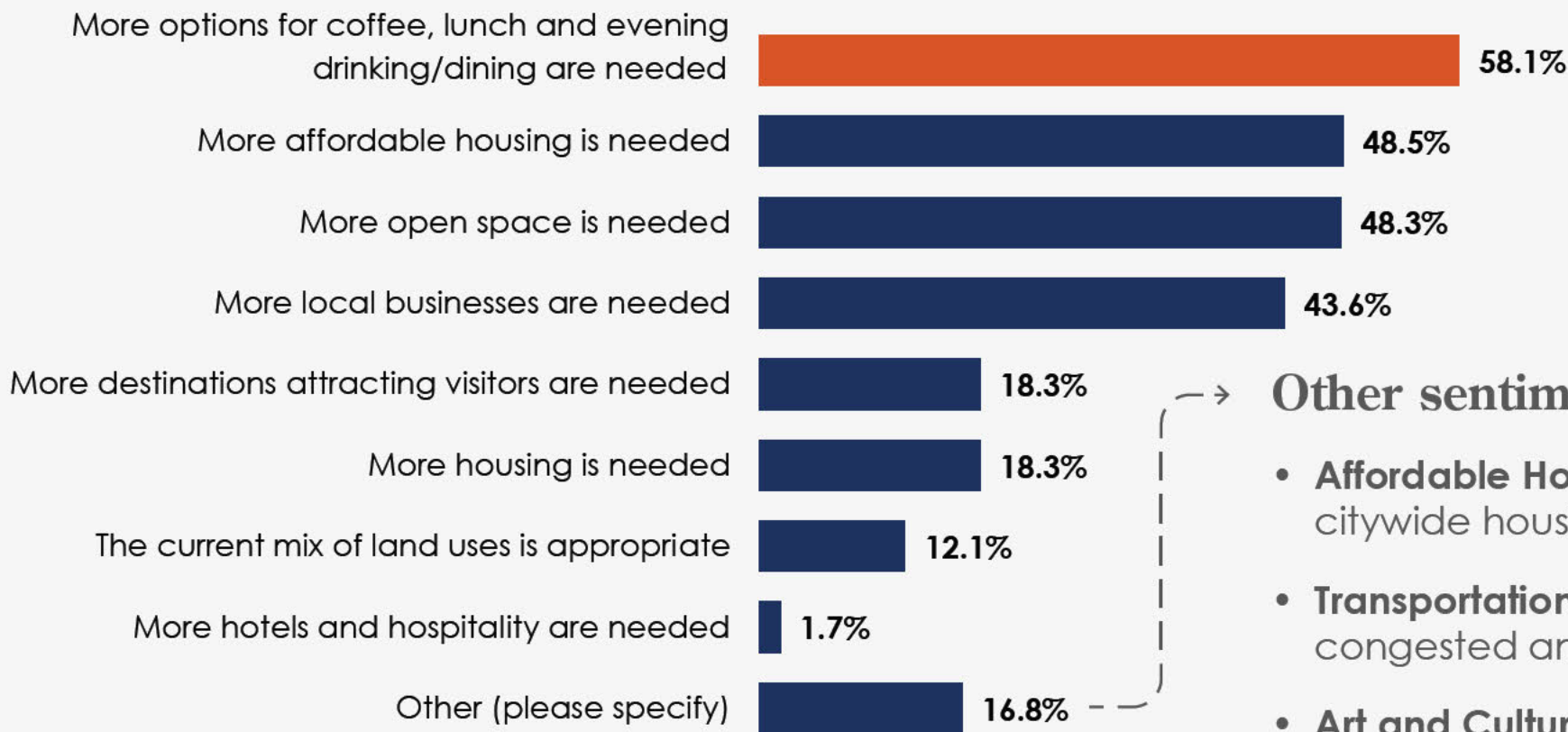
Online Survey: The Study Area Today/Tomorrow

What should the main priorities be in this plan?



Online Survey: The Study Area Today/Tomorrow

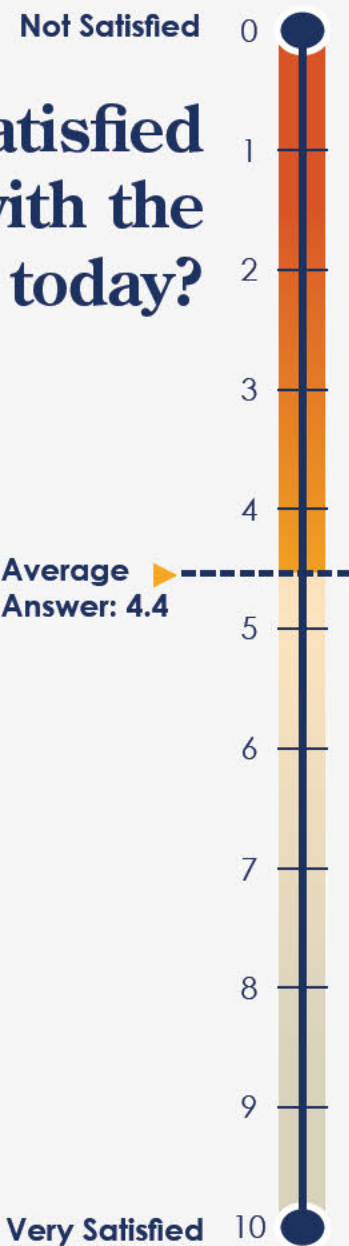
How do you feel about the mix of land uses in the Study Area?



Other sentiments include:

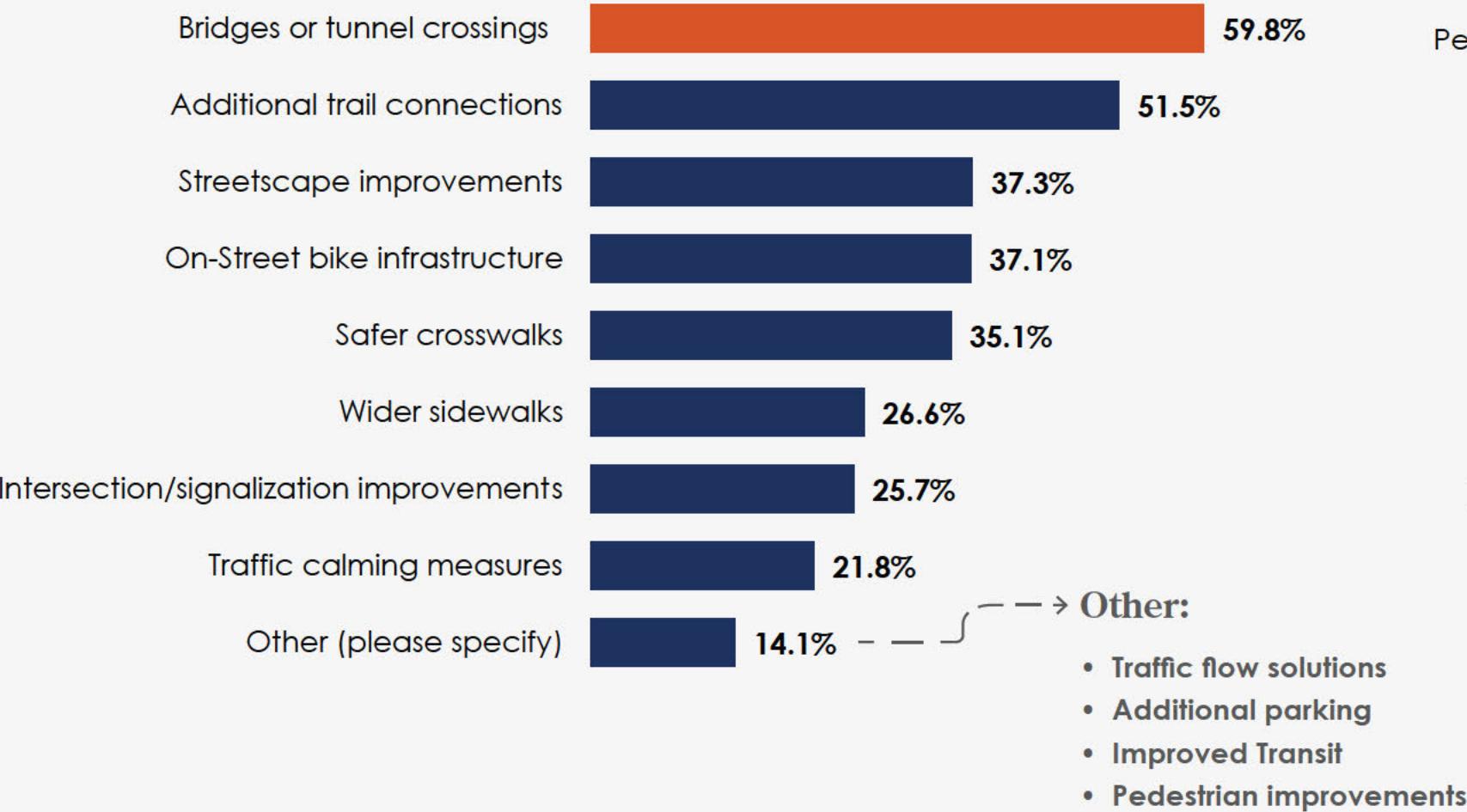
- **Affordable Housing:** There is a citywide housing need.
- **Transportation:** The study area is congested and disconnected.
- **Art and Culture:** Creation of an arts and culture district, and finding a permanent home for the Kimball Art Center.

How satisfied are you with the study area today?

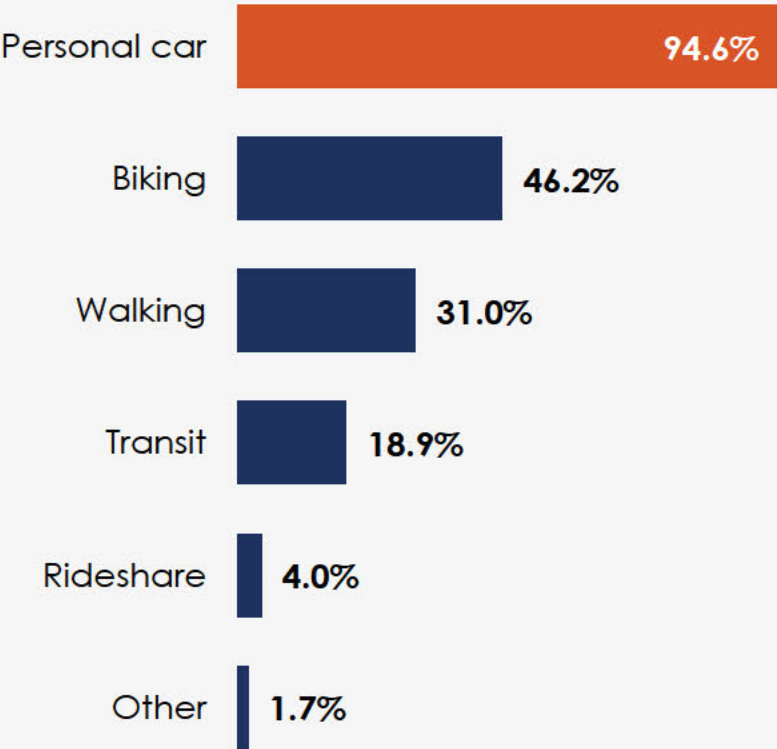


Online Survey: Mobility Today and Tomorrow

What type of mobility improvements would you like to see happen in the study area?



How do you travel to the study area?



Online Survey: Things Changed/Improved in the Study Area

Bonanza Park
Small Area Plan

Top 5 Themes We Heard (440 Written Responses)

Top Theme: Traffic flow and safety

Concerns about traffic congestion, intersections being unsafe, a need for better traffic flow, and pedestrian and cyclist safety.

"The right lane on Kearns that ends at Sidewinder creates so much confusion and congestion in high traffic times."

2: Adding Affordable housing

Advocate for adding affordable housing options for local residents, including workforce housing for employees.

"I would make it a mixed-use arts and light retail and restaurant area"

3: Creating an Arts and Culture District

Creating an arts and culture district, with facilities for local artists, gallery spaces, and performance spaces.

4: Improving Walkability and Connectivity

Making the area more walkable, adding sidewalks, pedestrian crossings, and bike lanes to improve accessibility.

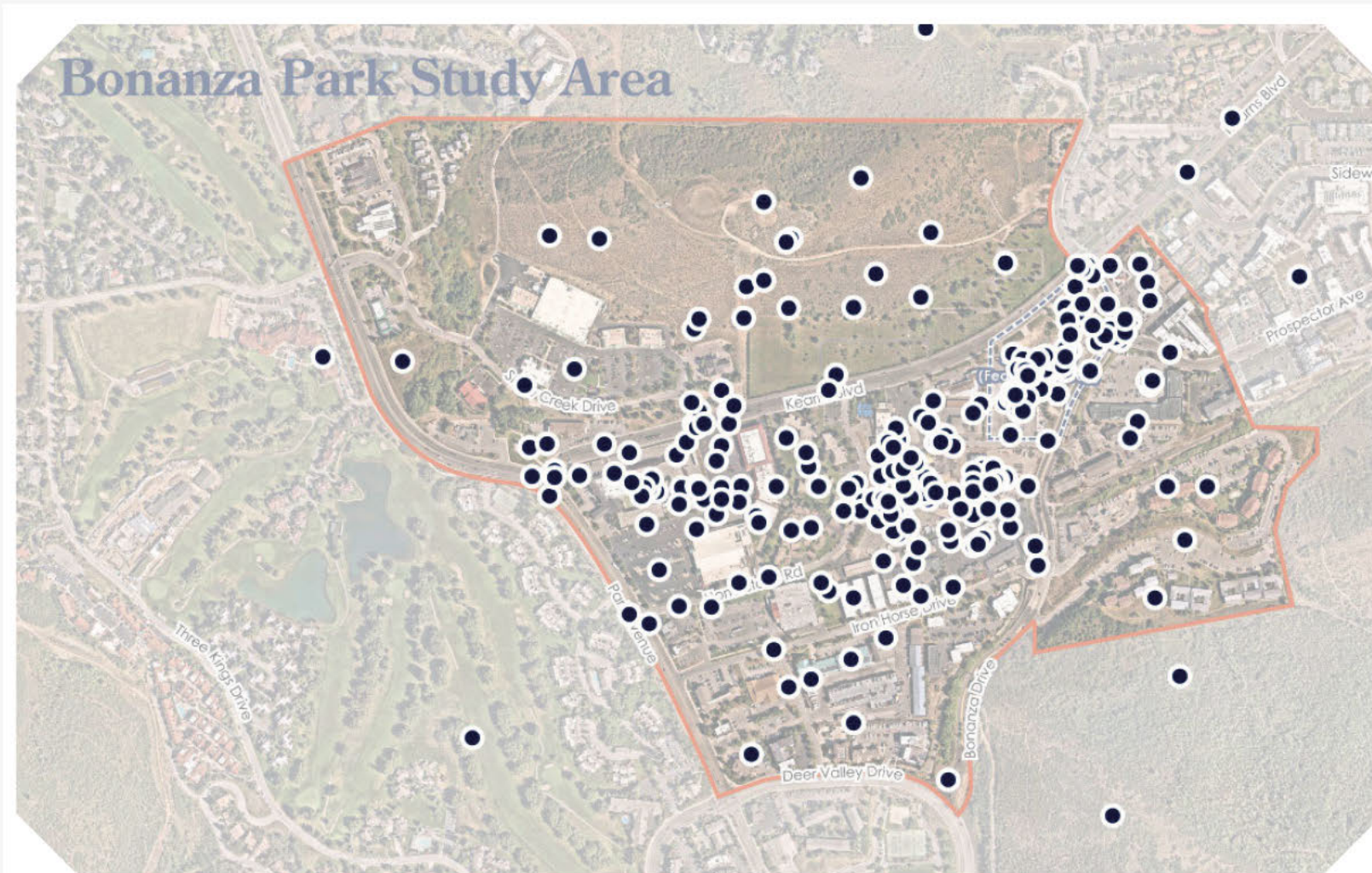
"Traffic safety for cyclists and pedestrians"

5: Focusing on Local Businesses

Parkites want more locally-owned restaurants, cafes, shops, and entertainment venues to create a vibrant and attractive destination for residents.

Online Survey: Where should we focus our attention?

Bonanza Park Small Area Plan



Top Mention: Improving Traffic and Intersections

2. Activating underutilized parts of the Study Area

3. Adding additional Affordable Housing

4. Adding parks, green spaces, or open spaces.

Small Area Plan: Engagement Key Findings

Bonanza Park Small Area Plan

Bonanza Park is a “Locals’ Neighborhood”. Unlike Main Street, which mostly caters to tourists, Bonanza Park is where Parkites shop, dine, and gather.

Parks and open spaces are a community priority. There is a need and desire for additional green spaces where locals can come together as a community.

Future redevelopment and infill should focus on creating a destination for locals. New businesses and destinations should be local and authentically Park City.

The 5-acre site cannot alone meet the city’s goals. Whatever happens on the 5-acre site can influence its surroundings, and be complementary to the character of Bonanza Park.

The community would like to see arts and culture woven into the neighborhood fabric. There are opportunities for public art, housing for artists, and galleries or exhibit spaces.

The Kimball Arts Center (KAC) is one of Bonanza Park’s top assets and needs a permanent home. The KAC is a cherished destination that should remain in the neighborhood.

Small Area Plan: Engagement Key Findings

Bonanza Park
Small Area Plan

Moving through the study area should be safer and more intuitive. Transportation improvements should focus on wide streets and unsafe intersections.

The Study Area lacks walkable and bikeable connections. Improving connectivity to the rail trail and addressing sidewalk gaps are a priority.

Bonanza Park is the right place for density and building height. As the area redevelops, mixed use buildings should embrace walkable streets.

Bonanza Park needs more affordable and workforce housing. For there to be a critical mass, there needs to be a strong resident base in the area.

5-Acre Site Feasibility Study

Engagement Results

5-Acre Site
Feasibility Study



5-Acre Site Feasibility Study

Craft a community-supported vision for the city-owned property at the intersection of Kearns Boulevard and Bonanza Drive.

Identify best practices

Understand community support

Identify feasibility

List strategic recommendations

Advisory Group Members ▼

■ Seth Beal

■ Mitch Bedke

■ Julieta Gesualdo-Gallup

■ Andy Hecht

■ Laurice Marier

■ Aldy Milliken

■ Helen Nadel

■ Matthew Nagie

■ Jessica Norie

■ Kathy Olson

■ Trent Rentfrow

■ Bob Sertner

■ Tony Tyler

■ Betsy Wallace

■ Ronnie Wedig

■ Jennifer Wesselhoff

Engagement Outcomes: Feasibility Study

5-Acre Site
Feasibility Study

1 Community Meeting
(250 Attendees)

11 Stakeholder Roundtables
(62 Stakeholders)

1,140+
Park City Voices
Engaged (so far)

Online/Paper Surveys
(826 Responses)

Ongoing Project Website

Feasibility Study: Engagement Key Findings Summary

5-Acre Site
Feasibility Study

There is clear community support for a mixed use redevelopment of the 5-acre site that includes arts and culture uses.

A mixed use development that includes housing will leverage the site's potential.

The vision for Bonanza Park could help supplement some of the goals for this site.

There is strong support to provide a permanent home for the Kimball Arts Center on the 5-acre site.

The community would like more clarity on what "arts and culture" means for this site, and how it impacts public funding.

A site redevelopment must include Open Space as a meaningful design element.

Affordable Housing should be a focus.

Programming and activation will help make this a community gathering space.

Parkites are ready for action and to see the site being redeveloped.

Community Meeting: Describing the Site Today/Tomorrow (Written Responses)

5-Acre Site
Feasibility Study

Today, the 5-acre site is...

A word cloud representing current perceptions of the site. The most prominent words are 'Ugly', 'Opportunity', 'Empty', 'Sad', 'Eyesore', and 'Nothing'. Other visible words include 'Mess', 'Vacant', 'Disaster', 'Lost', 'Dirt', 'Wasteland', 'Disconnected', 'Green', 'Affordable', 'Hazard', 'Lonely', 'Need', 'Potential', 'Lots', 'Canvas', 'Mixed', 'Embarrassing', 'Work', 'Wif', 'MisUsed', 'Environmental', 'Depressing', 'Sad+', 'Awful', 'Concrete', 'Quagmire', 'Missed', 'Space', 'Blight', 'Wanted', and 'Home'.

What did we hear?

The site is an empty eyesore, but remains an opportunity for something meaningful.

In 5 years, the 5-acre site will be...

A word cloud representing future aspirations for the site. The most prominent words are 'Art', 'Community', 'Vibrant', 'Housing', 'Space', 'Culture', 'Center', 'Beautiful', 'People', 'Hub', 'Place', 'Gathering', 'KAC', 'Arts', 'Mixed', 'Better', 'Transit', 'Filled', 'Home', 'Opportunity', 'Green', 'Local', 'Public', 'Spot', 'Finished', 'Artist', 'Important', 'MixedUse', 'Multi', 'Affordable', 'Winning', 'Locals', 'District', 'Park', and 'Wanted'.

What did we hear?

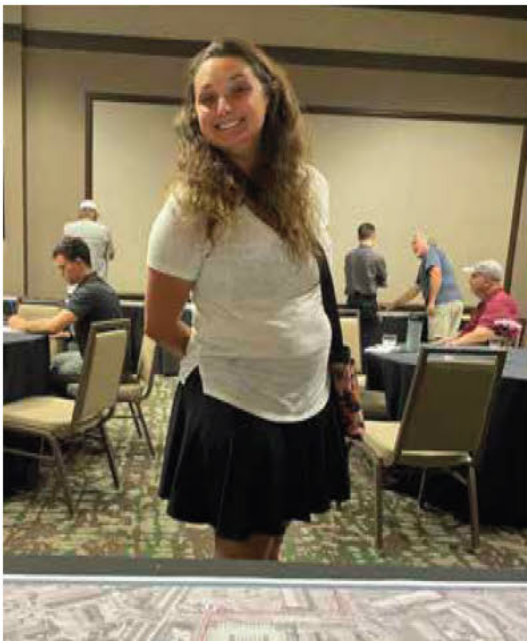
The site has the potential to become a community space centered around the Arts.

Community Meeting: Designed by Parkites, for Parkites

5-Acre Site
Feasibility Study



Meeting attendees were asked to design their vision for the future of the 5-Acre Site using a kit of parts that included 11 different uses in 33 different sizes.



Community Meeting: Build Your Own Development Results

5-Acre Site
Feasibility Study

36

Total site concepts drawn by public meeting attendants, and facilitated by our design team.



25%

of the square footages drawn were dedicated to **Mixed Use buildings**, most between 3 to 5 stories (in 29 of 36 concepts).



34

of the 36 concepts incorporated **open space**, with parks, plazas, and courtyards making up 20% of the site on average.



30

of the 36 concepts featured **arts or performance spaces**, ranking as the second most popular use after open spaces.

Community Meeting: What Parkites Would Like to See on the 5-Acre Site

5-Acre Site
Feasibility Study

Office and
Employment

1 Votes

Restaurants and
Outdoor Dining

69 Votes

Art or Exhibit
Space

Top Choice:
190 Votes

Parks, Open
Spaces, and
Plazas

96 Votes

Multifamily
Housing

35 Votes

Mixed Use:
Commercial
with Multifamily

98 Votes

Public Art

97 Votes

Placemaking

41 Votes

Walkable
Streets and
Pedestrian
Areas

105 Votes

Anything
Else? Tell Us!

111
Comments

Community Meeting: What Parkites Would Like to See on the 5-Acre Site

5-Acre Site
Feasibility Study

Are there other uses or site features you would like to see?
(111 Written Responses)



Community Meeting: Support for an “Arts and Culture District”

Previous planning studies have recommended an “Arts and Culture District” on this site.

Are you in support of a future redevelopment that includes Arts and Culture uses and features?

(115 Responses from Community Meeting)



Stakeholder Roundtable

Takeaways: 5-Acre Site

Through various conversations with stakeholders, the following common themes emerged:

The 5-acre site is once in a lifetime opportunity for the community. This site and this area is the right place for height and density.

The Park City community has **concerns about mixed use, density, and building heights.**

Art institutions can be a component of the site, but not necessarily the sole focus. It does not need to be an “Arts and Culture District” to work.

The success of arts and culture on the site hinges on whether there is **programming where people have the opportunity to do and experience art.**

This is the time to get this done - the community is expecting results from this process.



Feasibility Study Online Survey

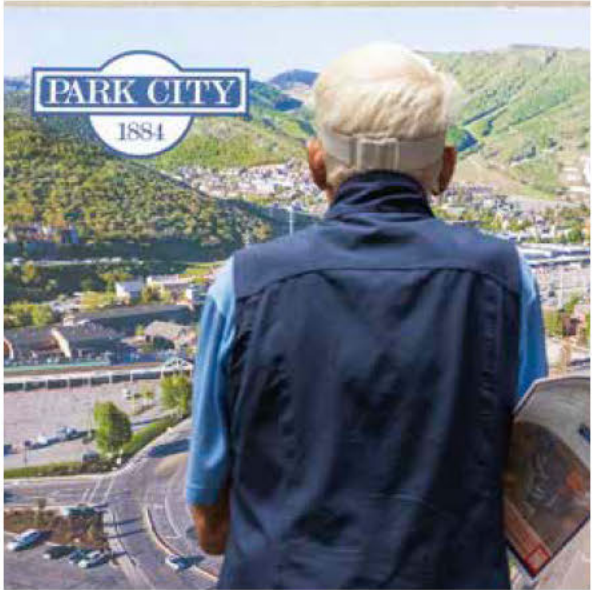
5-Acre Site
Feasibility Study

The planning team launched an online survey for the 5-Acre Site Feasibility Study between July 19 and August 4.

The survey was promoted via Park City's Social Media accounts, distributed via email, publicized in English/ Spanish flyers (digital and print), and shared by project partners via email. The survey was available via a SurveyMonkey link or through Park City's Polco platform.

826

Total responses to the online survey.
735 Responded via SurveyMonkey and 91 responded via Polco.



68%

of all survey responses are from 560 residents of the 84060 ZIP Code.

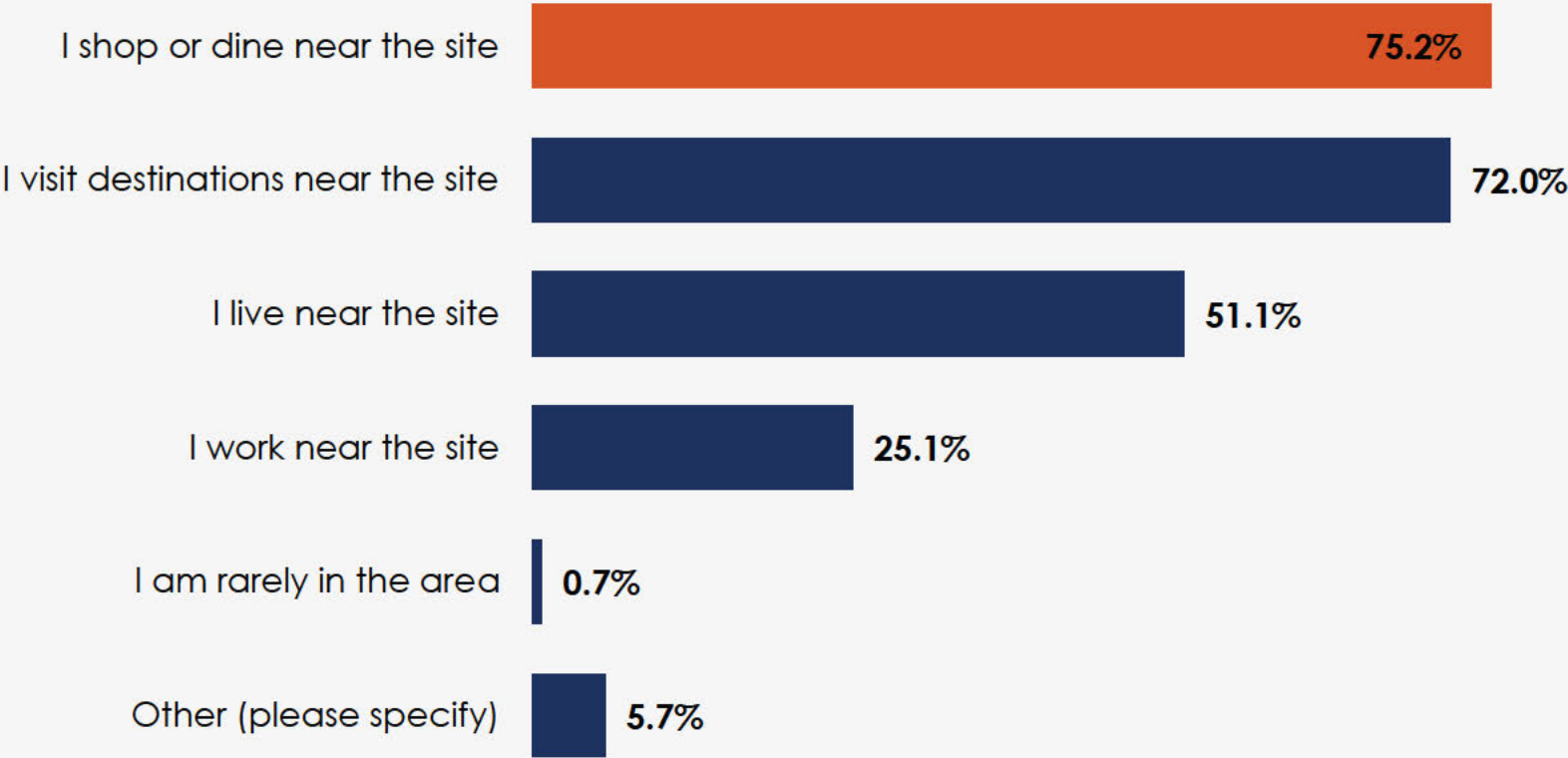


51%

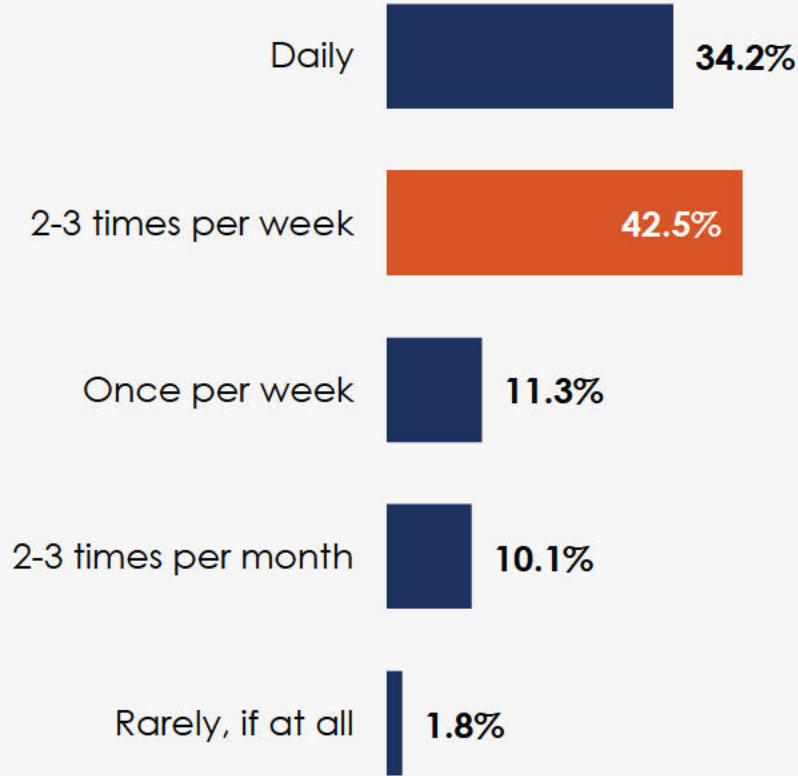
live near the site.

Online Survey: Relationship to the 5-Acre Site

Select all of the below that describe your connection to the 5-acre site.



How much time do you spend near the 5-acre site?



Online Survey: Describing the Site Today in Three Words

5-Acre Site
Feasibility Study

Top Mentions (664 Written Responses)

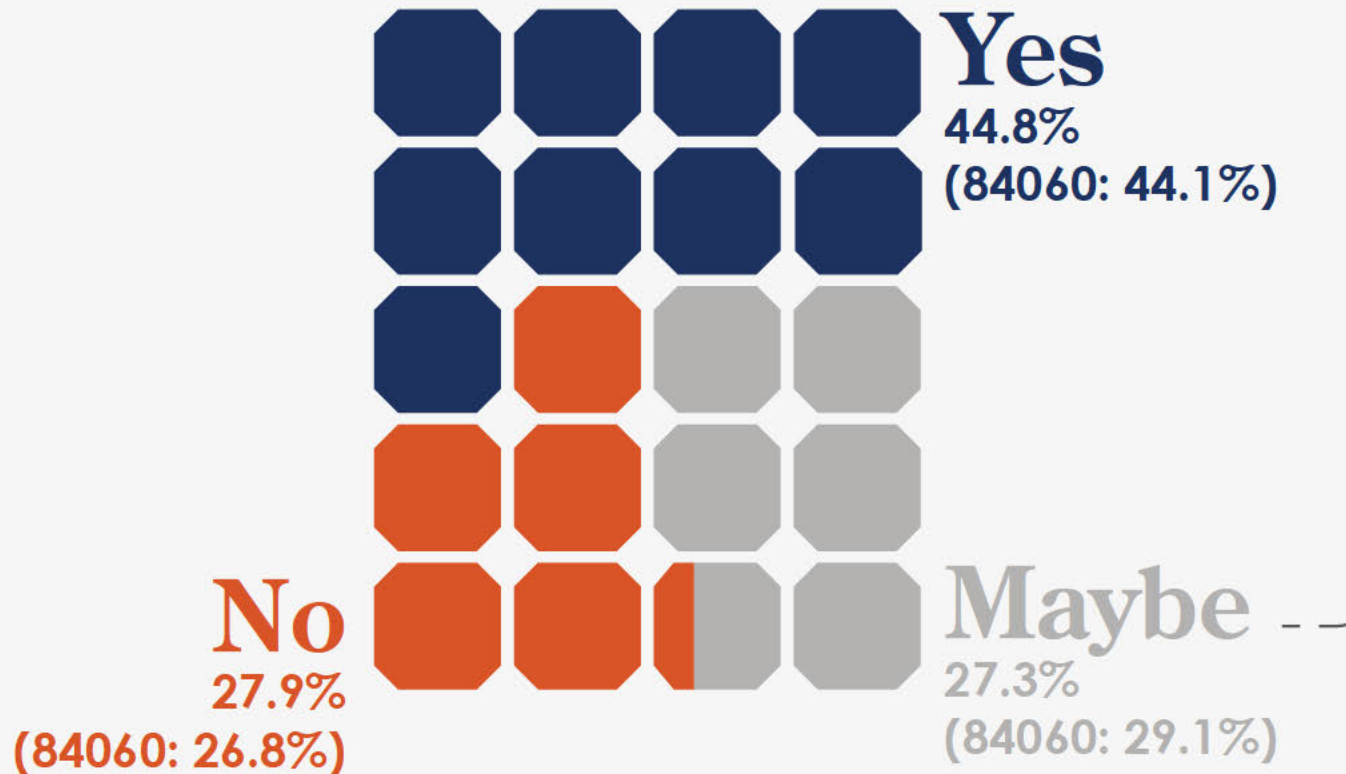
1. **Potential** - Mentioned 80 Times
2. **Ugly** - Mentioned 64 Times
3. **Empty** - Mentioned 54 Times
4. **Eyesore** - Mentioned 50 Times



Online Survey: Support for Arts and Culture

5-Acre Site
Feasibility Study

Previous planning studies have recommended an “Arts and Culture District” on this site. Are you in support of a future redevelopment that includes Arts and Culture uses and features?



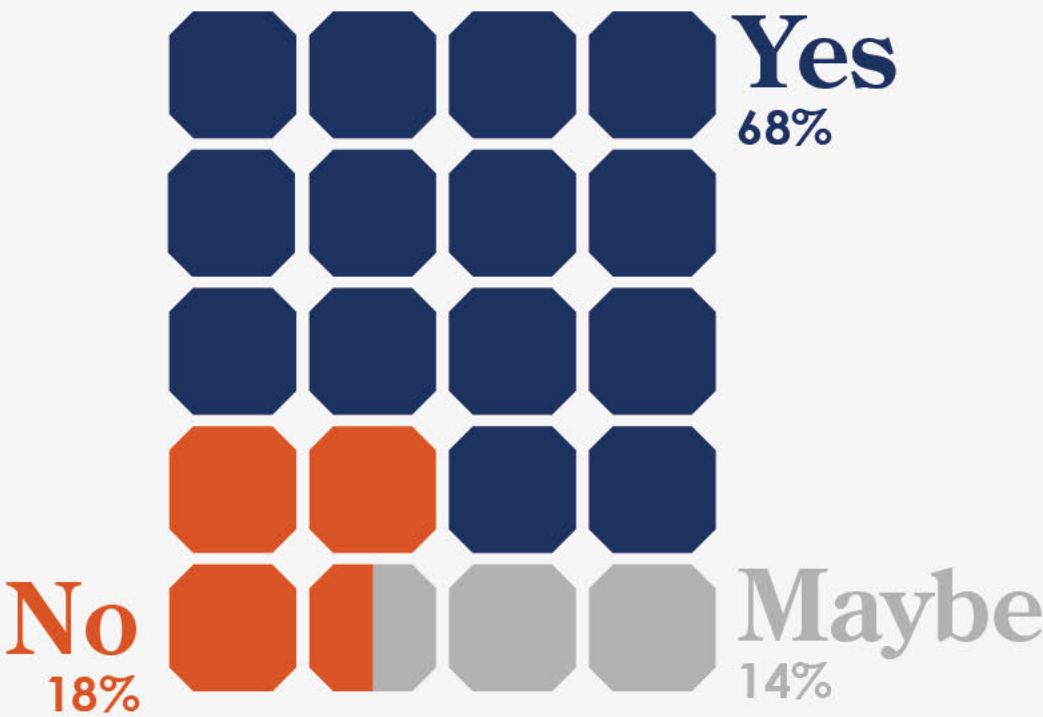
→ The three most mentioned reasons are:

- **Housing and affordability:** The site's development should prioritize housing for locals, with a focus on affordable and workforce housing.
- **Lack of clarity on what “Arts and Culture District” means in this context:** There is a lack of understanding regarding what exactly an “arts and culture district” entails. Respondents want more information and specifics about the concept before forming a definitive opinion.
- **Mixed Use and community-first development:** Several respondents advocate for a mixed-use development that serves the needs of the local community, including a blend of small retailers, dining options, entertainment, and open space.

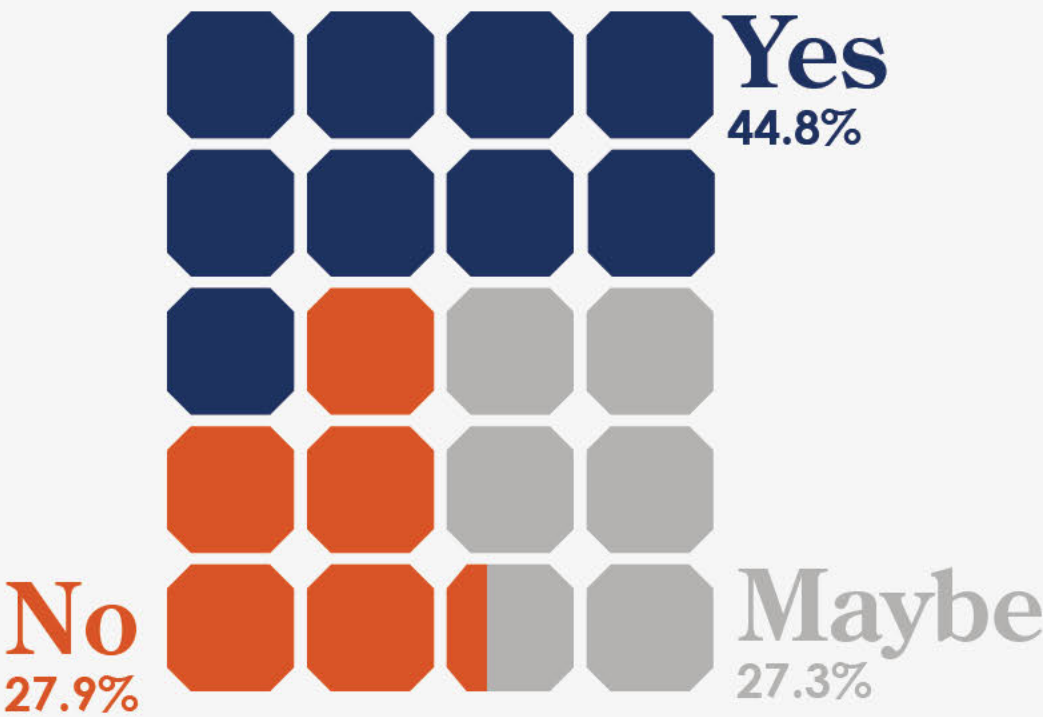
Combined Results: Support for an “Arts and Culture District”

Previous planning studies have recommended an “Arts and Culture District” on this site. Are you in support of a future redevelopment that includes Arts and Culture uses and features?

115 Responses from **Community Meeting**

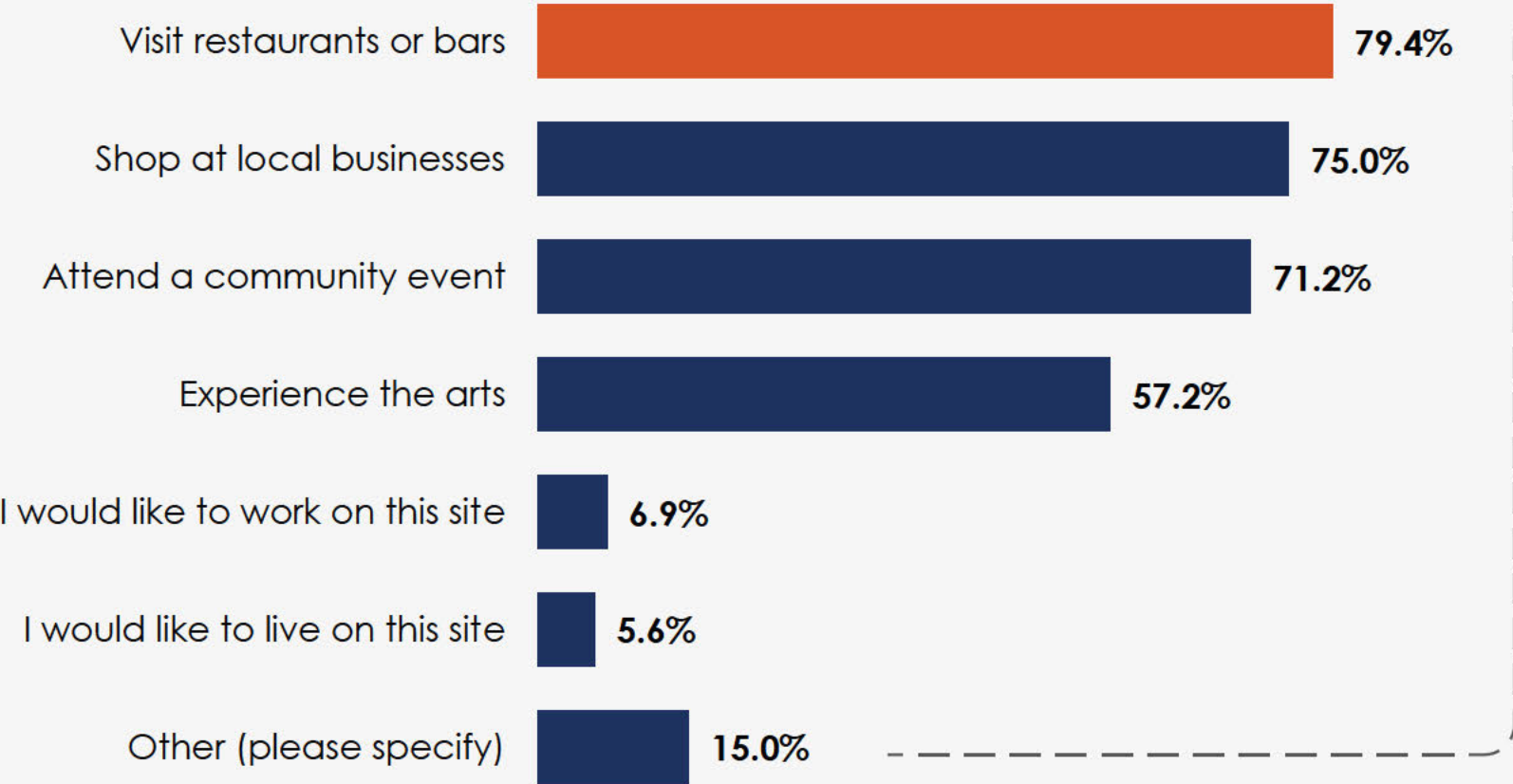


710 Responses from **Online Survey**



Online Survey: The Future of the Site

What would be the reasons that you would choose to spend time at this site in the future?

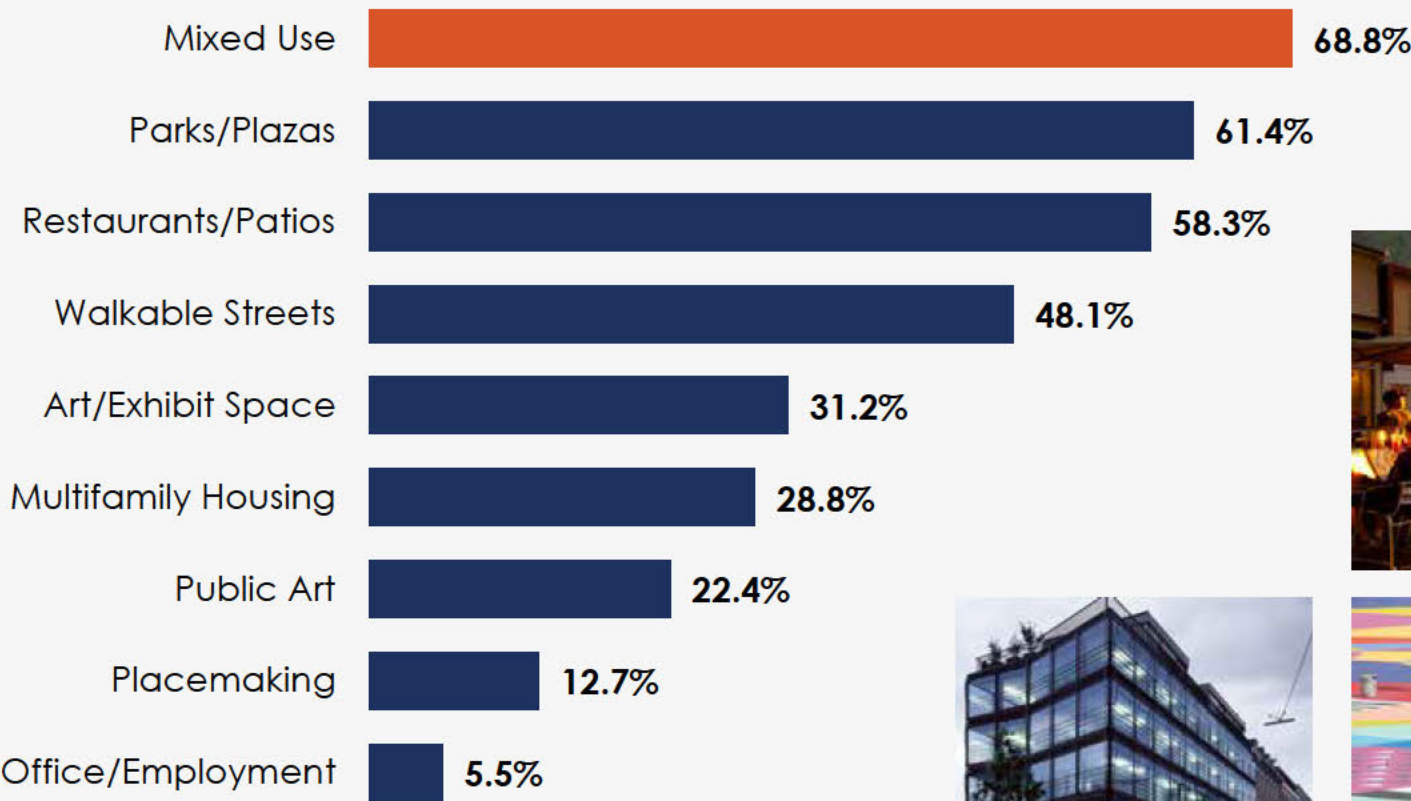


Other Reasons include:

- **Affordable Housing:** The site is a great location to help meet a citywide housing need.
- **Parks and Open Space:** The neighborhood needs more quality open spaces to bring people together.
- **Transit Hub:** The site has the opportunity to include a transit center that connects the neighborhood with its surroundings.

Online Survey: Future Developments or Improvements

What types of development or improvements would you like to see happen on the site?



Online Survey: How do you see this site in 5 years' time?

Top Mentions (629 Written Responses)

Creating an Arts and Culture District

- The site could include spaces for local artists, art venues, galleries, and art-related activities.
- A vibrant community hub focused on arts and cultural events.
- The site can provide a permanent home for the Kimball Arts Center and the Sundance Institute.

Supporting Mixed Use Development

- Creating a mixed-use development that includes a combination of housing, restaurants, shops, arts and cultural spaces, parks, and community gathering areas.

“An area with local shops and restaurants along with a Kimball Arts Center that hopefully also includes housing for workers.”

Opportunities for Affordable Housing

- There is a a strong need for housing options that are accessible to local residents and area employees.

“Under construction. Please. It’s been sitting for at least that long. We need to do something with it that will benefit the community.”

Parks, Open Spaces, and Places to Gather

- As part of a redevelopment, the design should include a gathering spot for the local community.
- This is envisioned as a place for people to meet, socialize, and enjoy concerts, art exhibits, and family-friendly events.
- The focus is on creating a welcoming and inclusive space for both residents and visitors.

Feasibility Study: Engagement Key Findings

5-Acre Site Feasibility Study

There is clear community support for a mixed use redevelopment of the 5-acre site that includes arts and culture uses. The community would like to see a mixed use redevelopment vision.

A mixed use development that includes housing will leverage the site's potential. The site's future should also include a mix of restaurants, shops, open spaces, galleries, artist space, and arts institutions.

The vision for Bonanza Park could help supplement some of the goals for this site. The surrounding area can support additional housing and arts and culture uses.

There is strong support to provide a permanent home for the Kimball Arts Center on the 5-acre site. The Kimball is a cherished local institution that will help program and activate the site.

The community would like more clarity on what "arts and culture" means for this site, and how it impacts public funding. This term is broad, with some wanting to understand the subsidy it will require before supporting.

A site redevelopment must include Open Space as a meaningful design element. New open spaces should be welcoming to all and include seating, shade, and be suitable for events.

Feasibility Study: Engagement Key Findings

5-Acre Site
Feasibility Study

Affordable Housing should be a focus. The site has the opportunity to help reach citywide affordable housing goals, and help house residents who would otherwise be priced out of the community.

Programming and activation will help make this a community gathering space. The site should be welcoming to Parkites of all backgrounds through festivals, events, and pop-up engagements.

Parkites are ready for action and to see the site being redeveloped. The community is asking for this site's potential to be finally realized and leveraged to help the community.

Next Steps



Next Steps

Following this week's update to City Council, the project team will:

Start Phase 2 of work to develop land use scenarios (Small Area Plan) and Site Design Alternatives (Feasibility Study)

Continue to engage the Latino Population in Park City, both in-person and through partnerships.

Share concepts and alternatives with the community at a second Community Meeting on Wednesday, October 18.



Please visit our website to learn more:

www.bonanzapark.com





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Appendix: Engagement Demographics

A photograph of a group of people sitting around a large, light-colored conference table in a meeting room. The room has large windows with blinds in the background. On the table, there are various items including a laptop, a water bottle, papers, and some electronic equipment. The people are engaged in a discussion, with some looking at documents and others looking towards the center of the table. The image is overlaid with a semi-transparent blue filter.

About the Parkites Who Joined Us at Community Meeting 1

Their connection to the Site and Study Area

I live in or near the Study Area/Site (70%)

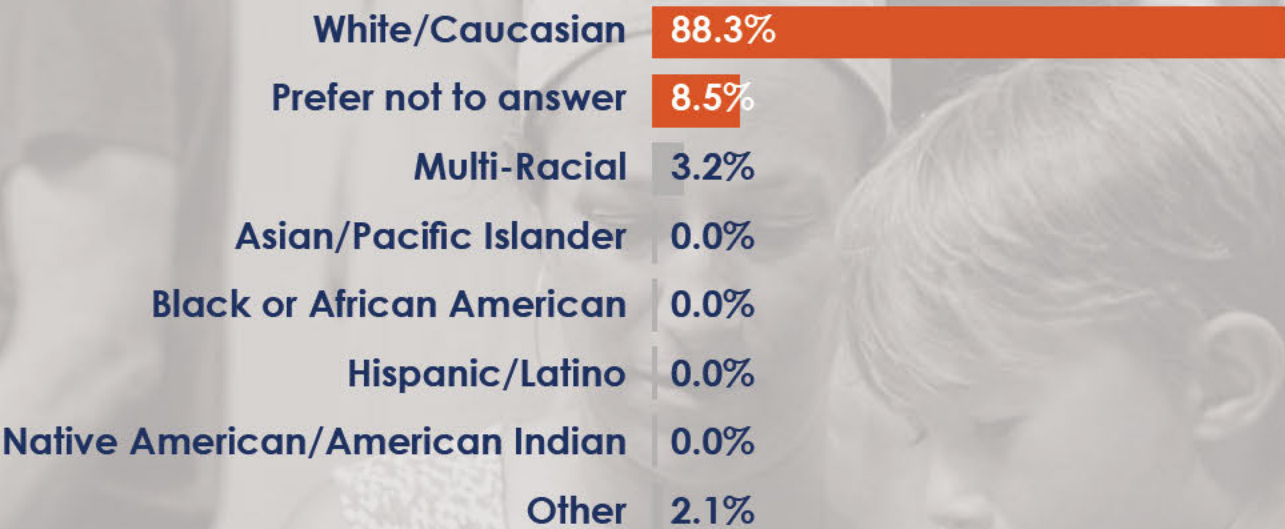
I shop or dine in the Study Area (65%)

I visit the Study Area for its destinations (42%)

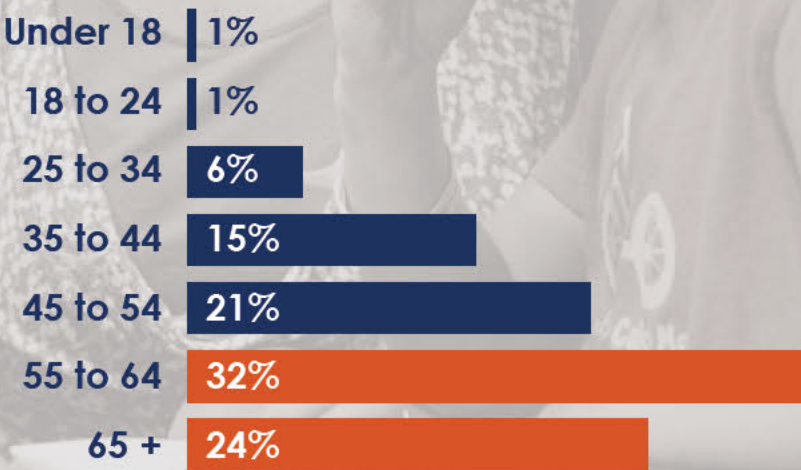
I work in or near the Study Area/Site (37%)

I rarely go to the Study Area (3%)

Their Race/Ethnicity

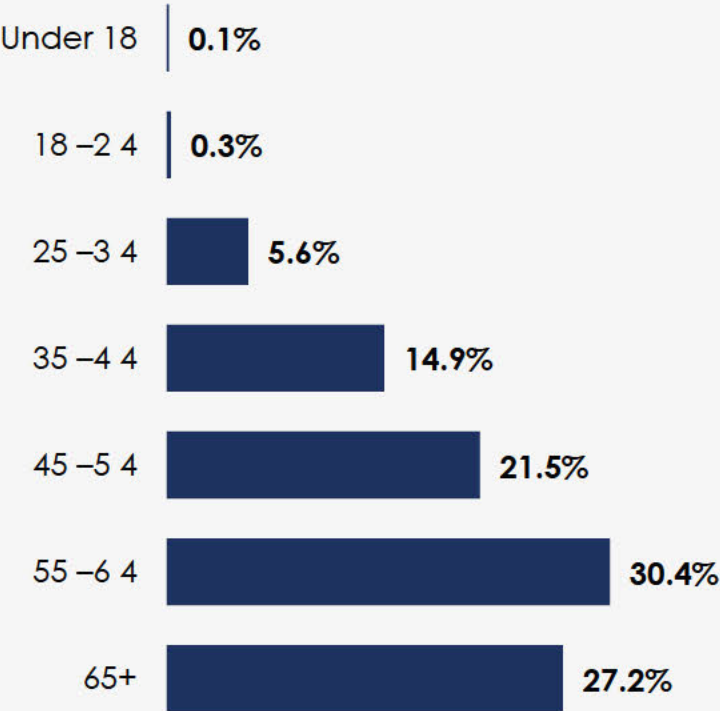


Their Age

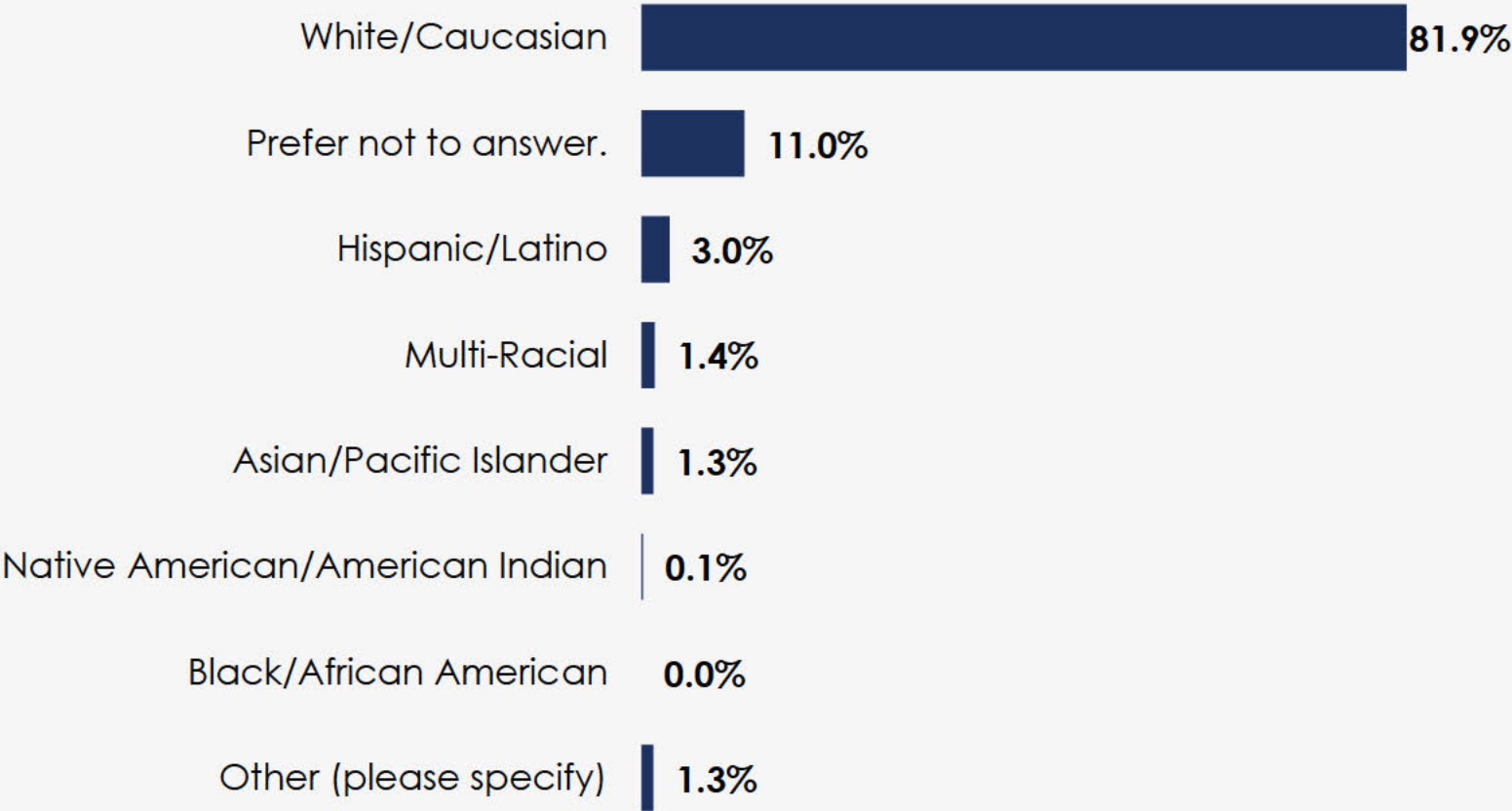


About the Online Survey Respondents

What is your age?

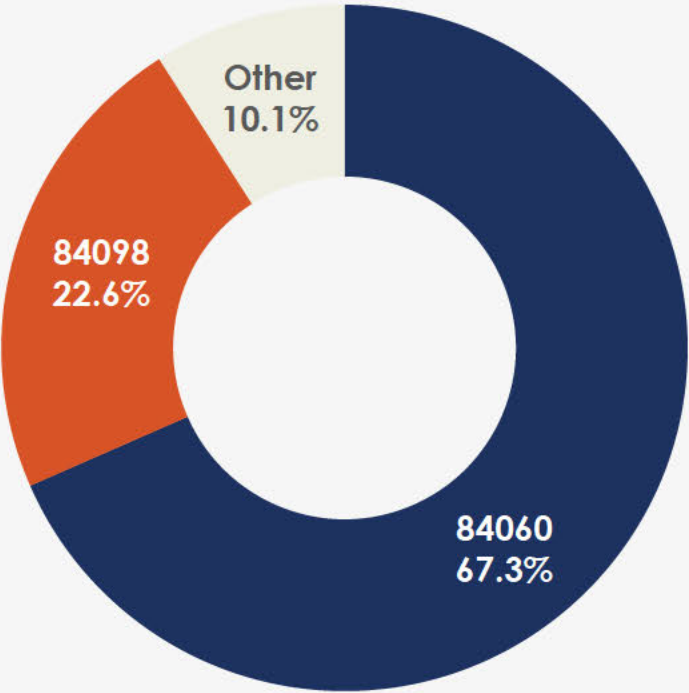


How would you best describe yourself?

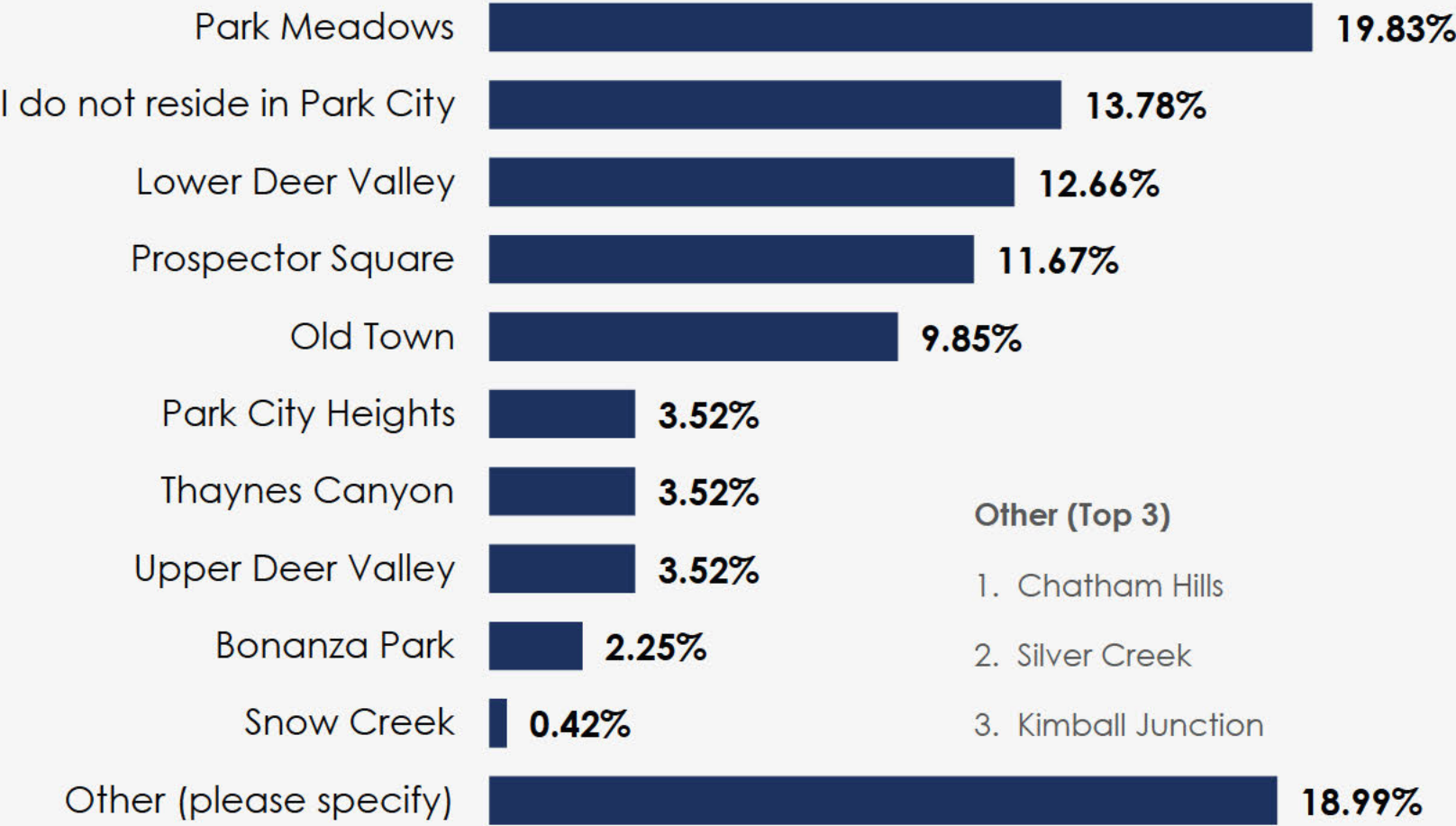


Where Online Survey Respondents Live

What is the zip code of your primary residence?

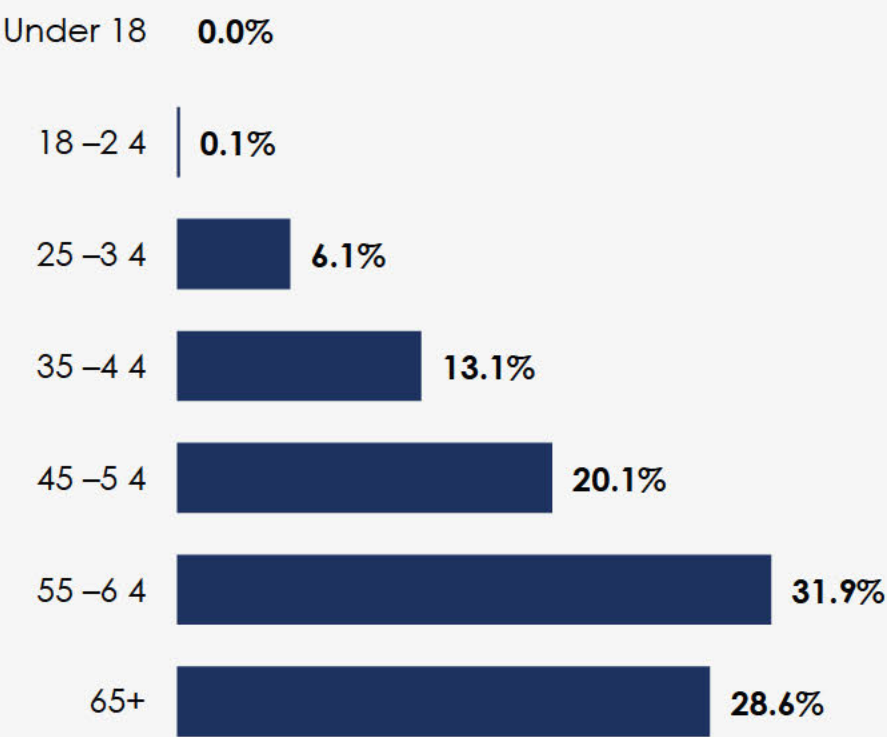


Where in Park City do you live?

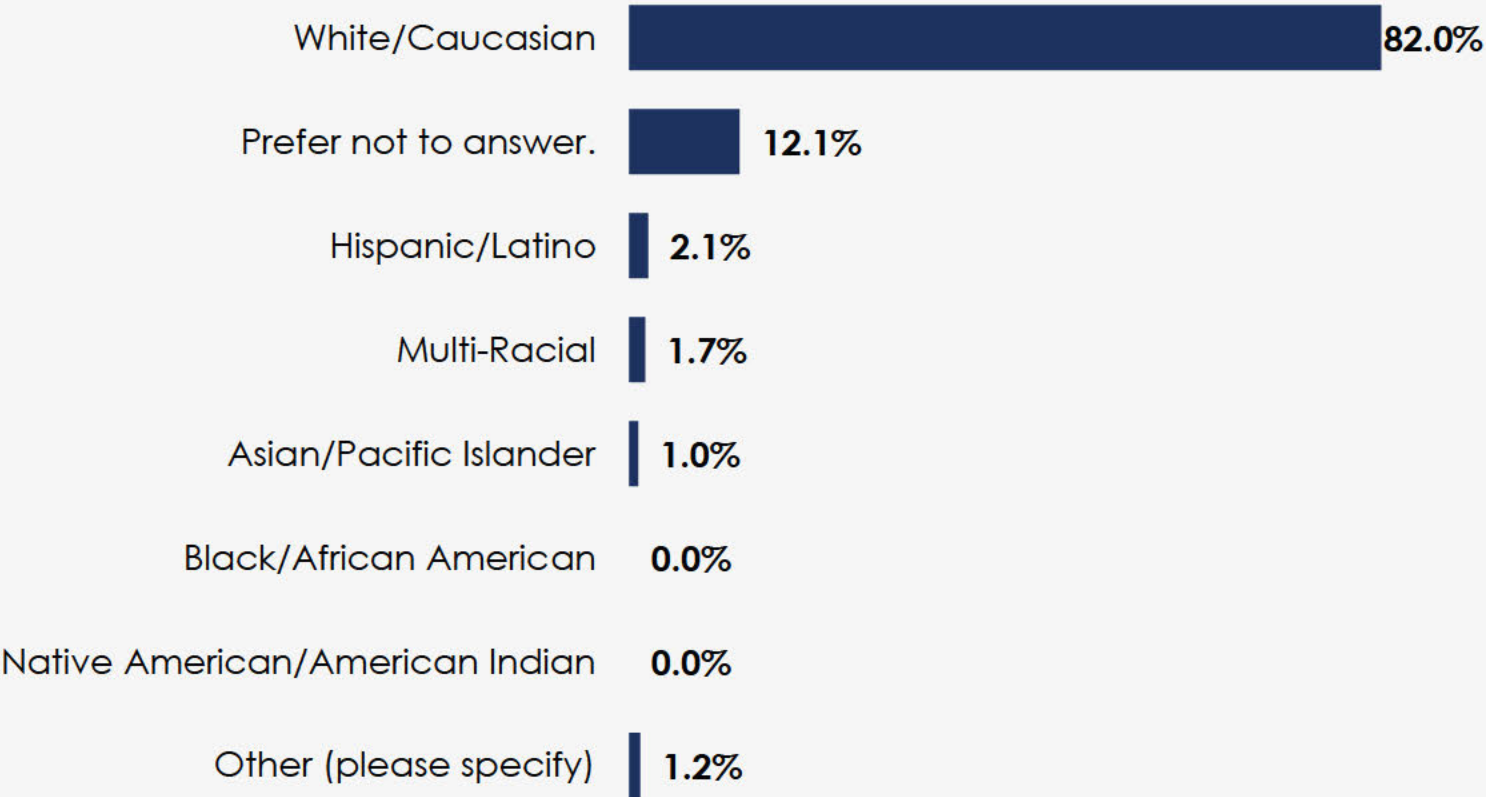


About the Online Survey Respondents

What is your age?

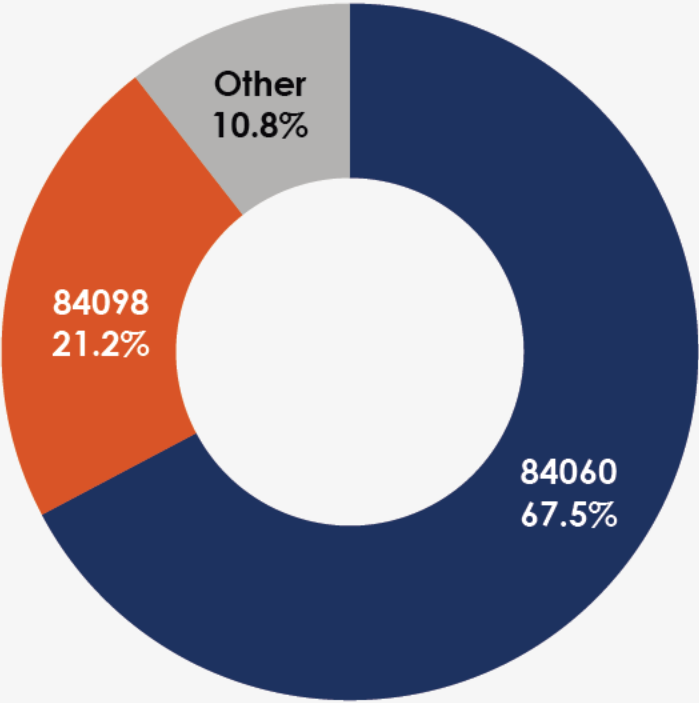


How would you best describe yourself?

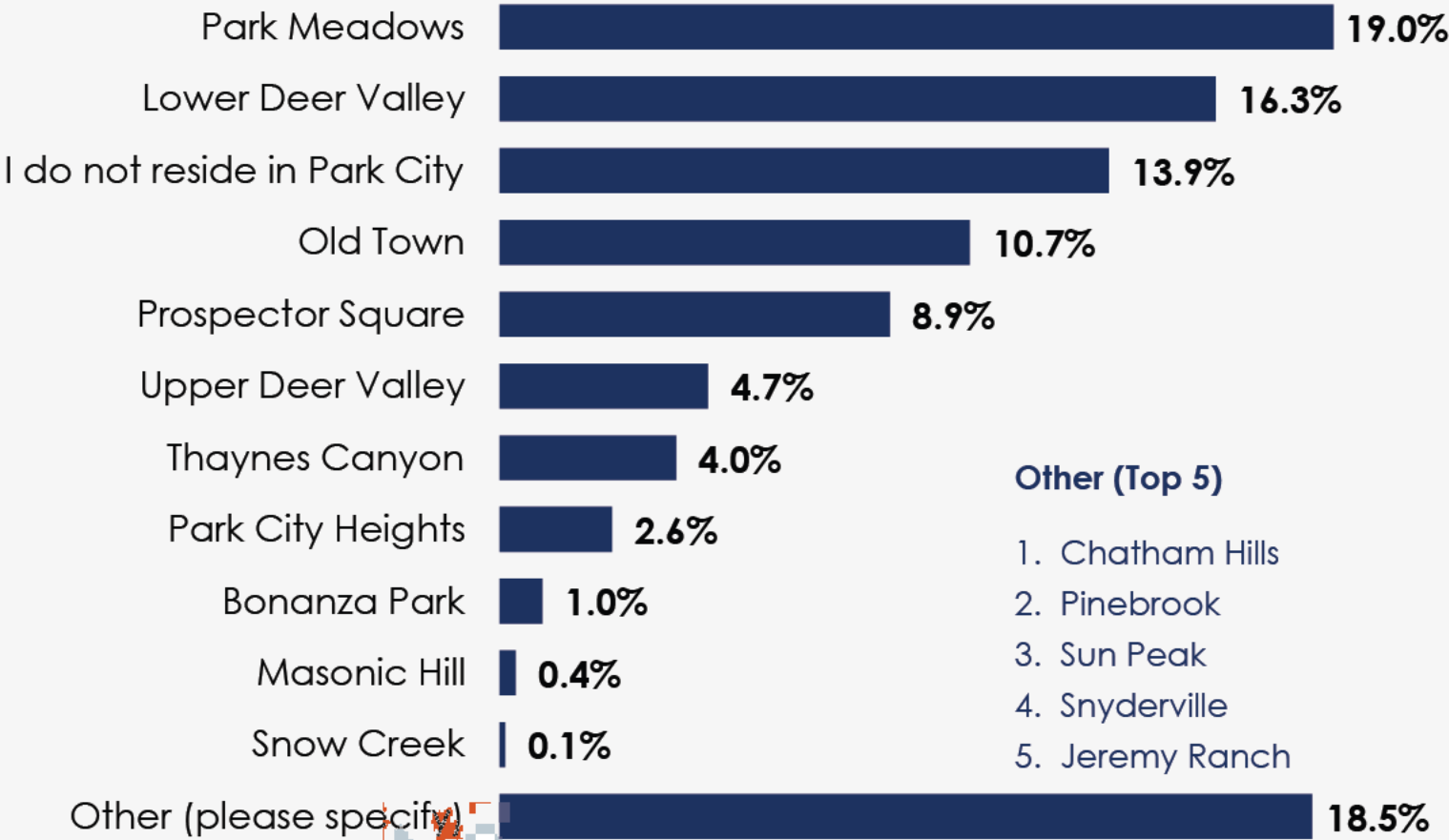


Where Online Survey Respondents Live

What is the zip code of your primary residence?



Where in Park City do you live?



- Other (Top 5)
- 1. Chatham Hills
 - 2. Pinebrook
 - 3. Sun Peak
 - 4. Snyderville
 - 5. Jeremy Ranch

Overview of Bonanza Park Planning Efforts, including Form-Based Code:

- April 14, 2010 – Planning Department presents planning strategies, FBC, and design concept for Bonanza Park to the Planning Commission
- April 22, 2010 – Planning Department presents planning strategies, FBC, and design concept for Bonanza Park to the City Council
- June 17, 2010 – Planning Department presents Bonanza Park long range planning informational session to a joint City Council/Planning Commission meeting
- January 25, 2011 – Planning Department presents a white paper, From Visioning to Planning to Implementation – A Case Study of Bonanza Park, to the City Council at the Visioning Retreat
- July, August, September 2011 – Planning Department presents Bonanza Park long range planning presentations at a series of four City Council Work Sessions
- December 31, 2011 – Planning Department completes the Bonanza Park – An Evolution of Plan area plan
- January 12, 2012 – Planning Department requests direction regarding Bonanza Park Area Plan and implementation at a joint City Council/Planning Commission meeting
- April 1, 2012 – PCMC signs contract with Gateway Planning to create a FBC for the Bonanza Park neighborhood
- Spring, Summer 2012 – Various Stakeholder meetings for Bonanza Park District held
- Fall 2012, Winter 2012, Spring 2013 – Various City Council meetings held to discuss Substation Relocation
- October 24, 2012 – Planning Department presents first draft of FBC to a joint City Council/Planning Commission meeting
- May 8, 2013 – Planning Departments holds work session with Planning Commission to discuss Bonanza Park Area Plan and FBC
- May 16, 2013 – Planning Department reviews Bonanza Park Area Plan and requests direction on draft FBC at a joint City Council/Planning Commission Work Session
- May 22, 2013 – Planning Department presents draft FBC at a Planning Commission meeting
- June 12, 2013 – Planning Department seeks policy direction on draft FBC at a joint City Council/Planning Commission work session - PCMC recommends putting the FBC

Exhibit B

work on hold to focus efforts on completing the General Plan

- March 6, 2014 – Adoption of the General Plan by the City Council with the Bonanza Park neighborhood plan and FBC recommendation incorporated
- May 13, 2014 – Planning Department reintroduces the draft FBC to a joint City Council/Planning Commission meeting
- June 12, 2014 – Bonanza Park Public Work Session with City Council on Bonanza Park Infrastructure
- August 6, 2014 – Planning Department presents draft FBC for discussion to Planning Commission in Special Meeting
- September 16, 2014 – Planning Department presents draft FBC for discussion to Planning Commission
- October 8, 2014 – Planning Department presents draft FBC for discussion to Planning Commission
- October/November 2014 – City Council recommends increased public outreach to property owners and public

In 2015, following additional public outreach, the City Council formally discontinued the FBC ordinance process.

History of Art and Cultural Stakeholder Input

In September of 2015, arts and culture groups collectively increased discussions with the City Council regarding community's long-term importance of arts and culture organizations and concerns of RAP and Restaurant Tax restrictions and the possibility of using real estate transfer tax for capital facilities for arts and culture and programming needs. On November 19, 2015, community members provided input to the City Council regarding arts and culture in Park City ([Minutes](#), p. 8). On December 8, 2016, staff returned to get direction on next steps for a possible Arts and Culture Master Plan ([Staff Report](#), p. 38; [Minutes](#), p. 6). On January 7, 2016, the City Council conducted a study session on arts and culture in the community ([Packet](#), p. 16 – 27; [Minutes](#), p. 3). The City Council agreed to form a steering committee to explore next steps (Arts and Culture Committee led by the Park City Summit County Arts Council). On January 28, 2016, the City Council appointed a City Council liaison to the Arts and Culture Committee ([Packet](#), p. 7; [Minutes](#), p. 3).

On April 27, 2017 ([Staff Report](#) p. 277; [Minutes](#), p. 12). On August 31, 2017 ([Staff Report](#), p. 30; [Minutes](#), p. 6), Project ABC update was presented to the City Council. During this meeting, the Park City Council unanimously supported the Park City Summit County Arts Council to administer Project ABC and approved an amendment to the Special Service Provider Contract with the Arts Council. Park City Council also discussed the importance of the project participation and funding being collaborative with various organizations and community members. On November 30, 2017 ([Staff Report](#), p. 3; [Minutes](#), p. 2), the Park City Council discussed Arts and Culture as a top priority. On December 14, 2017, Park City Council received a Project ABC Update ([Staff Report](#), p. 30; [Minutes](#), p. 7), including an update on data and preliminary findings. An early win described in the findings was that the City was pursuing an Arts and Culture District in coordination with Sundance Institute and Kimball Art Center. On March 29, 2018 ([Staff Report](#), p. 46; [Minutes](#), p. 3), the Park City Summit County Arts Council provided a final update on Project ABC. The Council discussed that while the Park City Summit County Arts Council convened the project, it was the larger community's role to implement the plan, and we needed clarity on which parts the City had a role in. The plan called for governance and leadership to fulfill the plan and discussed how the arts connect us as a community. [The final plan](#) includes a series of priorities and recommendations to support local artists, nonprofits, businesses, makers, and creatives. It also outlines key collective priorities (spaces, data, places, funding, governance and policy, faces, and programming) to drive these community needs forward. We understand the Park City Chamber has seeded Project ABC 2.0 and, depending on community partner funding, is slated to begin in 2024.

Bonanza Park Financial History



Bonanza Park District - Key Facts

- Planning efforts in the Bonanza Park District date at least to 2009. Yet, City Council's recent engagement in the district took a more active turn following public feedback regarding form-based codes in 2015 and Planning Commission concerns regarding [potential Master Planned Developments in the area](#) in 2016 that [requested code variances \(Planning Commission minutes pg. 43-44\)](#).
- In September of 2015, arts and [culture groups collectively increased discussions with the City Council \(Council packet pg. 16-27\)](#) regarding the long-term importance, programming needs, and facilities for arts and culture in the community. The City Council agreed to form a steering committee to explore next steps ("Arts and Culture Committee"). On January 28, 2016, the [City Council appointed a City Council liaison to the Arts and Culture Committee \(Council packet pg. 7\)](#).
- [Following feasibility studies and due diligence, City Council signed non-binding Letters of Intent \("LOI"\) with Sundance Institute and Kimball in July 2017 envisioning an Arts and Culture District \("the District"\) in Park City's Bonanza Park area \(Council packet pg. 239-293\)](#).
- The LOIs contemplated PCMC selling land to both partners, and PCMC constructing 60k-90k sq. ft. to improve Park City's land, including affordable or attainable housing, artist in residences, event space, outdoor theater, office and retail space, public art, music, food and culinary facilities, and more, [consistent with goals cited in the General Plan that discussed the concept of a "Film Festival Campus/Center."](#)
- [Within the LOIs, the parties acknowledged the central purpose was to inspire creative expression and agreed to strive for a design of a District that is artistically and architecturally significant, so long as the design complies with City code \(Council packet pg. 254-266\)](#).
- PCMC agreed to pay all costs associated with the MPD and design costs sufficient for a complete application; Sundance Institute and Kimball Art Center were responsible for all architecture and construction costs associated with their potential parcels.
- PCMC operated the district for several years while engaging experienced design and entitlement professionals, including GTS, Lake Flato, Webb Management, and others. Expenses included:
 - \$3.7M in design, architecture, planning and entitlement, and public engagement;
 - \$470k in property maintenance, operations, and excavation costs;
 - \$373k in payroll;
 - \$110k in utilities.
- The \$19.5M land purchase was funded through a 2017 sales tax revenue bond, using 65% of the Municipal [Transient Room Tax \("TRT"\) enacted in 2017 \(Council packet pg. 246\)](#), which derives from a 1% tax on lodging transactions in the City comprised almost completely of visitors. TRT revenues average \$4.5M/Y as of 2023 and TRT-related debt service on the 2017 bond averages \$1.5M/Y and is retired in FY33.
- In FY23, after a long pause and COVID-19 interruption, [Council initiated a new feasibility study and area planning process with MKSK to ascertain community input](#). The MKSK contract is \$389,100, with most of this expense still to be paid as of August 2023.

Bonanza Park District – TRT-Related Revenues and Expenses

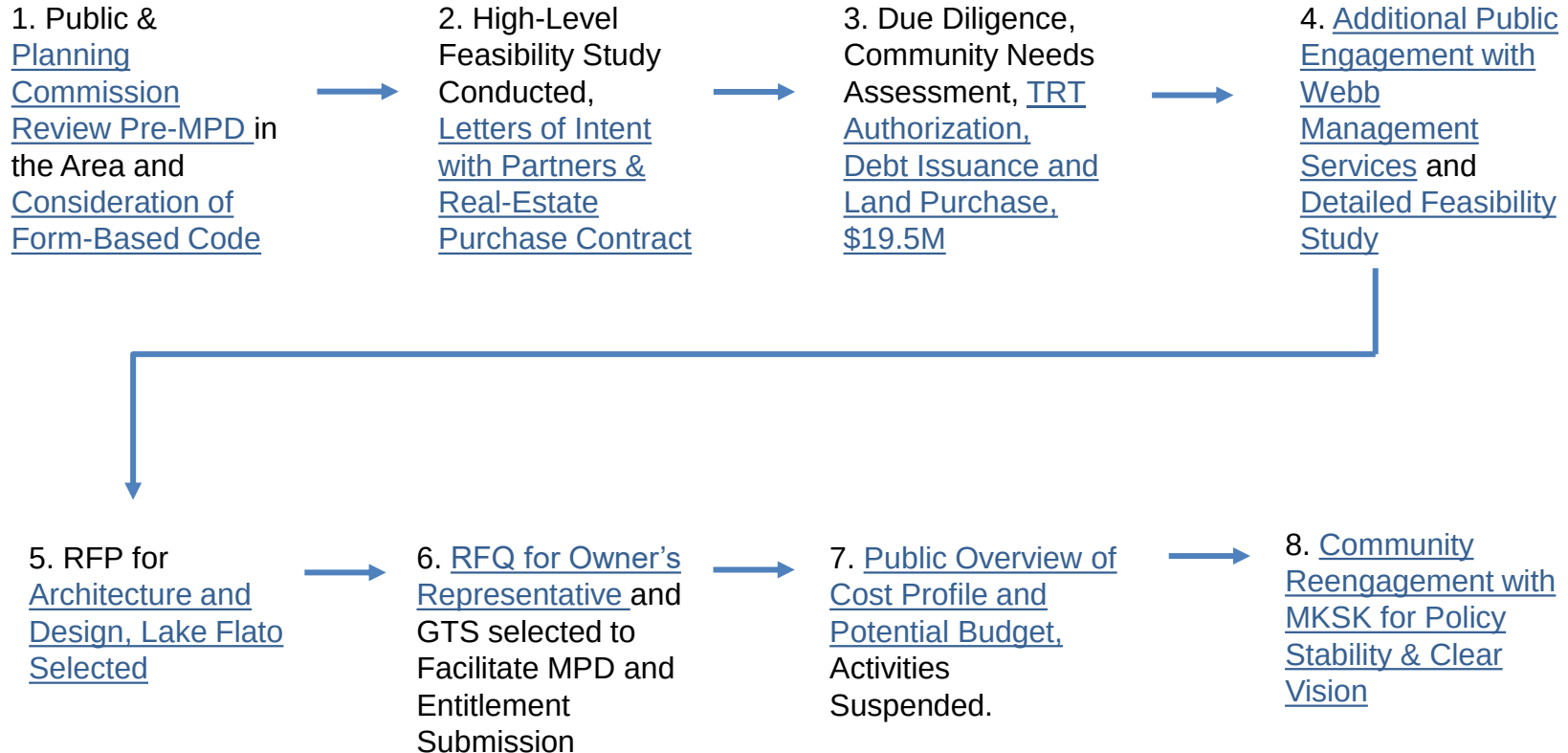
Revenues	2017	2018	2019	2020	2021	2022	2023	6Y Total
TRT Annual Revenue	\$ -	\$ 1,592,720	\$ 2,733,084	\$ 2,692,669	\$ 2,741,751	\$ 4,490,163	\$ 4,271,788	\$18,522,174
Bond Proceeds	\$ -	\$ 19,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$19,500,000
Rental Income	\$ -	\$ 328,700	\$ 581,286	\$ 467,209	\$ 38,679	\$ -	\$ -	\$ 1,415,873
Total Revenues	\$ -	\$ 21,421,420	\$ 3,314,369	\$ 3,159,877	\$ 2,780,430	\$ 4,490,163	\$ 4,271,788	\$39,438,047

Expenses	2017	2018	2019	2020	2021	2022	2023	6Y Total
Debt Service	\$ -	\$ 1,470,528	\$ 1,468,013	\$ 1,467,013	\$ 1,469,013	\$ 1,470,438	\$ 1,469,438	\$ 8,814,443
Payroll	\$ -	\$ -	\$ 19,551	\$ 174,249	\$ 29,403	\$ 66,852	\$ 83,060	\$ 373,116
Utilities	\$ -	\$ 18,714	\$ 32,422	\$ 30,374	\$ 20,612	\$ 4,889	\$ 3,741	\$ 110,752
Meetings, Conference, Travel	\$ 2,367	\$ 16,901	\$ 6,036	\$ 1,949	\$ 25,216	\$ 2,282	\$ -	\$ 54,751
Land Acquisition	\$ -	\$ 19,297,809	\$ 202,191	\$ -	\$ -	\$ -	\$ -	\$19,500,000
Design and Development Expenses	\$ 225,324	\$ 247,676	\$ 482,423	\$ 310,643	\$ 2,163,607	\$ 248,255	\$ 17,848	\$ 3,695,776
Property Maintenance, Operations and Snow Removal Expenses	\$ 41,528	\$ 105,457	\$ 136,854	\$ 29,117	\$ 137,242	\$ 19,334	\$ -	\$ 469,531
Total Expense	\$ 269,218	\$ 21,157,086	\$ 2,347,490	\$ 2,013,344	\$ 3,845,091	\$ 1,812,050	\$ 1,574,088	\$33,018,368

Revenue Less Expense	\$ (269,218)	\$ 264,334	\$ 966,879	\$ 1,146,533	\$ (1,064,662)	\$ 2,678,113	\$ 2,697,700	\$ 6,419,679
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Current TRT-Related Balance	\$ 6,419,679
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Bonanza Park District – Past Process

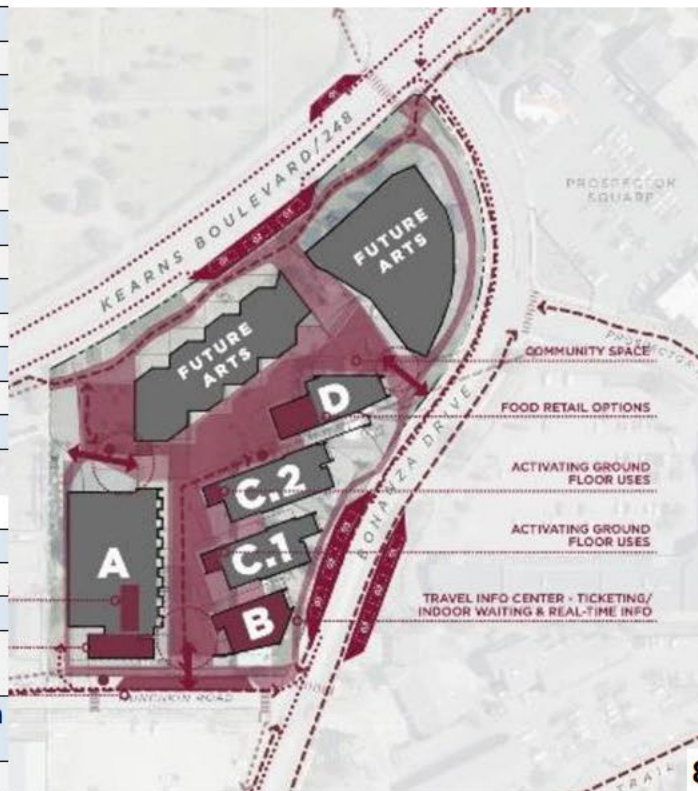


Bonanza Park District – Past Project Design; Full Features with Housing Maximized

Full scope 2021 budget options were feasible, yet would have constrained other city capital investments.

Revenue Source	Amount	Comment
ARST Portion New Bond	\$ 36,753,904	New sales tax bond would have been required
TRT Portion New Bond	\$ 22,148,575	New sales tax bond would have been required
TRT Cash	\$ 5,600,000	Past accrued TRT cash balance at time
2017 Bond Proceeds	\$ 19,500,000	Already spent bond proceeds on land
Affordable Housing	\$ 25,500,000	Would deploy all affordable housing funds
Sale of Land	\$ 6,825,000	Sale of land to partners
Transportation Fund	\$ 4,300,000	Transportation fund balance
Senior Center	\$ 1,000,000	Pull from Senior Center CIP
Soils Repository	\$ 1,700,000	Pull from Soil Repository CIP
Firehouse Sale	\$ 1,000,000	Now used for Housing Lite Deed Program
Housing Fee-in-Lieu	\$ 800,000	Would use realized past housing revenue
Walkability	\$ 750,000	Would use portion of walkability bond proceeds
Total	\$ 125,877,479	

Expense Category	Amount	Comment
Land	\$ 19,500,000	Expense already realized
Housing Related	\$ 39,280,594	
Non-Housing	\$ 45,582,150	
Transportation and Walkability	\$ 5,542,398	
Homestake/Woodbine/ Munchkin/Water	\$ 7,000,000	These projects are now budgeted with combination of TRT and 2015, 2017 Bond Proceeds
Total	\$ 116,905,142	



Source: Park City Municipal Corporation. As of August 2023.

Bonanza Park District - Re-Engagement with MKSK



In FY23, after a long pause and COVID-19 disruption, [Council initiated a new feasibility study with MKSK](#) to ascertain community input on a District. The contract is \$389,100 and includes both a feasibility study for the 5-acre city-owned site and a small area plan for the Bonanza neighborhood.

Activities include:

- Community meetings
- Stakeholder roundtables
- Advisory groups
- Online portal and surveys
- Additional Spanish outreach
- Market analysis
- Scenario planning



Bonanza Park District – Reference of Previous Council Meetings and Minutes

[August 24, 2016 Planning Commission Staff Report; Meeting Minutes](#)
[October 26, 2016 Planning Commission Agenda; Meeting Minutes](#)
[November 30, 2016 Planning Commission; Meeting Minutes](#)
[December 14, 2017 City Council Packet; Webb Feasibility Study \(Page 71\)](#)
[July 9, 2020 City Council Staff Report; Meeting Minutes](#)
[December 15, 2020 City Council Staff Report; Meeting Minutes](#)
[January 7, 2021 City Council Staff Report; Meeting Minutes](#)
[January 21, 2021 City Council Staff Report; Meeting Minutes](#)
[February 4, 2021 City Council Staff Report; Meeting Minutes](#)
[February 25, 2021 City Council Staff Report; Meeting Minutes](#)
[March 31, 2021 City Council Staff Report; Meeting Minutes](#)
[April 1, 2021 City Council Staff Report; Meeting Minutes](#)
[April 29, 2021 City Council Staff Report; Meeting Minutes](#)
[February 16, 2023 City Council Staff Report; Meeting Minutes](#)
[March 2, 2023 City Council Consent Agenda; Meeting Minutes](#)

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Executive

Item Type: Information

Agenda Section: WORK SESSION

Subject:

5:15 p.m. - Break

Suggested Action:**Attachments:**

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Transportation Planning

Item Type: Staff Report

Agenda Section: COMMUNICATIONS AND DISCLOSURES FROM
COUNCIL AND STAFF

Subject:

Update on UDOT's US-40 and SR-248 Interchange Project

Suggested Action:

Attachments:

[US Highway 40 and SR248 Interchange Project Staff Report](#)

[Exhibit A: US-40 and US-40 SR-248 Interchange](#)

[Exhibit B: Westbound US-40 Flyover to Westbound I-80 and Eastbound I-80 Off Ramp at Kimball Junction](#)



City Council Staff Communications Report

Subject: US-40 and SR-248 Interchange Project Update
Author: Alex Roy, Senior Transportation Planner
John Robinson, City Engineer
Anna Maki, Transportation Planner
Gabriel Shields, Transportation Engineer
Department: Transportation Planning and Engineering
Date: August 29, 2023

Summary

The following is an informational update of two upcoming UDOT projects on US-40. The first project will perform concrete pavement rehabilitation on US-40, widen the US-40 off-ramps at SR-248, and add an additional SR-248 eastbound left turn onto northbound US-40. See **Exhibit A**.

The second UDOT project is being combined with the above project for construction efficiency. This project is a complete reconstruction of the asphalt pavement on the westbound US-40 flyover ramp onto westbound I-80 and a complete reconstruct of the asphalt pavement on the eastbound off-ramp to Kimball's Junction. The purpose of the additional work on the US-40 westbound flyover ramp to I-80 and the eastbound off-ramp at Kimball's Junction is to extend the life of the pavement. Last winter significantly accelerated the deterioration of the asphalt pavement. (**Exhibit B**) Construction on these projects will be in 2024.

US-40/SR-248 Interchange Project

The current configuration of the US-40 / SR-248 interchange reaches capacity at peak times and has risen in priority due to the growing traffic volume and associated safety challenges. UDOT has developed a plan to improve the interchange and ensure efficient traffic movement in response to these issues.

Proposal Details:

Existing Configuration:

- Southbound US-40 off-ramp at SR-248 consists of one through/left lane and one right turn lane.
- Northbound US-40 off-ramp at SR-248 consists of one through/left lane and one right turn lane.
- SR-248 eastbound consists of one right turn lane onto southbound US-40, one left turn onto northbound US-40, two through lanes, and one bike lane.
- SR-248 westbound consists of one right turn lane onto northbound US-40, one left turn lane onto southbound US-40, and two through lanes.

Proposed Configuration:

- US-40 configuration will stay the same.
- US-40 southbound off-ramp at SR-248 consists of *two right turn lanes* and one left/through lane.
- US-40 northbound off-ramp at SR-248 consists of *two left turn lanes* and one right/through lane.
- SR-248 eastbound consists of one right turn lane onto southbound US-40, *two left turns onto northbound US-40*, two through lanes, and one bike lane.
- SR-248 westbound movements remain the same.
- The US-40 westbound flyover ramp to westbound I-80 configuration will remain the same.
- The eastbound I-80 off-ramp to Kimball's Junction will remain the same.

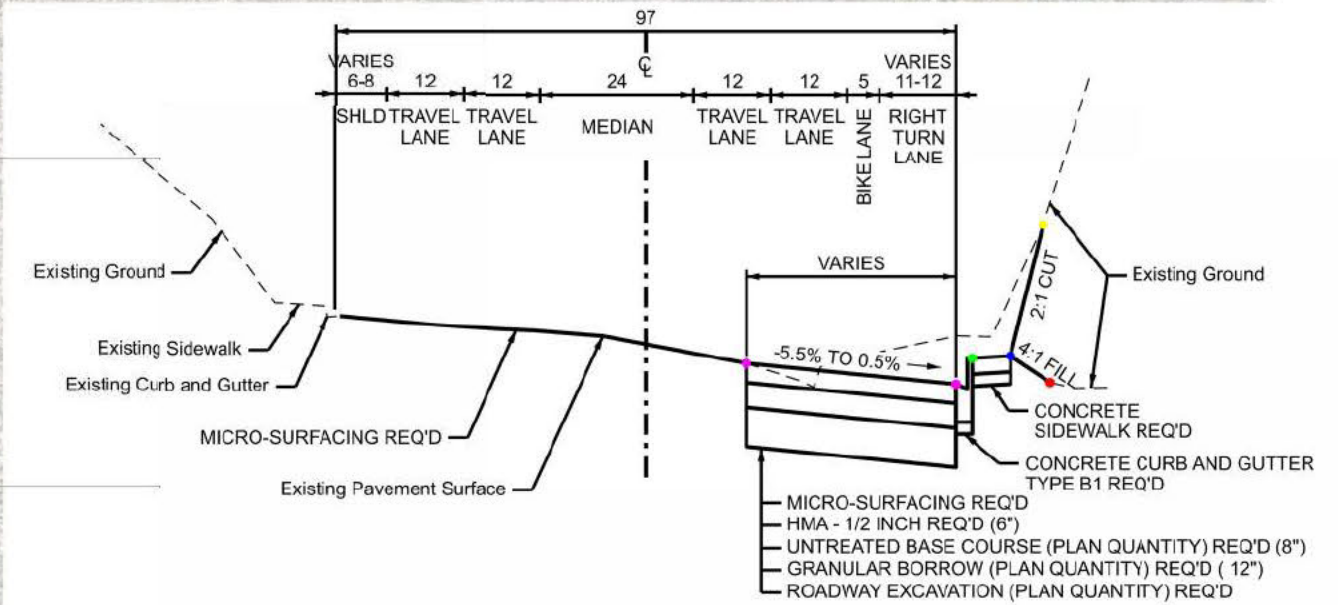
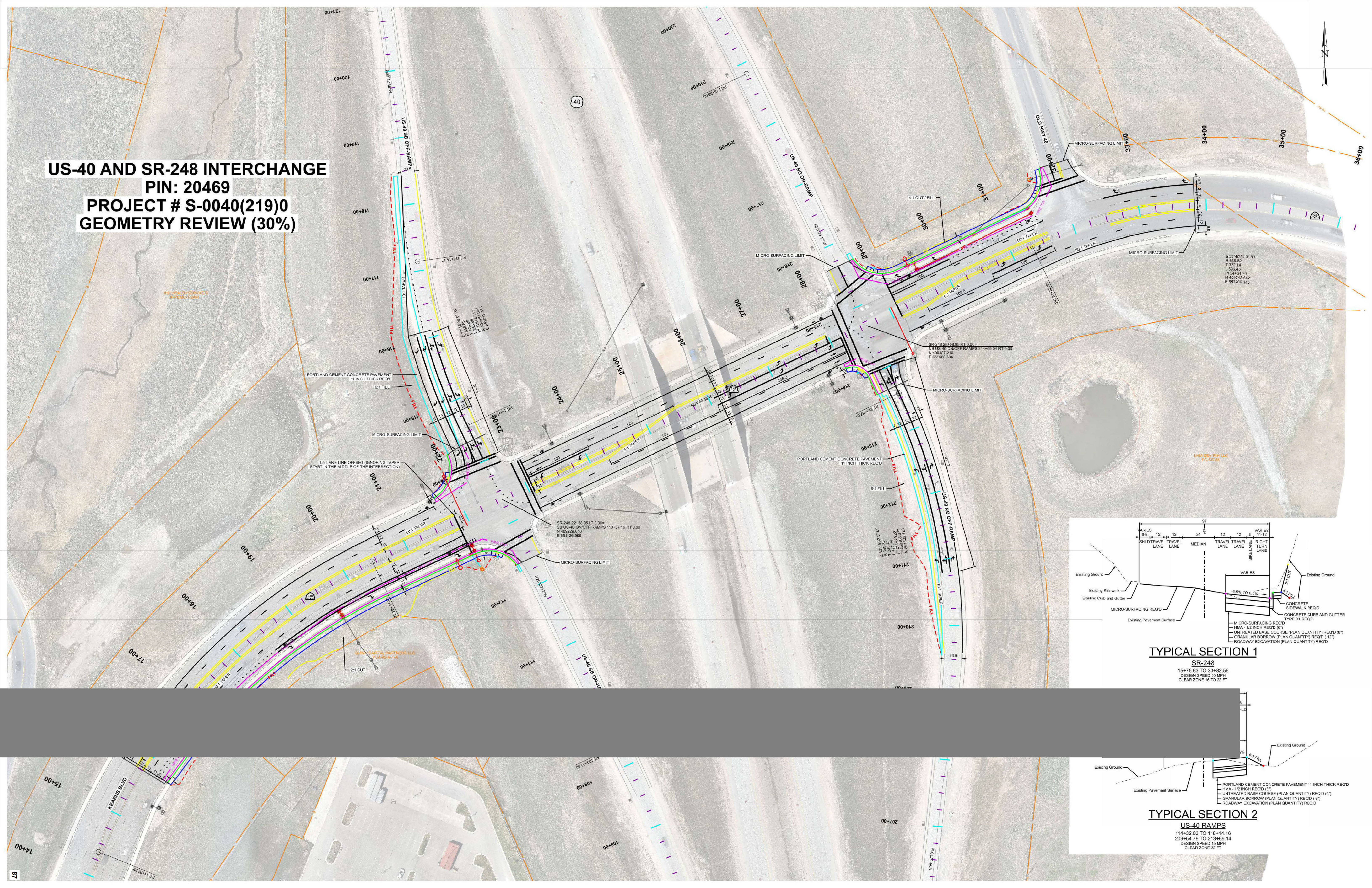
The existing SR-248 interchange configuration has seen increased traffic volumes leading to periods of congestion and queue lines backing up onto US-40 at the US-40 off-ramps to SR-248. The proposed US40/SR248 interchange configuration is anticipated to accommodate increased traffic volumes and improve safety concerns associated with queue lines backing up onto US40 at the US40 off-ramps to SR-248.

Exhibits

A – US-40 and US-40 / SR-248 Interchange

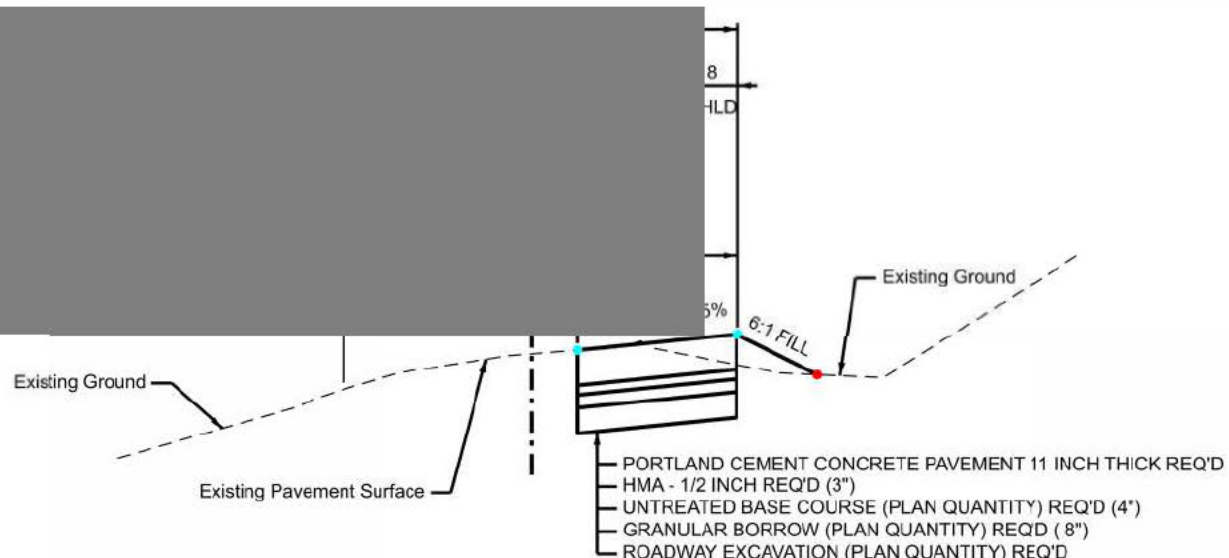
B – Westbound US-40 flyover to westbound I-80 and eastbound I-80 off-ramp at Kimball's Junction.

US-40 AND SR-248 INTERCHANGE
PIN: 20469
PROJECT # S-0040(219)0
GEOMETRY REVIEW (30%)



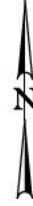
TYPICAL SECTION 1

SR-248
15+75.63 TO 33+82.56
DESIGN SPEED 50 MPH
CLEAR ZONE 16 TO 22 FT



TYPICAL SECTION 2

US-40 RAMP
114+32.03 TO 118+44.16
209+54.79 TO 213+69.14
DESIGN SPEED 45 MPH
CLEAR ZONE 22 FT

WB I-80 FLYOVER FROM US-40 PAVING LIMITS

NOTES:

1. DO NOT RECONSTRUCT THE SHOULDER ON THE NORTH SIDE.
2. RECONSTRUCTION LENGTH IS APPROXIMATELY 3,539 FEET LONG.

[illegible]

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Executive

Item Type: Information

Agenda Section: COMMUNICATIONS AND DISCLOSURES FROM
COUNCIL AND STAFF

Subject:

CivicPlus Meeting Management Software

Suggested Action:

Attachments:

[CivicPlus Software Staff Report](#)

City Council Staff Communications Report



Subject: CivicPlus Meeting Management Software
Author: Michelle Kellogg, City Recorder
Department: Executive
Date: August 29, 2023
Type of Item: Informational

Park City Municipal recently contracted with CivicPlus to update and enhance its meeting management software system. CivicPlus will be used for City Council, Planning Commission, Historic Preservation Board, and Board of Adjustment meetings beginning September 27, 2023, provided all training and integration processes are successful.

Background

The City first implemented online meeting management software in 2015 with IQM2 to enhance community engagement and transparency by live-streaming the audio of City Council and Planning Commission meetings and creating a more efficient internal review process. In 2018, after our provider was purchased by Granicus, we moved to their new platform and added video-streaming capability.

Recently, technology and customer service issues have grown, including intermittent streaming interruptions. For these reasons, we put out a new RFP to solicit interest from additional providers working in other cities and towns across the country.

Some advantages we believe CivicPlus will offer include:

- Higher cyber-security score rating;
- Meeting video is live when meetings are held at other locations as well as when they are in Council Chambers. For example, Council retreats held at the library will now be live-streamed from the City webpage via CivicPlus as well as from Zoom.
- More responsive internal customer service;
- Integrated meeting minutes;
- Ability to move approved ordinances from a meeting agenda into the Municipal Code; and
- Online Council/Commission/Board portal for annotating meeting items and keeping and tracking notes and comments.

City Council will be emailed login information to the new board portal mid-September so they can view agenda items and prepare for the September 28th meeting. The public will see upcoming and archived meetings in a similar format as is currently shown on the [Public Meeting Info & Listen Live](#) webpage on the City website..

If you have any questions, please contact Michelle Kellogg, michelle.kellogg@parkcity.org. We are excited to enhance our meeting management software platform and continue providing live-streamed public meetings to the public.

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Executive

Item Type: Information

Agenda Section: PRESENTATION

Subject:

Deer Valley Resort Expansion Presentation by Todd Bennett, President and Chief Operating Officer

Suggested Action:

Attachments:

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Transit

Item Type: Staff Report

Agenda Section: CONSENT AGENDA

Subject:

Request to Authorize a Three-Year Service Provider Agreement, in a Form Approved by the City Attorney with Turbo Images Corp., Not to Exceed \$397,800.47, for Removal, Printing, and Installing Vehicle Wraps on Park City Transit Vehicles

Suggested Action:

Attachments:

[Bus Wrap Installation Staff Report](#)

[Exhibit A: Draft Bus Wrap Design](#)

City Council Staff Report



Subject: Installation of Bus Wraps on Park City Transit Vehicles

Author: Kim Fjeldsted, Transit Manager

Department: Transportation

Date: August 29, 2023

Type of Item: Consent

Recommendation

Consider a request to authorize a Service Provider Agreement for approval by the City Attorney, with RBO IMAGES CORP., not to exceed \$397,847 for removal, printing, and installation of Park City Transit ("PC Transit") vehicles. The term of the agreement shall be for three years with the option to renew for up to two additional years one year each.

Background

The strategic design change for the PC Transit fleet occurred after the 2020 Olympics with the installation of the Helvetica motif. This theme included a redesign of outdoor activities, wildlife, and our rich mining heritage. In evening, a wrap design options with our community committee, discovered the Chamber of Commerce is launching new marketing and branding campaign in spring 2024. We are excited by the potential to coordinate the wrapping of Park City transit buses to line up and coordinate with the new Park City brand. This unique opportunity provides consistent messaging and images across the entire region and helps elevate the prominence and cross-marketing opportunities for our community.

As a result, with City support, the Chamber's agency developed a combined effort on the bus wrap design to line up with the new brand to help raise the visibility of the PC brand statewide. Other innovative branded items may include branded pole banners, wind signage, bike racks, and other branding in posters, etc. The Chamber plans to utilize images of the new buses in its vertical integration at the Chamber (television, internet, etc.) and hopes this synergy creates a new partnership moving forward that will increase transit ridership and utilization.

We anticipate to implement the new design and have seven new electric buses waiting. Though we are a fan of the 10-year-old design, we reexamine the installation of new designs. Look at PC Transit and work with the Chamber to ease transit ride share. We are still working on the final design, See **Exhibit A** for general design direction.

Analysis

On July 1st, the Transit Department published a Request for Proposal (RFP) to invite the best qualified respondent. Notice was posted on the city webpage and the Public Procurement Office U3P webpage. Furthermore, the RFP was physically posted at both Public Works office buildings.

Responses from four vendors were received through the Utah Public Procurement Place (U3P) webpage. After PC Transit requested additional information, one vendor chose to withdraw. Three proposals were evaluated by Transit and Fleet departments.

Bid Results	Not to Exceed Amount*
TURBO IMAGES CORP	\$397,800.47 - RECOMMENDED
Bigfoot Sign and Graphics LLC	\$536,824.08
TH Graphic Installations LLC	\$909,632.00 - \$1,153,452.00

*Not to Exceed Amount includes both phases of work as described below

Once approved, the agreement will include two phases of work:

- (1) September 18 - October 11, 2023: Removing existing wraps on twelve transit vehicles, removing and installing new wraps on twenty-four transit vehicles.
- (2) November 11, 2023 - September 22, 2024: On-call contract for estimated additional work to include the removal, printing, installation, and ongoing maintenance of wraps for existing future vehicles. Includes up to approximately 37,800 square feet of additional work over the years.

In preparation for the 2023-24 winter season, TURBO IMAGES CORP has agreed to complete the initial phase by October 1, 2023. All winter driving conditions will occur inside our limited-controlled bus storage facility at the depot.

TURBO IMAGES CORP has agreed to meet Park City's standard for high-quality workmanship and product. All materials and supplies are required to withstand extreme temperatures, including hot and cold weather, and will be warranted for several years.

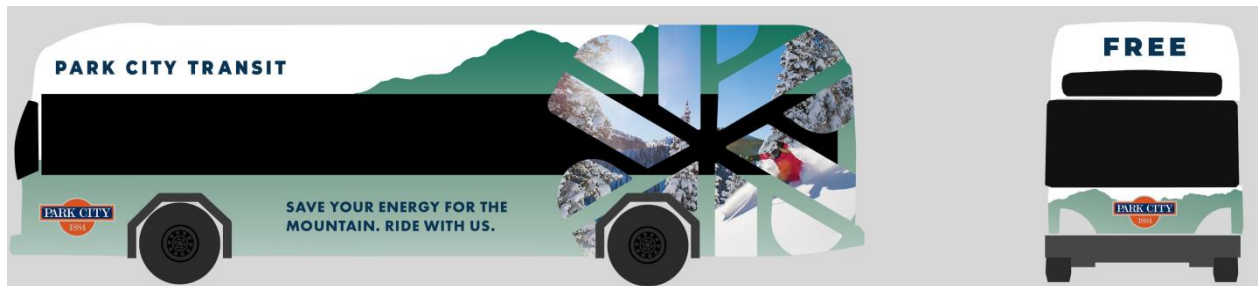
Funding

This project is budgeted in the FY24 Transportation Budget.

Exhibits

Exhibit A: Draft Bus Wrap Design

Exhibit A



Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Sustainability

Item Type: Staff Report

Agenda Section: CONSENT AGENDA

Subject:

Request to Authorize a Service Provider Agreement with Historic Park City Alliance (HPCA) for Centralized Communication and Waste Management for the Main Street Business District Not to Exceed \$80,000 Annually

Suggested Action:

Attachments:

[MSBD Contract for Centralized Communication and Waste-Recycling Management Staff Report](#)
[Exhibit A: Draft Scope for Centralized Communication and Waste-Recycling Services for MSBD](#)



City Council Staff Report

Subject: Service Provider Agreement for Centralized Communication & Waste/Recycling Management for the Main Street Business District

Author: Sarah Pearce, Jenny Diersen, Luke Cartin, Troy Dayley, Linda Jager

Department: Executive, Special Events, Sustainability, Public Works, Community Engagement

Date: August 29, 2023

Type of Item: Consent - Administrative

Recommendation

Consider authorizing the City Manager to execute a Service Provider Agreement, in a form approved by the City Attorney's Office, with Historic Park City Alliance (HPCA) for centralized communication and waste management for the Main Street Business District (MSBD) not to exceed \$80,000 annually.

Executive Summary

Main Street is unique when compared to other commercial locations in Park City. The City owns, regulates, and operates major aspects of the overall area, including streets, sidewalks, plazas, stairs, walkways, parking, and waste infrastructure. The street's historic district regulations also require more careful and complex planning and zoning. This requires daily collaboration to operate the area effectively.

A Business Improvement District (BID) for Main Street was created in 2007 after Summit County's decision to cease providing commercial waste services. Despite a desire for coordinated services and communication between Main Street merchants and the City, there is no express authorization for the BID's continuation under Utah law.

There is a complete history of the Main Street BID [here](#). Most recently, on July 27, 2023 ([report](#) p. 5 / minutes not yet published), the City Council held a Work Session to discuss future opportunities given the BID discontinuation. Council provided direction to procure a Service Provider Contract for Centralized Communication and Waste Management for up to \$80,000 (**Exhibit A**).

Analysis

After the July 27 Council meeting, we worked to procure a Service Provider as directed. Rule 5-3 of the City's Procurement Rules provides that the competitive procurement requirements for certain procurements may be waived under certain circumstances and when there is reasonable justification for such a waiver. We published notice of intent to waive the City's procurement process on [Monday, August 21, 2023](#), as required for procurements over \$50,000.

The Procurement Official determined that a waiver is appropriate based on the information below:

- Awarding the contract through the Standard Procurement Process is impractical and not in the City's best interest because procurement of the services is unlikely to produce competition. The procurement item is for centralized communication, both to and from the MSBD businesses and employees, and waste/recycling management services for the MSBD. These services require a provider that can efficiently communicate and collaborate with the City and MSBD businesses and employees regarding special events and filming, parking, construction, waste/recycling, security, other City processes, information, surveys, regulations, and more. The provider must also effectively work with the City and MSBD businesses regarding trash and recycling services.
- The scope and complexity of services that PCMC is seeking, as well as the geographic scope and complex array of regulations, makes it unlikely that the Standard Procurement Process would result in competition and would instead only increase the cost and time for the City to acquire the services.
- The HPCA has long provided these services and has been the only respondent in the previous two Requests for Proposals issued for similar services in the MSBD. HPCA understands what services are needed, how to communicate with MSBD businesses and employees, and how to manage waste and recycling services efficiently and effectively.

The Agreement includes five one-year terms with an annual required check-in with City Council by the first meeting in April. The detailed scope of service is outlined in **Exhibit A** and applies to all merchants in the Main Street Business District, regardless of whether they are an HPCA member. The main areas covered in the scope of service include:

- Communicate to all merchants and employees in the MSBD through various and regular communication channels regarding special events, filming, parking, construction, waste/recycling, security, and other City processes, information, and surveys.
- Feedback and Position Papers: Responsible for gathering feedback on topics requested by the City and providing formal position papers to appropriate City staff or City Council as directed.
- Waste and Recycling Services: Work with MSBD and City departments regarding waste and recycling services, specifically evaluating the program related to renewing the service agreement with the solid waste hauler and ongoing collaboration.
- Business License & City Operations Tool Kit: Produce an electronic informational hand-out for new or renewed licensed businesses within the MSBD, educating them on waste management and City operations.
- Reporting:
 - a. Summary of updated Position Papers provided;
 - b. Summary of communication efforts regarding events, parking, construction, updated contact info for businesses, etc.;
 - c. Summary of communication strategy including amount and types of merchant input;

- d. Summary of waste and recycling reduction efforts as a district;
- e. Summary of actions for cleanliness to reduce unsanitary conditions, misuse, and contamination.

Funding

Funding for this will come from the parking event revenues in the Parking Fund. These funds have been allocated here for previous HPCA disbursements.

Exhibits

- A Draft Scope of Services: Centralized Communication and Waste Management for Main Street Business District

EXHIBIT “A”

DRAFT SCOPE OF SERVICES

Perpetuation of this service provider agreement is contingent upon the satisfactory execution of the scope of services, which is in part determined by the achievement of the scope of work. The service provider will provide an annual summary to the City Council by the first meeting in April of how each of the services in the scope are met.

- A. In collaboration with the City, provide timely communication to all merchants and employees in the Main Street Business District (to include HPCA members and non-members) through various channels (i.e., newsletter, emails, phone calls, social media, merchant-to-merchant noticing and meetings) including, but not limited to special events and filming, parking, construction, waste/recycling, security and other City processes, and information or surveys (i.e., Municipal Code amendments) that may impact the Main Street area. Provide annually, or as requested, an updated contact list for each business. Produce a bi-annual strategic communications plan and protocol due the last Friday in November and March.
- B. The Service provider is responsible for gathering merchant feedback from HPCA members and non-members on topics requested by the City and provide a formal position paper to appropriate City staff or City Council as requested. Efforts in good faith should be made to include comments, suggestions, and feedback from businesses in the Main Street Business District (MSBD) to the Executive Director of the HPCA.
- C. Provide communication to Main Street Business District (including HPCA members and non-members) regarding waste/recycling services for the MSBD and work with City staff to evaluate the program, specifically related to the renewal of the service contract with the solid waste hauler. Act as the primary point of contact between the City, solid waste service provider, and Main Street merchants, including but not limited to mitigating trash site cleanup issues, lack of service issues, billing questions, etc. Hold waste/recycling meetings as requested by the City with the Waste and Recycling Committee to evaluate the program and monitor the shared account billing rates. Provide an agenda and summary of each meeting.
- D. Produce and distribute a digital flyer to new or renewed licensed businesses within the MSBD outlining waste management protocol and City operations. This document will include HPCA contact information and should be submitted to the Finance Manager no later than the third Friday in August annually. The City requires that the Service Provider present updates to City staff and Council Liaisons a minimum of twice annually to include the following:

- a. Updated Position Papers;
- b. Summary of communication and outreach activities for events, parking, construction notification, and a copy of a current business contact list., etc.;
- c. Summary of communication activities, including amount and types of merchant input;
- d. Summary of waste/recycling reduction efforts as a district; and
- e. Summary of actions for cleanliness to reduce unsanitary conditions, misuse, and contamination.

DRAFT

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Executive

Item Type: Staff Report

Agenda Section: NEW BUSINESS

Subject:

Consideration of a Request from Summit County, Utah, for an Interlocal Cooperative Agreement for Basic 911 Services between Summit County, Utah, the Park City Fire District, and Park City Municipal Corporation

- Summit County Manager, Shayne Scott, will provide a briefing for the Mayor and City Council

Suggested Action:

Attachments:

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Planning

Item Type: Continuation

Agenda Section: NEW BUSINESS

Subject:

Consideration to Approve Ordinance 2023-41, an Ordinance Approving an Extension of City Council's September 1, 2022, Approval of Ordinance No. 2022-33, an Ordinance Approving the Sommet Blanc Condominium Plat, Located at 9300 Marsac Avenue, Park City, Utah
(A) Public Hearing (B) Continue to September 14, 2023

Suggested Action:

Attachments:

[9300 Marsac Continuation Report](#)

City Council Staff Report



Subject: 9300 Marsac Avenue Condominium Plat
Application: PL-23-05787
Author: Alexandra Ananth, Senior Planner
Date: August 29, 2023
Type of Item: Extension of Time

Recommendation

The Applicant is requesting a one-year extension of time to record the Condominium Plat.

Staff requests the City Council (I) open a public hearing and (II) continue the public hearing to September 14, 2023.

Description

Applicant: White Summit Development, LLC, represented by Douglas Ogilvy

Location: 9300 Marsac Avenue

Zoning District: Residential Development (RD)

Adjacent Land Uses: Hotel, Ski Resort, Open Space

Reason for Review: Extensions of time require City Council action¹

¹ LMC [§ 15-7.1-6\(C\)\(5\)](#)

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Sustainability

Item Type: Work Session

Agenda Section: NEW BUSINESS

Subject:

Electric Assisted Bicycle Policy Update

(A) Public Input

Suggested Action:

Attachments:

[Electric Bike Policy Staff Report](#)

[Exhibit A: Park City Multi-Use Pathway Map](#)

[Exhibit B: 2020 E-MTB Survey Report](#)

[Exhibit C: Peer Communities E-Bike Policies](#)

City Council Staff Report

Subject: Electric Bike Ordinance and Policy Discussion
Author: Heinrich Deters
Department: Trails & Open Space Department
Date: August 29, 2023
Type of Item: New Business

Recommendation

Review, discuss, and provide direction on the City's policies for:

1. Electric-assisted bicycles (E-bikes) on multi-use pathways in Park City and consider regulations and/or improvements as a means of mitigating speed and safety concerns; and
2. Electric-assisted mountain bikes (E-MTB) on natural surface trails and consider conducting another community survey to gather sentiment on existing policies.

Executive Summary

This report presents information related to the increasing usage of E-bikes throughout Park City. The primary focus is safety concerns associated with E-bike use on our multi-use pathway systems (Exhibit A- map), but we also offer potential mitigations to reduce impacts. Additionally, the report briefly examines policies concerning E-bikes on natural surface trails, with specific attention to E-MTBs.

We recommend a follow-up community survey before changing E-MTB usage policies.

The main objective of this report is to facilitate an informative discussion, gather public input, and achieve thoughtful considerations and potential next steps regarding the evolution and prominence of E-bikes and E-MTBs throughout Park City.

Background

On June 30, 2016, City Council amended [Municipal Code 10-1-4.5 Non-Motorized Trail Use](#), which provides the basis of the City's policy associated with E-bikes and E-MTBs.

- The ordinance **prohibits** all E-bikes on 'Natural Surface' trails less than 5' wide.
 - Exceptions: mobility disabilities, emergencies, events, and/or maintenance.
- The ordinance **permits** Class I and II E-bikes on 'Multi-Use Pathways' 8' wide or greater but prohibits Class III e-bikes.
 - Exceptions: mobility disabilities, emergencies, events, and/or maintenance.

On August 15, 2019, in response to various public requests, Council held a work session and directed staff to complete a survey to gauge community sentiment.

- [August 15, 2019, Work Session \(E-Bikes\)](#);
- [August 15 Council Minutes](#)

On August 29, 2019, staff returned to City Council with the following policy recommendations:

- Amend Municipal Code 10-1-4.5, which exempted E-MTB users age 65+ on class I E-bikes from the natural surface prohibition.
 - **Council approved the amendment.**
- Conduct an E-MTB 'pilot program' to collect more data associated with the natural surface discussion.
 - **Council did not approve a pilot program.**
- Survey prior to additional recommendations/changes to the current ordinance.
 - **Council supported a survey.**
- Council also directed staff to establish a 'task force' of community members for additional input.
 - **A stakeholder' task force' was created to develop and promote the community survey.**
- [August 29, 2019, E-MTB staff report](#)
- [August 29, 2019, Council Minutes](#)

On March 19, 2020, the results of the E-MTB community survey (Exhibit B) were provided to City Council.

- [March 19, 2020, E-MTB Survey](#)

Most notable survey highlights:

- Based on the current ordinance, do you support or oppose the current ordinance?
 - 40% strongly support
 - 26% somewhat support
 - 12% neither support/oppose
 - 10% somewhat oppose
 - 11% strongly oppose
- Support/oppose allocating additional resources to enforce the ordinance:
 - 23% strongly support
 - 33% somewhat support
 - 12% neither support/oppose
 - 16% somewhat oppose
 - 15% strongly oppose

Survey results support the current ordinance and emphasize the importance of additional education and outreach. In response, the Trails & Open Space Department took several measures, including setting up a website dedicated to E-bikes, installing more signage at trailheads and trails, and providing bike shops with up-to-date information on the ordinance. Trail Rangers also initiated the 'Pathway Education Program', which offers in-field information and education. A 'courtesy tag' program was also established at the request of the Council to allow E-MTB users validated by the Trails & Open Space Department as meeting requirements of the ordinance.

In the summer of 2020, a new trail was constructed specifically for E-bike use on the east parcels of Clark Ranch. The decision was influenced by various factors, including continued pressure from the State to limit a local jurisdiction's regulation of E-bike use if additional alternatives were unavailable. It was also considered a quality alternative to

the lack of support for the 2019 Round Valley e-bike pilot project. Since Clark Ranch was outside city limits at that time, it provided a cohesive opportunity to accommodate E-MTBs on trails near Wasatch County trails where E-MTBs are already allowed. There are approximately 5 miles of E-MTB-permitted trails on the Clark Ranch property.

On April 1, 2021, Council received a staff communication on the E-MTB courtesy tag program.

Overview of Utah State E-bike Laws:

Bike Utah has developed a website for the community, which provides a simple overview of bicycle laws in the State of Utah and can be found here: <https://www.bikeutah.org/bicyclelaws>

The State of Utah's laws pertaining to E-bikes, as defined in the Utah State Code, explicitly categorize E-bikes as bicycles and not "motor vehicles." The state law classifies E-bikes into three distinct classes based on their mode of assistance and maximum speeds:

1. Class I E-bikes: These are 'Pedal assisted' E-bikes, limited to a top speed of 20 mph.
2. Class II E-bikes: These are 'Throttle assist' E-bikes, also limited to 20 mph, where pedaling is not required for propulsion.
3. Class III E-bikes: These are 'Pedal assisted' E-bikes, with a higher limit of 28 mph, equipped with a speedometer.

Currently, state law permits local jurisdictions to regulate the usage of E-bikes within their boundaries. However, it is crucial to note that the Utah Legislature has shown a solid inclination to loosen or even eliminate the ability of local cities and towns to regulate E-bike usage. As such, any additional regulations PCMC imposes may prompt swift legislative action.

Given the potential consequences of losing the ability to regulate E-bikes, we recommend the City Council engage in a thoughtful policy discussion prior to additional regulation. This discussion should consider the implications of existing and future state regulations to ensure a balanced approach that aligns with the community's needs and preferences.

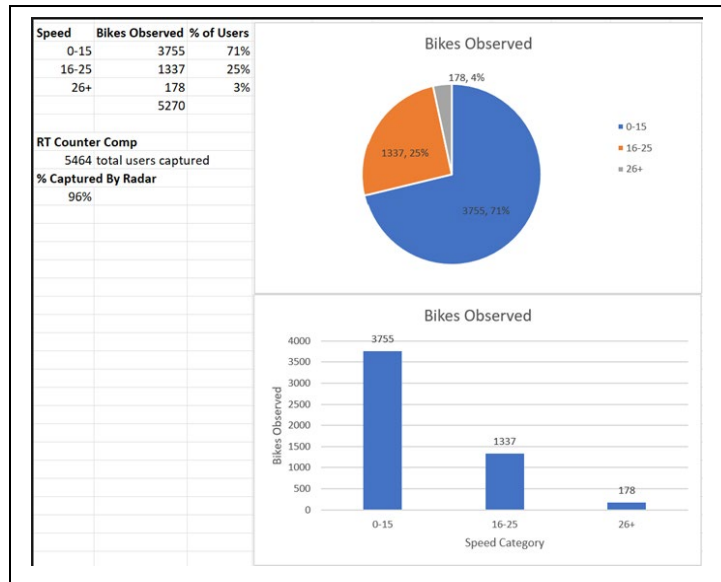
Council has voiced concerns with E-bike use by youths in the community and safety. Links to State regulations for E-bikes specific to age and helmet use:

- An individual under 16 years old may not operate a class 3 electric-assisted bicycle.
- An individual under 14 years old may not operate an electric-assisted bicycle with the electric motor engaged on any public property, highway, path, or sidewalk unless the individual is under the direct supervision of the individual's parent or guardian.
- An individual under eight years old may not operate an electric-assisted bicycle with the electric motor engaged on any public property, highway, path, or sidewalk.

- The owner of an electric-assisted bicycle may not authorize or knowingly permit an individual to operate an electric-assisted bicycle in violation of this section.
- A person under the age of 21 may not operate or ride any of the following **on a highway** unless the person is wearing protective headgear that complies with specifications adopted under Subsection (3):
 - a motorcycle
 - a motor-driven cycle;
 - a class 3 electric-assisted bicycle; or
 - an auticycle that is not fully enclosed.

Recent Usage and Speed Data from the Rail Trail

The City Council received considerable feedback about the speeds at which some bicyclists travel along various sections of the paved pathways within our town. It's important to acknowledge that the perception of speed can be significant regardless of how fast or slow a cyclist is going. This feeling of significance stems from the proximity at which a cyclist may pass an individual or due to a lack of prior awareness.



The concerns raised by the community have not gone unnoticed by the Trails Team. We recognize the need to balance public perceptions and actual speed data. To address this, the Engineering Department recently acquired specialized equipment that enables our Trail Rangers to gather precise speed data from a specific location on the Rail Trail near Chatham Hills. This particular segment of the Rail Trail offers excellent visibility and experiences high levels of bicycle and pedestrian traffic and is where the highest average speeds would be recorded and possible.

The data gathered during the recent summer season encompasses over 5,000 users and reveals a significant majority, or 71% of cyclists, maintained speeds below 15 miles per hour. Moreover, a notable quarter of the survey, accounting for 25%, travels between 16 to 25 miles per hour.

These findings help guide future policy determinations about the possibility of speed limits and enforcement to foster a safer environment for trail users.

Options to Consider for Multi-Use Pathways

Trails and Open Space, along with Transportation Planning and a review of peer communities (Exhibit C), developed options for the Council to consider on multi-use pathways.

Mitigating Speed and Safety Concerns:

1. Speed Limit Consideration: • Pros: Implementing speed limits on multi-use pathways can promote safer conditions, especially in areas with high pedestrian and cyclist traffic. • Cons: Determining and enforcing a speed limit may be challenging and require significant resources. Additionally, some users might be resistant to complying.
2. Speed Bumps/Chicanes: • Pros: Speed bumps and chicanes can naturally reduce speeds, enhancing safety for all trail users. These features could be implemented in a short or long-term strategy. • Cons: These features may negatively impact the overall trail experience, potentially deterring some cyclists, roller skiers, skateboarders, and inline skaters from using the trail. The use may also reduce accessibility and create liability if implemented in an ad hoc manner.
3. Signage and Striping: • Pros: Clear signage, including stop signs and indicators, can effectively reduce conflicts at intersections and promote safer passing practices. • Cons: Overuse or excessive signage may clutter the trail environment, diminishing aesthetic appeal. Further, too many signs can reduce effectiveness of the messaging.
4. Pathway Widening: • Pros: Widening multi-use pathways allows for smoother user flow and reduces potential conflicts between different types of trail users if intentionally separate. Many peer communities have had considerable success with separated surfaces. • Cons: Expanding pathways requires significant infrastructure investments and can be limited by space and environmental constraints.
5. Separation of Uses: • Pros: Providing separate lanes for different types of users **offers the highest level of service and safety**. • Cons: Implementation of separated pathways or trails may require substantial infrastructure improvements, resulting in higher costs, and it is not always possible due to property ownership and environmental issues.

Trails & Open Space recommends a combination of short-term considerations expeditiously and longer-term solutions through the upcoming Active Transportation Plan process to help address speed and safety concerns. Should Council provide direction on any or all of the considerations, the Trails Team will return with a complete resource analysis, considering both short-term benefits and long-term sustainability before implementation. The City Council must assess the potential impacts of each recommendation carefully, as trails tend to be a very personal and passionate issue in Park City. With this approach, we can ensure a practical and balanced approach to mitigating speed and safety concerns related to E-bike use on multi-use pathways in Park City.

Options to Consider for Natural Surface Trails/E-MTB

Based on the comprehensive overview of existing policies, state codes, and peer community practices, we recommend a new public survey similar to the 2020 process. The survey would gauge community perspectives regarding the use of E-bikes and E-MTBs within Park City. We would also include input from various stakeholders, such as residents, local businesses, outdoor recreation enthusiasts, and environmental advocates.

Following the public input process, the City Council could consider potential amendments or new ordinances that strike a balance between promoting sustainable and safe outdoor recreation and preserving the natural integrity and user experience. Additionally, we recommend collaborating with Snyderville Basin Special Recreation District to ensure consistency in E-bike and E-MTB policies throughout western Summit County.

Funding

Funding may be required dependent on Council direction and addressed through the upcoming budget process.

Attachment

Exhibit A- Park City Multi-Use Pathway Map

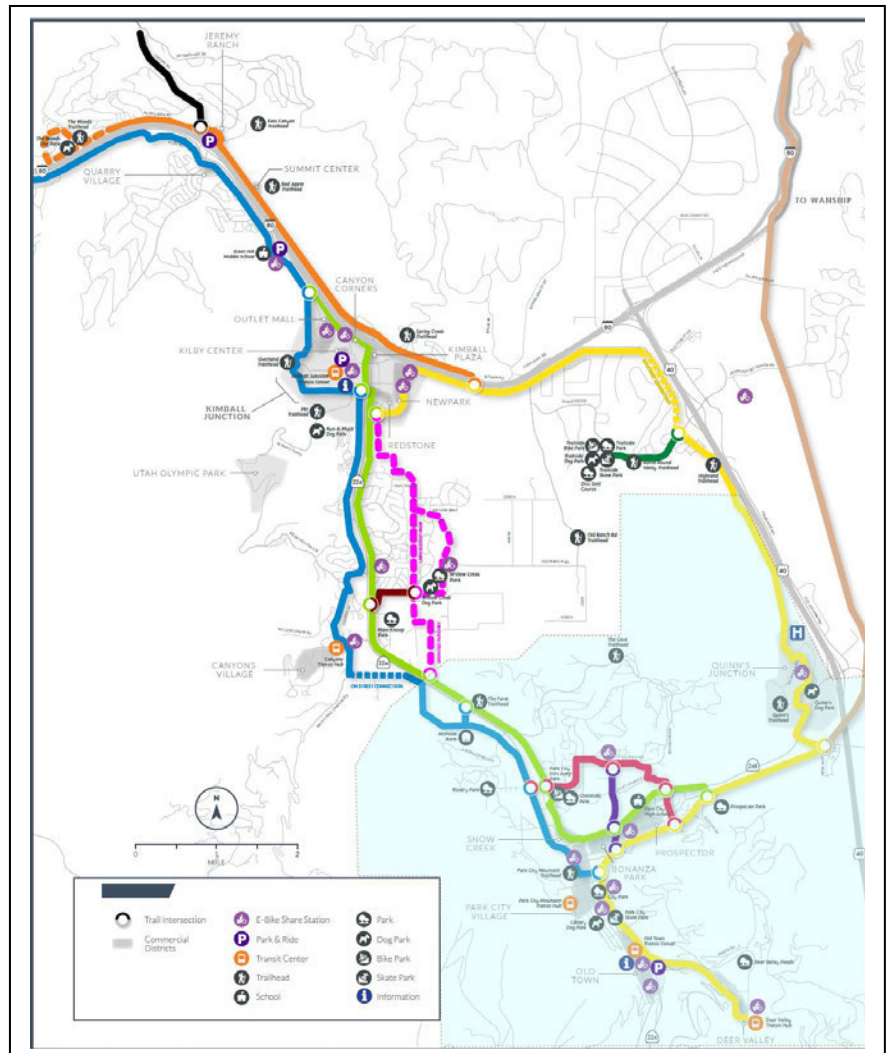
Exhibit B- 2020 E-MTB Community Survey Report

Exhibit C- Peer Communities E-Bike Policies

Exhibit A Summit County/Park City Pathway Map

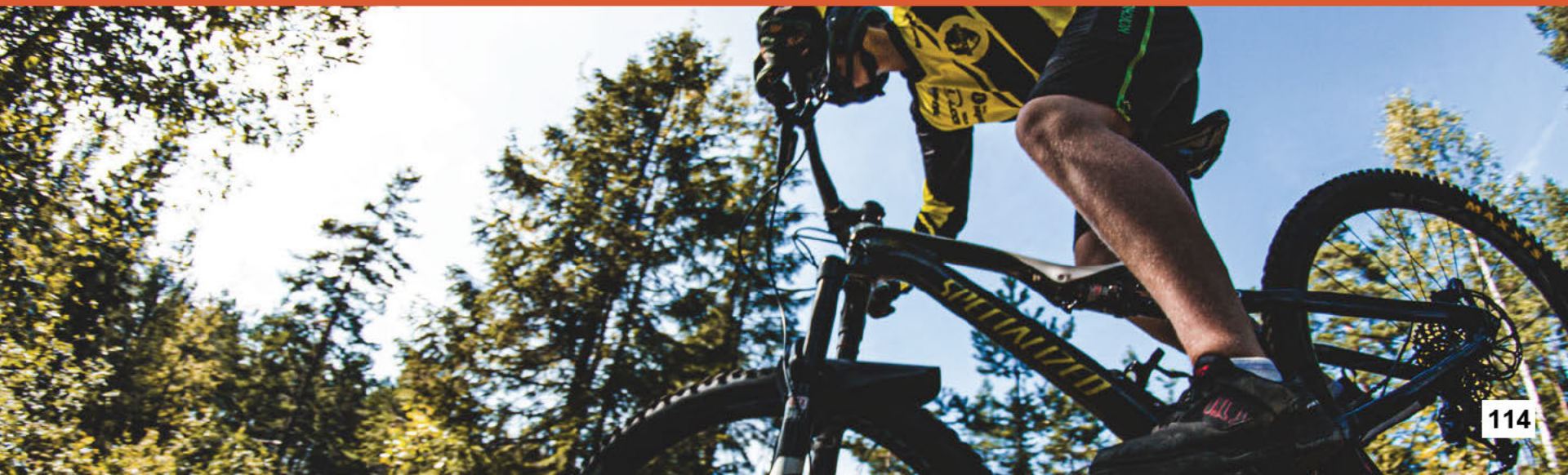
Park City Pathway System (Map)

The Park City Area, which includes the jurisdictions of Park City and The Snyderville Basin Special Recreation District, has over 40 miles of multi-use pathways. The Trails & Open Space Department maintains a [website](#), where wayfinding information and etiquette can be found. The pathways form the spine of alternative transportation network, as well as providing for recreational activities. Major pathways within PCMC jurisdiction (shaded in blue), include the Rail Trail, McLeod Creek, Poison Creek and the Farm Trail.



PARK CITY TRAIL USE SURVEY

OFFICIAL 2020 SURVEY OF PARK CITY AREA RESIDENTS





1. The vast majority of Park City residents (85%) say they have used city trails in the past year, many of whom use single track trails regularly. The **most common use for single track trails is mountain biking.**
2. **Over half of residents support the current city ordinance as is** and approximately half support allocating additional resources toward ordinance enforcement. While some support expanding e-bike use, **very few support expanding usage to all trails.**
3. When considering advantages and disadvantages to e-mountain bike use, respondents seem to identify most with the idea that **e-bikes increase accessibility** of city trails and are **most concerned with safety-related issues.**
4. Approximately half of residents are in support of starting an e-mountain bike pilot program. Of those in support of the pilot program, the majority believe that the program **should be limited to a specific area within the trail system** and that the program **should last for a couple of months to a year.**
5. Of those who currently meet the age requirements to use e-mountain bikes on all city trails, **less than half say they would be likely to use a permit tag.**

FINDINGS TO REMEMBER

SURVEY METHODOLOGY

SAMPLING, MODE, & MARGIN OF ERROR

- 434 residents within the boundaries of Park City and greater surrounding area participated in this survey. Residents were randomly selected to participate via email, phone, and address-based sampling.
- Data have been weighted to reflect population statistics from the U.S. Census' American Community Survey to ensure that the sample is representative of the City as a whole, specifically in regards to age, race, and gender.
- Self-administered online interviews via emailed and mailed invitations conducted February 8-28, 2020. Live telephone interviews were conducted February 19-22, 2020.
- The margin of error for a survey with 434 responses is approximately ± 4.57 percentage points.

TRAIL USAGE

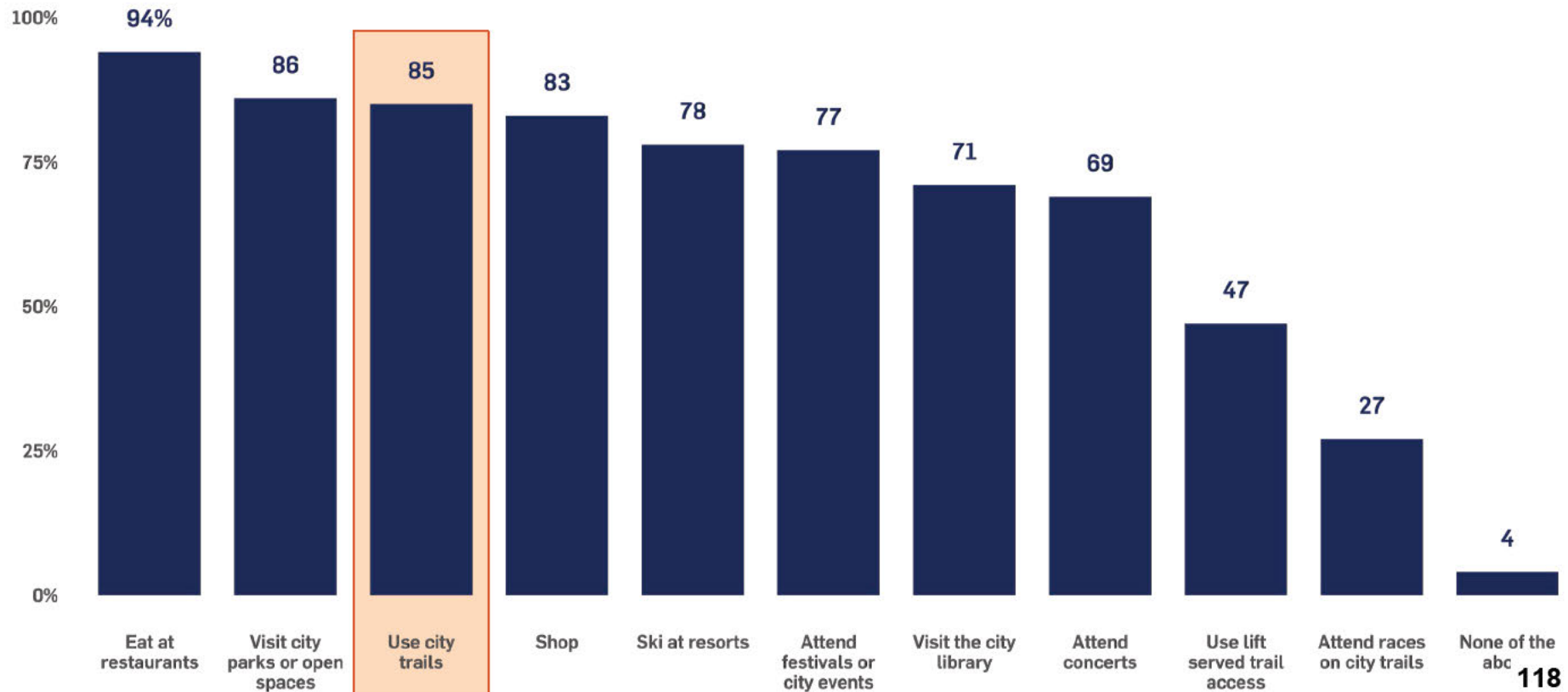
TYPE, FREQUENCY, AND PURPOSES

TRAILS AMONG MOST POPULAR ACTIVITIES

Along with eating at restaurants and visiting city parks and open spaces, using city trails is one of the most popular activities to do in Park City, with 85% of respondents reporting that they have used city trails in the last 12 months.



*Which of the following activities have you done in Park City during the last 12 months?
Select all that apply.*

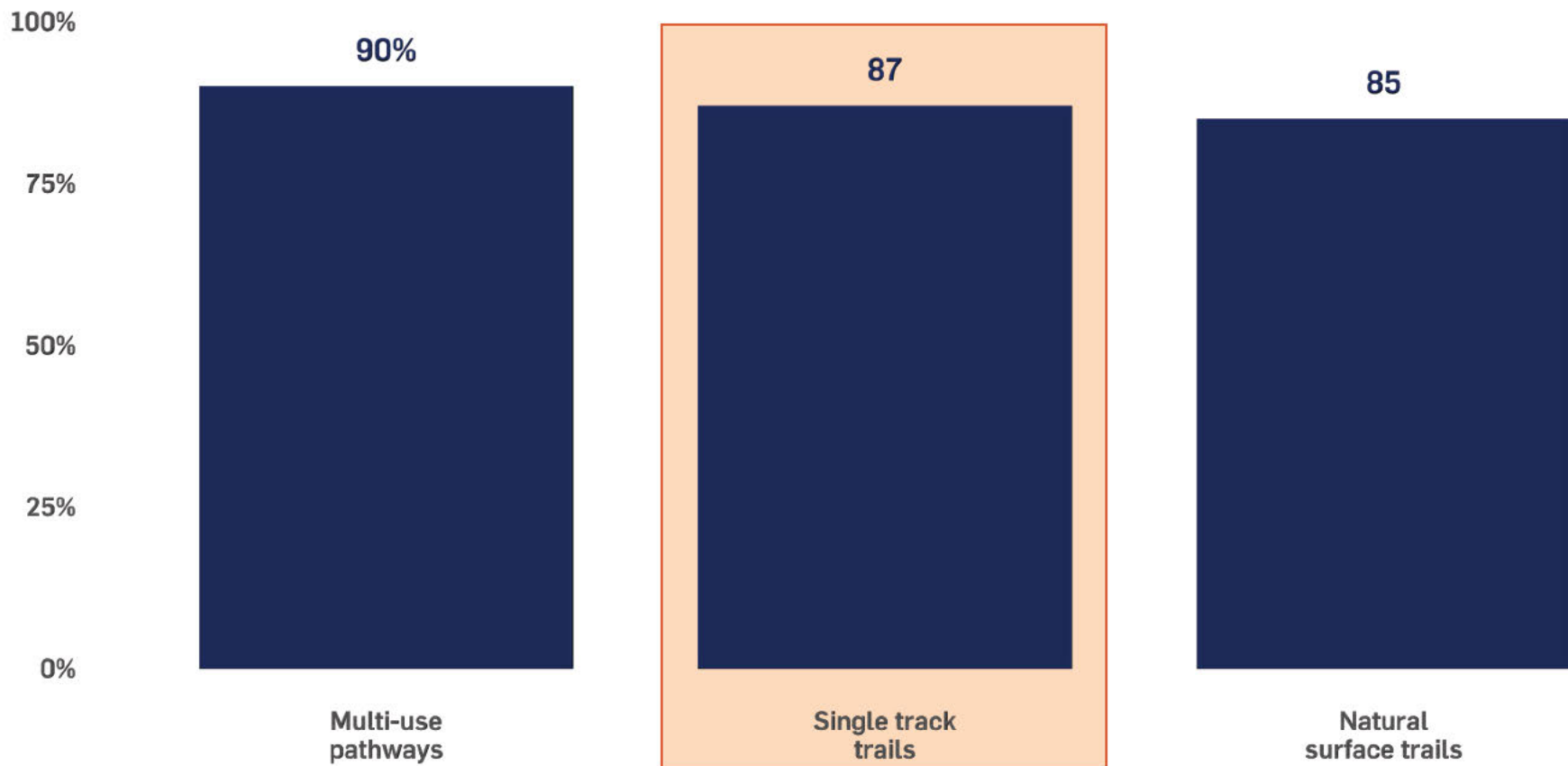


ALL TRAIL TYPES EQUALLY USED

When it comes to the types of trails being used, multi-use pathways, single track trails, and natural surface trails are all used by an equal proportion of the population. Over 80% of trail users report having used each of the three trail types in the past 12 months.



You mentioned that you have used Park City trails during the past 12 months. Which of the following types of trails have you used? Select all that apply.

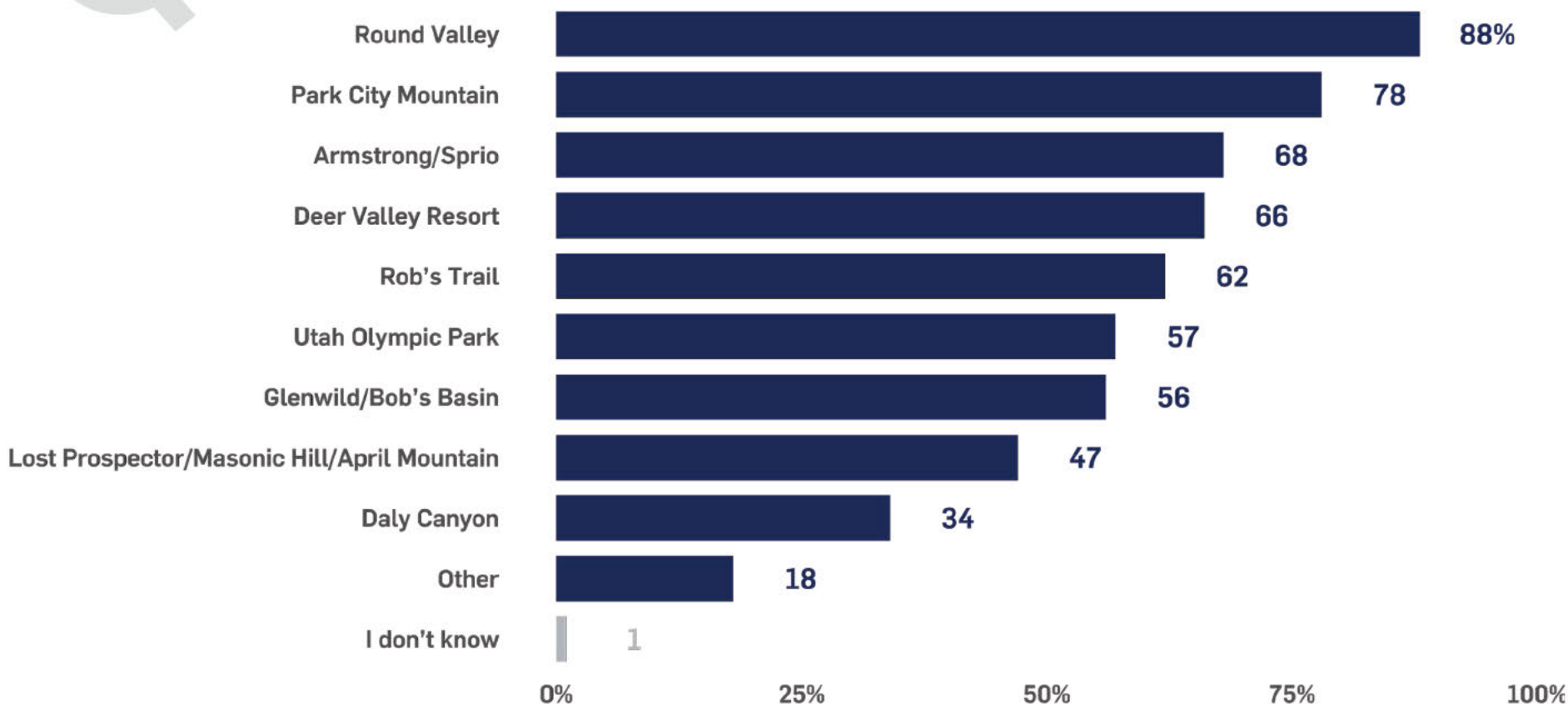


TRAILS RECEIVE DIFFERENT LEVELS OF USE

While all trail types are used by equal proportions of trail users, the same cannot be said for different areas of the trail system. Round Valley trails are used by the highest proportion of trail users, followed by Park City Mountain. By comparison, Daly canyon trails are used by the smallest proportion of trail users.



Have you used trails in any of the following areas in Park City? Select all that apply.

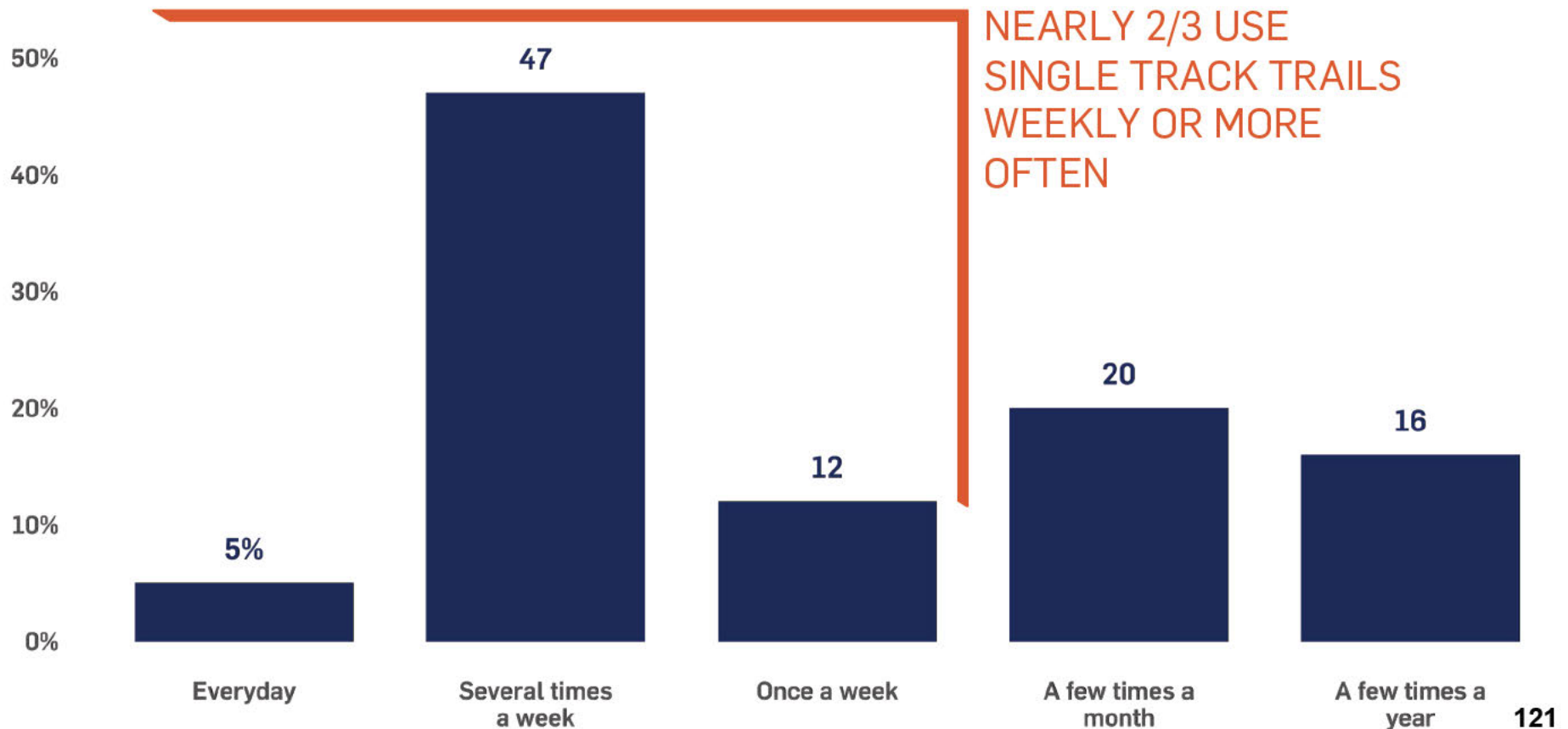


MAJORITY USE SINGLE TRACK FREQUENTLY

When it comes to single track trails in Park City, 64% of Park City trail users use single track trails at least once a week and 52% use the trails several times a week or daily.



How often do you use Park City single track trails?

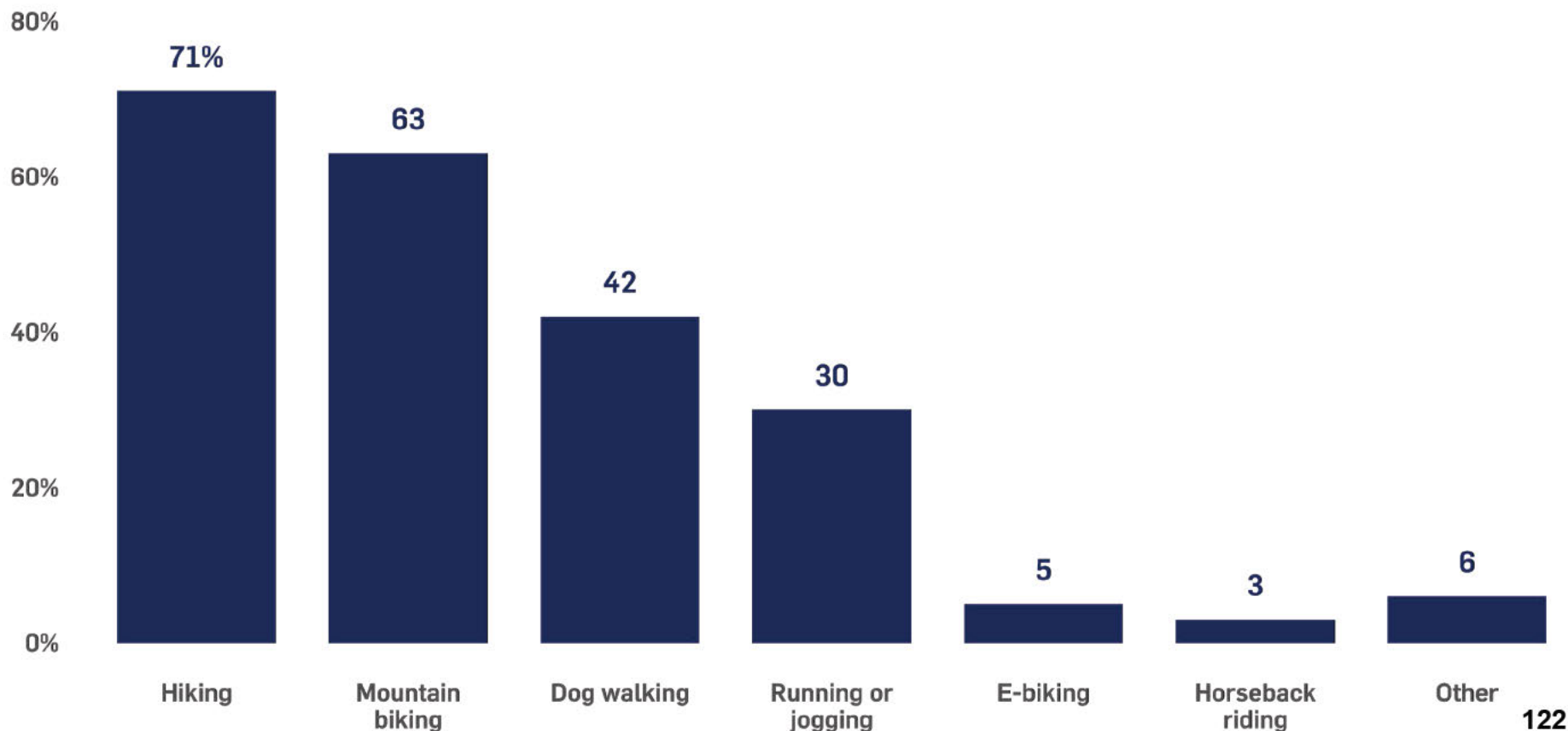


VARIETY OF USES FOR SINGLE TRACK

Single track trails in Park City are used for a variety of activities. Among the most common activities are hiking and mountain biking; over 60% of single track trail users use the trails for these activities. Dog walking and running are also common single track trail activities. Currently, only 5% of trail users use single track trails for e-biking.



What do you do when using Park City single track trails? Select all that apply.

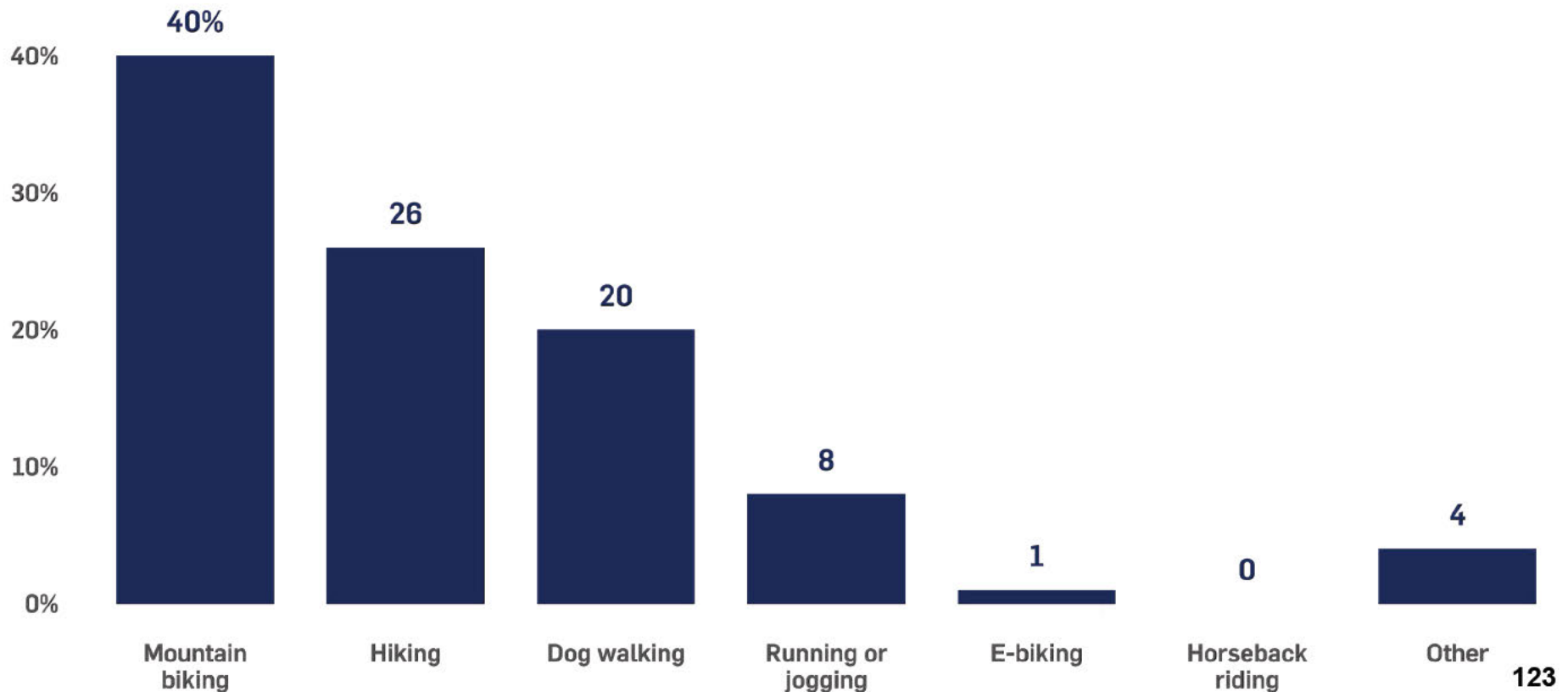


MOUNTAIN BIKING MOST FREQUENT USE

When narrowing down to trail users' most frequent activities, mountain-biking is number one, with 40% of trail users reporting that mountain biking is their most frequent single track trail activity.



What do you do most frequently on Park City single track trails?

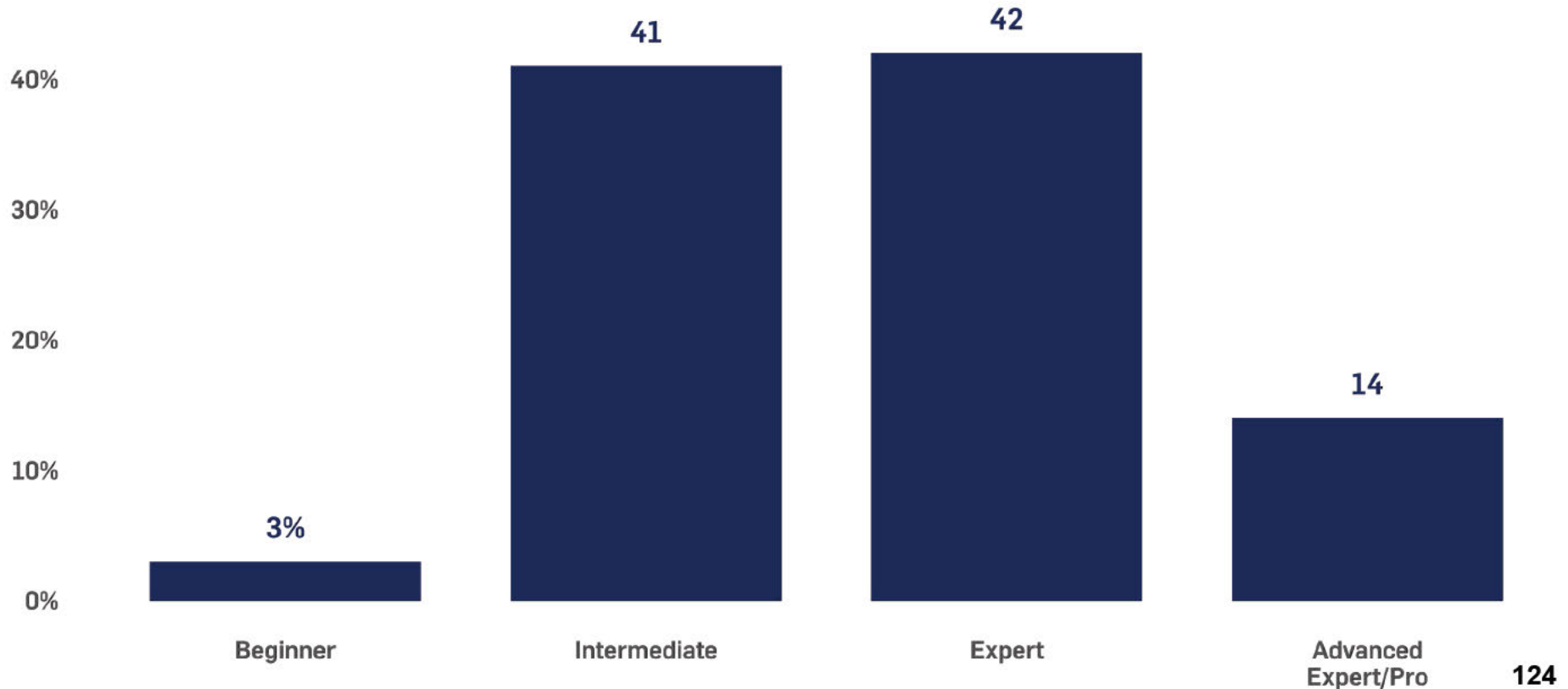


MOST RIDERS INTERMEDIATE OR EXPERTS

Of those who mountain bike on city trails, over 80% are intermediate or expert riders. By comparison, only 3% say they are beginners.



How would you rate your mountain bike skill level?



E-BIKES

FAMILIARITY AND USAGE

MAJORITY FAMILIAR WITH E-BIKES

The vast majority of respondents (81%) are at least somewhat familiar with e-bikes. Of these, just over half say they are extremely or very familiar. Only 5% of respondents say they are "not at all familiar" with e-bikes.



How familiar are you with electrical bicycles or e-bikes?

■ Extremely familiar ■ Very familiar ■ Somewhat familiar ■ Not very familiar ■ Not at all familiar

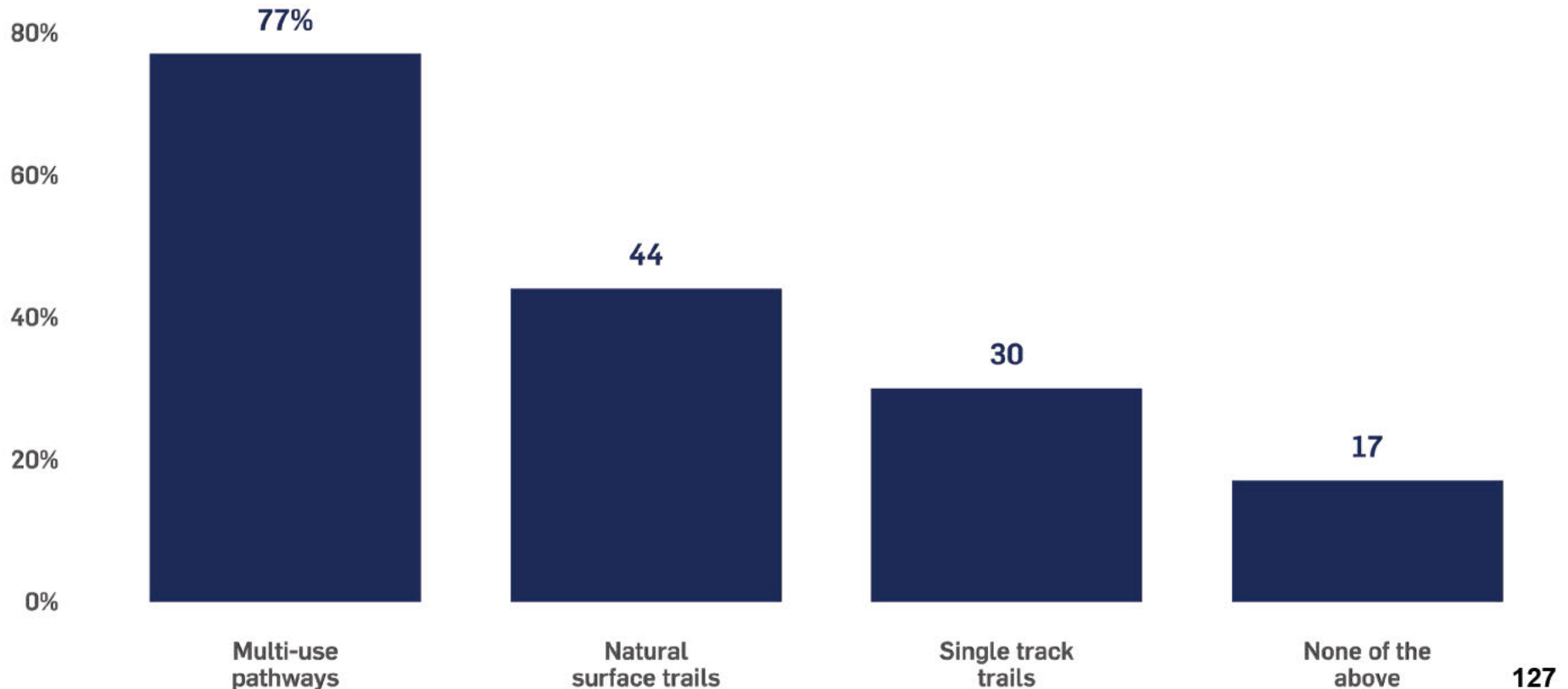


E-BIKES MOST SEEN ON MULTI-USE PATHS

While the majority of respondents say they have seen e-bikes on multi-use pathways, less than a third have seen them on single track trails. This suggests that current e-bike usage is most common on paved city paths.



*On which of the following, if any, types of trails have you seen e-bikes around Park City?
Select all that apply.*



OVER HALF HAVE RIDDEN; FEW OWN

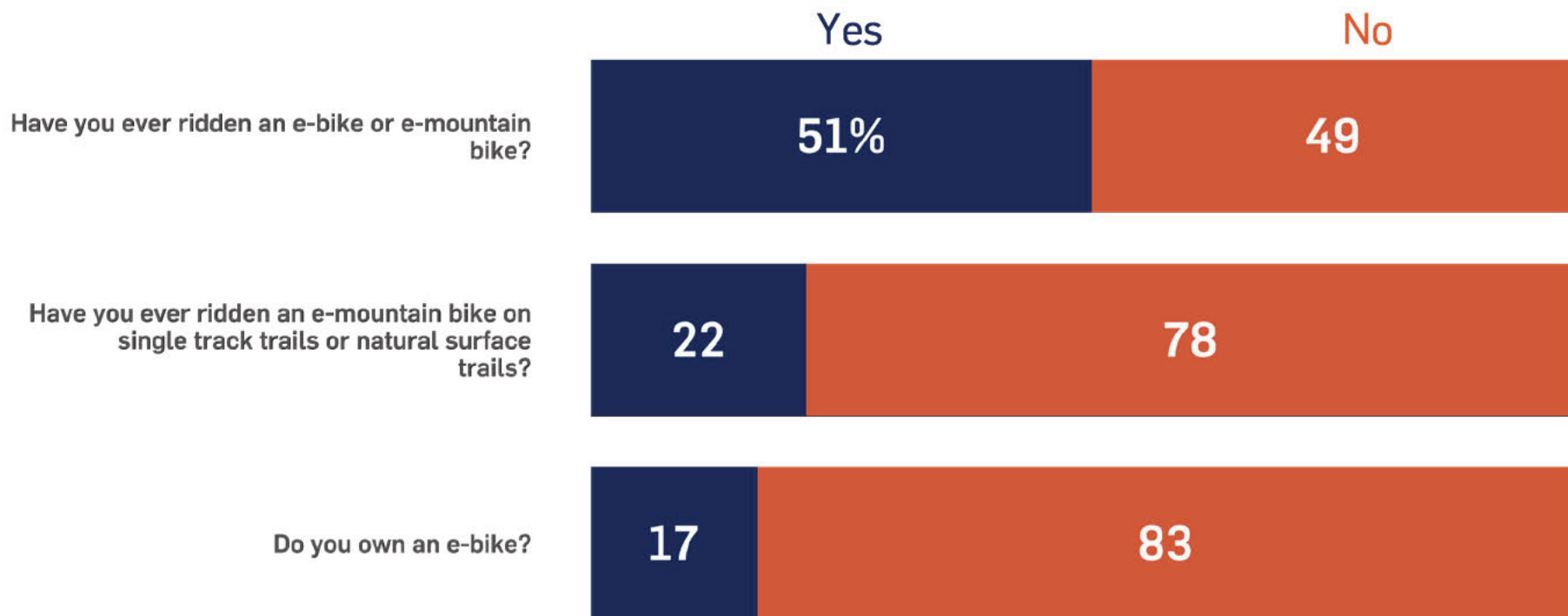
While over half of respondents have ridden an e-bike, only 22% have ever ridden them on single track or natural surface trails and even fewer people (17%) own an e-bike.



Have you ever ridden an e-bike or e-mountain bike?

Have you ever ridden an e-mountain bike on single track trails or natural surface trails?

Do you own an e-bike?

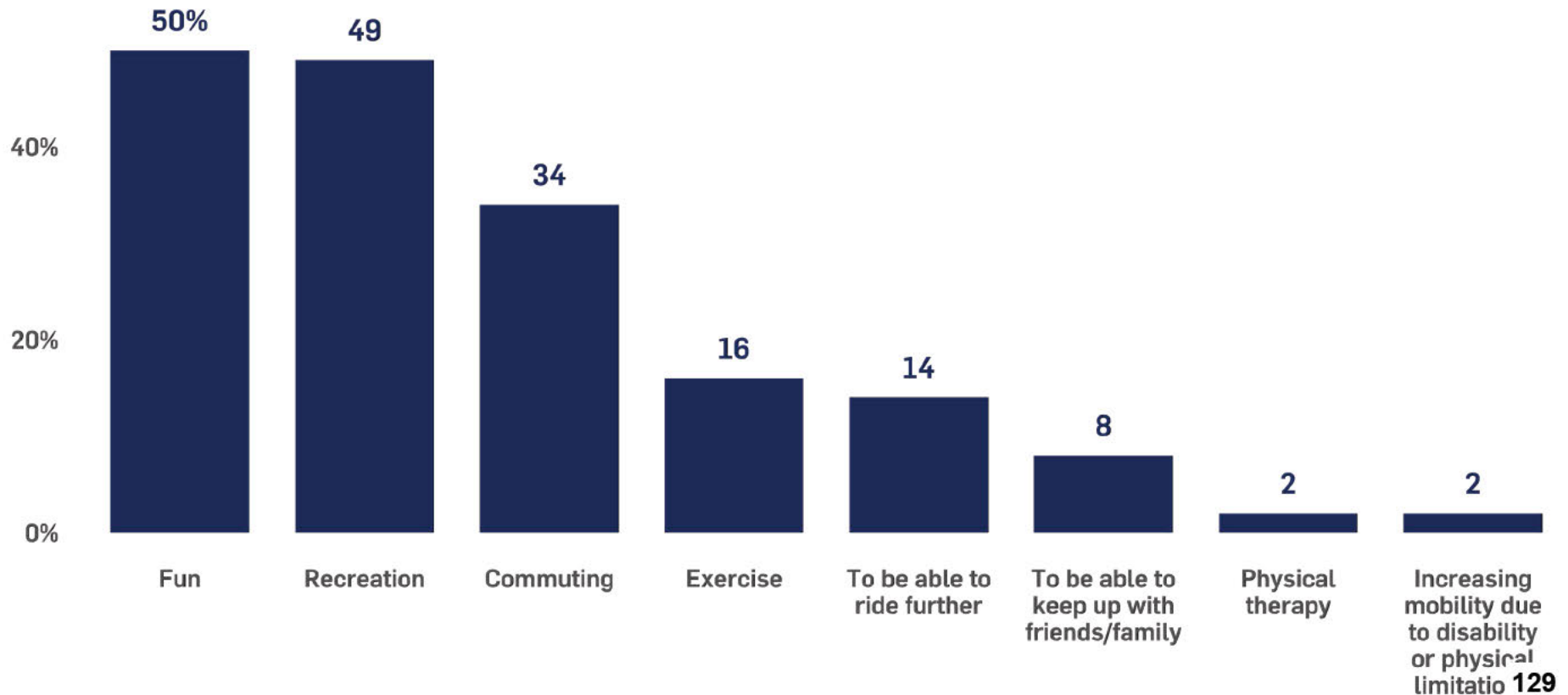


E-BIKES USED FOR FUN AND RECREATION

Among those who have ridden e-bikes, the most common motivation for riding is for fun and recreation. Just over a third report using e-bikes for commuting. The least common reasons for using e-bikes are for physical therapy and for increasing mobility due to physical limitations.



*Thinking of the last time you rode an e-bike, what was your main motivation for riding?
Select all that apply.*

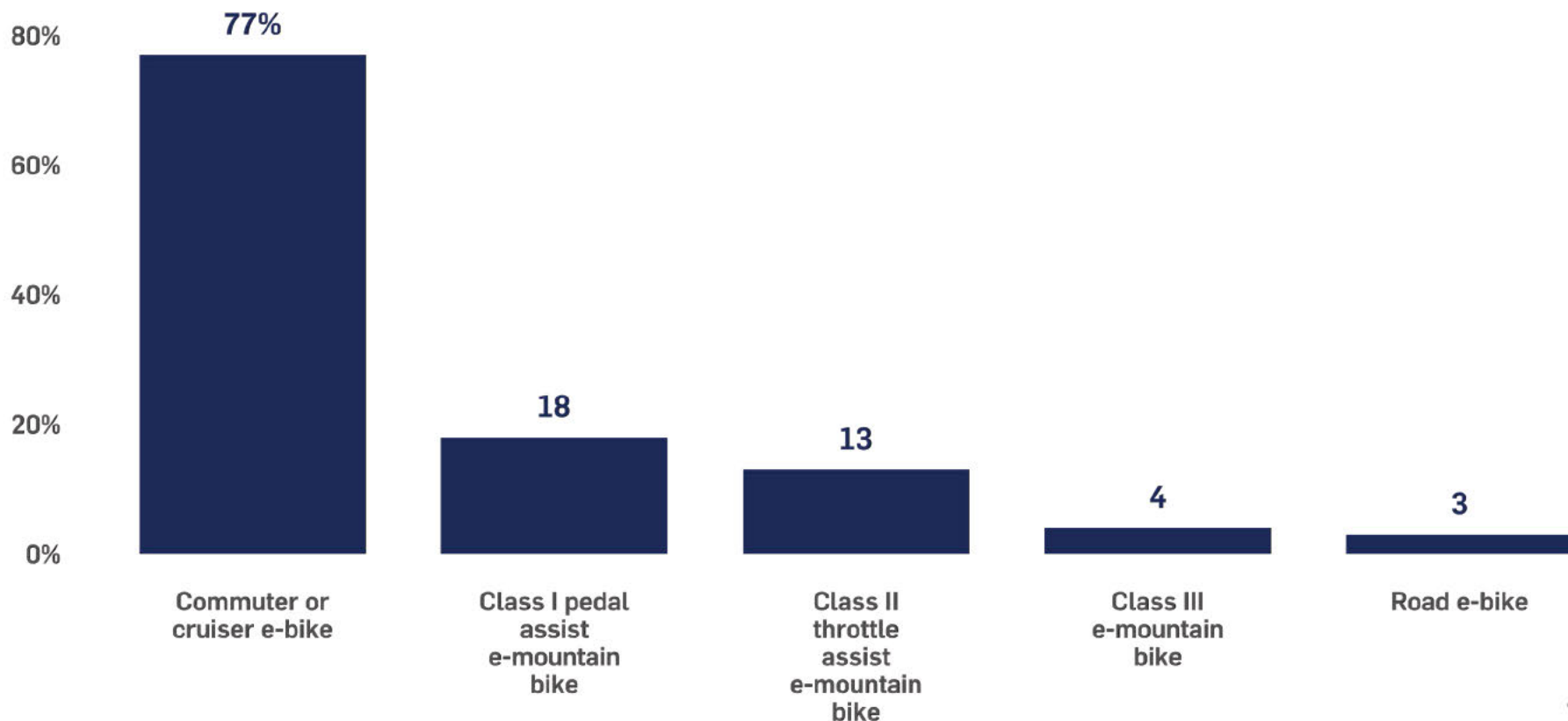


CRUISER E-BIKE POPULAR AMONG OWNERS

Among the few area residents who own e-bikes, the commuter or cruiser e-bike is by far the most common, with 77% of e-bike owners owning this type of bike. By comparison, less than 20% own a class I pedal assist e-mountain bike or class II throttle assist e-mountain bike. Less than 5% own class III e-mountain bike or road e-bike.



What type(s) of e-bike do you own? Select all that apply.



CITY REGULATIONS

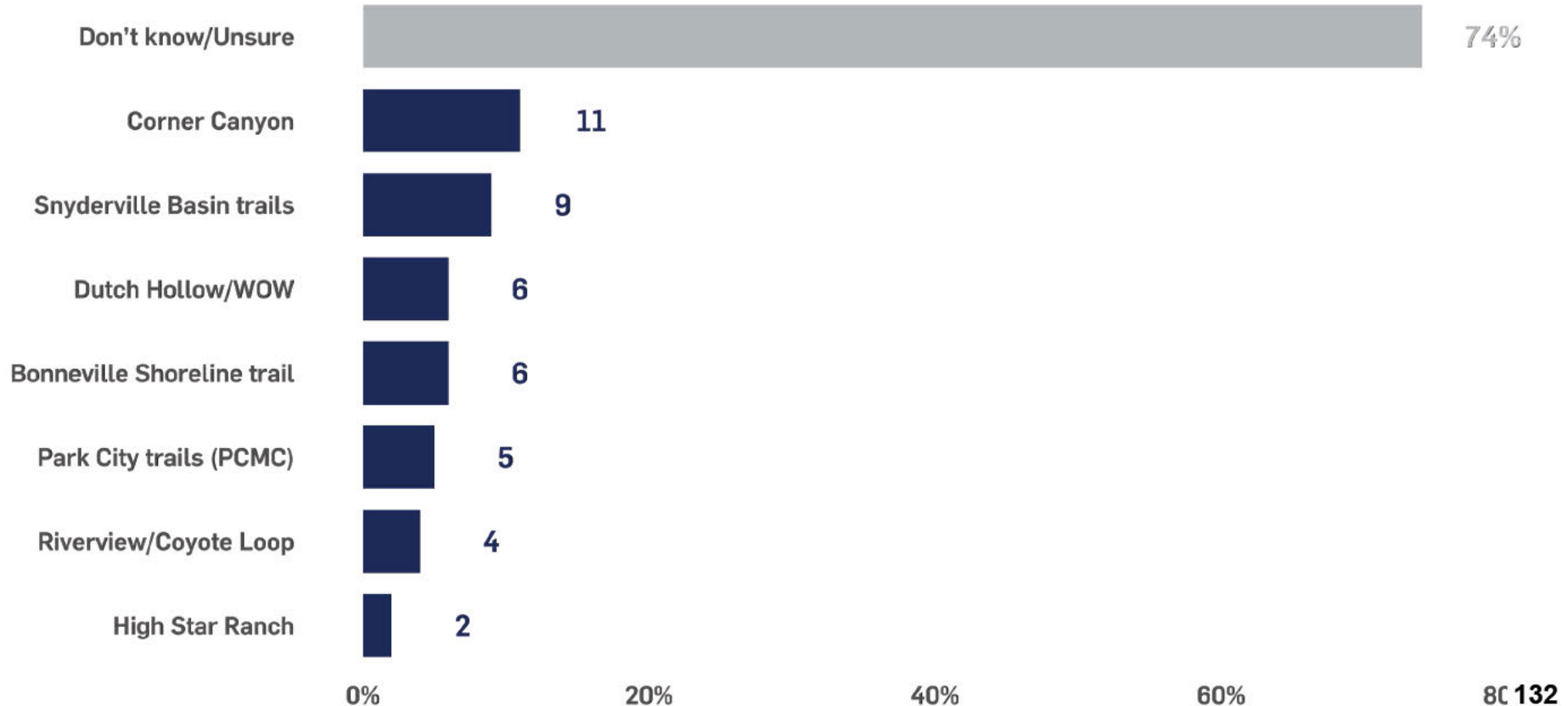
CURRENT CITY ORDINANCE AND FUTURE PLANS

MAJORITY UNAWARE OF E-BIKE RULES

When asked which Park City trails currently allow e-bikes, nearly $\frac{3}{4}$ of e-bike riders said that they did not know. This indicates a need for better, more accessible information on e-bike rules and regulations within Park City and the greater surrounding area.



To the best of your knowledge, on which, if any, of the following regional trail systems are Class I e-mountain bikes currently permitted/allowed?



CURRENT PCMC ORDINANCE

Electric Bicycles are defined by Utah State Code to include three specific classes, which pertain to the mode of assistance (throttle or pedal assist) and limited top speed. Below is a brief definition of each class:

Class I- 'Pedal assisted' e-mountain bikes limited to 20 mph

Class II- 'Throttle assist' limited to 20 mph (no pedaling required)

Class III- 'Pedal assisted' e-bikes limited to 28 mph with a speedometer

State Law allows local jurisdictions to adopt rules and regulations which may restrict the use of e-bikes.

Park City Ordinance prohibits the use of e-bikes on any Park City single track trails with the following exceptions:

Class I 'Pedal assisted' e-mountain bikes limited to 20mph may be used on all Park City trails in the case of

- Users with mobility disabilities*
- Users age 65 and older*

2/3 SUPPORT CURRENT PCMC ORDINANCE

After reading a short excerpt from the current city ordinance, 67% of respondents said they supported the ordinance, with 40% saying they strongly support the ordinance. Only 21% were in opposition.



Based on the information you just read, do you support or oppose the current city ordinance which prohibits the use of Class I e-mountain bikes on any single track trail except in the case of mobility disabilities and for people age 65 and older?

■ Strongly support ■ Somewhat support ■ Neither support nor oppose ■ Somewhat oppose ■ Strongly oppose

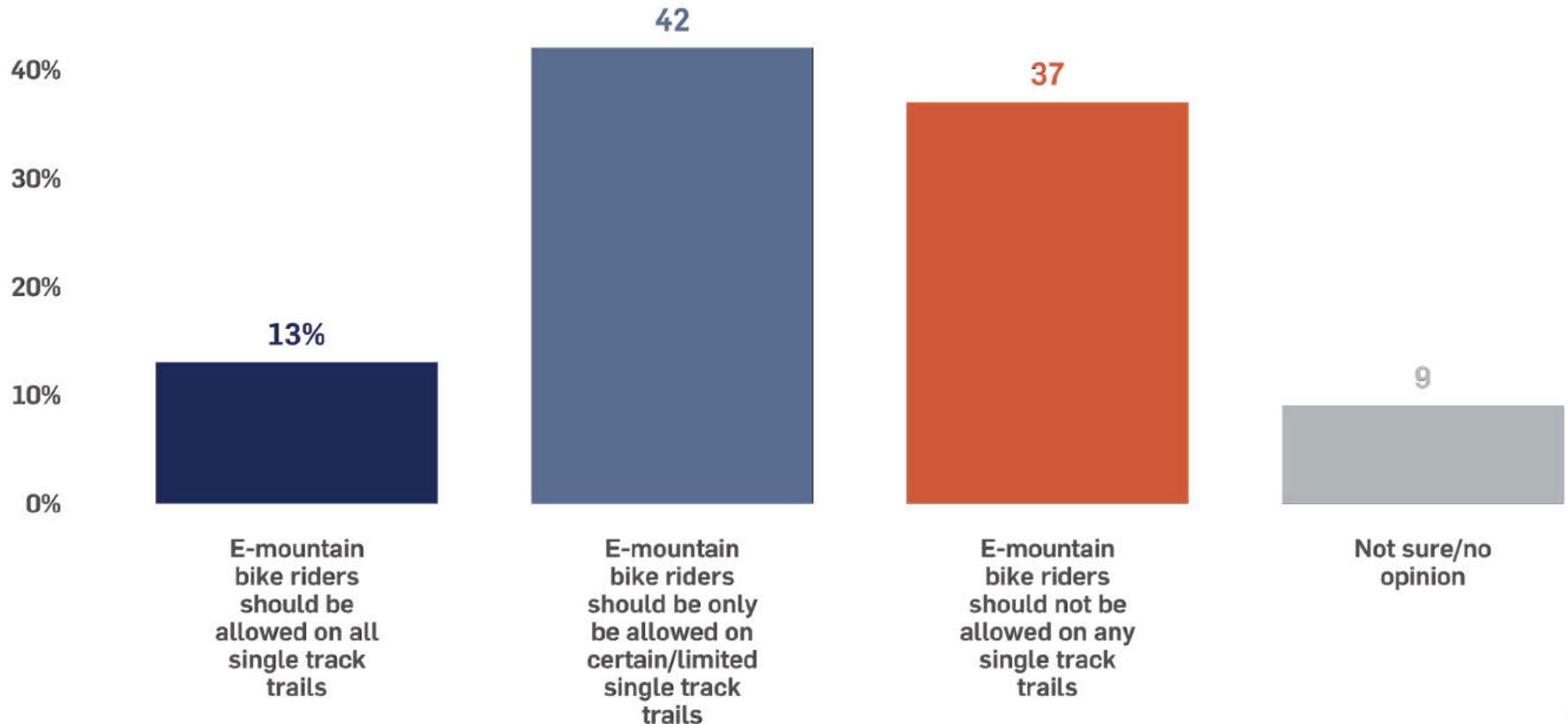


FEW APPROVE OF E-BIKES ON ALL TRAILS

As the current ordinance lies, only 13% of respondents say they are in favor of expanding e-bike usage to all Park City trails. 42%, however, indicate that they would support expanding e-bike usage to some single track trails. A slightly smaller percentage indicate that they believe the ordinance should be kept as is, with e-bikes prohibited from all single track trails.



Current Park City Ordinance prohibits the use of Class I e-mountain bikes on any single track trail except in the case of mobility disabilities and for people age 65 and older. If Park City were to allow for additional e-mountain bike use on single track trails, beyond those currently permitted, which of the following best represents your opinion regarding the use of Class I e-mountain bikes on single track trails in Park City?

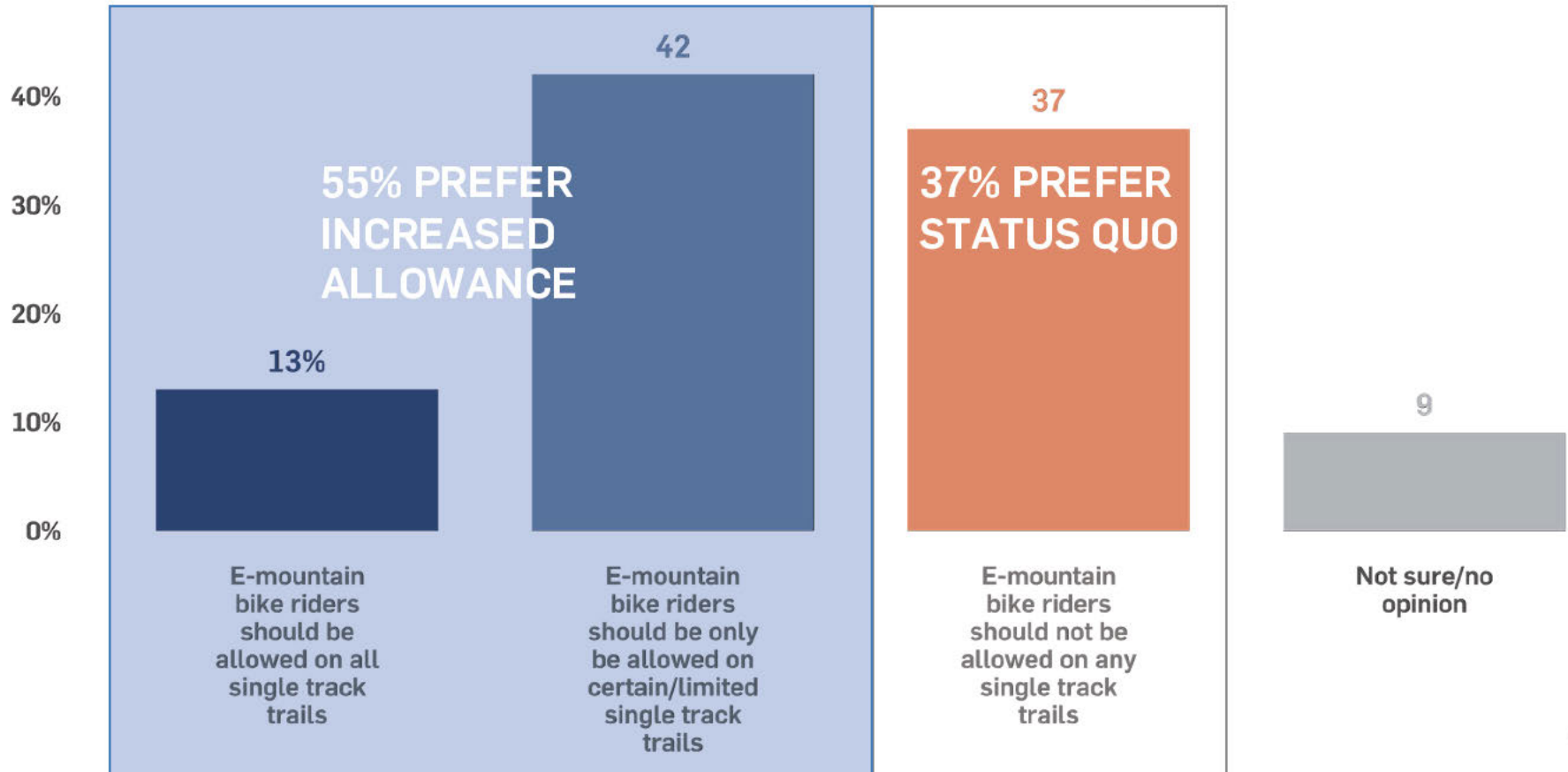


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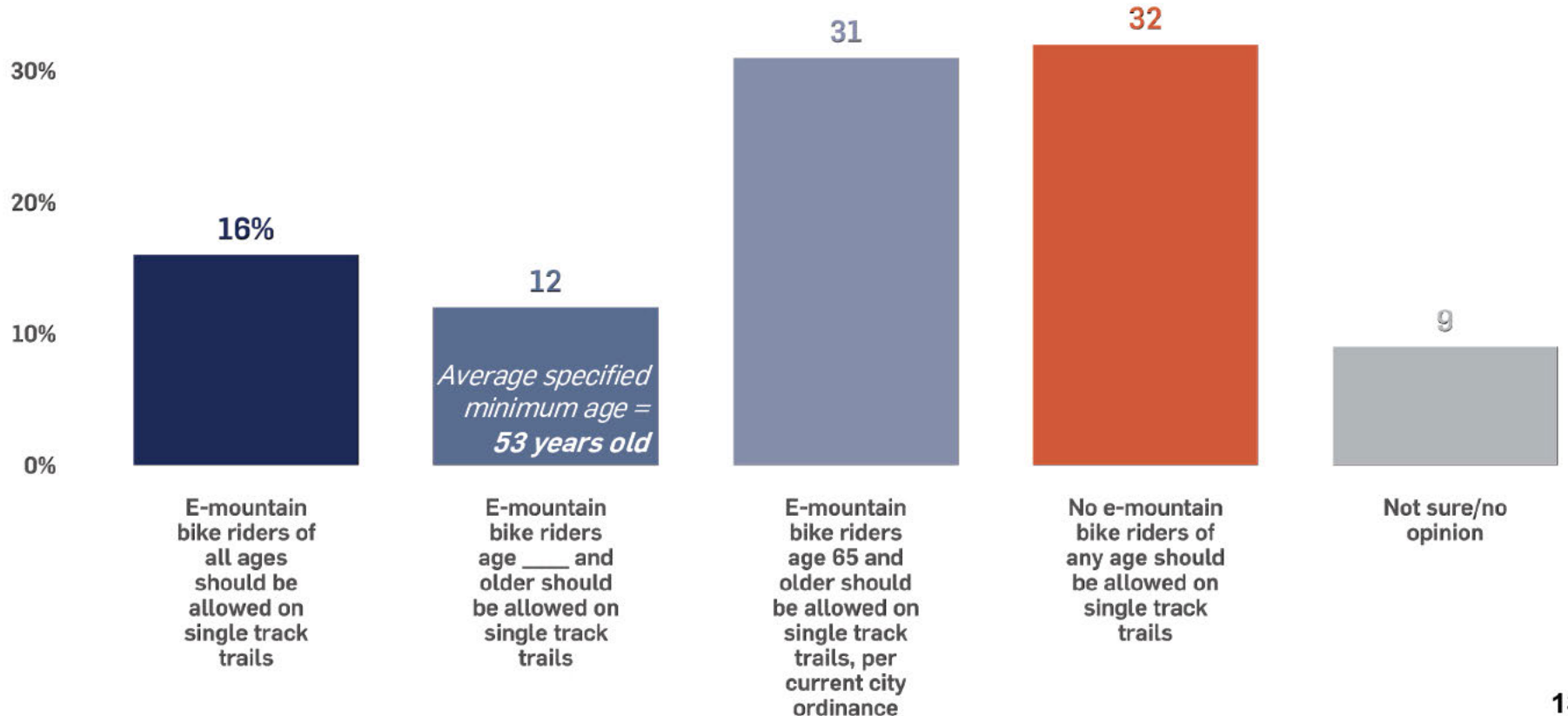


MIXED FEELINGS ON AGE FOR E-BIKES

When it comes to the age allowance for e-mountain bike riders, respondents have mixed feelings. Approximately one third of respondents support keeping the current age allowance of 65+ while another third would prefer not having any age allowance at all and prohibiting Class I e-mountain bikes for all users.



Current Park City Ordinance prohibits the use of Class I e-mountain bikes on any single track trail except in the case of mobility disabilities and for people age 65 and older. Which of the following best represents your opinion regarding the use of Class I e-mountain bikes on single track trails in Park City in relation to age?

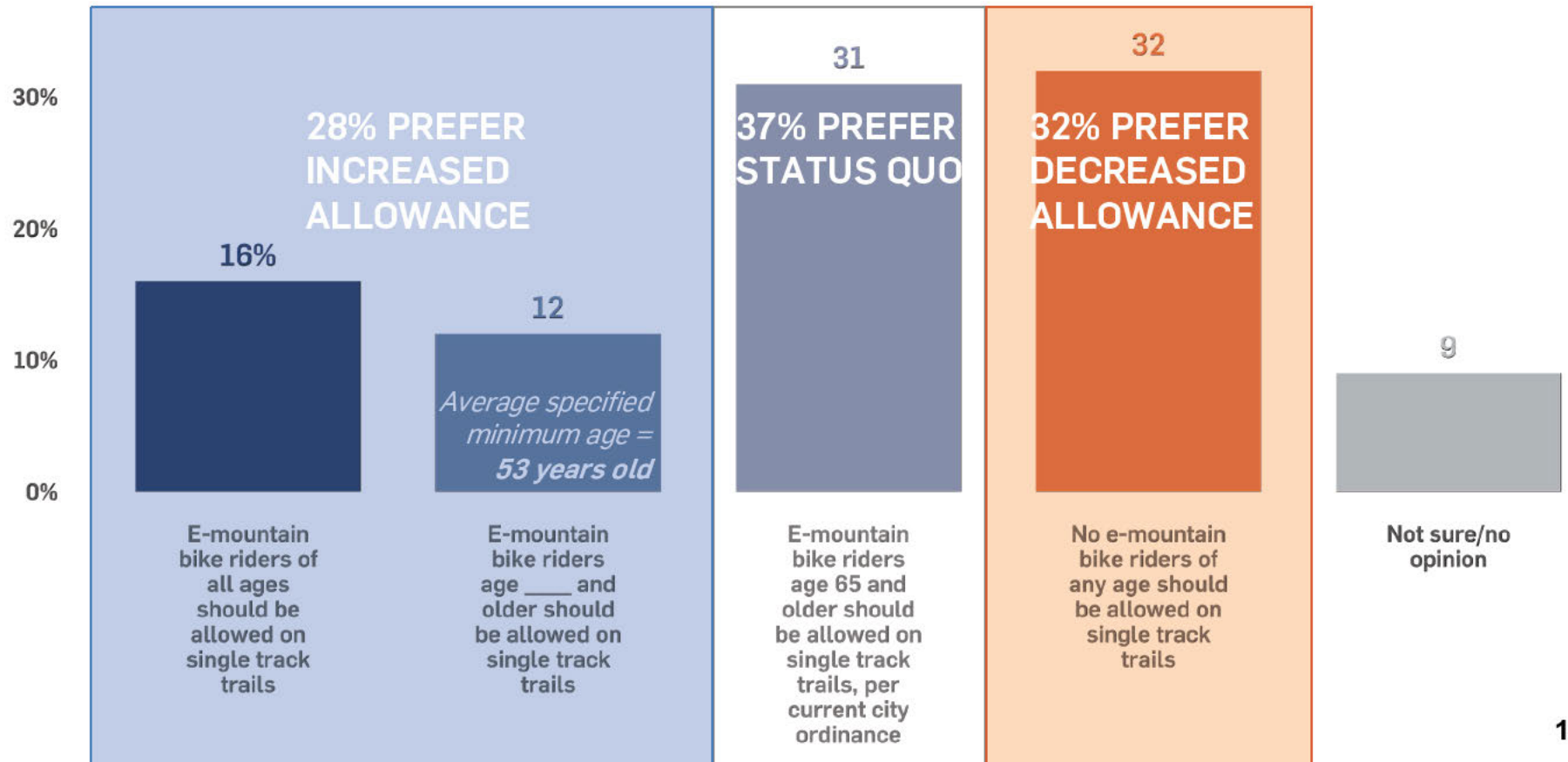


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Current Park City Ordinance prohibits the use of Class I e-mountain bikes on any single track trail except in the case of mobility disabilities and for people age 65 and older. Which of the following best represents your opinion regarding the use of Class I e-mountain bikes on single track trails in Park City in relation to age?

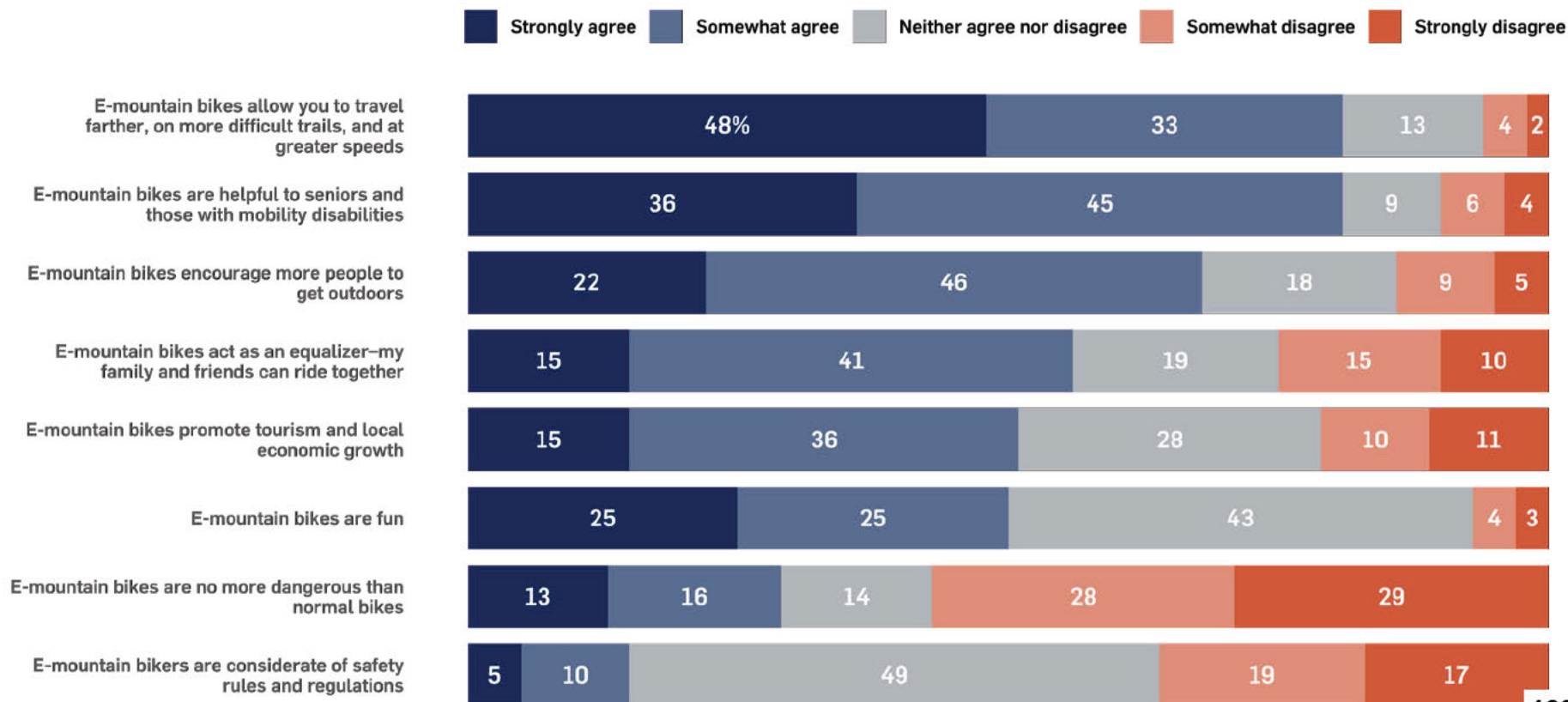


ADVANTAGES OF E-BIKES

Of all of the potential advantages listed, respondents seem to identify most with the idea that e-bikes increase accessibility of city trails. The vast majority of respondents agree that e-bikes allow riders to travel farther and on more difficult trails, that they are helpful to seniors and people with disabilities, and that they encourage more people to get outdoors.



Below you will see several statements that various parties have made regarding Class I e-mountain bike use on single track trails. Please indicate the extent to which you agree or disagree with each of the following statements.



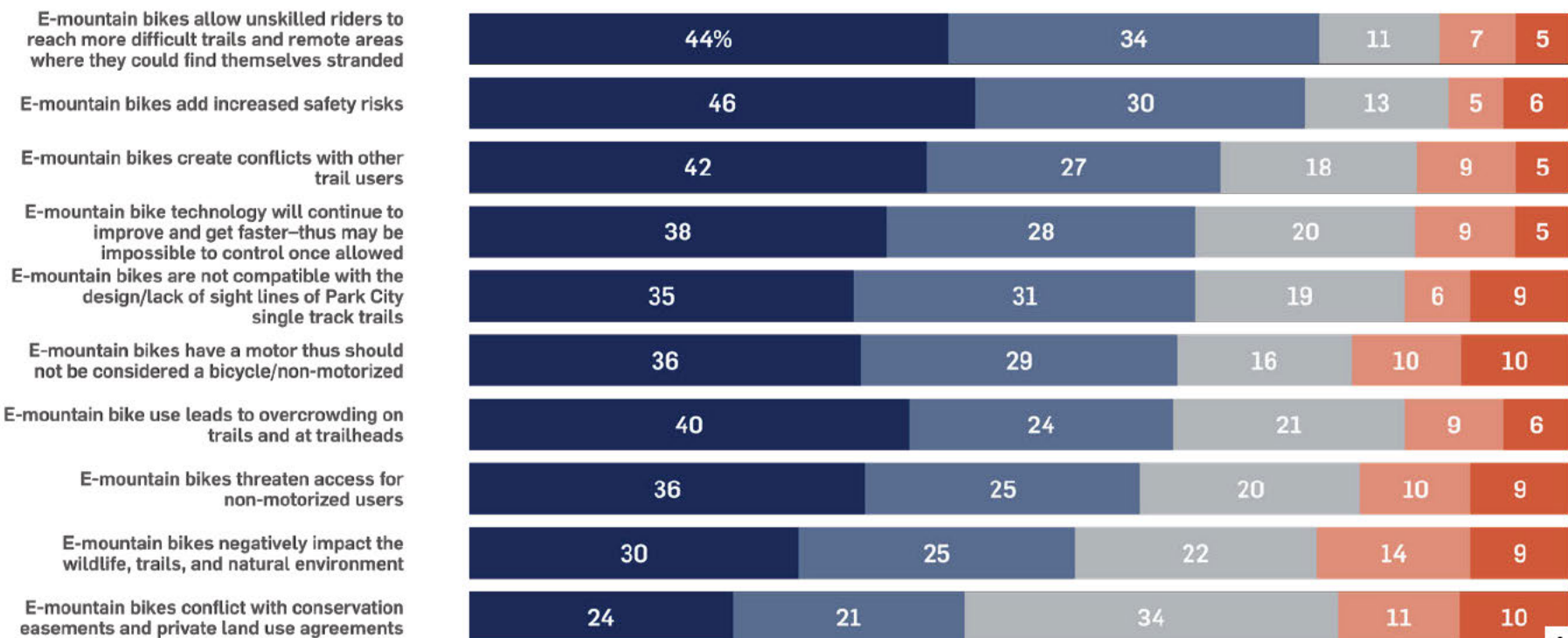
E-BIKES BRING DISADVANTAGES

When considering disadvantages to e-mountain bike use, safety-related issues are the most common concerns. Over $\frac{3}{4}$ of respondents agree that e-bikes could allow for unskilled riders to get stranded on difficult trails and that e-mountain bikes add increased safety risks.



Below you will see several statements that various parties have made regarding Class I e-mountain bike use on single track trails. Please indicate the extent to which you agree or disagree with each of the following statements.

Strongly agree
 Somewhat agree
 Neither agree nor disagree
 Somewhat disagree
 Strongly disagree



OPINIONS MIXED REGARDING E-BIKES

Residents have mixed opinions when it comes to the use of e-mountain bikes on single track city trails. While some are in support of expanding e-bike usage to additional trails, many still express concerns especially with regard to the potential for increased safety risks.

If you have any other thoughts you would like to express about usage of Class I e-mountain bikes on single track trails in Park City, please express them below.

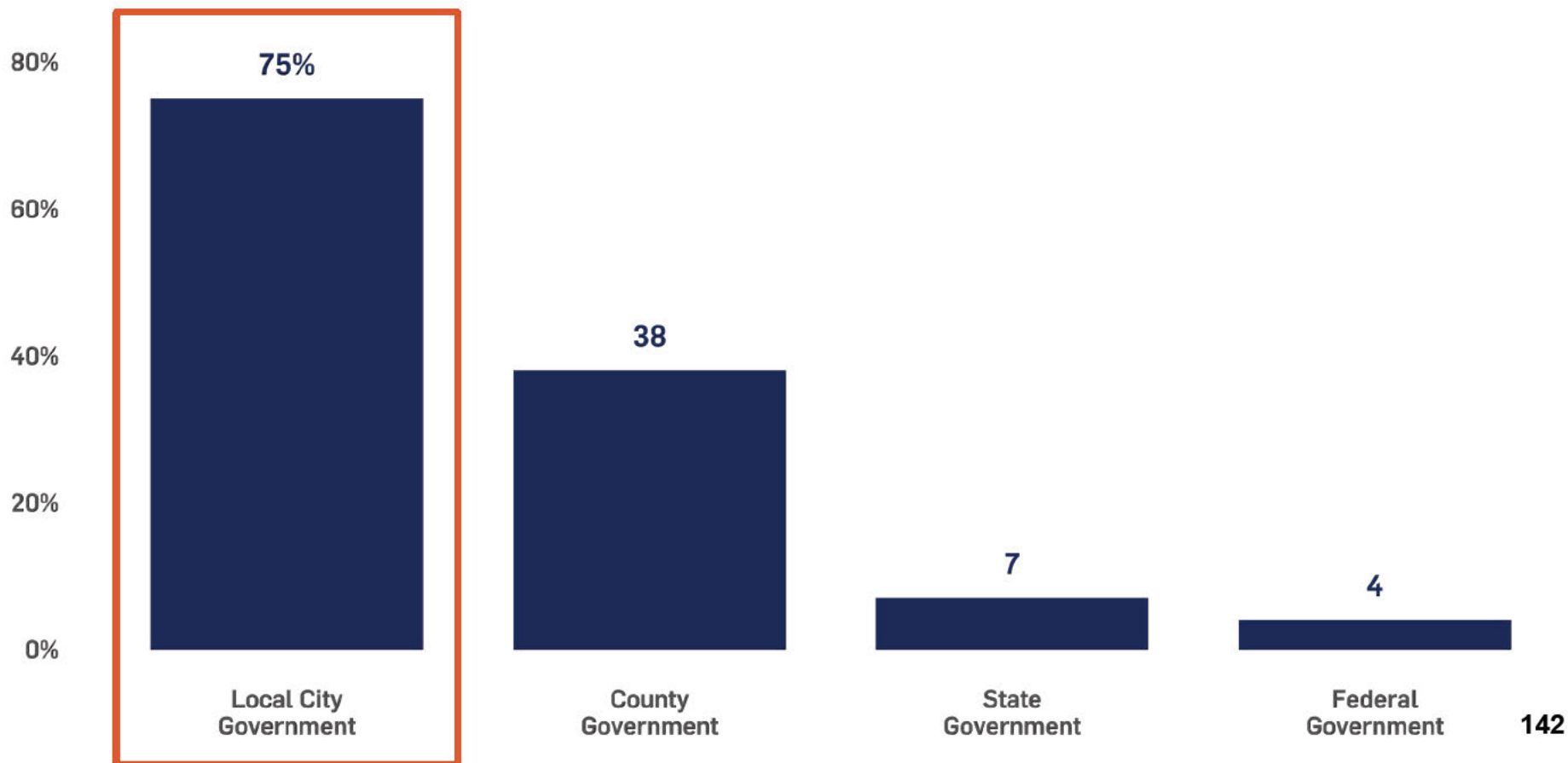


RESIDENTS PREFER LOCAL REGULATION

The majority of respondents believe that local city governments should be responsible for regulating e-mountain bike use. Less than 10% say the same of State and Federal governments.



Who should be responsible for regulating e-mountain bike use? Select all that apply.



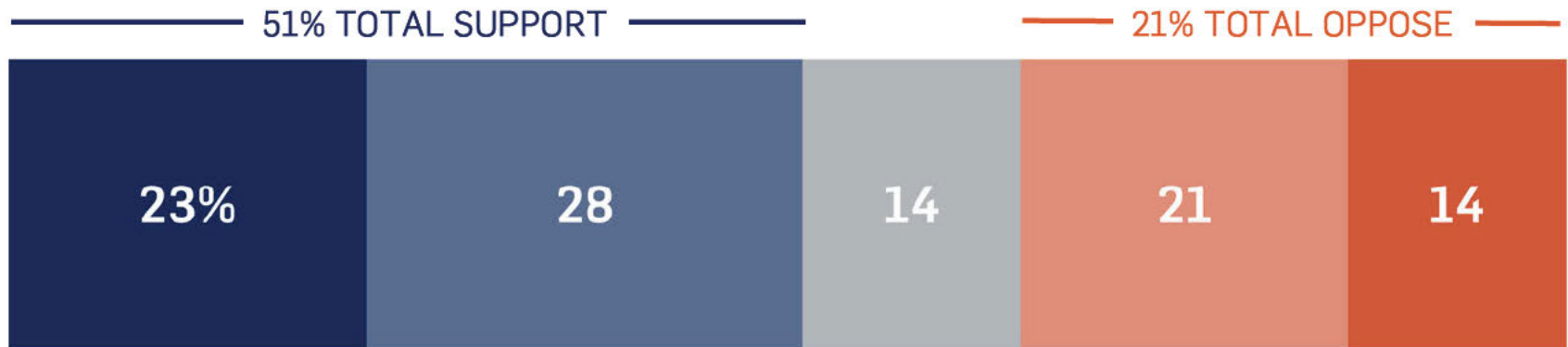
ENFORCEMENT RECEIVES MILD SUPPORT

When it comes to enforcing the current ordinance, 51% of respondents say they would support allocating additional resources to enforcement efforts while 35% say they either somewhat or strongly oppose this idea.



Current Park City Ordinance prohibits the use of Class I e-mountain bikes on any single track trail except in the case of mobility disabilities and for people age 65 and older. Considering the ordinance as it currently stands, would you support or oppose the City allocating increased resources to the enforcement of this ordinance?

■ Strongly support ■ Somewhat support ■ Neither support nor oppose ■ Somewhat oppose ■ Strongly oppose

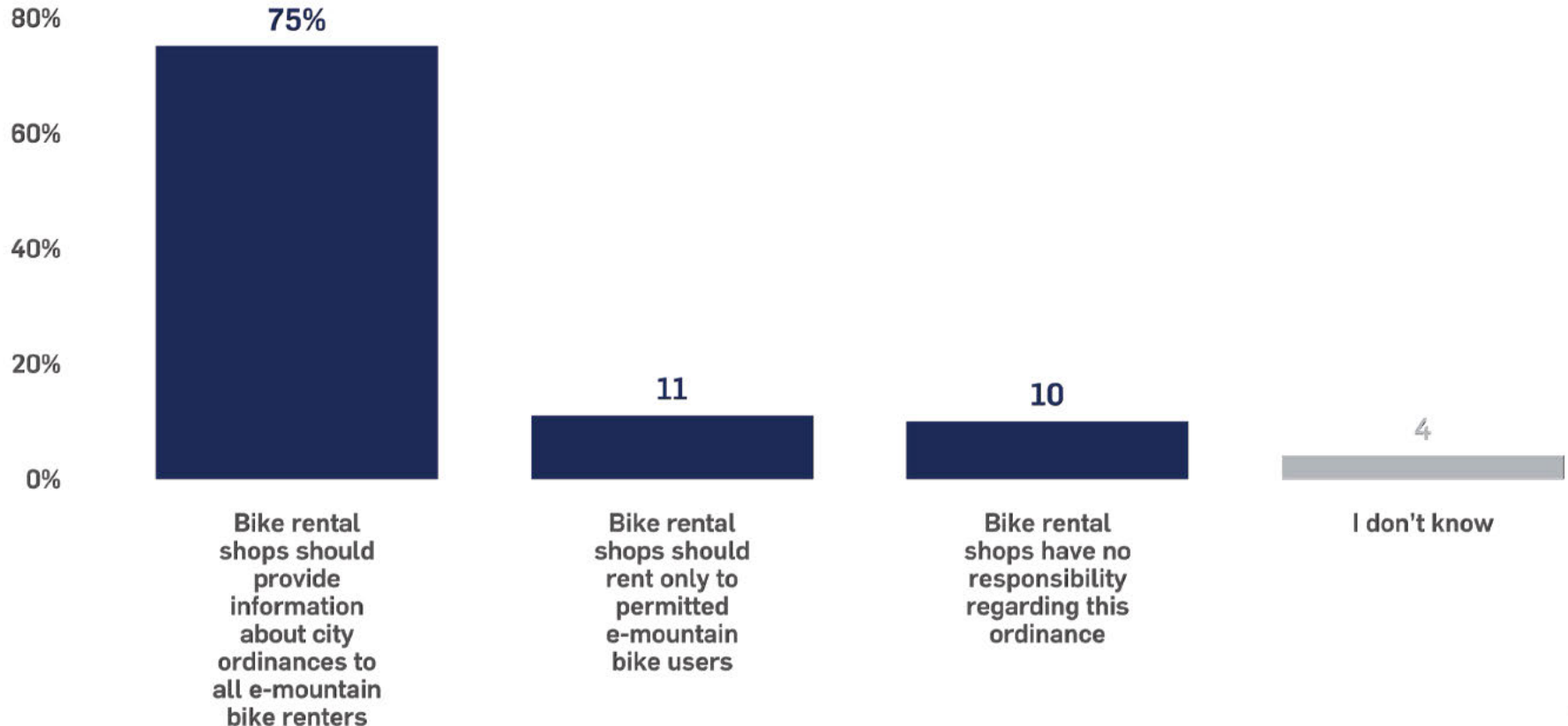


3/4 WANT BIKE SHOPS TO PROVIDE INFO

When it comes to the role of bike shops in enforcing e-bike regulations, 75% of respondents agree that bikes shops should provide information about city ordinances to all e-mountain bike renters.



In your opinion, what should the role of bike shops per the e-mountain bike ordinance be?



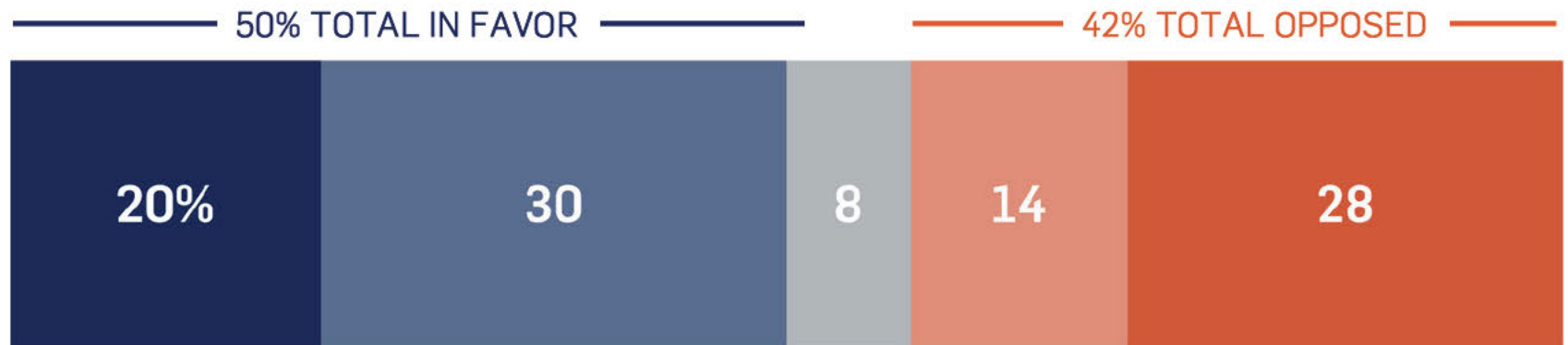
HALF IN FAVOR OF PILOT PROGRAM

When it comes to starting a pilot program to access the feasibility of expanding use of e-mountain bikes, respondents are divided. Half say they support the idea of starting a pilot program and just under half oppose it. Of those who oppose a pilot program, most are strongly opposed.



City officials have suggested starting a pilot program which would allow for use of e-mountain bikes on designated single track trails during a limited timeframe. This pilot program would allow for officials to monitor the use of e-mountain bikes during this time and assess the feasibility of expanding use of e-mountain bikes on Park City single track trails in the future. Would you be in favor or opposed to such a program in Park City?

■ Strongly in favor ■ Somewhat in favor ■ Neither in favor nor opposed ■ Somewhat opposed ■ Strongly opposed

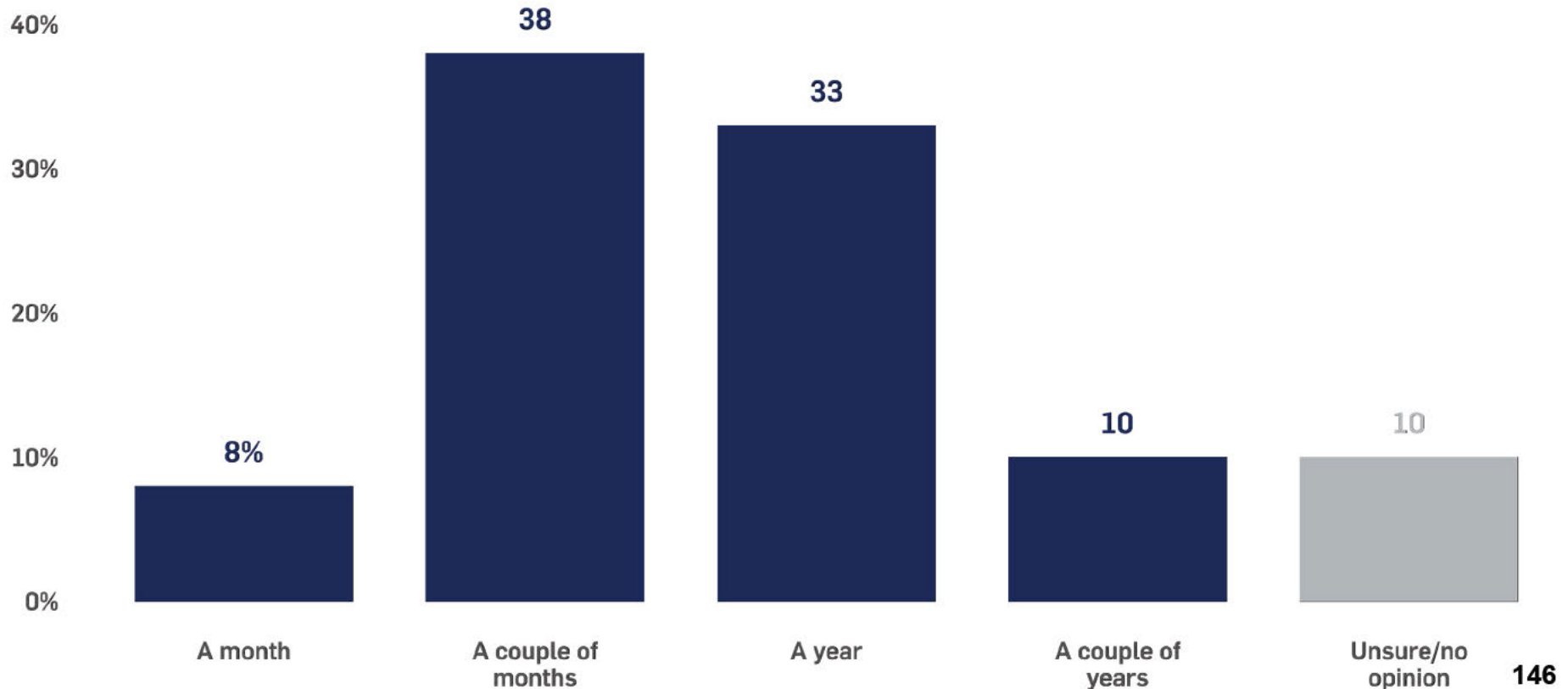


IDEAL TIMEFRAME: MONTHS TO A YEAR

Of those in support of starting a pilot program, just over a third say the program should run for a couple of months. Another third of respondents support running the program for an entire year. The general consensus is that a month would be too short and a couple of years too long.



In your opinion, what would the ideal timeframe for such a program?

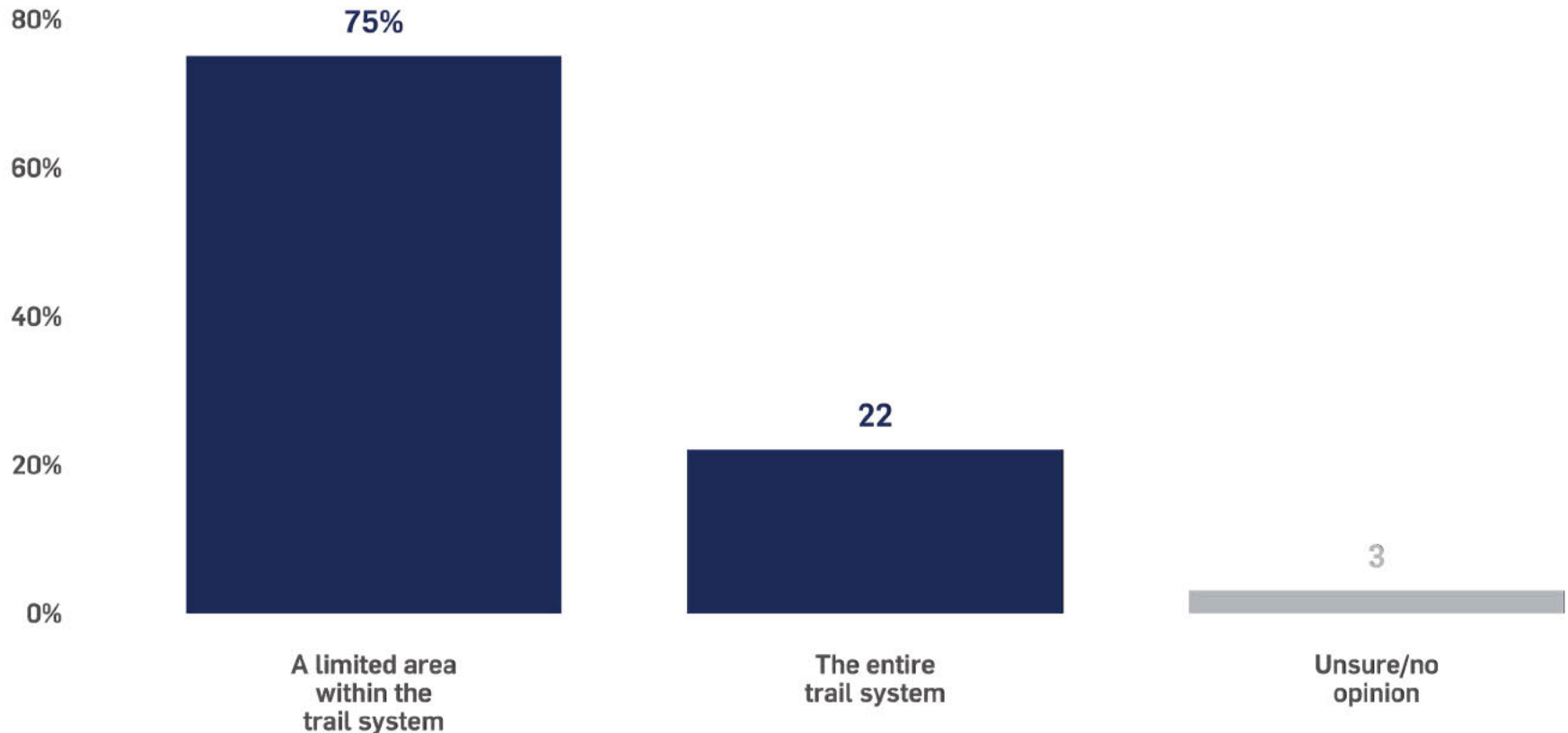


DESIRE FOR LIMITED PILOT PROGRAM AREA

The majority of those in support of the pilot program, 75% believe that the program should be limited to a specific area within the trail system.



In your opinion, should such a program be piloted on the entire Park City trail system or limited to a specific area of the Park City trail system?



MIXED FEELINGS ABOUT PERMIT TAG

Of those who currently meet the allowance requirements to use e-mountain bikes on all city trails, less than half say they would be likely to use a permit tag. 40% say they would be extremely unlikely to use a tag.

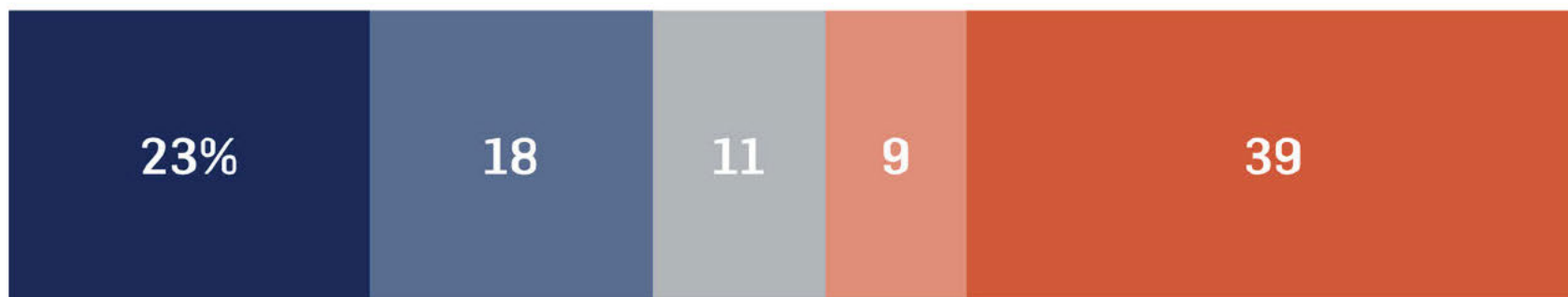


Under current Park City Ordinance, you are authorized to use Class I e-mountain bikes on all city trails. How likely or unlikely would you be to get a voluntary tag (such as a bike sticker) that designates you as an authorized Class I e-mountain bike user on all Park City trails?

■ Extremely likely ■ Somewhat likely ■ Neither likely nor unlikely ■ Somewhat unlikely ■ Extremely unlikely

41% TOTAL LIKELY

48% TOTAL UNLIKELY

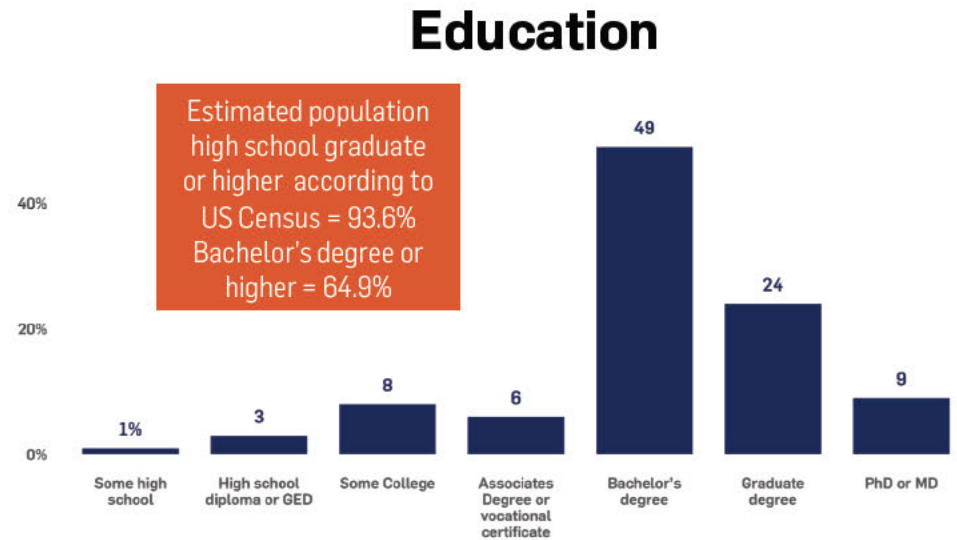
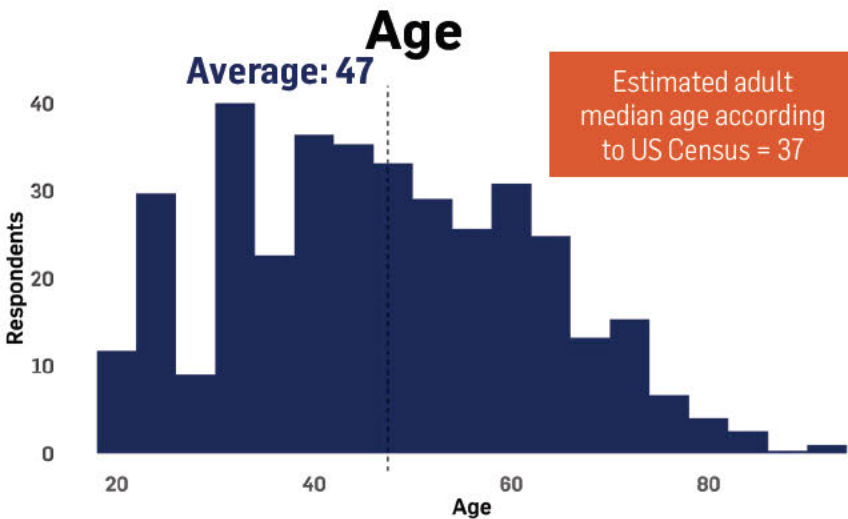




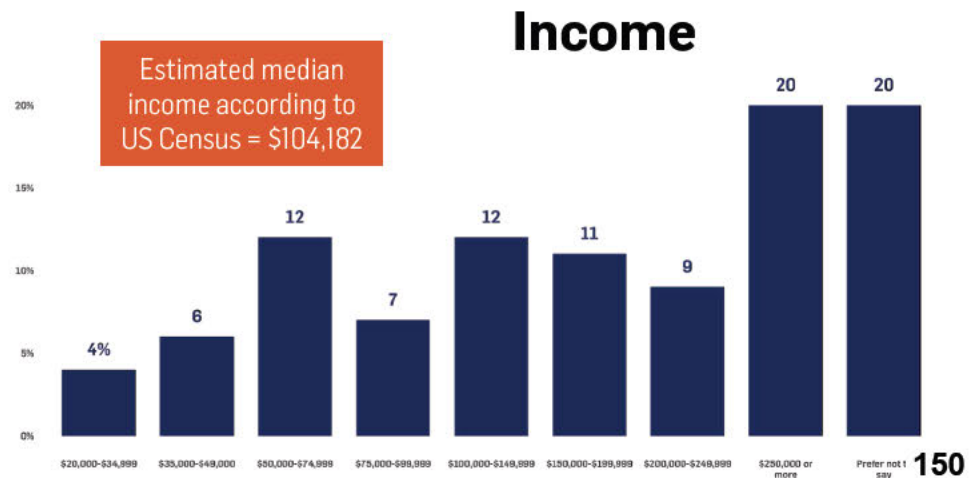
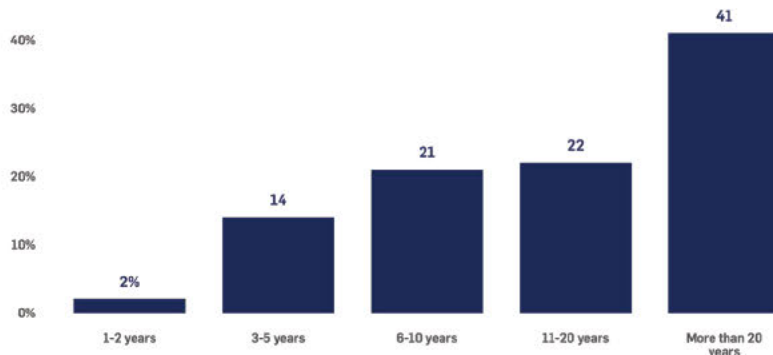
Kyrene Gibb – Partner, VP of Research
y2analytics.com | (801) 406-7877

DEMOGRAPHICS

Respondents are slightly older than average residents, with an average age of 47. Over half of the respondents have lived in Park City for more than 10 years. Most are college-educated. Respondents are distributed across all income brackets.



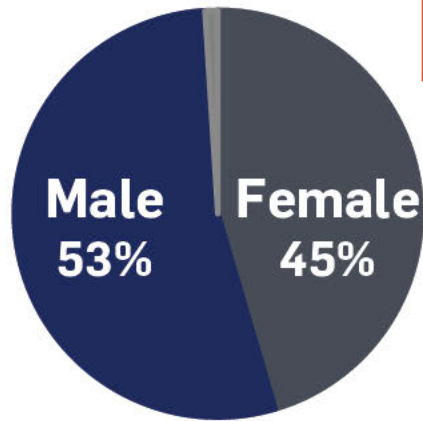
Length of Residence in Park City



DEMOGRAPHICS

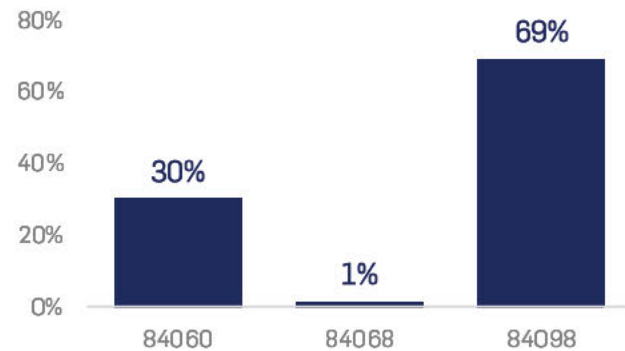
The response rate from men and women matches the demographic make-up of the population. Approximating the demographics of the City as a whole, the vast majority of respondents indicate that they are white/Caucasian, with 4% Hispanic/Latinx heritage. For 90% of respondents, the Park City area is their primary place of residence and about 1/3 of residents live in PCMC proper.

Gender

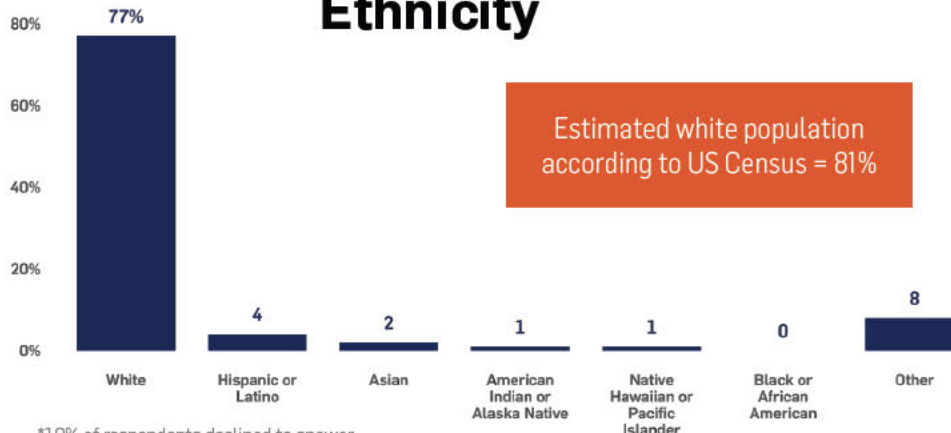


Estimated male population according to US Census = 53%

PC Area Zip Code



Ethnicity



Estimated white population according to US Census = 81%

*10% of respondents declined to answer

Primary Residence

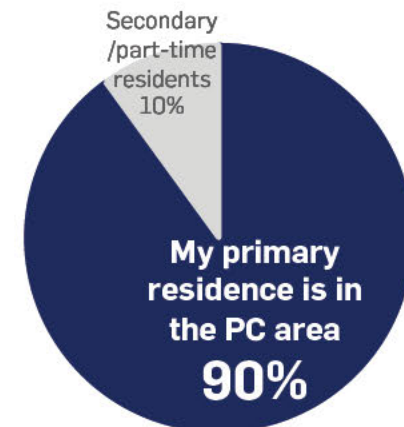


Exhibit B- Peer Communities E-bike Policies

Steamboat Springs, Colorado

- E-bikes are defined by Colorado statute as Class 1, 2, or 3. They are not considered motor vehicles under the law, and are permitted on city streets and roads.
- Class 1 and Class 2 e-bikes are allowed on the following trails: Yampa River Core Trail, Walton Creek Trail, Bear Creek, Blue Sage, Butcherknife, Fox Creek, Sailors Way, and Tamarack Sneak.
- E-bikes ARE NOT ALLOWED on any Emerald Mountain trails.
- All bicycles must follow trail etiquette and abide by posted signs and trail closures.
- Speed Limit: Maximum speed limit on all trails is 15 mph.
- Helmet Requirements: Any person who is fifteen years of age or younger is legally required to wear a protective helmet when operating, or riding as a passenger, on any e-bikes or standard bicycles.

Ketchum/Sun Valley, Idaho

E-bikes are allowed on motorized roads and trails on Forest Service land. Forest Service land encompasses most of the land surrounding Ketchum and Sun Valley.

E-bikes are allowed on all of the trails (as they are motorized) accessed from:

- Greenhorn Gulch
- Deer Creek
- Warm Springs Road (once you are outside of Ketchum city limits, past Board Ranch where the road turns to dirt).
- Quigley Canyon Road, including the following:
 - Quigley Loop Trail (open to class 1 e-bikes only) and Quigley Trails Park (open to class 1 e-bikes only)
 - Fisher Canyon Trail #314 and Porcupine Creek Trail #172

E-bikes are allowed on some of the trails accessed from:

- Oregon Gulch trailhead:
 - E-bikes allowed: Oregon Gulch trail #183.
 - E-bikes **NOT** allowed: Saddle trail #326
- Baker Creek Road:
 - E-bikes allowed: Osberg Ridgeline trail #147, Norton Creek-Prairie Creek Trail #134 from Norton Creek Road to intersection with Baker Creek - Norton Creek Trail #138, Fox Peak Connector #939.
 - E-bikes **NOT** allowed: Alden Gulch #144, Baker Lake trail #818, Apollo Creek #139, Easley Hot Springs (Curly's) #148, Adam's Rib #142

- Prairie Creek Road:
 - E-bikes allowed: Mill Lake Trail #136, Norton Creek-Prairie Creek Trail #134 only to Prairie Lakes from the road, not beyond.
 - E-bikes **NOT** allowed: Miner Creek - Prairie Trail #132, Norton - Miner Canyon Trail #135
- East Fork of the Big Wood Road:
 - E-bikes allowed: Bear Gulch Trail #121, Parker Gulch Trail #121, Cove Creek Road, The Narrows
 - E-bikes **NOT** allowed: Johnstone Creek Trail #206, North Fork Hyndman Trail #165, Hyndman Creek Trail #166, Federal Gulch Trail #169, Timber Draw Trail #313
- Quigley Road:
 - E-bikes allowed

E-bikes are *NOT* allowed on of the following non-motorized trails or any trail accessed from:

- Fox Creek trailhead
- Lake Creek trailhead
- Corral Creek road (this includes Pioneer Cabin trail and Corral Creek trail)
- Lake Creek Road (this includes Taylor Canyon and High Ridge trail)
- Bald Mountain trails
- Sun Valley Resort trails (including White Clouds loop and Proctor Mountain trail)
- Adam's Gulch EXCEPT: Trail #146 - Old Adams Gulch Road Trail and Eve's Gulch Trail, which is the trail that follows the bottom of the drainage (it is the only motorized trail access from Adam's Gulch trailhead).
- Harriman Trail
- Galena Lodge trails
- Titus Lake trail
- Galena Summit Toll Road Trail
- Trails accessed via North Fork Road #146 behind the SNRA headquarters

As for **Bureau of Land Management land**, which is most land surrounding Hailey and Bellevue, e-bikes are allowed more broadly on many trails. **E-bikes *are now allowed* on trails on the Croy system and any motorized road on BLM land.**

[Aspen/Pitkin County, Colorado](#)

- Aspen
 - Multi-use trails - Class 1, 2 & 3 allowed.

- • Single track trails - ebikes prohibited.
- • Sidewalks and pedestrian malls - all bikes prohibited.
- Snowmass Village • Paved trails – Class 1 allowed.
- • All Trails - Class 2 & 3 prohibited.
- • Non-paved trails – ebikes prohibited.
- Pitkin County
 - • Paved trails – Class 1 allowed.
 - • Non-paved trails – ebikes prohibited.
 - • Single track trails - ebikes prohibited.
 - • All Trails - Class 2 & 3 prohibited.
 - Rio Grande Trail – Aspen to Glenwood Springs
 - • Aspen to Stein Park - Class 1 allowed.
 - • Stein Park to Emma schoolhouse - Class 1 allowed.
 - • Emma schoolhouse to Glenwood Springs – Class 1 & 2 currently allowed. Subject to change.

[Moab, Utah](#)

- Only Class 1 allowed on pathways; 15 mph speed limit on Millcreek Parkway (in-town connector); passed in 2021

St. George

- None

[Boulder, Colorado](#) (Policy recently updated)

- Class 1 and Class 2 allowed on some multiuse paths
- 15 mph speed limit on multiuse paths, 8 mph in crosswalks, posted speed limit or 20 mph on residential streets
- Prohibited on 'most' Natural Surface/singletrack trails

[National Forest Service](#)

- Class 1, 2, and 3 e-bikes are prohibited on all non-motorized trails on national forests and grasslands.
 - Several year-round resorts operating under a special use permit have established e-bike use within their permit boundary
- Class 1, 2, and 3 e-bikes are allowed on motorized trails and roads on national forests and grasslands.

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Sustainability

Item Type: Staff Report

Agenda Section: OLD BUSINESS

Subject:

Consideration to Approve the Iron Mountain Open Space Donation Initiated by Summit Land Conservancy (SLC) and Iron Mountain Associates (IMA).

(A) Public Input (B) Action

Suggested Action:

Attachments:

[Iron Mountain Property Donation and Conservation Proposal Staff Report](#)

[Exhibit A: Iron Mountain Conservation Easement](#)



City Council Staff Report

Subject: Iron Mountain Property Donation
Author: Heinrich Deters
Department: Trails & Open Space
Date: August 29, 2023
Type of Item: Administrative

Recommendation

Review and consider approving the Iron Mountain Open Space Donation, initiated by Summit Land Conservancy (SLC) and Iron Mountain Associates (IMA). This action would increase the City's total acreage of protected open space to more than 10,000 acres and secure ownership of property the Iron Mountain Trail currently traverses.

Executive Summary

The City Council is considering the Iron Mountain Open Space Donation, initiated by SLC. The proposal entails IMA placing a conservation easement on approximately 218 acres of open space before donating that property to the City. If the Council accepts the donation, staff will return to the Council in a future meeting to discuss amending the conservation easement covering the donated property to expand its coverage to an additional 326.5 acres of open space already owned by the City.

Background

On December 16, 2021, the Trails & Open Space Team and SLC proposed donating around 218 acres of open space from IMA. The proposal aims to consolidate this area with existing city-owned acreage on Iron Mountain under a single conservation easement held by SLC. The City Council approved moving forward with the project subject to due diligence and an assessment of conceptual maintenance costs.

Properties Currently Owned by PCMC

In 2010 and 2011, Park City Municipal acquired approximately 326.5 acres on Iron Mountain, identified as 'light green' in Figure 1, as open space. These acquisitions were part of a 1998 agreement with the developers of the Colony, involving a water agreement, open space transfer, and open space deed restrictions on separate parcels.

Properties Considered for Donation by IMA

IMA, the developer of the 'Colony' subdivision, owns the Iron Mountain property marked as 'dark green' in Figure 1. As the developer has already sold all the developable lots, IMA intends to transfer the remaining land assets, including these parcels, to other entities, including the Homeowners Association and Park City Municipal.

Figure 1

Analysis

Consolidating property ownership and preservation terms through a unified conservation easement is a prudent approach to managing open spaces in and around Park City. It aligns with the Council's goal of preserving and enhancing the environment. By accepting the donation, ownership of approximately 800 open space acres in the Iron Mountain/Thaynes Canyon area would be consolidated with the City. Subsequently, amending the conservation easement would provide consistent preservation requirements and a uniform management scheme.

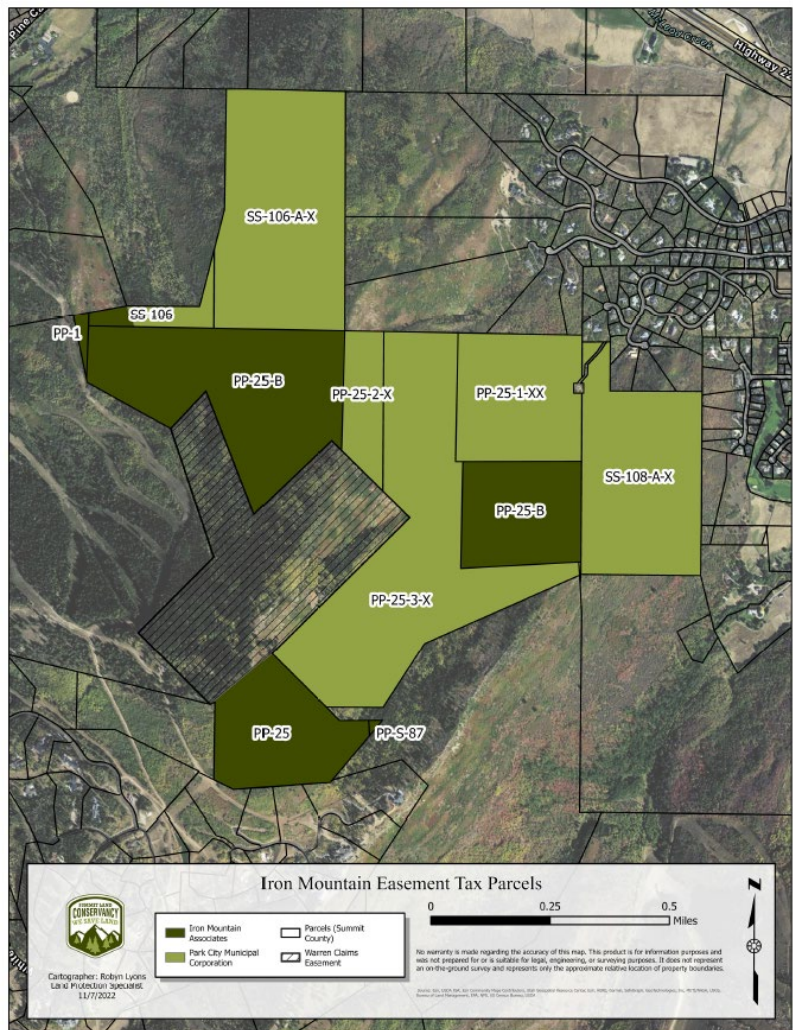
Conservation Easements and Due Diligence

Before donating the property, IMA would place a conservation easement over it. (Exhibit A.) A qualified land trust, SLC, will hold the conservation easement, ensuring independent monitoring and enforcement of permitted and prohibited activities on the property.

Baseline documentation of the property has already been performed by SLC, providing essential information for ongoing preservation efforts. SLC legal counsel and the City Attorney's Office reviewed the title report thoroughly. The Environmental Sustainability Manager has procured a Phase I Environmental Assessment.

Estimated Maintenance Costs

While the proposal involves donating the property to PCMC, maintenance costs such as noxious weed abatement and wildfire mitigation will be incurred. However, costs associated with the additional 218 acres must be evaluated relative to the current property ownership and costs already experienced.



Noxious Weed Abatement: This work is primarily required within 'disturbed areas,' including trail corridors, access easements, or along roadways. The Trails & Open Space Team currently spends approximately \$1000/year on properties already owned on Iron Mountain, specifically along the 'disturbed areas' associated with the Iron Mountain Trail and the access road to the Iron Mountain water tank.

Forest Health/Wildfire Mitigation: Due to the existing and proposed city-owned acreage on Iron Mountain, and as prioritized in the Community Wildfire Risk Assessment (CWRA), the Trails & Open Space Department intends to seek grant funding for any forest health project in this area.

Stewardship Costs and Permitted/Prohibitive Uses

SLC has secured sufficient funds for drafting and stewardship of the conservation easement. There are no additional costs associated with the granting of the conservation easement. The permitted and prohibitive terms within the conservation easement (Exhibit C of the easement) align with similar covenants on other open spaces, allowing for passive, non-motorized recreational activities.

Funding

Funding is not being requested as part of this report.

Exhibits

Exhibit A- DRAFT Iron Mountain Conservation Easement

WHEN RECORDED, RETURN TO:
Summit Land Conservancy
P.O. Box 1775
1887 Gold Dust Lane, Suite 101
Park City, Utah 84060

IRON MOUNTAIN CONSERVATION EASEMENT

THIS IRON MOUNTAIN CONSERVATION EASEMENT (this “Easement”) is made effective as of the date of recording with the office of the Summit County Recorder (the “Effective Date”) by and between IRON MOUNTAIN ASSOCIATES, L.L.C., a Utah limited liability company (“Grantor”) and SUMMIT LAND CONSERVANCY, a Utah non-profit corporation (“Grantee”). (The Grantor and the Grantee are referred to individually as a “Party” and collectively as the “Parties”).

The following exhibits are attached to and are incorporated into this Easement by this reference:

- Exhibit A: Legal Description of the Property;
- Exhibit B: Property Map; and
- Exhibit C: Permitted and Restricted Uses and Practices.

RECITALS

- A. Grantor owns approximately 218 acres of certain real property and appurtenances located in the area known as Iron Mountain, in Park City, Summit County, State of Utah (collectively, the “Property”). The Property is described in Exhibit A and shown on the Property Map attached as Exhibit B.
- B. As fee owner of the Property, Grantor owns the affirmative right to identify, preserve, enhance, and protect forever the Conservation Values (defined below) of the Property. Grantor desires to grant a Conservation Easement in perpetuity to Grantee pursuant to Utah Code Title 57, Chapter 18, Land Conservation Easement Act (“Conservation Easement Act”) which authorizes protection of natural, scenic, open space, aesthetic, historic, hydrologic, ecological, agricultural, and scientific values that are of great importance to Grantor, the Grantee, the residents of Summit County, and the people of the State of Utah.
- C. The Property is open hillside land adjacent to Park City Mountain Resort, The Colony subdivision, and open public recreational land owned by Park City Municipal Corporation. Seasonal public access trails designed for hiking and mountain biking run through the Property.
- D. The conservation values preserved and protected under this Easement include (i) relatively natural vegetation and wildlife habitat; (ii) natural, scenic open space; (iii) outdoor public recreation; and (iv) water quality. Said conservation values are described in more detail in subsections (i) through (iv) immediately below and collectively referred to as the

“Conservation Values.” This Easement is consistent with and meets the requirements of §170(h)(4) of the Internal Revenue Code of 1986, as amended, and the regulations thereunder (the “I.R.C.”). The Conservation Values are further documented in the Baseline Report (defined below).

- (i) Natural Vegetation and Wildlife Habitat: This Easement protects a relatively natural habitat of plants and wildlife and therefore meets the requirements of I.R.C. §170(h)(4)(A)(ii), in particular:

- (a) Vegetation. The Property is primarily Quaking Aspen groves and Conifer trees with smaller pockets of deciduous Bigtooth Maples, Gamble Oak, and sagebrush. The Property is contiguous to a greater wildlife habitat area comprised of the existing Warren Claims conservation easement, lands used for commercial recreational skiing, the Wasatch-Cache National Forest, and large residential subdivision lots with native vegetation. Its variable elevation creates ample opportunity for many different vegetation types, and potentially habitat for rare wildflowers like *Dodecatheon utahensis* that is only found in the Wasatch range. Other rare species, like *Primula maguirei* which is federally listed as “threatened,” may be found on the Property given its elevation, precipitation, and proximity to other open space.
- (b) Wildlife. The Property is relatively natural habitat for a variety of wildlife including large game (deer, elk, moose), ground mammals (marmot, squirrel, ermine, montane vole, porcupine), and birds (ruffed grouse, turkeys, birds of prey). Many of these species use the Property for travel between seasonal habitats. The Utah Division of Wildlife Resources identifies the Property as part of a crucial habitat for moose, elk, mule deer, and dusky grouse. The Wasatch Cache National Forest Plan included the northern goshawk as a Sensitive Species and designated special status to the Property area. The monarch butterfly, a candidate for protection under the Endangered Species Act, travels to Utah annually and relies on plants that provide foraging opportunities and suitable land, like the Property, for milkweed plants as a breeding habitat. The flowering plants on the Property also create a suitable habitat for the western bumble bee, a species being reviewed for protection under the Endangered Species Act, as well as many other native pollinators like mason bees and long-horned bees. Utah State University researchers estimate that Utah is home to roughly 1,100 different bee species that perform pollination services for wild and managed flowering plants. The majority of these species are non-aggressive solitary nesters, and are threatened by habitat loss in the state.

- (ii) Scenic, Aesthetic and Open Space Values. The Property qualifies as open space that yields a significant public benefit pursuant to IRS Regulations §1.170A-14(d)(1)(iii) because (a) it is used for the scenic enjoyment of the general public, and (b) such use is supported by clearly delineated government policies described in the “Park City General Plan”. In particular:

- (a) *Scenic Enjoyment.* The Property is part of Iron Mountain and forms part of the iconic landscape clearly visible from many public roadways and vantage points in and around the greater Park City area and Snyderville Basin. The Property offers unobstructed ridgeline views and views of steep hillsides with rocky buttress features. Views of native vegetation vary from season-to season; evergreen and deciduous trees are snow-covered in the winter and their foliage is colorful and striking in the fall.
 - (b) *Park City's General Plan.* Preservation of the Property for conservation purposes is consistent with the community open space values reflected in the Park City General Plan, adopted by Park City Municipal Corporation in 2014. The protection of the Property is consistent with the following objectives of Goal 4 of the plan: (i) to protect natural areas critical to biodiversity and healthy ecological function, (ii) to buffer entry corridors from development and protect mountain vistas to enhance the natural setting, quality of life, and visitor experience, (iii) to prevent fragmentation of open space to support ecosystem health, wildlife corridors, and recreation opportunities, and (iv) to minimize further land disturbance and the conversion to development of remaining undisturbed land areas, to minimize the effects on neighborhoods.
 - (iii) Public Outdoor Recreation. The Property has natural surface trails open to the public and designed and maintained for hiking and mountain biking during months when the commercially operated ski resort proximate to the Property is not in operation. The Mid-Mountain trail, a 26-mile trail at approximately 8000', that extends across the mountain range from Deer Valley to Summit Park, runs through the Property. The Iron Mountain, Iron Man and Goldfinger trails provide opportunities for recreationists to access the upper elevations of Iron Mountain and link to other trails within the greater trail network. In addition, the Property is adjacent to ski runs, and highly visible from chairlifts that are maintained and operated by the ski resort and the protection of the Property as natural open space enhances the winter recreational experience for the resort's clientele. Finally, the Property provides for backcountry skiing access when conditions allow. Accordingly, the Property qualifies as outdoor recreational land pursuant to IRS Regulations § 1.170A-14(d)(1)(i).
 - (iv) Water Quality: The undeveloped open space forms a portion of the upper East Canyon Creek watershed and the Property is adjacent to residential subdivisions. Trees and native vegetation prevent erosion of the steep hillsides, and form highly permeable surfaces that absorb snow-melt from the high elevation peaks. The Property mitigates flooding to adjacent urban areas and maintains water quality. The health of the Property remains valuable to the function of the region's water resources and the wildlife that rely on them.
- E. The Conservation Values are further documented in the Baseline Document Report (the "Baseline Report"), a copy of which is on file at the offices of Grantor and Grantee. The Grantor and Grantee have acknowledged and hereby acknowledge said Baseline Report

memorializes the condition of the Property as of the effective date of this grant of Easement.

- F. As of the Effective Date, Grantee is a nonprofit corporation incorporated under the laws of Utah as a tax-exempt public charity described in I.R.C. §§ 501(c)(3) and 509(a)(1). The Grantee is organized to protect and conserve natural areas and ecologically significant land for scientific, charitable, and educational purposes. The Grantee is a “qualified organization” within the provisions of I.R.C. § 170(h) and is qualified to acquire and hold conservation easements and is a qualified “Grantee” of a conservation easement under the Conservation Easement Act.
- G. To accomplish the Conservation Purposes (defined below), Grantor desires to convey to the Grantee and the Grantee desires to accept from the Grantor a conservation easement that restricts the uses of the Property as provided herein and that grants certain rights to the Grantee in order to preserve, protect, identify, monitor, enhance, and restore the Conservation Values in perpetuity.
- H. The Grantee agrees by accepting this grant to honor the intentions of the Grantor stated herein and to preserve and protect the Conservation Values of the Property in perpetuity for the public benefit. The Grantee acknowledges that no goods or services or other consideration of any kind whatsoever were received by the Grantee in consideration of or in exchange for this grant.

CONSERVATION EASEMENT TERMS

IN CONSIDERATION of the recitals set forth above, the mutual covenants, terms, conditions, and restrictions contained in this Easement and other good and valuable consideration, the receipt and sufficiency of which are acknowledged, and pursuant to Utah state law including without limitation the Conservation Easement Act, Grantor voluntarily and without consideration of any kind hereby grants and conveys to the Grantee, and the Grantee hereby accepts from Grantor, a perpetual conservation easement in, on, over, and across the Property, subject to the terms and conditions set forth in this Easement, restricting forever the uses that may be made of the Property and granting the Grantee certain rights in the Property; and Grantor and the Grantee agree as follows:

1. **CONSERVATION PURPOSES.** The purposes of this Easement are to preserve and protect in perpetuity and, in the event of their degradation or destruction, to assure the preservation and restoration of the Conservation Values of the Property. In particular, the purpose of this Easement is to protect natural vegetation and wildlife habitat, maintain the Property’s natural, aesthetic and scenic open space qualities, provide public access to outdoor recreation, and to protect water quality within the East Canyon Creek watershed. In achieving the above-named purposes (collectively the “Conservation Purposes”), it is the intent of this Easement to permit the continuation of such uses of the Property as may be conducted consistent with the Conservation Values protected herein, and consistent with the terms, conditions and restrictions stated in this Easement.

2. **BASELINE REPORT.** By its execution of this Easement, the Grantee acknowledges that Grantor's present uses of the Property are compatible with the purposes of this Easement. In order to evidence the present condition of the Property (including both natural and manmade features) and to facilitate future monitoring and enforcement of this Easement, the Parties acknowledge that a Baseline Report has been prepared, which provides a collection of baseline data on the Property and its natural resources and an assessment of the consistent uses. The Parties acknowledge that said Baseline Report includes documentation of lands adjacent to the Property, that are also part of the Iron Mountain open public recreational area. The Parties agree that the Baseline Report, signed by the Parties at the time of this grant of Easement, contains an accurate representation of the biological and physical condition of the Property as of the Effective Date and of the historical uses of the Property, including historical water uses. In addition to the public benefits described as the Conservation Values, the Baseline Report identifies public policies and statements and/or other factual information supporting the significant public benefit of this Easement. The Grantee may use the Baseline Report in enforcing provisions of this Conservation Easement, but is not limited to use of the Baseline Report to show change of conditions. The Baseline Report is incorporated into this Conservation Easement by reference. Grantor and the Grantee approve the Baseline Report, a copy of which is on file with the Grantor and the original of which is on file with the Grantee at their respective addresses for notices set forth below.
3. **THE GRANTEE'S RIGHTS.** In order to accomplish the Conservation Purposes, the rights and interests that are granted and conveyed to the Grantee by this Easement include the following:
 - A. **Preserve and Protect.** The right to preserve, protect, identify, monitor, and enhance the Conservation Values in perpetuity, and, in the event of their degradation or destruction, the right to restore such areas or features of the Property that are damaged by any inconsistent activity or use.
 - B. **Entry and Access Rights.** The Grantee is, by this Easement, granted rights of access by public ways or otherwise including, but not limited to, any access easements appurtenant to the Property or held by Grantor, to enter upon the Property at any time in order to: monitor compliance with and otherwise enforce the terms of this Easement; to study and document ecosystems and other features of the Property; to take ground and aerial photographs of the property; and to determine whether the Grantor's activities are in compliance with the terms of this Easement; all in a manner that does not unreasonably disturb the use of the Property by Grantor consistent with this Easement.
 - C. **Enforcement.** The Grantee has the right to prevent or enjoin any activity on or use of the Property that constitutes a breach of this Easement or is inconsistent, in any material respect, with the preservation of the Conservation Values.

4. USES OF THE PROPERTY.

- A. Reserved Use Rights. Grantor may use and manage the Property as open space for passive recreational use by the public, consistent with the Conservation Values and the permitted and prohibited uses described in Exhibit C (the "Reserved Use Rights").
- B. Reserved Rights. Grantor reserves to Grantor and to Grantor's successors and assigns as the owner of the Property all rights accruing from the ownership of the Property, including the right to engage in or permit or invite others to engage in uses of the Property that are not expressly prohibited herein and that are consistent with the purpose of the Easement, including without limitation the right to engage in or permit others to engage in Reserved Use Rights.

5. APPROVAL REQUEST.

- A. The Grantee's Approval. Grantor will not undertake or authorize any activity requiring prior approval by the Grantee, as set forth in Exhibit C, without first having notified and received approval from the Grantee as provided herein. Prior to the commencement of any activity for which this Easement requires prior written approval by the Grantee, Grantor will send the Grantee written notice of Grantor's intention to undertake such activity. The notice will inform the Grantee of all aspects of the proposed activity, including location, design, materials or equipment to be used, dates and duration, and all other relevant information. If in the Grantee's judgment additional information is required to adequately review the proposal, the Grantee will send written notice requesting such additional information within thirty (30) days of receipt of Grantor's notice.
- B. The Grantee's Decision. No later than thirty (30) days from the Grantee's receipt of information adequate to review the proposal, the Grantee will notify Grantor of its disapproval or approval of Grantor's proposal, or the Grantee may approve Grantor's proposal with specified modifications. The Grantee's decision must be based upon the Grantee's assessment of the proposed activity in relation to its consistency or inconsistency with the terms of this Easement. Approval to proceed with, or failure to object to, any proposed use or activity will not constitute consent to any subsequent use or activity of the same or any different nature. Grantee's approval may be withheld only upon a reasonable determination by Grantee that the action as proposed would be inconsistent with the purpose of this Easement. Grantee's failure to respond within the thirty (30) day period will be deemed an approval.

6. ENFORCEMENT AND REMEDIES.

- A. Notice of Violation; Corrective Action. If the Grantee becomes aware that a violation of the terms of this Easement caused by Grantor has occurred or is threatened to occur, the Grantee will give written notice to Grantor of such violation who will, in the case of an existing violation, promptly cure the violation by (a)

ceasing the same and (b) restoring the Property to the condition before such violation, or in the case of a threatened violation, refrain from the activity that would result in the violation. If Grantor fails to cure such violation within sixty (60) days after receipt of notice from the Grantee, or under circumstances where the violation cannot reasonably be cured within a sixty (60)-day period, or if Grantor fails to begin curing such violation within the sixty (60)-day period or if Grantor fails to continue diligently to cure such violation until finally cured, the Grantee will have all remedies available at law or equity to enforce the terms of this Easement, including, without limitation, the right to seek a temporary or permanent injunction with respect to such activity, to cause the restoration of that portion of the Property affected by such activity to the condition that existed prior to the undertaking of such prohibited activity (regardless of whether the costs of restoration exceed the value of the Property), and to otherwise pursue all other available legal and equitable remedies, including, but not limited to, monetary damages arising from the violation. The Grantee's rights under this Paragraph apply equally to actual or threatened violations of the terms of this Easement. Grantor agrees that the Grantee's remedies at law for any violation of the terms of this Easement may be inadequate and that the Grantee is entitled to the injunctive relief described in this Paragraph, both prohibitive and mandatory, in addition to such other relief to which the Grantee may be entitled, including specific performance of the terms of this Easement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. Furthermore, the provisions of the Conservation Easement Act are incorporated into this Easement by this reference, and this Easement includes all of the rights and remedies set forth therein.

- i. Grantor is responsible for the acts and omissions of persons acting on its behalf, at its direction or with its authorization including but not limited to Grantor's agents, employees, lessees and guests ("Grantor Parties"), and the Grantee has the right to enforce this Easement against Grantor for any use of or activities upon the Property which are a violation of this Easement and which result from such acts or omissions of Grantor. Except for Grantor Parties, Grantor is not liable for any acts, actions, or omission of any other person and the Grantee does not have a right to enforce this Easement or make any claim arising under this Easement with respect to Grantor for the acts or commission of any other person.
 - ii. The Grantee has the right, but not the obligation, to pursue all legal and equitable remedies provided under this Paragraph against any third party responsible for any activity or use of the Property that is a violation of this Easement.
- B. Costs of Enforcement. If Grantee is the prevailing party in any judicial proceeding against Grantor, or against Grantor Parties, Grantor shall reimburse Grantee for any reasonable costs of enforcement or defense, including court costs, mediation and, if applicable, arbitration costs, reasonable attorneys' fees, and any other payment ordered by such Court or arbitrator. In addition, any reasonable costs of restoration

will be borne by the Grantor if Grantor is deemed to be solely responsible for damage to the Property. If Grantor prevails in any action to enforce the terms of this Easement, Grantor's costs of suit, including without limitation attorneys' fees, shall be borne by Grantee.

- C. Emergency Enforcement. If the Grantee, in its reasonable good faith judgment, determines that circumstances require immediate action to prevent or mitigate significant, immediate and material damage to the Conservation Values or to prevent significant and material breach of this Easement, the Grantee may pursue its remedies under this Easement without prior notice to Grantor and without waiting for the cure period to expire. Grantee shall concurrently or as soon as possible thereafter notify Grantor orally and in writing of all actions taken pursuant to this paragraph.
- D. Forbearance Not a Waiver. Any forbearance by Grantee to exercise its right under this Easement in the event of any violation of this Easement shall not be deemed or construed to be a waiver by Grantee of such violation or another violation of this Easement or of any of Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach shall impair such rights or remedy or be construed as a waiver.
- E. Remedies Cumulative. No single or partial exercise of any right, power, or privilege hereunder will preclude any other or further exercise thereof or the exercise of any other right, power, or privilege hereunder and all remedies under this Easement may be exercised concurrently, independently or successively from time to time. The rights and remedies herein provided are cumulative and not exclusive of any rights or remedies which may be available at law or equity.
- F. Acts Beyond the Grantor's Control. Notwithstanding anything here to the contrary, nothing contained in this Easement will be construed to entitle the Grantee to bring any action against Grantor for, or to require the Grantee or Grantor to restore destruction of or damage to the Conservation Values resulting from, any damage, injury to, or change in the Property resulting from or arising as a result of causes beyond Grantor's control, including without limitation fire, flood, storm, earth movement, landslides, acts of God and/or any other natural disasters, or from any action that Grantor reasonably determines is prudent under emergency conditions to prevent, abate, or mitigate significant injury to the Property.

7. REPRESENTATIONS AND WARRANTIES.

- A. Hazardous Material. Grantor warrants that it has no actual knowledge of release or threatened release of hazardous substances or wastes on the Property, as such substances and wastes are defined by applicable law.
- B. State of Title. Grantor represents and warrants that Grantor has good and marketable title to the Property, subject only to any liens, encumbrances and defects described in the title commitment obtained by the Grantee prior to execution of this

Easement. To the best of Grantor's knowledge, there are no existing easements, leases or other agreements with Grantor and third-parties that might cause extinguishment of this Easement, or that would materially impair the Conservation Purposes.

- C. Compliance with Laws. Grantor has not received notice of and has no knowledge of any material violation of any federal, state, county, or other governmental or quasi-governmental statute, ordinance, rule, regulation, law, or administrative or judicial order with respect to the Property.
 - D. No Litigation. Grantor represents and warrants that to its knowledge there is no action, suit, or proceeding that is pending or threatened against the Property or any portion thereof relating to or arising out of the ownership or use of the Property, or any portion thereof, in any court or before or by any federal, state, county, or municipal department, commission, board, bureau, agency, or other governmental instrumentality.
 - E. Disclosure of Easement Information. The Grantee has informed Grantor of the types and legal effects of conservation easements and has advised Grantor to obtain independent legal advice as required by section 57-18-4 of the Conservation Easement Act.
 - F. Authority to Execute Easement. The person or persons executing this Easement on behalf of the Grantee represent and warrant that the execution of this Easement has been duly authorized by the Grantee. The person or persons executing this Easement on behalf of Grantor represent and warrant that the execution of this Easement has been duly authorized by Grantor.
8. COSTS, LEGAL REQUIREMENTS, AND LIABILITIES. Grantor, or Grantor's assigns, will be responsible for and will bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Property and agrees that the Grantee will have no duty or responsibility for the operation or maintenance of the Property, the monitoring of hazardous conditions on the Property, or the protection of Grantor, the public, or any third-parties from risks relating to conditions on the Property. The Parties hereby acknowledge that the Mid-Mountain trail is maintained and managed by the Snyderville Basin Recreation District, a political subdivision of Summit County. Grantor agrees to pay before delinquency any and all real property taxes and assessments levied on the Property and agrees that the Grantor will keep the Grantee's interest in the Property free of any liens, including those arising out of any work performed for, materials furnished to, or obligations incurred by Grantor. Grantor will be solely responsible for any costs related to the maintenance of general liability insurance covering Grantor's acts on the Property. Grantor remains solely responsible for obtaining any applicable governmental permits and approvals for any activity or use by Grantor on the Property and permitted by this Easement, and any activity or use will be undertaken in accordance with all applicable federal, state, and local laws, rules, regulations, and requirements. If more than one person

or entity constitutes Grantor, the obligations of each and all of them under this Easement will be joint and several.

9. RUNNING WITH THE LAND. This Easement burdens and runs with the Property in perpetuity. Every provision of this Easement that applies to Grantor or the Grantee also applies forever to and burdens or benefits, as applicable, their respective agents, heirs, devisees, administrators, employees, personal representatives, lessees, and assigns, and all other successors as their interest may appear.
10. SUBSEQUENT TRANSFERS AND SUBORDINATION. Grantor agrees that the terms, conditions, restrictions, and purposes of this Easement or reference thereto will be inserted by Grantor in any subsequent deed or other legal instrument by which Grantor divests either the fee simple title or a possessory interest (including, but not limited to, any leases) of the Property; and Grantor further agrees to notify the Grantee of any pending transfer (including, without limitation, leases) at least forty-five (45) days in advance of the transfer. The failure of the Grantor to comply with this Paragraph will not impair the validity of this Easement or limit its enforceability in any way. Any successor in interest of the Grantor, by acceptance of a deed, lease, or other document purporting to convey an interest in all or any portion of the Property, will be deemed to have consented to, reaffirmed, and agreed to be bound by all of the terms, covenants, restrictions, and conditions of this Easement. Upon conveyance of the Property to any third party, Grantor will have no further obligations or responsibilities of any kind under this Easement except for matters and occurrences, if any, that arise or arose out of acts or conditions prior to the date of conveyance.
11. INDEMNIFICATION.
 - A. Cross Indemnification. Notwithstanding any other provision of this Agreement to the contrary, each Party hereby indemnifies, defends, and holds harmless the other, including, without limitation, the other Party's directors, officers, employees, agents, contractors, and their successors and assigns (collectively, the "Indemnified Parties"), from and against any costs, liabilities, penalties, damages, claims, or expenses and litigation costs (including reasonable attorneys' fees) that an Indemnified Party may suffer or incur as a result of, or arising out of use of or activities on the Property, except to the extent caused by the negligence of, or willful misconduct by, the other indemnifying Party.
 - B. Grantor Indemnification. Grantor hereby indemnifies, defends, and holds harmless the Grantee and its Indemnified Parties for any real property taxes, insurance, utilities, or assessments that are levied against the Property, including those for which exemption cannot be obtained, or any claims pertaining to the Grantor's title to the Property or representations and warranties made in this Easement.
 - C. No provision of this Easement shall waive any defense or limitation of the Governmental Immunity Act of Utah (Utah Code §§ 63G-7-101 to -904).

12. CHANGE OF CONDITIONS. In granting this Easement, Grantor has considered the possibility that uses prohibited by the terms of this Easement may become more economically valuable than permitted uses and that neighboring properties may be used entirely for such prohibited uses in the future. It is the intent of Grantor and the Grantee that any such changes will not be deemed circumstances justifying the extinguishment of this Easement. In addition, the inability of Grantor, or Grantor's successors or assigns, to conduct or implement any or all of the uses permitted under this Easement, or the unprofitability of doing so, will not impair the validity of this Easement or be considered grounds for its termination or extinguishment.
13. EXTINGUISHMENT. If subsequent, unexpected circumstances arise in the future that render the purposes of this Easement impossible to accomplish, this Easement can be released, terminated, or otherwise extinguished, whether in whole or in part, only (a) in a judicial proceeding in a court of competent jurisdiction and (b) upon a finding by the court that a subsequent unexpected change in conditions has made impossible or impractical the continued use of the Property for Conservation Purposes. Each Party will promptly notify the other when it first learns of such circumstances. Proceeds received after the satisfaction of prior claims, from any sale, exchange, or involuntary conversion of all or any portion of the Property subsequent to such termination or extinguishment, will be determined and distributed, unless otherwise provided by law at the time, in accordance with Paragraph 15 "USE OF PROCEEDS".
14. CONDEMNATION. If all or part of the Property is taken in exercise of eminent domain by public, corporate, or other authority so as to abrogate the restrictions imposed by this Easement, Grantor and Grantee will join in appropriate actions at the time of such taking to recover the full value of the taking and all incidental or direct damages resulting from the taking, it being expressly agreed that this Easement constitutes a compensable property right, in addition to Grantor's fee interest, which the parties agree shall be the priority claim in any condemnation in which the Grantor is not directly involved in its government role. Proceeds received pursuant to condemnation proceedings will be determined and distributed, unless otherwise provided by law at the time, in accordance with Paragraph 15 "USE OF PROCEEDS".
15. USE OF PROCEEDS. Condemnation, termination or extinguishment proceeds will be utilized by the Grantor to advance conservation purposes and acquire a fee-simple, conservation easement, or a similar property interest in open space lands. As appropriate and upon mutual agreement of the parties, Grantee shall have the right to hold a property interest in the acquired property as either a joint property owner, conservation easement holder, conservation easement co-holder or otherwise. All expenses incurred by Grantor and Grantee in such action will be paid out of the recovered proceeds.

16. AMENDMENT. If circumstances arise under which an amendment to or modification of this Easement might be appropriate, the Grantee and Grantor may by mutual written agreement jointly amend this Easement. Any such amendment will: (1) be consistent with the preservation of the Conservation Values of the Property and the Conservation Purposes of this Easement; (2) not affect its perpetual duration or its qualification under any laws; (3) not permit any private inurement or impermissible private benefit to any person or entity, in accordance with rules and regulations governing charitable organizations qualified under section 501(c)(3) of the IRS Code; and (4) have a positive or not less than neutral conservation outcome. Any such amendment will be recorded in the land records of Summit County, Utah. Nothing in this Paragraph will require either Party to agree to any amendment or to consult or negotiate regarding any amendment.
17. INTERACTION WITH STATE LAW. The provisions of the above paragraphs addressing EXTINGUISHMENT, CONDEMNATION, and AMENDMENT shall apply notwithstanding, and in addition to, any provisions addressing such actions under Utah law.
18. NOTICE. Any written notice called for in this Easement will be delivered: (i) in person; (ii) by certified mail, return receipt requested, postage prepaid; (iii) by e-mail with the original deposited with the United States Post office, postage prepaid; or (iv) by next-business-day delivery through a reputable overnight courier that guarantees next-business-day delivery and provides a receipt. Notices must be addressed as follows:

To the Grantee:

Summit Land Conservancy
P.O. Box 1775
1887 Gold Dust Lane, Suite 101
Park City, Utah 84060
Attention: Executive Director

To Grantor:

Iron Mountain Associates, L.L.C.
2455 White Pine Canyon Drive
Park City, Utah 84088
Attention: Walter J. Brett

Either Party may, from time to time, by written notice to the other, designate a different address that will be substituted for the relevant address or addresses set forth above. Notice is deemed to be given upon receipt.

19. INTERPRETATION.

- A. Intent. It is the intent of this Easement to protect the Conservation Values in perpetuity by prohibiting and restricting specific uses of the Property, notwithstanding economic or other hardship or changes in circumstances or conditions. If any provision in this Easement is found to be ambiguous, an interpretation consistent with protection of the Conservation Values and

Conservation Purposes is favored, regardless of any general rule of construction that may be to the contrary. In the event of any conflict between the provisions of this Easement and the provisions of any use and zoning restrictions of the State of Utah, the county in which the Property is located, or any other governmental entity with jurisdiction, the more restrictive conservation provisions will apply.

- B. Governing Law. This Easement will be interpreted in accordance with the laws of the State of Utah.
- C. Captions. The section captions in this Easement have been inserted solely for convenience of reference and are not part of this Easement and will have no effect upon construction or interpretation.
- D. No Hazardous Materials Liability. Notwithstanding any other provision of this Easement to the contrary, nothing in this Easement will be construed such that it creates in or gives to the Grantee: (a) the obligations or liabilities of a “Grantor” or “operator” as those words are defined and used in Environmental Laws (defined below), including, without limitation, (b) the obligations or liabilities of a person described in 42 USC §9607(a)(3); (c) the obligations of a responsible person under any applicable Environmental Law; (d) any obligation to investigate or remediate any Hazardous Materials associated with the Property; or (e) any control over Grantor’s ability to investigate, remove, remediate, or otherwise clean up any Hazardous Materials associated with the Property.
- E. Merger. This Easement shall not be extinguished under the doctrine of merger. Notwithstanding the foregoing, prior to any occasion in which the Grantee takes legal title to Grantor’s interest in the Property, the Grantee must commit the monitoring and enforcement of this Easement to another qualified organization within the meaning of I.R.C. § 170(h)(3) which organization has among its purposes the conservation and preservation of land and water areas.
- F. Construction. The Parties acknowledge and agree that (a) each Party is of equal bargaining strength; (b) each Party has actively participated in the drafting, preparation, and negotiation of this Easement; (c) each Party has consulted with its own independent counsel, and such other professional advisors as it has deemed appropriate, relating to any and all matters contemplated under this Easement; (d) each Party and its counsel and advisors have reviewed this Easement; (e) each Party has agreed to enter into this Easement following such review and the rendering of such advice; and (f) any rule of construction to the effect that ambiguities are to be resolved against the drafting Party do not apply in the interpretation of this Easement, or any portions hereof, or any amendments hereto.
- G. Definitions. Unless defined elsewhere in this Easement, capitalized terms used in this Easement have the following meanings.
 - i. The term “Development Rights” means and includes any and all legal rights under federal, state, and/or local laws, ordinances, rules or regulations now

in effect or enacted after this date to develop and build structures, expressed as the maximum number of dwelling units per acre for residential parcels or square feet of gross floor area for nonresidential parcels, that could be permitted under applicable zoning and subdivision rules and regulations.

- ii. All references to the “I.R.C.” or “IRS Code” means the Internal Revenue Code in Title 26 of the United States Code.
- iii. All references to the “IRS Regulations” means the Internal Revenue Service Treasury Regulations, 26 C.F.R. Ch. 1, §1.170A-14 as amended.
- iv. The terms “Grantor” and the “Grantee”, and any pronouns used in place thereof, mean and include, respectively, Grantor and Grantor’s personal representatives, heirs, devisees, personal representatives, and assigns, and all other successors as their interest may appear and the Grantee and its successors and assigns.
- v. The term “Hazardous Materials” includes, without limitation, any of the following wastes, materials, chemicals, or other substances (whether in the form of liquids, solids, or gases, and whether or not airborne) which are ignitable, reactive, corrosive, toxic, or radioactive, or which are deemed to be pollutants, contaminants, or hazardous or toxic substances under or pursuant to, or which are to any extent regulated by or under or form the basis of liability under any statute, regulation, rule, ordinance, order, or requirement concerning such wastes, materials, chemicals, or other substances (in each case, an “Environmental Law”), including, but not limited to, petroleum-based products and any material containing or producing any polychlorinated biphenyl, dioxin, or asbestos, as well as any biocide, herbicide, insecticide, or other agrichemical, at any level that may (a) constitute a present or potential threat to human health, safety, welfare, or the environment, (b) exceed any applicable or relevant and appropriate cleanup standard, or (c) cause any person to incur any investigation, removal, remediation, maintenance, abatement, or other cleanup expense; it being understood that such Environmental Laws include, but are not limited to Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 USC §§ 9601 et seq.); the Hazardous Materials Transportation Act (49 USC §§ 6901 et seq.); similar Utah state environmental laws; and any rule, regulation, or other promulgation adopted under any of the foregoing laws.

20. RESTRICTIONS ON TRANSFER. Other than in the context of an extinguishment or condemnation that complies with this Easement, this Easement may be transferred by Grantee, only if (i) as a condition of the transfer, Grantee requires that the purpose of this Easement continues to be carried out; (ii) the transferee, at the time of transfer, qualifies under I.R.C. §501(c)(3) and/or §170(h) and §57-18-3 of the Conservation Easement Act as an eligible donee to receive this Easement directly (hereafter described as “Eligible

Donee”); and (iii) the Eligible Donee has the commitment and resources to enforce, and agrees to enforce this Easement. Grantee agrees to provide written notice to Grantor at least sixty (60) days prior to any intended transfer of this Easement and if Grantor requests that the Easement be transferred to a specific Eligible Donee, the Parties shall make reasonable efforts to transfer the Easement to said Eligible Donee. Any subsequent transfer of this Easement by any successor in interest to the Grantee in whole or in part shall also be subject to the provisions of this Paragraph. Any attempted transfer by Grantee of all or a portion of this Easement contrary to the terms hereof shall be invalid but shall not operate to extinguish this Easement.

21. SEVERABILITY AND ENFORCEABILITY. The terms and purposes of this Easement are intended to be perpetual. If any provision herein shall be held invalid or unenforceable by any court of competent jurisdiction or as a result of future legislative action, and if the rights or obligations of any Party under this Easement will not be materially and adversely affected thereby, (a) such holding or action will be strictly construed; (b) such provision will be fully severable; (c) this Easement will be construed and enforced as if such provision had never comprised a part hereof; (d) the remaining provisions of this Easement will remain in full force and effect and will not be affected by the invalid or unenforceable provision or by its severance from this Easement; and (e) in lieu of such illegal, invalid or unenforceable provision, there will be added automatically as a part of this Easement a legal, valid and enforceable provision as similar in terms to such illegal, invalid and unenforceable provision as may be possible.
22. COUNTERPARTS. This Easement may be executed in one or more counterparts, all of which taken together will be considered one and the same agreement and each of which will be deemed an original. This Easement shall become effective when each Party has received a counterpart signature page signed by all of the other Parties.
23. RECORDING EFFECTIVE DATE. This Easement shall be effective (the “Effective Date”) on the day and date it is delivered for recording with the office of the Summit County Recorder, with a date-stamped copy retained as proof of timely delivery. The Grantee is authorized to record or file any notices or instruments appropriate to assuring the perpetual enforceability of this Easement, and Grantor agrees to execute any such instruments upon reasonable request.
24. ENTIRE AGREEMENT. This Easement, including the exhibits attached hereto and the Baseline Report, sets forth the entire agreement and understanding of the Parties with respect to the transactions contemplated by this Easement and supersedes all prior arrangements, promises, communications, representations, warranties and understandings, whether oral or written, by any Party or any officer, employee, representative or agent of any Party with respect to the transactions contemplated by this Easement.

[SIGNATURE PAGE TO FOLLOW]

SIGNATURE PAGE CONSERVATION EASEMENT

GRANTOR AND THE GRANTEE have executed this Conservation Easement as of the Effective Date.

GRANTOR:

Iron Mountain Associates, L.L.C.

By: WPA, Ltd., its Manager

By: _____
Walter J. Brett, President

GRANTEE:

Summit Land Conservancy, a Utah
nonprofit corporation

By: _____
Cheryl Fox, Executive Director

STATE OF UTAH)

: ss.

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20__, by Cheryl Fox, the Executive Director of Summit Land Conservancy, a Utah nonprofit corporation.

NOTARY PUBLIC

Residing at: _____

My Commission Expires:

STATE OF UTAH)

: ss.

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20__, by Walter J. Brett, the President of White Pine Associates, Inc., for and on behalf of Iron Mountain Associates, L.L.C., a Utah limited liability company.

NOTARY PUBLIC

Residing at: _____

My Commission Expires:

**EXHIBIT A
TO
CONSERVATION EASEMENT**

LEGAL DESCRIPTION OF THE PROPERTY

NORTH PARCEL

A parcel lying within the Northwest Quarter of Section 7, Township 2 South, Range 4 East, Salt Lake Base & Meridian, Summit County Utah more particularly described as follows:

Beginning at the Southwest Corner of Lot 1, The Colony at White Pine Canyon Phase 1 Amended, said point being East 377.99 feet and South 1111.48 feet from the East Quarter Corner of Section 1, Township 2 South, Range 3, East, Salt Lake Base and Meridian (Basis of Bearing being North 01°07'03" East 1306.79 feet from said East Quarter Corner of Section 1 to the West Quarter Corner of Section 6, Township 2 South, Range 3 East, Salt Lake Base and Meridian) and running thence South 20°47'08" East 367.66 feet; thence North 88°34'04" East 2312.49 feet; thence South 01°14'45" West 1320.77 feet; thence North 46°04'23" West 142.23 feet; thence South 45°01'38" West 1145.82 feet; thence North 19°38'13" West 1506.79 feet; thence South 43°59'49" West 674.93 feet; thence North 61°00'44" West 1094.72 feet; thence North 12°01'21" West 759.34 feet; thence North 79°22'50" East 600.73 feet to the point of beginning.

SOUTH PARCEL

A parcel lying within Section 7, Township 2 South, Range 4 East, Salt Lake Base & Meridian, Summit County Utah more particularly described as follows:

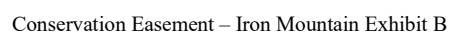
Beginning at a point East 2008.03 feet and South 4939.95 feet from the East Quarter Corner of Section 1, Township 2 South, Range 3, East, Salt Lake Base and Meridian (Basis of Bearing being North 01°07'03" East 1306.79 feet from said East Quarter Corner of Section 1 to the West Quarter Corner of Section 6, Township 2 South, Range 3 East, Salt Lake Base and Meridian) and running thence South 45°02'22" East 1057.81 feet; thence North 89°15'15" East 475.31 feet; thence South 39°45'27" West 900.21 feet; thence South 86°06'18" West 1059.84 feet; thence North 64°01'13" West 372.86 feet; thence North 01°39'17" East 750.76 feet; thence South 76°01'13" East 107.86 feet; thence North 45°01'38" East 873.83 feet to the point of beginning.

SQUARE PARCEL

A parcel lying within the Northeast Quarter of Section 7, Township 2 South, Range 4 East, Salt Lake Base & Meridian, Summit County Utah more particularly described as follows:

Beginning at a point East 4106.95 feet and South 2802.76 feet from the East Quarter Corner of Section 1, Township 2 South, Range 3, East, Salt Lake Base and Meridian (Basis of Bearing being North 01°07'03" East 1306.79 feet from said East Quarter Corner of Section 1 to the West Quarter Corner of Section 6, Township 2 South, Range 3 East, Salt Lake Base and Meridian) and running thence North 89°33'36" East 1332.32 feet; thence South 00°25'53" West 1110.07 feet; thence South 86°33'44" West 1342.71 feet; thence North 00°47'42" East 1180.43 feet to the point of beginning.

PROPERTY MAP



**EXHIBIT C
TO
CONSERVATION EASEMENT**

The Property shall not be used for residential or commercial purposes except as permitted in this Exhibit C. Industrial uses are not permitted. The uses set forth in this Exhibit C detail specific activities that are permitted or prohibited under this Easement. The uses set forth in this Exhibit C are also intended to provide guidance in determining the consistency of other activities with the Conservation Purposes.

1. MANAGEMENT. The Property shall be named the “Iron Mountain Conservation Easement Area” and will be managed by the Grantor according to best practices for natural and undeveloped open space, with specific attention to maintaining the recreational, wildlife habitat and scenic qualities. The Property shall not be used for any purpose that is inconsistent with it being held as open space.

2. IMPROVEMENTS. No dwelling, building, structure or above-surface equipment or facilities of any kind shall be erected or placed on the Property except for the following: (a) improvements necessary to protect or promote the safety and physical integrity of the surrounding properties; or (b) improvements for trails and signs, as hereafter described.

3. RECREATIONAL USES. The Property may be used for passive recreational activities including, but not limited to, hiking, biking, snowshoeing, back-country skiing and horse-back riding on designated recreational trails.

4. TRAILS. Grantor shall construct and manage trails in a manner consistent with the Conservation Values and with jurisdictional planning and permitting requirements. All trails, signs, water bars, stream crossings or other structures shall be constructed so as to maintain the harmony of the trails within the natural surroundings, and (ii) all trails shall be located so as to limit visual impact to the natural appearance of the Property from adjoining properties and/or from the surrounding community. The Mid-Mountain trail shall be designed for passive recreation (hiking and mountain biking) and the Grantor may make improvements and minor adjustments to the alignment of the Mid-Mountain trail without prior notice to Grantee. Grantor may maintain other existing public access trails located on the Property and may construct new trails or substantial reroutes upon 60 days prior notice and approval of Grantee, not to be unreasonably withheld.

5. AVALANCHE CONTROL AND SAFETY. The Homeowners Association for the Colony at White Pine Canyon, their successors or assigns and/or the ski resort operator may each take all actions on the Property that are reasonably necessary to ensure the safety and well-being of the recreational users of the Property and the occupants and users of lands adjacent to the Property. Avalanche control measures may include but shall not be limited to the closure of the Property for public recreational use, avalanche control work using explosives and the construction of snow barriers and fences.

Avalanche control measures may maintain and protect the continued operation of the certain private ski lift located on Lots 243 and 244 in The Colony Project.

6. GATHERINGS OF PEOPLE AND EVENTS. Public recreational events on established trails and making use of undeveloped park areas are permitted, consistent with the jurisdictional special event application and review process, including but not limited to, mountain bike races, trail running races, organized hikes and small gatherings, so long as they are consistent with the Conservation Values. Temporary uses and facilities incidental to the event are permitted, such as a water station for a trail running event or small gathering are permitted.

7. PARKING AND MOTORIZED VEHICLE USE. Motorized vehicles, including but not limited to, snowmobiles, ATVs, jeeps, and motor bikes, are not permitted on the property other than for emergency services, in association with an approved special event, for ski resort operations, for trail and Property maintenance, the maintenance of utilities, or for the construction of new trails or trail amenities as otherwise permitted by this Easement. Parking is not permitted anywhere on the Property other than temporarily, for the purposes described above.

8. ADA ACCESS. Notwithstanding, the terms of this Easement shall not prevent the Grantor from allowing the use of electric wheelchairs on the Property, or other power-driven mobility devices pursuant to Grantor's obligations under the American's With Disabilities Act of 1990, or other laws and regulations pertaining to the rights of persons with disabilities.

9. HABITAT RESTORATION ACTIVITIES. Activities to restore or enhance native plant communities or wildlife habitat will be permitted, upon mutual agreement and approval of the Grantor and Grantee.

10. UTILITIES. The installation of new utilities on parts of the Property not subject to existing utility easements is subject to the Grantee's prior written approval. Grantee shall approve the installation of new utilities if, in Grantee's reasonable opinion, (a) such utility will have a minimal impact to the Conservation Values, (b) the utility is vital to the people of Park City and it's highly impractical to locate it anywhere other than on the Property, and (c) such new utility is to be located underground in an existing utility corridor. If the installation of a new utility and appurtenant road is considered necessary, the Parties shall make all efforts to locate the utilities and road in a manner that minimizes the impact to the Conservation Values. Grantor will notify the Grantee prior to any use, modification, or work on the existing utility easements on the Property, and to the extent practicable, will conduct any such work in a way that minimizes any impact to the Conservation Values.

11. ROADS. The construction of new roads and the improvement or expansion of old roads for the purpose of vehicular access is prohibited, unless necessary for new utilities allowed pursuant to the previous section and restored after the new utilities are installed.

12. CHEMICAL AND BIOLOGICAL CONTROLS. In accordance with all applicable federal, state and local laws and regulations, Grantor has the right to use agrichemicals and biological controls on the Property as necessary to control noxious weeds, pests and for mosquito abatement. Chemical and biological controls may only be used in accordance with all applicable laws, and in those amounts and with that frequency of application constituting the minimum necessary to accomplish reasonable noxious weed, pest and mosquito abatement objectives. The use of such agents shall be conducted in a manner to minimize adverse effects on the natural values of the Property and to avoid any impairment of the natural ecosystems and processes.

13. ALTERATION OF WATERCOURSES AND TOPOGRAPHY. Grantor may not make any change, disturbance, alteration, excavation, or impairment to any watercourse or the topography of the ground on the Property except as otherwise permitted by this Easement.

14. WATER RESOURCES. Grantor may enhance, if applicable, water quality on the Property recognized as necessary or beneficial to wildlife, ecological or habitat values on the Property, provided such enhancements are consistent with the terms of this Easement and its Conservation Values, and complies with all applicable laws and regulations.

15. FENCES. Fences may be built on the Property upon prior approval of Grantee, not to be unreasonably withheld and provided such fences (a) are reasonably necessary for the protection of property, wildlife resources or public safety, (b) will not unduly restrict or impair wildlife movement, and (c) will not unduly interfere with the scenic value of the Property.

16. SIGNS AND BILLBOARDS. Billboards and signs are prohibited on the Property, other than signs for the following purposes:

- A. To indicate that the Property is protected by a conservation easement held by the Grantee; and
- B. To identify trails or interpretive sites on the Property and provide educational information; and
- C. To state rules and regulations, safety, or hazardous conditions found on the Property in accordance with the Grantor and the Grantee's established guidelines for properties they own; and
- D. To close trails temporarily on the Property in order to protect wildlife or for public safety reasons; and
- E. To post "No Hunting or Trapping" signs; and
- F. To notify the public of temporary events, including but not limited to, directional markers for race participants, provided such signs are promptly removed after culmination of the event.

17. RESIDENTIAL AND INDUSTRIAL USES: The Property shall not be used for residential or industrial purposes and shall not be improved for vehicle access to

residential properties or used for access or staging for construction of adjacent lands, and/or snow storage for the benefit of adjacent properties.

18. SUBDIVISION. The legal or de facto division, subdivision, or partitioning of the Property is prohibited. Notwithstanding the fact that, as of the Effective Date, the Property is comprised of separate legal parcels, the terms and conditions of this Easement will apply to the Property as a whole, and the Property will not be sold, transferred, or otherwise conveyed except as a whole, intact, single piece of real estate; it being expressly agreed that neither the Grantor nor the Grantor's personal representative, heirs, successors, or assigns will sell, transfer, or otherwise convey any portion of the Property that constitutes less than the entire Property. The existence of any separate legal parcels, if any, as of the Effective Date will not be interpreted to permit any use or activity on an individual legal parcel that would not have been permitted on such individual legal parcel under the terms and conditions of this Easement as applied to the Property as a whole.

19. DEVELOPMENT RIGHTS. All development rights that are now or hereafter allocated to, implied, reserved, or inherent in the Property are terminated and extinguished and may not be used on or transferred to any portion of the Property as it now or hereafter may be bounded or described or to any other property adjacent or otherwise or used for the purpose of calculating permissible lot yield of the Property or any other property.

20. MINING AND NATURAL RESOURCE DEVELOPMENT. Subject to pre-existing mineral rights of record, the exploration for or extraction of minerals, gas, hydrocarbons, soils, sands, gravel, or rock, or any other material on or below the surface of the Property is prohibited. Grantor will not grant any rights to any minerals, oil, gas, or hydrocarbons, including the sale or lease of surface or subsurface minerals or any exploration or extraction rights in or to the Property, and Grantor will not grant any right of access to the Property to conduct exploration or extraction activities for minerals, oil, gas, or hydrocarbons, or other substances on any other property.

21. NO HAZARDOUS MATERIALS. Use, dumping, storage, or other disposal of non-compostable refuse, trash, sewer sludge, unsightly or toxic materials or Hazardous Materials is prohibited. This Easement does not permit Grantee to control any use of the Property by Grantor which may result in the storage, dumping or disposal of hazardous or toxic materials; provided, however, Grantee may bring an action to protect the Conservation Values of the Property. This prohibition does not impose liability on Grantee, nor shall Grantee be construed as having liability as a "responsible party" or "potentially responsible party" under CERCLA or other similar state or federal statutes.

22. NON-NATIVE SPECIES. Introduction of any non-native plant or animal species is prohibited other than those generally accepted for habitat improvement or as mutually agreed upon by Grantor and the Grantee.

23. DUMPING AND WASTE. No dumping, burying, storing, applying or releasing of waste, sewage, garbage, vehicles or appliances is allowed on the Property,

except for appropriate routine storage of garbage and wastes from permitted uses of the Property pending transport for proper disposal.

24. DESTRUCTION OF NATIVE VEGETATION. The removal, cutting or destruction of native vegetation is prohibited except as reasonably incident to permitted activities or as otherwise permitted by this Exhibit C, for disease or insect control or to prevent property damage or personal injury. Trail clearing activities may involve the limited removal and trimming of vegetation, but whenever reasonably possible shall avoid the removal of large, specimen trees or other significant vegetation.

25. FOREST MANAGEMENT AND FIRE MITIGATION. Grantor may remove brush and vegetation necessary to minimize the risk of wildfire on the Property. Potential means to reduce or remove high risk fuel loads should include requiring City or City's agent to remove deadfall and slash created during the maintenance of trails. Removal methods shall limit the effect of the native biological diversity and may include, but would not be limited to; hand removal, mechanized methods, biological controls including short-duration grazing; slash, stack and burn; or controlled burns. Measures shall be consistent with the techniques employed by and the wildfire management determinations of the governing fire authority for the Property.

26. HABITAT RESTORATION ACTIVITIES. Activities to restore or enhance native plant communities or wildlife habitat will be permitted upon the mutual agreement and approval of Grantor and the Grantee.

27. BURNING. Burning of any materials on the Property is prohibited, except as necessary for vegetation management, fire protection purposes or other best-practice property management purposes.

Council Agenda Item Report

Meeting Date: August 29, 2023

Submitted by: Michelle Kellogg

Submitting Department: Sustainability

Item Type: Staff Report

Agenda Section: OLD BUSINESS

Subject:

Consideration to Approve the Acquisition of a Sculpture by Matt Burney and Joseph M. Ross of So Metal Studios, LLC for the Daly West Headframe Project in a Form Approved by the City Attorney
(A) Public Hearing (B) Action

Suggested Action:

Attachments:

[Daly West Artwork Approval Staff Report](#)

[Exhibit A: Daly West Artwork Proposal](#)

City Council Staff Report

Subject: Daly West Headframe - Artwork Approval
Author: Jenny Diersen
Department: Special Events
Date: August 29, 2023
Type of Item: Administrative

Recommendation

Review a recommendation from the Park City Public Art Advisory Board (PAAB), hold a public hearing, and consider the acquisition of a sculpture by Matt Burney and Joseph M. Ross of So Metal Studios, LLC (**Exhibit A**) for the Daly West Headframe Project in a form approved by the City Attorney.

Executive Summary

Public art creates a sense of community and place, adding vibrancy to our community. According to the [PAAB Policies](#) (p. 6), City Council shall make all decisions regarding public art final.

The long and important history of the mining legacy in Park City is a backbone for our sense of pride and authentic community. At one time, more than 300 mines operated in Park City; the last working mine closed in 1982. Approximately 20 prominent and historic mine structures exist today, many of which can be seen while skiing, hiking, or mountain biking on our trails.

The [history of the Daly-West Mine](#) stretches back to the late 1800s. The mine had two tragedies, including the 1902 explosion that claimed 34 miners, and in 1913, it burned to the ground. In 2015, a cave-in around the mine shaft caused the headframe to collapse, and it was moved to its current location so the shaft could be capped. In fulfillment of a 2020 Agreement between the Empire Pass Master Owners Association and the City, the two organizations funded raising the Daly West Headframe in 2022.

Since February 2022, Friends of Ski Mining Mountain History (FOSMMH) have worked with PAAB to develop a proposal for the City to commission a sculpture from the remnant steel of the Daly West Headframe. After evaluating multiple locations for artwork, the Rail Trail near Bonanza Drive was prioritized as the final location as the City's public art collection doesn't currently include artwork in this area. There are also additional ties to our mining legacy as the Rail Trail is on the historic Pacific Rail Line, bringing many citizens, travelers, and supplies to Park City.

On January 13, 2023, City Council accepted a donation of steel ([report](#) p. 157 / [minutes](#) p. 9). The PAAB identified the Daly West Headframe Project as their third priority, which the City Council approved as part of the [PAAB Strategic Plan](#) (April 27 [report](#) p. 7 / [minutes](#) p. 2).

Analysis

On June 23, we released [an RFP](#) to acquire artwork from local and regional artists. The project's theme included a request for a dimensional-sculptural artwork that encompasses Park City's mining legacy, the Daly West Headframe and serves as a

gateway or entrance to the Rail Trail. Artworks could also incorporate the history of the Union Pacific Rail (currently Rail Trail). We received four submissions after conducting outreach to the Kimball Art Center, Park City Summit County Arts Council, and regional, local, and social media.

At the regularly scheduled PAAB meeting on August 14, 2023, the PAAB and FOSMMH reviewed all the artwork based on the selection criteria. According to the [Public Art Policies](#) (p 18), a super-majority of six members at the site of the meeting and a super-majority vote (no less than five members) was required to forward the recommendation to City Council.

PAAB quickly narrowed the selection to two proposals based on the selection criteria and scoring. After extensive discussion, six selection committee members, including the FOSMMH, recommend the approval of a sculpture by Matt Burney and Joseph M. Ross of So Metal Studios, LLC. Two members preferred an alternate candidate. One PAAB member could not attend the meeting and therefore did not vote.

The artists provided the following description of the proposed artwork. *“The artwork will use beams from the old Daly-West headframe and railroad rail to suggest the form of a spoked wheel which speaks to the gigantic pulleys at the top of the headframe and bicycle wheels. Found industrial objects reference the massive Cornish pumping system and other steam-era infrastructure that can be seen around Park City and rail yards of the American West. Hollow, abstract forms made from reclaimed steel plates serve as hubs of the “wheel” and speak to the ores and rock formations found in the area. The rich textures and colors of the raw iron blend well with the natural landscape and pay tribute to the earth’s most abundant element...Arranging the beams at angles helps to form the segments of the “wheel” and imply motion in the piece.”*

The project is recommended because of the professional proposal and experience of the artist in completing other large-scale artworks. The board also discussed the designed material rather than reshaping the metal and using negative space to create an idea of a gateway (as opposed to a literal gateway). They believe the large-scale and conceptual proposal is unique and will leave the viewer intrigued by the artwork. Building, Planning, Trails and Open Space, Engineering, and Environmental Regulatory Manager also reviewed the artwork and supported the recommendation from the PAAB.

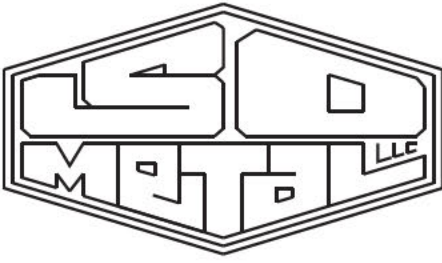
We anticipate that this project will be completed by June 2024.

Funding

The total budget for this project is \$60,000. The project is funded by the Public Art CIP allocation and within the existing Public Art budget.

Exhibits

- A Recommended Artwork for Daly West Headframe: Matt Burney and Joseph M. Ross of So Metal Studios, LLC



76296 Industrial Park Way, Oakridge, OR 97463 (317) 645-6960

31 July 2023

Daly West Headframe Sculpture RFP for Park City Municipal Corporation

Artists' Statement:

We are honored to present our proposal for your consideration for the Daly West Headframe Art Project. Our team is Joe Mross of Archive Designs, and Matt Burney of SO Metal, LLC—both based near Eugene, OR. Together, we bring 30+ years in business, over 20,000 ft² of metal fabrication space, and a shared, deep passion for the rusty, riveted, and reclaimed as a sculptural medium.

From Joe: Although we incorporate techniques, materials, and forms rooted in the past, we seek to give each original design a timelessness that will outlive period or style and continue to contribute to the composition of the space that it inhabits. Combining design and craft, our studio produces work that is poetic and rational, industrial and organic, archaic and contemporary

From Matt: Reclaimed metal is a deep and rich artistic medium. It is abundant, durable, rich with character, and ultimately recyclable. It carries our industrial legacy forward, melded with artistic perspective. Using historic materials gives a piece context in time and place. Public art is all about transforming spaces into places, and storytelling is part of that process—referencing the past through re-use of materials speaks to our current conversations about sustainability and allows us to reflect on eras of incredible craftsmanship.

Public art is a team effort and we are prepared to work together to achieve your vision for a destination-worthy installation.

Recent Experience:

In the last 3 years, our studios combined have provided design and/or fabrication on nearly \$1 million of public art projects (see CVs)—on time and on budget. Furthermore, we aim to demonstrate that our personal artwork shows our particular passion for upcycling AND riveted metalwork. We are licensed, bonded and insured. We have dedicated many years and resources to accumulating both the skills and specialized tooling and equipment for proper rivet work and safe handling of larger scale projects.

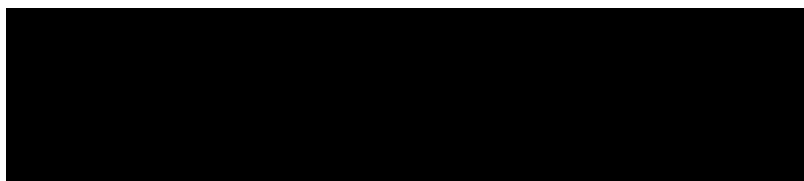
References:

Kate Ali, Public Art Coordinator, City of Eugene, OR, 818-517-6717, KAli@eugene-or.gov

Pete Goldlust, Public Artist, 323-204-1992, petegoldlust@gmail.com

Katie Hazard, Associate Director of Art Management, Burning Man Project, 415-865-3800 x143, katie.hazard@burningman.org

Ryan Garrett, [REDACTED]



Education

ArchiCAD University, 2005 Europe Summer School Workshop, Nottingham University, England

BA Fine & Applied Arts (focus on metalsmithing & printmaking), **Spanish**, 1993, University of Oregon

Professional

Archive Designs, 1997-present: Founder, Designer, Artist, Eugene, Oregon

- Main products are architectural metalwork & sculpture
- Specializing in patina finishes and traditional/historic styles and techniques
- Global client list of architects

Mross General Contractor, 1989-2000: Residential Designer, Craftsman, Eugene, OR

Ambiance Art Crewmember (established Kopper Shoppe), 2014-present, Oregon Country Fair, Veneta, OR

Art in Public Places

		Project Budget
2023	Gurramu , (awaiting installation), with Matt Burney, for The Flying Lark, Grants Pass, Oregon	\$125,000
2021	D.R.A.GO 19 , with Jeff Shauger, commissioned by BRING! Recycling, Eugene, Oregon	\$80,000
2014	Lost Nomads of Vulcania , Honorarium Grant Recipient: Burning Man, Black Rock City, NV	\$75,000
2014	Trilat Relic II "Sculpture on the Blue", Breckenridge Public Art Commission, Breckenridge, CO	\$43,000
2010	Trilat Relic I , City of Keizer, OR	\$13,400
2001	Ornamental Gate , Massey Memorial Garden, Coos Bay Hospital, Coos Bay, OR	\$5000

Selected Shows and Installations

- 2022 **Eugene Ballet Company**, *Taming of the Shrew*, steampunk set design and props, Eugene OR
- 2017 **Oregon Eclipse Festival**, *Lost Nomads of Vulcania* installation, Big Summit Prairie, OR
- 2014 **Burning Man**, *Lost Nomads of Vulcania* installation, Black Rock City, NV
- 2014 **New Zone Gallery**: group exhibition, co-curator and exhibitor
- 2013 **Burning Man**: open group exhibition, Black Rock City, NV
- 2013 **High Desert Museum**, **Praegitzer Gallery**: group exhibition, Bend, OR
- 2012 **Burning Man**: open group exhibition, Black Rock City, NV
- 2011 **Burning Man**: open group exhibition, Black Rock City, NV

Notable Private Commissions

Hearst Family, private collection

Lodge At Torrey Pines, San Diego, California

Liuzhou Daily Newspaper, Liuzhou, China

LZTV, Liuzhou, China

Pasadena Heritage Society, Pasadena, CA

Education

BSE in Mechanical Engineering and Materials Science, 2006, Duke University, Durham, North Carolina

Professional Practice

So Metal, LLC, 2015-Present, Founder, Oakridge, Oregon

- Creative metal fabrication, specializing in public art and bespoke architectural elements.
- Focused on creative solutions in design, bridging the gap between artist and engineer
- Licensed, bonded, insured Oregon Contractor, CCB# 216240
- Current Member, Oregon Arts Commission, Roster of Public Artists
- 16,000 ft² studio dedicated exclusively to metal art fabrication

Marc Adams School of Woodworking, Welding and Fabrication Instructor, 2018-Present, Franklin, Indiana

Art in Public Places

		Total Budget
2023	<i>Gurramu</i> , Collaboration with Joseph Mross for The Flying Lark, Grants Pass, Oregon	\$125,000
2022	<i>Sculptural Armature</i> , American Museum of Natural History, Gilder Center, New York, NY	\$78,000
2021	<i>Rest Note</i> , Musical Bench Public Art Collection, Tualatin Valley Creates, Beaverton, Oregon	\$15,000
2020	<i>Bubble Bench 2.0</i> , (upcycled), Loveland Museum of Arts and Culture, Loveland, Colorado	\$15,000
2019	<i>Upcycled Sculptural Bike Racks</i> , Eugene Toolbox Project, Eugene, OR	\$2500
2018	<i>Noah Dewitt Memorial Sculptural Bike Racks</i> , New Frontier Market, Eugene OR	\$5000
	<i>Architectural Fence and Gates</i> , First Christian Church, Eugene OR	\$45,000
2017	<i>Upcycled Bicycle Entry Arch</i> , Hop Valley Brewing Co, Eugene, OR	\$6000

Contracted Public Art Fabrication for Other Artists

	Total Budget
City of Flagstaff, Pulliam Airport, Flagstaff Arizona, for Goldlust/Germond, installed April 2023	\$134,000
City of Phoenix, Valley Metro Rail, Phoenix, Arizona, for Pete Goldlust, installed March 2023	\$250,000
University of Nebraska-Kearney, Early Childhood Education Center, for Goldlust/Germond, 2022	\$34,000
City of Eugene, Echo Hollow Pool, Eugene, Oregon for Goldlust/Germond, 2022	\$88,000
City of Eugene, Campbell Community Center, Eugene, Oregon for Goldlust/Germond, 2021	\$66,000
City of Redmond, Redmond Pool, Redmond, Washington, for Pete Goldlust, 2021	\$45,000
Washington DC, Kimball Elementary School, for Pete Goldlust, 2021	\$50,000
City of Eugene, BRIDGE Exhibition, Eugene, Oregon, <i>Free Your Soles</i> for Darryl Evans, 2019	\$5000
Allworth Veterans Home, Oregon Percent for Art Commission, Lebanon, OR for Lee Imonen 2018	\$220,000

Shows and Installations

- 2020 Members Show, Maude Kerns Art Center, Eugene, Oregon
- 2019 First Friday Art Walk featured artist (May), Upcycled Tools Bench, Lane Arts Council, Eugene, OR
- Art and the Vineyard, Maude Kerns Art Center, Eugene, OR
- Studio Without Walls, ArtCity Eugene, Eugene, OR
- BEAM, interactive light-based art show,(installation), ArtCity Eugene, Eugene, OR
- Light Up Downtown (installation), Eugene, OR
- 2018 Art and the Vineyard, Maude Kerns Art Center, Eugene, OR
- Studio Without Walls, ArtCity, Eugene, OR
- Recycled Art Festival, Vancouver, WA

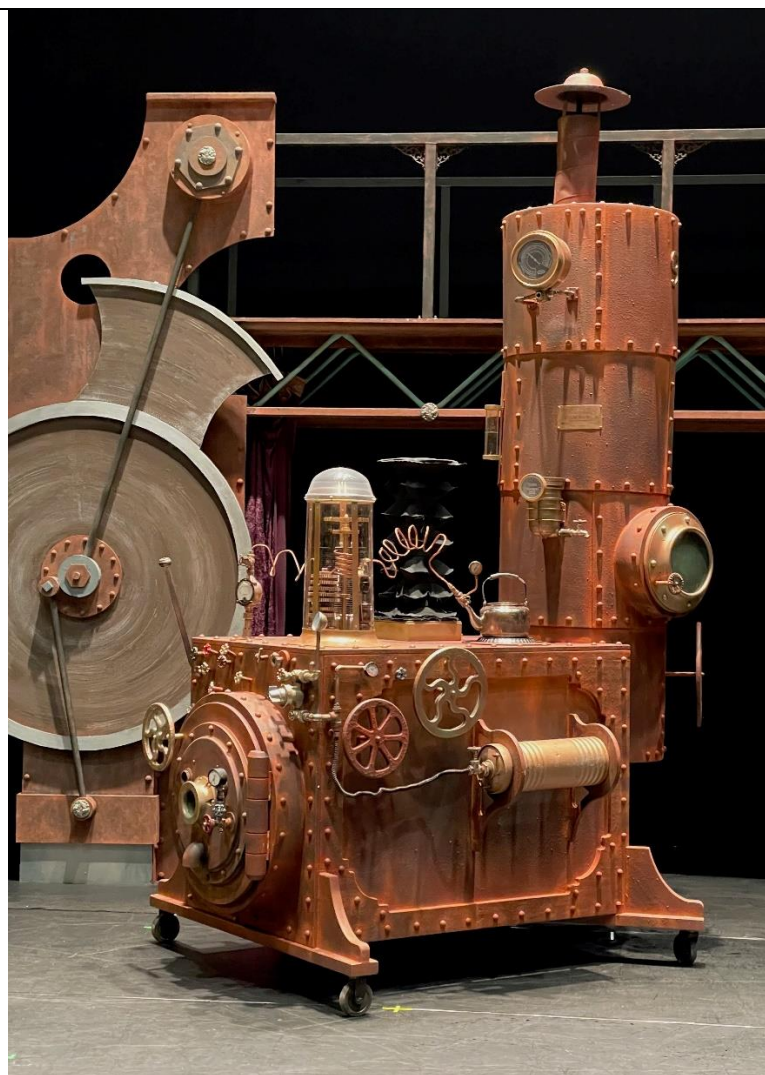
Art Projects by Joe and/or Matt Featuring Found Objects



[REDACTED]



Lost Nomads of Vulcania, 2014, by Joe Mross
Dims: 21'x16'x10'
Mat'ls: found objects, reclaimed steel, wood
Budget: \$75,000
Commission: Burningman Art Honorary Grant Recipient
Description: A "mysterious relic built by the last surviving members of Capt. Nemo's crew." Widely published & featured in MindBodyGreen's "30 Amazing Photos That Will Make You Wish You Were At Burning Man 2014", this design earned a grant from Burning Man. Built from scratch in 4 months, it weighs 7200 lbs. Many found objects and reclaimed metal and wood went into this piece.



Aether Steam Discombobulator Indifference Engine, 2022, by Joe Mross

Dims: 11'x7'x5'

Mat'ls: found objects, wood

Budget: \$50,000 (whole project)

Commission: Eugene Ballet Company

Description: One of many parts of an elaborate set design for a steampunk-inspired production of Shakespeare's *The Taming of the Shrew*, this piece played a prominent role in numerous scenes.



D.R.A.G.O.-19, 2020, by Joe Mross and Jeff Shauger

Dims: 15'x20'x20'

Mat.'ls: found objects, welded steel

Budget: \$120,000

Commission: BRING Sculpture Garden, Eugene, Oregon

Description: Like a crashed alien meteorite in 3 sections, D.R.A.GO-19 (Drossian Resource Ark/Glenwood Object) sculpture incorporates many mysterious interactive and kinetic elements, linking the future with the past and forging a connection through upcycling from local industry and architecture. Includes several tons of metal sourced from the ashes of Historic Civic Stadium.



Bubble Bench, 2018, by Matt Burney

Dims: 8'x'8'x8'

Mat.'ls: reclaimed steel, reclaimed mahogany

Budget: \$12,000

Commission: private collection

Description: Bubble Bench was built entirely from reclaimed steel plate burnouts from a local fabrication shop and mahogany reclaimed from a broken down moving truck. Welded into a sphere, the bubbles cast wonderful shadows, and the mahogany provides a cool and comfortable place to sit. Shown at Recycled Arts Festival, 2018.



Welcome Cyclists, 2016, by Matt Burney

Dims: 12'x12'x2'

Mat.'ls: reclaimed steel, upcycled bike parts

Budget: \$6,000

Commission: Hop Valley Brewing

Description: Welcome Cyclists was commissioned to create a clear and inviting space for cyclists to park at the local brewery. %100 recycled materials.

Conceptual Renderings of Proposed Sculpture for Park City



Figure 1: Perspective from West, looking East. Mangled beams arch along the trail, supported by railroad rail and industrial piping and valves.



Figure 2: Aerial view. Steel hollow-forms serve as pour-forms for reinforced concrete to support the structure.

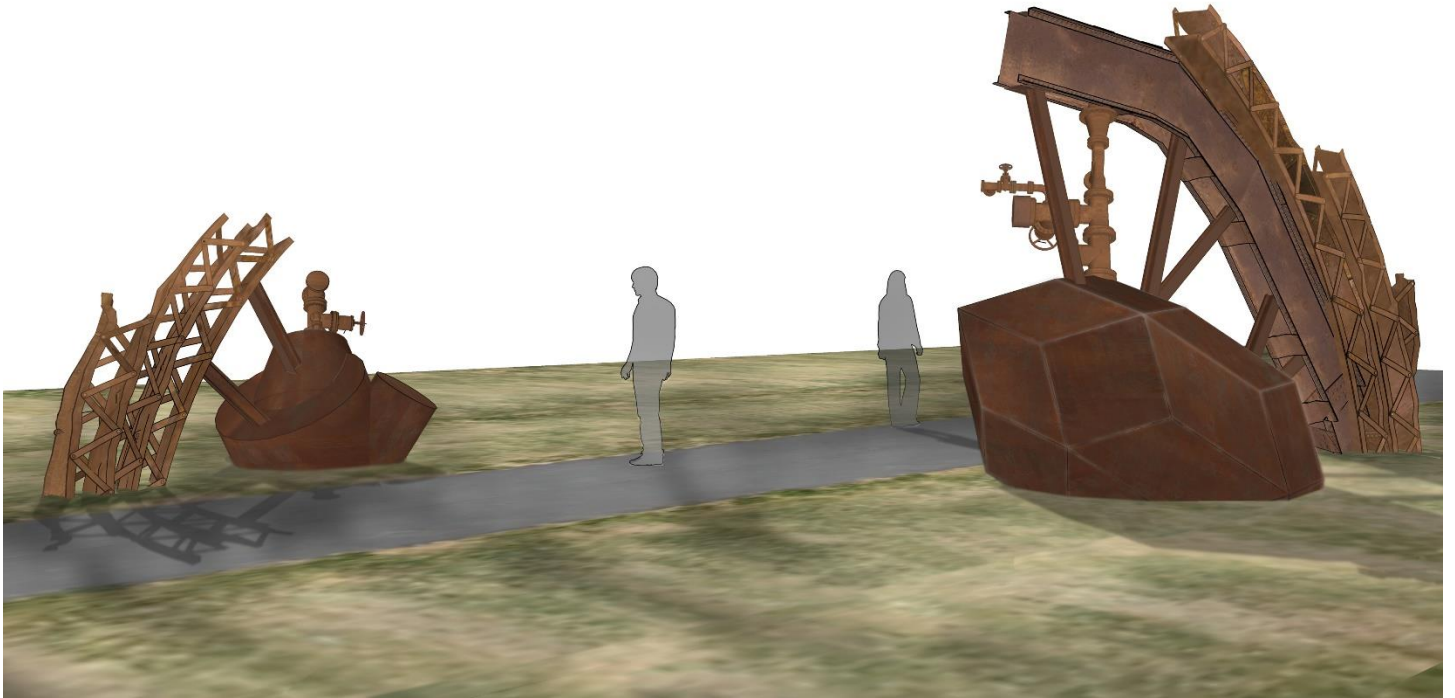


Figure 3: Side view, looking South.



Figure 4: Side view, looking North.

Concept Proposal:

With this sculpture, we aim to create an inviting entrance to the Union Pacific Rail Trail. Using beams from the old Daly-West headframe and railroad rail to suggest the form of a spoked wheel which speaks to the gigantic pulleys at the top of the headframe as well as bicycle wheels. Found industrial objects reference the massive Cornish pumping system and other Steam Era infrastructure that can be seen around Park City and the rail yards of the American West. Hollow, abstract forms made from reclaimed steel plate serve as hubs of the “wheel” and speak to the ores and rock formations found in the area. The rich textures and colors of the raw iron blend well with the natural landscape and pay tribute to Earth’s most abundant element.

The mangled beams withstood massive forces when the headframe fell. Considering they are mostly intact is a testament to their strength. Their current form is crucial to celebrating their past, which is highlighted in their hot-riveted joinery. We will use that same style of joinery in the project (when possible) to pay homage to the era which lives on through our railroad and mining legacy. Arranging the beams at angles helps to form the segments of the “wheel” and imply motion in the piece.

Fabrication method:

The hollow-forms will accept reinforced concrete on-site to provide structure and counterweight to support the piece and minimize excavation costs. They will also contain engineered brackets to tie into the railroad rail, which will support the beams via bolted or riveted connections—avoiding the challenges of welding the old metal to modern structural requirements. In essence, the rails provide the main structural support of the piece, and the hollow-forms will hide that necessary connection while providing a pour form for the concrete of the foundation.

Fabrication would be done in-house at SO Metal, LLC. We have the trucks and trailers to transport the materials and completed sculpture. We have completed numerous projects larger in scope and budget in the last year.

For this collaboration with Park City, we would plan to hire locally for engineering (McMullin Eng.), site-work and installation processes (Rock Designz), which would return a significant investment to the community, streamline permitting, and instill a sense of local pride, teamwork, and recognition in the completed piece. We understand that a proposal is the beginning of a conversation and the design may need modification to meet certain requirements.

Construction Schedule:

- September 4: Sign contract and pick up materials in Park City
- Mid-September: Finalize design and obtain necessary structural calculations / stamped drawings / permits, begin fabrication
- Fabrication: 6-8 weeks
- Late October: Ideal installation of completed piece.
- Late Spring 2024: While we believe a fall delivery to be possible, our experience dictates that we need to budget more time for unforeseen delays (contract review, additional engineering, weather, technical problem-solving, illness, etc.) Install is more likely to be first weather-dependent opportunity in 2024.

Maintenance and Cleaning Plan:

Judging by the excellent condition of the materials after more than a century of deferred maintenance, we propose a simple maintenance plan. Initially, we will treat the exposed metal with boiled linseed oil, which penetrates into joints and protects from corrosion. This can be re-applied every 2-5 years, depending on witnessing active corrosion. A yearly spray-down with water, and cobweb/ dust sweep will be sufficient. We advise against applying sidewalk ice-melting chemicals near the sculpture.

Budget (Total \$60,000):

- Artist(s) fee (proposal, research, design, management costs, insurance, etc): \$12,000
- Utah PE stamped drawing set: \$4000
- Additional fabrication materials (railroad rail, steel plate, rivets, rebar, etc): \$4800
- Fabrication labor: \$20,000
- Site prep and installation costs: \$6000
- Re-seeding / planting costs: \$500
- Trucking/transport: \$6200
- Photography and documentation: \$500
- Contingency: \$6000

City Council Staff Report



Subject: Deer Valley Right-of-Way Vacation Petition to Support the Redevelopment of the Snow Park Village Base Area

Authors: Alexandra Ananth, Senior Planner
John Robertson, City Engineer
Jennifer McGrath, Deputy City Manager

Date: August 29, 2023

Type of Item: Public Hearing – Petition to Vacate Public Right-of-Way

Recommendation

The Applicant, Deer Valley Development Company, Inc. (DVDC), is requesting the City consider the vacation of portions of public Right-of-Way (ROW) (Exhibit A) to expand DVDC's development parcel at the Snow Park Village base area. A new circulation pattern that reroutes traffic from Deer Valley Drive West to Doe Pass Road and Deer Valley Drive East is proposed instead.

Staff requests the City Council (I) hold a public hearing and (II) continue the public hearing to September 28, 2023.

Description

Applicant:	Deer Valley Development Company, Inc. (DVDC)
Location:	2250 Deer Valley Drive
Zoning District:	Residential Development within the Deer Valley Master Planned Development (RD-MPD)
Adjacent Land Uses:	Residential, Resort, Open Space
Reason for Review:	Vacation of public Right-Of-Way requires City Engineer recommendation and City Council action ¹

¹ LMC [§ 15-7-7](#), Park City [Resolution 8-98](#), and Utah Code [§ 10-9a-609.5](#).

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TUCSON

Wade R. Budge, P.C.
wbudge@swlaw.com

January 31, 2022

VIA EMAIL AND US MAIL

Matt Dias
City Manager
Park City Municipal Corporation
445 Marsac Avenue
Park City, UT 84060



Re: Right of Way Vacation Petition - Revised Vacation Descriptions

Dear: Mr. Dias

On behalf of the Deer Valley Resort Company, LLC and Alterra Mountain Company Real Estate Development Inc., the property owners of parcels - PC-745-11, PC-900-4, and PC-900-3, we would like to submit the attached revised legal descriptions to supplement the petition for vacation we submitted to Park City on September 30, 2021. That petition was made pursuant to Utah Code Ann. §10-9a-609.5 and Park City's Land Management Code § 15-7-7, as adopted.

As you recall, we are seeking to vacate portions of Deer Valley Dr. in an effort to redirect traffic patterns to streamline transit access and improve traffic circulation in the Lower Deer Valley neighborhood. In order to accomplish these goals, we are seeking to dedicate public right of way along Deer Valley Drive and Doe Pass Rd, where there currently is no public right of way. The granting of this vacation petition and accepting the dedications we seek to make via the Snow Park Village Plat. We are excited to work with the City through this process in order to start reducing modal conflicts, increasing efficiency for all transportation types, and emphasizing the transit-focused desire of the City.

To supplement the information previously provided and required in Utah Code Ann. §10-9a-609.5, we have included the following as attachments to this letter:

1. Revised maps of the rights-of-ways to be vacated.
2. Revised legal descriptions of the rights-of-ways to be vacated.

There were minor edits to the areas that needed to be vacated as we have worked on the Deer Valley Plat. To ensure the appropriate portions of right-of-way are vacated, we are

Matt Dias
January 31, 2022
Page 2

requesting to move forward with the vacation of the attached legal descriptions, as opposed to those that were submitted in September.

We are pleased to have for the opportunity to work with the City through the vacation and platting process. As stated previously, we welcome the opportunity to go before City Council in a work meeting in order discuss some of the details, before holding the public hearing.

If you have any questions or concerns, please feel free to reach out to us.

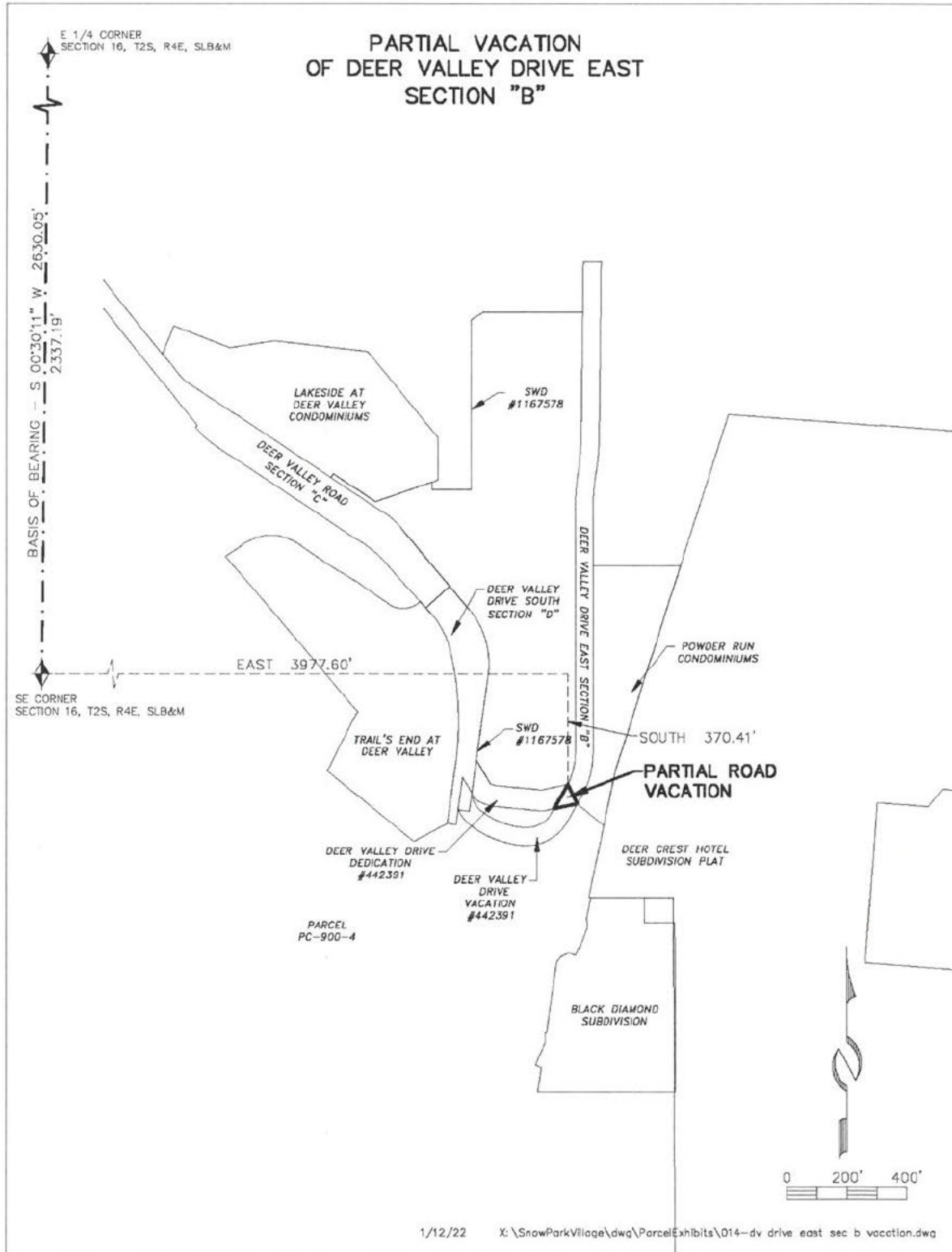
Very truly yours,



Wade R. Budge, P.C.

cc: Deer Valley Resort
Mark Harrington, Esq. (via email)

Specific area maps and legal descriptions



SNOW PARK VILLAGE

PARTIAL VACATION
OF DEER VALLEY DRIVE EAST
SECTION "B"

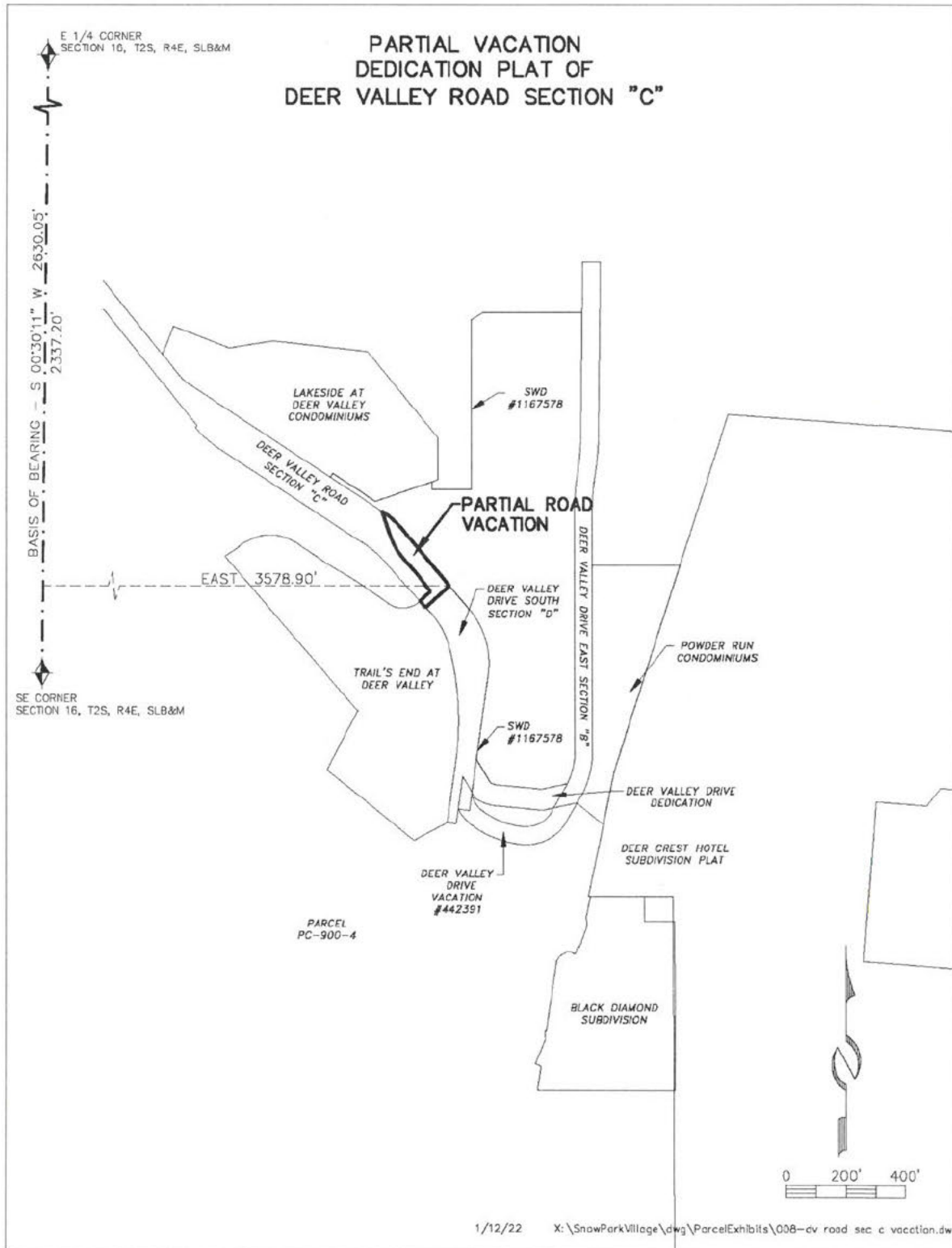
January 13, 2022

A parcel of land located in the northeast quarter of Section 22, Township 2 South, Range 4 East, Salt Lake Base and Meridian, said parcel being described as follows:

Beginning at a point that is East 3977.60 feet and South 370.41 feet from the southeast corner of Section 16, Township 2 South, Range 4 East, Salt Lake Base and Meridian, said point being on the westerly right-of-way of Deer Valley Drive East Section "B", recorded March 1, 1982, as Entry No. 188988 in the Office of the Recorder, Summit County, Utah, and also being the northeasterly corner of the Dedication Parcel in Exhibit C of Ordinance No. 95-59, recorded November 15, 1995, as Entry No. 442391 in the Office of the Recorder, Summit County, Utah; and running thence South 26°45'21" East 72.35 feet to the northeasterly corner of the Vacation Parcel in Exhibit B of Ordinance No. 95-59, recorded November 15, 1995, as Entry No. 442391 in the Office of the Recorder, Summit County, Utah; thence coincident with the northerly boundary of said Vacation Parcel South 78°09'28" West 80.54 feet to the southwesterly corner of the aforementioned Dedication parcel; thence coincident with said Dedication parcel the following two (2) courses: 1) North 30°00'00" East 77.39 feet to a point on a curve to the left having a radius of 249.90 feet, of which the radius point bears North 60°00'00" West; thence 2) along the arc of said curve 16.01 feet through a central angle of 03°40'14" to the point of beginning.

The Basis of Bearing for the above description is South 00°30'11" West 2630.05 feet between the east quarter corner and the southeast corner of Section 16, Township 2 South, Range 4 East, Salt Lake Base and Meridian.

Description contains 0.064 acres.



SNOW PARK VILLAGE

PARTIAL VACATION OF
DEDICATION PLAT OF
DEER VALLEY ROAD SECTION "C"

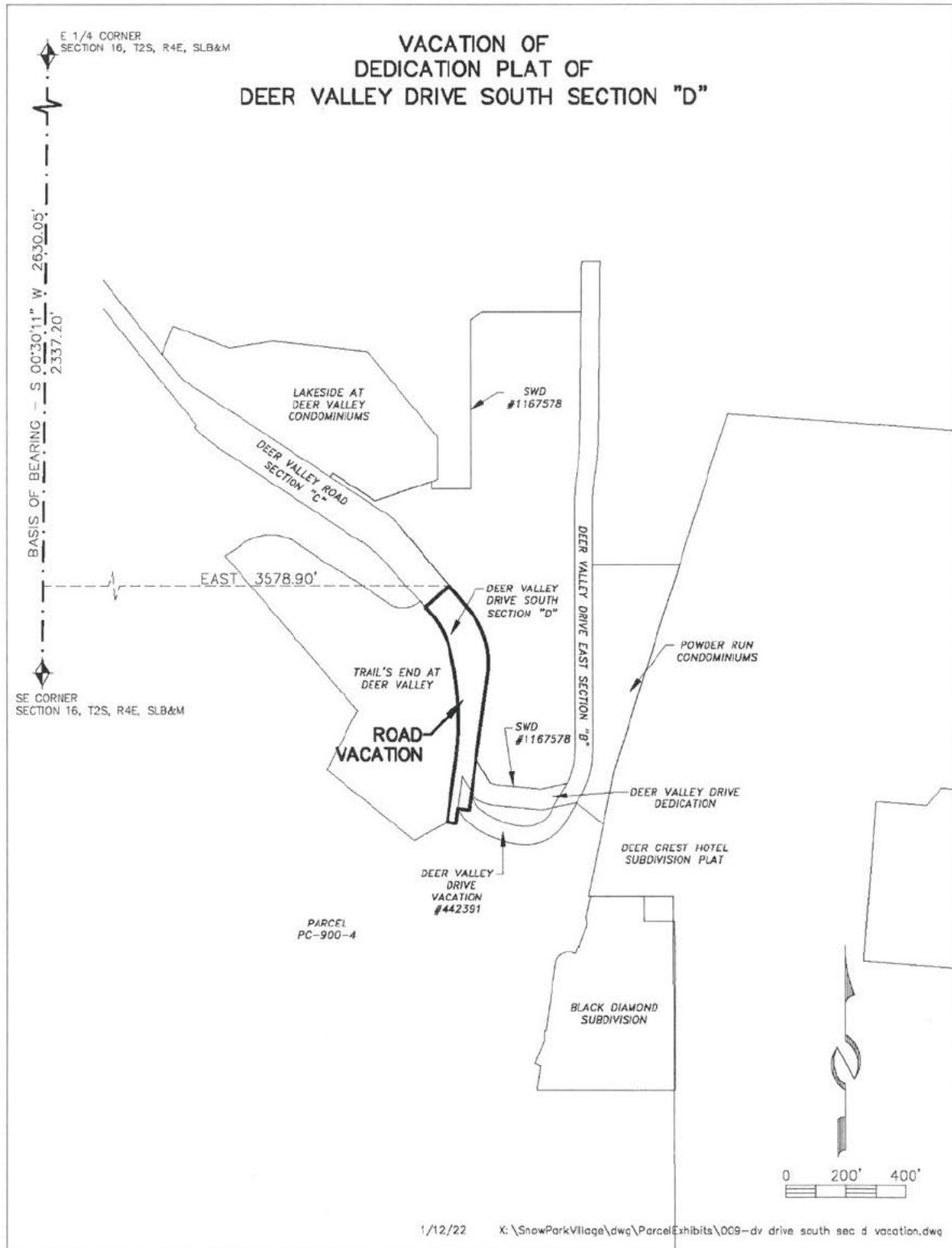
January 18, 2022

A parcel of land located in the southeast quarter of Section 15, Township 2 South, Range 4 East, Salt Lake Base and Meridian, said parcel being described as follows:

Beginning at a point that is South $00^{\circ}30'11''$ West 2337.20 feet and East 3578.90 feet from the east quarter corner of Section 16, Township 2 South, Range 4 East, Salt Lake Base and Meridian, said point being the easternmost corner of the Dedication Plat of Deer Valley Road Section "C", recorded April 16, 1980, as Entry No. 165811 in the Office of the Recorder, Summit County, Utah; and running thence coincident with the southeasterly end of Deer Valley Road Section "C" South $47^{\circ}53'34''$ West 107.67 feet to the southernmost point of said Deer Valley Road Section "C", said point also being on the easterly boundary of Trail's End at Deer Valley, recorded March 18, 2009, as Entry No. 867530 in the Office of the Recorder, Summit County, Utah; thence coincident with the easterly boundary of Trail's End at Deer Valley North $42^{\circ}06'26''$ West 29.08 feet; thence North $47^{\circ}53'34''$ East 47.72 feet; thence North $37^{\circ}30'27''$ West 67.84 feet; thence North $41^{\circ}44'02''$ West 70.59 feet to a point on a curve to the right having a radius of 247.00 feet, of which the radius point bears North $48^{\circ}15'58''$ East; thence along the arc of said curve 100.21 feet through a central angle of $23^{\circ}14'46''$; thence North $18^{\circ}29'16''$ West 81.14 feet to the northerly right-of-way of said Deer Valley Road Section "C"; thence coincident with the northerly right-of-way of Deer Valley Road Section "C" the following three (3) courses: 1) South $56^{\circ}25'40''$ East 2.56 feet to a point on a curve to the right having a radius of 308.53 feet, of which the radius point bears South $33^{\circ}34'20''$ West; thence 2) along the arc of said curve 88.46 feet through a central angle of $16^{\circ}25'40''$; thence 3) South $40^{\circ}00'00''$ East 249.01 feet to the point of beginning.

The Basis of Bearing for the above description is South $00^{\circ}30'11''$ West 2630.05 feet between the east quarter corner and the southeast corner of Section 16, Township 2 South, Range 4 East, Salt Lake Base and Meridian.

Description contains 0.42 acres.

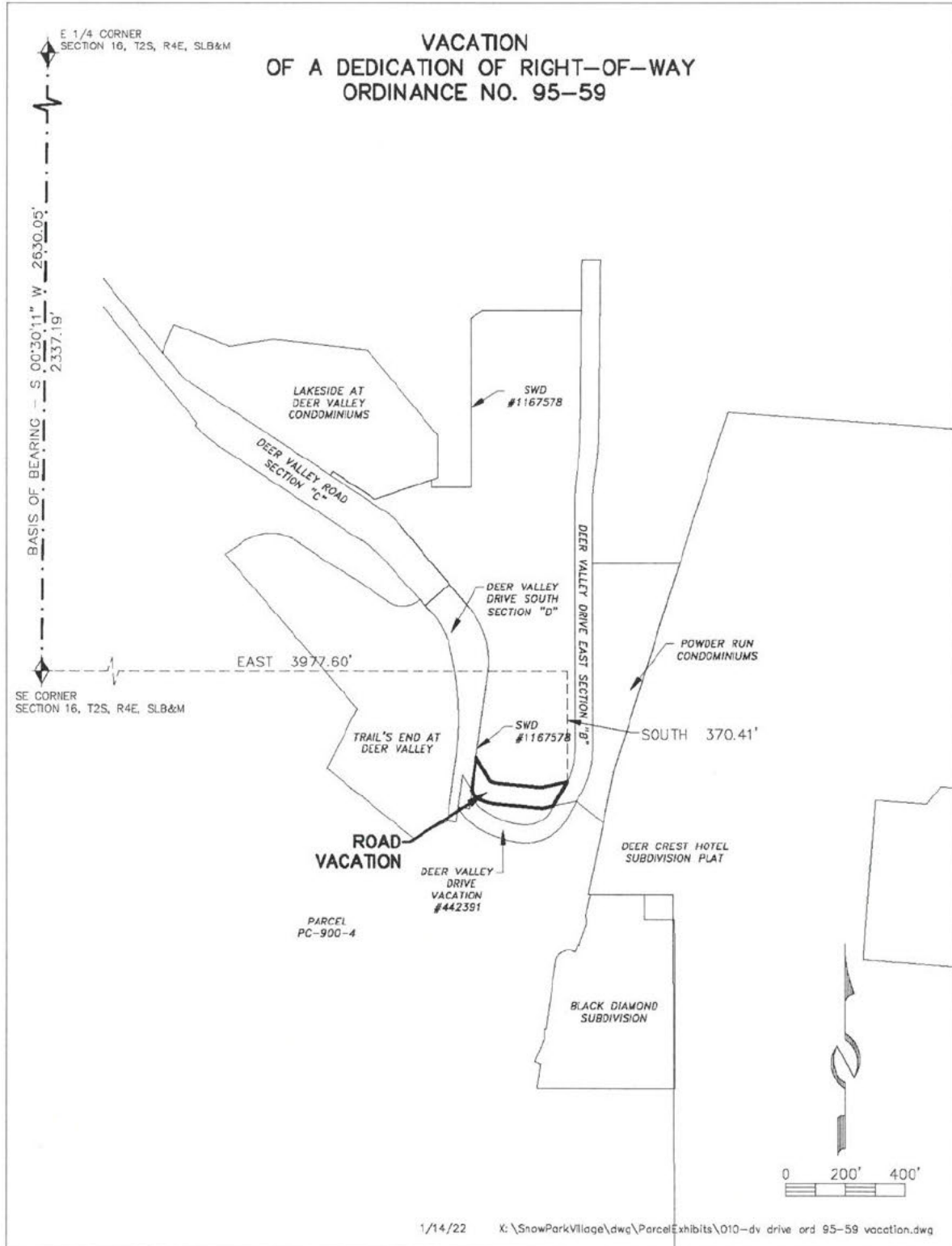


SNOW PARK VILLAGE

VACATION OF
DEDICATION PLAT OF
DEER VALLEY DRIVE SOUTH SECTION "D"

January 12, 2022

Dedication Plat of Deer Valley Drive South Section "D", located in the south half of Section 15 and the north half of Section 22, Township 2 South, Range 4 East, Salt Lake Base and Meridian, recorded March 1, 1982, as Entry No. 188987 in the Office of the Recorder, Summit County, Utah.



SNOW PARK VILLAGE

VACATION OF
A DEDICATION OF RIGHT-OF-WAY
ORDINANCE NO. 95-59

January 14, 2022

Beginning at a point on the westerly right-of-way of Deer Valley Drive East Section 'B', said point being South 1248.12 feet and East 4008.65 feet from the east 1/4 corner of Section 16, Township 2 South, Range 4 East, Salt Lake Base and Meridian (Basis of Bearing being S00°30'11"E from the east quarter corner of said Section 16 to the southeast corner of said Section 16); thence along said right-of-way, as described on Section 'B' of Deer Valley Drive East plat as recorded in the Summit County Recorder's Office, Entry Number 188988, the following four courses: (1) S00°40'00"W 579.06 feet to a point on an 878.16 foot radius curve to the right (center bears N89°20'00"W); thence (2) along the arc of said curve 127.48 feet through a central angle of 08°19'03" to a point of a reverse curve to the left (center bears S81°00'57"E); thence (3) along the arc of said curve 136.50 feet through a central angle of 08°59'03"; thence (4) South 800.00 feet to a point on a 249.90 foot radius curve to the right (center bears West); thence along the arc of said curve and the western right-of-way of Deer Valley Drive East, 114.84 feet through a central angle of 26°19'46" to the true point of beginning; thence departing from said right-of-way S78°14'07"W 89.60 feet; thence N84°36'26"W 145.24 feet to a point on an 80.00 foot radius curve to the right (center bears N05°23'34"E); thence along the arc of said curve 28.08 feet through a central angle of 20°06'46"; thence N30°26'41"W 92.28 feet to a point on the east right-of-way of Deer Valley Drive South Section 'D' as recorded in the Summit County Recorder's Office, Entry Number 188987; thence along said right-of-way S08°00'00"W 112.58 feet; thence departing said right-of-way S30°26'41"E 21.97 feet to a point on an non-tangent 150.00 foot radius curve to the left (center bears N34°51'45"E); thence along the arc of said curve 77.15 feet through a central angle of 29°28'11"; thence S84°36'26"E 155.80 feet; thence N78°14'07"E 38.33 feet to a point on the westerly right-of-way of said Deer Valley Drive East; thence along said right-of-way the following two courses: (1) N30°00'00"E 77.39 feet to a point on a 249.90 foot radius curve to the left (center bears N60°00'00" W); thence (2) along the arc of said curve 16.01 feet through a central angle of 03°40'14" to the true point of beginning.

Contains 0.52 acres, more or less.

Exhibit B: Deer Valley Special Exception Permit and Amendments Summary

Deer Valley Resort (previously known as Royal Street Land Company) was issued a Special Exception Permit in 1977 (now known as the Deer Valley Master Planned Development (DV MPD)), which has since been amended twelve times, most recently in 2016. The [Deer Valley MPD](#) authorizes Densities for the Lower Deer Valley neighborhood, the American Flag Community, the Silver Lake Community, and Commercial and Support Space in the Snow Park and Silver Lake Villages. Phasing and infrastructure improvements are also described. There are 14 technical reports that accompany the Deer Valley MPD.

The Snow Park Village parcel is 14.93 acres and is zoned Residential Development (RD)-MPD. The Deer Valley MPD authorizes 209.75 Unit Equivalents for Snow Park Village, although this has changed over time, and has 21,890 square feet of remaining Commercial and Support Uses to be developed.

The initial Special Exception Permit (SEP), granted on September 27, 1977, authorized approximately 1,815 residential dwelling units to be constructed over a 15-year period. In addition to the residential units, Exhibit 4, Commercial and Support Space, includes a 100,000 square foot sports facility, 44,705 square foot Snow Park Center (including ski rental, gift shop, sports shop, lounge, restaurant, cafeteria, kitchen, restrooms, etc.), a 20,180 square foot guest reception center, 4,000 square feet of ski school and childcare area, and 5,000 square feet of commercial area at Snow Park. Additional square feet of commercial and support space are reserved for Silver Lake. The total Commercial and Support Space for both the Snow Park and Silver Lake Villages totaled 307,766 square feet and is shown in Exhibit 4 of the SEP.

The SEP was first amended on June 27, 1979, to modify the description and Densities permitted on various parcels. There were no increases to the allowed Commercial and Support Space.

In the 2nd Amendment, dated January 27, 1982, Deer Valley Resort Company is named the successor to the rights of Royal Street. The amendment includes a development progress update. Eight Multi-Family parcels around the Deer Valley Loop are authorized 390 units of Density. Total development is listed as 2,237 units. Exhibit 1 lists Development Parcels Sold, and Exhibit 2 lists Development Parcels Unsold, most of which have a Density Range, to be determined by site specific review of project plans. The Snow Park Parking Area south of Doe Pass Road is allocated 0-200 units of Density and the Hotel Parcel north of Doe Pass Road is allocated 75-105 units of Density. There were no changes to the allowed Commercial and Support Space listed in Exhibit 4.

The 3rd Amendment, dated May 17, 1984, again updated Exhibits. This amendment also did not increase the allowed Commercial and Support Space but reduced the Sports Facility from 100,000 square feet to 98,000 square feet and increased the Guest Reception Center from 20,180 square feet to 22,180 square feet.

The 4th Amendment, dated February 21, 1985, deleted the Silver Lake Village Multi-Family Parcel, and established a separate parcel to be known as the Deer Valley Inn Parcel. No increase to the allowed Commercial and Support Space was made.

The 5th Amendment, dated December 23, 1986, includes nine Multi-Family parcels in the lower Deer Valley neighborhood containing 390 dwelling units, and adds a section on Off-Street Parking. The Off-Street Parking section notes that parking shall be required based on the Park City Land Management Code (LMC) in effect at the time of building permit application and that parking may be reduced in accordance with the LMC Conditional Use Permit process. The Parking section allows for overflow parking up to 10% of the days during any single ski season. No increase to the allowed Commercial and Support Space was made.

The 1st Amendment to the 5th SEP, dated November 29, 1989, replaced Exhibits to reflect completed units. Exhibit 1 shows 1,901 units of approved residential Density. Exhibit 2 shows a similar range of Density for the Snow Park parcels established in the 2nd Amendment, except for the Hotel Parcel which was reduced from 75-105 units of Density to 60-105 units. The Snow Park Parking Area is still allocated 0-200 units of Density.

The 2nd Amendment to the 5th SEP, dated April 11, 1990, also updated Exhibit 1 showing 1,884.5 units of approved Density. No changes were made to the allowed Commercial and Support Space.

The 6th Amendment to the SEP, dated October 10, 1990, further reduces the square feet allocated to the Sports Facility from 98,000 square feet to 62,000 square feet, increases the amount of Snow Park Commercial space from 5,000 to 40,000, and increases the Snow Park Plaza Building from 22,180 square feet to 23,280 square feet. Exhibit 3, the Commercial and Support Space increases from 307,766 square feet to 307,866 square feet, an increase of 100 square feet.

The 7th Amendment replaces the term Special Exception Permit with Master Planned Development Permit (MPD) and is dated April 14, 1993. This Amendment clarifies that the density limitations of the Sensitive Land Overlay (SLO) Zone do not apply to the MPD because the MPD was approved prior to the adoption of the SLO, but that SLO site planning standards can be applied to the extent that they do not reduce vested density, and that limits of disturbance, vegetation protection, and building design standards apply.

The 8th Amendment to the MPD, is dated April 25, 2001. Since the 7th Amendment, the Snow Park Lodge was expanded and 7,645 square feet of General Snow Park Commercial space was transferred to the Snow Park Lodge parcel, reflected in the 8th Amendment. The 8th Amendment is the first to specify an authorized number of Residential Unit Equivalents (RUEs) to the Snow Park Village parcel, which is a combination of the Snow Park Hotel parcel and the Snow Park Parking Area parcel, rather than the previous range of density specified in earlier Exhibits. Snow Park Village

is authorized 212.5 RUEs, which is calculated in accordance with the Unit Equivalent Formula contained in the Land Management Code. Currently, one RUE equals 2,000 square feet. Exhibit 2, Commercial and Support Space, no longer includes the Sports Facility but notes Snow Park Lodge is now 56,350 square feet plus a 5,112 square foot ticket sales building, for a total of 61,462 square feet on the Snow Park Lodge parcel, including some “back of house” space. This reduced the amount of General Snow Park Commercial space remaining by 7,645 square feet from 40,000 to 32,355 square feet.

The 9th Amendment to the MPD, dated June 28, 2006, reduced the authorized number of dwelling units for the nine Multi-Family Dwellings from 390 units to 383.5 units. The Snow Park Village parcel was reduced from 212.5 units to 210.75 residential units due to the Planning Commission’s authorized transfer of 1.75 units from the Snow Park Village parcel to the Stein Eriksen Lodge Multi-Family parcel. Between the 8th and 9th Amendments Snow Park Lodge was expanded and Empire Lodge was constructed.

The 10th Amendment to the MPD, dated August 12, 2009, reflects actions approved by the Planning Commission with respect to amendments to the Silver Lake Community unallocated commercial density and the Royal Plaza Condominium plat, as well as the status of development within the Project. No changes to the Snow Park Village parcel authorized density or Snow Park Commercial and Support Space (Exhibit 2 to the MPD) were made.

The 11th Amendment, dated March 23, 2011, reflects the transfer of one Residential Unit Equivalent from the Snow Park Village parcel to the Silver Baron Lodge parcel, reducing the Snow Park Village Density from 210.75 to 209.75. No changes to Exhibit 2, Commercial and Support Space were made.

The most recent [12th Amendment to the MPD](#), dated November 30, 2016, reflects the combination of vacant Deer Valley MPD Silver Lake Village Lots F, G, and H into one Lot I, and the transfer of 843 square feet of existing residential density (0.4215 Unit Equivalents) from Deer Valley MPD Silver Lake Village Lot I, to accommodate connection, access, and circulation between the Goldener Hirsch Inn on Parcel D and the Goldener Hirsch Residences on Parcel I. Exhibit 2 of the MPD shows that Snow Park has 21,890 square feet of remaining commercial density to be developed. The other remaining Commercial and Support Space that remains to be developed outside of the Snow Park area totals 31,080 square feet.

Exhibit A: DVD MPD Amendment Summary Table

Disclaimer: This summary is for descriptive purposes only and is not a substitute or amendment to the original documents which speak for themselves. Original approvals will control over any error or conflict in this summary.

Amendment	Year	Snow Park RUEs	Snow Park Commercial & Support Space
SEP	1977	1,815 RUEs	307,766 SF Total Commercial 173,885 SF Snow Park Commercial
1 st Amendment	1979	No change	No change
2 nd Amendment	1982	2,237 RUEs Snow Park Parking parcel 0-200 RUEs Hotel parcel 75-105 RUEs	No change
3 rd Amendment	1984	No change	Transfers 2,000 SF from Sports Facility to Guest Reception Center
4 th Amendment	1985	No change	No change
5 th Amendment	1986	No change	No change
1 st Amendment to 5 th SEP	1989	1901 RUEs Hotel parcel reduced 60-105 RUEs Snow Park Parking parcel 0-200 RUEs	No change
2 nd Amendment to 5 th SEP	1990	1884.5 RUEs	No change
6 th Amendment	1990	No change	Transfers Density from Sports Facility to Snow Park Commercial and Snow Park Plaza Building. Total Commercial and Support Space increases 307,866 SF
7 th Amendment	1993	No change	No change
8 th Amendment	2001	Hotel and Parking parcels combined to Snow Park Village parcel with 212.5 RUEs	Transfers Density from General Snow Park Commercial to Snow Park Lodge parcel
9 th Amendment	2006	Transfers 1.75 RUEs from Snow Park Village parcel to Stein Eriksen Lodge parcel leaving 210.75 RUEs	No change
10 th Amendment	2009	No change	No change
11 th Amendment	2011	Transfers 1 RUE from Snow Park Village parcel to Silver Baron Lodge leaving 209.75 RUEs	No change
12 th Amendment	2016	Combines Silver Lake parcels for Goldener Hirsch. Snow Park Village parcel 209.75 RUEs remaining (No formal site plan approved/established for site)	No change Silver Lake - 31,080 SF remaining Snow Park - 21,890 SF remaining

Snow Park Village

Transportation Analysis – Shared Mobility Lane Alternative

Prepared for:
Deer Valley

April 2023

UT20-2245

FEHR  PEERS

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1. Executive Summary

This Traffic Impact Study includes the results of a comprehensive traffic operations analysis for the Snow Park Village project at Deer Valley Resort in Park City, Utah. Snow Park Village is a mixed-use development that will serve as an updated base area village for Deer Valley, and includes hotel, residential, commercial, and event center uses. This report includes the full buildout of the Snow Park base that includes the parking and development both north and south of Doe Pass Road.

The scope of this study analyzes the traffic operations and impacts under the following scenarios:

- Existing (2020) Conditions
- Existing (2020) Plus Project Conditions
- Opening Year (2024) Background Conditions
- Opening Year (2024) Plus Project Conditions
- Future (2040) Background Conditions
- Future (2040) Plus Project Conditions

Existing conditions were based on the traffic counts, which were collected originally in 2020. As this process has continued, Park City Staff have accepted that 2020 counts continue to serve as the foundation for this report with adjustments made for assumed marginal increases in traffic on an annual basis. Traffic operations for these scenarios were analyzed at nine study intersections:

1. Doe Pass Road / Deer Valley Drive East
2. Doe Pass Road / Deer Valley Drive West
3. Deer Valley Drive East / Queen Esther Drive
4. Deer Valley Drive East / Solamere Drive
5. Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West
6. Deer Valley Drive / Marsac Avenue
7. Deer Valley Drive / Bonanza Drive
8. Deer Valley Drive / Park Avenue / Empire Avenue
9. Bonanza Drive / Monitor Drive / SR-248

This circulation plan includes a seasonal one-way Shared Mobility Lane (SML) inbound from the “Y” intersection along Deer Valley Drive West, turn onto Doe Pass Road, and directly access the proposed mobility hub. Outbound transit traffic will have the SML that has transit priority at the mobility hub, then parallels general purpose traffic around the loop to the “Y” intersection, at which point transit traffic would merge with general traffic, generally operating in a counterclockwise direction. After ski season during the



summer months, the SML will be open to bicycle traffic. Management, maintenance, and enforcement will be a City responsibility.

Study intersections 5 and 8 currently operate at Levels of Service (LOS) that do not meet Part City standards, which is LOS D. However, these intersections were analyzed as part of this study to identify Deer Valley's contributions to traffic at key intersections within Park City in support of Park City Municipal Corporation's (PCMC) goals of reducing peak-hour traffic volumes by 20% citywide.

The Plus Project traffic operations analyses include trips generated by the Snow Park Village project. The parking analysis accounts for both physical (structured) and behavioral impacts of the identified resort uses, as well as parking pricing. To present conservative, and thereby overestimated, results in this report, reductions in trip generation and parking demand stemming from proposed enhancements to local transit service, operated by Park City Transit and/or High Valley Transit, or Deer Valley's existing Transportation Demand Management (TDM) program are not included.

1.1 Study Results

In Plus project Conditions, seven of nine study intersections, with recommended mitigations in place, meet the Park City LOS standards. Under existing conditions, the intersection of Deer Valley Drive / Park Avenue / Empire Avenue operates at a LOS of E/F. Given the City's longstanding position on additional mitigations at this intersection, none are recommended. Deer Valley Drive in this area is also SR-224, and therefore managed by the Utah Department of Transportation (UDOT). This includes intersection operations. The deficiencies at the Deer Valley Drive / Bonanza Drive intersection are caused by the queue spillbacks from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue. Therefore, no mitigations are recommended.

Furthermore, the most impacted intersection under current conditions, the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection, which operates today at a LOS below Park City standards, achieves a LOS of D or better under 2040 Plus Project conditions by reconfiguring the intersection and adding signalized traffic control, establishing a new access pattern for visitors while providing safety for pedestrians and bicyclists. The Solamere Drive / Deer Valley Drive East and Queen Esther Drive / Deer Valley Drive East intersections operate at a LOS B with full build-out in 2040 with some lane configuration mitigations.

Parking provided as part of the Snow Park Village Proposal will be provided at full amount as required by code. Reduced parking demand however, will be achieved through the implementation of a paid parking system, and continued operation and refinement of Deer Valley's Transportation Demand Management



program by supporting non-single-occupancy vehicle trips while also actively discouraging driving alone, and through time-of-day sharing of parking for different and complementary uses.

In alignment with Park City’s *Transit First* strategy, construction of Snow Park Village will prioritize active transportation and transit as modes for travel to, from, and within the village. To that end, Deer Valley will construct an on-site mobility hub with space for six buses which will be connected to the broader Park City and High Valley Transit networks. One new traffic signal is recommended, at the intersection of Doe Pass Road / Deer Valley Drive East as a mitigation which will include transit signal preemption capabilities to expedite transit service into and out of proposed the mobility hub. Additionally, off-street multi-use paths will be constructed to connect Snow Park to Park City’s existing active transportation network.

1.2 LOS Summary

Table 1 reports LOS at the study intersections. For signalized intersections and roundabouts, average vehicular delay and LOS are reported. For unsignalized intersections, the worst movement delay and LOS are reported. Detailed descriptions of the intersection operations can be found in the subsequent chapters. Due to the land use program proposed for Snow Park Village, the net total trips generated by the AM peak hour is 261 trips and the PM peak hour is 322 trips.



Table 1: Snow Park Village Saturday AM and PM Peak Hour Level of Service Summary

Intersection			Ex BG	Ex+P	Ex+P Mitigated ²	2024 BG	2024+P	2024+P Mitigated ²	2040 BG	2040+P	2040+P Mitigated ²
ID	Location	Period	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹	LOS & Sec/Veh ¹
1	Doe Pass Rd / Deer Valley Dr East	AM	-	6 / A	4 / A	-	7 / A	5 / A	-	6 / A	5 / A
		PM	-	7 / A	7 / A	-	7 / A	7 / A	-	65 / E	8 / A
2	Doe Pass Rd / Deer Valley Dr West	AM	-	8 / A	12 / B	-	15 / B	10 / B	-	21 / C	13 / B
		PM	-	16 / C	19 / C	-	24 / C	18 / C	-	32 / D	20 / C
3	Queen Esther Dr / Deer Valley Dr East	AM	6 / A	8 / A	5 / A	6 / A	8 / A	5 / A	7 / A	7 / A	6 / A
		PM	9 / A	11 / B	11 / B	8 / A	20 / C	10 / B	9 / A	>300 / F	11 / B
4	Deer Valley Dr East / Solamere Dr	AM	7 / A	8 / A	6 / A	6 / A	8 / A	6 / A	8 / A	10 / B	7 / A
		PM	11 / B	13 / B	9 / A	11 / B	78 / F	11 / B	15 / C	>300 / F	12 / B
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	15 / C	26 / D	9 / A	14 / B	20 / C	9 / A	17 / C	29 / D	11 / B
		PM	39 / E	128 / F	21 / C	41 / E	126 / F	22 / C	112 / F	201 / F	44 / D
6	Deer Valley Drive / Marsac Avenue	AM	11 / B	15 / B	15 / B	11 / B	16 / C	16 / C	16 / C	26 / D	26 / D
		PM	11 / B	15 / B	15 / B	11 / B	16 / C	16 / C	11 / B	20 / C	20 / C
7	Deer Valley Dr / Bonanza Dr	AM	11 / B	11 / B	12 / B	11 / B	12 / B	12 / B	18 / B	21 / C	14 / B
		PM	21 / C	29 / C	38 / D	20 / C	67 / E	76 / E	59 / E	99 / F	117 / F
8	Deer Valley Dr / Park Ave / Empire Ave	AM	77 / E	75 / E	76 / E	82 / F	80 / F	78 / E	83 / F	91 / F	84 / F
		PM	84 / F	83 / F	84 / F	85 / F	88 / F	88 / F	90 / F	90 / F	89 / F
9	Bonanza Dr / Monitor Dr / SR-248	AM	12 / B	13 / B	13 / B	13 / B	14 / B	14 / B	16 / B	16 / B	15 / B
		PM	20 / C	20 / C	20 / C	20 / C	22 / C	22 / C	28 / C	32 / C	31 / C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. Intersection average LOS and delay for signalized intersections and roundabouts, worst movement LOS and delay for unsignalized intersections.
2. Deer Valley Drive East / Deer Valley Drive West intersection analyzed as a reconfigured signalized intersection, and turn lanes/receiving lanes added to Solamere Drive and Queen Esther Drive intersections as a mitigation.
3. Solamere Drive performs at LOS D as a SSSC. Further analysis shows this intersection operates at LOS A as a signalized intersection, when warranted.

Source: Fehr & Peers.



1.3 Proposed Mitigations

The traffic operations analyses conducted as part of the report indicate that five study intersections will operate at unacceptable LOS in comparison with Park City's standards under 2040 plus project conditions without mitigations. Community input gathered through stakeholder engagement resulted in the community-supported mitigations for identified deficiencies stemming from Snow Park Village-generated traffic shown in **Table 2**.

Table 2: Proposed Mitigations for Snow Park Village-Generated Traffic Impacts

ID	Location	Control	Deficiency ¹	Proposed Mitigations
1	Doe Pass Rd / Deer Valley Dr East	SSSC ²	N/A	Signal with transit preemption
2	Doe Pass Rd / Deer Valley Dr West	SSSC	N/A	N/A
3	Queen Esther Dr / Deer Valley Dr East	SSSC	LOS F	Southbound-to-eastbound left turn-pocket
4	Deer Valley Dr East / Solamere Dr	SSSC	LOS F	Eastbound-to-northbound left turn-pocket
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	SSSC	LOS F	Signal
6	Deer Valley Drive / Marsac Avenue	Roundabout	N/A	N/A
7	Deer Valley Dr / Bonanza Dr	Signal	LOS F	N/A
8	Deer Valley Dr / Park Ave / Empire Ave	Signal	LOS F	N/A
9	Bonanza Dr / Monitor Dr / SR-248	Signal	N/A	N/A

Notes:

1. LOS for 2040 plus project without mitigations.
2. SSSC = Side Street Stop Control

Source: Fehr & Peers.



1.4 Conclusion / Recommendations

With proposed mitigations in place, all study intersections at which mitigations are feasible operate at acceptable levels of service under all Plus Project analysis scenarios. Through dedicated transit infrastructure, improved active transportation connections between the Project and Park City's existing active transportation network, a fully reworked parking system, extensive wayfinding and monitoring, and management of ongoing TDM offerings in addition to new measures, the Snow Park Village proposal aligns with the City's *Transit First* policy by encouraging travel by means other than driving alone.

Implementing a new traffic signal with transit preemption at the intersection of Doe Pass Road / Deer Valley Drive East will improve traffic operations and support transit. A new traffic signal at the reconfigured Y intersection of Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive west facilitates safer and more efficient movement for all modes. If, and when signal warrants at study unsignalized intersections in this report are met (Solamere), as defined by the Federal Highway Administration's *Manual on Uniform Traffic Control Devices*, the implementation of new traffic signals should be considered for improved traffic circulation for all modes. Deer Valley is committed to being a partner of the subsequent studies, and if warranted, implementation.

Implementing an off-street, multi-use path around the Deer Valley Drive loop will improve pedestrian and cyclist connectivity adjacent to the project site. Ongoing monitoring of TDM program effectiveness will maintain City-Deer Valley cooperation in pursuit of shared goals.

The traffic volumes used for this overall analysis are conservative and likely represent worst case on the worst day. For example, the assumed background growth rate is from a county-wide travel model that assumes some degree of ambient growth in and around Deer Valley beyond the proposed Snow Park project. Given that the Deer Valley loop area is essentially one big cul-de-sac and generally built out, this background growth is quite conservative.

Other measures that support the conservative nature of the analysis is the Mayflower development interconnecting with Deer Valley. An agreement is under development that will provide parking, lift access and full base amenities to skiers going to Deer Valley at Mayflower base, along US-40. This potential agreement will also provide for employee parking with a shuttle program between Mayflower and Snow Park. The analysis does not account for any trip reductions to Snow Park, which will inevitably occur due to significant travel time reductions from both the Wasatch Front and the Heber Valley.

Last, Deer Valley is committed to supporting other regional traffic mitigation efforts. This includes considerations such as contributing to transit, and robust travel demand reduction program, and paid parking at Snow Park once the project is built. The proposed transit amenities include the mobility hub, a



dedicated Shared Mobility Lane, state-of-the-art wayfinding, and a monitoring program all combine to support the City's transportation goals.



2. Introduction

This study documents the potential transportation-related impacts on local traffic from the proposed Snow Park Village project. The project location is shown in **Figure 1**.

This report is largely unchanged from what was presented in the most recent submittal (November 2022), save for some minor but impactful updates:

1. Analyzed traffic conditions with no reduction in parking supply, providing full parking required by the Park City Land Management Code (LMC). The trip generation was increased from the November 2022 submittal to reflect added peak hour traffic.
2. Traffic distribution assumptions at the Deer Valley Drive East / Deer Valley Drive West intersection were updated to follow traffic patterns similar to current conditions for analysis.
3. Assumptions in the VISSIM simulation model were modified to account for more accurate pick-up/drop-off dwell times, and calibrated vehicle travel times.

Table 3 below shows the in/out traffic for existing and plus project with the proposed development.

Table 3: Snow Park Traffic

	Daily			AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Traffic	5,221	5,329	10,550	770	249	1,019	333	903	1,236
New Trips	1,808	1,808	3,616	176	85	261	115	207	322
Total Trips	7,029	7,137	14,166	946	334	1,280	448	1,110	1,558

The scope of this study analyzes the traffic operations and impacts under the following scenarios:

- Existing (2020) Conditions
- Existing (2020) Plus Project Conditions
- Opening Year (2024) Background Conditions
- Opening Year (2024) Plus Project Conditions
- Future (2040) Background Conditions
- Future (2040) Plus Project Conditions

Traffic operations at key intersections, described below in the Scope section, were analyzed under the six scenarios listed above during Saturday AM and PM peak-hour travel periods. Given the nature of ski areas operating as recreational destinations, Saturdays consistently experience the highest traffic volumes, and



focusing on Saturdays for traffic analyses in this report present the most conservative results. The Plus Project analyses include trips generated by the proposed project.

The project team knows that it is important to work with the community to help them better understand the complexity of building out the remaining entitled density at Snow Park and its relation to traffic, and ensuring that the Deer Valley community can contribute to the planning process. Throughout the project's planning process, and with renewed emphasis since the beginning of 2022, Deer Valley has engaged with most of the lower Deer Valley neighborhoods and that communication continues today. Early outreach was done with the Trails End neighborhood in relation to the right of way vacation to gain their support. After the community voiced their opinion in March 2022, the project team opted to hold individual meetings with various homeowner's associations (HOAs) to address concerns and gather feedback. The community's main concerns were the then-proposed bus-only lanes, removal of on-street bike paths, the proposed routing of most traffic on Deer Valley Drive East, construction of new traffic signals, and pedestrian circulation. Coordination meetings with the community continued with nearly one dozen meetings in summer and fall 2022, with more scheduled. This revised traffic circulation plan as submitted is based on the community's input and support, augmented by City staff requests.

2.1 Scope

This study analyzes the traffic impacts of the project in conjunction with nearby intersections. Impacts are specifically addressed at the following study intersections:

1. Doe Pass Road / Deer Valley Drive East (side-street stop-controlled)
2. Doe Pass Road / Deer Valley Drive West (side-street stop-controlled)
3. Deer Valley Drive East / Queen Esther Drive (side-street stop-controlled)
4. Deer Valley Drive East / Solamere Drive (side-street stop-controlled)
5. Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West (side-street stop-controlled)
6. Deer Valley Drive / Marsac Avenue (roundabout)
7. Deer Valley Drive / Bonanza Drive (signalized)
8. Deer Valley Drive / Park Avenue / Empire Avenue (signalized)
9. Bonanza Drive / Monitor Drive / SR-248 (signalized)

For the purposes of consistency, this report refers to two key roadways as Deer Valley Drive East (sometimes called Deer Valley Drive North) and Deer Valley Drive West (sometimes called Deer Valley Drive South). Given that Doe Pass Road carries minimal traffic in its existing configuration, study intersections 1 and 2 are only analyzed under Plus Project scenarios.

Study intersections are shown in **Figure 2**.



Figure 1
Project Location



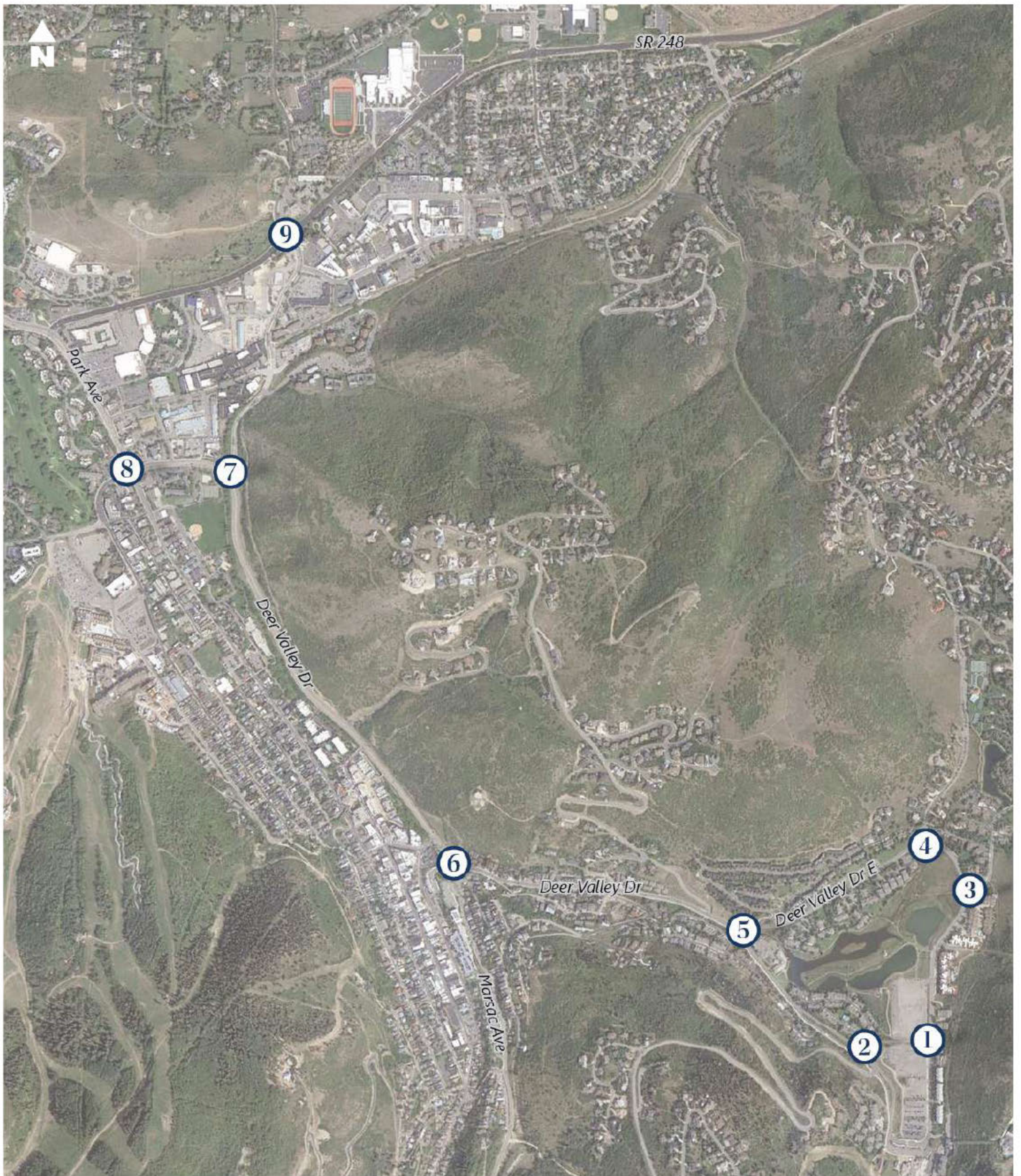


Figure 2
Study Intersections



2.2 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 4** provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections. Traffic operations were modeled in SimTraffic, a microsimulation traffic analysis software. SimTraffic results were evaluated under the Highway Capacity Manual 6th Edition (HCM 2016) methodology in this study to remain consistent with “state of the practice” professional standards, and with earlier iterations of this report. Since this study began, a new edition of the Highway Capacity Manual has been published, though application to analyses conducted as part of this study would not change results. For study intersection 4, Deer Valley Drive / Marsac Avenue, the SIDRA analysis software was used as it is accepted as state-of-the-practice for roundabout operations analysis. For signalized intersections and roundabouts, the LOS is provided for the overall intersection (weighted average of all approach delays). Park City Municipal Corporation has an established threshold of acceptable traffic operations as LOS of D for all intersections under its control.



Table 4: Level of Service Descriptions

LOS	Description	Signalized Intersections	Unsignalized Intersections	Roundabouts
		Avg. Delay (sec/veh) ¹	Avg. Delay (sec/veh) ²	Avg. Delay (sec/veh) ³
A	<i>Free Flow / Insignificant Delay</i> Extremely favorable progression. Individual users are virtually unaffected by others in the traffic stream.	< 10.0	< 10.0	< 10.0
B	<i>Stable Operations / Minimum Delays</i> Good progression. The presence of other users in the traffic stream becomes noticeable.	> 10.0 to 20.0	> 10.0 to 15.0	> 10.0 to 15.0
C	<i>Stable Operations / Acceptable Delays</i> 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	> 15.0 to 25.0
D	<i>Approaching Unstable Flows / Tolerable Delays</i> Marginal progression. Operating conditions are noticeably more constrained.	> 35.0 to 55.0	> 25.0 to 35.0	> 25.0 to 35.0
E	<i>Unstable Operations / Significant Delays Can Occur</i> Poor progression. Operating conditions are at or near capacity.	> 55.0 to 80.0	> 35.0 to 50.0	> 35.0 to 50.0
F	<i>Forced, Unpredictable Flows / Excessive Delays</i> Unacceptable progression with forced or breakdown of operating conditions.	> 80.0	> 50.0	> 50.0

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

2. Worst approach LOS and delay (seconds/vehicle) only.

3. Overall intersection LOS and average delay (seconds/vehicle) for all approaches.

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



3. Existing (2020) Background Conditions

The Existing (2020) Background Conditions analysis examines the study intersections and roadways during the AM and PM peak-hours existing traffic and geometric conditions. The existing conditions analyses were performed using traffic data collected in 2020. Subsequent rounds of analysis have used adjusted counts to assume marginal increases in traffic, with growth factors taken from a regional travel model. Through this analysis, existing traffic operational deficiencies can be identified, and potential mitigation measures recommended.

3.1 Roadway System

The primary roadways that will provide access to the project, and their existing configurations, are described below.

- **Deer Valley Drive (SR-224)** is a state-owned and managed facility and is classified as a principal arterial road and has a posted speed limit of 35 mph from Park Avenue to about halfway between Bonanza Drive and Marsac Avenue, and 40 mph to the Marsac Avenue roundabout. SR-224 has a five-lane cross section with two travel lanes in each direction with a two-way left-turn lane north of the Marsac Avenue roundabout.
- **Marsac Avenue (SR-224)** is also a state-owned facility and is classified as a principal arterial road and has a posted speed limit of 25 mph. Marsac Avenue has a two-lane cross section with one travel lane in each direction near the project area.
- **Deer Valley Drive West** is classified as a major collector road and has a posted speed limit of 25 mph. Deer Valley Drive West has a two-lane cross section with one travel lane in each direction near the project area.
- **Deer Valley Drive East** this loop section of Deer Valley Drive is classified as a collector road and has a posted speed limit of 25 mph. Deer Valley Drive East has a two-lane cross section with one travel lane in each direction near the project area.
- **Queen Esther Drive** is classified as a collector road and has a posted speed limit of 25 mph. Queen Esther Drive has a two-lane cross section with one unstriped travel lane in each direction near the project area.
- **Solamere Drive** is classified as a collector road and has a posted speed limit of 25 mph. Solamere Drive has a two-lane cross section, with one travel lane in each direction and a landscaped median near the project area.



- **Doe Pass Road** is classified as a collector road and has a posted speed limit of 25 mph. Doe Pass Road has a two-lane cross section with one unstriped travel lane in each direction near the project area.

3.2 Traffic Volumes

Intersection turning movement counts were collected at the following study intersections to establish a baseline of existing conditions and operations for this study's original scope of work:

- Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West
- Deer Valley Drive / Marsac Avenue
- Deer Valley Drive / Bonanza Drive

Intersection turning movement counts were collected at the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection on Saturday, February 15, 2020 (President's Day weekend) and Saturday, February 29, 2020 for the Saturday AM peak period (7:45 AM – 9:45 AM) and the Saturday PM peak period (3:30 PM – 5:30 PM). Counts collected on February 29, 2020 showed higher peak-hour traffic volumes, and were therefore used as existing traffic volumes for the analysis presented in this study. While it is highly unusual to analyze operations during absolute peak conditions, due to the risk of over-building infrastructure and exaggerating typical issues, this was the request of the City.

Intersection turning movement counts were collected at the Deer Valley Drive / Marsac Avenue roundabout and the Bonanza Drive / Deer Valley Drive intersection on December 19, 2020 for the Saturday AM and PM peak periods.

The original, City-approved scope for this study included study intersections 5, 6, and 7. As a result of requests from the City and their reviewers for expanded traffic operations analysis beyond that included in the original study. As a result, counts were sourced from other, existing work and adjusted to present conservative results.

Roadway vehicle counts are provided by the Utah Department of Transportation (UDOT) Continuous Count Stations (CCS). Data from the past five years as collected at two CCSs in the vicinity of the project site (one on SR-224 just south of Kimball Junction and one on SR-248 just west of Quinn's Junction) were reviewed to determine when during the ski season peak traffic volumes occur. It was observed from the data that the month of January experienced the highest Average Daily Traffic (ADT) volumes of any month of the year. This is likely due to increases in traffic caused by events in the area including the Sundance Film Festival. While January is likely the busiest month for traffic on the outskirts of Park City, traffic volumes in February are nearly as high, and Presidents' Day Weekend is among the busiest weekend of the year for skier traffic.



To account for this, the intersection volumes collected in December were adjusted by a factor of 1.05 (5% higher) to replicate February conditions.

For study intersections 8 and 9, which were not included in this study's original scope, intersection counts were sourced from previous studies with adjustment factors. For the intersection of Deer Valley Drive / Park Avenue / Empire Avenue, counts were sourced from the *Park City Mountain Resort Traffic Impact Study* (August, 2019). Counts for this study were collected on February 18, 2017 and were adjusted by a factor of 1.14 (14% higher) to account for a peak winter day, as described in the August 2019 study. These adjusted counts were used for this study. For the intersection of Bonanza Drive / Monitor Drive / SR-248, no Saturday counts were available. To overcome this challenge, weekday counts collected on February 6, 2018 as part of the *Park City Arts District Traffic Analysis* (September 2019) were used as a foundation. Through reviewing two years of CCS data, weekday-to-weekend adjustment factors of 0.63 (37% lower) for the AM peak hour, and 0.85 (15% lower) for the PM peak hour were applied for this study.

To address comments from City Staff and community members, turning movement counts were collected at study intersections 3 and 4 to better understand how project-generated traffic might affect local intersections not included in the original study scope. The turning movement counts were collected on Thursday-Saturday, March 3-5, 2022, for the AM and PM peak periods. The highest turning movement counts among the three days at each location were used for conservative results.

Given that they were not included in the original scope of this study, and the substantial changes proposed along Doe Pass Road, no counts for the intersections of Deer Valley Drive East / Doe Pass Road and Deer Valley Drive West / Doe Pass Road were available, and these intersections were only evaluated in the Plus Project conditions.

The existing 2020 background Saturday AM and PM peak hour volumes are shown in **Figure 3**.

Fehr & Peers also collected Saturday daily roadway counts on February 15, 2020 (President's Day weekend) on the internal Deer Valley Drive roadways at the following locations:

- Deer Valley Drive West – between Royal Street and drop-off/pick-up area
- Deer Valley Drive West – south of the Deer Valley Drive East / Deer Valley Drive West intersection
- Deer Valley Drive East – between Queen Esther Drive and parking lot
- Deer Valley Drive East – east of the Deer Valley Drive East / Deer Valley Drive West intersection

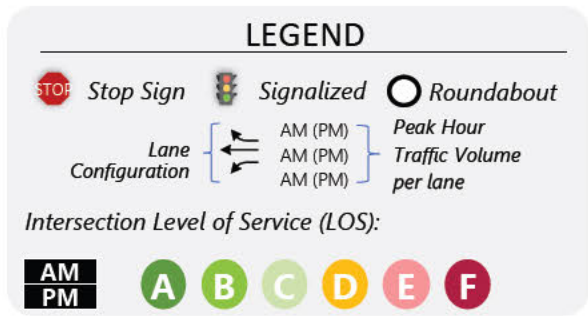
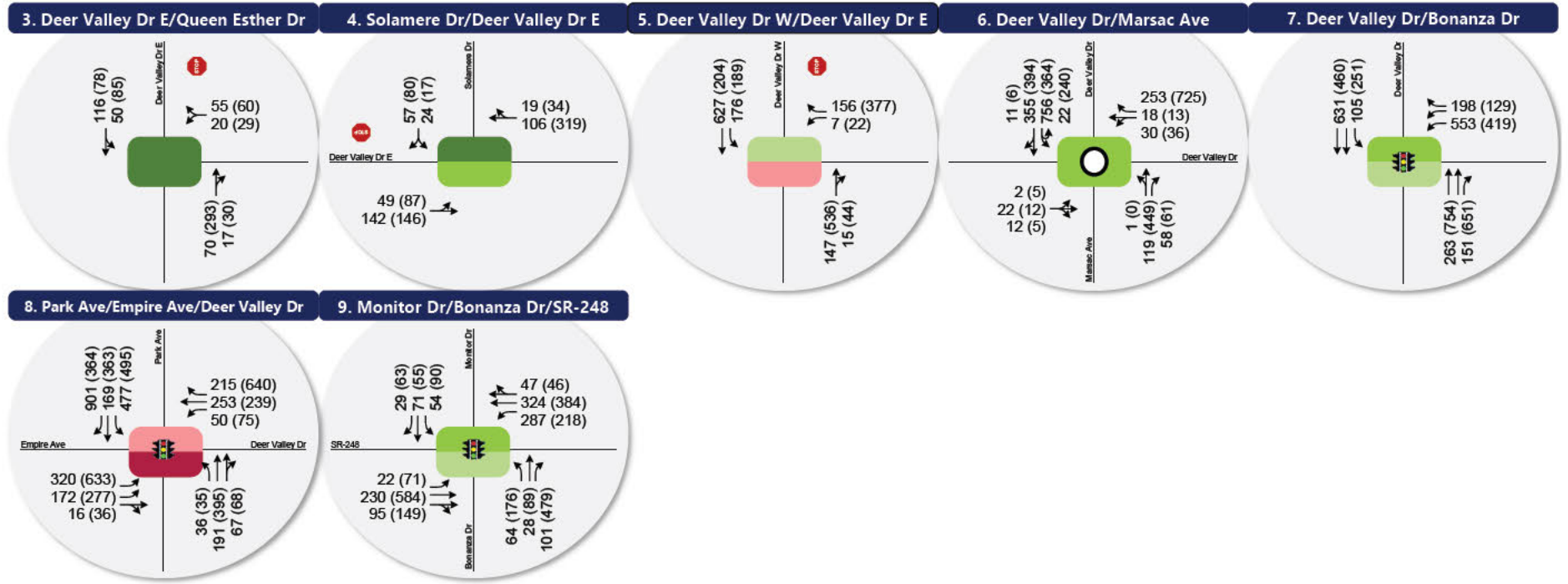
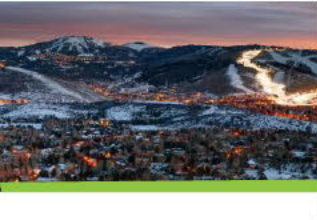


Figure 3
Existing 2020 Background Saturday AM & PM Peak Hour Traffic Conditions





3.3 Level of Service Analysis

Using SimTraffic simulation software (for signalized and unsignalized intersections) and SIDRA software (for the roundabout) and the HCM 6 delay thresholds provided in the Introduction, the existing background Saturday AM and PM peak hour LOS were computed for each study intersection. The results of this analysis for the Saturday AM and PM peak hours are reported in **Table 5** (see Appendix for the detailed LOS report). These results serve as a base for the analysis of the impacts of the proposed Snow Park Village development.

Table 5: Existing 2020 Background Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	SSSC ⁴	-	-	-	-	-
		PM		-	-	-	-	-
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC	-	-	-	-	-
		PM		-	-	-	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	6	A	-	-
		PM		WB Left	9	A	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	7	A	-	-
		PM		SB Left	11	B	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	SSSC	WB Left	15	C	-	-
		PM		WB Left	39	E	-	-
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	11	B
		PM		-	-	-	11	B
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	11	B
		PM		-	-	-	21	C
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	77	E
		PM		-	-	-	84	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	12	B
		PM		-	-	-	20	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach 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 and roundabouts.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.



As shown in **Table 5**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

- Deer Valley Drive East / Deer Valley Drive West: LOS E in the PM peak hour
 - This is caused by the high volumes of vehicles exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive West. The westbound approach is stop-controlled, making it difficult for vehicles to find a gap and turn onto Deer Valley Drive West.
- Deer Valley Drive / Park Avenue / Empire Avenue: LOS E in the AM peak hour, LOS F in the PM peak hour
 - This is caused by congestion at the signal due to high volumes accessing various ski resorts and downtown Park City.

It should be noted that while the Bonanza Drive / Deer Valley Drive intersection operates within acceptable LOS, it is often impacted by vehicle queues spilling back to this intersection from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue in the PM peak hour.

3.4 Mitigation Measures

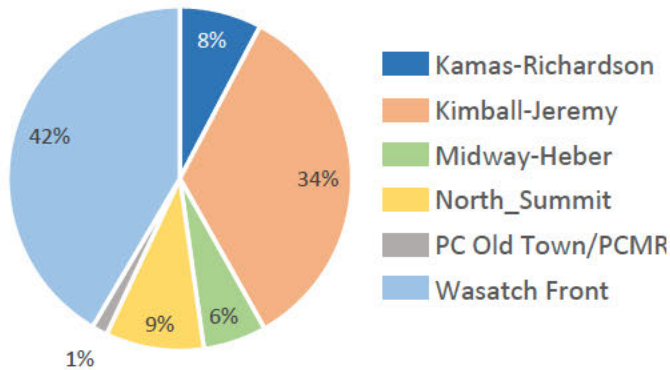
The concept master plan for Snow Park Village shows reconfiguration and signalization of the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection, which will alter the westbound LOS at this intersection. Therefore, Fehr & Peers does not recommend any mitigation measures for existing background conditions.

3.5 Origin-Destination Data

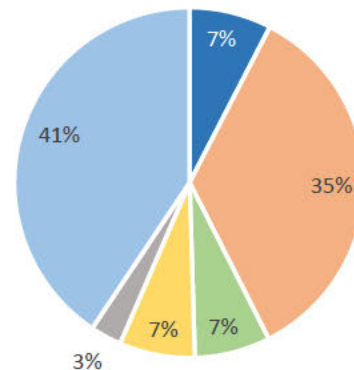
To understand the distribution of origins from which travelers access Deer Valley, Fehr & Peers employed origin-destination data provided by StreetLight Data. StreetLight Data collects samples of trips using anonymized mobile phone data (location-based services, or LBS) and aggregates it to provide estimates of travel between origin-destination pairs. In this study, trips to and from surrounding areas (Kamas-Richardson, Kimball-Jeremy, Midway-Heber, North Summit County, Wasatch Front, and Park City Old Town/Mountain Resort) were examined. The data sample used in this study was based on 2019 and 2020 observed travel patterns on weekend days during morning and afternoon peak periods (8:00am-10:00am and 3:00pm-5:00pm, respectively) in January and February (peak ski months). The figure below displays the distributions of origins for visitors of the Deer Valley Resort, as also shown in **Figure 4**.



Traffic to Deer Valley from...
(AM Peak)



Traffic from Deer Valley to...
(PM Peak)



The Wasatch Front contributes the majority of visitors to and from Deer Valley Resort with 42% and 41% in the AM peak and PM peak, respectively. The Kimball-Jeremy area contributes the second-greatest percentage of visitors with 34% and 35% in the AM peak and PM peak, respectively. The vehicular traffic to and from the Kimball-Jeremy area are good candidates to encourage shifting to transit or other modes, especially if improved transit service accessing Deer Valley Resort is provided.

This data represents existing travel patterns and do not account for potential changes in travel following the construction of Snow Park Village; trip distributon and assignment as shown in section 4.4 of this report primarily focuses on new project trips. Furthermore, StreetLight Data can not ditinguish between single-occupancy vehicles and high-occupancy/transit vehicles, and therefor does not account for current carpooling or transit usage.

3.6 Vehicle Occupancy Data

In addition to traffic counts and StreetLight Data, Fehr & Peers collected vehicle occupancy counts for AM peak-period, inbound traffic for the Deer Valley Resort. Vehicle occupancy counts were collected for the following three days:

- Saturday, February 13, 2021
- Tuesday, February 23, 2021
- Saturday, February 27, 2021



Table 6 presents a summary of vehicle occupancy data, calculated from data collected during the three days listed above. It should be noted that the vehicle occupancy counts were collected during the global COVID-19 pandemic, and the data shown in **Table 6** could be skewed because people are less likely to carpool with individuals outside of their immediate home due to risks presented by Covid-19.

In summary, the average vehicle occupancy for Snow Park Village was observed to be 2.02 occupants/vehicle on Saturday (weighted average of the two sample Saturdays), and 1.90 occupants/vehicle on a weekday (from a single weekday). Also, the percent of single-occupant vehicles was observed to be about 36% on Saturday (weighted average of the two sample Saturdays), and about 38% on a weekday (from a single weekday). Vehicle occupancy is a useful metric to have available for baseline conditions, as it can be used in evaluating how future implementation of potential transportation demand management (TDM) strategies and broader transit network improvements could impact travel behavior. It should be noted that, due to the global Covid-19 pandemic, carpooling may be lower than pre-pandemic levels. However, a return to higher rates of carpooling is expected to be achievable in the near future.



Table 6: Snow Park Village Vehicle Occupancy Summary

Time Period	Total Vehicle Count	Average Occupancy	Single Occupant Vehicles	Percent Single Occupant Vehicles
Saturday, February 13, 2021				
7:45 – 8:00	45	1.76	19	42%
8:00 – 8:15	58	1.84	23	40%
8:15 – 8:30	59	2.12	17	29%
8:30 – 8:45	68	2.09	19	28%
8:45 – 9:00	74	2.04	26	35%
9:00 – 9:15	26	2.12	12	46%
9:15 – 9:30	22	1.95	10	45%
9:30 – 9:45	20	1.95	7	35%
Sum	372	-	133	-
Weighted Average	-	1.99	-	36%
Tuesday, February 23, 2021				
7:45 – 8:00	15	1.60	6	40%
8:00 – 8:15	32	1.50	22	69%
8:15 – 8:30	48	1.65	24	50%
8:30 – 8:45	56	1.91	17	30%
8:45 – 9:00	63	2.00	23	37%
9:00 – 9:15	48	1.92	16	33%
9:15 – 9:30	43	2.23	11	26%
9:30 – 9:45	24	2.17	5	21%
Sum	329	-	124	-
Weighted Average	-	1.90	-	38%
Saturday, February 27, 2021				
7:45 – 8:00	41	1.66	20	49%
8:00 – 8:15	77	2.04	24	31%
8:15 – 8:30	100	1.91	38	38%
8:30 – 8:45	93	2.11	28	30%
8:45 – 9:00	120	2.28	40	33%
9:00 – 9:15	133	1.98	61	46%
9:15 – 9:30	129	1.97	39	30%
9:30 – 9:45	38	2.13	10	26%
Sum	731	-	260	-
Weighted Average	-	2.03	-	36%

Source: Fehr & Peers.

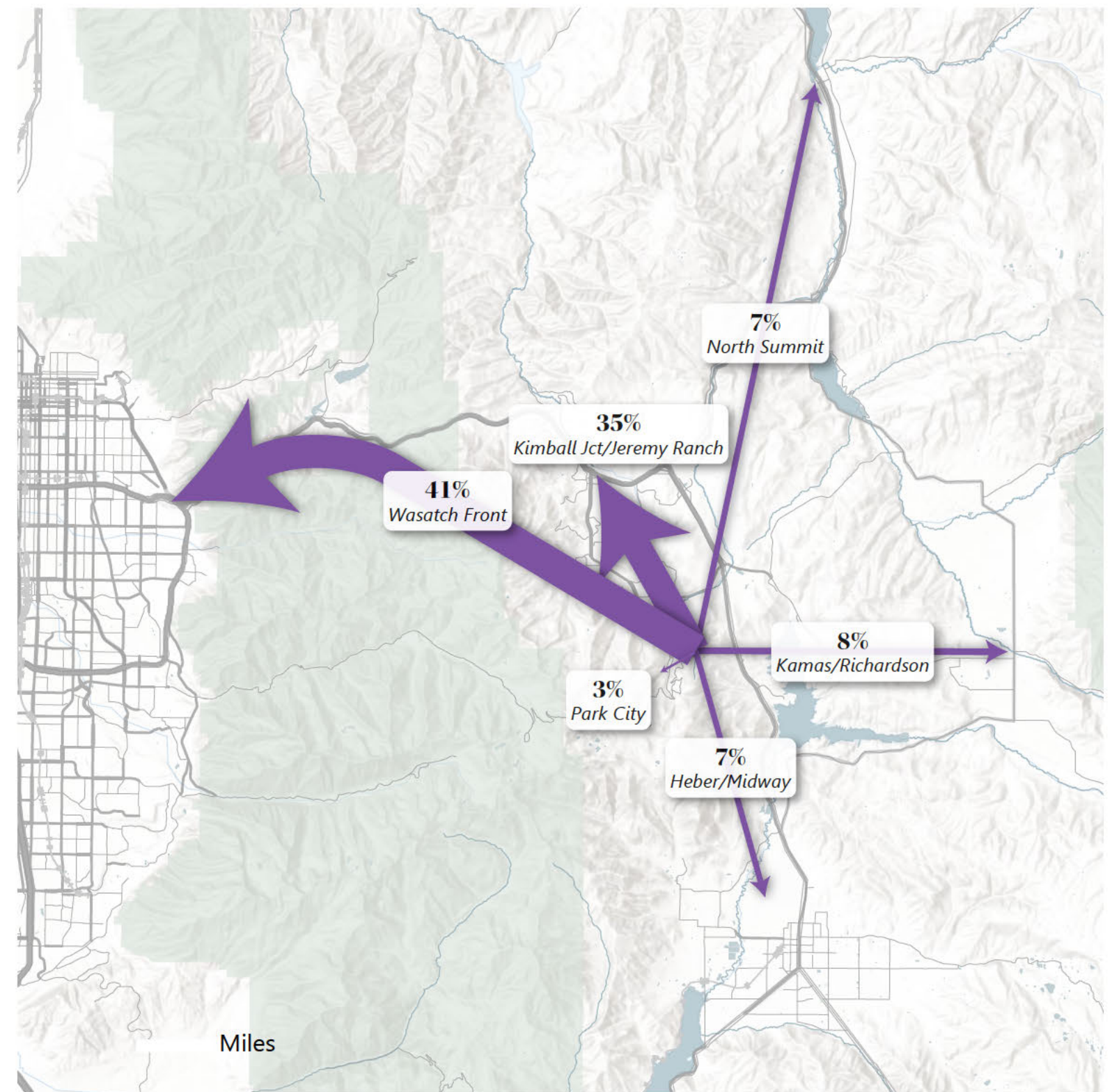
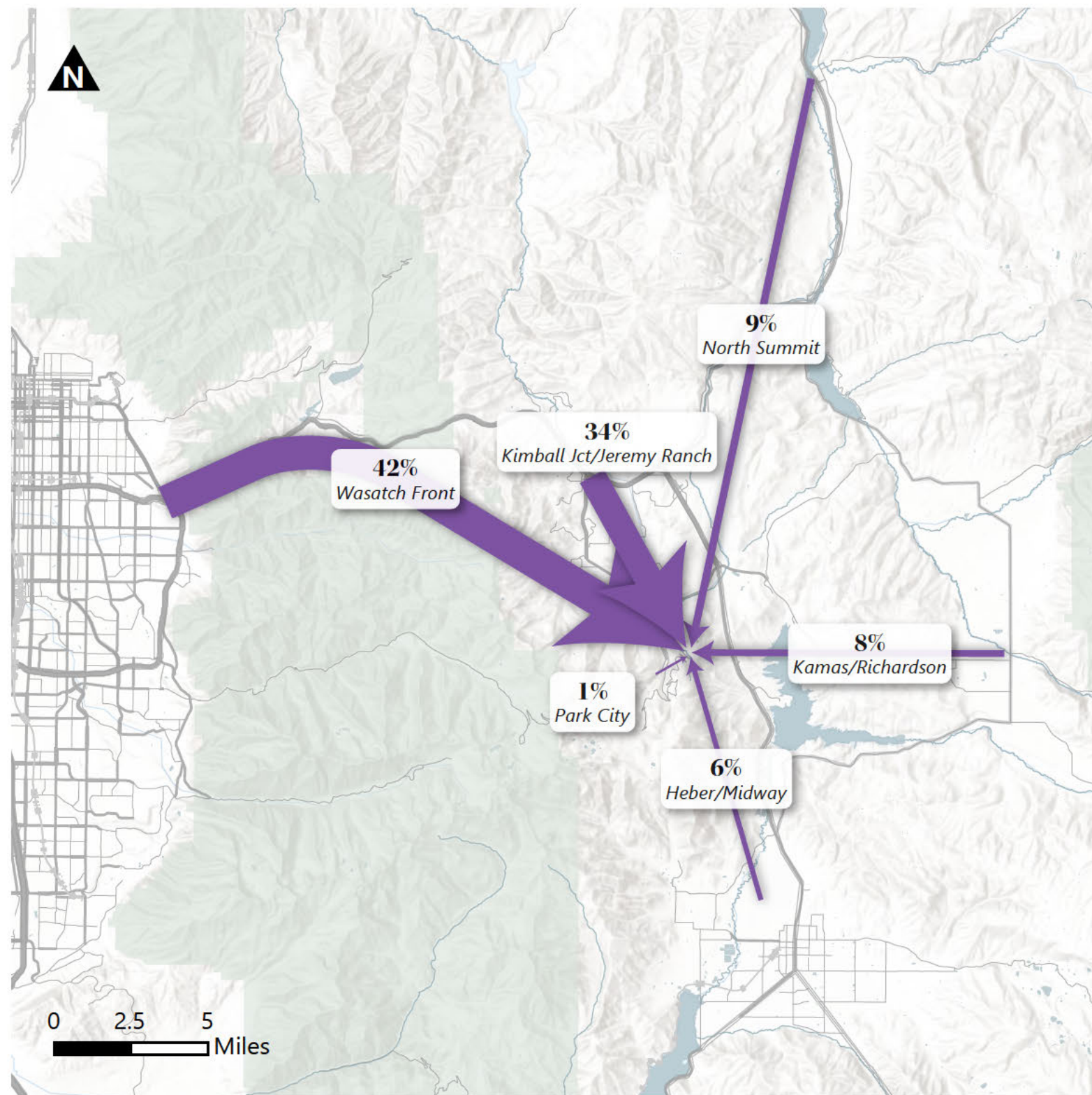


Figure 4
Deer Valley Origin-Destination AM Incoming - PM Outgoing Trends



4. Project Conditions

The Project conditions analysis evaluates the type and intensity of proposed development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in the Introduction. Additionally, Snow Park includes many proposed updates to the roadway network immediately adjacent to the site.

4.1 Project Description

The first phase of the proposed Snow Park Village development will be located at the south parcel of the Deer Valley Resort. The parcel is currently surface parking lots for Deer Valley. Deer Valley resort is in a cul-de-sac type of location, and all trips will access the development through the Deer Valley Drive / Deer Valley Drive East/ Deer Valley Drive West intersections. As a reminder, this traffic report accounts for all future development of the current surface parking lots.

4.1.1 Site Access and Circulation

The Snow Park Village proposal includes mitigations at key intersections to provide better transit access, especially at the transit hub, and improve the traffic flow for visitors traveling by all modes. This circulation plan includes a seasonal one-way Shared Mobility Lane (SML), which prioritizes transit. It will function in a counterclockwise manner. After ski season, the SML will be open to bicycle traffic. Management and enforcement, year-round, will be a City responsibility.

Deer Valley Drive West will be largely left as it is today. The main entrance for day skiers is the western access off Doe Pass Road into the P2 level. The northbound approach at the Doe Pass Road / Deer Valley Drive West intersection will be stop-controlled. To improve pedestrian and bicycle connections, a continuous multiuse path will be constructed along the west curb to connect Snow Park Village to multimodal facilities along Deer Valley Drive and the broader Park City active transportation network. Adjacent to the Snow Park Village site, Deer Valley Drive West will be gated to control access to the Trails End development and to discourage use of the southern terminus of Deer Valley Drive West as a skier drop off area.

Doe Pass Road will be reconfigured to provide access to the parking structure and mobility hub entrances. Doe Pass Road will include two-way general traffic lanes to allow for the movement of public and private vehicles. A continuous sidewalk will be provided on the south side of Doe Pass Road, which will be connected to the multiuse path along the west curb of Deer Valley Drive West by controlled crossings. Two parking accesses, to levels P1 and P2, will be provided on Doe Pass Road. The parking structure will have



internal ramping to allow access between P2 and P3. Both driveways will be controlled with parking management technology, and Deer Valley staff as needed.

Deer Valley Drive East Two general traffic lanes and one transit flex lane will be provided on Deer Valley Drive East. A continuous multiuse path will be provided along the west side, which connects to other similar facilities around the Deer valley Drive loop. Deer Valley Drive East will act as the primary route by which day-skiers depart Snow Park Village, which will be supported by the reconfiguration of the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection and through intuitive, real-time wayfinding. South of its intersection with Doe Pass Road, Deer Valley Drive East will provide access to P2, P3 and P4 parking levels which will primarily serve day skiers. Driveways to these parking levels will be similarly managed through parking technology and Deer Valley staff during periods of peak demand. At its southern terminus, Deer Valley Drive East will be reconfigured into a turnaround drop-off area for day-skier traffic. This drop-off area will be heavily managed, particularly at peak drop-off and pick-up periods with Deer Valley staff directing traffic to ensure smooth operations and safe conditions for users.

A conceptual site plan, showing driveway locations and conceptual roadway configurations is shown in **Figure 5**.



Figure 5
Conceptual Site Plan 



4.2 Trip Generation

Much research and case studies have been performed to better understand the transportation benefits of mixed-use development and transit-oriented development (TOD) over the past decade. “D” factors affect the way mixed-use developments generate trips. The “D” factors include:

- Density (*dwelling, jobs per acre*)
- Diversity (*mix of housing, jobs, retail*)
- Design (*connectivity, walkability*)
- Destinations (*regional accessibility*)
- Distance to Transit (*rail and bus proximity*)
- Development Scale (*population, jobs*)
- Demographics (*household size, income*)

Because of the “D” factors, mixed-use developments and TOD have a much higher distribution of mode split (split between walk, bike, transit, and vehicle) and generally result in lower single-occupant vehicle trips and parking demand. Research has shown that mixed-use developments and TOD generate one-third to two-thirds fewer trips than typical state-of-the-practice trip generation methodologies.

Trip generation for the proposed Snow Park Village was obtained from the *Institute of Transportation Engineers – 10th Edition Trip Generation Manual* (ITE Manual) and Fehr & Peers’ mixed-use development (MXD+) methodology via MainStreet, a Fehr & Peers web application that captures the traffic benefits of developments by looking at interactions among the mixture of land uses and patron usage of alternative modes (i.e. transit, bicycling, and/or walking). Since the beginning of this effort, a new edition of the *Trip Generation Manual* has been published, however, analyses presented in this report rely on 10th Edition trip generation rates. This is to be consistent with previous drafts, and rates presented in the updated *Trip Generation Manual* would likely lead to marginal (“noise”) reductions in trip generation estimates. MXD+ outputs are included in the appendix of this report.

The MXD+ trip generation methodology more accurately captures the trip-reducing benefits of mixed-use development projects and is used throughout the United States to help developers, agencies, and the public to quantify these trip reductions. The MXD+ trip generation model is promoted by the United States Environmental Protection Agency (EPA) and has been adopted by the American Society of Civil Engineers (ASCE), American Planning Association (APA), and many others as a recommended resource for trip generation of smart-growth developments. The MXD+ model uses ITE trip generation rates and applies additional variables to those trip generation rates. Some of the additional variables include:

- Employment



- (Population + Employment) per square mile
- Land area
- Total jobs / population diversity
- Number of intersections per square mile
- Employment within a mile; within
- Employment within a 30-minute trip by transit
- Average household size
- Vehicles owned per capita

Trip generation for the project was computed using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017, with trip reductions based on Fehr & Peers' MXD+ methodology to account for the project's many complementary land uses and availability of transit. These reductions were further informed by inputs from the Summit County Travel Demand Model to better tailor results to local travel behavior. Snow Park Village is proposed to include following land uses (taken from the land use program dated October 2021):

- 30,900 square feet of ballroom/event center space
- 143 multifamily housing units
- 193 hotel rooms
- 25,900 square feet of commercial/retail space

The development is proposed to support the current Deer Valley Resort and other land uses in adjacent to the resort. It should be noted that the land uses supporting the ski resort will not be substantial traffic generators; rather, the ski resort will be the primary generator of traffic, and the support land uses serve as accessories to the resort. The current traffic accessing the ski resort were assumed to cover the trip generation for the ski resort and the support land uses independent of the Snow Park Village proposal. **Table 7** presents the Saturday daily, AM peak-hour, and PM peak-hour trip generation estimates for the entirety of the proposed Snow Park Village Project on both parcels north and south of Doe Pass Road, not only the proposed first phase (Village) south of Doe Pass Road.

4.2.1.1 Resort Hotel Trip Generation Rates

Trip Generation estimates for the hotel uses included in the Snow Park Village proposal are based on observed trip generation rates recorded during the development of the 2018 Canyons Village Transportation Master Plan. While there are a handful of key factors that might result in trip generation rates closer to those in the original Snow Park Village Traffic Impact Study, including proximity to the interstate and other complementary land uses, estimates in this memorandum used the local rates recorded at the Canyons.



4.2.1.2 Assumed Mode Shift

To avoid double-counting potential reductions, the trip generation estimates in this memorandum rely solely on mode shift derived from the MXD methodology and underlying assumptions from the regional travel demand model. These reductions, which are shown in the columns titled “% Walk/Bike” and “% Transit,” are applied to all proposed land uses. Snow Park Village is proposing to provide full parking supply required by the Park City LMC with no reductions. To account for the availability of parking and potential added incentive to drive rather than use other modes, the reductions for shift to other modes were minimized, assuming half of what was presented in the November 2022 submittal.

4.2.1.3 Reduction in Vehicle Trips due to Implementation of Paid Parking

Charging for parking is a reliable method by which to influence mode choice, and Deer Valley intends to implement paid parking as part of the Snow Park Village proposal. Reductions in trip generation due to the implementation of paid parking at Deer Valley have been scaled back to present a more conservative estimate of how parking pricing will affect trip generation. While many Deer Valley clientele may be much less sensitive to additional costs associated with a day’s skiing than the general population, almost 45% of existing trips to and from Deer Valley start and end at points along the Wasatch Front, residents of which are more likely to alter their behavior based on willingness to pay. Lastly, reductions in trip generation due to the implementation of parking pricing are applied only to the resort hotel-, shopping center-, and event center-generated trips, since proposed residential uses at the site are unlikely to require that residents pay for parking on a daily basis.

4.2.1.4 Trip Internalization Derived from MXD

A fundamental element of the Snow Park Village proposal is to provide amenities, services, and entertainment options that complement each other and the ski resort itself. This means that peak-hour trips that might occur without complementary land uses are either delayed (so that they do not occur during the peak hours) or do not require a vehicle trip due to proximity of different uses. Trip internalization rates, presented in **Table 7** under the column heading “% Internal Capture” are applied only to the residential-, resort hotel-, and recreational community center-generated trips, and present a more conservative rate of internalization than presented in the original Snow Park Village traffic impact study.

4.2.1.5 Trip Internalization Derived from Squaw Valley (Palisades Tahoe)

While the residential, hotel, and community center uses are expected to be destinations unto themselves that will generate a measurable number of peak-hour vehicle trips, the food service and retail uses (shown



in **Table 7** as “Shopping Center”) are expected to almost exclusively serve guests already at Deer Valley rather than guests traveling to Deer Valley explicitly for those services.

To support this assumption, trip generation estimates for the shopping center uses in this memorandum rely on trip internalization estimates derived from an origin-destination survey conducted at the Squaw Valley, California resort in 2011. Surveys conducted showed that 95-97% of customers at dining and retail uses in a similar context (ski resort base village) were already at the village for other purposes, and did not travel solely for the dining/retail use. Reductions based on the data from Squaw Valley are presented under the column heading “% Resort Int. Capt.” And are applied only to the shopping center uses. We assume that employees for these uses will almost exclusively arrive and depart during off-peak periods, resulting in lower reductions for daily trips generated by the shopping center uses.

Trip generation for Snow Park Village is covered in greater detail in **Attachment A**. Detailed MXD+ outputs are also included in the appendix.



Table 7: Snow Park Village Trip Generation

Land Use ¹	Number of Units	Unit Type	Rate ²	Daily Trip Generation ³	% Entering ⁴	% Exiting ⁴	% Walk/Bike ⁵	% Transit ⁵	% Paid Parking ⁷	% Internal Capture ⁶	% Resort Int. Capt. ⁹	Trips Entering	Trips Exiting	New Daily Trips
(220) - Multifamily Housing Low-Rise	143	Dwelling Unit	8.14	1,164	50%	50%	2.3%	1.5%	-	1.9%	-	549	549	1,098
(330) - Resort Hotel	193	Rooms	6.27	1,210	50%	50%	2.3%	1.5%	7.5%	1.9%	-	526	526	1,052
(820) - Shopping Center	25.9	1,000 Sq. Ft	46.12	1,195	50%	50%	2.3%	1.5%	7.5%	-	90.0%	53	53	106
(495) Recreational Community Center	30.9	1,000 Sq. Ft	9.10	281	50%	50%	2.3%	1.5%	7.5%	1.9%	-	123	123	246
Day Skiers ¹⁰	150	Stalls	7.42	1,113	50%	50%	-	-	-	-	-	557	557	1,114
Net Weekday Trips				4,963								1,808	1,808	3,616
Land Use ¹	Number of Units	Unit Type	Rate ²	AM Peak Hour Trip Generation ³	% Entering ⁴	% Exiting ⁴	% Walk/Bike ⁵	% Transit ⁵	% Paid Parking ⁷	% Internal Capture ⁶	% Resort Int. Capt. ⁸	Trips Entering	Trips Exiting	New AM Peak Hour Trips
(220) - Multifamily Housing Low-Rise	143	Dwelling Unit	0.46	66	23%	77%	2.8%	1.0%	-	3.7%	-	15	47	62
(330) - Resort Hotel	193	Rooms	0.41	79	72%	28%	2.8%	1.0%	7.5%	3.7%	-	49	19	68
(820) - Shopping Center	25.9	1,000 Sq. Ft	0.94	24	62%	38%	2.8%	1.0%	7.5%	-	96.2%	1	1	2
(495) Recreational Community Center	30.9	1,000 Sq. Ft	1.76	54	62%	38%	2.8%	1.0%	7.5%	3.7%	-	29	18	47
Day Skiers ¹⁰	150	Stalls	0.54	82	100%	0%	-	-	-	-	-	82	0	82
Net Saturday AM Peak Hour Trips				306								176	85	261
Land Use ¹	Number of Units	Unit Type	Rate ²	PM Peak Hour Trip Generation ³	% Entering ⁴	% Exiting ⁴	% Walk/Bike ⁵	% Transit ⁵	% Paid Parking ⁷	% Internal Capture ⁶	% Resort Int. Capt. ⁸	Trips Entering	Trips Exiting	New PM Peak Hour Trips
(220) - Multifamily Housing Low-Rise	143	Dwelling Unit	0.70	100	60%	40%	1.7%	1.5%	-	10.6%	-	52	35	87
(330) - Resort Hotel	193	Rooms	0.70	135	43%	57%	1.7%	1.5%	7.5%	10.6%	-	46	61	107
(820) - Shopping Center	25.9	1,000 Sq. Ft	4.50	117	52%	48%	1.7%	1.5%	7.5%	-	96.2%	3	2	5
(495) Recreational Community Center	30.9	1,000 Sq. Ft	1.07	33	52%	48%	1.7%	1.5%	7.5%	10.6%	-	14	13	27
Day Skiers ¹⁰	150	Stalls	0.64	96	0%	100%	-	-	-	-	-	0	96	96
Net Saturday PM Peak Hour Trips				481								115	207	322

1. (XXX) Indicates ITE Land Use Code. Land Use Code from the Institute of Transportation Engineers - 10th Edition Trip Generation Manual (ITE Manual)

2. ITE Trip Generation Rates. Hotel rates derived from data collected on Saturday, February 17, 2018, for the Canyons Village Management Association Transportation Master Plan. Day skier rates calculated from existing vehicles/stalls.

3. Traffic Generated by the development according to trip generation rates provided in the ITE Manual (custom rates for Hotel).

4. Percentage of trips Entering and Exiting the development according to the ITE Manual.

5. Percentage of trips that shift to active transportation or transit modes based on data collected by U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates.

6. Percentage of trips that are captured internally to the site based on rates published in ITE Manual.

7. Percentage of trips that shift to transit due to parking costs based on Fehr & Peers's Parking Cost Tool. The tool estimates close to 20%; 7.5% assumed for conservative results.

8. Percentage of trips that are captured internally to the site for retail/restaurant based on Squaw Valley winter overnight visitor survey conducted in 2011, for weekend AM and PM peak hours.

9. Daily retail/restaurant internal capture percentage was assumed to be lower than AM and PM peak hours due to employees, which daily travel patterns are not as affected as much as peak hours.

10. Day skiers not included in ITE. The rates for day skiers were derived by calculating the number of existing vehicles with the available 1350 existing stalls.

Source: Fehr & Peers



4.3 Trip Distribution and Assignment

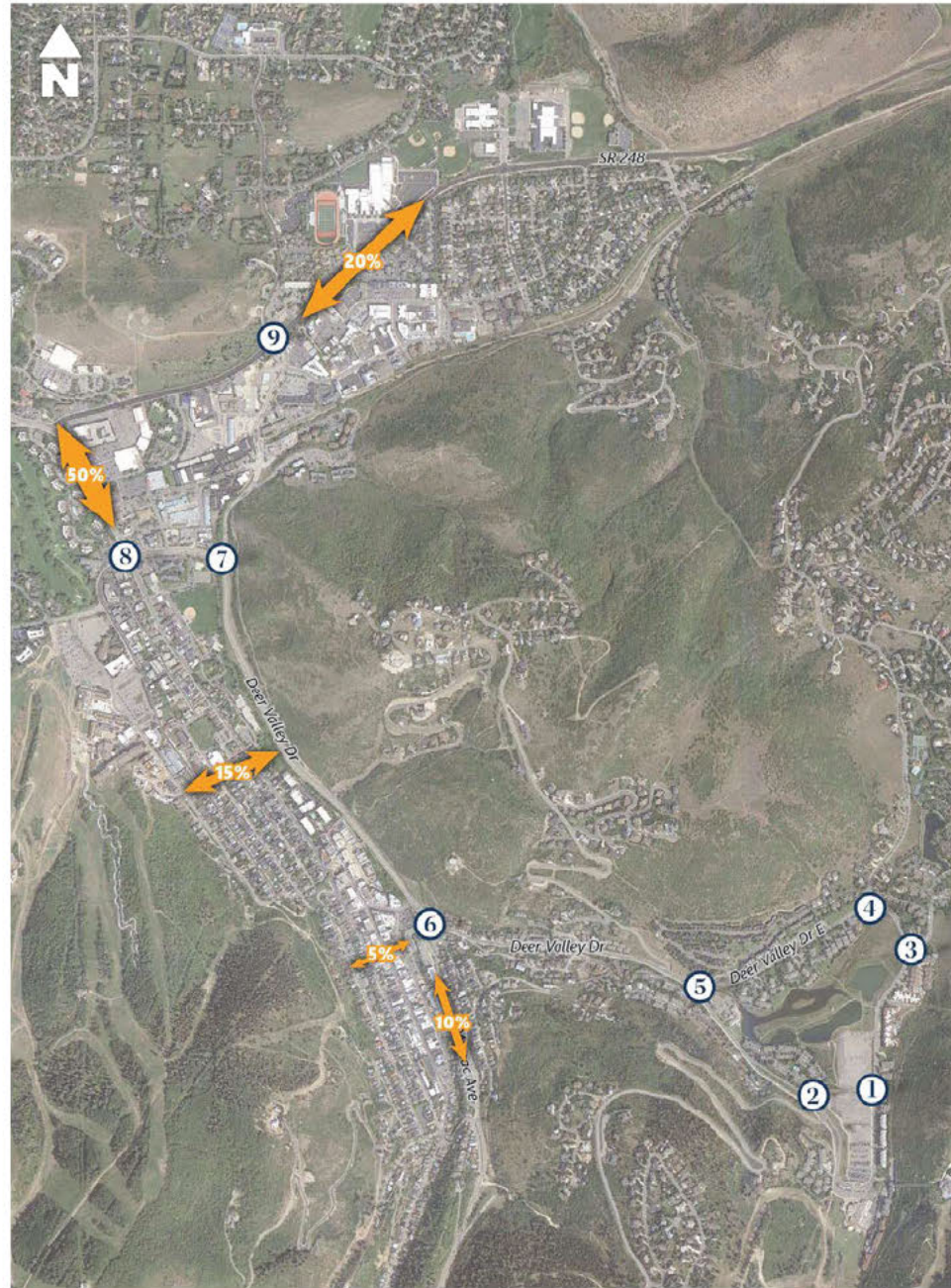
Project traffic was assigned to the roadway network based on the proximity to major streets and freeways, population densities, and local and regional attractions. Existing travel patterns revealed in the Streetlight data, Continuous Count Station (CCS) data collection from UDOT, and observed during data collection also provided helpful guidance to establish these distribution percentages, especially close to the site.

The CCS data from UDOT informed the distribution of trips arriving via SR-224 and SR-248. Closer to the project site, Streetlight data informed the distribution of trips arriving via Marsac Avenue and Deer Valley Drive. Overall, the project-generated trips were distributed to and from these directions in the Existing analysis, in the corresponding percentages:

- 50% North (using SR-224)
- 20% East (using SR-248 via Bonanza Drive)
- 15% West (using any of the accesses along Deer Valley Drive between Bonanza and Marsac)
- 5% West (using the Transit Hub access at the Marsac Roundabout)
- 10% South (using Marsac Avenue)

This trip distribution does not fully align with the origin-destination data presented in **Figure 4** due to the expected differences in trip purpose stemming from the change in land use at Snow Park. The distribution and assignment of new, project-generated trips reflects the assumption that residents and guests of Snow Park Village's hotel and residential uses are more likely to and from Old Town for dining, shopping, or entertainment purposes.

These trip distribution assumptions were used to distribute project-generated traffic to the study area intersections and are shown in **Figure 6**.



LEGEND

STOP

Stop Sign

Signalized

Roundabout

Lane Configuration

AM (PM)

AM (PM)

AM (PM)

Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM

A

B

C

D

E

F

1. Deer Valley Dr E/Doe Pass Rd	2. Deer Valley Dr W/Doe Pass Rd	3. Deer Valley Dr E/Queen Esther Dr	4. Solamere Dr/Deer Valley Dr E	5. Deer Valley Dr W/Deer Valley Dr E
6. Deer Valley Dr/Marsac Ave	7. Deer Valley Dr/Bonanza Dr	8. Park Ave/Empire Ave/Deer Valley Dr	9. Monitor Dr/Bonanza Dr/SR-248	

Figure 6
Saturday AM & PM Peak Hour Trip Generation and Distribution

251

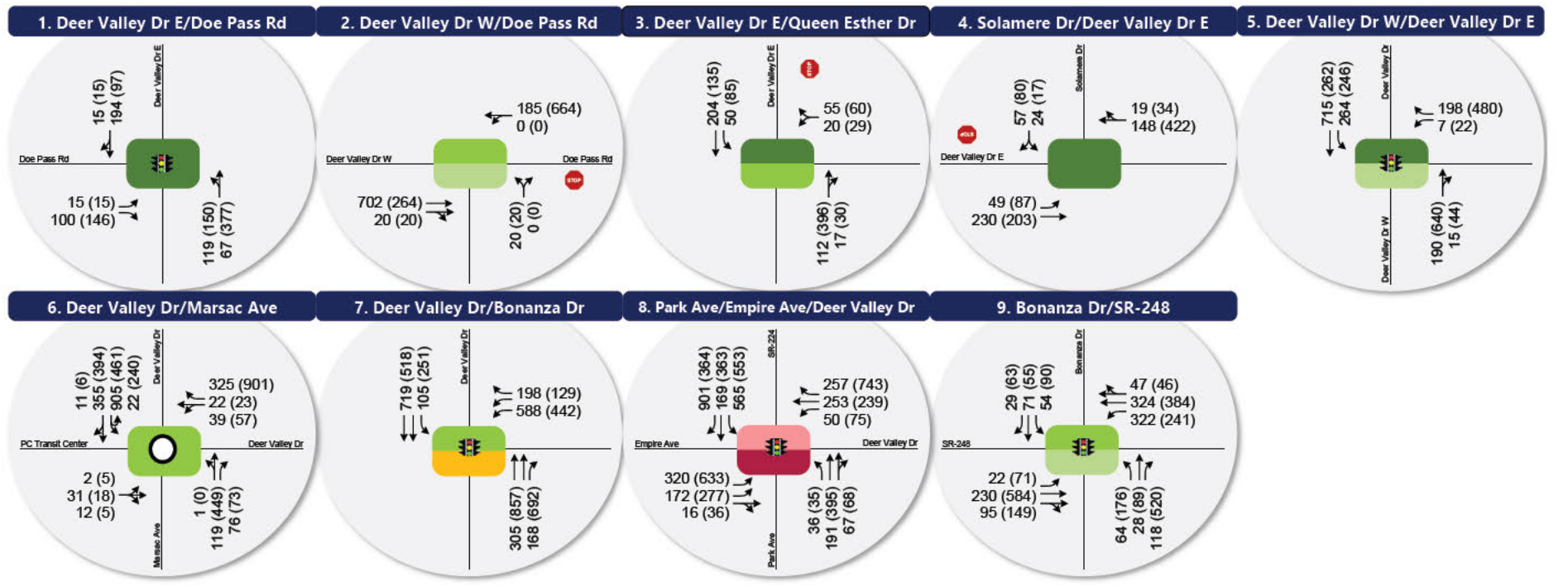


5. Existing 2020 plus Project Conditions

The Existing (2020) Plus Project conditions analysis evaluates the impact of the proposed development-generated traffic on the surrounding roadway network under existing conditions. To analyze this impact, the Saturday peak-hour background traffic volumes were combined with volumes generated by the proposed Project during its Saturday peak hours. Intersection LOS analyses were then performed and compared to the results of the background traffic volumes. This comparison shows the impact of the proposed project.

5.1 Traffic Volumes

Vehicle trips in and out of the existing Deer Valley resort are assumed to be for the ski resort users and were not subtracted out from the background volumes. Project-generated traffic for the additional land uses and development was added to the background volumes to yield Existing (2020) Plus Project peak-hour volumes. The Saturday AM and PM peak-hour traffic volumes at the study intersections are shown in **Figure 7**.



LEGEND

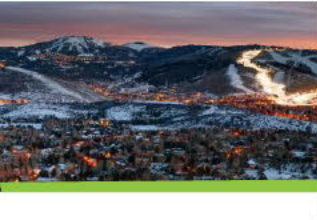
Stop Sign
 Signalized
 Roundabout

Lane Configuration: AM (PM) Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM
 A
 B
 C
 D
 E
 F

Figure 7
Existing 2020 Plus Project Saturday AM & PM Peak Hour Traffic Conditions



5.2 Level of Service Analysis

Using SimTraffic simulation software (for signalized and unsignalized intersections) and SIDRA software (for the roundabout) and the HCM 6 delay thresholds provided in the Introduction, the existing 2020 plus project Saturday AM and PM peak hour LOS were computed for each study intersection. The results of the analysis are reported in **Table 8** (see Appendix for the detailed LOS report).

Table 8: Existing 2020 plus Project Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	6	A
		PM		-	-	-	7	A
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC ⁴	NB Left	8	A	-	-
		PM		NB Left	16	C	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	8	A	-	-
		PM		WB Left	11	B	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	8	A	-	-
		PM		SB Left	13	B	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	SSSC	WB Left	26	D	-	-
		PM		WB Left	128	F	-	-
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	15	B
		PM		-	-	-	15	B
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	11	B
		PM		-	-	-	29	C
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	75	E
		PM		-	-	-	83	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	13	B
		PM		-	-	-	20	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle).
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.



As shown in **Table 8**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

- Deer Valley Drive East / Deer Valley Drive West: LOS F in the PM peak hour
 - This is caused by the high traffic volumes exiting the Deer Valley Resort on the westbound approach onto Deer Valley Drive. The westbound approach is stop-controlled, making it difficult for vehicles to find a gap and turn onto Deer Valley Drive West.
- Deer Valley Drive / Park Avenue / Empire Avenue: LOS E in the AM peak hour, LOS F in the PM peak hour
 - This is caused by high congestion at the signal due to high volumes accessing various ski resorts and downtown Park City.

It should be noted that the proposed Snow Park Village development introduces various support land uses intended to attract resort users to stay on-site after the ski resort peak hour. This will help distribute the peaking of traffic, reducing delays at the study intersections and roadways. Therefore, the results shown in **Table 8** are likely overstated.

5.3 Mitigation Measures

The Snow Park Village site plan includes realignment of the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection. The intersection is currently a “T”-intersection with free-flow movement north/south along Deer Valley Drive West / Deer Valley Drive, and a stop-control on the approach of Deer Valley Drive East. The proposed plan adds a signal at the intersection, as shown in **Figure 8**. Deer Valley Drive West will serve as a primary transit and auto route to access the proposed transit hub and the main P2 parking level entrance on Doe Pass Road and serve private vehicles accessing Royal Street and the Trail’s End community. Deer Valley Drive East will serve as the secondary vehicular route to access the Snow Park drop-off/pick-up area and parking structure accesses that includes day skier spaces, hotel, and residences.

To evaluate how the study intersections would operate if driving behaviors do not change despite development, the traffic distribution of the background traffic at the Deer Valley Drive East / Deer Valley Drive West intersection was not modified, and project traffic was added. This was assumed to account for the historical use patterns and direct routes to the parking garages. This resulted in traffic splits similar to existing conditions at the Deer Valley Drive East / Deer Valley Drive West intersection with roughly 25% using Deer Valley Drive East and roughly 75% using Deer Valley Drive West inbound in the AM peak hour, and roughly 40% using Deer Valley Drive East and roughly 60% using Deer Valley Drive West outbound in the PM peak hour.



Park City has a longstanding position of not mitigating certain deficient intersections within its boundaries due to the impacts of road widening and other potential mitigations to the community. As a result, potential mitigations at the intersections of Deer Valley Drive / Park Avenue / Empire Avenue, Bonanza Drive / Monitor Drive / SR-248 were not analyzed as part of this study, and are therefore not included as recommendations. Further, deficiencies shown at the intersection of Deer Valley Drive / Bonanza Drive are not a result of project-generated trips or operations of the intersection itself; instead they stem from vehicle queues from the intersection of Deer Valley Drive / Park Avenue / Empire Avenue. As a result, mitigations at the intersection of Deer Valley Drive / Bonanza Drive are not recommended as part of this study. As stated earlier, Deer Valley Drive between the roundabout and SR-224 intersection is a UDOT facility. Any efforts to improve traffic will be led by UDOT.

The analysis results with the reconfigured Deer Valley Drive East / Deer Valley Drive West intersection are shown in **Table 9** (see Appendix for the detailed LOS report). As shown in **Table 9**, the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection operates at LOS A and LOS C in the AM and PM peak hours, respectively.

With increased traffic due to the development, the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections experience increased delays. As a mitigation, the Snow Park Village site plan includes new left-turn pockets at both the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections to improve traffic operations during peak periods and better facilitate inbound left turns, as well as a receiving lane to allow for two-stage left turns out of Solamere Drive and Queen Esther Drive.



Source: Alliance Engineering Inc

Figure 8
Proposed Reconfiguration of Deer Valley Drive East / Deer Valley Drive West Intersection - Transit Priority Alternative



Table 9: Existing 2020 plus Project Mitigated Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	4	A
		PM		-	-	-	7	A
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC ⁴	NB Left	12	B	-	-
		PM		NB Left	19	C	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	5	A	-	-
		PM		WB Left	11	B	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	6	A	-	-
		PM		SB Left	9	A	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	Signal	-	-	-	9	A
		PM		-	-	-	21	C
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	15	B
		PM		-	-	-	15	B
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	12	B
		PM		-	-	-	38	D
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	76	E
		PM		-	-	-	84	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	13	B
		PM		-	-	-	20	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle).
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound.
4. Side-street stop control.

Source: Fehr & Peers.



6. Opening Year (2024) Background Conditions

The purpose of the Opening Year (2024) Background conditions analysis is to evaluate the study intersections during the peak travel periods of the day under projected 2024 traffic volumes, when the development is projected to open. This analysis provides a baseline condition for the year 2024, which can be used to determine future Project impacts.

6.1 Traffic Volumes

Traffic volumes for 2024 were estimated using traffic counts and forecasted volumes from the Summit/Wasatch Travel Demand Model (September 2020 version) for 2024. This is a regional forecasting model developed with UDOT support to help plan for major infrastructure in the Wasatch Back region. The Summit/Wasatch Travel Demand Model shows a lower annual growth rate in the future by accounting for a higher mode split for non-drive alone modes of transportation – higher usage of transit, walking, and biking than previous versions of travel demand models. The following annual growth rates were used on the following roadways to project 2024 background weekday volumes as shown in **Figure 9**.

- 0.5% on Deer Valley Drive (SR-224) north of Bonanza Drive
- 0.5% on Deer Valley Drive (SR-224) south of Bonanza Drive
- 0.5% on Deer Valley Drive (SR-224) north of Marsac Avenue
- 0.6% on Deer Valley Drive (SR-224) east of Marsac Avenue
- 0.6% on Deer Valley Drive (SR-224) north of Deer Valley Drive West
- 0.4% on Deer Valley Drive (SR-224) south of Deer Valley Drive West
- 1.7% on Bonanza Drive
- 0.3% on Marsac Avenue

6.2 Level of Service Analysis

Using SimTraffic simulation software (for signalized and unsignalized intersections) and SIDRA software (for the roundabout) and the HCM 6 delay thresholds provided in the Introduction, opening year 2024 background weekday peak hour LOS was computed for each study intersection. The results of this analysis for the Saturday AM and PM peak hour are reported in **Table 10** (see Appendix for the detailed LOS report).



Table 10: Opening Year 2024 Background Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	SSSC ⁴	-	-	-	-	-
		PM		-	-	-	-	-
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC	-	-	-	-	-
		PM		-	-	-	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	6	A	-	-
		PM		WB Left	8	A	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	6	A	-	-
		PM		SB Left	11	B	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	SSSC	WB Left	14	B	-	-
		PM		WB Left	41	E	-	-
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	11	B
		PM		-	-	-	11	B
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	11	B
		PM		-	-	-	20	C
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	82	F
		PM		-	-	-	85	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	13	B
		PM		-	-	-	20	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach 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 and roundabouts.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.

As shown in **Table 10**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

- Deer Valley Drive East / Deer Valley Drive West: LOS E in the PM peak hour
 - This is caused by the high volumes of vehicles exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive West. The westbound approach is stop-controlled, making it difficult for vehicles to find a gap and turn onto Deer Valley Drive West.

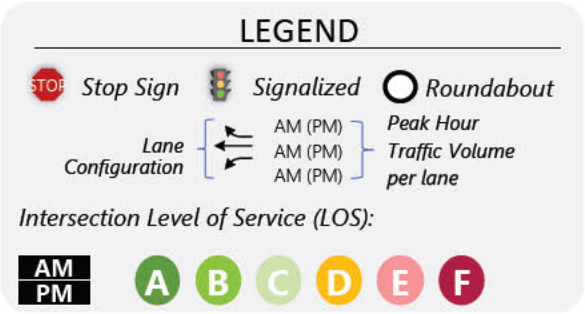
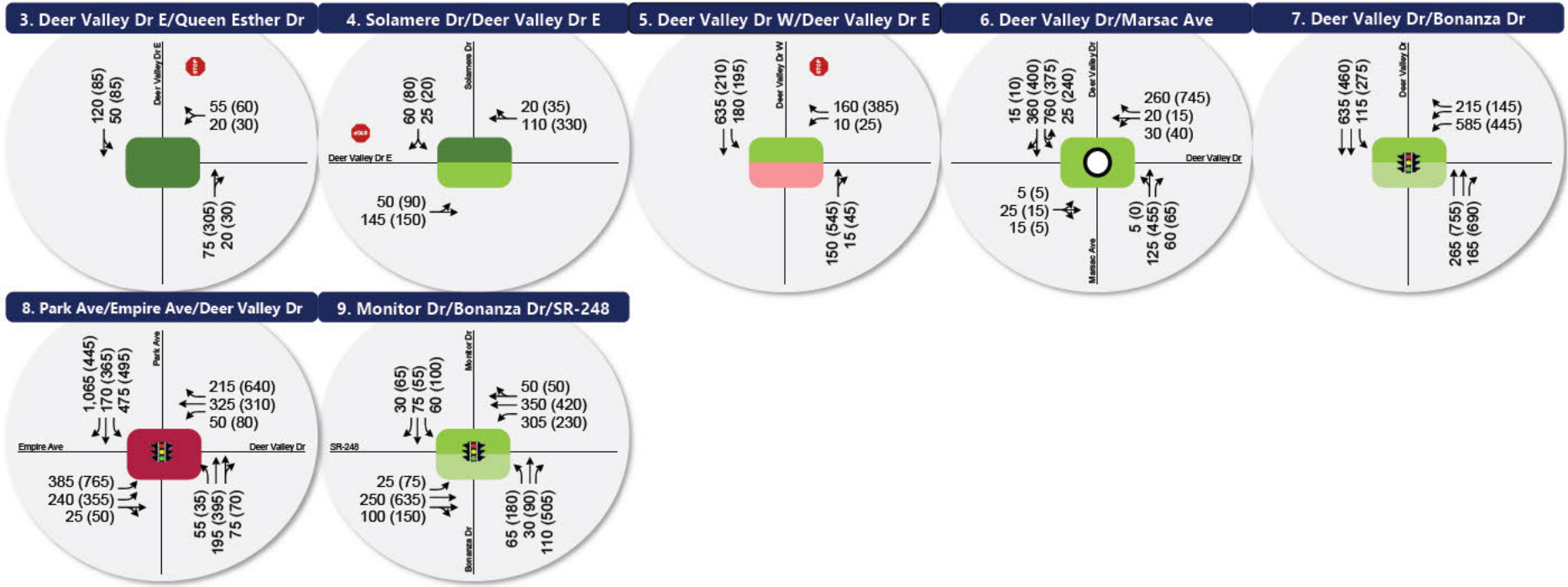
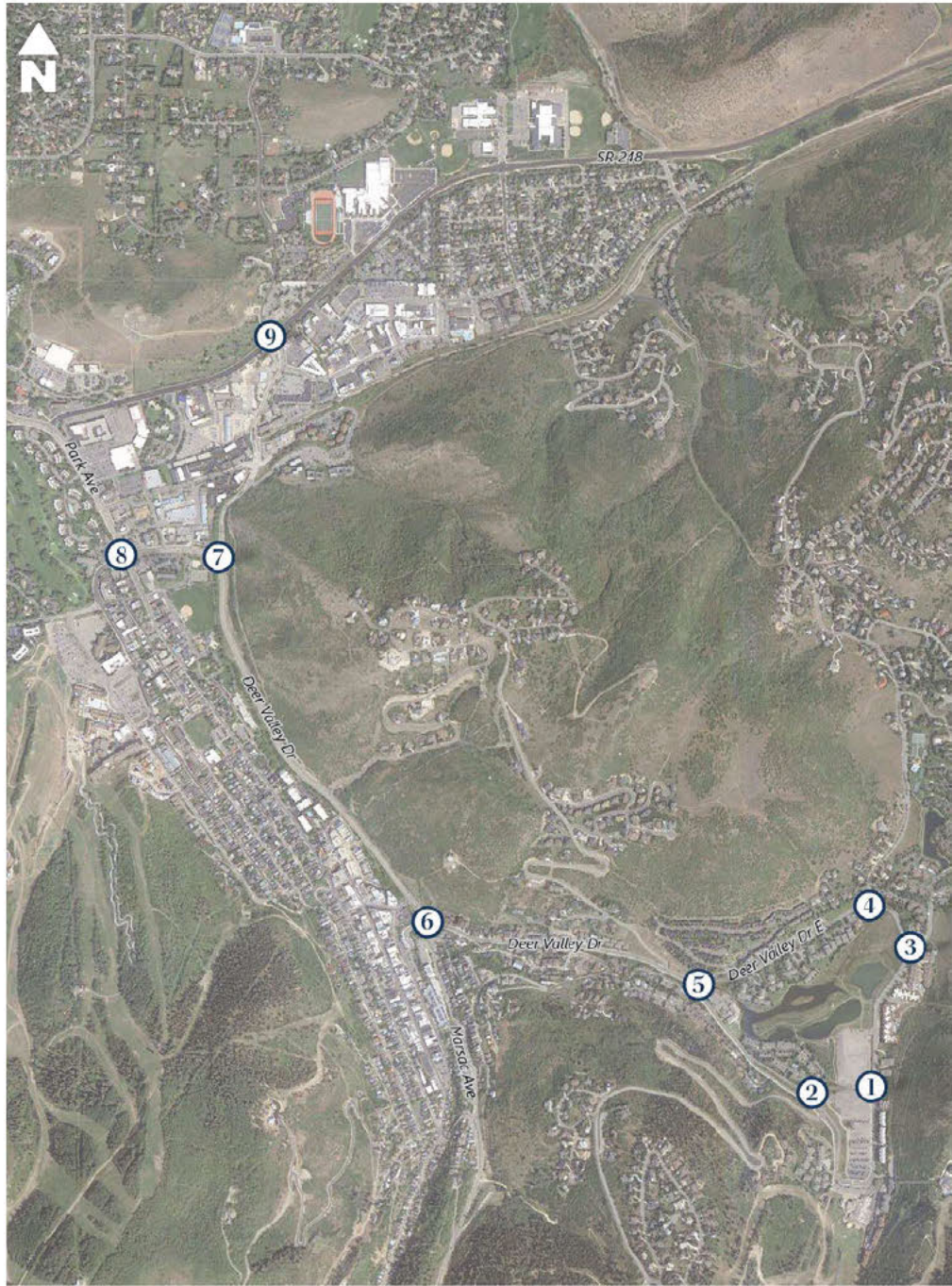


- Deer Valley Drive / Park Avenue / Empire Avenue: LOS F in both AM and PM peak hours
 - This is caused by high congestion at the signal due to high volumes accessing various ski resorts and downtown Park City.

It should be noted that while the Bonanza Drive / Deer Valley Drive intersection operates within acceptable LOS, it is often impacted by vehicle queues spilling back to this intersection from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue in the PM peak hour.

6.3 Mitigation Measures

The concept master plan for Snow Park Village shows re-alignment and signalization of the Deer Valley Drive East / Deer Valley Drive West intersection, which will alter the westbound LOS at this intersection. Therefore, Fehr & Peers does not recommend any mitigation measures for opening year background conditions.



Opening Year 2024 Background Saturday AM & PM Peak Hour Traffic Conditions





7. Opening Year (2024) Plus Project Conditions

The purpose of the opening year 2024 plus project conditions analysis is to evaluate the impact of the proposed development traffic on the surrounding roadway network in the year 2024, the proposed opening year of the development. To analyze this impact, the projected 2024 Saturday AM and PM peak hour background traffic volumes were combined with volumes generated by the development for the Saturday AM and PM peak hours. Intersection LOS analyses were then performed and compared to the results of the background traffic volumes. This comparison shows the impact of the proposed project in opening year 2024.

7.1 Traffic Volumes

Project-generated traffic (**Figure 6**) was added to the opening year 2024 background volumes (**Figure 9**) to yield Opening Year (2024) Plus Project Saturday AM and PM peak-hour traffic volumes at the study intersections as shown in **Figure 10**.

7.2 Level of Service Analysis

Using SimTraffic simulation software (for signalized and unsignalized intersections) and SIDRA software (for the roundabout) and the HCM 6 delay thresholds provided in the Introduction, opening year 2024 plus project Saturday AM and PM peak hour LOS were computed for each study intersection. The results of the analysis are reported in **Table 11** (see Appendix for the detailed LOS report).



Table 11: Opening Year 2024 plus Project Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	7	A
		PM		-	-	-	7	A
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC ⁴	NB Left	15	B	-	-
		PM		NB Left	24	C	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	8	A	-	-
		PM		WB Right	20	C	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	8	A	-	-
		PM		SB Right	78	F	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	SSSC	WB Left	20	C	-	-
		PM		WB Right	126	F	-	-
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	16	C
		PM		-	-	-	16	C
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	12	B
		PM		-	-	-	67	E
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	80	F
		PM		-	-	-	88	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	14	B
		PM		-	-	-	22	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle).
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.

As shown in **Table 11**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

- Deer Valley Drive East / Solamere Drive: LOS F in the PM peak hour
 - This is caused by the queues at the stop-controlled westbound approach at the Deer Valley Drive East / Deer Valley Drive West intersection extending past Solamere Drive, making it difficult for the southbound vehicles to turn onto Deer Valley Drive East.
- Deer Valley Drive East / Deer Valley Drive West: LOS F in the PM peak hour



- This is caused by the high traffic volumes exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive. The westbound approach is stop-controlled, making it difficult for vehicles to find a gap and turn onto Deer Valley Drive West.
- Deer Valley Drive / Bonanza Drive: LOS E in the PM peak hour
 - This is caused by vehicle queues spilling back to this intersection from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue.
- Deer Valley Drive / Park Avenue / Empire Avenue: LOS F in both AM and PM peak hours
 - This is caused by high congestion at the signal due to high volumes accessing various ski resorts and downtown Park City

It should be noted that the proposed Snow Park Village development introduces various support land uses intended to attract resort users to stay on-site after the ski resort peak hour. This will help distribute the peaking of traffic, reducing delays at the study intersections and roadways. Therefore, the results shown in **Table 11** are likely overstated.

7.3 Mitigation Measures

The Snow Park Village site plan includes realignment of the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection. The intersection is currently a “T”-intersection with free-flow movement north/south along Deer Valley Drive West / Deer Valley Drive, and a stop-control on the approach of Deer Valley Drive East. The proposed plan adds a signal at the intersection as shown in **Figure 8**. Deer Valley Drive West will serve as a primary transit and auto route to access the proposed transit hub and the main P2 parking level entrance on Doe Pass Road, and serve private vehicles accessing Royal Street and the Trail’s End community. Deer Valley Drive East will serve as the secondary vehicular route to access the Snow Park drop-off/pick-up area and parking structure accesses that includes day skier spaces, hotel, and residences.

To evaluate how the study intersections would operate if driving behaviors do not change despite development, the traffic distribution of the background traffic at the Deer Valley Drive East / Deer Valley Drive West intersection was not modified, and project traffic was added. This was assumed to account for the historical use patterns and direct routes to the parking garages. This resulted in traffic splits similar to existing conditions at the Deer Valley Drive East / Deer Valley Drive West intersection with roughly 25% using Deer Valley Drive East and roughly 75% using Deer Valley Drive West inbound in the AM peak hour, and roughly 40% using Deer Valley Drive East and roughly 60% using Deer Valley Drive West outbound in the PM peak hour.



Park City has a longstanding position of not mitigating certain deficient intersections within its boundaries due to the impacts of road widening and other potential mitigations to the community. As a result, potential mitigations at the intersections of Deer Valley Drive / Park Avenue / Empire Avenue, Bonanza Drive / Monitor Drive / SR-248 were not analyzed as part of this study, and are therefore not included as recommendations. Further, deficiencies shown at the intersection of Deer Valley Drive / Bonanza Drive are not a result of project-generated trips or operations of the intersection itself; instead they stem from vehicle queues from the intersection of Deer Valley Drive / Park Avenue / Empire Avenue. As a result, mitigations at the intersection of Deer Valley Drive / Bonanza Drive are not recommended as part of this study. As stated earlier, Deer Valley Drive between the roundabout and SR-224 intersection is a UDOT facility. Any efforts to improve traffic will be led by UDOT.

The analysis results with the reconfigured Deer Valley Drive East / Deer Valley Drive West intersection are shown in **Table 12** (see Appendix for the detailed LOS report). As shown in **Table 12**, the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection operates at LOS A and LOS C in the AM and PM peak hour, respectively.

With increased traffic due to the development, the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections experience increased delays. As a mitigation, the Snow Park Village site plan includes new left-turn pockets at both the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections to improve traffic operations during peak periods and better facilitate inbound left turns, as well as a receiving lane to allow for two-stage left turns out of Solamere Drive and Queen Esther Drive.



Table 12: Opening Year 2024 plus Project Mitigated Conditions Saturday AM & PM Peak Hour Level of Service

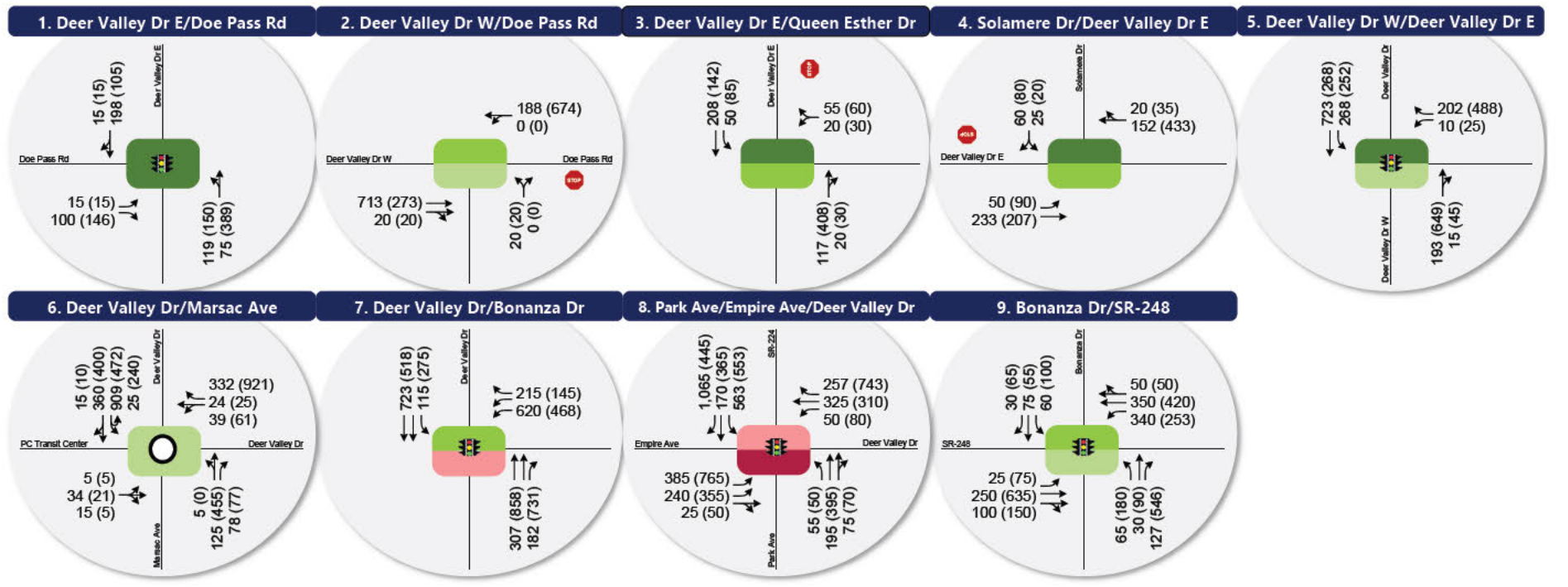
Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	5	A
		PM		-	-	-	7	A
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC ⁴	NB Left	10	B	-	-
		PM		NB Left	18	C	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Right	5	A	-	-
		PM		WB Left	10	B	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	6	A	-	-
		PM		SB Left	11	B	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	Signal	-	-	-	9	A
		PM		-	-	-	22	C
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	16	C
		PM		-	-	-	16	C
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	12	B
		PM		-	-	-	76	E
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	78	E
		PM		-	-	-	88	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	14	B
		PM		-	-	-	22	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle).
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound.
4. Side-street stop control.

Source: Fehr & Peers.



LEGEND

Stop Sign
 Signalized
 Roundabout

Lane Configuration:
 AM (PM)
 AM (PM)
 AM (PM)

Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM
 A
B
C
D
E
F

Opening Year 2024 Plus Project Saturday AM & PM Peak Hour Traffic Conditions





8. Future 2040 Background Conditions

The purpose of the future 2040 background conditions analysis is to evaluate the study intersections during peak travel periods under projected 2040 traffic volumes. This analysis provides a baseline condition for the year 2040, which can be used to determine future project impacts.

8.1 Traffic Volumes

Traffic volumes for 2040 were estimated using traffic counts and forecasted volumes from the Summit/Wasatch Travel Demand Model (September 2020 version) for 2040. The Summit/Wasatch Travel Demand Model shows a lower annual growth rate in the future by accounting for a higher mode split of transportation – higher usage of transit, walking, and biking than previous versions of travel demand models. The following annual growth rates used on the following roadways to project 2040 background weekday volumes as shown in **Figure 11**.

- 0.3% on Deer Valley Drive (SR-224) north of Bonanza Drive
- 0.7% on Deer Valley Drive (SR-224) south of Bonanza Drive
- 0.6% on Deer Valley Drive (SR-224) north of Marsac Avenue
- 0.9% on Deer Valley Drive (SR-224) east of Marsac Avenue
- 1.0% on Deer Valley Drive (SR-224) north of Deer Valley Drive West
- 0.8% on Deer Valley Drive (SR-224) south of Deer Valley Drive West
- 1.2% on Bonanza Drive
- 0.4% on Marsac Avenue

Based on the understanding that much of the lower Deer Valley is effectively built out, traffic volumes on Solamere Drive and Queen Esther Drive were not increased for future scenarios.

8.2 Level of Service Analysis

Using SimTraffic simulation software (for signalized and unsignalized intersections) and SIDRA software (for the roundabout) and the HCM 6 delay thresholds provided in the Introduction, future 2040 background weekday peak hour LOS was computed for each study intersection. The results of this analysis for the AM & PM peak hour are reported in **Table 13** (see Appendix for the detailed LOS report).



Table 13: Future 2040 Background Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	SSSC ⁴	-	-	-	-	-
		PM		-	-	-	-	-
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC	-	-	-	-	-
		PM		-	-	-	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	7	A	-	-
		PM		WB Left	9	A	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	8	A	-	-
		PM		SB Left	15	C	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	SSSC	WB Left	17	C	-	-
		PM		WB Right	112	F	-	-
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	16	C
		PM		-	-	-	11	B
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	18	B
		PM		-	-	-	59	E
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	83	F
		PM		-	-	-	90	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	16	B
		PM		-	-	-	28	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach 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 and roundabouts.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.

As shown in **Table 13**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

- Deer Valley Drive East / Deer Valley Drive West: LOS F in the PM peak hour
 - This is caused by the high volumes of vehicles exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive West. The westbound approach is stop-controlled, making it difficult for vehicles to find a gap and turn onto Deer Valley Drive West.



- Deer Valley Drive / Bonanza Drive: LOS E in the PM peak hour
 - This is caused by vehicle queues spilling back to this intersection from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue.
- Deer Valley Drive / Park Avenue / Empire Avenue: LOS F in both AM and PM peak hours
 - This is caused by high congestion at the signal due to high volumes accessing various ski resorts and downtown Park City.

8.3 Mitigation Measures

The site plan for the concept master plan for Snow Park Village shows re-alignment and signalization of the Deer Valley Drive East / Deer Valley Drive West intersection, which will alter the westbound LOS at this intersection. Therefore, Fehr & Peers does not recommend any mitigation measures for future 2040 background conditions.

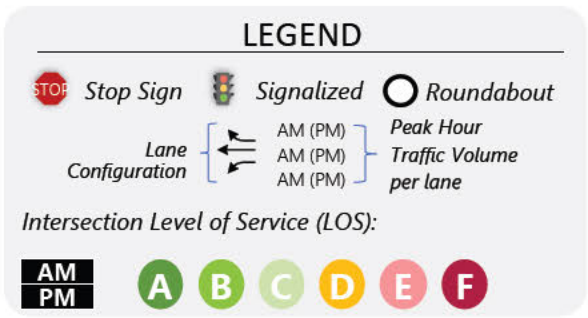
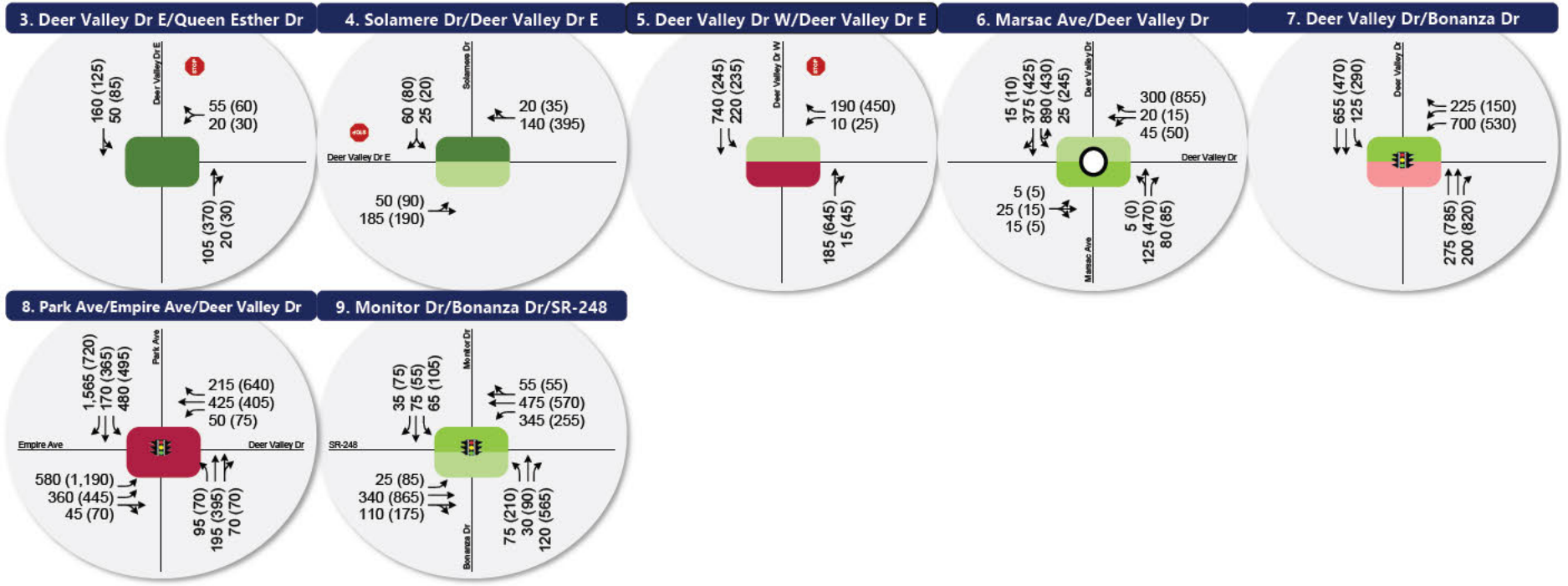
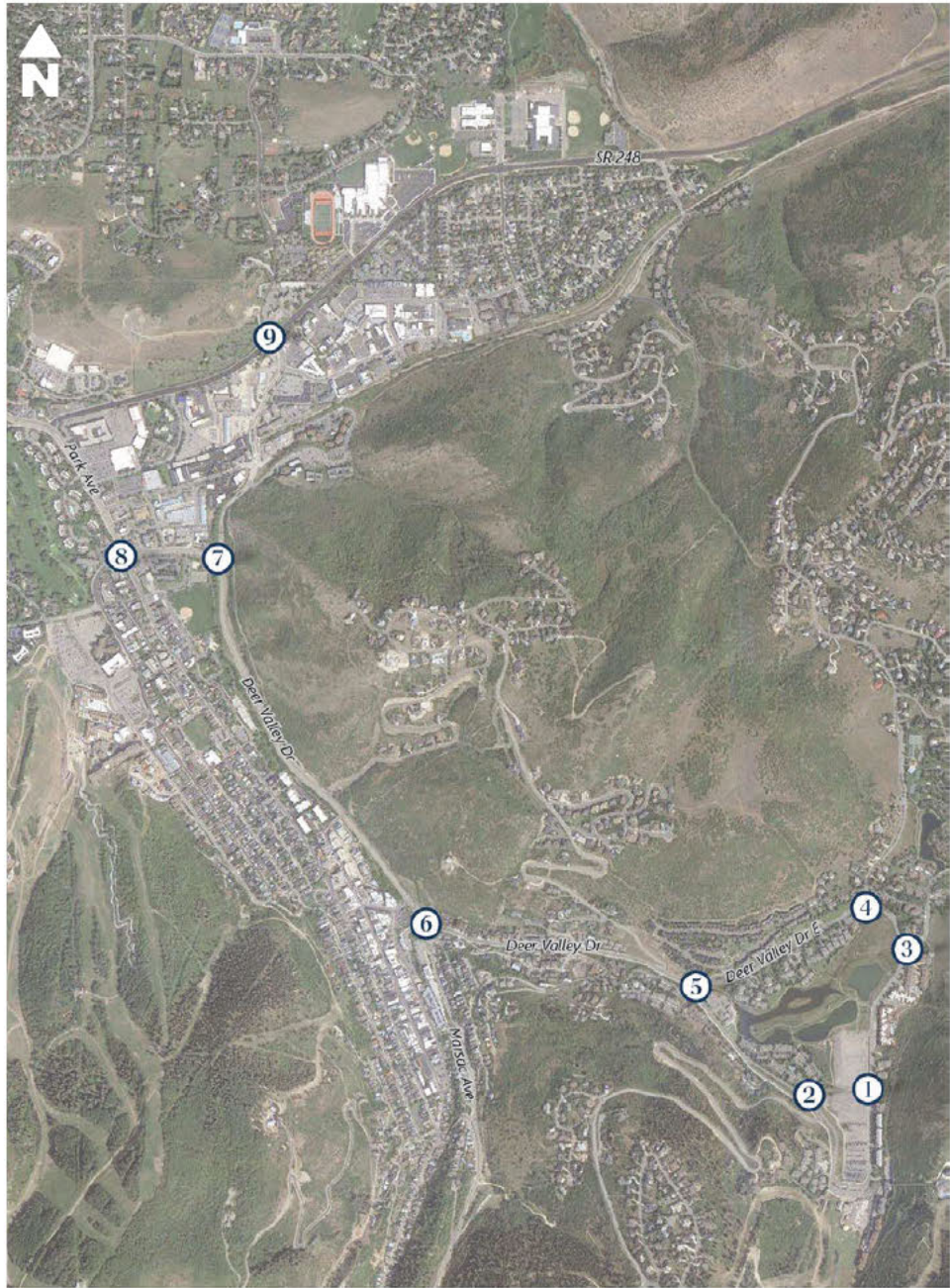


Figure 11
Future 2040 Background Saturday AM & PM Peak hour Traffic Conditions





9. Future 2040 plus Project Conditions

9.1 Purpose

The purpose of the future 2040 plus project conditions analysis is to evaluate the impact of the proposed development traffic on the surrounding roadway network in the year 2040. To analyze this impact, the projected 2040 Saturday AM and PM peak hour background traffic volumes were combined with volumes generated by the conceptual development for the Saturday AM and PM peak hours. Intersection LOS analyses were then performed and compared to the results of the background traffic volumes. This comparison shows the impact of the conceptual project in 2040.

9.2 Traffic Volumes

Project-generated traffic (**Figure 7**) was added to the future 2040 background volumes (**Figure 11**) to yield “future 2040 plus project” Saturday AM and PM peak hour traffic volumes at the study intersections as shown in **Figure 12**.

9.3 Level of Service Analysis

Using SimTraffic simulation software (for signalized and unsignalized intersections) and SIDRA software (for the roundabout) and the HCM 6 delay thresholds provided in the Introduction, future 2040 plus project Saturday AM and PM peak hour LOS were computed for each study intersection for the conceptual site development. The results of the analysis are reported in **Table 14** (see Appendix for the detailed LOS report).

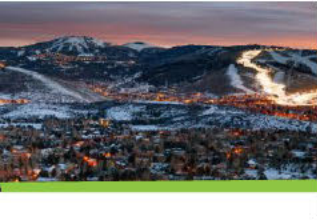


Table 14: Future 2040 plus Project Conditions Saturday AM & PM Peak Hour Level of Service

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	6	A
		PM		-	-	-	65	E
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC ⁴	NB Left	21	C	-	-
		PM		NB Left	32	D	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	7	A	-	-
		PM		WB Right	>300	F	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	10	B	-	-
		PM		SB Right	>300	F	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	SSSC	WB Left	29	D	-	-
		PM		WB Left	201	F	-	-
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	26	D
		PM		-	-	-	20	C
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	21	C
		PM		-	-	-	99	F
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	91	F
		PM		-	-	-	90	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	16	B
		PM		-	-	-	32	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle).
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.

As shown in **Table 14**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

- Doe Pass Road / Deer Valley Drive East: LOS E in the PM peak hour
 - The delays at this intersection stem from the queues extending from the Deer Valley Drive East / Deer Valley Drive West, causing northbound delays at this signal.
- Queen Esther Drive / Deer Valley Drive East: LOS F in the PM peak hour



- This is caused by the queues at the stop-controlled westbound approach at the Deer Valley Drive East / Deer Valley Drive West intersection extending past Queen Esther Drive, making it difficult for the southbound vehicles to turn onto Deer Valley Drive East.
- Deer Valley Drive East / Solamere Drive: LOS F in the PM peak hour
 - This is caused by the queues at the stop-controlled westbound approach at the Deer Valley Drive East / Deer Valley Drive West intersection extending past Solamere Drive, making it difficult for the southbound vehicles to turn onto Deer Valley Drive East.
- Deer Valley Drive East / Deer Valley Drive West: LOS F in the PM peak hour
 - This is caused by the high volumes of vehicles exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive West. The westbound approach is stop-controlled, making it difficult for vehicles to find a gap and turn onto Deer Valley Drive West.
- Deer Valley Drive / Bonanza Drive: LOS F in the PM peak hour
 - This is caused by vehicle queues spilling back to this intersection from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue.
- Deer Valley Drive / Park Avenue / Empire Avenue: LOS F in both AM and PM peak hours
 - This is caused by congestion at the signal due to high volumes accessing various ski resorts and downtown Park City.

It should be noted that the proposed Snow Park Village development introduces various support land uses intended to attract resort users to stay on-site after the ski resort peak hour. This will help distribute the peaking of traffic, reducing delays at the study intersections and roadways. Therefore, the results shown in **Table 14** are likely overstated.

9.4 Mitigation Measures

The Snow Park Village site plan includes realignment of the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection. The intersection is currently a “T”-intersection with free-flow movement north/south along Deer Valley Drive West / Deer Valley Drive, and a stop-control on the approach of Deer Valley Drive East. The proposed plan adds a signal at the intersection, as shown in **Figure 8**. Deer Valley Drive West will serve as a primary transit and auto route to access the proposed transit hub and the main P2 parking level entrance on Doe Pass Road and serve private vehicles accessing Royal Street and the Trail’s End community. Deer Valley Drive East will serve as the secondary vehicular route to access the Snow Park drop-off/pick-up area and parking structure accesses that includes day skier spaces, hotel, and residences.



To evaluate how the study intersections would operate if driving behaviors do not change despite development, the traffic distribution of the background traffic at the Deer Valley Drive East / Deer Valley Drive West intersection was not modified, and project traffic was added. This was assumed to account for the historical use patterns and direct routes to the parking garages. This resulted in traffic splits similar to existing conditions at the Deer Valley Drive East / Deer Valley Drive West intersection with roughly 25% using Deer Valley Drive East and roughly 75% using Deer Valley Drive West inbound in the AM peak hour, and roughly 40% using Deer Valley Drive East and roughly 60% using Deer Valley Drive West outbound in the PM peak hour.

Park City has a longstanding position of not mitigating certain deficient intersections within its boundaries due to the impacts of road widening and other potential mitigations to the community. As a result, potential mitigations at the intersections of Deer Valley Drive / Park Avenue / Empire Avenue, Bonanza Drive / Monitor Drive / SR-248 were not analyzed as part of this study and are therefore not included as recommendations. Further, deficiencies shown at the intersection of Deer Valley Drive / Bonanza Drive are not a result of project-generated trips or operations of the intersection itself; instead they stem from vehicle queues from the intersection of Deer Valley Drive / Park Avenue / Empire Avenue. As a result, mitigations at the intersection of Deer Valley Drive / Bonanza Drive are not recommended as part of this study. As stated earlier, Deer Valley Drive between the roundabout and SR-224 intersection is a UDOT facility. Any efforts to improve traffic will be led by UDOT.

The analysis results with the reconfigured Deer Valley Drive East / Deer Valley Drive West intersection are shown in **Table 15** (see Appendix for the detailed LOS report). As shown in **Table 15**, the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection operates at LOS B and LOS D in the AM and PM peak hour, respectively.

With increased traffic due to the development, the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections experience increased delays. As a mitigation, the Snow Park Village site plan includes new left-turn pockets at both the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections to improve traffic operations during peak periods and better facilitate inbound left turns, as well as a receiving lane to allow for two-stage left turns out of Solamere Drive and Queen Esther Drive.



Table 15: Future 2040 plus Project Mitigated Conditions Saturday AM & PM Peak Hour Level of Service

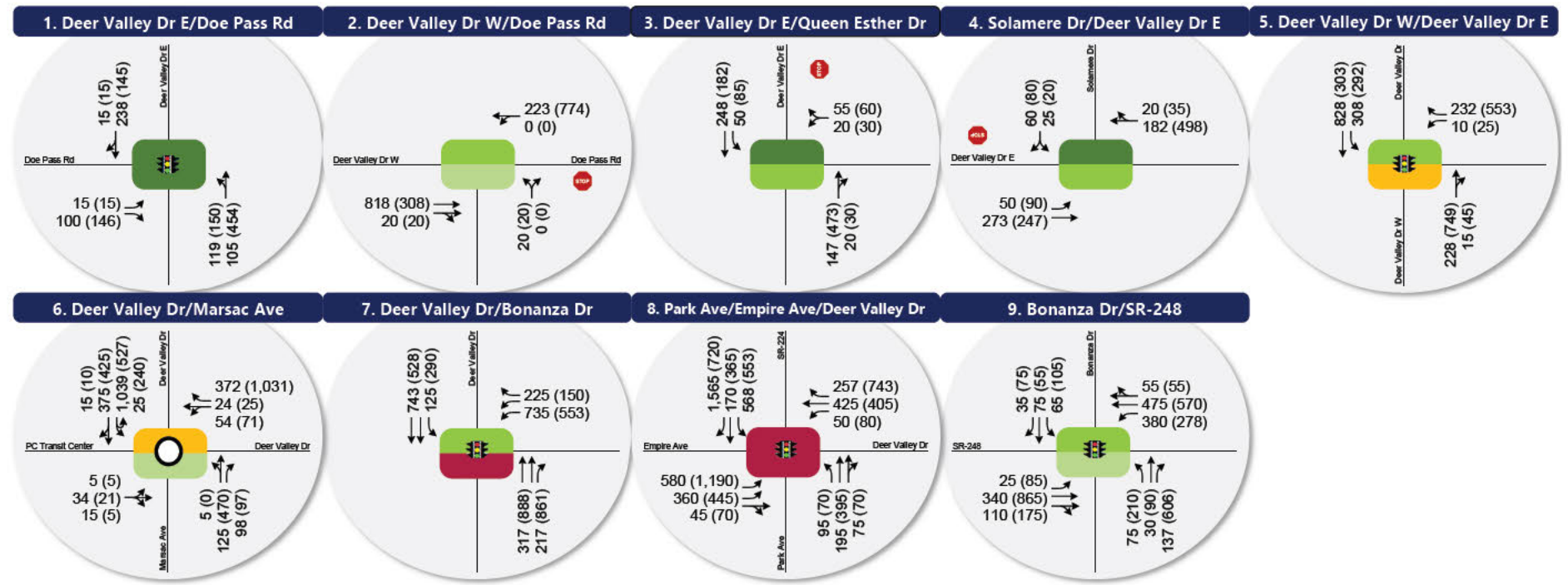
Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	5	A
		PM		-	-	-	8	A
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC ⁴	NB Left	13	B	-	-
		PM		NB Left	20	C	-	-
3	Queen Esther Dr / Deer Valley Dr East	AM	SSSC	WB Left	6	A	-	-
		PM		WB Left	11	B	-	-
4	Deer Valley Dr East / Solamere Dr	AM	SSSC	SB Left	7	A	-	-
		PM		SB Left	12	B	-	-
5	Deer Valley Dr / Deer Valley Dr East / Deer Valley Dr West	AM	Signal	-	-	-	11	B
		PM		-	-	-	44	D
6	Deer Valley Drive / Marsac Avenue	AM	Roundabout	-	-	-	26	D
		PM		-	-	-	20	C
7	Deer Valley Dr / Bonanza Dr	AM	Signal	-	-	-	14	B
		PM		-	-	-	117	F
8	Deer Valley Dr / Park Ave / Empire Ave	AM	Signal	-	-	-	84	F
		PM		-	-	-	89	F
9	Bonanza Dr / Monitor Dr / SR-248	AM	Signal	-	-	-	15	B
		PM		-	-	-	31	C

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle).
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.



LEGEND

Stop Sign
 Signalized
 Roundabout

Lane Configuration: AM (PM) } Peak Hour Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM
 A
 B
 C
 D
 E
 F

Figure 12
 Future 2040 Plus Project Saturday AM & PM Peak Hour Traffic Conditions



10. Roadway Analysis

The purpose of the roadway analysis is to document the Saturday peak hour roadway volumes to determine the LOS of the internal project roadways.

10.1 Analysis Results

The roadway LOS was calculated based on planning level generalized peak hour two-way volumes for roadway capacities, as shown in **Table 16**. These volumes are published by the Florida Department of Transportation (FDOT) based on planning applications of the HCM and are widely used for planning level evaluation of roadway capacity. **Table 16** shows the peak hour two-way capacity estimates for a 2-lane roadway in areas over 5,000 population not in urbanized areas.

Table 16: Roadway Level of Service Peak Hour Two-Way Traffic Thresholds

Level of Service	Peak Hour Traffic Capacity Estimates
	2 Lanes
LOS B or better	≤ 820
LOS C	821 – 1,550
LOS D	1,551 – 2,190
LOS E or worse	> 2,190

Source: Fehr & Peers, based on FDOT Generalized Peak Hour Two-Way Volumes for areas over 5,000 not in urbanized areas.

The same assumption used for previous analyses (similar traffic splits at the Deer Valley Drive East / Deer Valley Drive West intersection as current conditions) were applied for the roadway volumes.

Table 17 shows the peak hour roadway LOS analysis for each scenario. As shown in **Table 17**, all internal roadways are expected to operate at LOS C or better with the current 2-lane configuration for all scenarios.



Table 17: Snow Park Village Roadway LOS Analysis Summary

Scenario	Saturday Peak Hour	Deer Valley Dr W (South of Y- Intersection)		Deer Valley Dr E (East of Y- Intersection)	
		Two-Way Volume ¹	LOS	Two-Way Volume ¹	LOS
Existing	AM	650	A/B	400	A/B
	PM	800	A/B	620	A/B
Existing plus Project	AM	930	C	490	A/B
	PM	970	C	800	A/B
Opening Year 2024 plus Project	AM	950	C	500	A/B
	PM	990	C	810	A/B
Future 2040 plus Project	AM	1,090	C	570	A/B
	PM	1,130	C	920	C

1. Rounded up to the nearest 10.
Source: Fehr & Peers.

Existing roadway count sheets are included in the Appendix.



11. Site Circulation Analysis

The January 2022 Transportation Analysis reported conditions at external intersections, as well as the two proposed intersections on Doe Pass Road at Deer Valley Drive East and Deer Valley Drive West, which were analyzed in SimTraffic simulation software and SIDRA software. Furthermore, microsimulation analysis was conducted to evaluate on-site circulation as part of the proposed Snow Park Village. Due to the limitations of SimTraffic software in evaluating multimodal conditions and garage access operations, VISSIM microsimulation software was used for on-site circulation analysis.

11.1.1 Conditions and Assumptions

The parameters described below were used for analysis as assumptions in the VISSIM model:

11.1.1.1 Volumes

The following high-level assumptions were used to assign volumes to individual driveways and approach routing:

- 2040 Peak-hour volumes as presented in Section 9 of this study
- Trip generation as presented in Section 4 of this study
- Assumed roughly 75%/25% split of traffic using Deer Valley Drive West versus Deer Valley Drive East inbound in the AM peak hour (current patterns)
- Assumed roughly 60%/40% split of traffic using Deer Valley Drive West versus Deer Valley Drive East outbound in the PM peak hour (current patterns)
- Proportion of parking supply by garage level

The assumed intersection and driveway volumes are shown in **Figure 13**. Note that the lane configurations shown on the figure reflect proposed conditions, except for at the P2 and P3 garage accesses, which are proposed to have flex lanes that can be ingress or egress, depending on the peak hour and volume demand.

11.1.1.2 Parking Garage Gate Transaction

Based on input received from WGI, the parking garage design and operations consultant, the following parking garage gate transaction times were assumed in the model:

- Average of 4 seconds/vehicle for entry (this was assumed for conservative results, as the development is aiming for a system that would allow free-flow entry)
- Average of 10 seconds/vehicle for exit

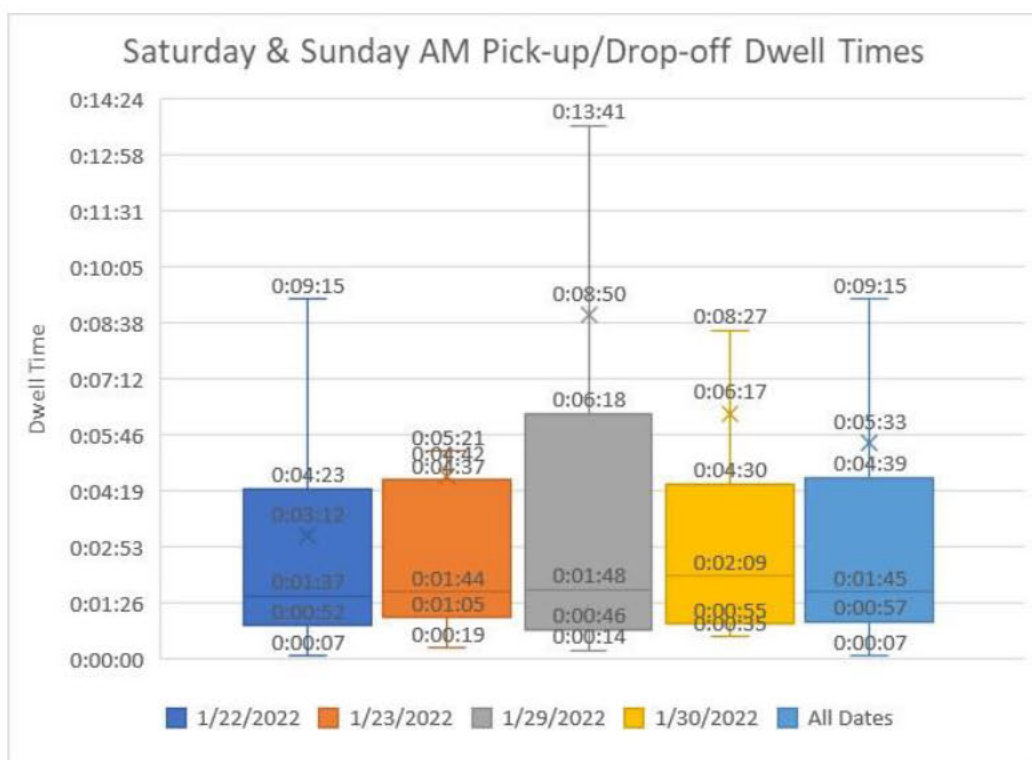


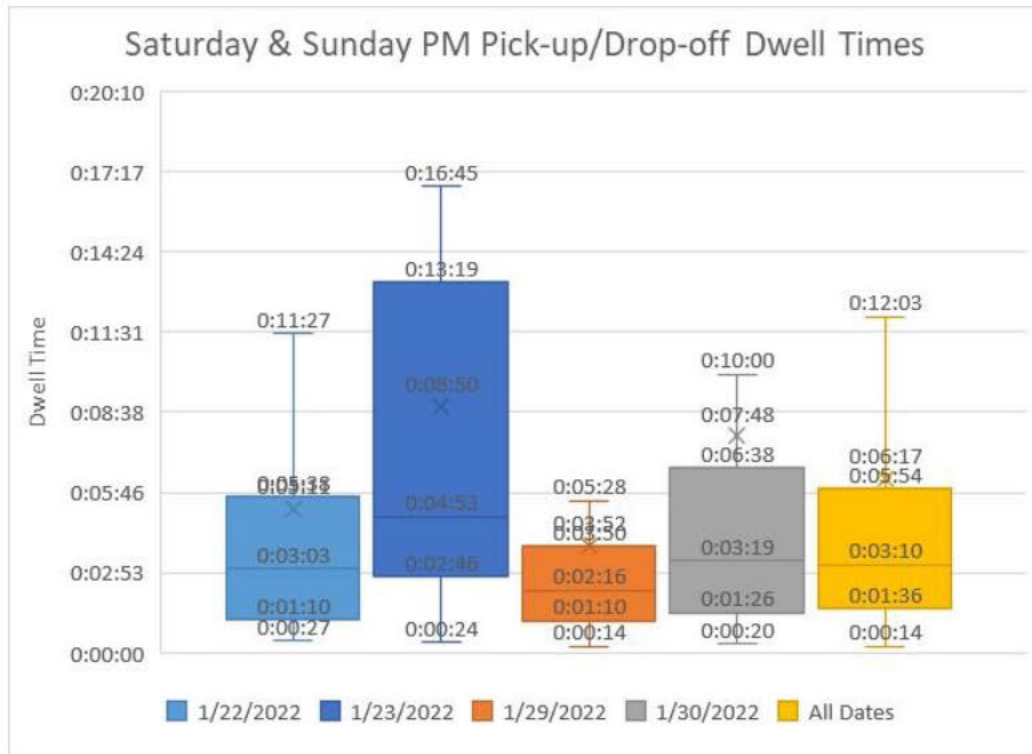
11.1.1.3 Pick-up/Drop-off

The following assumptions were made for the model regarding the proposed new pick-up/drop-off loop in front of Snow Park Lodge at the southern terminus of Deer Valley Drive East:

- 200 vehicles were allocated to use the pick-up/drop-off in both AM and PM peak hours
 - 100 vehicles as pick-up/drop-off
 - 50 vehicles as Transportation Network Company (TNC) users
 - 50 vehicles as Valet users

Video observations were recorded at the current Snow Park Lodge pick-up/drop-off as part of data collection for curbside and pedestrian activity in January 2022. These videos were used to observe a sample of dwell times for the pick-up/drop-off users to assist with the simulation modeling. The charts below show the dwell times for a sample of 100 vehicles and 95 vehicles in the weekend AM and PM peak hour, respectively. The AM peak hour dwell times ranged from 7 seconds to 1 hour 26 minutes 11 seconds, with a median of 1 minute 45 seconds. The PM peak hour dwell times ranged from 14 seconds to 1 hour 1 minute 9 seconds, with a median of 3 minutes 10 seconds. The VISSIM model was modified to reflect the dwell times from these samples at the proposed new pick-up/drop-off zone.





11.1.1.4 Other Considerations

To evaluate conditions under the most conservative analysis scenario, 2040 weekend AM and PM peak hours were analyzed.

11.1.2 Analysis Results

Intersection delay, Level of Service (LOS), and queueing results were evaluated in the VISSIM model at the following locations, as shown in **Figure 13**.

1. Doe Pass Road / P2 Parking Garage Access
2. Doe Pass Road / P1 Parking Garage Access
3. Doe Pass Road / Mobility Hub Entrance
4. Doe Pass Road / Mobility Hub Exit
5. P2 Parking Garage Access / Deer Valley Drive East
6. P3 Parking Garage Access / Deer Valley Drive East
7. P4 Parking Garage Access / Deer Valley Drive East
8. Snow Park Lodge Pick-up/Drop-off

The same analysis methodology (as described in the previous sections) was used for this analysis.



Table 18 below (see Appendix for the detailed LOS reports) shows the intersection delay and LOS results from the VISSIM simulation model. As shown in **Table 18**, all study intersections operate at acceptable LOS with the exception of the following locations:

- Doe Pass Road / Mobility Hub Exit: LOS E in the PM peak hour
 - This is caused by the stop control for the buses exiting the mobility hub onto Doe Pass Road.
- Snow Park Lodge Pick-up/Drop-off: LOS E in both AM and PM peak hours
 - This is caused by delays at the pick-up/drop-off zone that the VISSIM simulation has limitations in simulating efficient operations. This can likely be mitigated by efficient operations assisted by Deer Valley staff.



Table 18: Future 2040 Plus Project Conditions Saturday AM & PM Peak Hour Level of Service Site Circulation Results

Intersection				Worst Movement ¹			Overall Intersection ²	
ID	Location	Period	Control	Movement ³	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / P2 Parking	AM	SSSC	EB Right	12	B	-	-
		PM		NB Left	11	B	-	-
2	Doe Pass Rd / P1 Parking	AM	SSSC	NB Left	9	A	-	-
		PM		NB Left	10	B	-	-
3	Doe Pass Rd / Mobility Hub Entrance	AM	SSSC	WB Left	2	A	-	-
		PM		EB Right	3	A	-	-
4	Doe Pass Rd / Mobility Hub Exit	AM	SSSC	NB Right	33	D	-	-
		PM		NB Left	37	E	-	-
5	P2 Parking / Deer Valley Dr East	AM	SSSC	EB Left	9	A	-	-
		PM		EB Left	6	A	-	-
6	P3 Parking / Deer Valley Dr East	AM	SSSC	SB Through	5	A	-	-
		PM		EB Left	9	A	-	-
7	P4 Parking / Deer Valley Dr East	AM	SSSC	SB Through	17	C	-	-
		PM		EB Right	23	C	-	-
8	Snow Park Lodge Pick-up/Drop-off	AM	-	SB Through	44	E	-	-
		PM		SB Through	44	E	-	-

Notes:

Bold text indicates intersections operating below Park City's acceptable LOS threshold.

1. This represents the worst approach LOS and delay (seconds/vehicle) and is only reported for side-street stop controlled intersections.
2. This represents the overall intersection LOS and delay (seconds/vehicle) and is only reported for signalized intersections and all-way stop controlled intersections.
3. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
4. Side-street stop control.

Source: Fehr & Peers.

11.1.2.1 Sensitivity Analysis

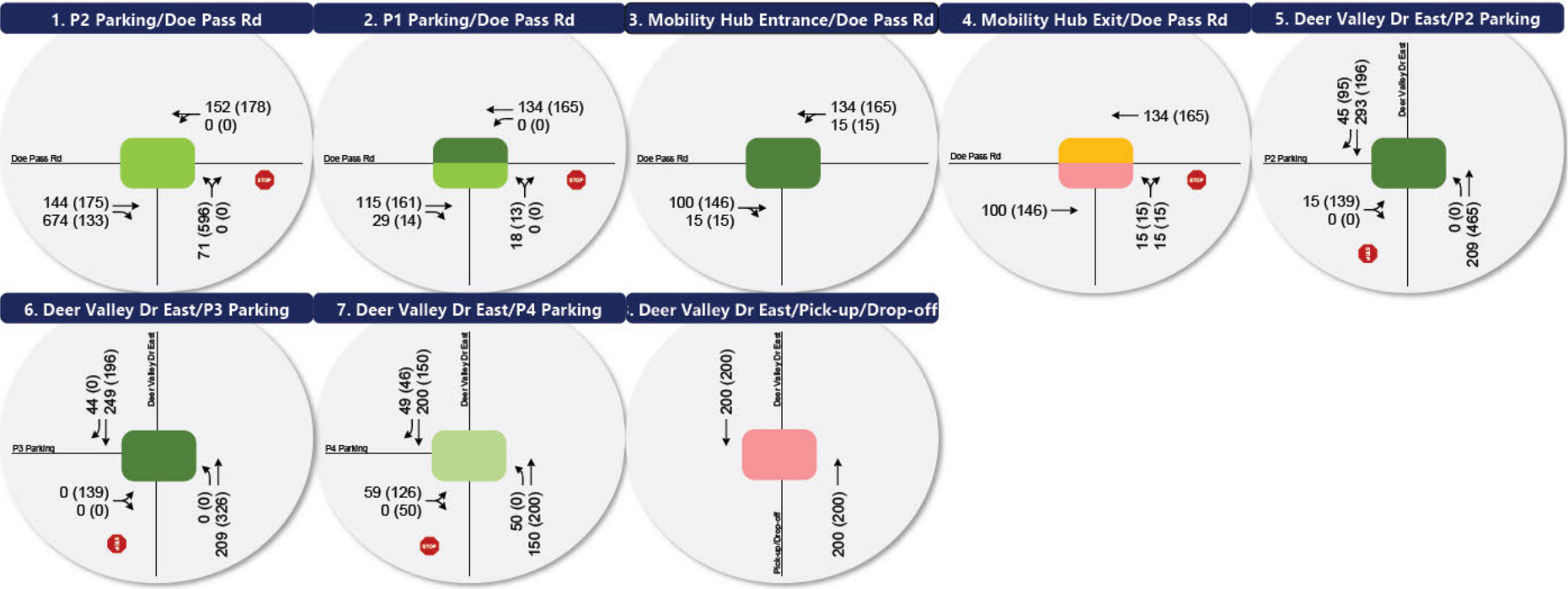
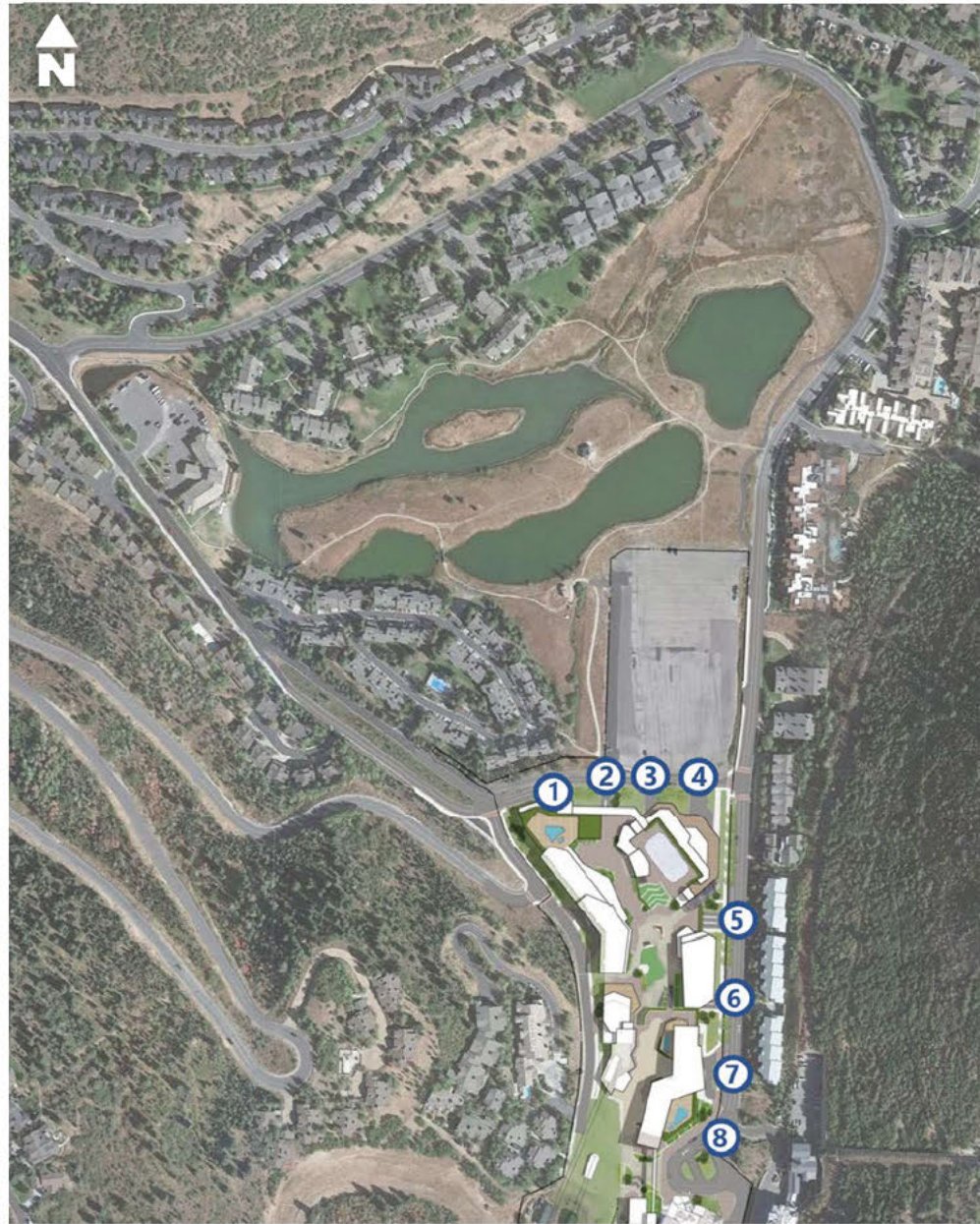
As described throughout this report, assumptions of traffic distribution at the Deer Valley Drive East / Deer Valley Drive West were made based on patterns similar to current conditions. It is likely that based on driver behavior and expectation, the actual traffic distributions will be different at the time of opening and in subsequent weeks, months, and years as preferences are established and transportation options evolve.

A sensitivity analysis shows that in the AM peak hour, the P2 access on Doe Pass Road becomes a constraint that potentially causes congestion, with inbound queues backing up onto Deer Valley Drive West under traffic conditions similar to the existing conditions (roughly 80% entering via Deer Valley Drive West).



Operations at this key driveway also depend on the transaction time for entry (assumed to be 4 seconds for the purpose of microsimulation analysis in this report, which was validated by a national parking operations consultant). As this entry transaction time is reduced due to improved technology or adjustments to when and how parking is paid for and validated, traffic distributions at the "Y" intersection have less effect on traffic operations.

To provide efficient and safe traffic circulation on-site and on the Deer Valley Drive Loop, Deer Valley and Snow Park Village will be committed to provide extensive wayfinding and traffic monitoring, especially to improve inbound operations where visitors will be informed whether to travel on Deer Valley Drive West or Deer Valley Drive East.



LEGEND

Stop Sign
 Signalized
 Roundabout

Lane Configuration: AM (PM) Traffic Volume per lane

Intersection Level of Service (LOS):

AM PM
 A
 B
 C
 D
 E
 F

Figure 13
2040 Site Circulation Analysis Intersection LOS Results





Table 19 (see Appendix for the detailed queue report) below shows the average maximum queue for each approach at the study intersections. The following lists locations that the average maximum queue is expected to exceed the storage length in the AM peak hour:

- Doe Pass Road / P2 Parking
 - Eastbound queues occasionally extend past the Doe Pass Road / Deer Valley Drive West intersection. This queue is caused by queue spillback beginning at the gate to enter the P2 Parking Garage Access and the high inbound volumes in the AM peak hour.
- Doe Pass Road / Mobility Hub Entrance
 - Westbound queues occasionally extend past the mobility hub exit. The average queue, however, is 1 feet, and the queue spillback is not expected to be a common occurrence.
- Doe Pass Road / Mobility Hub Exit
 - Westbound queues occasionally extend past the Doe Pass Road / Deer Valley Drive East intersection. The average queue, however, is 2 feet, and the queue spillback is not expected to be a common occurrence.

The following lists locations that the average maximum queue is expected to exceed the storage length in the PM peak hour:

- Doe Pass Road / Deer Valley Drive East
 - Eastbound queues occasionally extend past the Mobility Hub Exit. The average queue, however, is 2 feet, and the queue spillback is not expected to be a common occurrence.
- Doe Pass Road / Mobility Hub Entrance
 - Westbound queues occasionally extend past the mobility hub exit. The average queue, however, is less than 1 feet, and the queue spillback is not expected to be a common occurrence.
- Doe Pass Road / Mobility Hub Exit
 - Westbound queues occasionally extend past the Doe Pass Road / Deer Valley Drive East intersection. The average queue, however, is 2 feet, and the queue spillback is not expected to be a common occurrence.
- Deer Valley Drive East / Deer Valley Drive West



- The simulation shows average maximum queues of over 500 feet for the westbound approach at the new signal. This queue however is not expected to reach the Solamere Drive intersection, especially with signal operations to assist in flushing out the heavy outbound movement via Deer Valley Drive East.



Table 19: Future 2040 Plus Project Conditions Saturday AM & PM Peak Hour Queues Site Circulation Analysis

Intersection				Average Maximum Queues (feet) ²
ID	Location	Period	Approach ¹	
1	Doe Pass Rd / Deer Valley Dr East	AM	NB	75
			SB	175
			EB	100
		PM	NB	250
			SB	125
			EB	125
2	Doe Pass Rd / Deer Valley Dr West	AM	NB	50
			EB	375
			WB	25
		PM	NB	50
			EB	25
			WB	75
3	Queen Esther Dr / Deer Valley Dr East	AM	NB	0
			SB	25
			WB	100
		PM	NB	0
			SB	25
			WB	100
4	Deer Valley Dr East / Solamere Dr	AM	SB	50
			EB	0
			WB	50
		PM	SB	50
			EB	0
			WB	50
5	Deer Valley Dr East / Deer Valley Dr West	AM	NB	275
			SB	300
			WB	125
		PM	NB	525
			SB	175
			WB	350
6	Doe Pass Rd / P2 Parking	AM	NB	125
			EB	250
			WB	0



Intersection				Average Maximum Queues (feet) ²
ID	Location	Period	Approach ¹	
7	Doe Pass Rd / P1 Parking	PM	NB	125
			EB	75
			WB	0
		AM	NB	100
			EB	0
			WB	0
		PM	NB	100
			EB	0
			WB	0
8	Doe Pass Rd / Mobility Hub Entrance	AM	EB	0
			WB	125
		PM	EB	25
			WB	125
9	Doe Pass Rd / Mobility Hub Exit	AM	NB	150
			EB	25
			WB	125
		PM	NB	150
			EB	25
			WB	125
10	P2 Parking / Deer Valley Dr East	AM	NB	0
			SB	25
			EB	75
		PM	NB	25
			SB	0
			EB	125
11	P3 Parking / Deer Valley Dr East	AM	NB	50
			SB	75
			EB	0
		PM	NB	75
			SB	50
			EB	125
12	P4 Parking / Deer Valley Dr East	AM	NB	0
			SB	25
			EB	100
		PM	NB	125



Intersection				Average Maximum Queues (feet) ²
ID	Location	Period	Approach ¹	
13	Snow Park Lodge Pick-up/Drop-off		SB	0
			EB	150
		AM	NB	25
			SB	100
		PM	NB	225
			SB	100

Notes:

1. NB=Northbound, SB=Southbound, EB=Eastbound, WB=Westbound
2. Rounded up to nearest 25'.

Source: Fehr & Peers.

It should be noted that the LOS results and queue results shown in **Table 18** and **Table 19** capture the delays and queues at the side-streets for vehicles turning onto the major road. However, it does not capture the delays and queues for vehicles experienced at the parking gate due to the assumed transaction time. The VISSIM simulation indicates that with the assumed gate transaction times, vehicles are expected to experience over 100 seconds of delay per vehicle to exit the garage in the PM peak hour, with potentially long internal queues.



Figure 14
2040 Site Circulation Analysis Queue Results



12. Parking Analysis

A fundamental aspect of the Snow Park Village proposal is the implementation of a constrained, structured parking supply that will require parkers to pay a daily fee. This strategy is seen as a key disincentive to traveling in Park City by single-occupant vehicle, and aligns with the City's broader mobility goals. However, Snow Park Village proposes no reductions to the parking supply and will build to the Park City LMC requirements.

12.1 Analysis Method

For the shared parking analysis of the updated land use plan, the development is proposed to include 11 buildings which include the following land uses (taken from the land use program dated October 26, 2021):

- 30,900 square feet of ballroom/event center space
- 143 multifamily housing units
- 193 hotel rooms with 4,500 square feet of hotel support uses.
- 25,900 square feet of commercial/retail space

The development is also proposed to include the Deer Valley Ski resort and other land uses in support of the resort. It should be noted that the land uses supporting the ski resort will not be parking generators; rather, the ski resort will be the parking generator, and the support land uses serve as accessories to the resort.

In The most recent submittal (November 2022), Fehr & Peers applied reductions to the recommended parking due to paid parking and shared parking. However, Snow Park Village now proposes to build the full parking supply required by the Park City LMC. From the proposed land uses that generate parking demand as listed above, and the recommended rates from the Park City zoning code, the minimum required parking supply was calculated to be 2,236 stalls.

Table 20 outlines the number of recommended stalls with recommended rates from the Park City zoning code, and the number of stalls proposed by Snow Park Village. Parking calculations are attached in the Appendix. As shown in **Table 20**, the proposed parking supply is sufficient for the proposed land use program. It should be noted that phasing and ongoing refinement of the land use program may adjust the base parking rates and recommendations.



Table 20: Snow Park Village Parking Analysis Summary

Base Recommended Stalls	Proposed Stalls
2,236	2,262

Source: Fehr & Peers

12.2 Parking Management

An effective and efficient parking management system is essential to maintain both a high-quality user experience and to minimize traffic impacts on adjacent roadways. An essential element to improve the efficiency of structured parking is to provide real time information regarding parking availability. In addition to implementing payment technology that expedites vehicle ingress at all driveways, Deer Valley will work with relevant partners to ensure more complete information is available to parkers.

The Snow Park Parking Management Plan is included in **Attachment B**.



13. Transit Evaluation

This section includes an evaluation of existing transit service and infrastructure, proposed transit improvements, and description of how the Snow Park Village proposal aligns with Park City's *Transit First* policy.

13.1.1 Existing Transit Service

In addition to a multitude of private shuttles and buses, there are two public transit operators providing transit service to and from Deer Valley: Park City Transit and High-Valley Transit. High Valley Transit operates one route that services Deer Valley:

- 101 – Spiro / 224 Local that services Deer Valley.

Park City Transit operates six routes the service Deer Valley:

- 1 Red: Prospector Square – Deer Valley
- 2 Green: Park Meadows/Thaynes Canyon – Deer Valley
- 3 Blue: Thaynes Canyon/Park Meadows – Deer Valley
- 5 Yellow: Prospector Square – Deer Valley
- 40 Bronze: Main Street – Royal Street – Silver Lake Lodge
- 50 Teal: Prospector Square – Deer Valley

Park City Transit Park City Transit is undergoing a short-range service plan update, with potential changes in transit service to and from Deer Valley expected in the coming year.

Local bus stops are provided along both sides of Deer Valley Drive East and Deer Valley Drive West, allowing transit riders to board buses that are Deer Valley- or Old Town-bound. At the southern end of the Deer Valley Drive loop closest to the existing Snow Park base area, there are bi-directional bus stops that can accommodate up to four buses at once. Aside from the existing bi-directional stops at Snow Park, bus stops do not include shelters. Buses providing service to Deer Valley travel in mixed traffic.

13.2 Proposed Transit Improvements

A proposed six bus-bay mobility hub at the northeast corner of Snow Park Village will provide a comfortable and appealing transit facility on-site that provides direct access to the project and relocated ski lift bases. The mobility hub will also include accommodations for cyclists and allow for electric bus charging



infrastructure. This mobility hub will allow for increased frequency of transit service which will be essential to incentivizing transit service.

To further support transit service as part of the Snow Park Village proposal, a new traffic signal with transit preemption capabilities is proposed at the Doe Pass Road / Deer Valley Drive East intersection. This will help ensure that transit vehicles accessing and exiting the proposed mobility hub with limited conflicting traffic.

Furthermore, this circulation plan includes a proposed seasonal one-way Shared Mobility Lane (SML) inbound from the Deer Valley Drive East / Deer Valley Drive West intersection along Deer Valley Drive West, accessing the mobility hub. Outbound transit traffic will have the SML which parallels general purpose traffic around the loop on Deer Valley Drive East to the Deer Valley Drive East / Deer Valley Drive West intersection. After ski season during the summer months, the SML will be open to bicycle traffic. Management, maintenance, and enforcement, year-round, will be a City responsibility.

The VISSIM simulation presented previously in chapter 11 simulates the SML and captures the impacts of the design. The simulation shows traffic circulation with minimal delays with the proposed configuration in peak ski season conditions. Because of the lack of congestion, the buses simulated in this analysis travel in near free-flow conditions. This was due to the models being calibrated to typical travel times. Bus and vehicle travel time measurements were provided by Deer Valley and Park City, which showed several outlier days with excessive travel times. However, the calibrated VISSIM model travel times were closer to the median travel times observed from the data. The Shared Mobility Lane proposed in this alternative will likely improve bus travel times in more congested conditions, such as special events, snow conditions, etc.



14. Transportation Demand Management

Park City, through its ongoing Transportation Master Plan update, has identified the laudable and ambitious goal of reducing vehicle trips by 20% throughout Park City. The City is tackling this challenge through a variety of strategies, including but not limited to the following:

- Updates to the local and regional transit system
- Coordination with partner agencies to implement greater park-and-ride capacity
- Expansion of high-quality active transportation facilities throughout Park City
- Partnerships with private developments to implement and operate comprehensive Transportation Demand Management (TDM) programs

Furthering the City's broader trip reduction goal, Deer Valley will continue to operate its TDM program, and expand on current offerings, to better align with the adopted PCMC TDM Plan (2016). A high-level summary of the Deer Valley TDM Plan is shown below in **Table 21**.

Table 21: Deer Valley TDM Measures

Measure	Status	Description
Transit pass subsidy	Existing Program	Subsidized UTA transit passes for Deer Valley employees living in Salt Lake Valley and Utah Valley
Bicycle Amenities and Perks	New Program	Bicycle repair tools and dedicated bicycle parking at key locations
Education and Promotion	Existing Program	Educational and promotional events to encourage travelers to use by modes other than driving alone.
Parking Management	New Program	Efficient, constrained, and priced parking to discourage drive-alone trips
Employee Transit	Existing Program	Operate designated employee transit to facilitate efficient employee commutes through an appealing alternative until such time as Park City Transit and/or High Valley Transit meets this need
Real-Time Messaging	New Program	Communicate traffic conditions in real time to travelers
Appoint a TDM Coordinator	New Program	Identify a staff member to oversee the TDM program

Source: Fehr & Peers.



14.1 TDM Monitoring

As the transportation landscape in Park City and Summit County changes, monitoring the use and effectiveness of Deer Valley's TDM program will be crucial to its success. In alignment with requests from Park City staff, Deer Valley will implement an annual monitoring program consisting of the following elements:

- One nine day period of vehicle counts at all Snow Park Village driveways, to be analyzed and summarized by a third-party consultant. This data will be analyzed and summarized by a third-party consultant;
- Average vehicle occupancy collected on one weekday and one weekend day, collected by a third-party vendor, to be analyzed and summarized by a third-party consultant;
- A permanent traffic count station implemented at the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection, installed and maintained by Deer Valley for year-round monitoring of traffic conditions;
- Ski season transit ridership, summarized at the stop and daily levels and provided by transit operators, to be analyzed and summarized by a third-party consultant;
- Available data regarding program utilization from the *Ride On Park City* platform, to be analyzed and summarized by a third-party consultant.

Analysis of this data will be submitted in an annual monitoring memorandum for City staff review and will be supported by semiannual coordination meetings with City staff and other major employers in Park City. This monitoring program will be used to enhance program offerings and avoid redundancy of service where public and private options overlap.

14.2 Regional Considerations

Park City Municipal Corporation has a stated goal of reducing traffic volumes by 20% from existing traffic volumes (the specific, reference time period is to-be-defined). Deer Valley has operated an effective and comprehensive TDM program for years in support of this goal, and the proposed opening of an additional portal to Deer Valley via Mayflower Resort will improve access to Deer Valley to any skiers visiting from the Wasatch Front or Back and not require a trip through Park City. While this change will not solve all of Park City's traffic challenges, it will likely divert a substantial portion of traffic destined for Deer Valley.

The Deer Valley TDM Plan is presented in full in **Attachment C**.



15. Conclusion/Recommendations

With proposed mitigations in place, all study intersections at which mitigations are feasible and supported by the community operate at acceptable levels of service under all Plus Project analysis scenarios. Through dedicated transit infrastructure, improved active transportation connections between the Project and Park City's existing active transportation network, a fully reworked parking system, and management of ongoing TDM offerings in addition to new measures, the Snow Park Village proposal aligns with the City's *Transit First* policy by encouraging travel by means other than driving alone.

Implementing a new traffic signal with transit preemption at the intersection of Doe Pass Road / Deer Valley Drive East will improve traffic operations and support transit. A new traffic signal at the reconfigured Y intersection of Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West facilitates safer and more efficient movement for all modes. Implementing an off-street, multi-use path around the Deer Valley Drive loop will improve pedestrian and cyclist connectivity adjacent to the project site. Ongoing monitoring of TDM program effectiveness will maintain City-Deer Valley cooperation in pursuit of shared goals.



Appendix

L2 Data Collection

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Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D1
Site Code : Day 1
Start Date : 2/15/2020
Page No : 1

Groups Printed- General Traffic

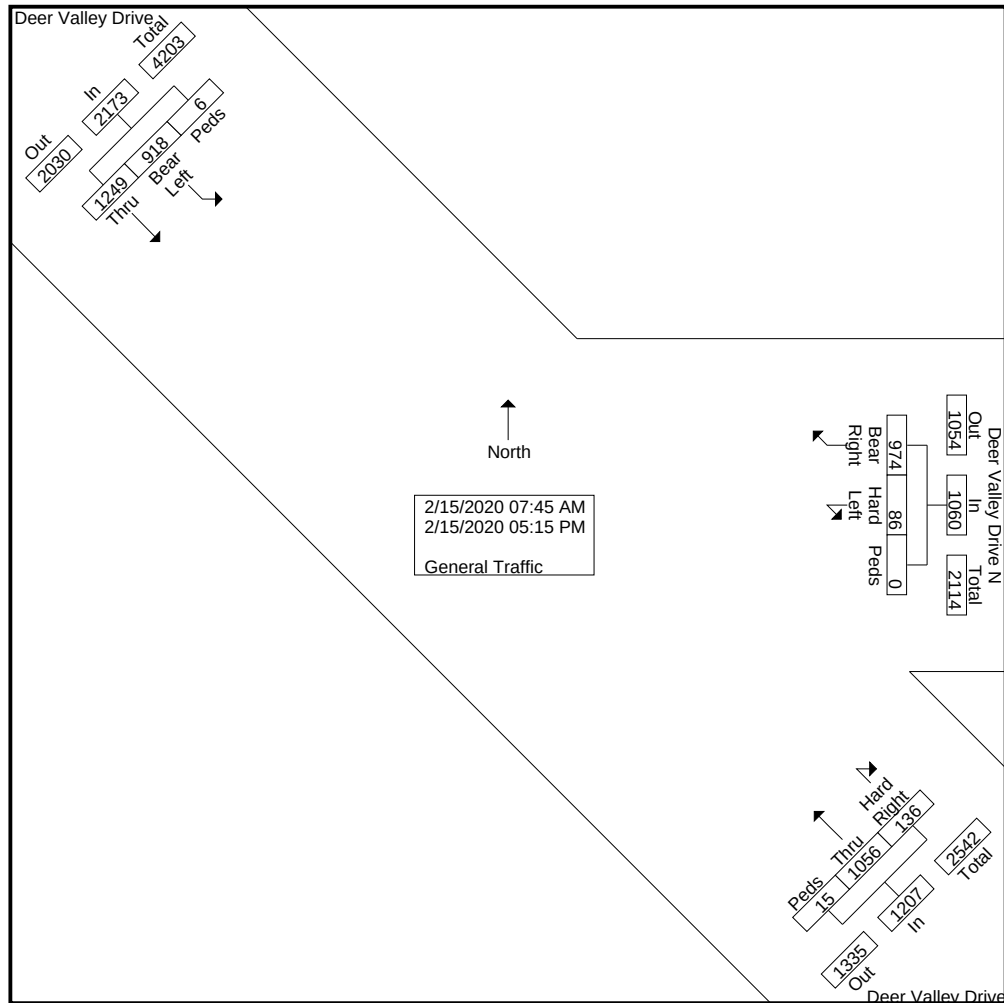
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	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	
07:45 AM	71	123	0	194	19	4	0	23	2	18	0	20	237
Total	71	123	0	194	19	4	0	23	2	18	0	20	237
08:00 AM	110	101	0	211	34	2	0	36	5	21	1	27	274
08:15 AM	124	70	0	194	29	2	0	31	5	26	0	31	256
08:30 AM	117	55	0	172	53	10	0	63	4	29	0	33	268
08:45 AM	125	46	0	171	48	7	0	55	6	32	4	42	268
Total	476	272	0	748	164	21	0	185	20	108	5	133	1066
09:00 AM	111	35	0	146	54	7	0	61	2	31	0	33	240
09:15 AM	94	27	0	121	51	6	0	57	4	31	0	35	213
09:30 AM	77	42	0	119	55	13	0	68	4	43	0	47	234
Total	282	104	0	386	160	26	0	186	10	105	0	115	687
03:30 PM	81	47	0	128	67	4	0	71	13	69	0	82	281
03:45 PM	55	50	0	105	81	7	0	88	16	98	3	117	310
Total	136	97	0	233	148	11	0	159	29	167	3	199	591
04:00 PM	66	41	0	107	83	8	0	91	11	130	0	141	339
04:15 PM	46	49	6	101	73	3	0	76	18	155	0	173	350
04:30 PM	46	68	0	114	104	2	0	106	13	109	1	123	343
04:45 PM	54	58	0	112	71	5	0	76	13	91	2	106	294
Total	212	216	6	434	331	18	0	349	55	485	3	543	1326
05:00 PM	42	51	0	93	89	2	0	91	11	95	4	110	294
05:15 PM	30	55	0	85	63	4	0	67	9	78	0	87	239
Grand Total	1249	918	6	2173	974	86	0	1060	136	1056	15	1207	4440
Apprch %	57.5	42.2	0.3		91.9	8.1	0		11.3	87.5	1.2		
Total %	28.1	20.7	0.1	48.9	21.9	1.9	0	23.9	3.1	23.8	0.3	27.2	

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File Name : Deer Valley Dr & Deer Valley Dr N - D1
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Start Date : 2/15/2020
Page No : 2



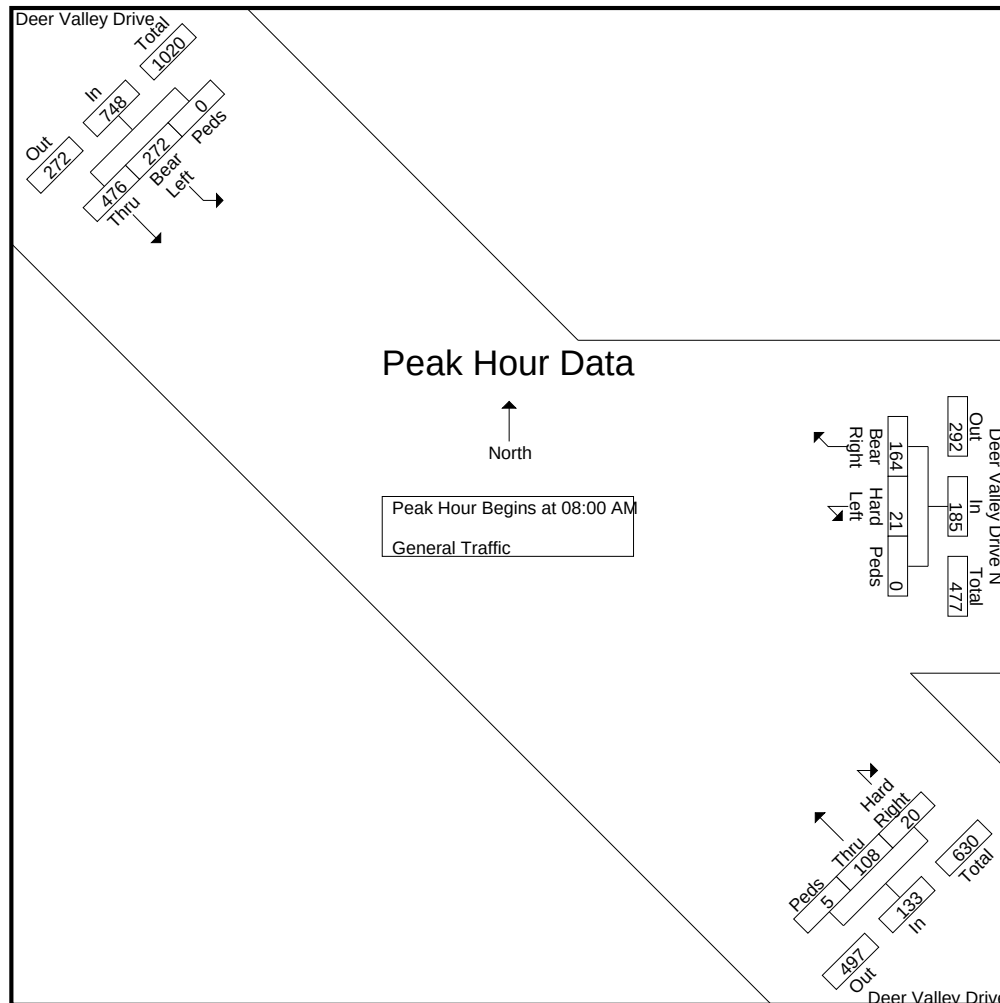
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Site Code : Day 1
Start Date : 2/15/2020
Page No : 3

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
08:00 AM	110	101	0	211	34	2	0	36	5	21	1	27	274
08:15 AM	124	70	0	194	29	2	0	31	5	26	0	31	256
08:30 AM	117	55	0	172	53	10	0	63	4	29	0	33	268
08:45 AM	125	46	0	171	48	7	0	55	6	32	4	42	268
Total Volume	476	272	0	748	164	21	0	185	20	108	5	133	1066
% App. Total	63.6	36.4	0		88.6	11.4	0		15	81.2	3.8		
PHF	.952	.673	.000	.886	.774	.525	.000	.734	.833	.844	.313	.792	.973



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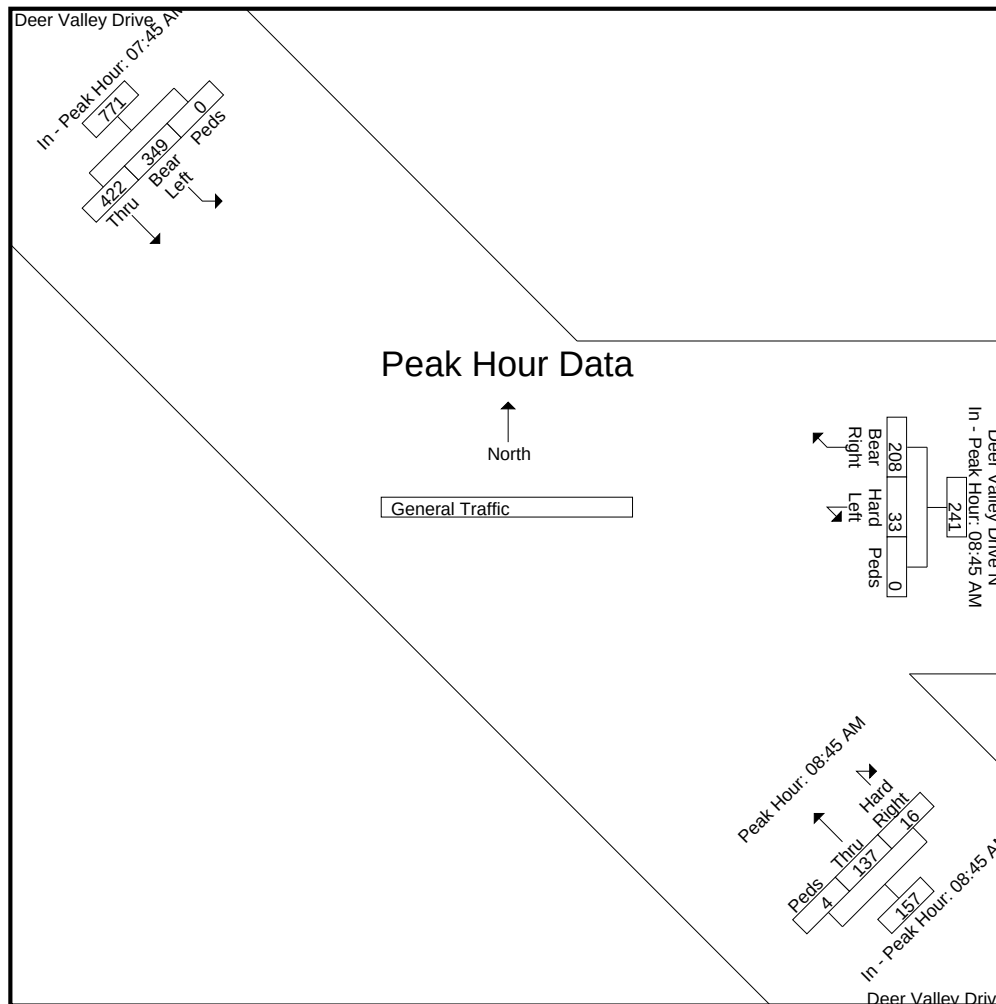
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Site Code : Day 1
Start Date : 2/15/2020
Page No : 4

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total

Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM				08:45 AM				08:45 AM			
+0 mins.	71	123	0	194	48	7	0	55	6	32	4	42
+15 mins.	110	101	0	211	54	7	0	61	2	31	0	33
+30 mins.	124	70	0	194	51	6	0	57	4	31	0	35
+45 mins.	117	55	0	172	55	13	0	68	4	43	0	47
Total Volume	422	349	0	771	208	33	0	241	16	137	4	157
% App. Total	54.7	45.3	0		86.3	13.7	0		10.2	87.3	2.5	
PHF	.851	.709	.000	.914	.945	.635	.000	.886	.667	.797	.250	.835



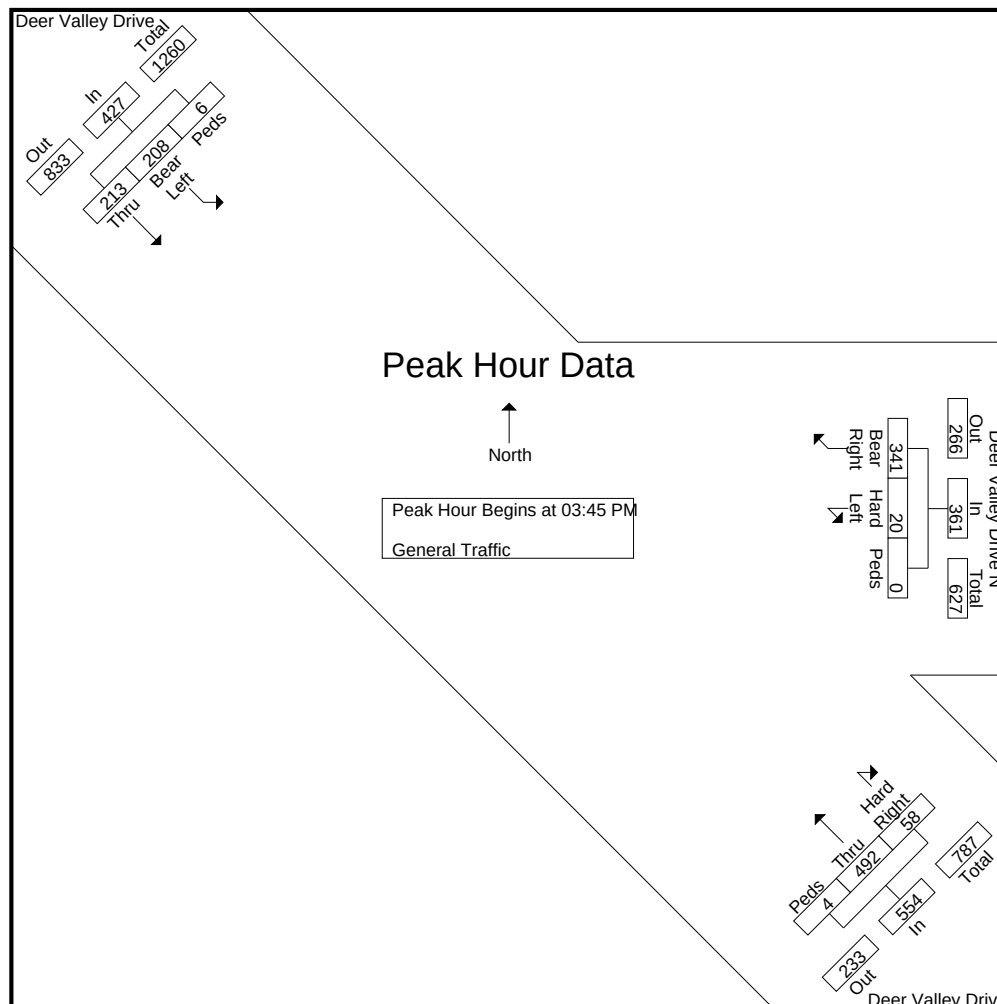
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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
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File Name : Deer Valley Dr & Deer Valley Dr N - D1
Site Code : Day 1
Start Date : 2/15/2020
Page No : 5

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	55	50	0	105	81	7	0	88	16	98	3	117	310
04:00 PM	66	41	0	107	83	8	0	91	11	130	0	141	339
04:15 PM	46	49	6	101	73	3	0	76	18	155	0	173	350
04:30 PM	46	68	0	114	104	2	0	106	13	109	1	123	343
Total Volume	213	208	6	427	341	20	0	361	58	492	4	554	1342
% App. Total	49.9	48.7	1.4		94.5	5.5	0		10.5	88.8	0.7		
PHF	.807	.765	.250	.936	.820	.625	.000	.851	.806	.794	.333	.801	.959



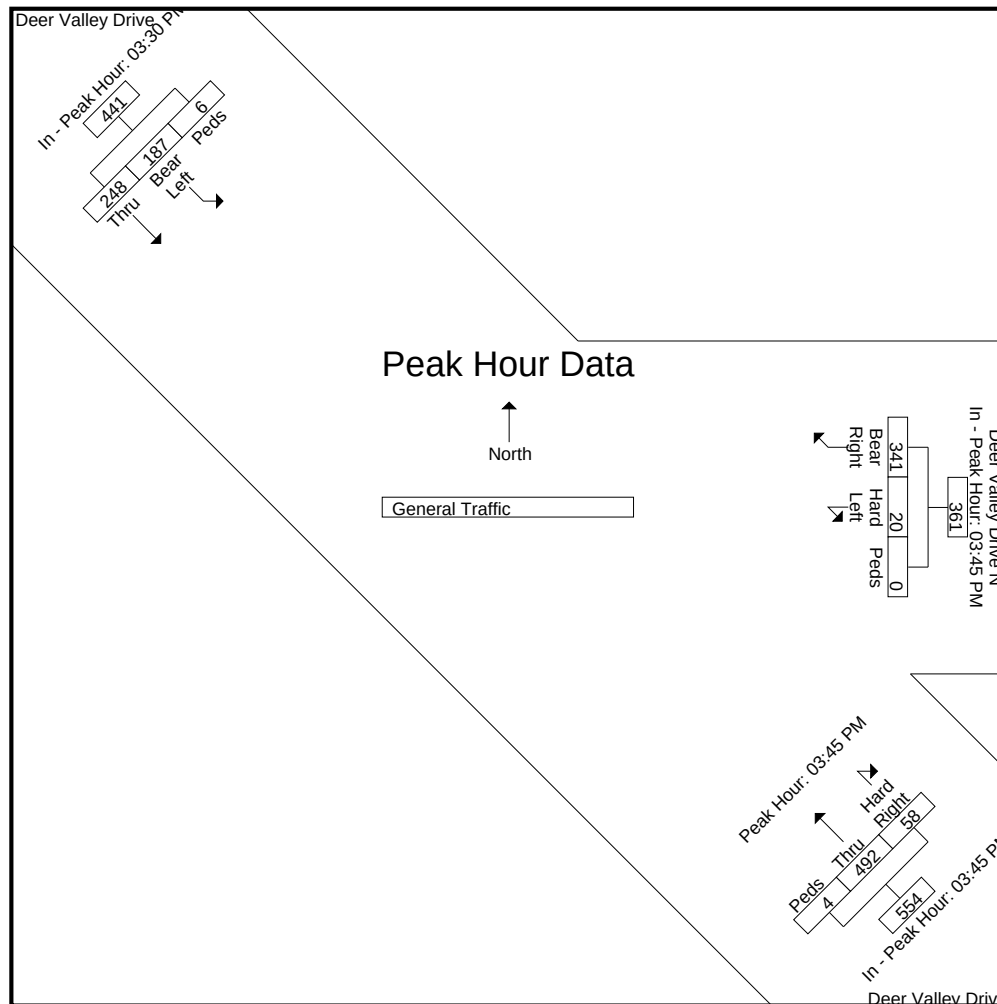
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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
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Site Code : Day 1
Start Date : 2/15/2020
Page No : 6

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	03:30 PM				03:45 PM				03:45 PM				
+0 mins.	81	47	0	128	81	7	0	88	16	98	3	117	
+15 mins.	55	50	0	105	83	8	0	91	11	130	0	141	
+30 mins.	66	41	0	107	73	3	0	76	18	155	0	173	
+45 mins.	46	49	6	101	104	2	0	106	13	109	1	123	
Total Volume	248	187	6	441	341	20	0	361	58	492	4	554	
% App. Total	56.2	42.4	1.4		94.5	5.5	0		10.5	88.8	0.7		
PHF	.765	.935	.250	.861	.820	.625	.000	.851	.806	.794	.333	.801	



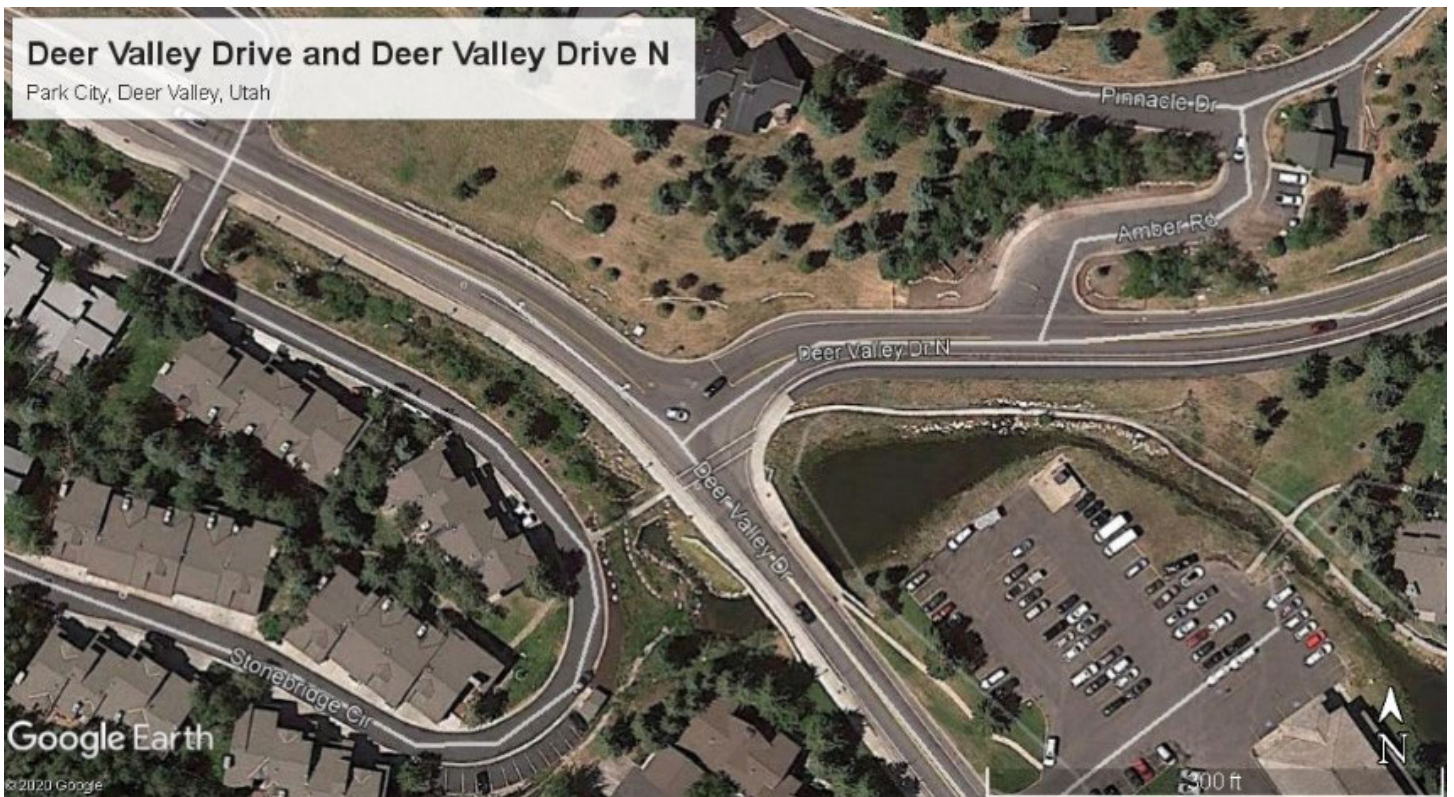
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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
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File Name : Deer Valley Dr & Deer Valley Dr N - D1
Site Code : Day 1
Start Date : 2/15/2020
Page No : 7

Image 1



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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D2
Site Code : Day 2
Start Date : 2/29/2020
Page No : 1

Groups Printed- General Traffic

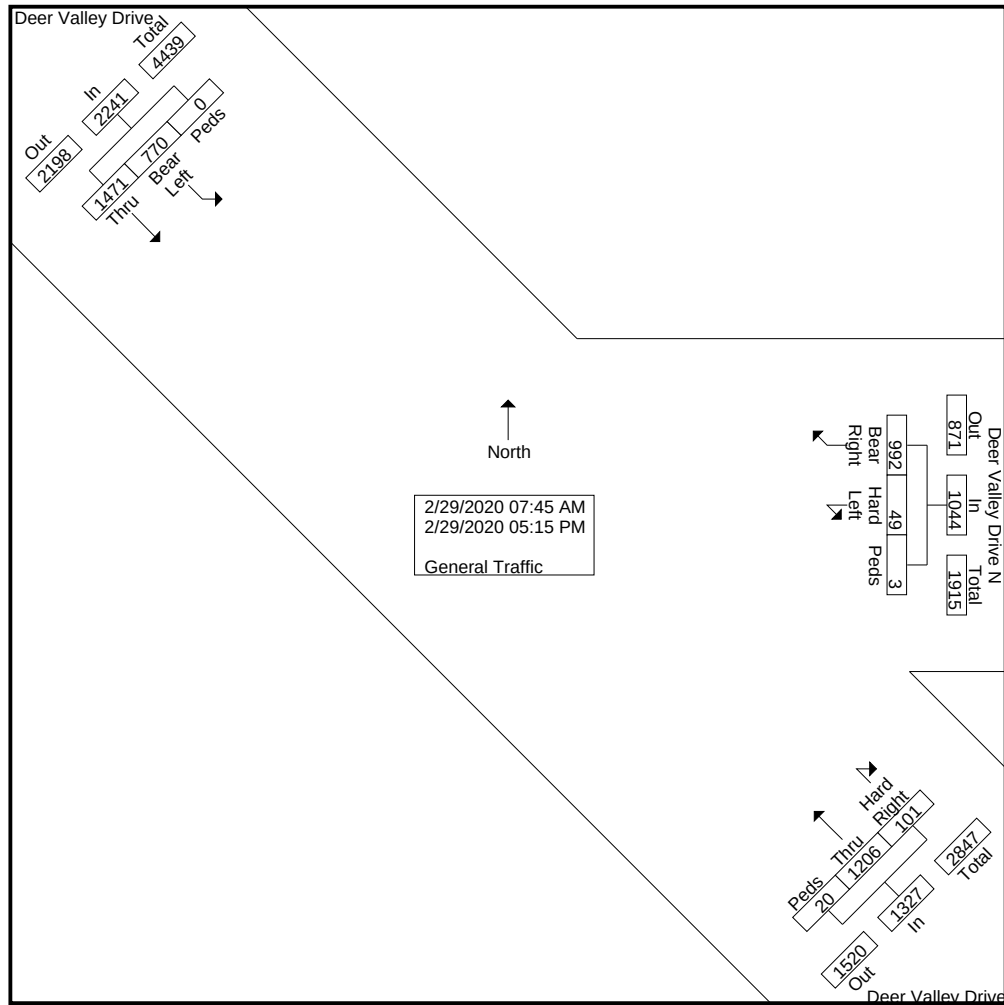
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	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	
07:45 AM	53	73	0	126	21	1	0	22	2	21	0	23	171
Total	53	73	0	126	21	1	0	22	2	21	0	23	171
08:00 AM	104	59	0	163	38	0	0	38	2	19	0	21	222
08:15 AM	150	70	0	220	32	1	0	33	3	19	0	22	275
08:30 AM	160	35	0	195	36	5	0	41	5	33	0	38	274
08:45 AM	173	39	0	212	38	1	0	39	2	48	0	50	301
Total	587	203	0	790	144	7	0	151	12	119	0	131	1072
09:00 AM	144	32	0	176	50	0	0	50	5	47	1	53	279
09:15 AM	128	36	0	164	53	4	0	57	2	42	0	44	265
09:30 AM	149	35	0	184	43	5	0	48	2	31	1	34	266
Total	421	103	0	524	146	9	0	155	9	120	2	131	810
03:30 PM	66	48	0	114	103	3	1	107	10	111	0	121	342
03:45 PM	51	54	0	105	95	4	0	99	10	116	1	127	331
Total	117	102	0	219	198	7	1	206	20	227	1	248	673
04:00 PM	43	45	0	88	102	8	0	110	12	159	1	172	370
04:15 PM	63	52	0	115	76	8	2	86	9	140	0	149	350
04:30 PM	47	38	0	85	104	2	0	106	13	121	1	135	326
04:45 PM	57	61	0	118	66	2	0	68	6	97	4	107	293
Total	210	196	0	406	348	20	2	370	40	517	6	563	1339
05:00 PM	52	44	0	96	80	4	0	84	11	113	2	126	306
05:15 PM	31	49	0	80	55	1	0	56	7	89	9	105	241
Grand Total	1471	770	0	2241	992	49	3	1044	101	1206	20	1327	4612
Apprch %	65.6	34.4	0		95	4.7	0.3		7.6	90.9	1.5		
Total %	31.9	16.7	0	48.6	21.5	1.1	0.1	22.6	2.2	26.1	0.4	28.8	

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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D2
Site Code : Day 2
Start Date : 2/29/2020
Page No : 2



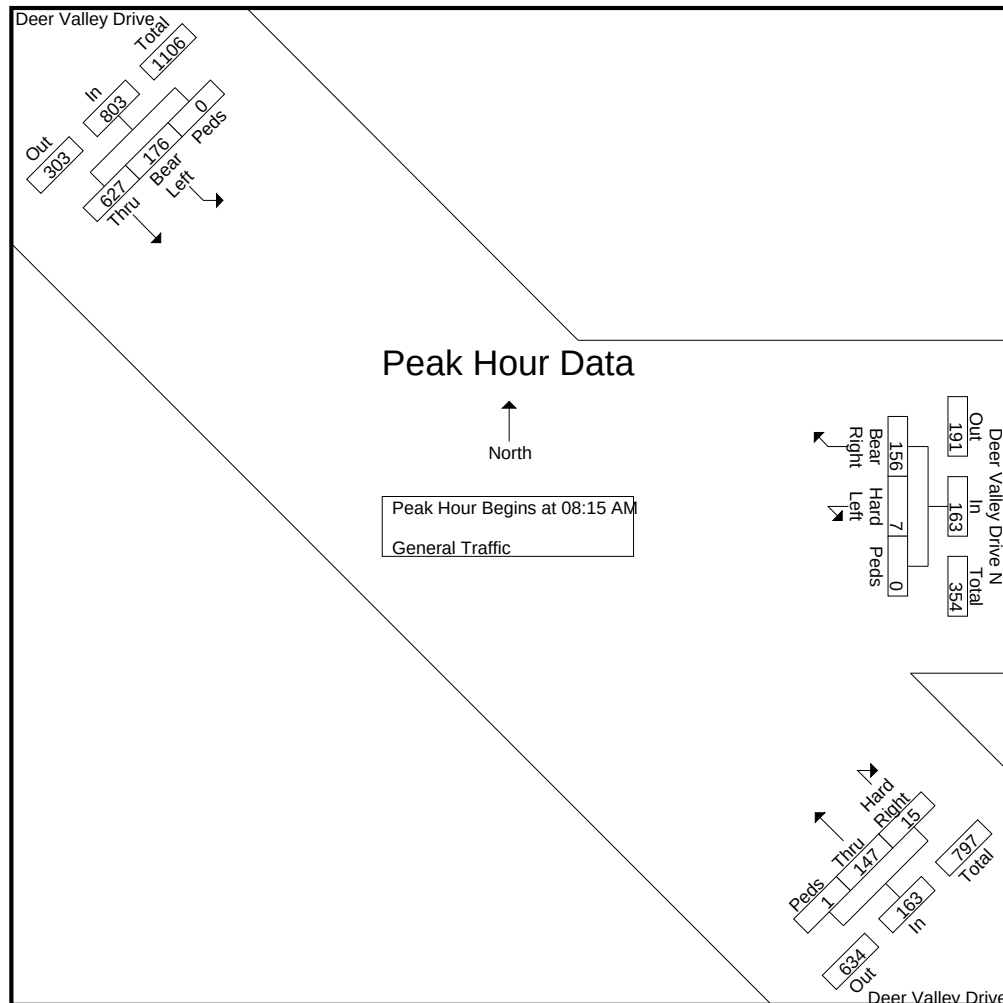
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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D2
Site Code : Day 2
Start Date : 2/29/2020
Page No : 3

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:15 AM													
08:15 AM	150	70	0	220	32	1	0	33	3	19	0	22	275
08:30 AM	160	35	0	195	36	5	0	41	5	33	0	38	274
08:45 AM	173	39	0	212	38	1	0	39	2	48	0	50	301
09:00 AM	144	32	0	176	50	0	0	50	5	47	1	53	279
Total Volume	627	176	0	803	156	7	0	163	15	147	1	163	1129
% App. Total	78.1	21.9	0		95.7	4.3	0		9.2	90.2	0.6		
PHF	.906	.629	.000	.913	.780	.350	.000	.815	.750	.766	.250	.769	.938



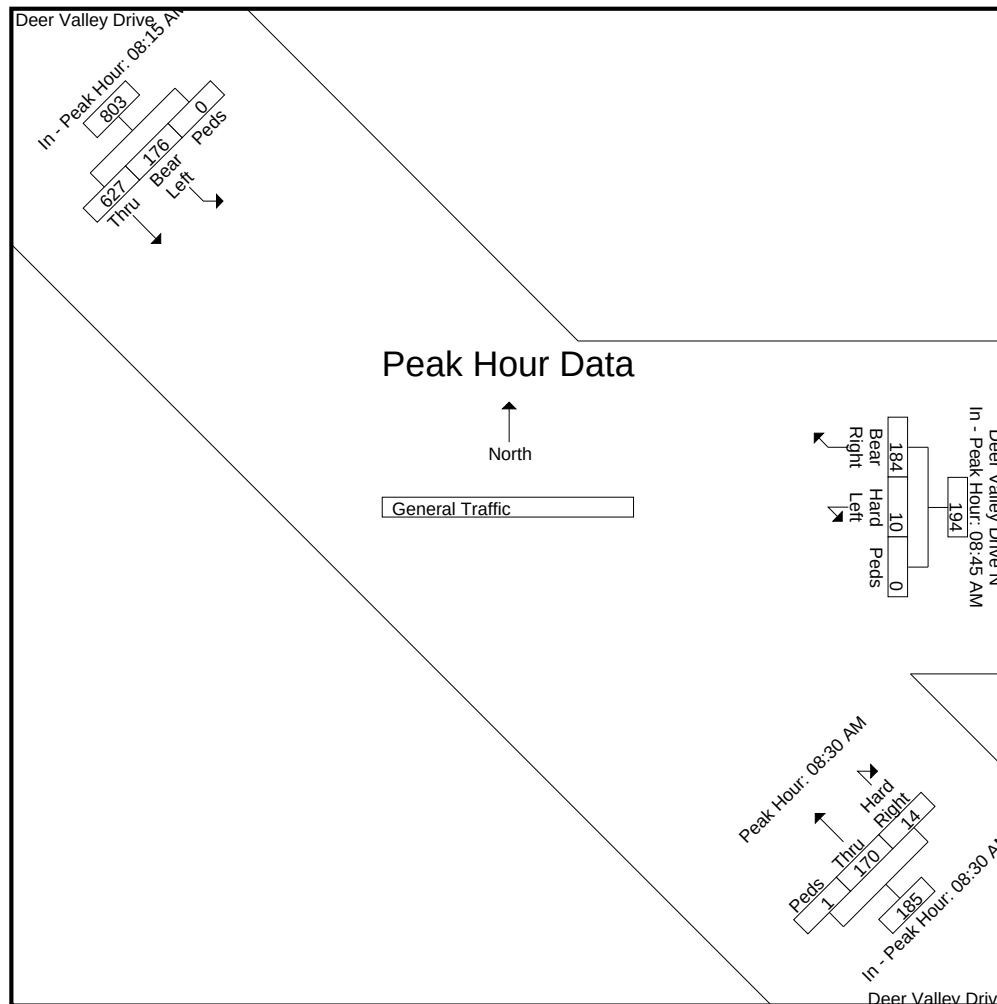
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Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D2
Site Code : Day 2
Start Date : 2/29/2020
Page No : 4

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	08:15 AM				08:45 AM				08:30 AM				
+0 mins.	150	70	0	220	38	1	0	39	5	33	0	38	
+15 mins.	160	35	0	195	50	0	0	50	2	48	0	50	
+30 mins.	173	39	0	212	53	4	0	57	5	47	1	53	
+45 mins.	144	32	0	176	43	5	0	48	2	42	0	44	
Total Volume	627	176	0	803	184	10	0	194	14	170	1	185	
% App. Total	78.1	21.9	0		94.8	5.2	0		7.6	91.9	0.5		
PHF	.906	.629	.000	.913	.868	.500	.000	.851	.700	.885	.250	.873	



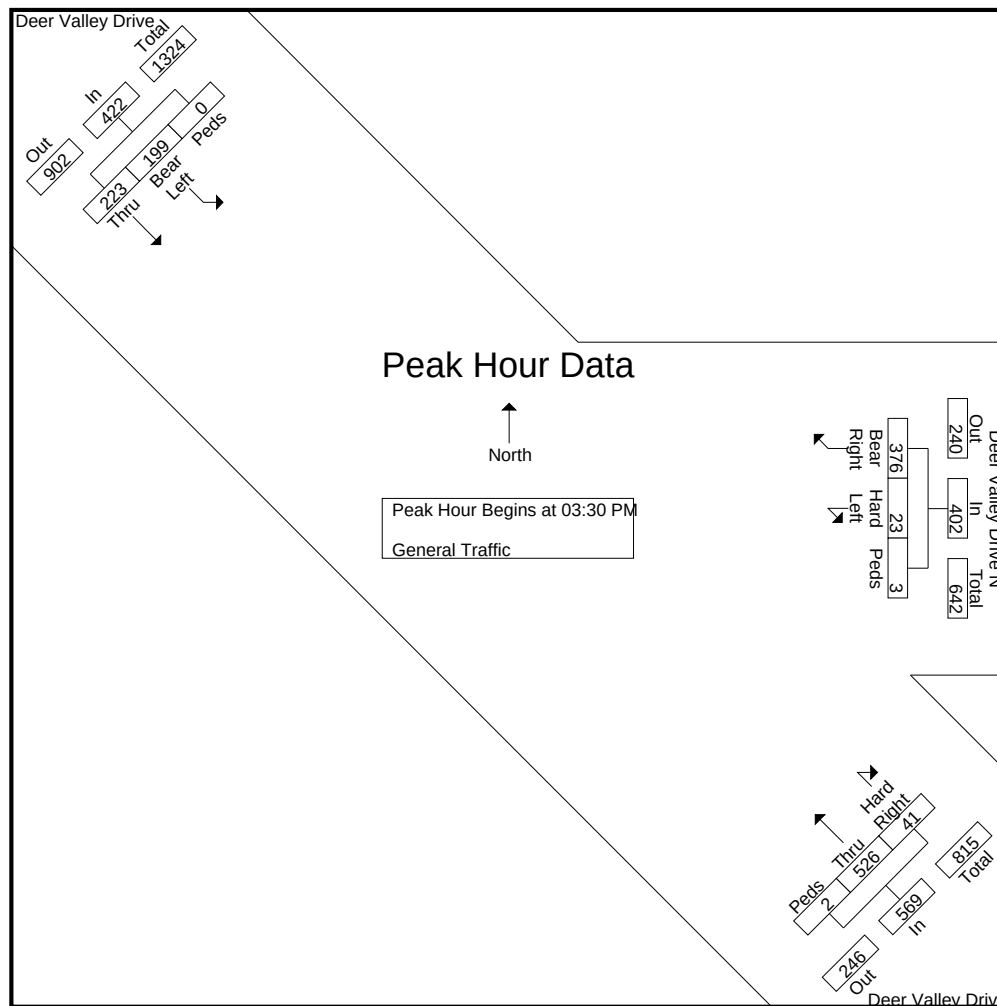
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Intersection: Deer Valley/ Deer Valley N
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Site Code : Day 2
Start Date : 2/29/2020
Page No : 5

	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:30 PM													
03:30 PM	66	48	0	114	103	3	1	107	10	111	0	121	342
03:45 PM	51	54	0	105	95	4	0	99	10	116	1	127	331
04:00 PM	43	45	0	88	102	8	0	110	12	159	1	172	370
04:15 PM	63	52	0	115	76	8	2	86	9	140	0	149	350
Total Volume	223	199	0	422	376	23	3	402	41	526	2	569	1393
% App. Total	52.8	47.2	0		93.5	5.7	0.7		7.2	92.4	0.4		
PHF	.845	.921	.000	.917	.913	.719	.375	.914	.854	.827	.500	.827	.941



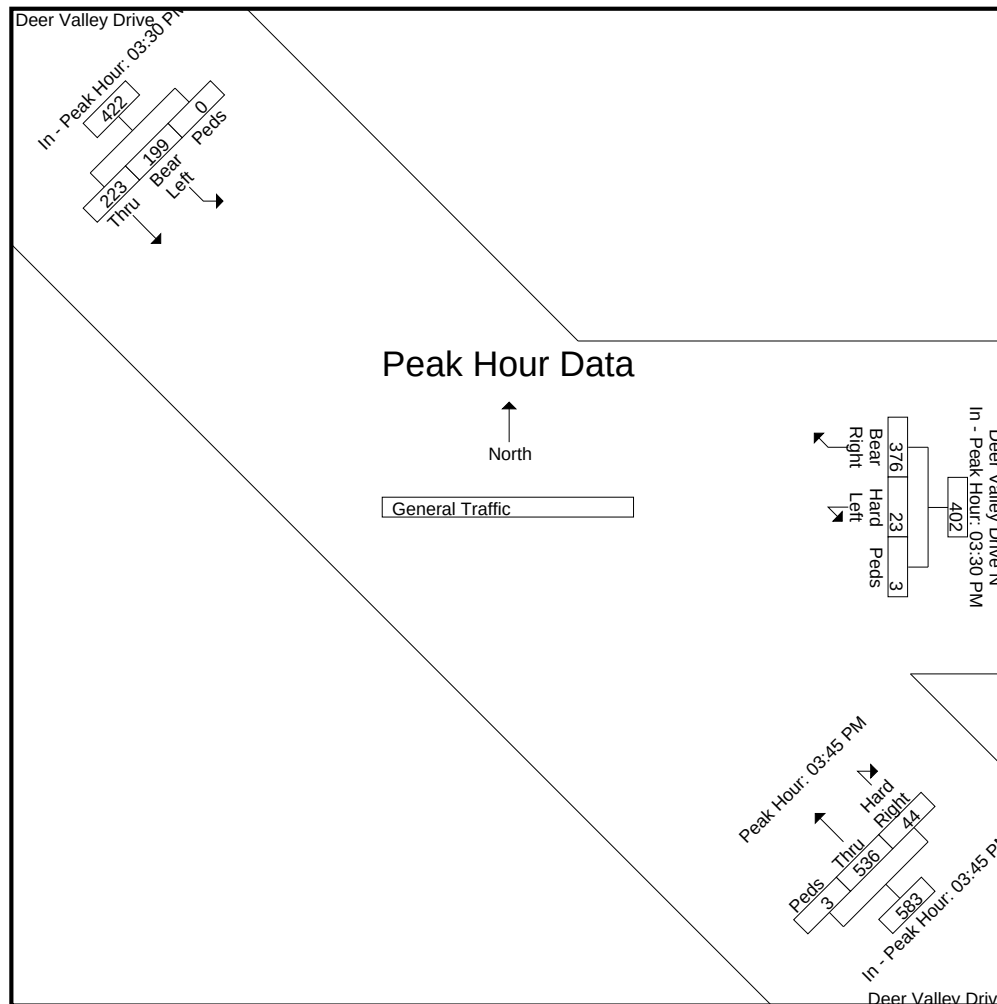
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	Deer Valley Drive From Northwest				Deer Valley Drive N From East				Deer Valley Drive From Southeast				
Start Time	Thru	Bear Left	Peds	App. Total	Bear Right	Hard Left	Peds	App. Total	Hard Right	Thru	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	03:30 PM				03:30 PM				03:45 PM				
+0 mins.	66	48	0	114	103	3	1	107	10	116	1	127	
+15 mins.	51	54	0	105	95	4	0	99	12	159	1	172	
+30 mins.	43	45	0	88	102	8	0	110	9	140	0	149	
+45 mins.	63	52	0	115	76	8	2	86	13	121	1	135	
Total Volume	223	199	0	422	376	23	3	402	44	536	3	583	
% App. Total	52.8	47.2	0		93.5	5.7	0.7		7.5	91.9	0.5		
PHF	.845	.921	.000	.917	.913	.719	.375	.914	.846	.843	.750	.847	



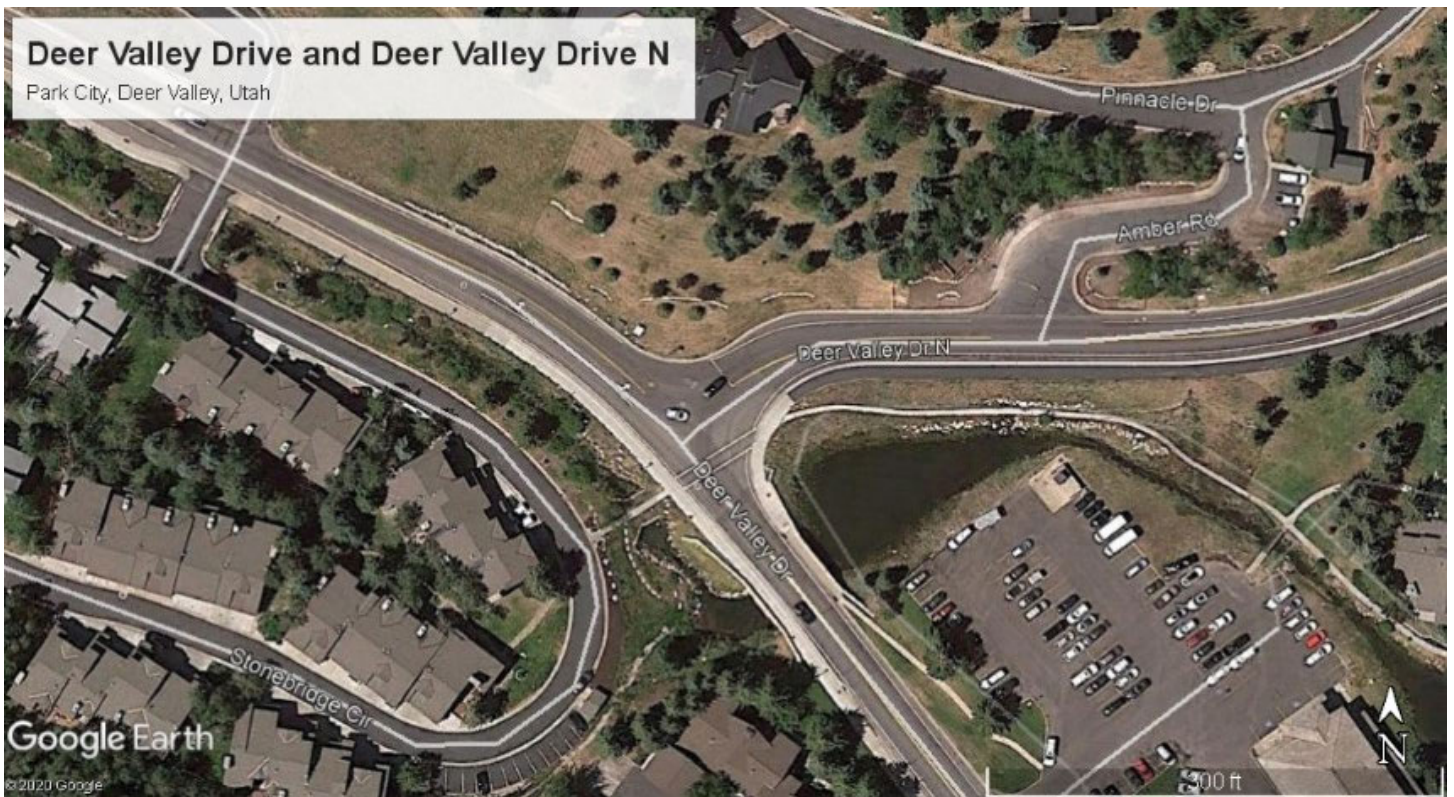
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0119
Intersection: Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D2
Site Code : Day 2
Start Date : 2/29/2020
Page No : 7

Image 1



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124

Intersection: Deer Valley Dr / Marsac Av

City, State: Park City, Utah

Control: Yields

File Name : Deer Valley Dr & Marsac Ave RDBT

Site Code : Saturday

Start Date : 12/19/2020

Page No : 1

Groups Printed- General Traffic - Turns

Start Time	Deer Valley Drive From North					Deer Valley Drive From East					Marsac Avenue From South					To Swede Alley (Buses Only) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:45 AM	1	105	141	0	247	37	2	5	0	44	3	19	0	1	23	1	3	1	0	5	319
Total	1	105	141	0	247	37	2	5	0	44	3	19	0	1	23	1	3	1	0	5	319
08:00 AM	2	59	173	0	234	30	2	1	0	33	12	23	0	1	36	1	3	0	1	5	308
08:15 AM	3	78	171	0	252	46	3	4	0	53	12	22	0	1	35	0	3	0	2	5	345
08:30 AM	1	79	171	0	251	39	4	11	0	54	13	22	0	2	37	3	7	0	1	11	353
08:45 AM	2	74	178	0	254	55	4	6	2	67	16	26	1	3	46	3	6	1	4	14	381
Total	8	290	693	0	991	170	13	22	2	207	53	93	1	7	154	7	19	1	8	35	1387
09:00 AM	3	70	140	0	213	74	4	4	2	84	8	31	0	8	47	4	3	1	6	14	358
09:15 AM	1	74	114	3	192	63	2	6	2	73	9	31	0	1	41	0	4	0	1	5	311
09:30 AM	1	66	116	0	183	75	0	2	2	79	7	35	0	0	42	0	3	1	1	5	309

Total	5	210	370	3	588	212	6	12	6	236	24	97	0	9	130	4	10	2	8	24	978

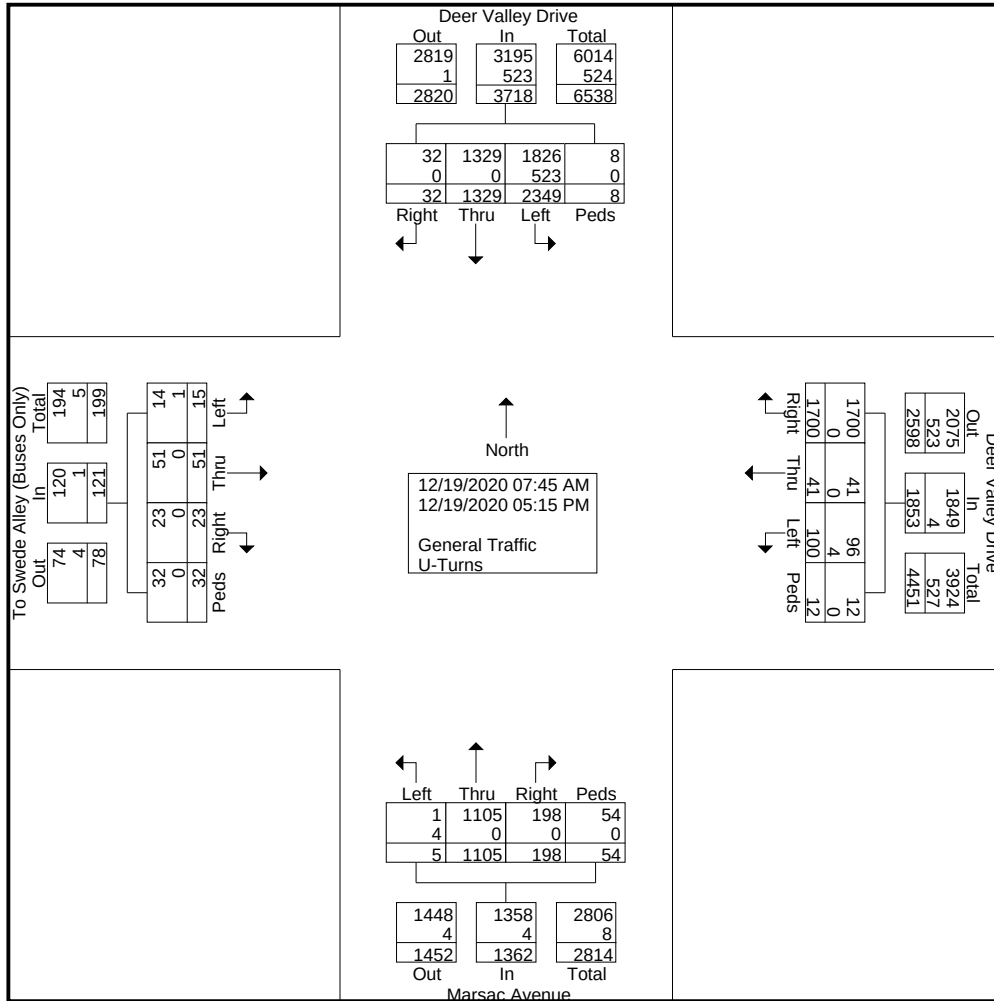
03:30 PM	5	97	155	0	257	155	2	7	0	164	18	97	0	5	120	4	0	3	0	7	548
03:45 PM	2	90	162	0	254	157	4	9	0	170	17	116	0	7	140	2	4	1	4	11	575
Total	7	187	317	0	511	312	6	16	0	334	35	213	0	12	260	6	4	4	4	18	1123
04:00 PM	1	101	141	0	243	177	1	12	0	190	9	106	1	7	123	1	2	0	3	6	562
04:15 PM	1	93	129	5	228	180	3	9	1	193	16	106	1	2	125	0	3	0	2	5	551
04:30 PM	2	91	144	0	237	176	4	5	0	185	16	100	0	7	123	2	2	4	1	9	554
04:45 PM	3	83	145	0	231	139	3	10	0	152	16	135	1	3	155	0	4	1	0	5	543
Total	7	368	559	5	939	672	11	36	1	720	57	447	3	19	526	3	11	5	6	25	2210
05:00 PM	1	74	135	0	210	129	3	5	1	138	11	104	0	3	118	1	2	1	2	6	472
05:15 PM	3	95	134	0	232	168	0	4	2	174	15	132	1	3	151	1	2	1	4	8	565
Grand Total	32	1329	2349	8	3718	1700	41	100	12	1853	198	1105	5	54	1362	23	51	15	32	121	7054
Apprch %	0.9	35.7	63.2	0.2		91.7	2.2	5.4	0.6		14.5	81.1	0.4	4		19	42.1	12.4	26.4		
Total %	0.5	18.8	33.3	0.1	52.7	24.1	0.6	1.4	0.2	26.3	2.8	15.7	0.1	0.8	19.3	0.3	0.7	0.2	0.5	1.7	
General Traffic	32	1329	1826	8	3195	1700	41	96	12	1849	198	1105	1	54	1358	23	51	14	32	120	6522
% General Traffic	100	100	77.7	100	85.9	100	100	96	100	99.8	100	100	20	100	99.7	100	100	93.3	100	99.2	92.5
U-Turns	0	0	523	0	523	0	0	4	0	4	0	0	4	0	4	0	0	1	0	1	532
% U-Turns	0	0	22.3	0	14.1	0	0	4	0	0.2	0	0	80	0	0.3	0	0	6.7	0	0.8	7.5

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Marsac Av
City, State: Park City, Utah
Control: Yields

File Name : Deer Valley Dr & Marsac Ave RDBT
Site Code : Saturday
Start Date : 12/19/2020
Page No : 2



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124

Intersection: Deer Valley Dr / Marsac Av

City, State: Park City, Utah

Control: Yields

File Name : Deer Valley Dr & Marsac Ave RDBT

Site Code : Saturday

Start Date : 12/19/2020

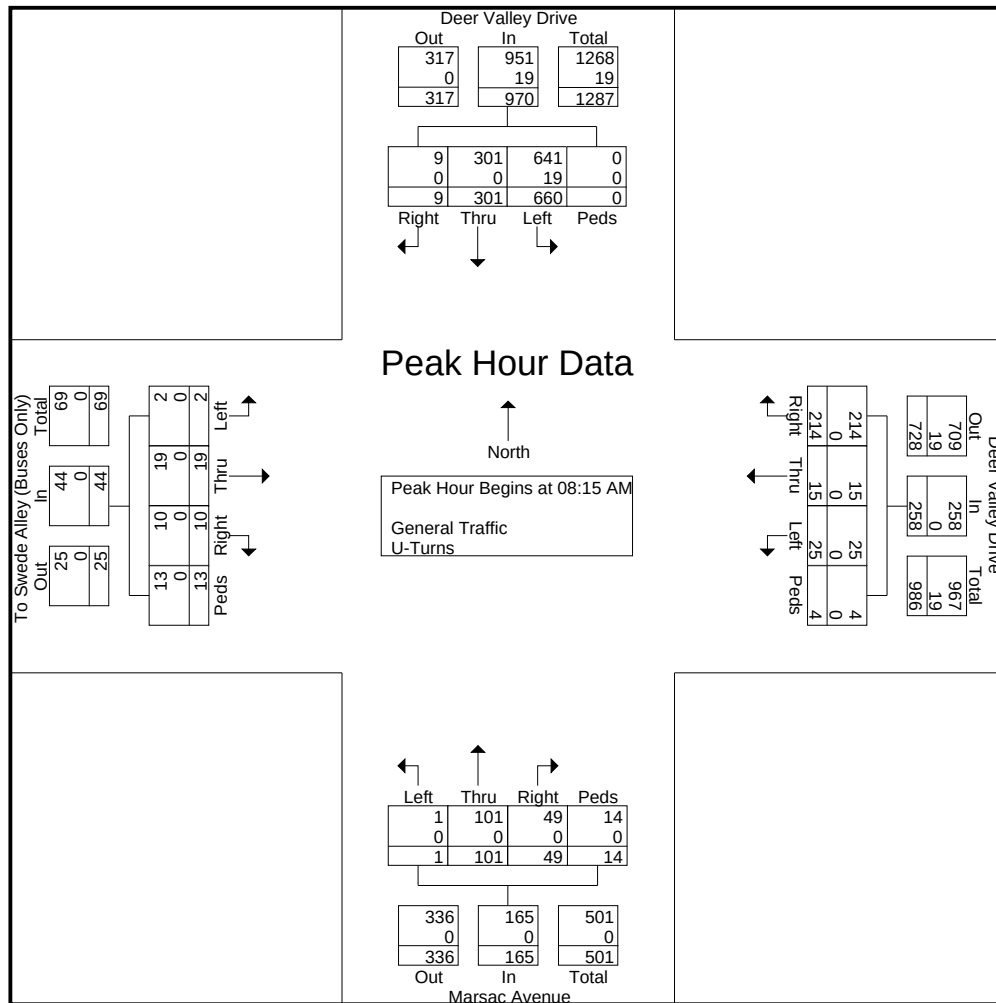
Page No : 3

	Deer Valley Drive From North					Deer Valley Drive From East					Marsac Avenue From South					To Swede Alley (Buses Only) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:15 AM

08:15 AM	3	78	171	0	252	46	3	4	0	53	12	22	0	1	35	0	3	0	2	5	345
08:30 AM	1	79	171	0	251	39	4	11	0	54	13	22	0	2	37	3	7	0	1	11	353
08:45 AM	2	74	178	0	254	55	4	6	2	67	16	26	1	3	46	3	6	1	4	14	381
09:00 AM	3	70	140	0	213	74	4	4	2	84	8	31	0	8	47	4	3	1	6	14	358
Total Volume	9	301	660	0	970	214	15	25	4	258	49	101	1	14	165	10	19	2	13	44	1437
% App. Total	0.9	31	68	0		82.9	5.8	9.7	1.6		29.7	61.2	0.6	8.5		22.7	43.2	4.5	29.5		
PHF	.750	.953	.927	.000	.955	.723	.938	.568	.500	.768	.766	.815	.250	.438	.878	.625	.679	.500	.542	.786	.943
General Traffic	9	301	641	0	951	214	15	25	4	258	49	101	1	14	165	10	19	2	13	44	1418
% General Traffic	100	100	97.1	0	98.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98.7
U-Turns	0	0	19	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
% U-Turns	0	0	2.9	0	2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Marsac Av
City, State: Park City, Utah
Control: Yields

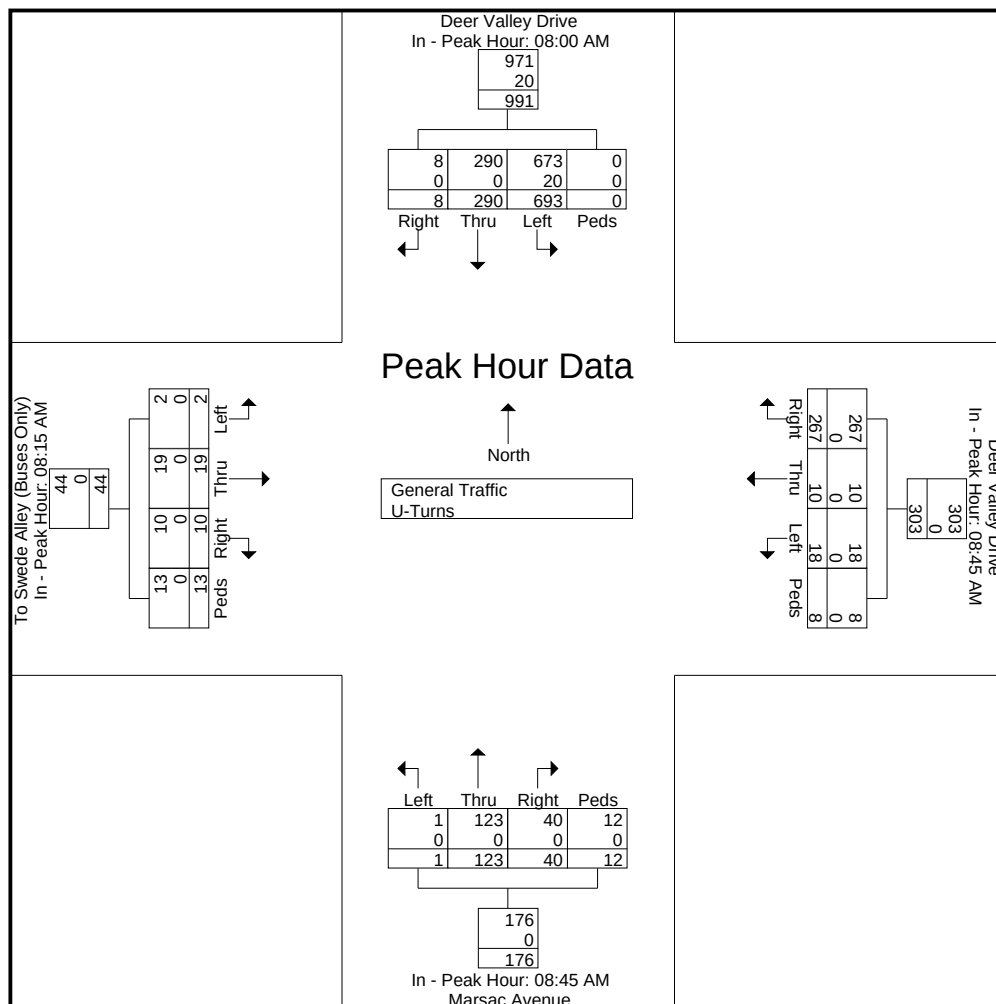
File Name : Deer Valley Dr & Marsac Ave RDBT
Site Code : Saturday
Start Date : 12/19/2020
Page No : 4

	Deer Valley Drive From North					Deer Valley Drive From East					Marsac Avenue From South					To Swede Alley (Buses Only) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00 AM					08:45 AM					08:45 AM					08:15 AM				
+0 mins.	2	59	173	0	234	55	4	6	2	67	16	26	1	3	46	0	3	0	2	5
+15 mins.	3	78	171	0	252	74	4	4	2	84	8	31	0	8	47	3	7	0	1	11
+30 mins.	1	79	171	0	251	63	2	6	2	73	9	31	0	1	41	3	6	1	4	14
+45 mins.	2	74	178	0	254	75	0	2	2	79	7	35	0	0	42	4	3	1	6	14
Total Volume	8	290	693	0	991	267	10	18	8	303	40	123	1	12	176	10	19	2	13	44
% App. Total	0.8	29.3	69.9	0		88.1	3.3	5.9	2.6		22.7	69.9	0.6	6.8		22.7	43.2	4.5	29.5	
PHF	.667	.918	.973	.000	.975	.890	.625	.750	1.000	.902	.625	.879	.250	.375	.936	.625	.679	.500	.542	.786
General Traffic	8	290	673	0	971	267	10	18	8	303	40	123	1	12	176	10	19	2	13	44
% General Traffic	100	100	97.1	0	98	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
U-Turns	0	0	20	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% U-Turns	0	0	2.9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124

Intersection: Deer Valley Dr / Marsac Av

City, State: Park City, Utah

Control: Yields

File Name : Deer Valley Dr & Marsac Ave RDBT

Site Code : Saturday

Start Date : 12/19/2020

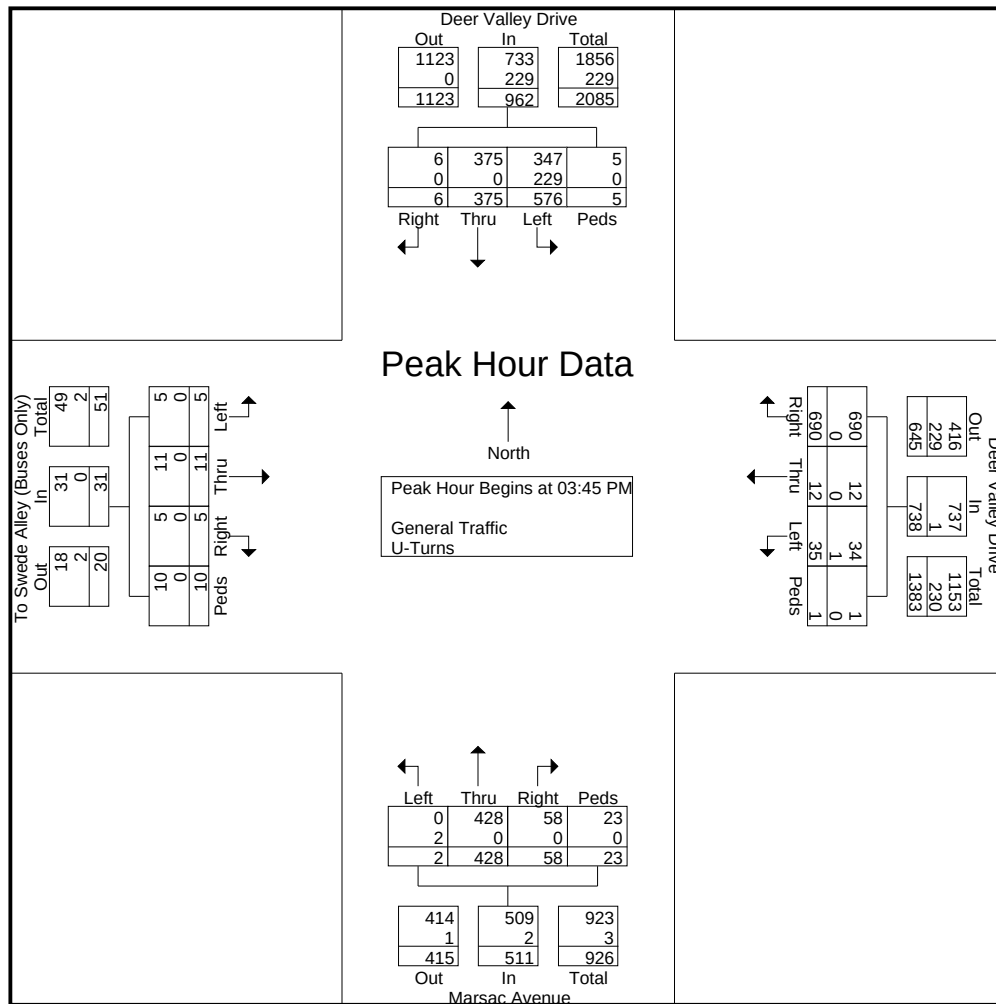
Page No : 5

	Deer Valley Drive From North					Deer Valley Drive From East					Marsac Avenue From South					To Swede Alley (Buses Only) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 03:45 PM

03:45 PM	2	90	162	0	254	157	4	9	0	170	17	116	0	7	140	2	4	1	4	11	575
04:00 PM	1	101	141	0	243	177	1	12	0	190	9	106	1	7	123	1	2	0	3	6	562
04:15 PM	1	93	129	5	228	180	3	9	1	193	16	106	1	2	125	0	3	0	2	5	551
04:30 PM	2	91	144	0	237	176	4	5	0	185	16	100	0	7	123	2	2	4	1	9	554
Total Volume	6	375	576	5	962	690	12	35	1	738	58	428	2	23	511	5	11	5	10	31	2242
% App. Total	0.6	39	59.9	0.5		93.5	1.6	4.7	0.1		11.4	83.8	0.4	4.5		16.1	35.5	16.1	32.3		
PHF	.750	.928	.889	.250	.947	.958	.750	.729	.250	.956	.853	.922	.500	.821	.913	.625	.688	.313	.625	.705	.975
General Traffic	6	375	347	5	733	690	12	34	1	737	58	428	0	23	509	5	11	5	10	31	2010
% General Traffic	100	100	60.2	100	76.2	100	100	97.1	100	99.9	100	100	0	100	99.6	100	100	100	100	100	89.7
U-Turns	0	0	229	0	229	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	232
% U-Turns	0	0	39.8	0	23.8	0	0	2.9	0	0.1	0	0	100	0	0.4	0	0	0	0	0	10.3



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Marsac Av
City, State: Park City, Utah
Control: Yields

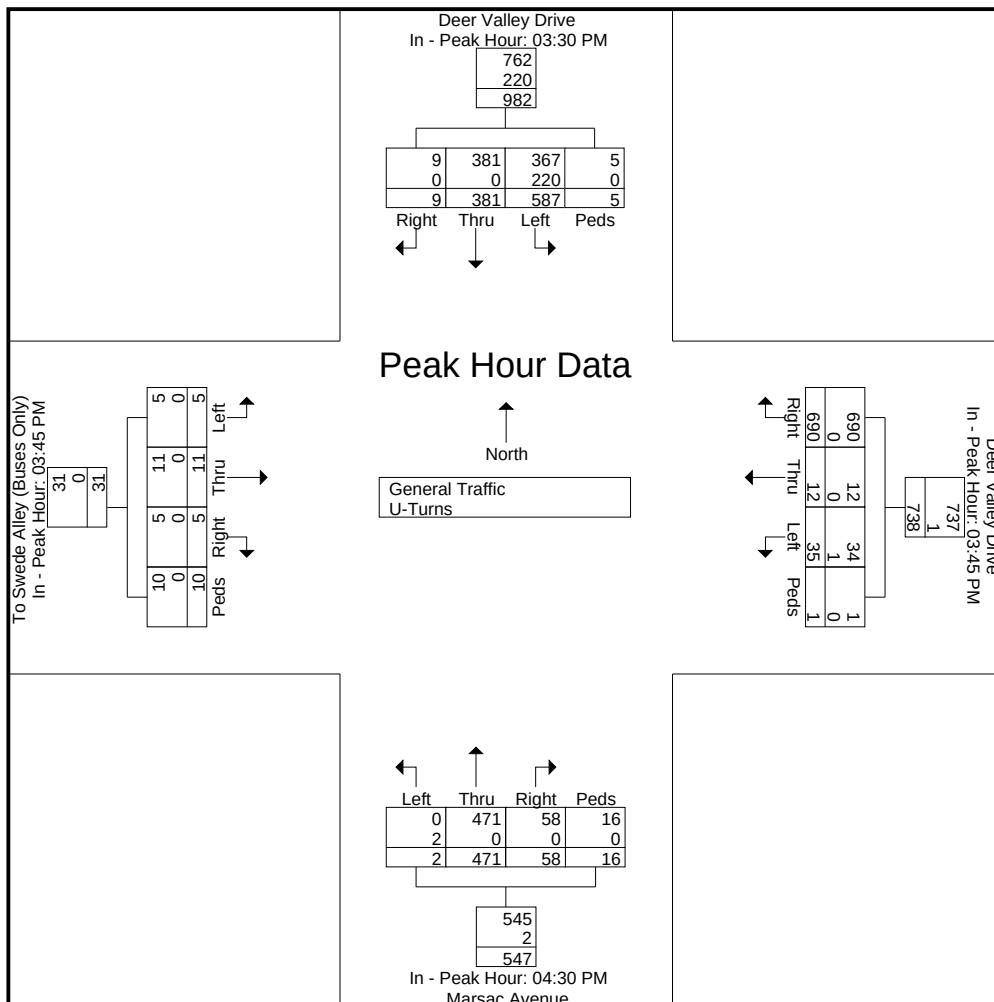
File Name : Deer Valley Dr & Marsac Ave RDBT
Site Code : Saturday
Start Date : 12/19/2020
Page No : 6

	Deer Valley Drive From North					Deer Valley Drive From East					Marsac Avenue From South					To Swede Alley (Buses Only) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	03:30 PM					03:45 PM					04:30 PM					03:45 PM				
+0 mins.	5	97	155	0	257	157	4	9	0	170	16	100	0	7	123	2	4	1	4	11
+15 mins.	2	90	162	0	254	177	1	12	0	190	16	135	1	3	155	1	2	0	3	6
+30 mins.	1	101	141	0	243	180	3	9	1	193	11	104	0	3	118	0	3	0	2	5
+45 mins.	1	93	129	5	228	176	4	5	0	185	15	132	1	3	151	2	2	4	1	9
Total Volume	9	381	587	5	982	690	12	35	1	738	58	471	2	16	547	5	11	5	10	31
% App. Total	0.9	38.8	59.8	0.5		93.5	1.6	4.7	0.1		10.6	86.1	0.4	2.9		16.1	35.5	16.1	32.3	
PHF	.450	.943	.906	.250	.955	.958	.750	.729	.250	.956	.906	.872	.500	.571	.882	.625	.688	.313	.625	.705
General Traffic	9	381	367	5	762	690	12	34	1	737	58	471	0	16	545	5	11	5	10	31
% General Traffic	100	100	62.5	100	77.6	100	100	97.1	100	99.9	100	100	0	100	99.6	100	100	100	100	100
U-Turns	0	0	220	0	220	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0
% U-Turns	0	0	37.5	0	22.4	0	0	2.9	0	0.1	0	0	100	0	0.4	0	0	0	0	0



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Marsac Av
City, State: Park City, Utah
Control: Yields

File Name : Deer Valley Dr & Marsac Ave RDBT
Site Code : Saturday
Start Date : 12/19/2020
Page No : 7

Image 1



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 1

Groups Printed- General Traffic

Start Time	Bonanza Drive From Northeast				Deer Valley Drive From South				Deer Valley Drive From West				Int. Total
	Bear Right	Bear Left	Peds	App. Total	Bear Right	Left	Peds	App. Total	Right	Bear Left	Peds	App. Total	
07:45 AM	34	138	0	172	21	37	0	58	137	13	0	150	380
Total	34	138	0	172	21	37	0	58	137	13	0	150	380
08:00 AM	26	111	0	137	30	42	0	72	147	8	0	155	364
08:15 AM	49	115	0	164	24	60	0	84	141	14	0	155	403
08:30 AM	51	113	0	164	23	48	0	71	137	23	0	160	395
08:45 AM	40	130	0	170	32	58	0	90	137	23	0	160	420
Total	166	469	0	635	109	208	0	317	562	68	0	630	1582
09:00 AM	28	111	0	139	49	57	0	106	120	29	0	149	394
09:15 AM	22	85	0	107	27	70	0	97	112	34	0	146	350
09:30 AM	26	90	0	116	38	54	0	92	121	30	0	151	359

Total	76	286	0	362	114	181	0	295	353	93	0	446	1103

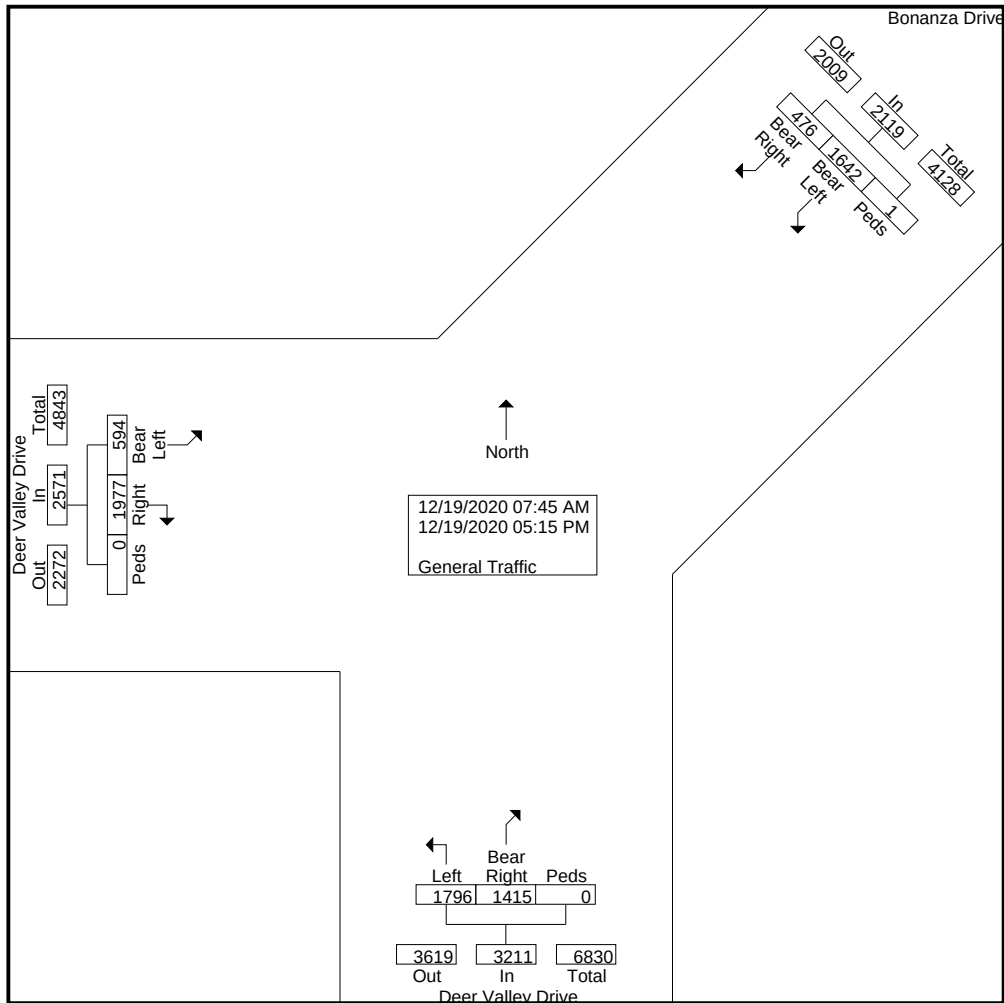
03:30 PM	23	90	0	113	146	174	0	320	120	58	0	178	611
03:45 PM	41	110	1	152	147	184	0	331	110	67	0	177	660
Total	64	200	1	265	293	358	0	651	230	125	0	355	1271
04:00 PM	25	92	0	117	155	175	0	330	119	59	0	178	625
04:15 PM	26	103	0	129	142	177	0	319	110	63	0	173	621
04:30 PM	31	94	0	125	176	182	0	358	99	50	0	149	632
04:45 PM	17	86	0	103	130	166	0	296	121	44	0	165	564
Total	99	375	0	474	603	700	0	1303	449	216	0	665	2442
05:00 PM	21	81	0	102	136	171	0	307	110	41	0	151	560
05:15 PM	16	93	0	109	139	141	0	280	136	38	0	174	563
Grand Total	476	1642	1	2119	1415	1796	0	3211	1977	594	0	2571	7901
Apprch %	22.5	77.5	0		44.1	55.9	0		76.9	23.1	0		
Total %	6	20.8	0	26.8	17.9	22.7	0	40.6	25	7.5	0	32.5	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 2



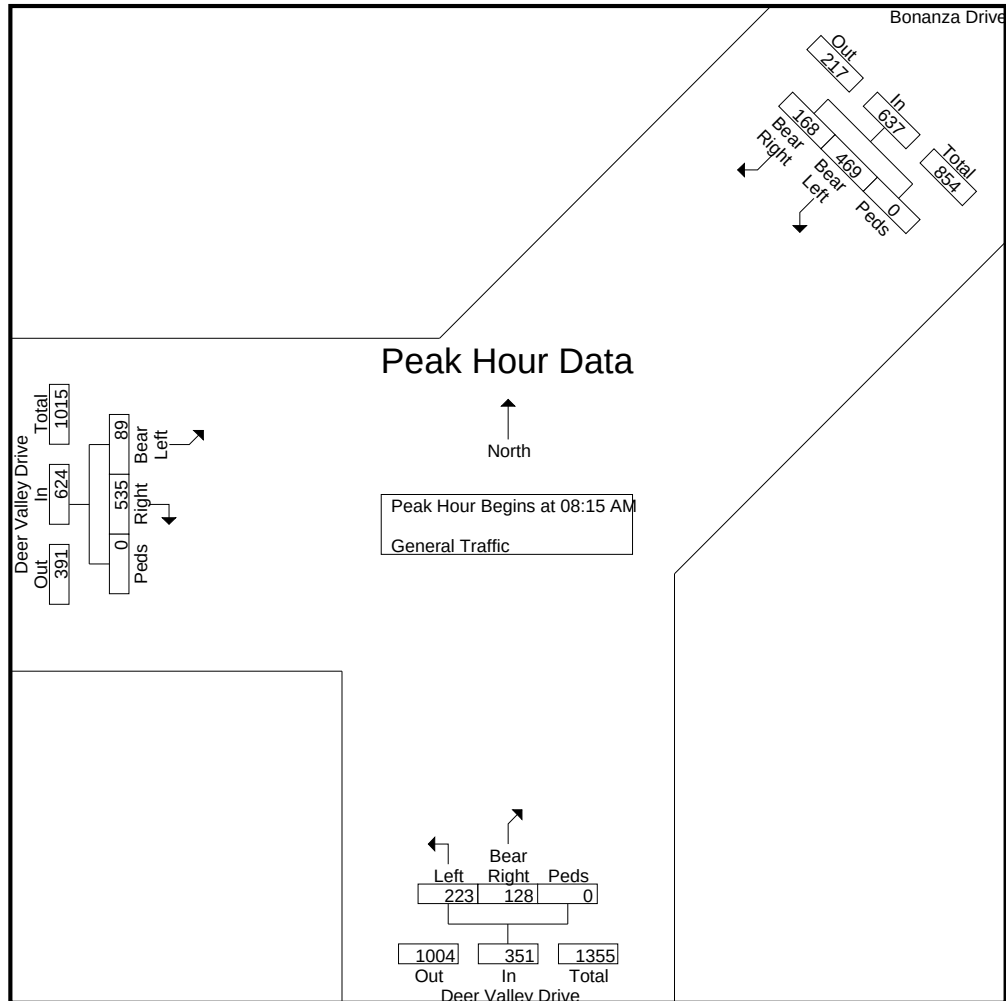
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 3

	Bonanza Drive From Northeast				Deer Valley Drive From South				Deer Valley Drive From West				
Start Time	Bear Right	Bear Left	Peds	App. Total	Bear Right	Left	Peds	App. Total	Right	Bear Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:15 AM													
08:15 AM	49	115	0	164	24	60	0	84	141	14	0	155	403
08:30 AM	51	113	0	164	23	48	0	71	137	23	0	160	395
08:45 AM	40	130	0	170	32	58	0	90	137	23	0	160	420
09:00 AM	28	111	0	139	49	57	0	106	120	29	0	149	394
Total Volume	168	469	0	637	128	223	0	351	535	89	0	624	1612
% App. Total	26.4	73.6	0		36.5	63.5	0		85.7	14.3	0		
PHF	.824	.902	.000	.937	.653	.929	.000	.828	.949	.767	.000	.975	.960



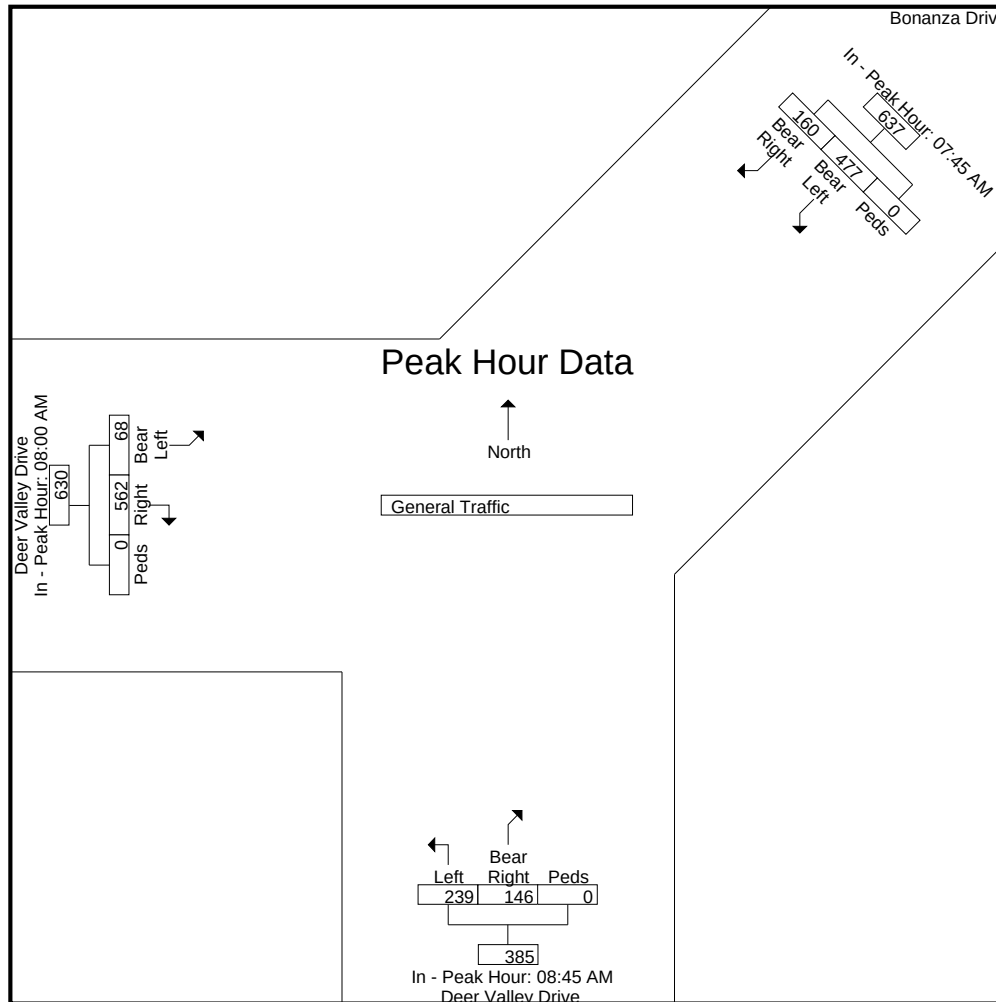
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 4

	Bonanza Drive From Northeast				Deer Valley Drive From South				Deer Valley Drive From West				
Start Time	Bear Right	Bear Left	Peds	App. Total	Bear Right	Left	Peds	App. Total	Right	Bear Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 11:45 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	07:45 AM				08:45 AM				08:00 AM				
+0 mins.	34	138	0	172	32	58	0	90	147	8	0	155	
+15 mins.	26	111	0	137	49	57	0	106	141	14	0	155	
+30 mins.	49	115	0	164	27	70	0	97	137	23	0	160	
+45 mins.	51	113	0	164	38	54	0	92	137	23	0	160	
Total Volume	160	477	0	637	146	239	0	385	562	68	0	630	
% App. Total	25.1	74.9	0		37.9	62.1	0		89.2	10.8	0		
PHF	.784	.864	.000	.926	.745	.854	.000	.908	.956	.739	.000	.984	



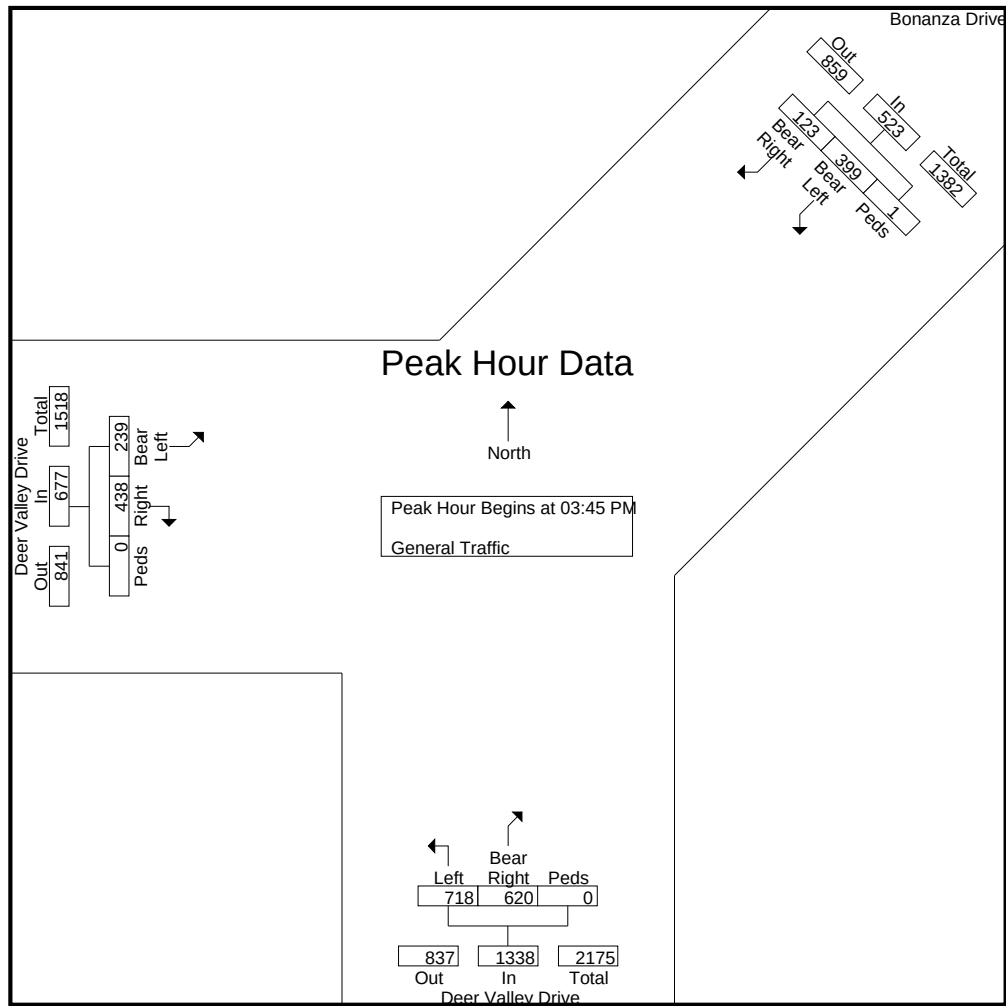
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 5

	Bonanza Drive From Northeast				Deer Valley Drive From South				Deer Valley Drive From West				
Start Time	Bear Right	Bear Left	Peds	App. Total	Bear Right	Left	Peds	App. Total	Right	Bear Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 03:45 PM													
03:45 PM	41	110	1	152	147	184	0	331	110	67	0	177	660
04:00 PM	25	92	0	117	155	175	0	330	119	59	0	178	625
04:15 PM	26	103	0	129	142	177	0	319	110	63	0	173	621
04:30 PM	31	94	0	125	176	182	0	358	99	50	0	149	632
Total Volume	123	399	1	523	620	718	0	1338	438	239	0	677	2538
% App. Total	23.5	76.3	0.2		46.3	53.7	0		64.7	35.3	0		
PHF	.750	.907	.250	.860	.881	.976	.000	.934	.920	.892	.000	.951	.961



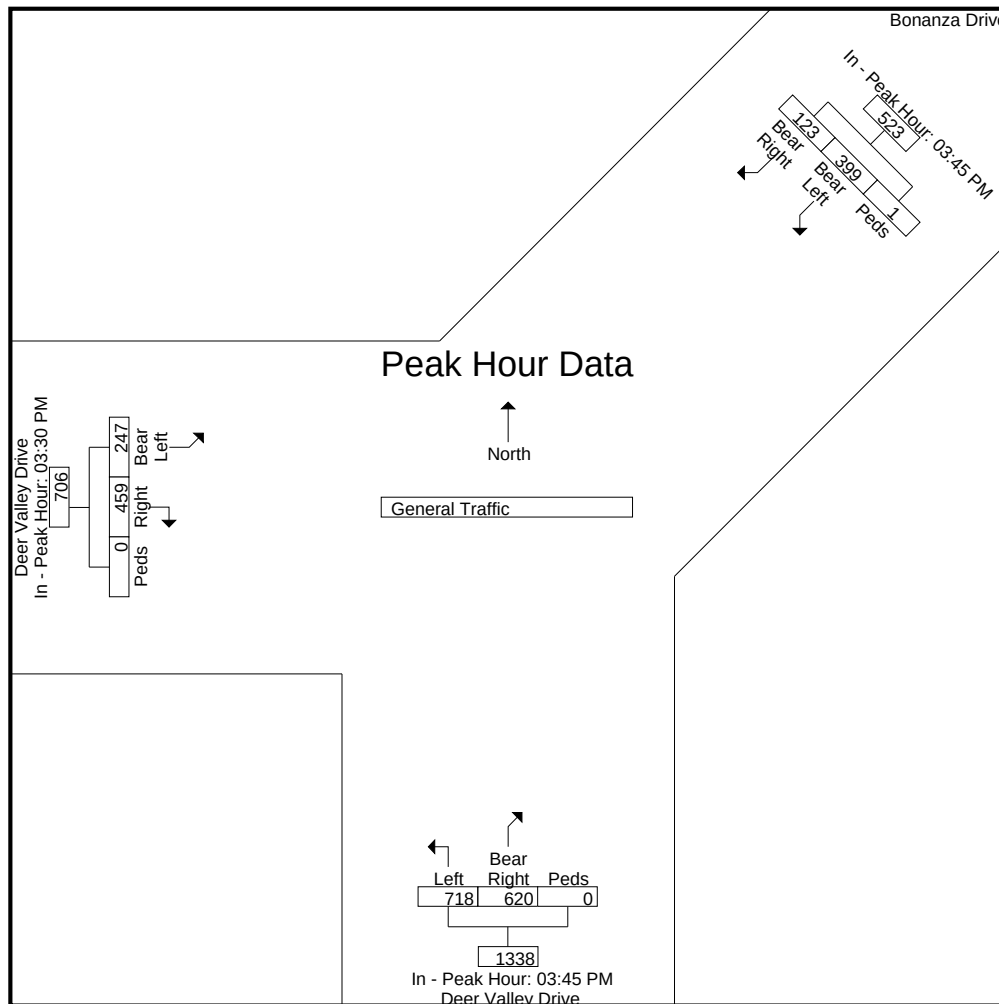
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 6

	Bonanza Drive From Northeast				Deer Valley Drive From South				Deer Valley Drive From West				
Start Time	Bear Right	Bear Left	Peds	App. Total	Bear Right	Left	Peds	App. Total	Right	Bear Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
	03:45 PM				03:45 PM				03:30 PM				
+0 mins.	41	110	1	152	147	184	0	331	120	58	0	178	
+15 mins.	25	92	0	117	155	175	0	330	110	67	0	177	
+30 mins.	26	103	0	129	142	177	0	319	119	59	0	178	
+45 mins.	31	94	0	125	176	182	0	358	110	63	0	173	
Total Volume	123	399	1	523	620	718	0	1338	459	247	0	706	
% App. Total	23.5	76.3	0.2		46.3	53.7	0		65	35	0		
PHF	.750	.907	.250	.860	.881	.976	.000	.934	.956	.922	.000	.992	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

File Name : Deer Valley Dr & Bonanza Dr
Site Code : Saturday
Start Date : 12/19/2020
Page No : 7

Image 1



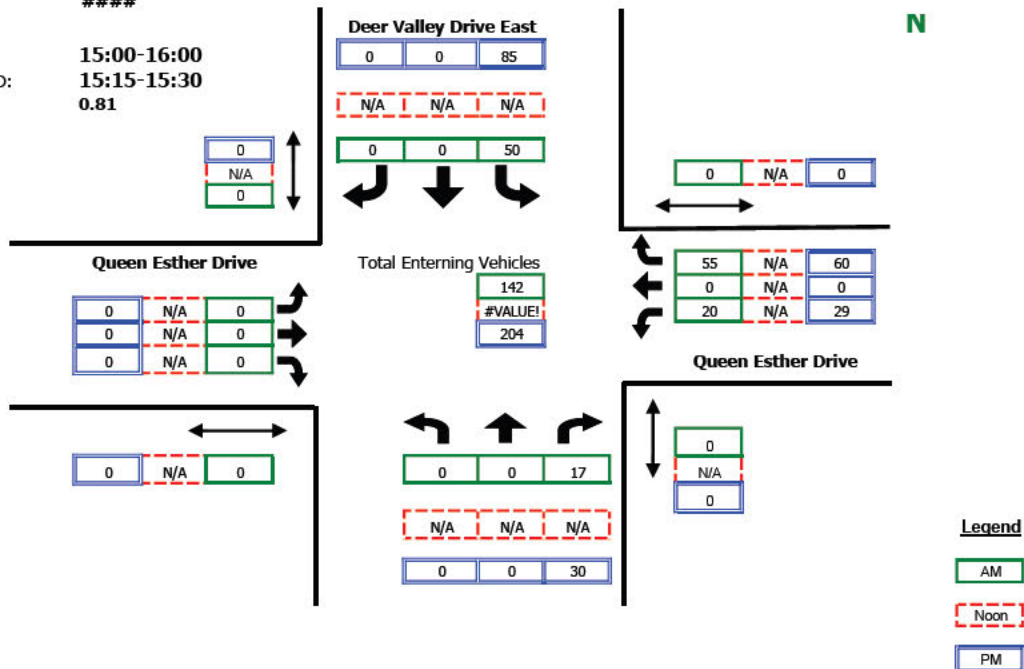
Intersection Turning Movement Summary

Intersection:	Deer Valley Drive East/Queen Esther Drive	Date:	3-3-22, Thu
North/South:	Deer Valley Drive East	Day of Week Adjustment:	100.0%
East/West:	Queen Esther Drive	Month of Year Adjustment:	100.0%
Jurisdiction:	Park City	Adjustment Station #:	
Project Title:	Snow Park Development	Growth Rate:	0.0%
Project No:	UT20-2245	Number of Years:	0
Weather:			

AM PEAK HOUR PERIOD: 9:00-10:00
 AM PEAK 15 MINUTE PERIOD: 9:15-9:30
 AM PHF: 0.99

NOON PEAK HOUR PERIOD:
 NOON PEAK 15 MINUTE PERIOD:
 NOON PHF: ####

PM PEAK HOUR PERIOD: 15:00-16:00
 PM PEAK 15 MINUTE PERIOD: 15:15-15:30
 PM PHF: 0.81



RAW COUNT SUMMARIES	Deer Valley Drive East Northbound				Deer Valley Drive East Southbound				Queen Esther Drive Eastbound				Queen Esther Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
8:00-8:15	0	0	0	0	4	0	0	0	0	0	0	0	5	0	4	0	13
8:15-8:30	0	0	8	0	7	0	0	0	0	0	0	0	9	0	13	0	37
8:30-8:45	0	0	6	0	6	0	0	0	0	0	0	0	5	0	11	0	28
8:45-9:00	0	0	2	0	11	0	0	0	0	0	0	0	10	0	9	0	32
9:00-9:15	0	0	5	0	9	0	0	0	0	0	0	0	7	0	14	0	35
9:15-9:30	0	0	5	0	17	0	0	0	0	0	0	0	4	0	10	0	36
9:30-9:45	0	0	2	0	10	0	0	0	0	0	0	0	6	0	18	0	36
9:45-10:00	0	0	5	0	14	0	0	0	0	0	0	0	3	0	13	0	35
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:30-14:45	0	0	9	0	9	0	0	0	0	0	0	0	5	0	14	0	37
14:45-15:00	0	0	5	0	21	0	0	0	0	0	0	0	3	0	17	0	46
15:00-15:15	0	0	5	0	23	0	0	0	0	0	0	0	3	0	18	0	49
15:15-15:30	0	0	9	0	26	0	0	0	0	0	0	0	11	0	17	0	63
15:30-15:45	0	0	6	0	19	0	0	0	0	0	0	0	8	0	9	0	42
15:45-16:00	0	0	10	0	17	0	0	0	0	0	0	0	7	0	16	0	50
16:00-16:15	0	0	5	0	18	0	0	0	0	0	0	0	4	0	13	0	40
16:15-16:30	0	0	7	0	25	0	0	0	0	0	0	0	4	0	8	0	44

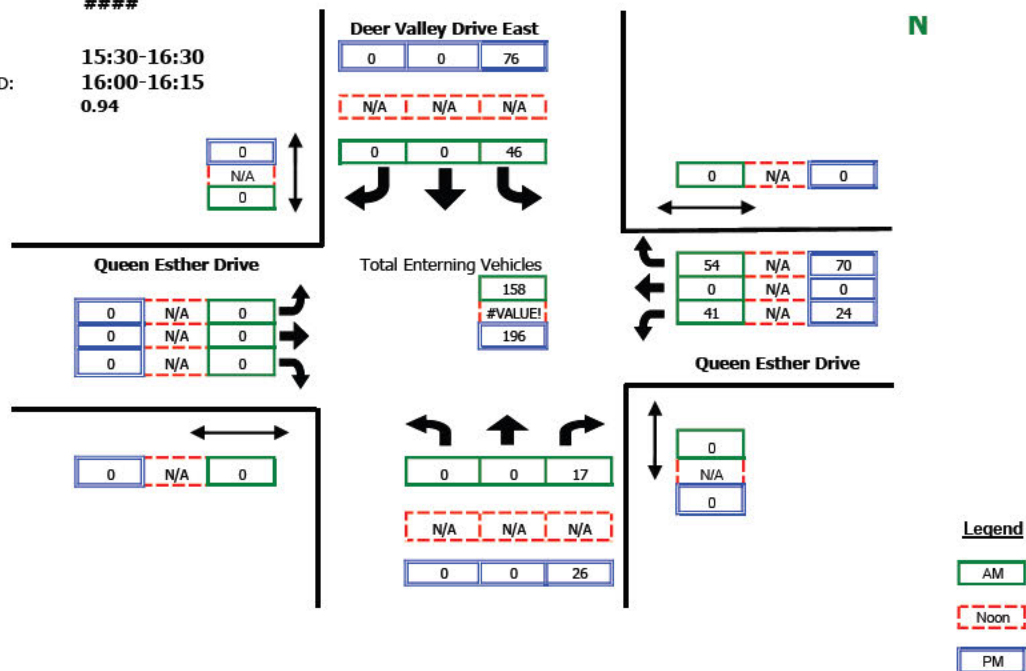
Intersection Turning Movement Summary

Intersection:	Deer Valley Drive East/Queen Esther Drive	Date:	3-4-22, Fri
North/South:	Deer Valley Drive East	Day of Week Adjustment:	100.0%
East/West:	Queen Esther Drive	Month of Year Adjustment:	100.0%
Jurisdiction:	Park City	Adjustment Station #:	
Project Title:	Snow Park Development	Growth Rate:	0.0%
Project No:	UT20-2245	Number of Years:	0
Weather:			

AM PEAK HOUR PERIOD: 8:45-9:45
AM PEAK 15 MINUTE PERIOD: 8:45-9:00
AM PHF: 0.77

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: 15:30-16:30
PM PEAK 15 MINUTE PERIOD: 16:00-16:15
PM PHF: 0.94



RAW COUNT SUMMARIES	Deer Valley Drive East Northbound				Deer Valley Drive East Southbound				Queen Esther Drive Eastbound				Queen Esther Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
8:00-8:15	0	0	4	0	12	0	0	0	0	0	0	0	3	0	18	0	37
8:15-8:30	0	0	3	0	11	0	0	0	0	0	0	0	10	0	9	0	33
8:30-8:45	0	0	5	0	11	0	0	0	0	0	0	0	6	0	10	0	32
8:45-9:00	0	0	2	0	16	0	0	0	0	0	0	0	13	0	20	0	51
9:00-9:15	0	0	5	0	5	0	0	0	0	0	0	0	7	0	9	0	26
9:15-9:30	0	0	6	0	10	0	0	0	0	0	0	0	5	0	10	0	31
9:30-9:45	0	0	4	0	15	0	0	0	0	0	0	0	16	0	15	0	50
9:45-10:00	0	0	10	0	10	0	0	0	0	0	0	0	7	0	15	0	42
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:30-14:45	0	0	6	0	14	0	0	0	0	0	0	0	5	0	9	0	34
14:45-15:00	0	0	8	0	19	0	0	0	0	0	0	0	6	0	23	0	56
15:00-15:15	0	0	8	0	11	0	0	0	0	0	0	0	8	0	18	0	45
15:15-15:30	0	0	8	0	16	0	0	0	0	0	0	0	7	0	15	0	46
15:30-15:45	0	0	2	0	10	0	0	0	0	0	0	0	8	0	21	0	41
15:45-16:00	0	0	7	0	26	0	0	0	0	0	0	0	3	0	15	0	51
16:00-16:15	0	0	7	0	18	0	0	0	0	0	0	0	7	0	20	0	52
16:15-16:30	0	0	10	0	22	0	0	0	0	0	0	0	6	0	14	0	52

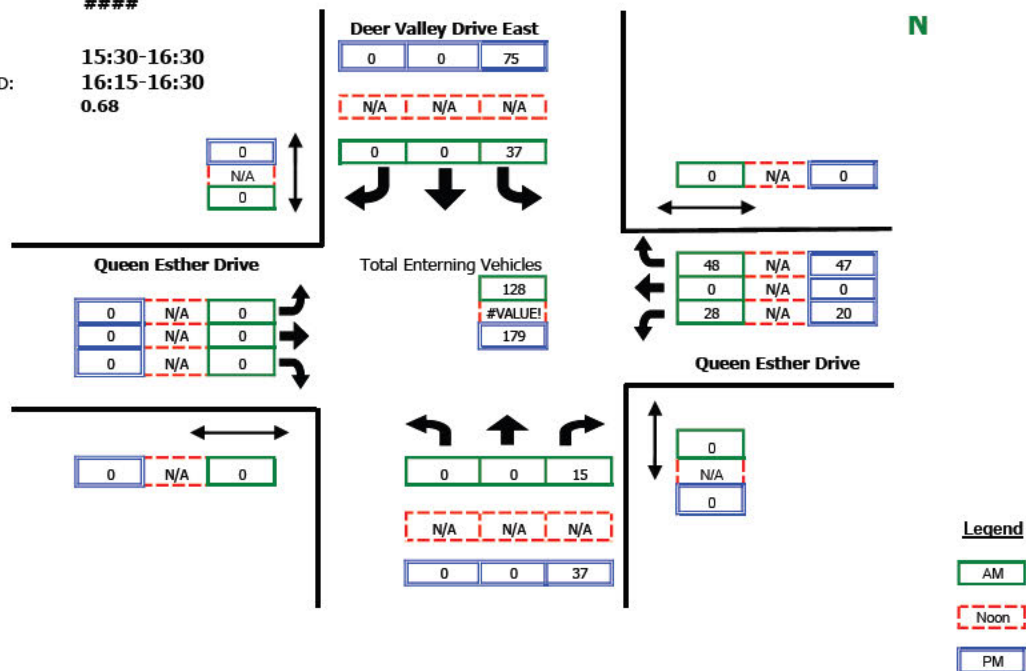
Intersection Turning Movement Summary

Intersection:	Deer Valley Drive East/Queen Esther Drive	Date:	3-5-22, Sat
North/South:	Deer Valley Drive East	Day of Week Adjustment:	100.0%
East/West:	Queen Esther Drive	Month of Year Adjustment:	100.0%
Jurisdiction:	Park City	Adjustment Station #:	
Project Title:	Snow Park Development	Growth Rate:	0.0%
Project No:	UT20-2245	Number of Years:	0
Weather:			

AM PEAK HOUR PERIOD: 8:45-9:45
 AM PEAK 15 MINUTE PERIOD: 8:45-9:00
 AM PHF: 0.86

NOON PEAK HOUR PERIOD:
 NOON PEAK 15 MINUTE PERIOD:
 NOON PHF: ####

PM PEAK HOUR PERIOD: 15:30-16:30
 PM PEAK 15 MINUTE PERIOD: 16:15-16:30
 PM PHF: 0.68



RAW COUNT SUMMARIES	Deer Valley Drive East Northbound				Deer Valley Drive East Southbound				Queen Esther Drive Eastbound				Queen Esther Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
8:00-8:15	0	0	6	0	10	0	0	0	0	0	0	0	4	0	4	0	24
8:15-8:30	0	0	1	0	7	0	0	0	0	0	0	0	10	0	4	0	22
8:30-8:45	0	0	7	0	6	0	0	0	0	0	0	0	10	0	10	0	33
8:45-9:00	0	0	5	0	12	0	0	0	0	0	0	0	10	0	10	0	37
9:00-9:15	0	0	4	0	9	0	0	0	0	0	0	0	6	0	10	0	29
9:15-9:30	0	0	3	0	10	0	0	0	0	0	0	0	4	0	9	0	26
9:30-9:45	0	0	3	0	6	0	0	0	0	0	0	0	8	0	19	0	36
9:45-10:00	0	0	4	0	10	0	0	0	0	0	0	0	7	0	9	0	30
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:30-14:45	0	0	7	0	23	0	0	0	0	0	0	0	4	0	10	0	44
14:45-15:00	0	0	4	0	16	0	0	0	0	0	0	0	7	0	15	0	42
15:00-15:15	0	0	2	0	9	0	0	0	0	0	0	0	6	0	7	0	24
15:15-15:30	0	0	4	0	12	0	0	0	0	0	0	0	2	0	11	0	29
15:30-15:45	0	0	6	0	14	0	0	0	0	0	0	0	7	0	9	0	36
15:45-16:00	0	0	5	0	14	0	0	0	0	0	0	0	4	0	11	0	34
16:00-16:15	0	0	11	0	16	0	0	0	0	0	0	0	6	0	10	0	43
16:15-16:30	0	0	15	0	31	0	0	0	0	0	0	0	3	0	17	0	66

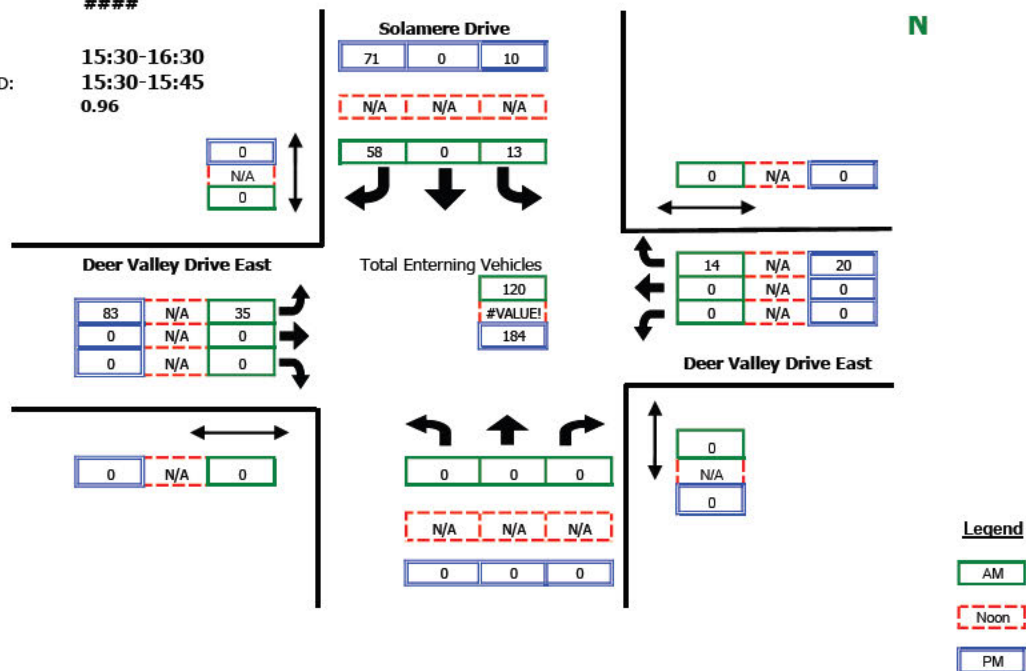
Intersection Turning Movement Summary

Intersection:	Solamere Drive/Deer Valley Drive East	Date:	3-3-22, Thu
North/South:	Solamere Drive	Day of Week Adjustment:	100.0%
East/West:	Deer Valley Drive East	Month of Year Adjustment:	100.0%
Jurisdiction:	Park City	Adjustment Station #:	
Project Title:	Snow Park Development	Growth Rate:	0.0%
Project No:	UT20-2245	Number of Years:	0
Weather:			

AM PEAK HOUR PERIOD: 8:30-9:30
 AM PEAK 15 MINUTE PERIOD: 8:30-8:45
 AM PHF: 0.83

NOON PEAK HOUR PERIOD:
 NOON PEAK 15 MINUTE PERIOD:
 NOON PHF: ####

PM PEAK HOUR PERIOD: 15:30-16:30
 PM PEAK 15 MINUTE PERIOD: 15:30-15:45
 PM PHF: 0.96



RAW COUNT SUMMARIES	Solamere Drive Northbound				Solamere Drive Southbound				Deer Valley Drive East Eastbound				Deer Valley Drive East Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
8:00-8:15	0	0	0	0	4	0	7	0	11	0	0	0	0	0	0	0	22
8:15-8:30	0	0	0	0	2	0	10	0	10	0	0	0	0	0	1	0	23
8:30-8:45	0	0	0	0	2	0	24	0	7	0	0	0	0	0	3	0	36
8:45-9:00	0	0	0	0	4	0	12	0	9	0	0	0	0	0	3	0	28
9:00-9:15	0	0	0	0	3	0	12	0	7	0	0	0	0	0	5	0	27
9:15-9:30	0	0	0	0	4	0	10	0	12	0	0	0	0	0	3	0	29
9:30-9:45	0	0	0	0	1	0	10	0	17	0	0	0	0	0	3	0	31
9:45-10:00	0	0	0	0	4	0	8	0	9	0	0	0	0	0	4	0	25
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:30-14:45	0	0	0	0	3	0	23	0	16	0	0	0	0	0	6	0	48
14:45-15:00	0	0	0	0	2	0	17	0	16	0	0	0	0	0	4	0	39
15:00-15:15	0	0	0	0	1	0	20	0	19	0	0	0	0	0	3	0	43
15:15-15:30	0	0	0	0	5	0	17	0	18	0	0	0	0	0	7	0	47
15:30-15:45	0	0	0	0	3	0	24	0	14	0	0	0	0	0	7	0	48
15:45-16:00	0	0	0	0	2	0	15	0	25	0	0	0	0	0	2	0	44
16:00-16:15	0	0	0	0	5	0	15	0	20	0	0	0	0	0	4	0	44
16:15-16:30	0	0	0	0	0	0	17	0	24	0	0	0	0	0	7	0	48

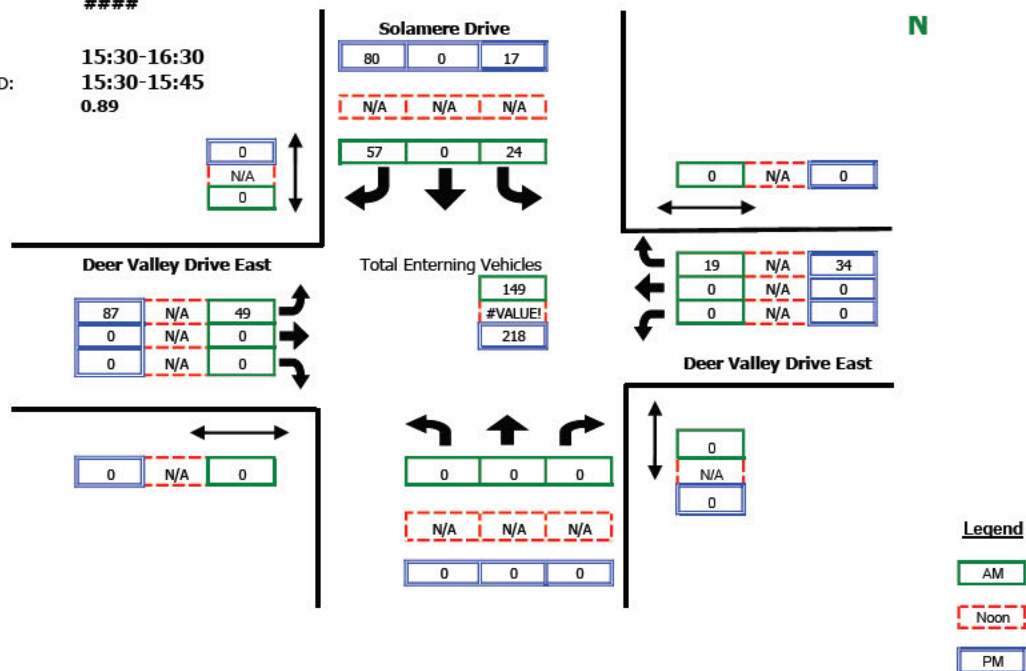
Intersection Turning Movement Summary

Intersection:	Solamere Drive/Deer Valley Drive East	Date:	3-4-22, Fri
North/South:	Solamere Drive	Day of Week Adjustment:	100.0%
East/West:	Deer Valley Drive East	Month of Year Adjustment:	100.0%
Jurisdiction:	Park City	Adjustment Station #:	
Project Title:	Snow Park Development	Growth Rate:	0.0%
Project No:	UT20-2245	Number of Years:	0
Weather:			

AM PEAK HOUR PERIOD: 8:45-9:45
AM PEAK 15 MINUTE PERIOD: 9:15-9:30
AM PHF: 0.93

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: 15:30-16:30
PM PEAK 15 MINUTE PERIOD: 15:30-15:45
PM PHF: 0.89



RAW COUNT SUMMARIES	Solamere Drive Northbound				Solamere Drive Southbound				Deer Valley Drive East Eastbound				Deer Valley Drive East Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
8:00-8:15	0	0	0	0	2	0	6	0	6	0	0	0	0	0	1	0	15
8:15-8:30	0	0	0	0	5	0	13	0	9	0	0	0	0	0	2	0	29
8:30-8:45	0	0	0	0	7	0	8	0	9	0	0	0	0	0	2	0	26
8:45-9:00	0	0	0	0	8	0	11	0	11	0	0	0	0	0	7	0	37
9:00-9:15	0	0	0	0	6	0	13	0	11	0	0	0	0	0	3	0	33
9:15-9:30	0	0	0	0	4	0	17	0	16	0	0	0	0	0	3	0	40
9:30-9:45	0	0	0	0	6	0	16	0	11	0	0	0	0	0	6	0	39
9:45-10:00	0	0	0	0	4	0	19	0	10	0	0	0	0	0	2	0	35
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:30-14:45	0	0	0	0	0	0	21	0	15	0	0	0	0	0	1	0	37
14:45-15:00	0	0	0	0	6	0	11	0	20	0	0	0	0	0	1	0	38
15:00-15:15	0	0	0	0	2	0	16	0	17	0	0	0	0	0	7	0	42
15:15-15:30	0	0	0	0	4	0	15	0	19	0	0	0	0	0	1	0	39
15:30-15:45	0	0	0	0	5	0	24	0	20	0	0	0	0	0	12	0	61
15:45-16:00	0	0	0	0	3	0	16	0	17	0	0	0	0	0	5	0	41
16:00-16:15	0	0	0	0	4	0	21	0	21	0	0	0	0	0	8	0	54
16:15-16:30	0	0	0	0	5	0	19	0	29	0	0	0	0	0	9	0	62

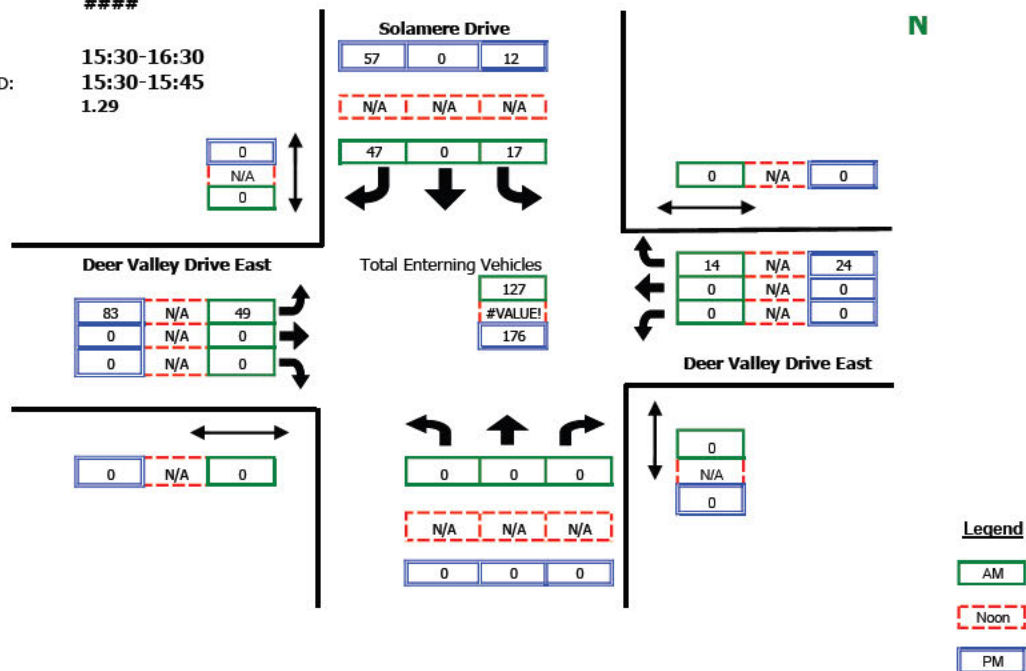
Intersection Turning Movement Summary

Intersection:	Solamere Drive/Deer Valley Drive East	Date:	3-5-22, Sat
North/South:	Solamere Drive	Day of Week Adjustment:	100.0%
East/West:	Deer Valley Drive East	Month of Year Adjustment:	100.0%
Jurisdiction:	Park City	Adjustment Station #:	
Project Title:	Snow Park Development	Growth Rate:	0.0%
Project No:	UT20-2245	Number of Years:	0
Weather:			

AM PEAK HOUR PERIOD: 9:00-10:00
AM PEAK 15 MINUTE PERIOD: 9:45-10:00
AM PHF: 0.76

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: 15:30-16:30
PM PEAK 15 MINUTE PERIOD: 15:30-15:45
PM PHF: 1.29



RAW COUNT SUMMARIES	Solamere Drive Northbound				Solamere Drive Southbound				Deer Valley Drive East Eastbound				Deer Valley Drive East Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
8:00-8:15	0	0	0	0	2	0	12	0	4	0	0	0	0	0	2	0	20
8:15-8:30	0	0	0	0	5	0	6	0	5	0	0	0	0	0	1	0	17
8:30-8:45	0	0	0	0	9	0	15	0	8	0	0	0	0	0	0	0	32
8:45-9:00	0	0	0	0	6	0	15	0	4	0	0	0	0	0	6	0	31
9:00-9:15	0	0	0	0	5	0	4	0	8	0	0	0	0	0	2	0	19
9:15-9:30	0	0	0	0	1	0	12	0	13	0	0	0	0	0	5	0	31
9:30-9:45	0	0	0	0	8	0	9	0	14	0	0	0	0	0	4	0	35
9:45-10:00	0	0	0	0	3	0	22	0	14	0	0	0	0	0	3	0	42
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:00-14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15-14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30-14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45-15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00-15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15-15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30-15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45-16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
14:30-14:45	0	0	0	0	4	0	9	0	17	0	0	0	0	0	6	0	36
14:45-15:00	0	0	0	0	3	0	12	0	2	0	0	0	0	0	2	0	19
15:00-15:15	0	0	0	0	3	0	8	0	7	0	0	0	0	0	7	0	25
15:15-15:30	0	0	0	0	2	0	11	0	16	0	0	0	0	0	1	0	30
15:30-15:45	0	0	0	0	2	0	11	0	17	0	0	0	0	0	4	0	34
15:45-16:00	0	0	0	0	5	0	13	0	20	0	0	0	0	0	10	0	48
16:00-16:15	0	0	0	0	3	0	15	0	25	0	0	0	0	0	9	0	52
16:15-16:30	0	0	0	0	2	0	18	0	21	0	0	0	0	0	1	0	42

L2 Data Collection

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Date Start: 15-Feb-20
Date End: 15-Feb-20
Deer Valley Dr E of the DV Dr Split Intersect VOL D1
DV Dr east of the DV Dr Split Intersect
Deer Valley, Idaho
Site Code: Day 1

Start Time	15-Feb-20 Sat	WB	EB	Total
12:00 AM		*	*	*
12:15		10	8	18
12:30		6	6	12
12:45		6	7	13
01:00		4	2	6
01:15		0	1	1
01:30		3	4	7
01:45		3	6	9
02:00		1	4	5
02:15		0	2	2
02:30		0	0	0
02:45		0	0	0
03:00		0	1	1
03:15		1	0	1
03:30		2	0	2
03:45		0	0	0
04:00		0	0	0
04:15		1	1	2
04:30		1	0	1
04:45		1	0	1
05:00		0	0	0
05:15		1	2	3
05:30		3	0	3
05:45		1	3	4
06:00		0	8	8
06:15		3	1	4
06:30		3	16	19
06:45		9	30	39
07:00		14	38	52
07:15		15	60	75
07:30		22	94	116
07:45		22	127	149
08:00		32	106	138
08:15		29	64	93
08:30		54	62	116
08:45		48	52	100
09:00		56	32	88
09:15		51	26	77
09:30		65	46	111
09:45		68	36	104
10:00		66	29	95
10:15		42	29	71
10:30		61	46	107
10:45		56	36	92
11:00		52	38	90
11:15		54	38	92
11:30		60	34	94
11:45		55	33	88
Total		981	1128	2109
Percent		46.5%	53.5%	
Peak	-	09:15	07:30	07:30
Vol.	-	250	391	496
P.H.F.		0.919	0.770	0.832

L2 Data Collection

Study: FEHR0119
 Type: Volume / Direction
 Tech: Judd / Mosdell / Anderson
 Count: Axle Hits / 2

L2DataCollection.com
 Idaho (208) 860-7554 Utah (801) 413-2993

Date Start: 15-Feb-20
 Date End: 15-Feb-20
 Deer Valley Dr E of the DV Dr Split Intersect VOL D1
 DV Dr east of the DV Dr Split Intersect
 Deer Valley, Idaho
 Site Code: Day 1

Start Time	15-Feb-20 Sat	WB	EB	Total
12:00 PM		90	44	134
12:15		53	30	83
12:30		58	36	94
12:45		84	34	118
01:00		50	50	100
01:15		66	38	104
01:30		48	45	93
01:45		62	40	102
02:00		75	36	111
02:15		66	42	108
02:30		64	37	101
02:45		49	46	95
03:00		61	58	119
03:15		80	48	128
03:30		80	58	138
03:45		92	55	147
04:00		100	52	152
04:15		78	64	142
04:30		109	70	179
04:45		72	62	134
05:00		84	59	143
05:15		64	56	120
05:30		84	58	142
05:45		72	58	130
06:00		73	38	111
06:15		58	59	117
06:30		61	61	122
06:45		51	48	99
07:00		45	53	98
07:15		34	43	77
07:30		42	41	83
07:45		45	36	81
08:00		40	36	76
08:15		32	35	67
08:30		45	40	85
08:45		34	34	68
09:00		36	30	66
09:15		27	30	57
09:30		24	24	48
09:45		34	32	66
10:00		23	24	47
10:15		16	26	42
10:30		20	13	33
10:45		9	10	19
11:00		10	7	17
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		2500	1896	4396
Percent		56.9%	43.1%	
Peak	-	15:45	16:15	15:45
Vol.	-	379	255	620
P.H.F.		0.869	0.911	0.866
Grand Total		3481	3024	6505
Percent		53.5%	46.5%	

L2 Data Collection

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Date Start: 15-Feb-20
Date End: 15-Feb-20
Deer Valley Dr N of Parking & S of Queen Esther VOL D1
DV Dr N Of Parking & S of Queen Esther
Deer Valley, Utah
Site Code: Day 1

Start Time	15-Feb-20 Sat	SB	NB	Total
12:00 AM		*	*	*
12:15		*	*	*
12:30		3	2	5
12:45		1	2	3
01:00		0	1	1
01:15		0	1	1
01:30		3	2	5
01:45		1	0	1
02:00		1	0	1
02:15		2	0	2
02:30		0	0	0
02:45		0	0	0
03:00		0	0	0
03:15		0	0	0
03:30		0	2	2
03:45		0	0	0
04:00		0	0	0
04:15		1	3	4
04:30		0	0	0
04:45		0	0	0
05:00		2	0	2
05:15		1	1	2
05:30		0	1	1
05:45		1	0	1
06:00		6	0	6
06:15		1	1	2
06:30		9	2	11
06:45		23	4	27
07:00		31	5	36
07:15		61	8	69
07:30		81	13	94
07:45		106	10	116
08:00		122	26	148
08:15		73	25	98
08:30		72	48	120
08:45		47	44	91
09:00		40	48	88
09:15		38	44	82
09:30		36	50	86
09:45		27	46	73
10:00		21	45	66
10:15		20	33	53
10:30		28	38	66
10:45		21	29	50
11:00		22	34	56
11:15		19	23	42
11:30		21	34	55
11:45		19	24	43
Total		960	649	1609
Percent		59.7%	40.3%	
Peak	-	07:30	09:00	07:45
Vol.	-	382	188	482
P.H.F.		0.783	0.940	0.814

L2 Data Collection

Study: FEHR0119
 Type: Volume / Direction
 Tech: Judd / Mosdell / Anderson
 Count: Axle Hits / 2

L2DataCollection.com
 Idaho (208) 860-7554 Utah (801) 413-2993

Date Start: 15-Feb-20
 Date End: 15-Feb-20
 Deer Valley Dr N of Parking & S of Queen Esther VOL D1
 DV Dr N Of Parking & S of Queen Esther
 Deer Valley, Utah
 Site Code: Day 1

Start Time	15-Feb-20 Sat	SB	NB	Total
12:00 PM		22	40	62
12:15		19	28	47
12:30		27	36	63
12:45		19	32	51
01:00		25	26	51
01:15		13	37	50
01:30		20	31	51
01:45		16	41	57
02:00		15	46	61
02:15		21	38	59
02:30		24	44	68
02:45		27	36	63
03:00		28	51	79
03:15		26	56	82
03:30		47	62	109
03:45		44	72	116
04:00		29	80	109
04:15		36	82	118
04:30		40	86	126
04:45		34	52	86
05:00		24	48	72
05:15		22	34	56
05:30		28	62	90
05:45		22	40	62
06:00		14	36	50
06:15		16	33	49
06:30		14	20	34
06:45		16	16	32
07:00		20	23	43
07:15		12	12	24
07:30		8	15	23
07:45		10	16	26
08:00		11	13	24
08:15		8	18	26
08:30		12	15	27
08:45		7	12	19
09:00		15	24	39
09:15		10	13	23
09:30		5	16	21
09:45		5	16	21
10:00		8	17	25
10:15		8	9	17
10:30		4	11	15
10:45		4	8	12
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		835	1503	2338
Percent		35.7%	64.3%	
Peak	-	15:30	15:45	15:45
Vol.	-	156	320	469
P.H.F.		0.830	0.930	0.931
Grand Total		1795	2152	3947
Percent		45.5%	54.5%	

L2 Data Collection

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Date Start: 15-Feb-20
Date End: 15-Feb-20
Deer Valley Dr S of the DV Dr Split Intersect VOL D1
DV Dr south of the DV Dr Split Intersect
Deer Valley, Utah
Site Code: Day 1

Start Time	15-Feb-20 Sat	SB	NB	Total
12:00 AM		6	10	16
12:15		3	6	9
12:30		2	9	11
12:45		4	2	6
01:00		4	3	7
01:15		3	2	5
01:30		0	2	2
01:45		2	1	3
02:00		4	4	8
02:15		0	3	3
02:30		0	0	0
02:45		1	0	1
03:00		1	1	2
03:15		4	1	5
03:30		1	1	2
03:45		1	0	1
04:00		1	3	4
04:15		0	1	1
04:30		0	0	0
04:45		0	1	1
05:00		4	1	5
05:15		2	3	5
05:30		1	0	1
05:45		1	0	1
06:00		4	4	8
06:15		4	2	6
06:30		21	6	27
06:45		28	10	38
07:00		32	10	42
07:15		36	13	49
07:30		62	26	88
07:45		70	22	92
08:00		114	28	142
08:15		127	30	157
08:30		129	38	167
08:45		134	41	175
09:00		113	34	147
09:15		98	34	132
09:30		90	48	138
09:45		98	44	142
10:00		75	42	117
10:15		62	46	108
10:30		48	43	91
10:45		48	40	88
11:00		54	50	104
11:15		48	40	88
11:30		42	31	73
11:45		66	40	106
Total		1648	776	2424
Percent		68.0%	32.0%	
Peak	-	08:00	09:30	08:15
Vol.	-	504	180	646
P.H.F.		0.940	0.938	0.923

L2 Data Collection

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Date Start: 15-Feb-20
Date End: 15-Feb-20
Deer Valley Dr S of the DV Dr Split Intersect VOL D1
DV Dr south of the DV Dr Split Intersect
Deer Valley, Utah
Site Code: Day 1

Start Time	15-Feb-20 Sat	SB	NB	Total
12:00 PM		44	47	91
12:15		46	34	80
12:30		54	25	79
12:45		43	43	86
01:00		46	36	82
01:15		51	39	90
01:30		45	53	98
01:45		42	40	82
02:00		57	54	111
02:15		54	70	124
02:30		53	78	131
02:45		62	66	128
03:00		63	71	134
03:15		77	74	151
03:30		82	86	168
03:45		64	112	176
04:00		77	146	223
04:15		53	170	223
04:30		53	122	175
04:45		60	106	166
05:00		46	108	154
05:15		34	90	124
05:30		52	116	168
05:45		38	116	154
06:00		48	56	104
06:15		38	48	86
06:30		38	34	72
06:45		40	26	66
07:00		30	24	54
07:15		22	38	60
07:30		34	25	59
07:45		40	30	70
08:00		26	22	48
08:15		31	22	53
08:30		11	18	29
08:45		27	22	49
09:00		18	28	46
09:15		16	21	37
09:30		12	12	24
09:45		16	23	39
10:00		10	19	29
10:15		16	24	40
10:30		9	7	16
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		1778	2401	4179
Percent		42.5%	57.5%	
Peak	-	15:15	15:45	15:45
Vol.	-	300	550	797
P.H.F.		0.915	0.809	0.893
Grand Total		3426	3177	6603
Percent		51.9%	48.1%	

MXD+ Vehicle Trip Generation Reduction Percent			
	Daily	AM Peak Hour	PM Peak Hour
Internal Capture	1.9%	3.7%	10.6%
Shift to Transit	3%	1.9%	2.9%
Shift to Walk/Bike	4.6%	5.6%	3.4%

Advanced MXD+ Results

Predicted Probabilities	Daily			AM			PM		
Productions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	4.35%	1.53%	1.45%	5.00%	2.88%	1.52%	21.06%	7.42%	7.04%
Walking External	2.59%	6.40%	0.30%	3.11%	8.32%	0.30%	2.59%	6.40%	0.30%
Transit External	0.25%	3.38%	4.43%	0.35%	3.72%	4.43%	0.35%	3.38%	4.43%
Attractions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	4.28%	1.51%	1.45%	5.00%	2.88%	1.52%	21.06%	7.42%	7.04%
Walking External	2.56%	6.38%	0.30%	3.07%	7.66%	0.30%	2.56%	6.38%	0.30%
Transit External	0.25%	3.35%	4.44%	0.34%	4.69%	6.21%	0.34%	3.35%	4.44%

Number of Trips	Daily			AM			PM		
Productions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	7	9	2	1	1	0	4	5	2
Walking External	5	35	0	1	2	0	0	2	0
Transit External	0	18	6	0	1	0	0	1	1
Attractions	HBW	HBO	NHB	HBW	HBO	NHB	HBW	HBO	NHB
Internal Capture	7	9	2	1	1	0	4	5	2
Walking External	2	43	1	0	3	0	0	5	0
Transit External	0	23	9	0	1	0	0	3	1

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing
AM Peak Hour

Intersection 3

Deer Valley Drive East/Queen Esther Drive

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	70	74	105.4%	0.3	0.2	A
	Right Turn	17	19	112.4%	0.3	0.6	A
	Subtotal	87	93	106.8%	0.3	0.2	A
SB	Left Turn	50	50	99.4%	4.1	0.3	A
	Through	116	116	99.6%	0.9	0.3	A
	Right Turn						
	Subtotal	166	165	99.5%	1.8	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	18	91.0%	5.8	1.2	A
	Through						
	Right Turn	55	56	101.6%	5.2	0.6	A
	Subtotal	75	74	98.8%	5.4	0.5	A
Total		328	332	101.3%	2.3	0.3	A

Intersection 4

Solamere Drive/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	24	23	95.4%	6.8	2.3	A
	Through						
	Right Turn	57	60	104.6%	5.8	0.4	A
	Subtotal	81	83	101.9%	5.9	0.4	A
EB	Left Turn	49	49	100.0%	4.2	0.8	A
	Through	142	144	101.1%	1.3	0.4	A
	Right Turn						
	Subtotal	191	193	100.8%	2.0	0.5	A
WB	Left Turn						
	Through	106	108	101.7%	1.1	0.2	A
	Right Turn	19	21	110.0%	1.3	0.6	A
	Subtotal	125	129	103.0%	1.1	0.2	A
Total		397	404	101.7%	2.6	0.2	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing
AM Peak Hour

Intersection 5

Deer Valley Drive West/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	147	148	100.6%	1.1	0.6	A
	Right Turn	15	15	98.7%	1.0	1.7	A
	Subtotal	162	163	100.4%	1.1	0.5	A
SB	Left Turn	176	176	100.2%	5.3	0.9	A
	Through	627	645	102.9%	3.7	0.6	A
	Right Turn						
	Subtotal	803	822	102.3%	4.0	0.6	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	7	7	97.1%	15.3	8.3	C
	Through						
	Right Turn	156	161	103.2%	4.2	0.9	A
	Subtotal	163	168	102.9%	4.9	0.8	A
Total		1,128	1,152	102.1%	3.8	0.5	A

Intersection 7

Deer Valley Drive/Bonanza Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	263	266	101.2%	13.0	2.4	B
	Right Turn	151	158	104.8%	3.7	0.8	A
	Subtotal	414	424	102.5%	9.5	1.7	A
SB	Left Turn	105	101	96.4%	12.9	1.8	B
	Through	631	635	100.7%	8.9	1.2	A
	Right Turn						
	Subtotal	736	737	100.1%	9.4	1.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	553	558	101.0%	15.8	1.5	B
	Through						
	Right Turn	198	196	98.7%	5.4	1.5	A
	Subtotal	751	754	100.4%	13.0	1.5	B
Total		1,901	1,915	100.7%	10.8	1.0	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing
AM Peak Hour

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	36	35	96.1%	32.0	10.4	C
	Through	191	196	102.4%	52.3	3.8	D
	Right Turn	67	74	110.0%	17.5	6.3	B
	Subtotal	294	304	103.3%	42.7	4.9	D
SB	Left Turn	477	429	90.0%	206.7	15.7	F
	Through	169	154	90.8%	173.8	18.6	F
	Right Turn	901	853	94.6%	62.6	9.2	E
	Subtotal	1,547	1,436	92.8%	117.7	10.8	F
EB	Left Turn	320	316	98.7%	40.5	6.2	D
	Through	172	175	101.7%	26.9	8.7	C
	Right Turn	16	17	104.4%	19.7	18.3	B
	Subtotal	508	508	99.9%	35.2	5.4	D
WB	Left Turn	50	49	98.2%	53.8	9.2	D
	Through	253	281	110.9%	42.0	6.4	D
	Right Turn	215	215	99.9%	8.4	1.3	A
	Subtotal	518	545	105.1%	29.9	4.1	C
Total		2,867	2,791	97.4%	77.1	4.5	E

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	64	64	99.8%	22.0	4.6	C
	Through	28	30	106.4%	23.3	7.8	C
	Right Turn	101	100	98.9%	3.2	0.9	A
	Subtotal	193	194	100.3%	12.7	2.6	B
SB	Left Turn	54	54	100.6%	16.7	4.9	B
	Through	71	71	99.4%	26.4	5.1	C
	Right Turn	29	30	101.7%	4.3	1.0	A
	Subtotal	154	154	100.3%	18.4	3.0	B
EB	Left Turn	22	20	92.7%	12.9	3.6	B
	Through	230	234	101.6%	16.4	2.4	B
	Right Turn	95	98	103.2%	8.2	2.5	A
	Subtotal	347	352	101.5%	13.9	2.2	B
WB	Left Turn	287	284	98.9%	13.8	1.7	B
	Through	324	323	99.7%	7.7	1.7	A
	Right Turn	47	47	100.2%	3.7	1.9	A
	Subtotal	658	654	99.4%	10.0	1.3	B
Total		1,352	1,354	100.1%	12.4	1.5	B

MOVEMENT SUMMARY

 **Site: 101 [Existing AM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.157	13.4	LOS B	0.6	14.5	0.63	0.63	0.63	33.7
8	T1	127	3.0	0.157	7.8	LOS A	0.6	14.5	0.63	0.63	0.63	34.3
18b	R3	62	3.0	0.157	7.8	LOS A	0.6	14.5	0.63	0.63	0.63	32.5
Approach		189	3.5	0.157	7.9	LOS A	0.6	14.5	0.63	0.63	0.63	33.7
SouthEast: RoadName												
3bx	L3	32	3.0	0.142	4.3	LOS A	0.5	14.7	0.29	0.17	0.29	35.9
3ax	L1	19	100.0	0.142	7.1	LOS A	0.5	14.7	0.29	0.17	0.29	34.5
18ax	R1	269	3.0	0.142	4.3	LOS A	0.6	15.2	0.29	0.17	0.29	35.6
Approach		320	8.8	0.142	4.4	LOS A	0.6	15.2	0.29	0.17	0.29	35.5
North: Deer Valley Drive												
7u	U	23	3.0	0.748	14.3	LOS B	8.6	221.4	0.52	0.26	0.52	30.4
7a	L1	804	3.0	0.748	14.3	LOS B	8.6	221.4	0.52	0.26	0.52	29.5
4	T1	378	3.0	0.748	8.1	LOS A	8.6	221.4	0.32	0.15	0.32	33.5
14	R2	12	100.0	0.204	7.2	LOS A	0.9	23.5	0.20	0.09	0.20	34.5
Approach		1217	3.9	0.748	12.3	LOS B	8.6	221.4	0.45	0.23	0.45	30.7
West: Transit Center												
5	L2	2	100.0	0.159	18.6	LOS C	0.3	11.7	0.68	0.68	0.68	29.6
12a	R1	23	100.0	0.159	18.6	LOS C	0.3	11.7	0.68	0.68	0.68	29.2
12	R2	13	100.0	0.159	18.6	LOS C	0.3	11.7	0.68	0.68	0.68	28.6
Approach		38	100.0	0.159	18.6	LOS C	0.3	11.7	0.68	0.68	0.68	29.0
All Vehicles		1765	6.9	0.748	10.5	LOS B	8.6	221.4	0.45	0.27	0.45	31.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: P:\20-2245 Snow Park Development\Analysis\SIDRA\DeerValleyDrRoundabout.sip8

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing
PM Peak Hour

Intersection 3

Deer Valley Drive East/Queen Esther Drive

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	293	298	101.6%	1.0	0.3	A
	Right Turn	30	33	111.3%	0.8	0.6	A
	Subtotal	323	331	102.5%	1.0	0.3	A
SB	Left Turn	85	81	95.4%	4.6	0.7	A
	Through	78	78	99.9%	1.2	0.4	A
	Right Turn						
	Subtotal	163	159	97.5%	2.9	0.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	29	29	100.7%	8.5	4.0	A
	Through						
	Right Turn	60	60	100.7%	6.0	0.9	A
	Subtotal	89	90	100.7%	6.6	1.4	A
Total		575	580	100.8%	2.4	0.3	A

Intersection 4

Solamere Drive/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	17	19	112.4%	10.6	4.9	B
	Through						
	Right Turn	80	87	108.6%	7.1	2.1	A
	Subtotal	97	106	109.3%	7.7	2.2	A
EB	Left Turn	87	84	96.4%	5.3	0.9	A
	Through	146	138	94.7%	1.9	0.8	A
	Right Turn						
	Subtotal	233	222	95.3%	3.3	0.9	A
WB	Left Turn						
	Through	319	324	101.6%	1.2	0.2	A
	Right Turn	34	35	102.1%	1.0	0.5	A
	Subtotal	353	359	101.6%	1.2	0.2	A
Total		683	687	100.6%	3.0	0.6	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing
PM Peak Hour

Intersection 5

Deer Valley Drive West/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	536	536	100.0%	3.4	0.3	A
	Right Turn	44	45	102.3%	3.2	1.3	A
	Subtotal	580	581	100.2%	3.4	0.3	A
SB	Left Turn	189	178	94.2%	8.5	2.0	A
	Through	204	205	100.6%	2.0	0.5	A
	Right Turn						
	Subtotal	393	383	97.5%	5.0	1.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	22	25	113.6%	39.3	37.1	E
	Through						
	Right Turn	377	382	101.2%	31.9	17.5	D
	Subtotal	399	407	101.9%	32.3	18.3	D
Total		1,372	1,371	99.9%	12.2	5.4	B

Intersection 7

Deer Valley Drive/Bonanza Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	754	744	98.6%	29.8	7.7	C
	Right Turn	651	660	101.4%	20.8	8.4	C
	Subtotal	1,405	1,404	99.9%	25.6	7.8	C
SB	Left Turn	251	205	81.6%	19.8	1.7	B
	Through	460	431	93.6%	7.8	1.0	A
	Right Turn						
	Subtotal	711	635	89.4%	11.5	1.5	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	419	415	99.0%	23.4	4.0	C
	Through						
	Right Turn	129	129	99.8%	13.3	8.1	B
	Subtotal	548	544	99.2%	20.8	5.1	C
Total		2,664	2,583	96.9%	21.2	5.2	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing
PM Peak Hour

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	35	34	96.3%	26.9	5.4	C
	Through	395	387	98.1%	48.2	4.5	D
	Right Turn	68	74	108.1%	26.7	8.6	C
	Subtotal	498	495	99.3%	44.0	4.2	D
SB	Left Turn	495	389	78.7%	208.5	18.4	F
	Through	363	286	78.8%	164.0	18.2	F
	Right Turn	364	294	80.9%	44.7	5.1	D
	Subtotal	1,222	970	79.4%	147.7	13.7	F
EB	Left Turn	633	526	83.1%	87.2	7.4	F
	Through	277	240	86.5%	70.2	16.8	E
	Right Turn	36	30	83.6%	65.0	22.4	E
	Subtotal	946	796	84.1%	81.4	10.3	F
WB	Left Turn	75	74	98.9%	73.7	14.1	E
	Through	239	285	119.4%	56.1	8.1	E
	Right Turn	640	624	97.6%	40.2	5.9	D
	Subtotal	954	984	103.1%	47.7	3.3	D
Total		3,620	3,244	89.6%	84.3	3.4	F

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	176	166	94.4%	34.5	8.0	C
	Through	89	93	104.5%	29.9	6.0	C
	Right Turn	479	455	95.0%	11.2	2.4	B
	Subtotal	744	714	96.0%	19.4	2.8	B
SB	Left Turn	90	88	98.2%	30.0	5.6	C
	Through	55	50	91.5%	34.5	7.9	C
	Right Turn	63	59	92.9%	5.5	1.2	A
	Subtotal	208	197	94.8%	23.9	3.5	C
EB	Left Turn	71	68	96.3%	15.8	3.5	B
	Through	584	589	100.9%	26.4	3.4	C
	Right Turn	149	148	99.3%	21.2	4.8	C
	Subtotal	804	805	100.2%	24.6	3.1	C
WB	Left Turn	218	216	99.1%	17.7	3.0	B
	Through	384	386	100.5%	11.3	2.2	B
	Right Turn	46	49	106.3%	6.8	4.2	A
	Subtotal	648	651	100.4%	13.1	1.7	B
Total		2,404	2,367	98.5%	19.7	1.9	B

MOVEMENT SUMMARY

 **Site: 101 [Existing PM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.344	13.5	LOS B	1.5	38.8	0.64	0.65	0.68	32.9
8	T1	454	3.0	0.344	9.0	LOS A	1.5	38.8	0.64	0.65	0.68	33.8
18b	R3	62	3.0	0.344	9.0	LOS A	1.5	38.8	0.64	0.65	0.68	32.1
Approach		516	3.2	0.344	9.0	LOS A	1.5	38.8	0.64	0.65	0.68	33.6
SouthEast: RoadName												
3bx	L3	36	3.0	0.559	14.3	LOS B	3.7	97.6	0.74	0.91	1.23	31.7
3ax	L1	13	100.0	0.559	19.1	LOS C	3.7	97.6	0.74	0.91	1.23	30.4
18ax	R1	732	3.0	0.559	14.2	LOS B	3.8	98.4	0.75	0.91	1.23	31.0
Approach		782	4.6	0.559	14.3	LOS B	3.8	98.4	0.75	0.91	1.23	31.0
North: Deer Valley Drive												
7u	U	242	3.0	0.617	10.2	LOS B	5.3	134.5	0.36	0.17	0.36	31.9
7a	L1	368	3.0	0.617	10.2	LOS B	5.3	134.5	0.36	0.17	0.36	31.0
4	T1	398	3.0	0.617	7.1	LOS A	5.3	134.5	0.27	0.12	0.27	33.7
14	R2	6	100.0	0.169	6.8	LOS A	0.7	18.8	0.18	0.08	0.18	34.6
Approach		1014	3.6	0.617	9.0	LOS A	5.3	134.5	0.32	0.15	0.32	32.2
West: Transit Center												
5	L2	5	100.0	0.078	14.1	LOS B	0.1	5.8	0.61	0.61	0.61	31.0
12a	R1	12	100.0	0.078	14.1	LOS B	0.1	5.8	0.61	0.61	0.61	30.5
12	R2	5	100.0	0.078	14.1	LOS B	0.1	5.8	0.61	0.61	0.61	29.9
Approach		22	100.0	0.078	14.1	LOS B	0.1	5.8	0.61	0.61	0.61	30.5
All Vehicles		2334	4.8	0.617	10.8	LOS B	5.3	134.5	0.54	0.52	0.71	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: P:\20-2245 Snow Park Development\Analysis\SIDRA\DeerValleyDrRoundabout.sip8

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
AM Peak Hour

Intersection 1 Deer Valley Drive East/Doe Pass Road Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	119	119	99.7%	7.2	2.3	A
	Through	67	69	103.6%	4.7	1.1	A
	Right Turn						
	Subtotal	186	188	101.1%	6.2	1.7	A
SB	Left Turn						
	Through	194	200	103.2%	5.3	1.6	A
	Right Turn	15	16	105.3%	1.9	1.0	A
	Subtotal	209	216	103.4%	5.1	1.4	A
EB	Left Turn	15	15	100.0%	10.7	4.6	B
	Through						
	Right Turn	100	99	99.0%	5.4	1.1	A
	Subtotal	115	114	99.1%	6.3	1.6	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		510	518	101.6%	5.7	1.2	A

Intersection 2 Deer Valley Drive West/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	20	101.5%	7.9	2.2	A
	Through						
	Right Turn						
	Subtotal	20	20	101.5%	7.9	2.2	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	702	711	101.3%	3.7	0.6	A
	Right Turn	20	21	104.0%	2.2	1.2	A
	Subtotal	722	732	101.4%	3.7	0.6	A
WB	Left Turn						
	Through	185	183	98.9%	0.3	0.1	A
	Right Turn						
	Subtotal	185	183	98.9%	0.3	0.1	A
Total		927	935	100.9%	3.2	0.5	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
AM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	112	114	102.1%	0.9	0.2	A
	Right Turn	17	21	125.3%	1.0	0.6	A
	Subtotal	129	136	105.1%	0.9	0.1	A
SB	Left Turn	50	49	97.0%	4.0	0.3	A
	Through	204	213	104.4%	1.2	0.3	A
	Right Turn						
	Subtotal	254	261	102.9%	1.7	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	22	108.0%	7.5	2.8	A
	Through						
	Right Turn	55	52	94.0%	5.3	0.3	A
	Subtotal	75	73	97.7%	5.9	0.8	A
Total		458	470	102.7%	2.1	0.3	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	24	24	97.9%	8.2	2.6	A
	Through						
	Right Turn	57	56	97.5%	5.7	0.7	A
	Subtotal	81	79	97.7%	6.5	1.1	A
EB	Left Turn	49	49	99.8%	4.4	0.6	A
	Through	230	236	102.8%	1.7	0.5	A
	Right Turn						
	Subtotal	279	285	102.3%	2.2	0.3	A
WB	Left Turn						
	Through	148	145	97.7%	1.0	0.3	A
	Right Turn	19	20	103.7%	0.8	0.4	A
	Subtotal	167	164	98.4%	0.9	0.2	A
Total		527	529	100.3%	2.5	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
AM Peak Hour

Intersection 5 Deer Valley Drive West/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	190	190	100.0%	1.4	0.4	A
	Right Turn	15	14	96.0%	1.4	1.3	A
	Subtotal	205	204	99.7%	1.4	0.3	A
SB	Left Turn	264	271	102.7%	7.1	0.6	A
	Through	715	721	100.8%	4.3	0.3	A
	Right Turn						
	Subtotal	979	992	101.3%	5.0	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	7	7	97.1%	26.3	26.8	D
	Through						
	Right Turn	198	194	97.7%	5.6	1.2	A
	Subtotal	205	200	97.7%	6.4	1.4	A
Total		1,389	1,396	100.5%	4.7	0.4	A

Intersection 7 Deer Valley Drive/Bonanza Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	305	299	98.1%	13.3	2.0	B
	Right Turn	168	161	96.0%	3.1	0.9	A
	Subtotal	473	461	97.4%	9.6	1.4	A
SB	Left Turn	105	90	85.6%	13.2	1.9	B
	Through	719	660	91.8%	9.8	1.2	A
	Right Turn						
	Subtotal	824	750	91.0%	10.2	1.2	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	588	589	100.2%	16.0	2.1	B
	Through						
	Right Turn	198	196	99.0%	5.7	1.1	A
	Subtotal	786	785	99.9%	13.3	1.7	B
Total		2,083	1,996	95.8%	11.3	1.0	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
AM Peak Hour

Intersection 8 SR-224-Park Avenue/Empire Avenue-Deer Valley Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	36	38	104.4%	31.1	6.3	C
	Through	191	194	101.7%	49.3	4.9	D
	Right Turn	67	68	102.1%	15.3	5.9	B
	Subtotal	294	300	102.1%	39.3	5.1	D
SB	Left Turn	565	435	77.0%	215.8	13.6	F
	Through	169	139	82.0%	174.7	19.3	F
	Right Turn	901	715	79.3%	55.4	10.9	E
	Subtotal	1,635	1,289	78.8%	119.7	6.7	F
EB	Left Turn	320	314	98.2%	39.3	4.6	D
	Through	172	177	102.7%	31.2	6.4	C
	Right Turn	16	16	99.4%	21.7	12.3	C
	Subtotal	508	507	99.7%	36.0	4.9	D
WB	Left Turn	50	47	93.4%	59.7	16.5	E
	Through	253	281	111.1%	43.7	6.9	D
	Right Turn	257	248	96.6%	9.1	3.1	A
	Subtotal	560	576	102.9%	31.0	3.8	C
Total		2,997	2,672	89.1%	75.1	3.9	E

Intersection 9 Monitor Drive-Bonanza Drive/SR-248 Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	64	57	89.5%	21.3	4.2	C
	Through	28	27	97.9%	22.2	7.6	C
	Right Turn	118	109	92.5%	2.7	0.6	A
	Subtotal	210	194	92.3%	11.0	2.2	B
SB	Left Turn	54	52	96.5%	19.2	3.9	B
	Through	71	72	102.0%	24.5	5.0	C
	Right Turn	29	29	99.3%	4.0	0.9	A
	Subtotal	154	153	99.5%	18.6	2.2	B
EB	Left Turn	22	21	96.4%	10.8	3.3	B
	Through	230	226	98.3%	18.6	2.7	B
	Right Turn	95	97	102.4%	8.8	2.6	A
	Subtotal	347	345	99.3%	15.3	2.2	B
WB	Left Turn	322	319	98.9%	13.8	2.6	B
	Through	324	324	100.0%	8.7	1.4	A
	Right Turn	47	46	98.7%	4.6	2.1	A
	Subtotal	693	689	99.4%	10.8	1.5	B
Total		1,404	1,381	98.3%	12.8	1.1	B

MOVEMENT SUMMARY

 **Site: 101 [Existing Plus Project AM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.204	16.4	LOS C	0.7	18.5	0.68	0.68	0.68	32.7
8	T1	127	3.0	0.204	9.8	LOS A	0.7	18.5	0.68	0.68	0.68	33.3
18b	R3	81	3.0	0.204	9.8	LOS A	0.7	18.5	0.68	0.68	0.68	31.6
Approach		209	3.5	0.204	9.9	LOS A	0.7	18.5	0.68	0.68	0.68	32.6
SouthEast: RoadName												
3bx	L3	41	3.0	0.181	4.7	LOS A	0.7	19.5	0.30	0.18	0.30	35.8
3ax	L1	23	100.0	0.181	7.5	LOS A	0.7	19.5	0.30	0.18	0.30	34.3
18ax	R1	346	3.0	0.181	4.6	LOS A	0.8	20.1	0.30	0.18	0.30	35.4
Approach		411	8.5	0.181	4.8	LOS A	0.8	20.1	0.30	0.18	0.30	35.3
North: Deer Valley Drive												
7u	U	23	3.0	0.858	21.2	LOS C	13.6	349.0	0.81	0.45	0.81	27.8
7a	L1	963	3.0	0.858	21.2	LOS C	13.6	349.0	0.81	0.45	0.81	27.1
4	T1	378	3.0	0.858	9.3	LOS A	13.6	349.0	0.39	0.21	0.39	33.1
14	R2	12	100.0	0.235	7.6	LOS A	1.1	27.7	0.24	0.12	0.24	34.3
Approach		1376	3.8	0.858	17.8	LOS C	13.6	349.0	0.69	0.38	0.69	28.5
West: Transit Center												
5	L2	2	100.0	0.231	23.6	LOS C	0.4	16.9	0.73	0.74	0.75	27.8
12a	R1	33	100.0	0.231	23.6	LOS C	0.4	16.9	0.73	0.74	0.75	27.4
12	R2	13	100.0	0.231	23.6	LOS C	0.4	16.9	0.73	0.74	0.75	26.9
Approach		48	100.0	0.231	23.6	LOS C	0.4	16.9	0.73	0.74	0.75	27.3
All Vehicles		2043	7.0	0.858	14.5	LOS B	13.6	349.0	0.61	0.38	0.61	30.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: FEHR AND PEERS | Processed: Wednesday, March 29, 2023 9:41:40 AM

Project: C:\Users\syamagata\Desktop\Projects\Snow Park Village\Mar 2023\SIDRA\DeerValleyDrRoundabout.sip8

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
PM Peak Hour

Intersection 1 Deer Valley Drive East/Doe Pass Road Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	150	147	97.9%	10.0	3.6	B
	Through	377	376	99.8%	7.5	2.7	A
	Right Turn						
	Subtotal	527	523	99.2%	8.2	2.9	A
SB	Left Turn						
	Through	97	92	94.6%	4.3	1.5	A
	Right Turn	15	20	130.0%	2.3	0.8	A
	Subtotal	112	111	99.4%	3.9	1.2	A
EB	Left Turn	15	15	101.3%	17.9	10.4	B
	Through						
	Right Turn	146	143	97.9%	6.6	3.0	A
	Subtotal	161	158	98.3%	7.7	3.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		800	792	99.1%	7.4	2.6	A

Intersection 2 Deer Valley Drive West/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	17	85.5%	15.5	8.6	C
	Through						
	Right Turn						
	Subtotal	20	17	85.5%	15.5	8.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	264	260	98.6%	1.7	0.6	A
	Right Turn	20	19	93.5%	0.6	0.6	A
	Subtotal	284	279	98.2%	1.7	0.5	A
WB	Left Turn						
	Through	664	673	101.3%	2.2	0.1	A
	Right Turn						
	Subtotal	664	673	101.3%	2.2	0.1	A
Total		968	969	100.1%	2.2	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
PM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	396	400	101.0%	1.4	0.2	A
	Right Turn	30	29	95.0%	1.6	0.7	A
	Subtotal	426	429	100.6%	1.4	0.2	A
SB	Left Turn	85	84	98.5%	4.9	0.5	A
	Through	135	137	101.6%	1.5	0.4	A
	Right Turn						
	Subtotal	220	221	100.4%	2.7	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	29	24	84.1%	10.8	2.7	B
	Through						
	Right Turn	60	61	101.5%	7.7	2.1	A
	Subtotal	89	85	95.8%	8.5	1.8	A
Total		735	735	99.9%	2.6	0.3	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	17	17	99.4%	13.4	12.8	B
	Through						
	Right Turn	80	74	92.8%	9.6	6.8	A
	Subtotal	97	91	93.9%	10.2	7.1	B
EB	Left Turn	87	89	102.8%	5.4	0.7	A
	Through	203	202	99.7%	2.2	0.6	A
	Right Turn						
	Subtotal	290	292	100.6%	3.1	0.6	A
WB	Left Turn						
	Through	422	424	100.4%	2.6	2.8	A
	Right Turn	34	35	101.5%	3.0	4.5	A
	Subtotal	456	458	100.4%	2.6	2.9	A
Total		843	841	99.7%	3.7	2.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
PM Peak Hour

Intersection 5 Deer Valley Drive West/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	640	651	101.7%	3.0	0.2	A
	Right Turn	44	44	100.9%	2.5	0.8	A
	Subtotal	684	695	101.7%	3.0	0.2	A
SB	Left Turn	246	247	100.6%	9.5	1.7	A
	Through	262	257	98.2%	2.1	0.4	A
	Right Turn						
	Subtotal	508	505	99.3%	5.8	0.9	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	22	19	85.9%	128.3	30.8	F
	Through						
	Right Turn	480	436	90.9%	125.0	18.2	F
	Subtotal	502	455	90.7%	125.3	17.9	F
Total		1,694	1,655	97.7%	39.3	4.3	E

Intersection 7 Deer Valley Drive/Bonanza Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	857	840	98.0%	44.8	24.2	D
	Right Turn	692	697	100.8%	38.1	29.4	D
	Subtotal	1,549	1,537	99.3%	41.7	26.5	D
SB	Left Turn	251	212	84.5%	18.3	3.1	B
	Through	518	473	91.3%	6.7	1.0	A
	Right Turn						
	Subtotal	769	685	89.1%	10.4	1.4	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	442	428	96.9%	20.9	2.7	C
	Through						
	Right Turn	129	132	101.9%	9.9	2.5	A
	Subtotal	571	560	98.0%	18.4	2.7	B
Total		2,889	2,782	96.3%	29.1	14.3	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project
PM Peak Hour

Intersection 8 SR-224-Park Avenue/Empire Avenue-Deer Valley Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	35	33	93.1%	39.3	9.0	D
	Through	395	397	100.6%	64.0	7.4	E
	Right Turn	68	65	94.9%	44.0	12.8	D
	Subtotal	498	494	99.3%	59.2	7.4	E
SB	Left Turn	553	492	88.9%	163.8	11.4	F
	Through	363	323	89.0%	129.2	4.7	F
	Right Turn	364	319	87.6%	41.9	4.3	D
	Subtotal	1,280	1,134	88.6%	120.6	8.2	F
EB	Left Turn	633	469	74.1%	105.2	6.6	F
	Through	277	199	71.9%	75.3	13.8	E
	Right Turn	36	25	69.7%	64.9	24.0	E
	Subtotal	946	693	73.3%	94.7	7.7	F
WB	Left Turn	75	75	99.3%	97.3	18.6	F
	Through	239	295	123.6%	66.7	18.8	E
	Right Turn	743	719	96.8%	35.3	4.7	D
	Subtotal	1,057	1,089	103.0%	48.2	6.5	D
Total		3,781	3,410	90.2%	82.8	3.4	F

Intersection 9 Monitor Drive-Bonanza Drive/SR-248 Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	176	173	98.2%	36.7	3.8	D
	Through	89	94	105.7%	27.4	6.6	C
	Right Turn	520	499	95.9%	12.1	2.8	B
	Subtotal	785	765	97.5%	19.7	3.1	B
SB	Left Turn	90	88	97.4%	32.6	7.3	C
	Through	55	51	93.5%	39.1	10.0	D
	Right Turn	63	65	102.5%	5.4	0.9	A
	Subtotal	208	204	97.9%	25.3	4.8	C
EB	Left Turn	71	74	104.5%	14.2	3.2	B
	Through	584	583	99.8%	26.2	3.6	C
	Right Turn	149	144	96.9%	21.8	3.1	C
	Subtotal	804	801	99.7%	24.3	3.4	C
WB	Left Turn	241	239	99.0%	19.0	1.5	B
	Through	384	387	100.8%	10.7	1.6	B
	Right Turn	46	46	100.9%	8.3	2.9	A
	Subtotal	671	672	100.2%	13.6	1.3	B
Total		2,468	2,443	99.0%	20.1	2.0	C

MOVEMENT SUMMARY

 **Site: 101 [Existing Plus Project PM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.390	15.6	LOS C	1.9	48.1	0.68	0.74	0.86	32.2
8	T1	454	3.0	0.390	10.6	LOS B	1.9	48.1	0.68	0.74	0.86	33.0
18b	R3	74	3.0	0.390	10.6	LOS B	1.9	48.1	0.68	0.74	0.86	31.4
Approach		528	3.2	0.390	10.6	LOS B	1.9	48.1	0.68	0.74	0.86	32.8
SouthEast: RoadName												
3bx	L3	58	3.0	0.713	20.7	LOS C	6.6	175.2	0.82	1.13	1.74	29.1
3ax	L1	23	100.0	0.713	25.4	LOS D	6.6	175.2	0.82	1.13	1.74	27.9
18ax	R1	910	3.0	0.713	20.4	LOS C	6.9	176.8	0.83	1.13	1.73	28.5
Approach		991	5.3	0.713	20.5	LOS C	6.9	176.8	0.83	1.13	1.73	28.6
North: Deer Valley Drive												
7u	U	242	3.0	0.702	12.9	LOS B	6.8	174.2	0.54	0.32	0.54	30.8
7a	L1	466	3.0	0.702	12.9	LOS B	6.8	174.2	0.54	0.32	0.54	29.9
4	T1	398	3.0	0.702	8.1	LOS A	6.8	174.2	0.37	0.21	0.37	33.3
14	R2	6	100.0	0.192	7.3	LOS A	0.8	21.7	0.25	0.13	0.25	34.4
Approach		1112	3.5	0.702	11.1	LOS B	6.8	174.2	0.48	0.28	0.48	31.2
West: Transit Center												
5	L2	5	100.0	0.110	16.3	LOS C	0.2	8.1	0.65	0.65	0.65	30.2
12a	R1	18	100.0	0.110	16.3	LOS C	0.2	8.1	0.65	0.65	0.65	29.8
12	R2	5	100.0	0.110	16.3	LOS C	0.2	8.1	0.65	0.65	0.65	29.2
Approach		28	100.0	0.110	16.3	LOS C	0.2	8.1	0.65	0.65	0.65	29.8
All Vehicles		2660	5.1	0.713	14.6	LOS B	6.9	176.8	0.65	0.69	1.02	30.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: FEHR AND PEERS | Processed: Wednesday, March 29, 2023 9:50:03 AM

Project: C:\Users\syamagata\Desktop\Projects\Snow Park Village\Mar 2023\SIDRA\DeerValleyDrRoundabout.sip8

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	119	108	91.0%	5.5	2.3	A
	Through	67	93	138.2%	3.9	2.4	A
	Right Turn						
	Subtotal	186	201	108.0%	4.6	1.6	A
SB	Left Turn						
	Through	194	211	108.6%	2.9	1.3	A
	Right Turn	15	15	101.3%	1.4	2.4	A
	Subtotal	209	226	108.0%	2.8	1.3	A
EB	Left Turn	15	14	94.0%	7.2	0.9	A
	Through						
	Right Turn	100	90	89.6%	5.5	2.1	A
	Subtotal	115	104	90.2%	6.3	0.7	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		510	530	104.0%	4.2	1.1	A

Intersection 2 **Deer Valley Drive West/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	20	100.5%	11.5	2.6	B
	Through						
	Right Turn						
	Subtotal	20	20	100.5%	11.5	2.6	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	702	709	101.0%	1.2	0.2	A
	Right Turn	20	21	107.0%	1.3	0.4	A
	Subtotal	722	731	101.2%	1.2	0.2	A
WB	Left Turn						
	Through	185	172	92.9%	0.7	0.1	A
	Right Turn						
	Subtotal	185	172	92.9%	0.7	0.1	A
Total		927	923	99.5%	1.3	0.2	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	112	135	120.9%	0.1	0.1	A
	Right Turn	17	17	101.2%	0.1	0.1	A
	Subtotal	129	153	118.3%	0.1	0.1	A
SB	Left Turn	50	49	98.2%	3.5	0.4	A
	Through	204	226	110.9%	0.4	0.1	A
	Right Turn						
	Subtotal	254	275	108.4%	1.0	0.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	19	97.0%	5.4	0.9	A
	Through						
	Right Turn	55	53	96.5%	5.1	0.4	A
	Subtotal	75	73	96.7%	5.2	0.5	A
Total		458	500	109.3%	1.4	0.1	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	24	23	97.1%	5.9	1.1	A
	Through						
	Right Turn	57	59	104.0%	5.7	0.8	A
	Subtotal	81	83	102.0%	5.8	0.5	A
EB	Left Turn	49	52	106.1%	4.6	0.7	A
	Through	230	249	108.3%	1.8	0.4	A
	Right Turn						
	Subtotal	279	301	108.0%	2.2	0.4	A
WB	Left Turn						
	Through	148	168	113.4%	0.2	0.1	A
	Right Turn	19	20	105.3%	0.0	0.1	A
	Subtotal	167	188	112.5%	0.1	0.1	A
Total		527	572	108.5%	2.1	0.4	A

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	190	178	93.6%	13.6	4.2	B
	Right Turn	15	16	103.3%	7.6	4.4	A
	Subtotal	205	193	94.3%	12.8	3.4	B
SB	Left Turn	264	284	107.7%	10.6	1.5	B
	Through	715	719	100.6%	8.1	0.9	A
	Right Turn						
	Subtotal	979	1,004	102.5%	8.8	0.8	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	7	7	94.3%	12.5	13.1	B
	Through						
	Right Turn	198	218	109.9%	4.3	1.0	A
	Subtotal	205	224	109.4%	4.7	0.9	A
Total		1,389	1,421	102.3%	8.6	0.8	A

Intersection 7 **Deer Valley Drive/Bonanza Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	305	308	101.1%	14.6	1.7	B
	Right Turn	168	167	99.3%	3.3	0.6	A
	Subtotal	473	475	100.4%	10.7	1.3	B
SB	Left Turn	105	92	87.5%	13.3	2.4	B
	Through	719	639	88.9%	9.9	1.2	A
	Right Turn						
	Subtotal	824	731	88.7%	10.3	1.1	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	588	606	103.0%	16.6	2.1	B
	Through						
	Right Turn	198	208	105.1%	5.8	1.2	A
	Subtotal	786	814	103.5%	13.9	1.9	B
Total		2,083	2,020	97.0%	11.8	1.0	B

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	36	45	125.6%	32.0	6.1	C
	Through	191	194	101.8%	49.3	5.7	D
	Right Turn	67	70	104.2%	17.7	8.0	B
	Subtotal	294	309	105.2%	39.3	3.9	D
SB	Left Turn	565	422	74.7%	203.8	44.0	F
	Through	169	129	76.4%	167.4	39.9	F
	Right Turn	901	732	81.3%	57.5	23.3	E
	Subtotal	1,635	1,284	78.5%	119.1	7.6	F
EB	Left Turn	320	338	105.8%	40.5	11.7	D
	Through	172	190	110.3%	27.5	7.5	C
	Right Turn	16	19	116.3%	21.1	8.6	C
	Subtotal	508	547	107.6%	35.2	9.0	D
WB	Left Turn	50	47	94.6%	64.6	12.7	E
	Through	253	303	119.7%	49.8	16.5	D
	Right Turn	257	261	101.4%	10.3	2.3	B
	Subtotal	560	611	109.1%	34.2	12.1	C
Total		2,997	2,751	91.8%	76.3	2.1	E

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	64	57	88.4%	21.8	5.7	C
	Through	28	28	100.0%	24.9	6.2	C
	Right Turn	118	112	94.9%	3.5	0.9	A
	Subtotal	210	197	93.6%	12.0	2.4	B
SB	Left Turn	54	57	106.3%	21.2	5.8	C
	Through	71	75	105.5%	24.3	4.0	C
	Right Turn	29	31	107.9%	4.4	1.2	A
	Subtotal	154	164	106.2%	19.5	2.1	B
EB	Left Turn	22	22	100.9%	13.4	6.2	B
	Through	230	245	106.7%	18.2	3.2	B
	Right Turn	95	98	103.5%	10.8	3.7	B
	Subtotal	347	366	105.4%	16.1	3.3	B
WB	Left Turn	322	335	104.0%	14.4	2.3	B
	Through	324	340	105.0%	7.9	1.7	A
	Right Turn	47	49	104.7%	4.7	1.5	A
	Subtotal	693	724	104.5%	10.6	1.4	B
Total		1,404	1,450	103.3%	13.2	1.6	B

Intersection 1		Deer Valley Drive East/Doe Pass Road			Signal		
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	150	148	98.7%	7.6	1.7	A
	Through	377	382	101.4%	7.7	1.1	A
	Right Turn						
	Subtotal	527	530	100.6%	7.7	1.2	A
SB	Left Turn						
	Through	97	93	95.4%	4.6	1.8	A
	Right Turn	15	16	107.3%	1.6	1.9	A
	Subtotal	112	109	97.0%	4.3	1.7	A
EB	Left Turn	15	15	97.3%	12.5	6.4	B
	Through						
	Right Turn	146	154	105.2%	5.2	1.5	A
	Subtotal	161	168	104.5%	5.9	2.3	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		800	807	100.9%	6.9	1.1	A

Intersection 2		Deer Valley Drive West/Doe Pass Road			Side-street Stop		
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	20	20	98.5%	19.0	10.0	C
	Through						
	Right Turn						
	Subtotal	20	20	98.5%	19.0	10.0	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	264	271	102.6%	0.3	0.1	A
	Right Turn	20	25	123.5%	0.4	0.3	A
	Subtotal	284	296	104.1%	0.3	0.1	A
WB	Left Turn						
	Through	664	656	98.8%	2.1	0.1	A
	Right Turn						
	Subtotal	664	656	98.8%	2.1	0.1	A
Total		968	971	100.3%	2.0	0.3	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	396	405	102.3%	0.4	0.1	A
	Right Turn	30	31	101.7%	0.4	0.1	A
	Subtotal	426	436	102.3%	0.4	0.1	A
SB	Left Turn	85	83	97.2%	5.0	1.4	A
	Through	135	139	103.1%	0.2	0.1	A
	Right Turn						
	Subtotal	220	222	100.8%	2.1	0.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	29	25	86.6%	11.0	4.3	B
	Through						
	Right Turn	60	61	100.8%	7.1	0.9	A
	Subtotal	89	86	96.2%	8.1	1.2	A
Total		735	743	101.1%	1.9	0.2	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	17	18	105.3%	8.5	2.0	A
	Through						
	Right Turn	80	81	100.9%	8.2	1.3	A
	Subtotal	97	99	101.6%	8.4	1.1	A
EB	Left Turn	87	88	101.6%	6.1	1.1	A
	Through	203	203	99.8%	1.6	0.4	A
	Right Turn						
	Subtotal	290	291	100.3%	3.0	0.3	A
WB	Left Turn						
	Through	422	430	101.8%	0.6	0.1	A
	Right Turn	34	35	103.5%	0.4	0.2	A
	Subtotal	456	465	101.9%	0.5	0.1	A
Total		843	854	101.3%	2.3	0.2	A

Intersection 5 Deer Valley Drive West/Deer Valley Drive East Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	640	634	99.1%	21.8	4.0	C
	Right Turn	44	44	99.1%	19.2	4.0	B
	Subtotal	684	678	99.1%	21.6	4.0	C
SB	Left Turn	246	247	100.4%	20.6	4.1	C
	Through	262	272	104.0%	3.8	1.1	A
	Right Turn						
	Subtotal	508	519	102.2%	12.1	2.7	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	22	22	98.2%	42.2	10.1	D
	Through						
	Right Turn	480	481	100.1%	27.2	8.3	C
	Subtotal	502	502	100.1%	27.7	8.1	C
Total		1,694	1,700	100.3%	20.5	3.6	C

Intersection 7 Deer Valley Drive/Bonanza Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	857	850	99.2%	59.5	28.4	E
	Right Turn	692	683	98.6%	56.0	40.0	E
	Subtotal	1,549	1,533	99.0%	58.0	33.5	E
SB	Left Turn	251	215	85.5%	19.5	2.5	B
	Through	518	475	91.6%	7.1	0.9	A
	Right Turn						
	Subtotal	769	689	89.6%	11.1	1.3	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	442	440	99.6%	19.6	2.1	B
	Through						
	Right Turn	129	136	105.0%	8.3	1.3	A
	Subtotal	571	576	100.8%	16.8	1.8	B
Total		2,889	2,798	96.8%	38.4	18.8	D

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	35	35	100.3%	34.3	9.1	C
	Through	395	403	102.0%	63.1	10.1	E
	Right Turn	68	64	94.7%	44.2	14.6	D
	Subtotal	498	503	100.9%	58.9	10.4	E
SB	Left Turn	553	488	88.2%	169.2	8.9	F
	Through	363	322	88.6%	132.8	8.7	F
	Right Turn	364	335	92.0%	42.6	5.1	D
	Subtotal	1,280	1,144	89.4%	123.1	6.8	F
EB	Left Turn	633	470	74.3%	104.1	4.8	F
	Through	277	204	73.5%	74.9	7.4	E
	Right Turn	36	27	74.2%	64.1	14.8	E
	Subtotal	946	701	74.1%	93.6	3.3	F
WB	Left Turn	75	78	103.9%	104.7	38.2	F
	Through	239	286	119.5%	51.8	12.5	D
	Right Turn	743	724	97.4%	38.5	3.8	D
	Subtotal	1,057	1,087	102.8%	47.2	5.4	D
Total		3,781	3,434	90.8%	83.7	2.1	F

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	176	172	97.7%	37.0	10.5	D
	Through	89	88	98.8%	39.8	9.2	D
	Right Turn	520	502	96.6%	11.0	3.0	B
	Subtotal	785	762	97.1%	20.3	4.2	C
SB	Left Turn	90	86	95.0%	29.7	5.5	C
	Through	55	53	96.4%	42.1	11.1	D
	Right Turn	63	64	101.6%	5.0	1.1	A
	Subtotal	208	203	97.4%	25.6	6.3	C
EB	Left Turn	71	67	94.8%	14.6	3.4	B
	Through	584	593	101.5%	26.2	2.1	C
	Right Turn	149	153	102.8%	19.9	3.4	B
	Subtotal	804	813	101.1%	24.2	1.7	C
WB	Left Turn	241	240	99.7%	18.8	3.0	B
	Through	384	395	102.9%	10.8	1.8	B
	Right Turn	46	47	101.5%	6.4	3.1	A
	Subtotal	671	682	101.7%	13.4	1.6	B
Total		2,468	2,460	99.7%	20.2	2.4	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Background
AM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	75	75	99.6%	0.2	0.2	A
	Right Turn	20	18	90.0%	0.5	1.0	A
	Subtotal	95	93	97.6%	0.2	0.3	A
SB	Left Turn	50	50	99.8%	4.0	0.4	A
	Through	120	126	105.3%	1.0	0.2	A
	Right Turn						
	Subtotal	170	176	103.7%	1.9	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	22	111.0%	5.9	1.1	A
	Through						
	Right Turn	55	55	100.2%	5.1	0.3	A
	Subtotal	75	77	103.1%	5.3	0.5	A
Total		340	346	101.9%	2.2	0.2	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	25	24	94.8%	6.2	1.6	A
	Through						
	Right Turn	60	62	104.0%	5.8	0.8	A
	Subtotal	85	86	101.3%	5.9	0.9	A
EB	Left Turn	50	51	101.0%	4.3	0.6	A
	Through	145	153	105.4%	1.5	0.5	A
	Right Turn						
	Subtotal	195	203	104.3%	2.3	0.5	A
WB	Left Turn						
	Through	110	109	99.2%	1.0	0.3	A
	Right Turn	20	21	104.0%	0.8	0.6	A
	Subtotal	130	130	99.9%	1.0	0.2	A
Total		410	419	102.3%	2.6	0.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Background
AM Peak Hour

Intersection 5

Deer Valley Drive West/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	150	151	100.9%	1.2	0.3	A
	Right Turn	15	15	101.3%	0.7	0.8	A
	Subtotal	165	167	100.9%	1.2	0.3	A
SB	Left Turn	180	186	103.6%	5.7	0.5	A
	Through	635	636	100.2%	3.6	0.4	A
	Right Turn						
	Subtotal	815	823	100.9%	4.1	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	9	90.0%	14.2	10.1	B
	Through						
	Right Turn	160	162	101.2%	4.5	0.6	A
	Subtotal	170	171	100.5%	5.0	1.0	A
Total		1,150	1,160	100.9%	3.8	0.2	A

Intersection 7

Deer Valley Drive/Bonanza Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	265	263	99.3%	12.8	2.3	B
	Right Turn	165	170	102.7%	2.7	0.9	A
	Subtotal	430	433	100.6%	9.1	1.6	A
SB	Left Turn	115	102	89.0%	11.7	2.9	B
	Through	635	620	97.6%	9.7	1.8	A
	Right Turn						
	Subtotal	750	722	96.3%	10.0	1.9	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	585	591	101.0%	15.6	0.8	B
	Through						
	Right Turn	215	222	103.4%	5.4	1.3	A
	Subtotal	800	813	101.6%	12.8	0.9	B
Total		1,980	1,968	99.4%	11.0	1.1	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Background
AM Peak Hour

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	55	51	93.5%	34.8	3.8	C
	Through	195	198	101.3%	51.8	5.3	D
	Right Turn	75	73	96.9%	19.4	5.8	B
	Subtotal	325	322	99.0%	41.9	4.6	D
SB	Left Turn	475	404	85.1%	212.0	13.3	F
	Through	170	146	85.7%	173.4	18.6	F
	Right Turn	1,065	917	86.1%	72.5	16.1	E
	Subtotal	1,710	1,467	85.8%	121.5	7.1	F
EB	Left Turn	385	392	101.7%	44.4	7.5	D
	Through	240	238	99.0%	28.5	5.7	C
	Right Turn	25	28	111.6%	28.3	14.5	C
	Subtotal	650	657	101.1%	38.2	7.0	D
WB	Left Turn	50	48	96.2%	75.9	14.9	E
	Through	325	355	109.3%	68.7	15.7	E
	Right Turn	215	218	101.2%	10.0	1.9	B
	Subtotal	590	621	105.2%	49.4	9.8	D
Total		3,275	3,067	93.6%	81.9	6.0	F

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	65	58	89.4%	22.8	5.7	C
	Through	30	30	99.0%	23.4	6.9	C
	Right Turn	110	106	96.5%	3.1	0.7	A
	Subtotal	205	194	94.6%	12.2	2.4	B
SB	Left Turn	60	56	93.2%	18.4	7.3	B
	Through	75	75	99.9%	25.4	4.2	C
	Right Turn	30	31	103.0%	4.8	1.0	A
	Subtotal	165	162	98.0%	18.9	3.0	B
EB	Left Turn	25	24	95.6%	14.8	1.9	B
	Through	250	247	98.9%	18.6	2.4	B
	Right Turn	100	99	98.6%	8.5	2.4	A
	Subtotal	375	370	98.6%	15.8	2.2	B
WB	Left Turn	305	309	101.3%	14.0	2.3	B
	Through	350	344	98.4%	8.6	1.3	A
	Right Turn	50	49	98.8%	4.8	2.0	A
	Subtotal	705	703	99.7%	10.7	1.3	B
Total		1,450	1,428	98.5%	13.1	1.2	B

MOVEMENT SUMMARY

 **Site: 101 [2024 BG AM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	5	100.0	0.174	14.0	LOS B	0.6	15.9	0.63	0.63	0.63	33.7
8	T1	133	3.0	0.174	8.2	LOS A	0.6	16.1	0.63	0.63	0.63	33.9
18b	R3	64	3.0	0.174	8.2	LOS A	0.6	16.1	0.64	0.64	0.64	32.4
Approach		202	5.6	0.174	8.4	LOS A	0.6	16.1	0.63	0.63	0.63	33.4
SouthEast: RoadName												
3bx	L3	32	3.0	0.150	4.5	LOS A	0.5	15.5	0.32	0.19	0.32	35.8
3ax	L1	21	100.0	0.150	7.4	LOS A	0.5	15.5	0.32	0.19	0.32	34.4
18ax	R1	277	3.0	0.150	4.4	LOS A	0.6	16.1	0.32	0.20	0.32	35.5
Approach		330	9.3	0.150	4.6	LOS A	0.6	16.1	0.32	0.20	0.32	35.4
North: Deer Valley Drive												
7u	U	27	3.0	0.769	15.4	LOS C	9.2	236.0	0.59	0.32	0.59	30.0
7a	L1	809	3.0	0.769	15.4	LOS C	9.2	236.0	0.59	0.32	0.59	29.1
4	T1	383	3.0	0.769	8.7	LOS A	9.2	236.0	0.36	0.19	0.36	33.1
14	R2	16	100.0	0.210	7.3	LOS A	0.9	24.1	0.22	0.11	0.22	34.4
Approach		1234	4.3	0.769	13.2	LOS B	9.2	236.0	0.51	0.27	0.51	30.3
West: Transit Center												
5	L2	5	100.0	0.201	19.9	LOS C	0.3	14.9	0.69	0.69	0.69	28.9
12a	R1	27	100.0	0.201	19.9	LOS C	0.3	14.9	0.69	0.69	0.69	28.6
12	R2	16	100.0	0.201	19.9	LOS C	0.3	14.9	0.69	0.69	0.69	28.0
Approach		48	100.0	0.201	19.9	LOS C	0.3	14.9	0.69	0.69	0.69	28.4
All Vehicles		1814	7.8	0.769	11.3	LOS B	9.2	236.0	0.50	0.31	0.50	31.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: C:\Users\syamagata\Desktop\Projects\Snow Park Village\July 2022 TIS Update\SIDRA\DeerValleyDrRoundabout.sip8

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Background
PM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	305	317	103.8%	1.0	0.2	A
	Right Turn	30	32	108.0%	0.9	0.7	A
	Subtotal	335	349	104.1%	1.0	0.2	A
SB	Left Turn	85	86	100.8%	5.1	0.7	A
	Through	85	84	99.3%	1.8	0.9	A
	Right Turn						
	Subtotal	170	170	100.1%	3.3	0.7	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	30	25	83.7%	8.2	2.8	A
	Through						
	Right Turn	60	61	102.3%	5.8	0.5	A
	Subtotal	90	87	96.1%	6.5	0.9	A
Total		595	606	101.8%	2.4	0.3	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	20	19	93.0%	11.2	4.5	B
	Through						
	Right Turn	80	80	99.9%	6.5	0.7	A
	Subtotal	100	99	98.5%	7.3	1.1	A
EB	Left Turn	90	89	99.1%	5.8	1.1	A
	Through	150	149	99.3%	1.8	0.6	A
	Right Turn						
	Subtotal	240	238	99.3%	3.3	0.8	A
WB	Left Turn						
	Through	330	339	102.6%	1.1	0.1	A
	Right Turn	35	38	108.6%	1.4	0.5	A
	Subtotal	365	377	103.2%	1.1	0.1	A
Total		705	713	101.2%	2.7	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Background
PM Peak Hour

Intersection 5

Deer Valley Drive West/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	545	547	100.3%	3.6	0.4	A
	Right Turn	45	45	100.9%	1.8	0.7	A
	Subtotal	590	592	100.3%	3.5	0.3	A
SB	Left Turn	195	191	98.1%	8.7	2.1	A
	Through	210	209	99.6%	1.7	0.4	A
	Right Turn						
	Subtotal	405	401	98.9%	5.1	1.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	25	27	108.0%	41.3	27.9	E
	Through						
	Right Turn	385	390	101.3%	36.6	16.7	E
	Subtotal	410	417	101.7%	36.7	16.9	E
Total		1,405	1,410	100.3%	13.6	5.5	B

Intersection 7

Deer Valley Drive/Bonanza Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	755	743	98.4%	27.5	2.6	C
	Right Turn	690	696	100.9%	17.7	1.5	B
	Subtotal	1,445	1,440	99.6%	22.9	1.9	C
SB	Left Turn	275	204	74.3%	20.6	3.6	C
	Through	460	376	81.8%	7.6	1.8	A
	Right Turn						
	Subtotal	735	581	79.0%	12.2	1.6	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	445	444	99.7%	25.4	4.0	C
	Through						
	Right Turn	145	148	101.7%	10.0	2.0	A
	Subtotal	590	591	100.2%	21.6	3.2	C
Total		2,770	2,611	94.3%	20.1	1.3	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Background
PM Peak Hour

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	35	34	97.1%	33.2	6.1	C
	Through	395	399	101.0%	50.8	4.0	D
	Right Turn	70	77	110.6%	29.5	7.9	C
	Subtotal	500	510	102.0%	46.6	3.9	D
SB	Left Turn	495	370	74.7%	223.0	17.6	F
	Through	365	274	75.2%	174.9	13.5	F
	Right Turn	445	334	75.0%	47.8	7.2	D
	Subtotal	1,305	978	75.0%	151.2	13.7	F
EB	Left Turn	765	500	65.3%	84.9	4.7	F
	Through	355	231	65.1%	62.3	12.7	E
	Right Turn	50	37	73.6%	54.3	17.3	D
	Subtotal	1,170	768	65.6%	77.0	6.3	E
WB	Left Turn	80	76	94.8%	81.2	17.1	F
	Through	310	357	115.0%	63.5	15.9	E
	Right Turn	640	630	98.4%	37.7	7.7	D
	Subtotal	1,030	1,062	103.1%	49.3	9.0	D
Total		4,005	3,318	82.8%	84.7	2.6	F

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	180	175	97.0%	32.9	5.9	C
	Through	90	93	103.3%	31.5	5.6	C
	Right Turn	505	468	92.6%	12.2	2.4	B
	Subtotal	775	735	94.9%	19.7	2.1	B
SB	Left Turn	100	99	99.4%	34.1	6.9	C
	Through	55	58	105.6%	39.6	4.9	D
	Right Turn	65	66	101.5%	6.1	1.7	A
	Subtotal	220	224	101.6%	28.0	3.2	C
EB	Left Turn	75	76	101.2%	16.2	3.3	B
	Through	635	642	101.0%	25.9	2.6	C
	Right Turn	150	147	97.9%	20.9	3.6	C
	Subtotal	860	864	100.5%	24.3	2.2	C
WB	Left Turn	230	223	97.0%	19.6	3.8	B
	Through	420	430	102.4%	11.5	2.2	B
	Right Turn	50	51	102.8%	8.4	3.4	A
	Subtotal	700	705	100.7%	13.8	1.9	B
Total		2,555	2,528	98.9%	20.4	1.5	C

MOVEMENT SUMMARY

 Site: 101 [2024 BG PM]

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.356	13.9	LOS B	1.6	41.4	0.65	0.67	0.73	32.8
8	T1	460	3.0	0.356	9.3	LOS A	1.6	41.5	0.65	0.67	0.73	33.6
18b	R3	66	3.0	0.356	9.3	LOS A	1.6	41.5	0.65	0.67	0.73	32.0
Approach		526	3.2	0.356	9.3	LOS A	1.6	41.5	0.65	0.67	0.73	33.4
SouthEast: RoadName												
3bx	L3	40	3.0	0.582	15.1	LOS C	4.0	106.0	0.75	0.94	1.29	31.4
3ax	L1	15	100.0	0.582	19.9	LOS C	4.0	106.0	0.75	0.94	1.29	30.0
18ax	R1	753	3.0	0.582	15.0	LOS B	4.2	107.0	0.76	0.94	1.29	30.7
Approach		808	4.8	0.582	15.1	LOS C	4.2	107.0	0.76	0.94	1.29	30.7
North: Deer Valley Drive												
7u	U	242	3.0	0.636	10.7	LOS B	5.6	143.3	0.40	0.20	0.40	31.7
7a	L1	379	3.0	0.636	10.7	LOS B	5.6	143.3	0.40	0.20	0.40	30.8
4	T1	404	3.0	0.636	7.5	LOS A	5.6	143.3	0.30	0.14	0.30	33.4
14	R2	10	100.0	0.174	6.9	LOS A	0.7	19.3	0.20	0.09	0.20	34.6
Approach		1035	3.9	0.636	9.4	LOS A	5.6	143.3	0.35	0.17	0.35	32.0
West: Transit Center												
5	L2	5	100.0	0.090	14.6	LOS B	0.1	6.7	0.62	0.62	0.62	30.9
12a	R1	15	100.0	0.090	14.6	LOS B	0.1	6.7	0.62	0.62	0.62	30.4
12	R2	5	100.0	0.090	14.6	LOS B	0.1	6.7	0.62	0.62	0.62	29.8
Approach		25	100.0	0.090	14.6	LOS B	0.1	6.7	0.62	0.62	0.62	30.4
All Vehicles		2395	5.1	0.636	11.4	LOS B	5.6	143.3	0.56	0.55	0.75	31.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Plus Project
AM Peak Hour

Intersection 1 Deer Valley Drive East/Doe Pass Road Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	119	114	96.0%	9.0	2.4	A
	Through	75	76	100.9%	6.8	2.8	A
	Right Turn						
	Subtotal	194	190	97.9%	8.1	1.7	A
SB	Left Turn						
	Through	198	193	97.4%	5.7	2.0	A
	Right Turn	15	15	102.0%	2.9	2.1	A
	Subtotal	213	208	97.7%	5.5	1.8	A
EB	Left Turn	15	15	98.7%	12.9	6.8	B
	Through						
	Right Turn	100	100	100.2%	5.5	0.4	A
	Subtotal	115	115	100.0%	6.6	1.1	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		522	513	98.3%	6.7	1.1	A

Intersection 2 Deer Valley Drive West/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	21	106.5%	14.8	10.0	B
	Through						
	Right Turn						
	Subtotal	20	21	106.5%	14.8	10.0	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	713	709	99.4%	3.7	0.3	A
	Right Turn	20	20	100.5%	2.6	1.4	A
	Subtotal	733	729	99.4%	3.6	0.4	A
WB	Left Turn						
	Through	188	186	99.0%	0.3	0.1	A
	Right Turn						
	Subtotal	188	186	99.0%	0.3	0.1	A
Total		941	936	99.5%	3.2	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Plus Project
AM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	117	113	96.8%	1.1	0.2	A
	Right Turn	20	23	115.5%	1.0	0.7	A
	Subtotal	137	136	99.5%	1.1	0.2	A
SB	Left Turn	50	45	90.8%	4.3	0.9	A
	Through	208	211	101.4%	1.1	0.2	A
	Right Turn						
	Subtotal	258	256	99.4%	1.7	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	17	86.5%	7.7	2.8	A
	Through						
	Right Turn	55	58	105.6%	5.3	0.7	A
	Subtotal	75	75	100.5%	5.8	0.4	A
Total		470	468	99.6%	2.2	0.2	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	25	26	102.4%	7.6	3.0	A
	Through						
	Right Turn	60	57	94.2%	5.5	0.4	A
	Subtotal	85	82	96.6%	6.1	0.9	A
EB	Left Turn	50	54	107.4%	4.8	0.9	A
	Through	233	230	98.8%	1.7	0.4	A
	Right Turn						
	Subtotal	283	284	100.3%	2.3	0.5	A
WB	Left Turn						
	Through	152	151	99.1%	1.0	0.2	A
	Right Turn	20	19	95.5%	0.8	0.4	A
	Subtotal	172	170	98.7%	0.9	0.2	A
Total		540	536	99.2%	2.5	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Plus Project
AM Peak Hour

Intersection 5 Deer Valley Drive West/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	193	191	99.0%	1.6	0.3	A
	Right Turn	15	17	113.3%	1.4	1.6	A
	Subtotal	208	208	100.0%	1.6	0.3	A
SB	Left Turn	268	265	98.9%	7.1	0.7	A
	Through	723	717	99.2%	4.1	0.4	A
	Right Turn						
	Subtotal	991	982	99.1%	4.9	0.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	9	89.0%	20.4	20.2	C
	Through						
	Right Turn	202	197	97.5%	4.9	0.8	A
	Subtotal	212	206	97.1%	5.7	1.3	A
Total		1,411	1,396	98.9%	4.5	0.5	A

Intersection 7 Deer Valley Drive/Bonanza Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	307	309	100.5%	14.2	1.8	B
	Right Turn	182	181	99.3%	3.5	0.8	A
	Subtotal	489	489	100.1%	10.2	1.2	B
SB	Left Turn	115	97	84.2%	13.4	2.5	B
	Through	723	643	89.0%	10.0	1.8	B
	Right Turn						
	Subtotal	838	740	88.3%	10.5	1.7	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	620	620	100.0%	16.8	3.4	B
	Through						
	Right Turn	215	219	102.0%	6.0	1.4	A
	Subtotal	835	839	100.5%	14.1	3.1	B
Total		2,162	2,069	95.7%	11.9	1.7	B

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	55	50	91.6%	35.2	8.4	D
	Through	195	202	103.5%	55.5	5.9	E
	Right Turn	75	76	101.6%	25.5	7.0	C
	Subtotal	325	329	101.1%	44.9	5.2	D
SB	Left Turn	563	409	72.6%	223.7	17.0	F
	Through	170	125	73.4%	194.1	10.7	F
	Right Turn	1,065	815	76.5%	62.0	7.1	E
	Subtotal	1,798	1,348	75.0%	126.3	5.7	F
EB	Left Turn	385	388	100.9%	43.5	3.6	D
	Through	240	240	99.9%	28.2	3.9	C
	Right Turn	25	25	98.4%	21.2	10.3	C
	Subtotal	650	653	100.4%	37.2	3.3	D
WB	Left Turn	50	52	103.8%	85.1	18.4	F
	Through	325	366	112.6%	64.2	13.7	E
	Right Turn	257	255	99.1%	9.1	1.3	A
	Subtotal	632	673	106.4%	45.9	9.9	D
Total		3,405	3,002	88.2%	80.0	2.7	F

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	65	61	93.4%	23.7	4.2	C
	Through	30	30	101.3%	28.1	5.7	C
	Right Turn	127	116	91.5%	3.7	1.1	A
	Subtotal	222	207	93.4%	13.1	1.2	B
SB	Left Turn	60	60	99.5%	21.2	7.2	C
	Through	75	74	98.9%	24.2	3.7	C
	Right Turn	30	30	101.0%	4.4	0.9	A
	Subtotal	165	164	99.5%	19.7	4.2	B
EB	Left Turn	25	24	94.0%	13.5	4.4	B
	Through	250	258	103.2%	20.1	2.5	C
	Right Turn	100	102	102.4%	12.0	2.5	B
	Subtotal	375	384	102.4%	17.7	2.2	B
WB	Left Turn	340	340	100.1%	14.4	1.8	B
	Through	350	351	100.4%	8.5	1.0	A
	Right Turn	50	53	106.6%	6.4	2.5	A
	Subtotal	740	745	100.6%	11.1	1.5	B
Total		1,502	1,500	99.9%	14.0	1.4	B

MOVEMENT SUMMARY

 **Site: 101 [Opening Year Plus Project AM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	5	100.0	0.225	17.2	LOS C	0.8	20.2	0.69	0.69	0.69	32.6
8	T1	133	3.0	0.225	10.4	LOS B	0.8	20.5	0.69	0.69	0.69	32.9
18b	R3	83	3.0	0.225	10.3	LOS B	0.8	20.5	0.69	0.69	0.69	31.4
Approach		221	5.3	0.225	10.5	LOS B	0.8	20.5	0.69	0.69	0.69	32.3
SouthEast: RoadName												
3bx	L3	41	3.0	0.190	4.9	LOS A	0.7	20.4	0.33	0.21	0.33	35.6
3ax	L1	26	100.0	0.190	7.8	LOS A	0.7	20.4	0.33	0.21	0.33	34.2
18ax	R1	353	3.0	0.190	4.8	LOS A	0.8	21.2	0.33	0.21	0.33	35.3
Approach		420	8.9	0.190	5.0	LOS A	0.8	21.2	0.33	0.21	0.33	35.2
North: Deer Valley Drive												
7u	U	27	3.0	0.881	23.6	LOS C	15.0	384.2	0.92	0.54	0.92	27.1
7a	L1	967	3.0	0.881	23.6	LOS C	15.0	384.2	0.92	0.54	0.92	26.3
4	T1	383	3.0	0.881	10.4	LOS B	15.0	384.2	0.45	0.25	0.45	32.5
14	R2	16	100.0	0.241	7.7	LOS A	1.1	28.4	0.26	0.13	0.26	34.2
Approach		1393	4.1	0.881	19.8	LOS C	15.0	384.2	0.78	0.46	0.79	27.9
West: Transit Center												
5	L2	5	100.0	0.280	25.6	LOS D	0.5	22.1	0.74	0.82	0.96	27.0
12a	R1	36	100.0	0.280	25.6	LOS D	0.5	22.1	0.74	0.82	0.96	26.7
12	R2	16	100.0	0.280	25.6	LOS D	0.5	22.1	0.74	0.82	0.96	26.2
Approach		57	100.0	0.280	25.6	LOS D	0.5	22.1	0.74	0.82	0.96	26.6
All Vehicles		2091	7.8	0.881	16.0	LOS C	15.0	384.2	0.68	0.44	0.69	29.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: C:\Users\syamagata\Desktop\Projects\Snow Park Village\Mar 2023\SIDRA\DeerValleyDrRoundabout.sip8

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Plus Project
PM Peak Hour

Intersection 1 Deer Valley Drive East/Doe Pass Road Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	150	151	100.4%	8.5	2.7	A
	Through	389	384	98.7%	8.3	3.0	A
	Right Turn						
	Subtotal	539	535	99.2%	8.3	2.8	A
SB	Left Turn						
	Through	105	101	96.0%	5.0	1.2	A
	Right Turn	15	16	104.0%	1.6	1.5	A
	Subtotal	120	116	97.0%	4.6	1.1	A
EB	Left Turn	15	15	100.7%	15.1	8.4	B
	Through						
	Right Turn	146	142	96.9%	5.2	0.8	A
	Subtotal	161	157	97.3%	6.0	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		820	808	98.5%	7.3	2.0	A

Intersection 2 Deer Valley Drive West/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	21	104.5%	24.3	18.6	C
	Through						
	Right Turn						
	Subtotal	20	21	104.5%	24.3	18.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	273	267	97.9%	1.6	0.4	A
	Right Turn	20	20	99.0%	1.7	0.8	A
	Subtotal	293	287	98.0%	1.6	0.3	A
WB	Left Turn						
	Through	674	669	99.2%	2.2	0.1	A
	Right Turn						
	Subtotal	674	669	99.2%	2.2	0.1	A
Total		987	977	99.0%	2.5	0.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Plus Project
PM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	408	405	99.3%	5.0	9.1	A
	Right Turn	30	31	102.0%	3.7	5.2	A
	Subtotal	438	436	99.5%	5.0	9.0	A
SB	Left Turn	85	84	98.2%	5.1	1.0	A
	Through	142	140	98.5%	1.3	0.5	A
	Right Turn						
	Subtotal	227	223	98.4%	2.7	0.7	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	30	29	97.3%	18.4	18.9	C
	Through						
	Right Turn	60	59	98.3%	18.9	33.4	C
	Subtotal	90	88	98.0%	19.1	29.1	C
Total		755	747	99.0%	6.1	8.9	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	20	19	94.5%	72.8	90.9	F
	Through						
	Right Turn	80	80	100.3%	78.0	92.7	F
	Subtotal	100	99	99.1%	77.5	92.4	F
EB	Left Turn	90	93	103.0%	5.5	1.1	A
	Through	207	201	97.3%	1.8	0.6	A
	Right Turn						
	Subtotal	297	294	99.0%	3.0	0.7	A
WB	Left Turn						
	Through	433	424	97.8%	36.3	53.5	E
	Right Turn	35	33	95.1%	42.0	58.8	E
	Subtotal	468	457	97.6%	36.5	53.6	E
Total		865	850	98.3%	28.4	37.4	D

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Opening Year Plus Project
PM Peak Hour

Intersection 5 Deer Valley Drive West/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	649	649	100.0%	2.9	0.5	A
	Right Turn	45	44	97.6%	2.4	1.4	A
	Subtotal	694	693	99.8%	2.8	0.4	A
SB	Left Turn	252	250	99.3%	9.9	2.1	A
	Through	268	263	98.1%	2.0	0.4	A
	Right Turn						
	Subtotal	520	513	98.7%	5.9	1.1	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	25	22	89.6%	120.8	28.5	F
	Through						
	Right Turn	488	435	89.2%	126.2	7.6	F
	Subtotal	513	458	89.2%	126.2	7.2	F
Total		1,727	1,664	96.3%	39.9	2.3	E

Intersection 7 Deer Valley Drive/Bonanza Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	858	851	99.2%	96.3	49.4	F
	Right Turn	731	736	100.6%	110.7	64.0	F
	Subtotal	1,589	1,587	99.9%	102.4	55.3	F
SB	Left Turn	275	198	71.9%	22.5	4.8	C
	Through	518	415	80.1%	8.0	1.8	A
	Right Turn						
	Subtotal	793	613	77.2%	12.6	2.6	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	468	464	99.2%	29.7	8.0	C
	Through						
	Right Turn	145	139	96.1%	16.5	4.7	B
	Subtotal	613	603	98.4%	26.5	6.7	C
Total		2,995	2,803	93.6%	66.9	31.3	E

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	50	99.4%	31.3	7.8	C
	Through	395	396	100.2%	50.4	5.8	D
	Right Turn	70	72	102.7%	25.6	9.0	C
	Subtotal	515	517	100.4%	44.5	5.0	D
SB	Left Turn	553	380	68.7%	227.2	13.8	F
	Through	365	252	69.1%	179.2	12.4	F
	Right Turn	445	307	69.0%	51.7	11.6	D
	Subtotal	1,363	939	68.9%	155.6	7.3	F
EB	Left Turn	765	523	68.3%	87.2	8.2	F
	Through	355	236	66.4%	61.6	13.0	E
	Right Turn	50	34	67.6%	52.9	15.7	D
	Subtotal	1,170	792	67.7%	78.5	8.8	E
WB	Left Turn	80	75	93.3%	85.6	13.9	F
	Through	310	340	109.6%	60.0	8.1	E
	Right Turn	743	660	88.8%	52.4	3.1	D
	Subtotal	1,133	1,075	94.8%	57.1	3.9	E
Total		4,181	3,323	79.5%	88.1	2.8	F

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	180	166	92.4%	41.4	8.0	D
	Through	90	94	104.1%	33.6	6.4	C
	Right Turn	546	504	92.4%	12.8	1.9	B
	Subtotal	816	764	93.7%	21.8	2.8	C
SB	Left Turn	100	99	99.1%	34.3	5.6	C
	Through	55	55	100.4%	44.7	11.5	D
	Right Turn	65	69	105.8%	5.3	0.9	A
	Subtotal	220	223	101.4%	27.1	3.8	C
EB	Left Turn	75	75	100.3%	14.9	2.7	B
	Through	635	632	99.5%	29.3	3.4	C
	Right Turn	150	152	101.1%	26.1	4.0	C
	Subtotal	860	859	99.9%	27.4	3.1	C
WB	Left Turn	253	250	98.6%	20.8	2.4	C
	Through	420	415	98.9%	12.0	0.8	B
	Right Turn	50	55	110.2%	7.7	2.8	A
	Subtotal	723	720	99.6%	14.8	0.9	B
Total		2,619	2,566	98.0%	22.1	1.9	C

MOVEMENT SUMMARY

 **Site: 101 [Opening Year Plus Project PM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.403	16.1	LOS C	2.0	50.8	0.69	0.76	0.90	32.0
8	T1	460	3.0	0.403	11.0	LOS B	2.0	50.9	0.69	0.76	0.90	32.8
18b	R3	78	3.0	0.403	11.0	LOS B	2.0	50.9	0.69	0.76	0.90	31.2
Approach		538	3.2	0.403	11.0	LOS B	2.0	50.9	0.69	0.76	0.90	32.6
SouthEast: RoadName												
3bx	L3	62	3.0	0.737	22.2	LOS C	7.2	191.5	0.84	1.18	1.85	28.5
3ax	L1	25	100.0	0.737	27.0	LOS D	7.2	191.5	0.84	1.18	1.85	27.4
18ax	R1	930	3.0	0.737	21.9	LOS C	7.5	193.2	0.85	1.18	1.84	28.0
Approach		1017	5.4	0.737	22.0	LOS C	7.5	193.2	0.85	1.18	1.84	28.0
North: Deer Valley Drive												
7u	U	242	3.0	0.723	13.7	LOS B	7.3	185.9	0.59	0.35	0.59	30.5
7a	L1	477	3.0	0.723	13.7	LOS B	7.3	185.9	0.59	0.35	0.59	29.6
4	T1	404	3.0	0.723	8.6	LOS A	7.3	185.9	0.40	0.23	0.40	33.0
14	R2	10	100.0	0.198	7.4	LOS A	0.8	22.3	0.26	0.14	0.26	34.4
Approach		1133	3.9	0.723	11.8	LOS B	7.3	185.9	0.52	0.31	0.52	30.9
West: Transit Center												
5	L2	5	100.0	0.124	17.0	LOS C	0.2	9.2	0.66	0.66	0.66	30.0
12a	R1	21	100.0	0.124	17.0	LOS C	0.2	9.2	0.66	0.66	0.66	29.6
12	R2	5	100.0	0.124	17.0	LOS C	0.2	9.2	0.66	0.66	0.66	29.0
Approach		31	100.0	0.124	17.0	LOS C	0.2	9.2	0.66	0.66	0.66	29.6
All Vehicles		2720	5.4	0.737	15.5	LOS C	7.5	193.2	0.68	0.73	1.09	30.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	119	118	99.2%	6.4	2.3	A
	Through	75	78	103.7%	3.9	1.9	A
	Right Turn						
	Subtotal	194	196	101.0%	5.4	2.0	A
SB	Left Turn						
	Through	198	197	99.7%	4.1	2.4	A
	Right Turn	15	15	101.3%	1.3	1.6	A
	Subtotal	213	213	99.8%	3.9	2.3	A
EB	Left Turn	15	14	90.0%	11.7	5.7	B
	Through						
	Right Turn	100	99	98.8%	5.6	0.6	A
	Subtotal	115	112	97.7%	6.4	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		522	521	99.8%	5.0	1.8	A

Intersection 2 **Deer Valley Drive West/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	18	88.0%	9.9	2.5	A
	Through						
	Right Turn						
	Subtotal	20	18	88.0%	9.9	2.5	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	713	715	100.3%	1.2	0.1	A
	Right Turn	20	19	94.0%	1.3	0.6	A
	Subtotal	733	734	100.1%	1.2	0.1	A
WB	Left Turn						
	Through	188	186	98.9%	0.7	0.1	A
	Right Turn						
	Subtotal	188	186	98.9%	0.7	0.1	A
Total		941	937	99.6%	1.3	0.1	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	117	118	100.6%	0.1	0.1	A
	Right Turn	20	20	100.5%	0.0	0.0	A
	Subtotal	137	138	100.6%	0.1	0.0	A
SB	Left Turn	50	46	92.2%	3.5	0.4	A
	Through	208	213	102.5%	0.3	0.1	A
	Right Turn						
	Subtotal	258	259	100.5%	0.9	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	18	92.0%	4.9	2.0	A
	Through						
	Right Turn	55	58	105.1%	5.1	0.3	A
	Subtotal	75	76	101.6%	5.3	0.5	A
Total		470	473	100.7%	1.4	0.1	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	25	27	109.6%	6.3	1.3	A
	Through						
	Right Turn	60	58	96.2%	6.0	0.8	A
	Subtotal	85	85	100.1%	6.1	0.9	A
EB	Left Turn	50	48	95.8%	4.2	0.9	A
	Through	233	232	99.6%	1.6	0.3	A
	Right Turn						
	Subtotal	283	280	98.9%	2.0	0.3	A
WB	Left Turn						
	Through	152	153	100.9%	0.2	0.1	A
	Right Turn	20	21	102.5%	0.1	0.1	A
	Subtotal	172	174	101.1%	0.2	0.1	A
Total		540	539	99.8%	2.2	0.4	A

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	193	191	98.8%	12.3	2.7	B
	Right Turn	15	14	94.7%	5.3	4.6	A
	Subtotal	208	205	98.5%	12.0	2.7	B
SB	Left Turn	268	265	98.8%	9.9	1.9	A
	Through	723	722	99.9%	8.1	1.5	A
	Right Turn						
	Subtotal	991	987	99.6%	8.6	1.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	8	82.0%	10.6	9.2	B
	Through						
	Right Turn	202	201	99.3%	4.5	1.1	A
	Subtotal	212	209	98.5%	4.9	1.2	A
Total		1,411	1,400	99.2%	8.6	1.2	A

Intersection 7 **Deer Valley Drive/Bonanza Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	307	312	101.7%	13.3	1.5	B
	Right Turn	182	179	98.6%	3.4	0.8	A
	Subtotal	489	492	100.5%	9.6	1.0	A
SB	Left Turn	115	94	81.6%	13.8	2.2	B
	Through	723	660	91.3%	9.4	1.5	A
	Right Turn						
	Subtotal	838	754	90.0%	9.9	1.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	620	628	101.3%	17.1	1.9	B
	Through						
	Right Turn	215	210	97.5%	6.5	1.2	A
	Subtotal	835	838	100.3%	14.4	1.8	B
Total		2,162	2,083	96.4%	11.7	1.1	B

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	55	56	101.8%	32.3	4.9	C
	Through	195	190	97.4%	50.6	3.7	D
	Right Turn	75	75	100.5%	24.6	6.9	C
	Subtotal	325	321	98.9%	42.0	4.4	D
SB	Left Turn	563	415	73.8%	231.3	16.7	F
	Through	170	118	69.2%	190.7	19.7	F
	Right Turn	1,065	789	74.1%	58.5	10.7	E
	Subtotal	1,798	1,322	73.5%	127.2	11.5	F
EB	Left Turn	385	382	99.1%	49.5	13.2	D
	Through	240	245	102.1%	32.3	11.8	C
	Right Turn	25	25	99.2%	20.7	9.2	C
	Subtotal	650	651	100.2%	41.8	12.4	D
WB	Left Turn	50	49	97.0%	81.4	21.0	F
	Through	325	355	109.1%	54.0	8.8	D
	Right Turn	257	253	98.3%	11.1	1.7	B
	Subtotal	632	656	103.8%	39.9	5.8	D
Total		3,405	2,951	86.7%	77.5	4.6	E

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	65	61	93.4%	21.5	4.2	C
	Through	30	29	95.7%	21.4	9.2	C
	Right Turn	127	115	90.2%	3.5	0.5	A
	Subtotal	222	204	91.9%	11.2	1.5	B
SB	Left Turn	60	56	93.0%	20.0	3.0	B
	Through	75	73	97.2%	24.5	4.8	C
	Right Turn	30	32	107.7%	4.5	0.6	A
	Subtotal	165	161	97.6%	18.9	2.5	B
EB	Left Turn	25	24	94.0%	14.4	3.9	B
	Through	250	258	103.2%	20.2	3.8	C
	Right Turn	100	104	104.2%	11.5	3.5	B
	Subtotal	375	386	102.8%	17.5	3.5	B
WB	Left Turn	340	336	98.7%	14.4	2.1	B
	Through	350	345	98.6%	9.0	1.2	A
	Right Turn	50	49	98.6%	4.8	2.6	A
	Subtotal	740	730	98.6%	11.3	1.4	B
Total		1,502	1,481	98.6%	13.8	1.8	B

Intersection 1		Deer Valley Drive East/Doe Pass Road			Signal		
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	150	152	101.4%	8.6	4.0	A
	Through	389	393	100.9%	7.4	2.4	A
	Right Turn						
	Subtotal	539	545	101.0%	7.8	2.8	A
SB	Left Turn						
	Through	105	110	104.4%	4.1	1.7	A
	Right Turn	15	14	96.0%	1.8	1.5	A
	Subtotal	120	124	103.3%	3.9	1.6	A
EB	Left Turn	15	13	88.7%	12.4	7.1	B
	Through						
	Right Turn	146	140	95.8%	5.6	2.3	A
	Subtotal	161	153	95.2%	6.6	3.1	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		820	822	100.2%	6.9	2.3	A

Intersection 2		Deer Valley Drive West/Doe Pass Road			Side-street Stop		
Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		LOS
			Average	Percent	Average	Std. Dev.	
NB	Left Turn	20	19	95.5%	17.9	10.6	C
	Through						
	Right Turn						
	Subtotal	20	19	95.5%	17.9	10.6	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	273	263	96.4%	0.4	0.1	A
	Right Turn	20	21	103.0%	0.3	0.2	A
	Subtotal	293	284	96.8%	0.4	0.1	A
WB	Left Turn						
	Through	674	680	100.9%	2.2	0.1	A
	Right Turn						
	Subtotal	674	680	100.9%	2.2	0.1	A
Total		987	983	99.6%	2.0	0.2	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	408	411	100.6%	0.4	0.1	A
	Right Turn	30	32	107.3%	0.3	0.1	A
	Subtotal	438	443	101.1%	0.4	0.1	A
SB	Left Turn	85	87	102.4%	5.1	0.8	A
	Through	142	149	104.6%	0.3	0.1	A
	Right Turn						
	Subtotal	227	236	103.8%	2.2	0.6	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	30	31	102.3%	10.4	2.7	B
	Through						
	Right Turn	60	65	109.0%	7.1	1.1	A
	Subtotal	90	96	106.8%	8.3	1.3	A
Total		755	775	102.6%	1.9	0.3	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	20	20	102.0%	10.5	2.2	B
	Through						
	Right Turn	80	82	102.9%	7.8	1.4	A
	Subtotal	100	103	102.7%	8.2	1.3	A
EB	Left Turn	90	89	99.2%	6.9	1.3	A
	Through	207	212	102.5%	1.7	0.4	A
	Right Turn						
	Subtotal	297	301	101.5%	3.2	0.6	A
WB	Left Turn						
	Through	433	443	102.2%	0.5	0.1	A
	Right Turn	35	33	92.9%	0.4	0.2	A
	Subtotal	468	475	101.5%	0.5	0.1	A
Total		865	879	101.6%	2.4	0.4	A

Intersection 5 Deer Valley Drive West/Deer Valley Drive East Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	649	655	100.8%	22.5	4.1	C
	Right Turn	45	51	112.4%	18.6	5.7	B
	Subtotal	694	705	101.6%	22.2	4.1	C
SB	Left Turn	252	250	99.3%	22.0	6.3	C
	Through	268	258	96.4%	3.1	1.0	A
	Right Turn						
	Subtotal	520	509	97.8%	12.4	3.8	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	25	24	95.2%	47.1	12.8	D
	Through						
	Right Turn	488	501	102.7%	31.7	8.6	C
	Subtotal	513	525	102.3%	32.3	8.5	C
Total		1,727	1,739	100.7%	22.4	4.4	C

Intersection 7 Deer Valley Drive/Bonanza Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	858	845	98.5%	102.5	55.6	F
	Right Turn	731	701	95.9%	128.6	93.0	F
	Subtotal	1,589	1,546	97.3%	115.0	72.3	F
SB	Left Turn	275	208	75.5%	25.4	5.2	C
	Through	518	397	76.7%	7.3	1.1	A
	Right Turn						
	Subtotal	793	605	76.3%	13.6	2.3	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	468	474	101.2%	34.0	10.8	C
	Through						
	Right Turn	145	144	99.2%	18.3	4.6	B
	Subtotal	613	617	100.7%	30.7	8.9	C
Total		2,995	2,768	92.4%	75.5	41.0	E

Intersection 8 SR-224-Park Avenue/Empire Avenue-Deer Valley Drive Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	47	93.8%	33.2	7.0	C
	Through	395	398	100.7%	50.8	4.1	D
	Right Turn	70	69	98.0%	28.5	7.8	C
	Subtotal	515	513	99.7%	46.2	3.4	D
SB	Left Turn	553	381	68.9%	221.5	12.2	F
	Through	365	255	69.9%	178.2	15.1	F
	Right Turn	445	317	71.1%	49.3	7.2	D
	Subtotal	1,363	953	69.9%	152.9	10.5	F
EB	Left Turn	765	514	67.1%	89.6	7.8	F
	Through	355	237	66.7%	66.7	13.6	E
	Right Turn	50	37	73.8%	49.2	16.4	D
	Subtotal	1,170	787	67.3%	81.3	9.6	F
WB	Left Turn	80	73	91.0%	72.2	20.5	E
	Through	310	325	104.9%	60.1	12.4	E
	Right Turn	743	665	89.5%	51.8	3.0	D
	Subtotal	1,133	1,063	93.8%	56.0	4.5	E
Total		4,181	3,317	79.3%	87.5	2.9	F

Intersection 9 Monitor Drive-Bonanza Drive/SR-248 Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	180	163	90.4%	37.4	10.1	D
	Through	90	89	98.3%	33.2	8.6	C
	Right Turn	546	491	90.0%	13.4	3.3	B
	Subtotal	816	743	91.0%	21.5	5.0	C
SB	Left Turn	100	99	98.9%	29.5	6.1	C
	Through	55	58	105.6%	43.4	8.4	D
	Right Turn	65	69	106.0%	5.5	1.1	A
	Subtotal	220	226	102.7%	25.6	4.3	C
EB	Left Turn	75	76	101.3%	16.3	2.5	B
	Through	635	640	100.7%	28.2	4.4	C
	Right Turn	150	154	102.3%	23.3	4.4	C
	Subtotal	860	869	101.0%	26.2	4.1	C
WB	Left Turn	253	250	98.8%	20.8	2.7	C
	Through	420	433	103.2%	12.3	1.5	B
	Right Turn	50	48	96.2%	7.4	2.0	A
	Subtotal	723	732	101.2%	14.9	1.5	B
Total		2,619	2,569	98.1%	21.5	2.8	C

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Background
AM Peak Hour

Intersection 3

Deer Valley Drive East/Queen Esther Drive

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	105	110	104.8%	0.3	0.2	A
	Right Turn	20	20	100.0%	0.1	0.2	A
	Subtotal	125	130	104.0%	0.3	0.2	A
SB	Left Turn	50	49	97.6%	3.9	0.6	A
	Through	160	169	105.3%	1.2	0.4	A
	Right Turn						
	Subtotal	210	217	103.5%	1.8	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	21	104.0%	6.9	2.0	A
	Through						
	Right Turn	55	56	100.9%	5.1	0.4	A
	Subtotal	75	76	101.7%	5.5	0.5	A
Total		410	424	103.3%	2.1	0.3	A

Intersection 4

Solamere Drive/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	25	23	92.0%	7.5	2.2	A
	Through						
	Right Turn	60	64	106.5%	5.6	0.7	A
	Subtotal	85	87	102.2%	6.1	0.7	A
EB	Left Turn	50	49	97.8%	4.5	0.9	A
	Through	185	195	105.6%	1.5	0.4	A
	Right Turn						
	Subtotal	235	244	103.9%	2.2	0.4	A
WB	Left Turn						
	Through	140	145	103.7%	0.9	0.2	A
	Right Turn	20	19	97.0%	1.3	0.6	A
	Subtotal	160	165	102.9%	1.0	0.2	A
Total		480	496	103.3%	2.5	0.3	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Background
AM Peak Hour

Intersection 5

Deer Valley Drive West/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	185	188	101.4%	1.6	0.5	A
	Right Turn	15	17	110.7%	1.2	0.8	A
	Subtotal	200	204	102.1%	1.5	0.4	A
SB	Left Turn	220	227	103.3%	6.6	0.8	A
	Through	740	735	99.4%	4.3	0.4	A
	Right Turn						
	Subtotal	960	963	100.3%	4.8	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	11	106.0%	17.3	16.7	C
	Through						
	Right Turn	190	195	102.7%	4.8	0.4	A
	Subtotal	200	206	102.9%	5.5	0.9	A
Total		1,360	1,373	100.9%	4.4	0.3	A

Intersection 7

Deer Valley Drive/Bonanza Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	275	273	99.4%	28.7	16.6	C
	Right Turn	200	195	97.7%	3.4	1.0	A
	Subtotal	475	469	98.7%	18.4	9.9	B
SB	Left Turn	125	102	81.6%	14.8	3.6	B
	Through	655	546	83.3%	10.3	1.2	B
	Right Turn						
	Subtotal	780	648	83.0%	11.0	1.2	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	700	707	101.0%	24.9	7.6	C
	Through						
	Right Turn	225	220	97.7%	14.7	9.5	B
	Subtotal	925	927	100.2%	22.5	7.9	C
Total		2,180	2,043	93.7%	18.0	5.9	B

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Background
AM Peak Hour

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	95	98	102.8%	31.5	5.0	C
	Through	195	194	99.3%	52.6	5.4	D
	Right Turn	70	69	98.9%	24.0	9.8	C
	Subtotal	360	361	100.1%	41.3	4.6	D
SB	Left Turn	480	305	63.5%	80.6	11.6	F
	Through	170	111	65.1%	76.7	11.0	E
	Right Turn	1,565	1,004	64.1%	122.1	2.4	F
	Subtotal	2,215	1,419	64.1%	109.3	3.2	F
EB	Left Turn	580	545	94.0%	73.7	6.0	E
	Through	360	335	93.0%	50.4	7.6	D
	Right Turn	45	43	95.8%	39.4	8.5	D
	Subtotal	985	923	93.7%	63.6	6.0	E
WB	Left Turn	50	44	88.6%	105.3	10.8	F
	Through	425	412	96.8%	99.5	8.2	F
	Right Turn	215	192	89.3%	14.7	4.5	B
	Subtotal	690	648	93.9%	74.9	6.9	E
Total		4,250	3,350	78.8%	83.0	2.5	F

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	75	67	89.3%	29.5	5.9	C
	Through	30	31	102.0%	25.6	4.5	C
	Right Turn	120	111	92.2%	4.7	1.3	A
	Subtotal	225	208	92.5%	15.7	2.7	B
SB	Left Turn	65	65	99.4%	27.1	7.1	C
	Through	75	74	98.0%	29.9	3.3	C
	Right Turn	35	36	102.0%	4.8	1.3	A
	Subtotal	175	174	99.3%	23.6	3.9	C
EB	Left Turn	25	25	98.4%	13.1	4.4	B
	Through	340	342	100.6%	21.6	2.7	C
	Right Turn	110	112	101.4%	12.9	3.8	B
	Subtotal	475	478	100.7%	19.0	2.7	B
WB	Left Turn	345	352	102.1%	17.2	2.1	B
	Through	475	473	99.6%	9.5	1.4	A
	Right Turn	55	57	103.5%	5.9	2.7	A
	Subtotal	875	883	100.9%	12.2	1.7	B
Total		1,750	1,743	99.6%	15.7	1.7	B

MOVEMENT SUMMARY

 **Site: 101 [2040 BG AM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	5	100.0	0.219	16.5	LOS C	0.7	19.8	0.67	0.67	0.67	32.8
8	T1	133	3.0	0.219	10.0	LOS A	0.8	20.0	0.67	0.67	0.67	33.1
18b	R3	85	3.0	0.219	9.9	LOS A	0.8	20.0	0.68	0.68	0.68	31.5
Approach		223	5.3	0.219	10.1	LOS B	0.8	20.0	0.67	0.67	0.67	32.5
SouthEast: RoadName												
3bx	L3	48	3.0	0.175	4.7	LOS A	0.7	18.6	0.32	0.20	0.32	35.6
3ax	L1	21	100.0	0.175	7.6	LOS A	0.7	18.6	0.32	0.20	0.32	34.1
18ax	R1	319	3.0	0.175	4.6	LOS A	0.8	19.2	0.33	0.20	0.33	35.3
Approach		388	8.3	0.175	4.8	LOS A	0.8	19.2	0.33	0.20	0.33	35.3
North: Deer Valley Drive												
7u	U	27	3.0	0.877	23.2	LOS C	14.5	370.9	0.90	0.53	0.90	27.2
7a	L1	947	3.0	0.877	23.2	LOS C	14.5	370.9	0.90	0.53	0.90	26.5
4	T1	399	3.0	0.877	10.9	LOS B	14.5	370.9	0.46	0.26	0.46	32.3
14	R2	16	100.0	0.240	7.7	LOS A	1.1	28.2	0.25	0.13	0.25	34.2
Approach		1388	4.1	0.877	19.4	LOS C	14.5	370.9	0.77	0.44	0.77	28.0
West: Transit Center												
5	L2	5	100.0	0.234	24.0	LOS C	0.4	17.2	0.74	0.75	0.77	27.5
12a	R1	27	100.0	0.234	24.0	LOS C	0.4	17.2	0.74	0.75	0.77	27.2
12	R2	16	100.0	0.234	24.0	LOS C	0.4	17.2	0.74	0.75	0.77	26.6
Approach		48	100.0	0.234	24.0	LOS C	0.4	17.2	0.74	0.75	0.77	27.0
All Vehicles		2048	7.3	0.877	15.8	LOS C	14.5	370.9	0.67	0.43	0.67	29.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Background
PM Peak Hour

Intersection 3 Deer Valley Drive East/Queen Esther Drive Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	370	385	104.1%	1.2	0.2	A
	Right Turn	30	32	107.7%	0.6	0.5	A
	Subtotal	400	418	104.4%	1.2	0.2	A
SB	Left Turn	85	88	103.6%	5.2	0.6	A
	Through	125	121	97.0%	1.8	0.5	A
	Right Turn						
	Subtotal	210	209	99.7%	3.2	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	30	30	98.3%	9.1	3.8	A
	Through						
	Right Turn	60	63	104.8%	7.3	2.1	A
	Subtotal	90	92	102.7%	8.1	2.2	A
Total		700	719	102.8%	2.6	0.5	A

Intersection 4 Solamere Drive/Deer Valley Drive East Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	20	21	104.5%	15.0	6.1	B
	Through						
	Right Turn	80	79	98.1%	8.5	1.7	A
	Subtotal	100	99	99.4%	10.1	3.0	B
EB	Left Turn	90	94	104.8%	6.4	1.0	A
	Through	190	186	97.7%	2.1	0.5	A
	Right Turn						
	Subtotal	280	280	100.0%	3.6	0.6	A
WB	Left Turn						
	Through	395	412	104.4%	1.3	0.2	A
	Right Turn	35	37	105.1%	1.4	0.3	A
	Subtotal	430	449	104.4%	1.3	0.2	A
Total		810	828	102.3%	3.0	0.4	A

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Background
PM Peak Hour

Intersection 5

Deer Valley Drive West/Deer Valley Drive East

Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	645	641	99.4%	4.0	0.7	A
	Right Turn	45	48	107.6%	2.9	0.7	A
	Subtotal	690	690	100.0%	3.9	0.7	A
SB	Left Turn	235	232	98.6%	9.3	1.6	A
	Through	245	246	100.2%	1.8	0.4	A
	Right Turn						
	Subtotal	480	477	99.4%	5.4	1.0	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	25	27	106.4%	107.4	23.1	F
	Through						
	Right Turn	450	447	99.4%	111.6	22.5	F
	Subtotal	475	474	99.7%	111.5	22.3	F
Total		1,645	1,641	99.7%	35.5	4.8	E

Intersection 7

Deer Valley Drive/Bonanza Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	785	771	98.2%	78.6	50.6	E
	Right Turn	820	786	95.9%	92.1	74.1	F
	Subtotal	1,605	1,558	97.0%	85.7	62.8	F
SB	Left Turn	290	189	65.2%	20.6	2.6	C
	Through	470	335	71.2%	8.6	2.2	A
	Right Turn						
	Subtotal	760	524	68.9%	12.8	2.1	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	530	526	99.2%	37.2	15.3	D
	Through						
	Right Turn	150	144	95.8%	20.4	8.7	C
	Subtotal	680	670	98.5%	33.5	14.1	C
Total		3,045	2,751	90.3%	59.2	37.7	E

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Background
PM Peak Hour

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	70	71	101.3%	35.7	8.6	D
	Through	395	396	100.4%	54.8	5.5	D
	Right Turn	70	74	105.0%	41.2	9.5	D
	Subtotal	535	541	101.1%	50.6	5.6	D
SB	Left Turn	495	355	71.8%	216.3	16.0	F
	Through	365	259	71.1%	177.6	10.4	F
	Right Turn	720	524	72.7%	55.9	7.5	E
	Subtotal	1,580	1,138	72.0%	135.6	10.3	F
EB	Left Turn	1,190	527	44.3%	96.1	7.7	F
	Through	445	201	45.2%	75.2	18.2	E
	Right Turn	70	32	45.9%	64.1	23.0	E
	Subtotal	1,705	761	44.6%	89.7	9.7	F
WB	Left Turn	75	64	85.7%	122.1	17.2	F
	Through	405	396	97.7%	88.9	5.2	F
	Right Turn	640	546	85.3%	37.1	5.8	D
	Subtotal	1,120	1,006	89.8%	63.6	3.7	E
Total		4,940	3,445	69.7%	90.0	3.0	F

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	210	181	86.3%	51.9	15.5	D
	Through	90	85	94.4%	43.4	12.4	D
	Right Turn	565	508	89.8%	18.1	4.9	B
	Subtotal	865	774	89.5%	29.4	7.6	C
SB	Left Turn	105	103	97.7%	35.5	11.6	D
	Through	55	56	101.3%	47.5	6.9	D
	Right Turn	75	76	101.9%	6.4	1.6	A
	Subtotal	235	235	99.9%	28.6	4.7	C
EB	Left Turn	85	90	105.8%	18.2	2.9	B
	Through	865	882	101.9%	37.7	7.4	D
	Right Turn	175	172	98.2%	34.7	9.8	C
	Subtotal	1,125	1,144	101.6%	35.8	7.3	D
WB	Left Turn	255	252	98.6%	25.9	2.6	C
	Through	570	561	98.4%	12.7	1.8	B
	Right Turn	55	54	98.9%	8.3	2.7	A
	Subtotal	880	867	98.5%	16.4	1.3	B
Total		3,105	3,019	97.2%	28.1	3.0	C

MOVEMENT SUMMARY

 Site: 101 [2040 BG PM]

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.402	15.4	LOS C	2.0	51.3	0.68	0.74	0.87	32.2
8	T1	475	3.0	0.402	10.6	LOS B	2.0	51.3	0.68	0.74	0.87	33.0
18b	R3	86	3.0	0.402	10.6	LOS B	2.0	51.3	0.68	0.74	0.87	31.4
Approach		562	3.2	0.402	10.6	LOS B	2.0	51.3	0.68	0.74	0.87	32.8
SouthEast: RoadName												
3bx	L3	51	3.0	0.681	19.2	LOS C	5.8	151.3	0.81	1.08	1.61	29.7
3ax	L1	15	100.0	0.681	24.1	LOS C	5.8	151.3	0.81	1.08	1.61	28.4
18ax	R1	864	3.0	0.681	19.1	LOS C	6.0	152.4	0.82	1.08	1.61	29.1
Approach		929	4.6	0.681	19.2	LOS C	6.0	152.4	0.82	1.08	1.61	29.1
North: Deer Valley Drive												
7u	U	247	3.0	0.695	12.5	LOS B	6.9	176.1	0.48	0.26	0.48	31.0
7a	L1	434	3.0	0.695	12.5	LOS B	6.9	176.1	0.48	0.26	0.48	30.1
4	T1	429	3.0	0.695	8.3	LOS A	6.9	176.1	0.34	0.17	0.34	33.1
14	R2	10	100.0	0.190	7.1	LOS A	0.8	21.5	0.22	0.10	0.22	34.5
Approach		1121	3.9	0.695	10.8	LOS B	6.9	176.1	0.43	0.22	0.43	31.4
West: Transit Center												
5	L2	5	100.0	0.098	16.0	LOS C	0.2	7.2	0.65	0.65	0.65	30.3
12a	R1	15	100.0	0.098	16.0	LOS C	0.2	7.2	0.65	0.65	0.65	29.9
12	R2	5	100.0	0.098	16.0	LOS C	0.2	7.2	0.65	0.65	0.65	29.2
Approach		25	100.0	0.098	16.0	LOS C	0.2	7.2	0.65	0.65	0.65	29.8
All Vehicles		2637	4.9	0.695	13.8	LOS B	6.9	176.1	0.62	0.64	0.94	30.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	119	119	100.3%	7.7	2.5	A
	Through	105	104	98.7%	6.0	2.9	A
	Right Turn						
	Subtotal	224	223	99.6%	6.8	2.4	A
SB	Left Turn						
	Through	238	236	99.2%	4.6	2.5	A
	Right Turn	15	17	114.0%	2.1	1.1	A
	Subtotal	253	253	100.0%	4.4	2.3	A
EB	Left Turn	15	15	100.0%	12.5	7.8	B
	Through						
	Right Turn	100	105	105.0%	5.9	1.6	A
	Subtotal	115	120	104.3%	6.8	2.4	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		592	596	100.7%	5.8	2.1	A

Intersection 2 **Deer Valley Drive West/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	18	87.5%	21.2	23.2	C
	Through						
	Right Turn						
	Subtotal	20	18	87.5%	21.2	23.2	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	818	832	101.7%	4.4	0.4	A
	Right Turn	20	18	91.5%	3.2	0.7	A
	Subtotal	838	850	101.4%	4.3	0.4	A
WB	Left Turn						
	Through	223	225	100.9%	0.3	0.1	A
	Right Turn						
	Subtotal	223	225	100.9%	0.3	0.1	A
Total		1,081	1,092	101.1%	3.7	0.4	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	147	148	100.7%	1.1	0.2	A
	Right Turn	20	22	107.5%	0.5	0.4	A
	Subtotal	167	170	101.6%	1.0	0.2	A
SB	Left Turn	50	45	90.6%	3.9	0.7	A
	Through	248	257	103.4%	1.2	0.2	A
	Right Turn						
	Subtotal	298	302	101.3%	1.6	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	18	89.0%	6.6	1.9	A
	Through						
	Right Turn	55	55	100.0%	5.2	0.6	A
	Subtotal	75	73	97.1%	5.6	0.7	A
Total		540	544	100.8%	2.0	0.2	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	25	23	93.6%	9.6	2.6	A
	Through						
	Right Turn	60	63	105.0%	5.8	0.9	A
	Subtotal	85	86	101.6%	6.6	0.9	A
EB	Left Turn	50	51	101.4%	4.9	0.9	A
	Through	273	275	100.7%	1.9	0.4	A
	Right Turn						
	Subtotal	323	326	100.8%	2.4	0.4	A
WB	Left Turn						
	Through	182	184	101.0%	0.8	0.2	A
	Right Turn	20	19	97.0%	0.9	0.4	A
	Subtotal	202	203	100.6%	0.8	0.1	A
Total		610	615	100.9%	2.5	0.3	A

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	228	228	99.9%	1.7	0.2	A
	Right Turn	15	16	106.7%	0.8	1.2	A
	Subtotal	243	244	100.3%	1.7	0.2	A
SB	Left Turn	308	307	99.7%	7.8	0.8	A
	Through	828	841	101.6%	5.2	0.5	A
	Right Turn						
	Subtotal	1,136	1,148	101.1%	5.9	0.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	9	93.0%	29.1	15.8	D
	Through						
	Right Turn	232	236	101.9%	6.2	1.0	A
	Subtotal	242	246	101.5%	7.1	1.3	A
Total		1,621	1,637	101.0%	5.5	0.3	A

Intersection 7 **Deer Valley Drive/Bonanza Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	317	306	96.4%	30.5	26.4	C
	Right Turn	217	218	100.5%	4.3	0.9	A
	Subtotal	534	524	98.1%	19.7	16.9	B
SB	Left Turn	125	89	71.2%	14.7	1.9	B
	Through	743	556	74.8%	11.0	2.2	B
	Right Turn						
	Subtotal	868	645	74.3%	11.5	2.0	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	735	720	97.9%	29.2	8.2	C
	Through						
	Right Turn	225	215	95.6%	21.4	23.4	C
	Subtotal	960	935	97.4%	27.4	11.3	C
Total		2,362	2,103	89.0%	20.5	8.9	C

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	95	94	98.6%	32.2	5.8	C
	Through	195	198	101.4%	52.8	4.2	D
	Right Turn	75	75	99.9%	20.1	9.3	C
	Subtotal	365	366	100.4%	40.6	4.0	D
SB	Left Turn	568	377	66.3%	125.6	50.9	F
	Through	170	112	65.9%	99.0	33.1	F
	Right Turn	1,565	1,011	64.6%	115.3	5.8	F
	Subtotal	2,303	1,500	65.1%	117.2	12.8	F
EB	Left Turn	580	372	64.1%	89.2	7.2	F
	Through	360	232	64.5%	70.5	14.6	E
	Right Turn	45	31	68.2%	75.1	28.9	E
	Subtotal	985	635	64.4%	81.5	9.6	F
WB	Left Turn	50	47	93.8%	114.6	15.3	F
	Through	425	404	95.0%	93.8	8.4	F
	Right Turn	257	230	89.4%	14.9	4.1	B
	Subtotal	732	680	93.0%	69.3	4.9	E
Total		4,385	3,182	72.6%	90.7	6.5	F

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	75	64	85.6%	26.0	5.9	C
	Through	30	28	94.7%	27.1	7.7	C
	Right Turn	137	126	91.6%	3.3	0.8	A
	Subtotal	242	218	90.1%	13.5	2.5	B
SB	Left Turn	65	60	91.8%	26.8	6.1	C
	Through	75	73	97.9%	29.0	4.6	C
	Right Turn	35	35	99.4%	4.3	0.6	A
	Subtotal	175	168	95.9%	22.8	2.5	C
EB	Left Turn	25	25	98.4%	14.5	3.8	B
	Through	340	327	96.2%	22.6	2.1	C
	Right Turn	110	108	98.5%	11.5	2.6	B
	Subtotal	475	460	96.9%	19.6	1.5	B
WB	Left Turn	380	384	101.1%	19.1	2.3	B
	Through	475	466	98.1%	10.1	1.0	B
	Right Turn	55	53	96.5%	4.4	1.4	A
	Subtotal	910	904	99.3%	13.5	1.2	B
Total		1,802	1,750	97.1%	16.1	1.3	B

MOVEMENT SUMMARY

 **Site: 101 [2040 Plus Project AM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	5	100.0	0.280	20.5	LOS C	1.0	26.0	0.74	0.77	0.83	31.6
8	T1	133	3.0	0.280	12.8	LOS B	1.0	26.2	0.74	0.77	0.83	31.8
18b	R3	104	3.0	0.280	12.7	LOS B	1.0	26.2	0.74	0.77	0.83	30.3
Approach		243	5.1	0.280	12.9	LOS B	1.0	26.2	0.74	0.77	0.83	31.1
SouthEast: RoadName												
3bx	L3	57	3.0	0.216	5.1	LOS A	0.9	23.7	0.33	0.21	0.33	35.4
3ax	L1	26	100.0	0.216	8.0	LOS A	0.9	23.7	0.33	0.21	0.33	33.9
18ax	R1	396	3.0	0.216	5.0	LOS A	1.0	24.6	0.34	0.22	0.34	35.1
Approach		479	8.2	0.216	5.2	LOS A	1.0	24.6	0.34	0.22	0.34	35.1
North: Deer Valley Drive												
7u	U	27	3.0	0.993	42.4	LOS E	72.5	1855.3	1.00	1.23	2.16	22.2
7a	L1	1105	3.0	0.993	42.4	LOS E	72.5	1855.3	1.00	1.23	2.16	21.7
4	T1	399	3.0	0.993	14.2	LOS B	72.5	1855.3	0.45	0.41	0.73	31.0
14	R2	16	100.0	0.272	8.1	LOS A	1.2	32.9	0.29	0.16	0.29	34.0
Approach		1547	4.0	0.993	34.8	LOS D	72.5	1855.3	0.85	1.01	1.77	23.6
West: Transit Center												
5	L2	5	100.0	0.325	31.5	LOS D	0.6	26.4	0.78	0.92	1.19	25.3
12a	R1	36	100.0	0.325	31.5	LOS D	0.6	26.4	0.78	0.92	1.19	25.0
12	R2	16	100.0	0.325	31.5	LOS D	0.6	26.4	0.78	0.92	1.19	24.5
Approach		57	100.0	0.325	31.5	LOS D	0.6	26.4	0.78	0.92	1.19	24.9
All Vehicles		2326	7.3	0.993	26.3	LOS D	72.5	1855.3	0.73	0.82	1.36	26.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	150	142	94.6%	103.5	74.0	F
	Through	454	428	94.2%	109.5	82.3	F
	Right Turn						
	Subtotal	604	569	94.3%	108.3	80.5	F
SB	Left Turn						
	Through	145	143	98.8%	4.1	0.9	A
	Right Turn	15	14	94.7%	0.8	0.8	A
	Subtotal	160	158	98.4%	3.9	0.8	A
EB	Left Turn	15	15	96.7%	63.4	75.9	E
	Through						
	Right Turn	146	145	99.0%	18.1	18.7	B
	Subtotal	161	159	98.8%	21.9	21.4	C
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		925	886	95.8%	65.1	43.8	E

Intersection 2 **Deer Valley Drive West/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	20	99.5%	32.4	14.7	D
	Through						
	Right Turn						
	Subtotal	20	20	99.5%	32.4	14.7	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	308	308	99.8%	1.7	0.4	A
	Right Turn	20	22	108.0%	2.2	1.5	A
	Subtotal	328	329	100.3%	1.8	0.4	A
WB	Left Turn						
	Through	774	773	99.9%	2.4	0.1	A
	Right Turn						
	Subtotal	774	773	99.9%	2.4	0.1	A
Total		1,122	1,122	100.0%	2.8	0.2	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	473	393	83.0%	246.9	41.6	F
	Right Turn	30	27	88.7%	262.9	63.4	F
	Subtotal	503	419	83.4%	247.7	42.1	F
SB	Left Turn	85	88	103.3%	4.4	0.6	A
	Through	182	185	101.5%	1.1	0.3	A
	Right Turn						
	Subtotal	267	273	102.1%	2.1	0.3	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	30	25	82.0%	330.2	150.8	F
	Through						
	Right Turn	60	47	78.8%	386.0	200.5	F
	Subtotal	90	72	79.9%	307.2	174.7	F
Total		860	764	88.8%	158.3	24.8	F

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	20	14	70.0%	414.6	262.7	F
	Through						
	Right Turn	80	58	72.4%	453.7	255.0	F
	Subtotal	100	72	71.9%	352.9	232.3	F
EB	Left Turn	90	87	96.3%	4.8	0.4	A
	Through	247	254	102.7%	1.9	0.5	A
	Right Turn						
	Subtotal	337	340	101.0%	2.6	0.6	A
WB	Left Turn						
	Through	498	389	78.2%	167.8	24.9	F
	Right Turn	35	27	76.6%	174.9	70.4	F
	Subtotal	533	416	78.1%	167.9	25.8	F
Total		970	828	85.4%	109.9	20.4	F

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	749	751	100.3%	3.4	0.4	A
	Right Turn	45	48	106.2%	3.1	1.0	A
	Subtotal	794	799	100.6%	3.3	0.4	A
SB	Left Turn	292	292	99.9%	17.6	6.7	C
	Through	303	309	101.9%	2.4	0.7	A
	Right Turn						
	Subtotal	595	600	100.9%	9.8	3.5	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	25	19	74.4%	200.9	106.5	F
	Through						
	Right Turn	553	385	69.7%	153.4	13.7	F
	Subtotal	578	404	69.9%	155.8	16.1	F
Total		1,967	1,803	91.7%	39.6	1.6	E

Intersection 7 **Deer Valley Drive/Bonanza Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	888	856	96.4%	141.2	68.7	F
	Right Turn	861	825	95.8%	166.7	81.5	F
	Subtotal	1,749	1,681	96.1%	153.7	74.4	F
SB	Left Turn	290	176	60.8%	22.9	4.6	C
	Through	528	358	67.8%	8.1	1.6	A
	Right Turn						
	Subtotal	818	534	65.3%	12.8	2.0	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	553	560	101.2%	36.3	9.3	D
	Through						
	Right Turn	150	149	99.5%	20.8	7.2	C
	Subtotal	703	709	100.9%	33.2	8.9	C
Total		3,270	2,925	89.4%	99.1	42.4	F

Intersection 8

SR-224-Park Avenue/Empire Avenue-Deer Valley Drive

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	70	68	97.6%	31.6	5.8	C
	Through	395	399	101.0%	49.6	6.1	D
	Right Turn	70	70	100.3%	32.0	9.8	C
	Subtotal	535	537	100.4%	44.9	5.6	D
SB	Left Turn	553	358	64.7%	229.7	14.2	F
	Through	365	232	63.7%	188.3	19.1	F
	Right Turn	720	468	65.0%	53.4	6.9	D
	Subtotal	1,638	1,058	64.6%	146.3	9.3	F
EB	Left Turn	1,190	520	43.7%	86.8	7.6	F
	Through	445	198	44.5%	59.8	13.7	E
	Right Turn	70	30	43.1%	62.9	34.4	E
	Subtotal	1,705	748	43.9%	78.6	9.6	E
WB	Left Turn	80	66	82.6%	122.9	19.6	F
	Through	405	395	97.4%	94.8	4.5	F
	Right Turn	743	610	82.1%	44.3	4.4	D
	Subtotal	1,228	1,071	87.2%	67.5	2.6	E
Total		5,106	3,415	66.9%	90.1	2.7	F

Intersection 9

Monitor Drive-Bonanza Drive/SR-248

Signal

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	210	179	85.0%	67.1	20.4	E
	Through	90	87	97.0%	50.2	13.4	D
	Right Turn	606	526	86.8%	25.1	10.8	C
	Subtotal	906	792	87.4%	37.9	13.3	D
SB	Left Turn	105	105	99.9%	42.0	9.0	D
	Through	55	54	97.6%	42.9	5.4	D
	Right Turn	75	78	103.3%	6.6	2.1	A
	Subtotal	235	236	100.5%	30.5	5.6	C
EB	Left Turn	85	85	100.0%	22.0	10.0	C
	Through	865	865	100.0%	42.5	15.4	D
	Right Turn	175	181	103.3%	42.0	19.3	D
	Subtotal	1,125	1,131	100.5%	40.9	15.7	D
WB	Left Turn	278	278	100.1%	26.4	3.3	C
	Through	570	580	101.7%	13.0	1.6	B
	Right Turn	55	53	96.2%	8.2	2.8	A
	Subtotal	903	911	100.9%	16.8	1.6	B
Total		3,169	3,069	96.9%	32.4	8.0	C

MOVEMENT SUMMARY

 **Site: 101 [2040 Plus Project PM]**

Deer Valley Drive / Marsac Avenue Roundabout
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		Total veh/h	HV %	v/c	sec		veh	ft				mph
South: Marsac Avenue												
3	L2	1	100.0	0.452	17.9	LOS C	2.4	61.0	0.72	0.82	1.03	31.3
8	T1	475	3.0	0.452	12.5	LOS B	2.4	61.1	0.72	0.82	1.03	32.1
18b	R3	98	3.0	0.452	12.5	LOS B	2.4	61.1	0.72	0.82	1.03	30.6
Approach		574	3.2	0.452	12.5	LOS B	2.4	61.1	0.72	0.82	1.03	31.8
SouthEast: RoadName												
3bx	L3	72	3.0	0.834	30.5	LOS D	10.8	286.1	0.90	1.42	2.46	25.8
3ax	L1	25	100.0	0.834	35.4	LOS E	10.8	286.1	0.90	1.42	2.46	24.9
18ax	R1	1041	3.0	0.834	30.1	LOS D	11.3	288.0	0.91	1.42	2.44	25.5
Approach		1138	5.2	0.834	30.3	LOS D	11.3	288.0	0.91	1.42	2.44	25.5
North: Deer Valley Drive												
7u	U	242	3.0	0.782	16.4	LOS C	8.9	228.5	0.70	0.44	0.70	29.4
7a	L1	532	3.0	0.782	16.4	LOS C	8.9	228.5	0.70	0.44	0.70	28.6
4	T1	429	3.0	0.782	9.8	LOS A	8.9	228.5	0.46	0.28	0.46	32.4
14	R2	10	100.0	0.214	7.6	LOS A	0.9	24.4	0.28	0.15	0.28	34.3
Approach		1214	3.8	0.782	14.0	LOS B	8.9	228.5	0.61	0.38	0.61	30.1
West: Transit Center												
5	L2	5	100.0	0.135	18.6	LOS C	0.2	9.8	0.69	0.69	0.69	29.4
12a	R1	21	100.0	0.135	18.6	LOS C	0.2	9.8	0.69	0.69	0.69	29.0
12	R2	5	100.0	0.135	18.6	LOS C	0.2	9.8	0.69	0.69	0.69	28.4
Approach		31	100.0	0.135	18.6	LOS C	0.2	9.8	0.69	0.69	0.69	29.0
All Vehicles		2958	5.2	0.834	20.0	LOS C	11.3	288.0	0.75	0.87	1.40	28.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	119	123	103.4%	6.2	1.9	A
	Through	105	106	100.8%	3.6	1.5	A
	Right Turn						
	Subtotal	224	229	102.1%	5.2	1.3	A
SB	Left Turn						
	Through	238	231	97.1%	3.6	1.4	A
	Right Turn	15	18	119.3%	2.2	2.2	A
	Subtotal	253	249	98.4%	3.5	1.4	A
EB	Left Turn	15	16	108.0%	12.2	4.2	B
	Through						
	Right Turn	100	102	101.6%	5.7	0.5	A
	Subtotal	115	118	102.4%	6.7	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		592	596	100.6%	4.8	1.1	A

Intersection 2 **Deer Valley Drive West/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	18	90.5%	12.6	2.8	B
	Through						
	Right Turn						
	Subtotal	20	18	90.5%	12.6	2.8	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	818	827	101.1%	1.3	0.2	A
	Right Turn	20	23	114.0%	1.8	0.8	A
	Subtotal	838	850	101.4%	1.3	0.2	A
WB	Left Turn						
	Through	223	226	101.2%	1.0	0.2	A
	Right Turn						
	Subtotal	223	226	101.2%	1.0	0.2	A
Total		1,081	1,093	101.1%	1.4	0.2	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	147	147	99.8%	0.1	0.1	A
	Right Turn	20	22	111.0%	0.1	0.1	A
	Subtotal	167	169	101.1%	0.1	0.0	A
SB	Left Turn	50	45	89.8%	3.2	0.6	A
	Through	248	251	101.1%	0.3	0.1	A
	Right Turn						
	Subtotal	298	296	99.2%	0.9	0.2	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	20	18	90.0%	5.9	1.7	A
	Through						
	Right Turn	55	57	103.5%	5.2	0.4	A
	Subtotal	75	75	99.9%	5.3	0.3	A
Total		540	539	99.9%	1.3	0.1	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	25	25	101.6%	6.6	0.9	A
	Through						
	Right Turn	60	61	101.0%	5.8	0.8	A
	Subtotal	85	86	101.2%	6.0	0.7	A
EB	Left Turn	50	52	103.2%	4.7	1.1	A
	Through	273	269	98.7%	1.6	0.4	A
	Right Turn						
	Subtotal	323	321	99.4%	2.1	0.5	A
WB	Left Turn						
	Through	182	185	101.8%	0.2	0.0	A
	Right Turn	20	20	99.0%	0.0	0.1	A
	Subtotal	202	205	101.5%	0.2	0.0	A
Total		610	612	100.3%	2.0	0.4	A

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	228	225	98.8%	10.0	2.4	A
	Right Turn	15	16	104.0%	6.0	3.0	A
	Subtotal	243	241	99.1%	9.7	2.4	A
SB	Left Turn	308	306	99.4%	14.4	2.5	B
	Through	828	833	100.6%	11.1	1.8	B
	Right Turn						
	Subtotal	1,136	1,139	100.3%	12.0	1.7	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	10	11	107.0%	15.4	5.8	B
	Through						
	Right Turn	232	233	100.2%	5.7	1.7	A
	Subtotal	242	243	100.5%	6.2	1.6	A
Total		1,621	1,623	100.1%	10.8	1.2	B

Intersection 7 **Deer Valley Drive/Bonanza Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	317	313	98.6%	17.2	5.4	B
	Right Turn	217	217	100.1%	3.2	0.4	A
	Subtotal	534	530	99.2%	11.6	3.8	B
SB	Left Turn	125	94	75.5%	14.4	2.3	B
	Through	743	623	83.8%	10.1	1.0	B
	Right Turn						
	Subtotal	868	717	82.6%	10.6	0.9	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	735	726	98.8%	20.8	2.7	C
	Through						
	Right Turn	225	218	96.7%	9.5	4.0	A
	Subtotal	960	944	98.3%	18.2	3.1	B
Total		2,362	2,191	92.8%	14.1	2.1	B

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	95	89	93.6%	32.3	5.3	C
	Through	195	188	96.6%	50.7	3.4	D
	Right Turn	70	71	100.9%	31.2	9.3	C
	Subtotal	360	348	96.6%	42.9	2.2	D
SB	Left Turn	568	370	65.1%	94.9	24.4	F
	Through	170	108	63.4%	74.3	13.9	E
	Right Turn	1,565	1,007	64.4%	119.7	2.8	F
	Subtotal	2,303	1,484	64.5%	110.4	6.2	F
EB	Left Turn	580	531	91.6%	76.1	5.0	E
	Through	360	327	90.7%	49.9	6.3	D
	Right Turn	45	41	90.0%	38.3	10.8	D
	Subtotal	985	898	91.2%	65.0	5.0	E
WB	Left Turn	50	45	89.8%	112.6	22.3	F
	Through	425	411	96.7%	98.7	9.1	F
	Right Turn	257	230	89.6%	16.2	3.7	B
	Subtotal	732	686	93.7%	72.1	5.8	E
Total		4,380	3,417	78.0%	83.8	3.4	F

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	75	65	87.1%	23.3	7.3	C
	Through	30	29	96.3%	23.9	5.9	C
	Right Turn	137	128	93.6%	3.8	0.7	A
	Subtotal	242	223	91.9%	12.0	3.0	B
SB	Left Turn	65	66	100.9%	23.6	5.3	C
	Through	75	77	103.1%	24.8	2.2	C
	Right Turn	35	33	95.4%	5.9	1.6	A
	Subtotal	175	176	100.7%	21.1	2.7	C
EB	Left Turn	25	24	95.2%	12.8	3.0	B
	Through	340	341	100.4%	20.1	2.6	C
	Right Turn	110	107	96.9%	14.0	2.2	B
	Subtotal	475	472	99.3%	18.4	2.3	B
WB	Left Turn	380	376	98.9%	15.7	3.0	B
	Through	475	476	100.2%	9.3	1.6	A
	Right Turn	55	58	104.7%	5.6	1.3	A
	Subtotal	910	910	99.9%	11.8	1.7	B
Total		1,802	1,780	98.8%	14.5	1.8	B

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	150	147	97.9%	10.5	5.9	B
	Through	454	461	101.5%	8.9	4.3	A
	Right Turn						
	Subtotal	604	608	100.6%	9.2	4.6	A
SB	Left Turn						
	Through	145	137	94.4%	4.3	2.3	A
	Right Turn	15	17	110.7%	2.6	1.9	A
	Subtotal	160	154	95.9%	4.1	2.0	A
EB	Left Turn	15	14	92.7%	16.2	16.8	B
	Through						
	Right Turn	146	140	95.9%	5.4	1.0	A
	Subtotal	161	154	95.6%	6.6	2.4	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		925	915	98.9%	7.8	3.3	A

Intersection 2 **Deer Valley Drive West/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	20	21	103.5%	19.8	5.3	C
	Through						
	Right Turn						
	Subtotal	20	21	103.5%	19.8	5.3	C
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	308	299	96.9%	0.3	0.1	A
	Right Turn	20	21	103.0%	0.5	0.4	A
	Subtotal	328	319	97.3%	0.3	0.1	A
WB	Left Turn						
	Through	774	776	100.3%	2.3	0.1	A
	Right Turn						
	Subtotal	774	776	100.3%	2.3	0.1	A
Total		1,122	1,116	99.5%	2.2	0.2	A

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	473	482	101.9%	0.4	0.1	A
	Right Turn	30	33	108.7%	0.3	0.2	A
	Subtotal	503	514	102.3%	0.4	0.1	A
SB	Left Turn	85	84	98.8%	5.7	1.2	A
	Through	182	179	98.6%	0.4	0.1	A
	Right Turn						
	Subtotal	267	263	98.7%	2.0	0.4	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	30	29	98.0%	11.1	4.7	B
	Through						
	Right Turn	60	62	102.5%	8.0	1.1	A
	Subtotal	90	91	101.0%	8.9	2.2	A
Total		860	869	101.0%	1.8	0.3	A

Intersection 4 **Solamere Drive/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn	20	19	93.5%	12.2	4.1	B
	Through						
	Right Turn	80	82	103.0%	8.5	1.6	A
	Subtotal	100	101	101.1%	9.3	2.0	A
EB	Left Turn	90	92	101.8%	7.6	1.0	A
	Through	247	242	97.9%	2.0	0.4	A
	Right Turn						
	Subtotal	337	333	98.9%	3.7	0.6	A
WB	Left Turn						
	Through	498	509	102.1%	0.7	0.1	A
	Right Turn	35	35	99.7%	0.4	0.2	A
	Subtotal	533	543	102.0%	0.6	0.1	A
Total		970	978	100.8%	2.6	0.4	A

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	749	753	100.5%	35.6	21.9	D
	Right Turn	45	45	98.9%	31.7	20.5	C
	Subtotal	794	797	100.4%	35.3	21.8	D
SB	Left Turn	292	288	98.6%	27.6	5.1	C
	Through	303	294	97.0%	3.9	1.4	A
	Right Turn						
	Subtotal	595	582	97.8%	14.9	3.1	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	25	25	99.6%	99.7	33.8	F
	Through						
	Right Turn	553	546	98.7%	83.2	26.3	F
	Subtotal	578	571	98.8%	83.9	26.4	F
Total		1,967	1,950	99.1%	43.5	14.6	D

Intersection 7 **Deer Valley Drive/Bonanza Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	888	857	96.5%	173.4	65.6	F
	Right Turn	861	784	91.0%	217.3	89.3	F
	Subtotal	1,749	1,641	93.8%	193.6	75.6	F
SB	Left Turn	290	183	63.1%	23.4	3.1	C
	Through	528	358	67.7%	7.5	2.4	A
	Right Turn						
	Subtotal	818	541	66.1%	12.6	2.4	B
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn	553	557	100.8%	39.2	6.3	D
	Through						
	Right Turn	150	151	100.6%	24.9	6.9	C
	Subtotal	703	708	100.7%	36.2	6.4	D
Total		3,270	2,890	88.4%	116.7	38.4	F

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	70	73	103.7%	33.5	7.8	C
	Through	395	392	99.1%	54.1	5.5	D
	Right Turn	70	71	100.7%	33.1	8.9	C
	Subtotal	535	535	99.9%	48.7	4.6	D
SB	Left Turn	553	366	66.1%	225.6	17.6	F
	Through	365	232	63.4%	181.8	18.5	F
	Right Turn	720	478	66.4%	57.0	10.1	E
	Subtotal	1,638	1,076	65.7%	141.5	14.3	F
EB	Left Turn	1,190	524	44.1%	87.2	6.3	F
	Through	445	197	44.2%	65.3	13.2	E
	Right Turn	70	32	46.1%	47.1	17.8	D
	Subtotal	1,705	753	44.2%	79.9	8.1	E
WB	Left Turn	75	67	89.5%	106.6	23.0	F
	Through	405	386	95.4%	90.3	12.2	F
	Right Turn	743	624	84.0%	46.2	7.2	D
	Subtotal	1,223	1,078	88.1%	65.8	4.6	E
Total		5,101	3,441	67.5%	89.4	3.9	F

Intersection 9 **Monitor Drive-Bonanza Drive/SR-248** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	210	173	82.2%	55.8	16.2	E
	Through	90	85	94.0%	40.8	10.5	D
	Right Turn	606	523	86.3%	20.9	4.4	C
	Subtotal	906	780	86.1%	30.8	6.0	C
SB	Left Turn	105	107	101.7%	38.9	3.5	D
	Through	55	58	105.5%	52.5	8.2	D
	Right Turn	75	73	97.9%	6.6	1.2	A
	Subtotal	235	238	101.4%	31.0	2.5	C
EB	Left Turn	85	83	98.1%	19.9	4.8	B
	Through	865	860	99.4%	42.9	11.9	D
	Right Turn	175	180	102.6%	39.0	13.7	D
	Subtotal	1,125	1,123	99.8%	40.6	11.5	D
WB	Left Turn	278	277	99.7%	26.7	3.5	C
	Through	570	569	99.9%	13.1	2.3	B
	Right Turn	55	55	99.5%	10.9	3.0	B
	Subtotal	903	901	99.8%	17.1	2.2	B
Total		3,169	3,043	96.0%	30.6	5.4	C

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 1 P2 Parking/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	71	70	98.5%	11.1	1.0	B
	Through						
	Right Turn						
	Subtotal	71	70	98.5%	11.1	1.0	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	144	127	88.2%	0.7	0.4	A
	Right Turn	674	608	90.2%	12.3	4.1	B
	Subtotal	818	735	89.8%	10.4	3.5	B
WB	Left Turn						
	Through	152	125	81.9%	0.4	0.1	A
	Right Turn						
	Subtotal	152	125	81.9%	0.4	0.1	A
Total		1,041	929	89.3%	9.2	2.9	A

Intersection 2 P1 Parking/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	18	15	82.8%	8.5	0.8	A
	Through						
	Right Turn						
	Subtotal	18	15	82.8%	8.5	0.8	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	115	101	87.7%	0.1	0.1	A
	Right Turn	29	26	89.7%	0.6	0.2	A
	Subtotal	144	127	88.1%	0.2	0.1	A
WB	Left Turn						
	Through	134	109	81.6%	0.1	0.0	A
	Right Turn						
	Subtotal	134	109	81.6%	0.1	0.0	A
Total		296	251	84.8%	0.5	0.1	A

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 3 Mobility Hub Entrance/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	100	86	85.8%	0.1	0.1	A
	Right Turn	15	13	86.7%	0.3	0.0	A
	Subtotal	115	99	85.9%	0.1	0.1	A
WB	Left Turn	15	15	100.0%	1.5	1.2	A
	Through	119	109	91.7%	0.2	0.1	A
	Right Turn						
	Subtotal	134	124	92.6%	0.4	0.3	A
Total		249	223	89.5%	0.3	0.2	A

Intersection 4 Mobility Hub Exit/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	15	16	105.3%	30.7	4.9	D
	Through						
	Right Turn	15	15	101.3%	33.4	14.6	D
	Subtotal	30	31	103.3%	31.6	6.1	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	100	86	85.9%	0.6	0.3	A
	Right Turn						
	Subtotal	100	86	85.9%	0.6	0.3	A
WB	Left Turn						
	Through	134	109	81.6%	0.1	0.0	A
	Right Turn						
	Subtotal	134	109	81.6%	0.1	0.0	A
Total		264	226	85.7%	5.8	1.2	A

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 5 Deer Valley Drive East/P2 Parking Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	209	176	84.0%	0.7	0.1	A
	Right Turn						
	Subtotal	209	176	84.0%	0.7	0.1	A
SB	Left Turn						
	Through	293	257	87.6%	1.4	0.2	A
	Right Turn	45	47	103.6%	0.5	0.1	A
	Subtotal	338	303	89.8%	1.2	0.2	A
EB	Left Turn	15	13	85.3%	8.6	3.5	A
	Through						
	Right Turn						
	Subtotal	15	13	85.3%	8.6	3.5	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		562	492	87.5%	1.2	0.1	A

Intersection 6 Deer Valley Drive East/P3 Parking Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	209	176	84.1%	1.1	0.4	A
	Right Turn						
	Subtotal	209	176	84.1%	1.1	0.4	A
SB	Left Turn						
	Through	249	220	88.3%	5.4	7.9	A
	Right Turn	44	37	84.1%	1.0	1.1	A
	Subtotal	293	257	87.6%	4.8	6.8	A
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		502	433	86.2%	3.2	3.8	A

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 7 **Deer Valley Drive East/P4 Parking** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	50	41	81.8%	1.5	1.9	A
	Through	150	119	79.0%	1.6	0.8	A
	Right Turn						
	Subtotal	200	159	79.7%	1.6	0.6	A
SB	Left Turn						
	Through	200	176	88.2%	17.3	18.4	C
	Right Turn	49	44	89.4%	3.5	7.1	A
	Subtotal	249	220	88.4%	14.3	16.2	B
EB	Left Turn	59	57	97.1%	3.4	0.9	A
	Through						
	Right Turn						
	Subtotal	59	57	97.1%	3.4	0.9	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		508	437	86.0%	8.0	8.0	A

Intersection 8 **Deer Valley Drive East/Pick-up/Drop-off** **Uncontrolled**

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	200	160	79.8%	1.0	0.3	A
	Right Turn						
	Subtotal	200	160	79.8%	1.0	0.3	A
SB	Left Turn						
	Through	200	177	88.3%	43.8	18.9	E
	Right Turn						
	Subtotal	200	177	88.3%	43.8	18.9	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		400	336	84.0%	22.9	9.5	C

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 101

Deer Valley Drive West/Deer Valley Drive East

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	500	66	5	60	75	268	24	229	309	NO
	Right Turn	500	69	5	63	78	272	24	233	313	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	100	7	2	4	12	112	21	85	161	MAX
	Through	500	18	4	13	24	297	64	203	413	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
EB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										
WB	Second Left										
	Left Turn	500	3	1	1	6	29	11	15	43	NO
	Through										
	Right Turn	100	6	1	4	8	125	18	91	143	MAX
	Second Right										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 102 Deer Valley Drive West/Doe Pass Road Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	500	1	0	1	1	30	2	28	35	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	500 500	63 89	81 99	4 10	273 338	274 353	176 178	107 189	721 803	NO NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	100	0	0	0	0	19	22	0	55	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 103

Deer Valley Drive East/Doe Pass Road

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	300	6	1	5	8	74	10	63	95	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
Second Right											
SB	U Turn	150	13	3	9	19	169	34	131	239	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn										
Second Right	150	13	3	10	20	172	34	135	243	MAX	
EB	U Turn	75	1	0	1	2	86	20	47	117	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn										
Second Right	75	2	0	1	2	86	20	47	116	MAX	
WB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
Second Right											

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 104

Solamere Drive/Deer Valley Drive East

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left	500	0	0	0	0	28	8	18	44	NO
	Left Turn										
	Through	500	0	0	0	0	28	8	18	44	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left	500	0	0	0	0	0	0	0	0	NO
	Left Turn	500	0	0	0	0	0	0	0	0	NO
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	0	0	0	0	NO
	Through										
	Right Turn	500	1	0	1	2	31	0	31	32	NO
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 105

Deer Valley Drive East/Queen Esther Drive

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	500	0	0	0	0	0	0	0	0	NO
	Right Turn	500	0	0	0	0	0	0	0	0	NO
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	4	5	0	14	NO
	Through	500	1	1	0	2	0	0	0	0	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	500	0	0	0	0	27	6	19	32	NO
	Through										
	Right Turn	500	4	0	4	5	78	4	72	81	NO
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 1		P2 Parking/Doe Pass Road					Side-street Stop				
Direction	Movement	Storage (ft)	Average	Average Queue (ft)			Average	Maximum Queue (ft)			Exceeds Storage?
				Std. Dev.	Minimum	Maximum		Std. Dev.	Minimum	Maximum	
NB	U Turn	150	10	1	8	11	119	1	117	120	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	125	52	22	24	94	229	6	217	235	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	75	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 2

P1 Parking/Doe Pass Road

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	150	5	0	4	5	78	2	76	82	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	125	0	0	0	0	0	0	0	0	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	75	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 3 Mobility Hub Entrance/Doe Pass Road Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	75	0	0	0	0	0	0	0	0	NO
	Right Turn	75	0	0	0	0	0	0	0	0	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	100	0	0	0	0	15	13	0	35	NO
	Through	100	1	0	1	1	105	0	105	105	MAX
	Right Turn										
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 4

Mobility Hub Exit/Doe Pass Road

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	100	14	5	10	28	146	20	120	180	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn	100	14	5	9	28	146	20	119	179	MAX
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn	100	0	0	0	0	4	6	0	18	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
WB	U Turn	75	2	1	2	3	108	10	94	127	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 5

Deer Valley Drive East/P2 Parking

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	160	0	0	0	0	0	0	0	0	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	300	0	0	0	1	4	13	0	42	NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	150	1	0	1	2	72	12	55	90	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 6

Deer Valley Drive East/P3 Parking

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	200	1	0	0	2	38	18	23	81	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	160 50	2 0	3 0	0 0	10 0	54 0	33 0	13 0	131 0	NO NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 7

Deer Valley Drive East/P4 Parking

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	100	0	0	0	0	0	0	0	0	NO
	Through	100	0	0	0	0	0	0	0	0	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	75	1	2	0	6	14	18	0	39	NO
EB	Right Turn	75	1	2	0	6	14	18	0	39	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	150	2	0	1	3	82	1	80	84	NO
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
AM Peak Hour

Intersection 8 Deer Valley Drive East/Pick-up/Drop-off Uncontrolled

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	150	0	0	0	0	5	7	0	21	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	150	13	9	0	31	92	42	21	162	NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 1 P2 Parking/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	596	226	37.8%	11.2	0.7	B
	Through						
	Right Turn						
	Subtotal	596	226	37.8%	11.2	0.7	B
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	175	155	88.8%	2.5	0.8	A
	Right Turn	133	122	91.7%	0.5	0.1	A
	Subtotal	308	277	90.1%	1.6	0.5	A
WB	Left Turn						
	Through	178	143	80.1%	1.6	0.3	A
	Right Turn						
	Subtotal	178	143	80.1%	1.6	0.3	A
Total		1,082	645	59.6%	5.0	0.5	A

Intersection 2 P1 Parking/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	13	12	91.5%	9.8	1.9	A
	Through						
	Right Turn						
	Subtotal	13	12	91.5%	9.8	1.9	A
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	161	142	88.4%	0.2	0.1	A
	Right Turn	14	13	92.1%	0.6	0.3	A
	Subtotal	175	155	88.7%	0.2	0.1	A
WB	Left Turn						
	Through	165	131	79.3%	0.6	0.1	A
	Right Turn						
	Subtotal	165	131	79.3%	0.6	0.1	A
Total		353	298	84.4%	0.8	0.1	A

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 3 Mobility Hub Entrance/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	146	127	87.0%	0.6	1.4	A
	Right Turn	15	13	86.7%	2.5	7.0	A
	Subtotal	161	140	87.0%	0.8	1.9	A
WB	Left Turn	15	15	96.7%	1.2	1.1	A
	Through	150	131	87.3%	0.6	0.3	A
	Right Turn						
	Subtotal	165	145	88.1%	0.7	0.5	A
Total		326	285	87.5%	0.7	0.9	A

Intersection 4 Mobility Hub Exit/Doe Pass Road Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn	15	15	102.0%	36.6	12.8	E
	Through						
	Right Turn	15	15	100.0%	22.7	7.8	C
	Subtotal	30	30	101.0%	30.6	8.6	D
SB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
EB	Left Turn						
	Through	161	127	78.8%	1.3	0.9	A
	Right Turn						
	Subtotal	161	127	78.8%	1.3	0.9	A
WB	Left Turn						
	Through	165	131	79.4%	0.8	0.3	A
	Right Turn						
	Subtotal	165	131	79.4%	0.8	0.3	A
Total		356	288	81.0%	5.1	1.6	A

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 5 Deer Valley Drive East/P2 Parking Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	465	418	89.9%	0.8	0.3	A
	Right Turn						
	Subtotal	465	418	89.9%	0.8	0.3	A
SB	Left Turn						
	Through	196	167	85.4%	1.0	0.2	A
	Right Turn	95	88	92.4%	0.7	0.2	A
	Subtotal	291	255	87.7%	0.9	0.1	A
EB	Left Turn	139	137	98.8%	5.9	0.8	A
	Through						
	Right Turn						
	Subtotal	139	137	98.8%	5.9	0.8	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		895	810	90.5%	1.7	0.3	A

Intersection 6 Deer Valley Drive East/P3 Parking Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	326	280	85.8%	1.0	0.3	A
	Right Turn						
	Subtotal	326	280	85.8%	1.0	0.3	A
SB	Left Turn						
	Through	196	167	85.4%	1.2	0.6	A
	Right Turn						
	Subtotal	196	167	85.4%	1.2	0.6	A
EB	Left Turn	139	138	99.5%	8.6	1.0	A
	Through						
	Right Turn						
	Subtotal	139	138	99.5%	8.6	1.0	A
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		661	585	88.5%	2.9	0.3	A

Vissim Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 7 Deer Valley Drive East/P4 Parking Side-street Stop

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	200	157	78.7%	2.8	1.0	A
	Right Turn						
	Subtotal	200	157	78.7%	2.8	1.0	A
SB	Left Turn						
	Through	150	128	85.1%	16.2	15.7	C
	Right Turn	46	39	84.3%	0.6	0.6	A
	Subtotal	196	167	84.9%	12.4	11.7	B
EB	Left Turn	126	122	97.1%	11.4	12.2	B
	Through						
	Right Turn	50	48	96.8%	23.3	26.6	C
	Subtotal	176	171	97.0%	14.3	15.4	B
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		572	495	86.5%	10.0	8.9	B

Intersection 8 Deer Valley Drive East/Pick-up/Drop-off Uncontrolled

Direction	Movement	Demand Volume (vph)	Served Volume (vph)		Total Delay (sec/veh)		
			Average	Percent	Average	Std. Dev.	LOS
NB	Left Turn						
	Through	200	157	78.7%	2.7	0.8	A
	Right Turn						
	Subtotal	200	157	78.7%	2.7	0.8	A
SB	Left Turn						
	Through	200	174	87.1%	44.2	35.6	E
	Right Turn						
	Subtotal	200	174	87.1%	44.2	35.6	E
EB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
WB	Left Turn						
	Through						
	Right Turn						
	Subtotal						
Total		400	332	82.9%	24.7	18.8	C

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 101

Deer Valley Drive West/Deer Valley Drive East

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	500	214	31	154	264	519	49	397	581	MAX
	Right Turn	500	218	31	158	268	523	49	401	586	MAX
	Second Right										
	U Turn										
	Second Left										
	Left Turn	100	22	4	18	29	168	16	140	186	MAX
	Through	500	6	1	5	8	125	22	105	169	NO
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	8	1	5	10	52	9	38	66	NO
	Through										
WB	Right Turn	100	33	3	29	39	326	48	240	405	MAX
	Second Right										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 102 Deer Valley Drive West/Doe Pass Road Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	150	1	0	0	1	30	2	28	34	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	500 500	0 0	0 0	0 0	0 0	0 3	0 5	0 0	0 13	NO NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	100	0	0	0	0	54	28	27	103	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 103

Deer Valley Drive East/Doe Pass Road

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn	300	29	2	25	34	249	29	210	297	NO
	Through	300	28	2	25	33	248	29	209	296	NO
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through	150	7	1	5	9	117	26	69	153	NO
EB	Right Turn	150	7	1	6	10	120	26	73	156	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	75	2	0	1	3	109	9	90	115	MAX
WB	Through										
	Right Turn	75	2	0	2	3	109	9	90	115	MAX
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 104

Solamere Drive/Deer Valley Drive East

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left	500	0	0	0	1	34	5	27	44	NO
	Left Turn										
	Through	500	0	0	0	1	34	5	27	44	NO
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left	500	0	0	0	0	0	0	0	0	NO
	Left Turn	500	0	0	0	0	0	0	0	0	NO
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	1	4	0	12	NO
	Through										
	Right Turn	500	1	0	1	1	31	0	31	31	NO
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 105

Deer Valley Drive East/Queen Esther Drive

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through	500	0	0	0	0	0	0	0	0	NO
	Right Turn	500	0	0	0	0	0	0	0	0	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	19	12	0	42	NO
	Through	500	0	0	0	1	0	0	0	0	NO
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn	500	0	0	0	1	27	6	20	38	NO
	Through										
WB	Right Turn	500	6	0	5	7	78	4	72	86	NO
	Second Right										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 1

P2 Parking/Doe Pass Road

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	150	68	0	68	69	121	1	119	122	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	125	1	0	1	1	59	13	34	73	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	75	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 2

P1 Parking/Doe Pass Road

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	150	4	0	4	4	78	2	76	82	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	125	0	0	0	0	0	0	0	0	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	75	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 3

Mobility Hub Entrance/Doe Pass Road

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	75	0	0	0	2	4	13	0	43	NO
	Right Turn	75	0	0	0	2	4	13	0	43	NO
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn	100	0	0	0	1	16	17	0	39	NO
	Through	100	1	0	0	1	102	11	70	106	MAX
	Right Turn										
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 4

Mobility Hub Exit/Doe Pass Road

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	100	18	8	8	36	141	15	119	160	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn	100	18	8	8	36	140	15	119	160	MAX
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn	100	0	0	0	0	14	12	0	36	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
WB	U Turn	75	1	0	0	2	103	17	59	116	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 5

Deer Valley Drive East/P2 Parking

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	160	0	0	0	0	1	2	0	7	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	300 50	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	NO NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	150	37	1	36	39	117	1	116	118	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 6

Deer Valley Drive East/P3 Parking

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	200	1	0	1	2	68	23	29	105	NO
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	160	0	0	0	1	28	11	12	53	NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	150	35	1	33	37	101	1	101	103	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 7

Deer Valley Drive East/P4 Parking

Side-street Stop

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	100	3	1	2	5	116	14	82	139	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	75	0	1	0	2	0	0	0	0	NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn	150	22	15	8	63	146	18	111	170	NO
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through	150	19	17	6	66	126	26	84	181	NO
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 8 Deer Valley Drive East/Pick-up/Drop-off Uncontrolled

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn	150	39	38	4	124	201	49	99	270	MAX
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right	150	10	10	1	36	90	36	52	170	NO
	U Turn										
	Second Left										
	Left Turn										
	Through										
EB	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
WB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										

Vissim Post-Processor
Average Results from 10 Runs
Queue Length

Snow Park Village
2040 Plus Project - Bus Option
PM Peak Hour

Intersection 0

//

Signal

Direction	Movement	Storage (ft)	Average Queue (ft)				Maximum Queue (ft)				Exceeds Storage?
			Average	Std. Dev.	Minimum	Maximum	Average	Std. Dev.	Minimum	Maximum	
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
SB	Second Right										
	U Turn										
	Second Left										
	Left Turn										
	Through										
SE	Right Turn										
	Second Right										
	U Turn										
	Second Left										
	Left Turn										
EB	Through										
	Right Turn										
	Second Right										
	U Turn										
	Second Left										
WB	Left Turn										
	Through										
	Right Turn										
	Second Right										
	U Turn										

Project: UT20-2245
 Description: Snow Park Transportation Study

Park City Minimum Parking Rates Based <i>Nonshared</i> Parking Demand Summary																		
Land Use	Project Data		Weekday					Weekend					Weekday			Weekend		
			Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Base Ratio	Driving Adj	Non-Captive Ratio	Project Ratio	Unit For Ratio	Peak Hr Adj	Peak Mo Adj	Estimated Parking Demand	Peak Hr Adj	Peak Mo Adj	Estimated Parking Demand
	Quantity	Unit											6 AM	December		6 AM	December	
Retail																		
Retail (<400 ksf)	25,866	sf GLA	3.22	100%	100%	3.22	ksf GLA	3.20	100%	100%	3.20	ksf GLA	100%	100%	84	100%	100%	83
Employee			0.78	100%	100%	0.78		0.80	100%	100%	0.80		100%	100%	21	100%	100%	21
Food and Beverage																		
Entertainment and Institutions																		
Convention Center	30,879	sf GLA	5.73	100%	100%	5.73	ksf GLA	5.73	100%	100%	5.73	ksf GLA	100%	100%	177	100%	100%	177
Employee			0.52	100%	100%	0.52		0.52	100%	100%	0.52		100%	100%	17	100%	100%	17
Hotel and Residential																		
Hotel-Business		keys	0.87	100%	100%	0.87	key	0.87	100%	100%	0.87	key	100%	100%	-	100%	100%	-
Hotel-Leisure	193	keys	0.87	100%	100%	0.87	key	0.87	100%	100%	0.87	key	100%	100%	168	100%	100%	168
Hotel Employees	193	keys	0.13	100%	100%	0.13	key	0.13	100%	100%	0.13	key	100%	100%	25	100%	100%	25
Restaurant/Lounge	5,451	sf GLA	4.24	100%	100%	4.24	ksf GLA	4.26	100%	100%	4.26	ksf GLA	100%	100%	24	100%	100%	24
Meeting/Banquet (0 to 20 sq ft/key)		sf GLA	0.00	100%	100%	0.00	ksf GLA	0.00	100%	100%	0.00	ksf GLA	100%	100%	-	100%	100%	-
Meeting/Banquet (20 to 50 sq ft/key)		sf GLA	0.00	100%	100%	0.00	ksf GLA	0.00	100%	100%	0.00	ksf GLA	100%	100%	-	100%	100%	-
Meeting/Banquet (50 to 100 sq ft/key)		sf GLA	0.00	100%	100%	0.00	ksf GLA	0.00	100%	100%	0.00	ksf GLA	100%	100%	-	100%	100%	-
Convention (100 to 200 sq ft/key)		sf GLA	0.00	100%	100%	0.00	ksf GLA	5.50	100%	100%	5.50	ksf GLA	100%	100%	-	100%	100%	-
Convention (> 200 sq ft/key)		sf GLA	4.58	100%	100%	4.58	ksf GLA	4.58	100%	100%	4.58	ksf GLA	100%	100%	-	100%	100%	-
Restaurant/Meeting Employees	5,451	sf GLA	0.76	100%	100%	0.76	ksf GLA	0.74	100%	100%	0.74	ksf GLA	100%	100%	5	100%	100%	5
Residential, Urban																0%		
Studio Efficiency		units	0.00	100%	100%	0.00	unit	0.00	100%	100%	0.00	unit	100%	100%	-	100%	100%	-
1 Bedroom	11	units	0.00	100%	100%	0.00	unit	0.00	100%	100%	0.00	unit	100%	100%	-	100%	100%	-
2 Bedrooms		units	0.00	100%	100%	0.00	unit	0.00	100%	100%	0.00	unit	100%	100%	-	100%	100%	-
3+ Bedrooms	132	units	0.00	100%	100%	0.00	unit	0.00	100%	100%	0.00	unit	100%	100%	-	100%	100%	-
Reserved	100%	res spaces	1.44	100%	100%	1.44	unit	1.41	100%	100%	1.41	unit	100%	100%	206	100%	100%	201
Visitor	143	units	0.06	100%	100%	0.06	unit	0.08	100%	100%	0.08	unit	100%	100%	9	100%	100%	13
Office																		
Additional Land Uses																		
Ski Resort (as observed during data collection)	1	count	1,500	100%	100%	1,500	count	1,500	100%	100%	1,500	count	100%	100%	1,500	100%	100%	1,500
Employee			0.00	100%	100%	0.00		0.00	100%	100%	0.00		100%	100%	-	100%	100%	-
													Customer/Visitor		1,962	Customer		1,965
													Employee/Resident		68	Employee/Resident		68
													Reserved		206	Reserved		201
													Total		2,236	Total		2,234



Attachment A:

Trip Generation Memorandum

MEMORANDUM

Date: January 21, 2022
To: Alexandra Ananth, Park City Planning
From: Fehr & Peers
Subject: **Revised Trip Generation Estimates for the Snow Park Village Traffic Impact Study**

UT20-2245

This memorandum presents revised trip generation estimates for the proposed Snow Park Village project at Deer Valley Resort. The original trip generation estimates included in the Traffic Impact Study (April 2021) were reviewed by Park City staff and Wall Consulting Group (WCG), a third-party reviewer retained by the City. Park City staff, through WCG, requested revisions to the trip generation estimates with supporting documentation and/or rationale. Revisions presented in this memorandum are based on an updated land use plan, a local precedent study, comparable trip resort analysis, published trip generation rates from the Institute of Transportation Engineers, and mode shift assumptions derived from the Summit County travel demand model. This memorandum is an intermediate deliverable while additional details regarding site access and circulation are being resolved.

In summary, revised trip generation estimates for the Snow Park Village project show 2,276 daily trips, 162 trips in the Saturday AM peak-hour, and 204 trips in the Saturday PM peak hour. When compared with estimates included in the April 2021 traffic impact study, this results in a 60 percent increase in estimated daily trips, 80 percent increase in the Saturday AM peak-hour trips, and a 148 percent increase in the Saturday PM peak-hour trips.

Trip Generation Estimates

Trip generation estimates focus on Saturday AM and PM peak-hour operations due to the nature of how a ski resort operates: skier traffic is consistently highest on Saturdays. Updated trip generation estimates for Snow Park Village are presented below in **Table 1**.



Key Revisions

Trip generation estimates in this memorandum incorporate several key revisions, including:

- Updated resort hotel trip generation rates taken from the 2018 Canyons Village Transportation Master Plan
- Assumed mode shift away from private car taken from MXD, the Environmental Protection Agency's approved trip generation method, and the Summit County travel demand model for all proposed land uses
- Reductions in trip generation rates due to the implementation of paid parking for day skiers and most proposed land uses
- Reliance on trip internalization derived from MXD and the Summit County travel demand model for most proposed land uses
- The rate of internal capture assumed due to complementary land uses derived from analysis at a peer resort (Palisades at Tahoe, formerly known as Squaw Valley)

This combination of updates represents a much more conservative foundation for subsequent traffic analysis. Each of these changes and justification for each are described in greater detail below.

Resort Hotel Trip Generation Rates

The third-party reviewers (WCG) noted that the resort hotel trip generation rates appeared unreasonably low based on observed trip generation rates recorded during the development of the 2018 Canyons Village Transportation Master Plan. While there are a handful of key factors that might result in trip generation rates closer to those in the original Snow Park Village Traffic Impact Study, including proximity to the interstate and other complementary land uses, estimates in this memorandum used the local rates recorded at the Canyons.

Assumed Mode Shift

To avoid double-counting potential reductions, as was the case in the original Snow Park Village traffic impact study, the trip generation estimates in this memorandum rely solely on mode shift derived from the MXD methodology and underlying assumptions from the regional travel demand model. These reductions, which are shown in the columns titled "% Walk/Bike" and "% Transit," are applied to all proposed land uses. This results in a more conservative and defensible analysis,



however, it does not account for the planned changes to transit service in Park City and the world-class transit facility proposed as part of the Snow Park Village project. Potential mode shift to transit for those traveling to and from Deer Valley may be higher following such improvements.

Reduction in Vehicle Trips due to Implementation of Paid Parking

Charging for parking is a reliable method by which to influence mode choice, and Deer Valley intends to implement paid parking as part of the Snow Park Village proposal. The original Snow Park Village traffic study assumed a reduction in vehicle trips of nearly 18% and applied it to all land uses. This reduction was developed based on approximately 50 studies on the effects of paid parking from across the United States. WCG noted this reduction seemed high based on assumptions about typical Deer Valley clientele and their assumed willingness to pay for fees in addition to lift tickets, meal, lessons, and/or equipment rentals.

Reductions in trip generation due to the implementation of paid parking at Deer Valley have been scaled back to present a more conservative estimate of how parking pricing will affect trip generation. While we agree that some Deer Valley clientele may be much less sensitive to additional costs associated with a day's skiing as presented in the traffic study, almost 45% of existing trips to and from Deer Valley start and end at points along the Wasatch Front, residents of which are more likely to alter their behavior based on willingness to pay (note the massive increase in peripheral on-street parking at a greater distance to ski lifts at Deer Valley's IKON pass-sharing resort, Solitude). Lastly, reductions in trip generation due to the implementation of parking pricing are applied only to the resort hotel-, shopping center-, and recreational community center-generated trips, as proposed residential uses at the site are unlikely to require that residents pay for parking on a daily basis.

Trip Internalization Derived from MXD

A fundamental element of the Snow Park Village proposal is to provide amenities, services, and entertainment options that complement each other and the ski resort itself. This means that peak-hour trips that might occur without complementary land uses are either delayed (so that they do not occur during the peak hours) or do not require a vehicle trip due to proximity of different uses. Trip internalization rates, presented in **Table 1** under the column heading "% Internal Capture" are applied only to the residential-, resort hotel-, and recreational community center-generated trips, and present a more conservative rate of internalization than presented in the original Snow Park Village traffic impact study.



Trip Internalization Derived from Squaw Valley

While the residential, hotel, and community center uses are expected to be destinations unto themselves that will generate a measurable number of peak-hour vehicle trips, the food service and retail uses (shown in **Table 1** as “Shopping enter”) are expected to almost exclusively serve guests already at Deer Valley rather than guests traveling to Deer Valley explicitly for those services.

To support this assumption, trip generation estimates for the shopping center uses in this memorandum rely on trip internalization estimates derived from an origin-destination survey conducted at the Squaw Valley, California resort in 2011. Surveys conducted showed that 95-97% of customers at dining and retail uses in a similar context (ski resort base village) were already at the village for other purposes, and did not travel solely for the dining/retail use. Reductions based on the data from Squaw Valley are presented under the column heading “% Resort Int. Capt.” And are applied only to the shopping center uses. We assume that employees for these uses will almost exclusively arrive and depart during off-peak periods, resulting in lower reductions for daily trips generated by the shopping center uses.

Conclusion

Trip generation estimates prepared for the original Snow Park Village traffic impact study were based on an older land use plan, double-counted some reductions in vehicle trips, applied others to incorrect land uses, and over-emphasized the potential reductions in vehicle trips derived from paid parking. However, this memorandum relies on several assumptions that are fundamental to the Snow Park Village proposal:

- Complementary land uses will reduce peak-hour vehicle trips by providing alternatives to driving
- Employees will typically arrive and depart during off-peak periods
- Charging for parking is one of the most powerful tools available for influencing mode choice, relying on an appropriate pricing structure being implemented

The trip generation estimates presented in this memorandum represent a conservative set of analyses that will inform a fully revised traffic impact study for the Snow Park Village Project.



Attachment B:

Snow Park Village Parking Management Plan

MEMORANDUM

Date: January 21, 2022
To: Rich Wagner, Deer Valley
From: Fehr & Peers
Subject: **Snow Park Village MPD Parking Response**

UT20-2245

The current parking experience at Deer Valley follows a well-established surface parking scenario, typical of ski resorts. There are five large surface lots that hold approximately 1,340 cars. There is also a long-standing agreement with Park City to allow for overflow parking on parts of Deer Valley Drive on peak visitation days.

Parking Layout

The proposed redevelopment of the base area (Snow Park) will change the parking experience in three significant ways:

- Parking will be in structures;
- There will be a paid parking program, with variable pricing based on season and demand;
- There will be a robust parking management program that includes parking and availability information to visitors as they approach the development, parking garages, and once within, and will rely heavily on Deer Valley's high-quality customer service provided by trained staff.

For phase 1, the proposed parking garages will be on four levels. Each level will have a prescribed function as outlined below. Parking loading will be managed level by level, utilizing guest services staff and electronic messaging. To help ensure that the majority of traffic coming to Snow Park does not conflict with transit on Doe Pass Road, signing, striping, and prominent wayfinding will direct the majority of personal vehicles to use Deer Valley Drive East to enter the garages, while transit and shuttle vehicles will be directed to Deer Valley Drive West and/or Doe Pass Road. The primary entrances to the garages, for levels P2, P3, and P4, will be from Deer Valley Drive East. There are no internal garage connections between levels allowing each level of the garage to serve



as an independent programmable parking resource. The layout and uses are shown in the attached *Parking Allocation* figure.

P1 Parking – this level will be divided between two user groups with a total of 406 stalls. Hotel/condo uses will have 202 stalls. The other 204 stalls may be utilized by valet parking and/or credentialed access users. Access to this area is from Doe Pass near the intersection Deer Valley Drive west. Due to its restricted uses, demand for spaces on P1 is expected to be relatively low, with hotel patrons parking vehicles for multiple days at once. In addition, it is unlikely that all hotel patrons will need to park at times that coincide with peak day skier arrival, further reducing the expected number of vehicles on Doe Pass Road during peak hours.

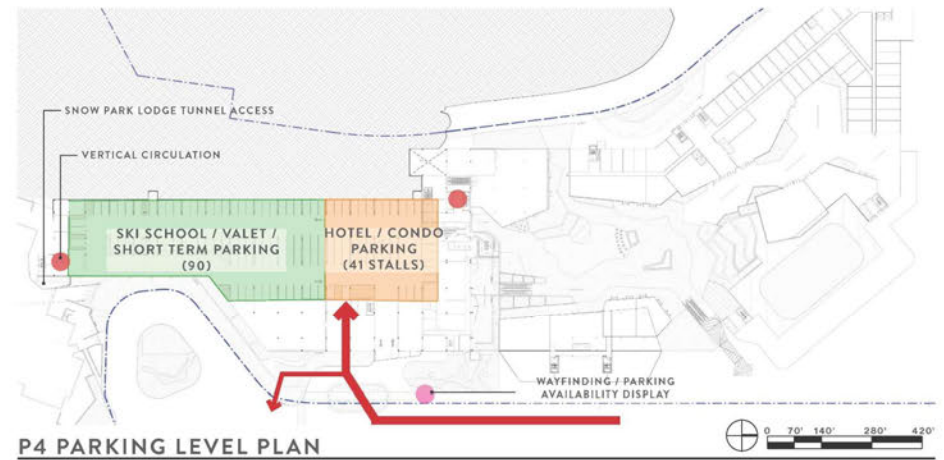
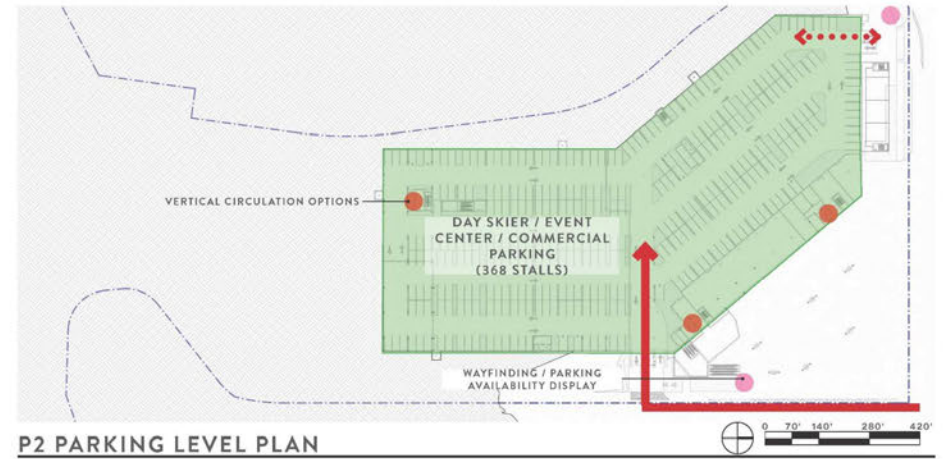
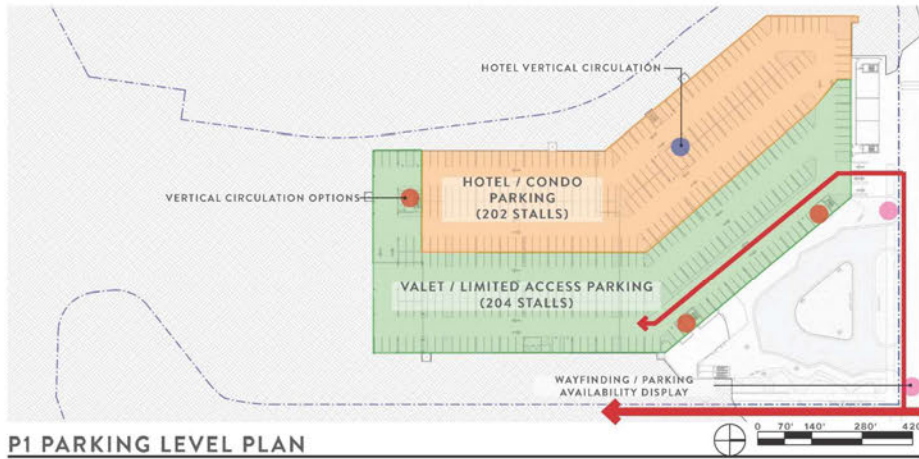
P2 Parking – this level will have 368 stalls. It will primarily be used for winter day skiers and summer resort guests during those seasons, transient parking and special event parking during event periods. Access is provided on Deer Valley Drive East, however an auxiliary exit is provided accessing Doe Pass to add flexibility in managing egress and minimize potential congestion during periods of peak parking demand and special events.

P3 Parking – the primary users for this level will be similar to P2; day users, transient parking, special event parking as well as space dedicated to ski school drop-off/pick-up. There are 375 stalls for these uses. There are an additional 80 stalls for hotel/condo use, for a total of 455 stalls. Access is primarily to/from Deer Valley Drive, however an auxiliary entrance/exit is provided accessing Deer Valley Drive West/Royal Street intersection, which will be dedicated to hotel and condominium uses.

P4 Parking – there are 90 stalls for ski school, valet, and short-term parking on this level. “Short-term” means for visitor parking less than 30 minutes for such purposes as pick-up/drop-off, kiss ‘n’ ride, and so on. The balance of the parking on this level is 41 for hotel/condo uses.

North Parcel – The north parcel will consist of an additional 450 stalls. These will initially remain surface parking. This area will eventually consist of two levels, NP1 and NP2, and the total parking stalls will remain at 450. The north parcel will have the same level of parking management, including paid parking, and parking management technology, communications via multiple platforms, and high-touch customer service.

Structured parking layouts are shown below in **Figure 1**.



Source: IBI Group

Figure 1
Parking Level Layouts





Paid Parking

A paid parking scheme will be implemented in a manner that ensures transactions for inbound traffic do not cause delays which could impact adjacent streets. The price will vary by season and is an important tool to encourage all visitors to travel by modes other than driving alone. Signs and parking processes will be designed to maximize efficiency and minimize congestion.

Recognizing that the much of the typical clientele of Deer Valley are less price-sensitive than many potential parkers, pricing may be adjusted following initial implementation to ensure that the preferred reductions in peak parking demand are achieved.

Communications

To achieve the smoothest parking operations possible, parking information will be made available on Deer Valley's website and integrated into any platforms through which ski passes might be purchased. Additionally, hotel and condominium uses will be expected to incentivize arrival options that do not require parking on-site.

Parking availability by level will be integrated into the design of Snow Park. Parking information will be part of the dynamic wayfinding program included in the development. This information will be available to the visitor via electronic messaging at key decision points along Deer Valley Drive East, including at the newly-configured "Y" intersection of Deer Valley Drives East and West, and as the driver approaches the garage entrances. Parking communication may also be integrated into various phone and web apps operated by the resort, city, county, etc.

Once inside the parking levels, parking availability and general internal wayfinding will be incorporated into the design to improve access rates, guiding visitors to available spaces. The exact technologies and vendors have not been determined at this point, but it will employ the most appropriate and technologically advanced parking and transportation systems to ensure an efficient and user-friendly parking experience with minimal impact on adjacent streets.



Attachment C:

Snow Park Village Transportation Demand Management Plan

Snow Park Village

TDM Plan

**Prepared for:
Deer Valley**

October 2022

UT20-2245

FEHR  PEERS

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1. Project Description and TDM Approach

This Transportation Demand Management (TDM) Plan describes the proposed approach to reduce the total number of vehicle trips at the Snow Park Village project at Deer Valley Resort in Park City, Utah. The Park City Municipal Corporation (PCMC), through its planning department review of the project application, has requested that a standalone TDM Plan be developed for the project. In addition, the City adopted a TDM Plan in 2016 that specifies how the City seeks to reduce vehicle trips through TDM strategies. A reduction in vehicle trips will reduce local pollution, greenhouse gas emissions and improve the quality of life for all who live and work in Park City by reducing vehicle traffic.

This document describes how Deer Valley intends to reduce the number of single-occupancy vehicle (SOV) trips to Snow Park Village using a variety of TDM options. This plan is based heavily on PCMC's existing TDM plan and strategies therein, adopted in August 2016.

Additionally, this plan formalizes TDM offerings that are already provided by Deer Valley to guests and employees for some time. In addition to describing existing offerings, this plan includes new TDM measures to help reduce SOV trips and monitor program effectiveness through ongoing collaboration with PCMC staff and other major destinations in Park City.

1.1 Project Description

Snow Park Village proposes to repurpose the existing surface parking lots of the Snow Park base area at Deer Valley Resort for a mixed-use development including hotel, residential, retail and events center uses. Snow Park Village is approximately 1.5 miles from downtown Park City and approximately 2.5 miles from the Park City Mountain Resort base area. Snow Park Village's location in Park City is shown in **Figure 1**.

The bulk of activity at the Snow Park Village is expected to take place during normal business hours. Parking at the site will be priced and include standard and ADA-compliant spaces. Central to the success of the project, a multimodal mobility hub is proposed on Deer Valley Drive, will facilitate non-automobile connections to key destinations in Park City, elsewhere in Summit County, and the Salt Lake Valley. Full build-out of Snow Park Village will include a network of dedicated pedestrian paths within the project, as well as connections to area cycling and pedestrian facilities.



Project Location 



1.2 TDM Approach

The success of a TDM program relies on creating a system to manage travel demand that shifts the behavior of those traveling to and from Snow Park from using single occupant vehicles to options other than driving alone. The following sections describe the menu of transportation choices that will make it easier and more convenient to use modes other than driving alone. Through an evaluation of anonymized mobile phone data, provided by a third-party vendor, this Plan has been assembled with the knowledge that a substantial portion of those traveling to and from Deer Valley do so from points around the region. The origins and destinations of Deer Valley's guests and employees are dispersed throughout northern Utah, with the largest share traveling to and from points along the Wasatch Front, as shown in **Figure 2**. This variety of travel patterns requires a robust and diverse program to reduce drive alone trips. A diverse and flexible TDM program will allow Deer Valley to match the transportation services to the travel needs of all traveling to and from Snow Park Village. The TDM Plan described in the following sections supports the project's commitment to managing vehicle traffic to and from Snow Park Village while maintaining flexibility in response to changing travel behavior and regional transportation investments.

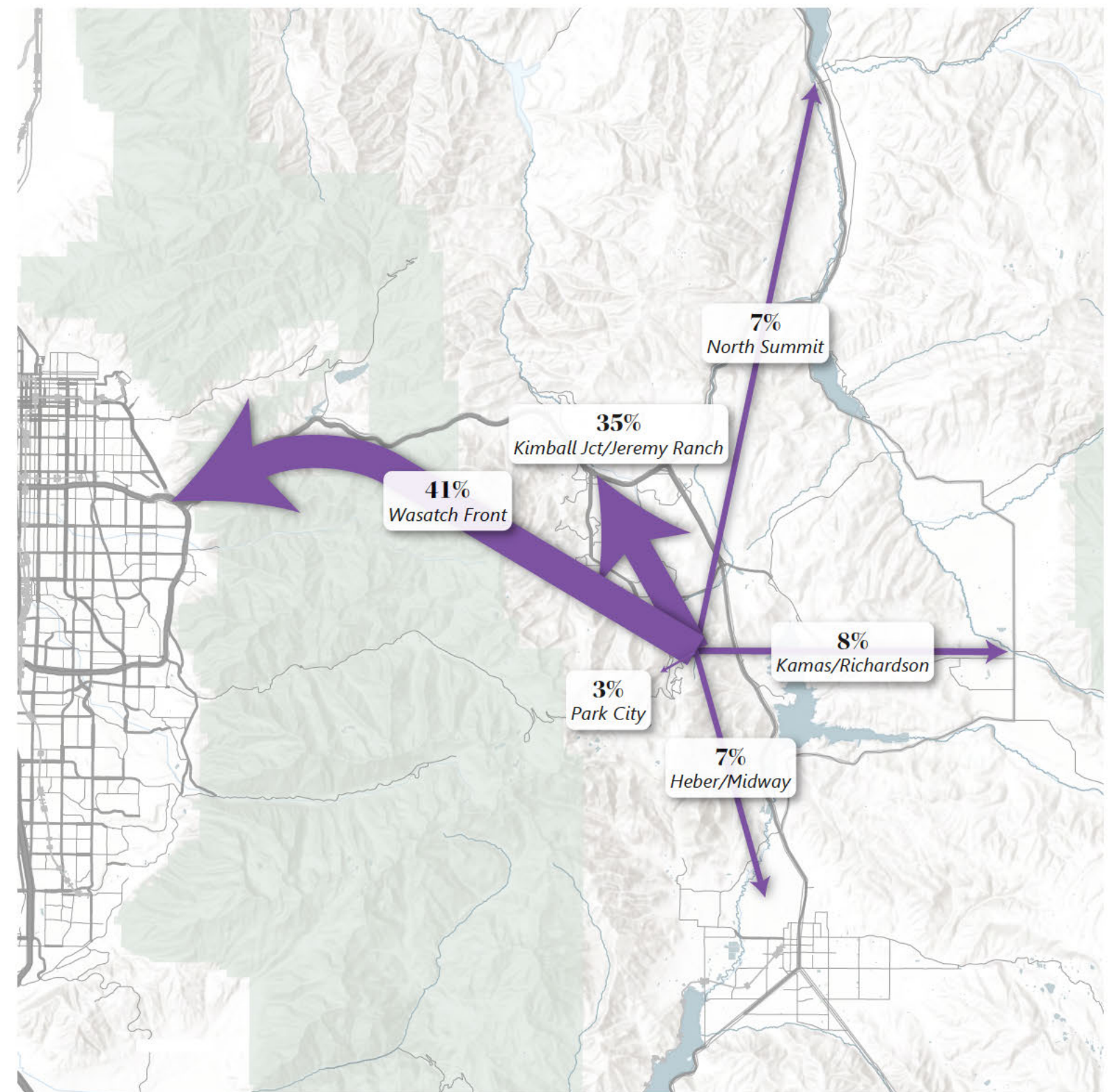
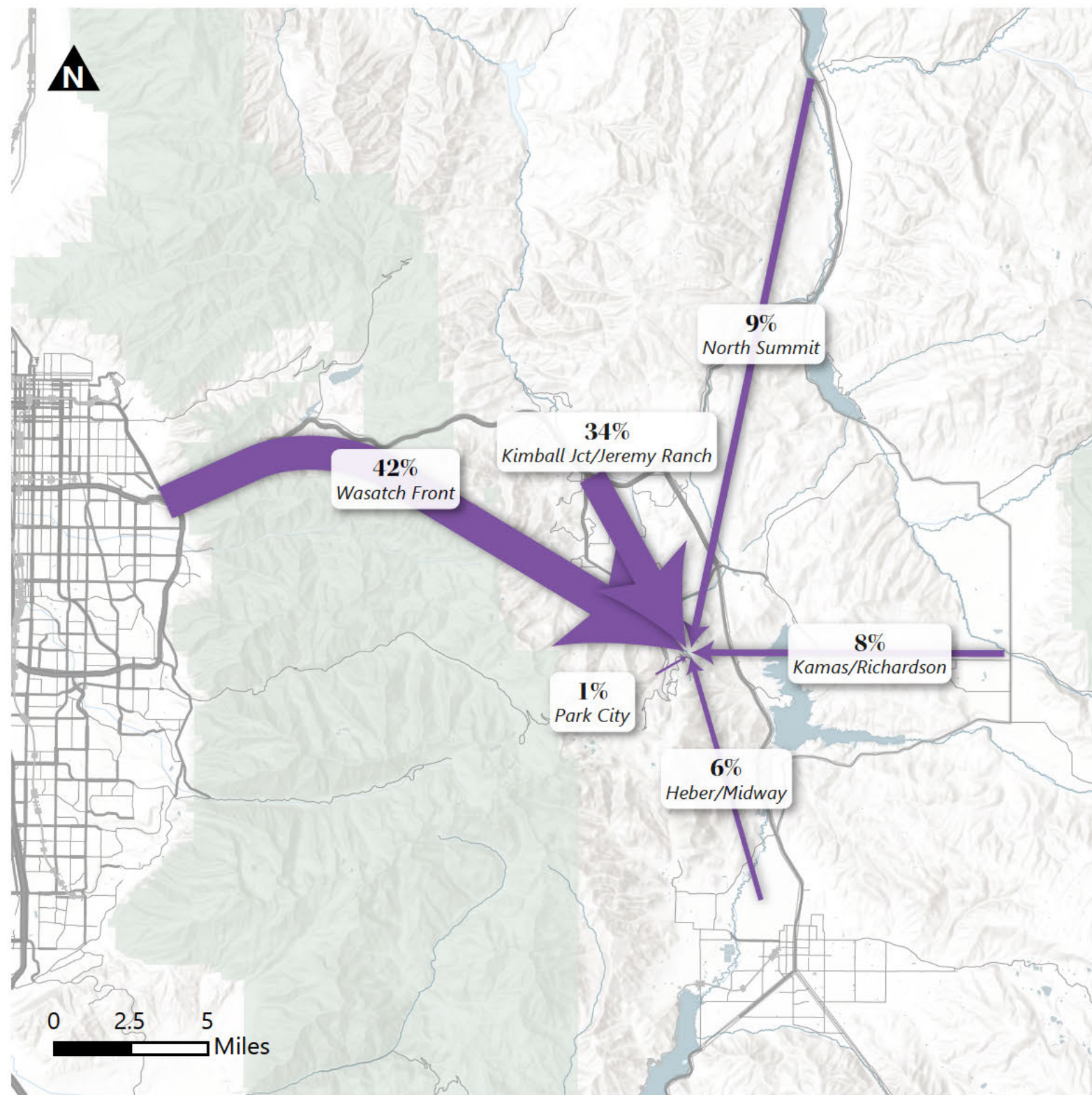


Figure 2
Deer Valley Origin-Destination AM Incoming – PM Outgoing Trends



2. Snow Park Village TDM Program

2.1 Primary TDM measures

Deer Valley will provide a variety of opportunities for those traveling to and from Snow Park to choose travel modes that are not driving alone. These are categorized as incentivizing using transit, riding a bicycle, sharing a car, or some combination thereof. A summary of the Primary TDM measures can be found in **Table 1**.

Table 1: Primary TDM Measures

Measure	Status	Description
Transit pass subsidy	Existing Program	Subsidized UTA transit passes for Deer Valley employees living in Salt Lake Valley and Utah Valley
Bicycle Amenities and Perks	New Program	Bicycle repair tools and dedicated bicycle parking at key locations
Education and Promotion	Existing Program	Educational and promotional events to encourage travelers to use by modes other than driving alone.
Parking Management	New Program	Efficient, constrained, and priced parking to discourage drive-alone trips
Employee Transit	Existing Program	Operate designated employee transit to facilitate efficient employee commutes through an appealing alternative
Real-Time Messaging	New Program	Communicate traffic conditions in real time to travelers
Appoint a TDM Coordinator	New Program	Identify a staff member to oversee the TDM program

Source: Deer Valley

More detailed descriptions of the Primary TDM Measures can be found below.



To incentivize traveling by bicycle, Deer Valley plans to implement the bicycling-based TDM strategies listed in **Table 2**.

Table 2: Bicycling and Walking TDM Strategies

Biking/Walking Strategies	Status	Target User Groups	Description
<i>Implement Bicycle Parking at Key Destinations and Transit Stops</i>	New Program	Day Guests Commuters Employees	Snow Park Village's site plan includes the provision of safe and convenient locations to park bicycles, encouraging their use and removing barriers such as frustration in finding secure parking and bicycle theft. This includes the proposed mobility hub on Deer Valley Drive, a key connecting point for trips to and from Snow Park.
<i>Expand e-Bike Share</i>	New Program	Day Guests Commuters Employees	Snow Park Village will include a relocated PCMC e-bike-share station with direct access to the mobility hub. This will expand coverage of the existing e-bike share service in Park City and enable more non-automobile trips for people traveling to and from Snow Park Village.
<i>Install Bicycle Repair Stand</i>	New Program	Day Guests Commuters Employees	Deer Valley will install two do-it-yourself bicycle repair stands: one at the proposed mobility hub on Deer Valley Drive, and another seasonal stand at the Silver Lake Express base. The repair stands may include an air pump and basic tools to make minor bicycle repairs. Additional repair options include full-service bike shop(s) during the summer season and on-mountain assistance from Bike Patrol.

Source: Deer Valley

To incentivize traveling by modes other than driving alone, Deer Valley plans to implement the parking-based TDM strategies listed in **Table 3**.

Table 3: Demand Management TDM Strategies

Demand Management Strategies	Status	Target User Groups	Description
<i>Implement Real-Time Information Messaging</i>	New Program	Day Skiers Employees	Deer Valley plans to work with the City, UDOT, and Summit County to deploy VMS boards and other messaging systems at key locations, including approach roads, parking areas, and ski lift bases, to inform those traveling to and from Snow Park Village of current traffic and parking conditions. Additionally, Deer Valley will use its website, social media platforms, and mobile application to notify guests in real time. This will enable



			visitors to make more informed transportation choices allowing for better demand management.
Provide Additional Evening Recreation Opportunities/Amenities:	New Program	Day Skiers Employees Overnight Guests	Providing additional activities, food and beverage options, and/or entertainment for visitors after the ski day has ended is an essential element of the Snow Park Village proposal. Providing opportunities for day skiers to linger at the base area longer will better distribute peak-hour outbound vehicle trips.

Source: Deer Valley

To incentivize traveling by modes other than driving alone, Deer Valley plans to implement the parking-based TDM strategies listed in **Table 4**.

Table 4: Policy-Based TDM Strategies

Policy Strategies	Status	Target User Groups	Description
Provide Employee Housing	Existing Program	Employees	Deer Valley has and will continue to provide subsidized housing for its employees in and around Park City. The locations of this housing allow for shorter commutes with access to public transit or shuttles, and increases the likelihood of ridesharing among employees. Any active, full-time staff member is eligible for employee housing. Employee housing is distributed throughout Park City and Heber City in areas that are served by public and employee transit.
Provide Employee Amenities	Existing Program	Employees	Deer Valley employees are able use various on-site amenities that will be provided at Snow Park Village, including employee dining rooms that offer discounted meals, and employee locker rooms that allow for storage of personal items to reduce the need for trips off-site during shift changes and during mealtimes.
Childcare	Existing Program	Day Skiers Employees Overnight Guests	Parents managing childcare are among those who are most attached to private vehicles for personal travel, and providing on-site childcare in the form of both nursery/day care programs, and on-mountain options for active childcare will reduce the need for parents to make multiple local trips and enable their use of non-SOV modes by collocating services. Deer Valley employees are eligible for discounted childcare programs.

Source: Deer Valley

To incentivize traveling by modes other than driving alone, Deer Valley plans to implement the parking-based TDM strategies listed in **Table 5**.



Table 5: Parking TDM Strategies

Parking Strategies	Status	Target User Groups	Description
<i>Implementation of Efficient Parking Schemes</i>	Existing Program	Day Skiers Employees	Deer Valley will continue to assess the need for remote or satellite parking areas for days on which parking demand requires additional capacity beyond that which is provided at the base area itself. The only designated off-site parking location that has been used by Deer Valley is Treasure Mountain Middle School, and is used solely on days of particularly high demand.
<i>Implement Parking Demand Management</i>	New Program	Day Skiers Employees	A fundamental aspect of Snow Park Village's proposed parking system is to charge for parking, a direct incentive to those traveling to Deer Valley to more efficiently utilize vehicle capacity, specifically for day skiers. The cost of parking at Snow Park Village will be set at a level that will incentivize higher-occupancy vehicles when traveling to and from Snow Park, a direct disincentive to drive alone. While many Deer Valley patrons are likely less price sensitive to additional charges such as paid parking, available data suggests that a substantial portion of day traffic originates from points along the Wasatch Front, from where patrons are expected to be more price sensitive to parking fees, increasing their likelihood of mode shift.

Source: Deer Valley



To incentivize traveling by modes other than driving alone, Deer Valley plans to implement the programmatic TDM strategies listed in **Table 6**.

Table 6: Program-Based TDM Strategies

Programmatic Strategies	Status	Target User Groups	Description
<i>Establish a TDM Coordinator</i>	New Program	Employees Day Skiers Overnight Guests	Deer Valley will identify an existing staff member to act as the TDM coordinator, a central source for TDM program information. The TDM coordinator may fill many roles, but may be responsible for: real-time messaging of traffic conditions to travelers, distribute information on new or adapted TDM program offerings, and evaluate the effectiveness and use of TDM program elements. The TDM coordinator will also continue to explore new TDM options that best serve Deer Valley guests and/or employees. The TDM coordinator will be the main point of contact with the City and will facilitate communication in connection with the proposed monitoring program. This coordinator will meet with Park City staff on a regular basis to discuss on-going adjustments to the TDM measures.
<i>Provide Tailored Information and Promotions</i>	Existing Program	Employees Day Skiers Overnight Guests	Deer Valley will develop and distribute targeted messaging and promotions to ensure that different user groups are aware of the TDM measures most relevant to their needs. These promotions may include gamification to further incentivize non-drive alone trips. Deer Valley supports a mobile app used by employees that allows them to organize rides sharing, and identify transit, bike and walking options for their commute. The application also offers incentives to Deer Valley employees for not driving alone to work. Deer Valley will encourage all ski area-serving businesses (namely hotels and other lodging) to further emphasize their transportation offerings that allow guests to rely less on private vehicles and more on shared mobility.

Source: Deer Valley



To incentivize traveling to and from Snow Park by transit, Deer Valley plans to implement the transit-based TDM strategies listed in **Table 7**.

Table 7: Transit TDM Strategies

Transit Strategies	Status	Target User Groups	Description
<i>Provide Employee Transit</i>	Existing Program	Employees	To complement public transit service and supplement in certain areas where public transit may not yet exist, Deer Valley will continue to provide private employee transit to and from Snow Park to allow Deer Valley employees to travel longer distances (such as from Heber City) on employee shuttles. Deer Valley contracts through Le Bus to operate full-sized coach buses for their employees. In a typical (non-Covid) year, Deer Valley provides three AM peak-period and two PM peak-period shuttle runs to serve their employees living in River's Edge and Heber City.
<i>Subsidize Transit Passes for Inter-City Commuters</i>	Existing Program	Employees	Deer Valley provides subsidized Utah Transit Authority passes to employees commuting to Deer Valley from Utah and Salt Lake Valleys.

Source: Deer Valley



3. Program Monitoring and Adaptation

Deer Valley has a strong interest in making trips to and from Snow Park Village as efficient and enjoyable as possible. Doing so is not only a way to improve the overall experience for all who visit Snow Park, but it also allows Deer Valley to contribute to shared goals for reducing traffic impacts within Park City and Summit County.

3.1 Monitoring Program

Deer Valley will conduct internal monitoring to best understand how various user groups are getting to Snow Park, how best to improve their experiences, and how to optimize their experience while minimizing their impact on area traffic and the environment. Elements of the TDM program may be adapted, added, or eliminated over time as Deer Valley strives to achieve maximum effectiveness with its TDM program. The Snow Park TDM program will change over time as travel behaviors change and the transportation context around Snow Park evolves.

Ongoing, real-time traffic monitoring will be enabled by a Deer Valley-funded and managed monitoring traffic monitoring station at the Deer Valley Drive / Deer Valley Drive East / Deer Valley Drive West intersection. This will allow for ongoing traffic counts, recording of queueing via still imagery, and year-over-year comparison at a crucial intersection in Park City.

The TDM coordinator will be responsible for ongoing collaboration and coordination with PCMC staff to ensure that goals are shared and TDM measures managed by Deer Valley are complementing those enacted by the City. To that end, semiannual meetings will take place among Deer Valley, PCMC staff, and other TDM coordinators:

- Prior to each ski season, relevant parties will gather to share relevant updates for the upcoming season, and identify potential opportunities for collaboration, share expectations for the coming months, and discuss performance metrics to be tracked
- Following each ski season, the same parties will meet to share lessons learned and review program performance as recorded by agreed-upon performance metrics, and establish potential action items during the off-season

With ongoing updates to local transit service operated by both Park City Transit and High Valley Transit, Deer Valley will strive to avoid duplication of transit service offerings. Deer Valley's TDM program is intended to support the use of public transit among the public rather than act as an alternative to public



transit service. As public transit coverage expands, Deer Valley will adapt its program to support local transit agencies.

3.1.1 Annual Monitoring Report

To evaluate the effectiveness of Deer Valley's TDM program, and inform potential adjustments to the program, Deer Valley will develop an annual monitoring report to be submitted to Park City staff for review. Submittal of this report will fall between semi-annual meeting with Park City staff and other TDM program managers in Park City.

To the greatest extent possible, data collected for this monitoring effort will rely on existing or to-be-implemented sources. This will improve consistency across monitoring periods and allow for flexibility around weather or other events if needed.

Deer Valley will collect the following types of data for their TDM monitoring effort:

- Seven-day vehicle counts at all Snow Park Village driveways, to be analyzed and summarized by a third-party consultant. This data will be analyzed and summarized by a third-party consultant
- Average vehicle occupancy collected on one weekday and one weekend day, collected by a third-party vendor or Deer Valley staff, to be analyzed and summarized by a third-party consultant
- Ski season transit ridership, summarized at the stop and daily levels and provided by transit operators, to be analyzed and summarized by a third-party consultant
- Available data regarding program utilization from the *Ride On Park City* platform, to be analyzed and summarized by a third-party consultant

If additional or revised analyses are requested by the City, those requests can be reviewed and possibly scoped in advance of the first monitoring report.

TECHNICAL MEMORANDUM

Date: Wednesday, May 3rd, 2023
To: John Robertson, City Engineer
Cc: Alexandra Ananth, Senior Planner
From: Jeremy Searle, PE, PTOE and Gary Horton, SE
Subject: **Snow Park Village Transportation Analysis Independent 3rd Party Review**

Purpose & Background

WCG has been involved as the independent 3rd party review for the Snow Park Village project by Deer Valley since September 2021 and has provided multiple reviews of submitted materials and coordinated with City staff and the Deer Valley team. Through these reviews, meetings, and coordination, the proposed project has become more defined, better aligned with the goals of Park City, and more in tune with the feelings of the surrounding community.

Most recently, WCG was asked to review the updated Transportation Analysis – Shared Mobility Lane Alternative, dated April 2023 for the proposed Snow Park Village Redevelopment project at Deer Valley and provide comments. This memorandum outlines how previous comments on this analysis were addressed. No new concerns were identified in the review.

Summary

Generally, WCG finds **that the applicant's transportation analysis is sound**, and the previous traffic related concerns identified were addressed. **WCG supports the Shared Managed Lane (SML) Plan** proposed by the applicant, noting that this plan provides the best use of public right of way by providing improvements for transit balanced with bike lanes, while also improving transportation for all modes of travel in a safe manner. The proposed transit priority traffic signals provide Park City the flexibility needed to improve traffic operations while prioritizing transit when needed. There are a few comments related to driveway design/layout (comments #10, 11, 12) that are not critical to preliminary approvals, and will be addressed during final design review and approval. All addressed comments are marked with a green check mark. ✓

Previous Comments

Previously, the Applicant had requested a 20 percent parking reduction for the development. Recently, they have changed their application to provide the full amount of required parking, which results in a total of 2,262 required parking stalls. The increase in the number of parking also results in an expected increase in trips generated. Previously, the Applicant had submitted a PowerPoint in February 2023 outlining their proposed changes to the trip generation calculations and assumptions. WCG had previously reviewed this submittal and provided the following comments. Underneath each comment is an explanation of how each was addressed in the latest transportation analysis:

- ✓ 1. Why did the assumed transit reduction percentage increase with the removal of the parking reduction request? It would seem likely that transit ridership would decrease with the availability of more parking stalls.

This was addressed by decreasing the transit reduction from 3% to 1.5% daily and during the PM peak hour, and 1% during the AM peak hour. This change in calculating the trip generation is in line with what is expected with the increase in parking. Therefore, this comment has been addressed.

- ✓ 2. The diagram on slide 7 shows existing incoming and outgoing trips during the AM and PM peak hours. It also indicates that a 5% reduction on these counts was assumed to account for background traffic to Solamere and Queen Esther. However, the diagram shows the counts on DVD East being collected beyond Solamere and Queen Esther. If the diagram is accurate, a 5% reduction would not be needed for these counts. Please clarify these numbers and assumption.

This was addressed by removing the 5% reduction that was previously assumed. Therefore, the diagram, percent reduction, and overall comment are not relevant anymore.

- ✓ 3. Why was a daily trip generation total not calculated with the revised assumptions? Please provide a daily trip generation total for the development assuming no parking reduction.

This comment was addressed by providing an updated trip generation table in the new transportation analysis report, including a daily trip generation total. The projected number of daily trips from the development is 3,616 trips, with 261 during the AM peak hour and 322 during the PM peak hour.

- ✓ 4. Please provide a more detailed parking program for the planned stalls. How many will be reserved for residents, for the hotel, day skiers, etc? The parking program will greatly influence the trip generation for the project.

This comment was addressed with the Snow Park Village Parking Management Plan included as Attachment B in the transportation analysis report. This report provides details on the number of parking for each use, how each parking level is programmed, circulation, paid parking, etc.

- ✓ 5. Once the trip generation numbers are finalized, an updated traffic analysis is recommended to determine the impact of the additional trips.

This comment was addressed with the new transportation analysis report, which is dated April 2023. The new report includes updating trip generation, analyses, parking information, pick-up / drop-off loop analyses, etc.

- ✓ 6. Park City Municipal Corporation (PCMC) has a stated goal of reducing peak-hour traffic volumes by 20% citywide. The applicant's project will add peak hour traffic in the most congested areas of the City.

- a. It is recommended that PCMC staff and the Applicant identify specific goals that can be measured and achievable. The Deer Valley team has outlined a detailed TDM plan and a monitoring system. The next step is to finalize the plan and identify the objectives that should be met with the annual data monitoring program.

This comment has been partially addressed through the Applicants detailed TDM plan, which outlines extensive efforts to reduce peak hour traffic. The final step is to continue to work with City Staff to identify specific metrics and objectives that can be monitored over time and be flexible in making adjustments as needed.

- ✓ 7. The Applicant's trip distribution assumptions between Deer Valley Drive East and West should be further justified and supported. If the distribution assumed in the TIS is different in reality, additional queuing will result on Deer Valley Drive East and West, as well as Doe Pass Road.
 - a. The most recent plan submitted by the Applicant includes a signal at the "Y-intersection", which alleviates much of the concern regarding the distribution and potential queuing at that intersection. The signal timing can be adjusted, and transit priority can be added to provide flexibility for different distributions and transit needs.
 - b. It is recommended that ingress into the parking garages be carefully monitored to ensure that queues do not develop and back up onto City streets. If the Applicant's distribution assumptions are not correct this could further exacerbate this concern.
 - c. Similarly, the drop-off and pick-up area east of Snow Park Lodge should be monitored to ensure queues do not develop and back up onto City streets.

This comment was addressed in the most recent transportation analysis report (April 2023). The distribution was adjusted to more closely match existing travel patterns, and a sensitivity analysis was completed to show the impacts of changes to the distribution percentages. In addition, clarification on parking ingress and egress times were confirmed through WGI, a parking garage design and operations consultant, providing additional confidence in the parking garage assumptions. Finally, a detailed analysis of the drop-off and pick-up area east of Snow Park Lodge was completed. This included data on the average dwell time for vehicles in the pick-up / drop-off area collected in January 2022. This analysis provides a much clearer understanding of how the pick-up / drop-off area will operate. It shows that during peak times it is anticipated to operate at LOS E, with an average of 44 sec/veh of delay, however it does not impact adjacent intersections. The report suggests that added efficiencies with on-site staff will help improve operations as needed.

- ✓ 8. The additional VISSIM transportation analysis does not consider actual travel conditions, downstream impacts, or other common causes of delay in the Deer Valley Loop during peak traffic hours or weather/special events. PCMC has provided actual travel times of buses traveling these roads during ski season. Utilization of this data to calibrate the model could provide a more accurate view of the benefits of the SML to transit during peak congestion times.

- a. It is recommended that the Applicant refine and calibrate the VISSIM model to better represent actual conditions and provide a better representation of the proposed project conditions.

This comment was addressed by the Applicant further refining the VISSIM model, including collecting additional dwell time data for the pick-up/drop-off loop. Park City also provided transit travel time data to further refine the model.

Additional explanation was provided in the report, "The simulation shows traffic circulation with minimal delays with the proposed configuration in peak ski season conditions. Because of the lack of congestion, the buses simulated in this analysis travel in near free-flow conditions. This was due to the models being calibrated to typical travel times. Bus and vehicle travel time measurements were provided by Deer Valley and Park City, which showed several outlier days with excessive travel times. However, the calibrated VISSIM model travel times were closer to the median travel times observed from the data."

9.  The applicant does not provide enough detail about the assumptions for the pick-up drop off loop of 100 pick-up drop/off vehicles, 50 Transportation Network Company (TNC) vehicles, and 50 Valet vehicles were developed.
 - a. WCG has requested additional detail outlining what data was collected to support these assumptions and what happens to the internal circulation if these numbers are low.

This comment was addressed with a detailed analysis for the drop-off and pick-up area in the latest transportation analysis report (April 2023). This included data on the average dwell time for vehicles in the pick-up / drop-off area collected in January 2022. This analysis provides a much clearer understanding of how the pick-up / drop-off area will operate. It shows that during peak times it is anticipated to operate at LOS E, with an average of 44 sec/veh of delay, however it does not impact adjacent intersections. The report suggests that added efficiencies with on-site staff will help improve operations as needed.

10. Some driveway widths do not appear to meet LMC § [15-3-4\(C\)](#) requirements but may facilitate efficient garage ingress.

As conditions of final approval, these modifications need to be addressed with the final design.

11. The intersection of Royal Street and a proposed new driveway across the street do not appear to meet LMC § [15-3-3\(H\)](#) requirements.
 - a. It is recommended that the Applicant coordinate with City Staff on adjustments to the proposed driveway to meet City code.

As conditions of final approval, these modifications need to be addressed with the final design.

12. The driveway spacing of some driveways on Doe Pass Road does not appear to meet LMC § [15-3-3\(H\)](#) requirements
 - a. It is recommended that the Application coordinate with City Staff on adjustments to driveway spacing on Doe Pass Road to meet City code.

As conditions of final approval, these modifications need to be addressed with the final design.

- ✓ 13. A review of the bus auto-turn templates show that buses can make the required turning movements.
- a. It is recommended that another review be completed in the final design phases.

As noted above, the current design does meet bus turning requirements. Additional review is required with any design changes.

Applicant Proposed Mitigation Measures

The Applicant proposed to implement the following mitigation measures to improve traffic operations, safety, active transportation, and transit operations:

1. Reconfiguring the “Y-intersection” and adding signalized traffic control, which helps to establish a new access pattern for visitors while providing safety for pedestrians and bicyclists, as well as transit pre-emption.
2. A new left-turn deceleration and acceleration lane at Solamere Drive and Queen Esther Drive.
3. Reducing parking demand by implementing paid parking and shared parking for the development.
4. Improving the active transportation network with new or improved trails, safer crossings, and multi-use paths.
5. A new on-site mobility hub with space for six buses and additional amenities.
6. A new traffic signal at the intersection of Doe Pass Road / Deer Valley Drive East with transit signal pre-emption capabilities to expedite transit service into and out of the proposed mobility hub.
7. Either dedicated bike lanes or bike lanes during the summer and dedicated transit lanes during the peak winter season, depending on which transportation alternative is chosen.
8. A detailed transportation demand management plan that outlines a lot of measures the applicant is both currently doing and new measures that they plan to implement to reduce travel demand (see Snow Park Village TDM Plan for details).

Snow Park Traffic Study Independent Review

Wall Consultant Group

June 15, 2023





Overview

WCG provided an independent 3rd party review, including

- 17 different applicant submittals
- 11 different formal reviews of the proposed development.
- Numerous meetings with the applicant and City staff



Trip Generation

Table 3: Snow Park Traffic

	Daily			AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Existing Traffic	5,221	5,329	10,550	770	249	1,019	333	903	1,236
New Trips	1,808	1,808	3,616	176	85	261	115	207	322
Total Trips	7,029	7,137	14,166	946	334	1,280	448	1,110	1,558



Parking Comparison

The applicant is currently proposing **2,236** total stalls on site for Snow Park, as required by City code. Previously, a 20% reduction in parking was proposed (Nov. 2022 study)

Table 2: Trip Generation Comparison

Trip Generation			
Period	Nov 2022 Study	Mar 2023 Update (Full Parking Supply)	Difference
Daily	2,276	3,616	1,340
AM Peak Hour	162	261	99
PM Peak Hour	204	322	118

Table 3: 2040 Plus Project Peak Hour Total Traffic Volume Assumptions

Period	Traffic Volume Assumptions							Increase in Total Vehicles	% Increase in Total Traffic
	Nov 2022 Study			Mar 2023 Update (Full Parking Supply)					
	Inbound	Outbound	Total	Inbound	Outbound	Total			
AM Peak Hour	1,043	454	1,497	1,136	460	1,596	99	7%	
PM Peak Hour	584	1,195	1,779	595	1,302	1,897	118	7%	



Mitigation Measures Proposed by Applicant

1. Reconfiguring the “Y-intersection” with the addition of signalized traffic control
 - new access pattern for visitors
 - safety for pedestrians and bicyclists
 - transit pre-emption
2. A new left-turn deceleration and acceleration lane
 - Solamere Drive
 - Queen Esther Drive
3. Reducing parking demand by
 - implementing paid parking
 - shared parking for the development
4. Improving the active transportation network with
 - new or improved trails
 - safer crossings
 - multi-use paths



Mitigation Measures Proposed by Applicant

5. A new transit mobility hub
 - Room for 6 buses
 - Restrooms & lockers
 - Additional amenities
6. Traffic signal at Doe Pass Road / Deer Valley Drive East
 - Transit pre-emption
 - Safety for pedestrians and bicyclists
7. Shared Mixed Lanes
 - Bike Lanes during summer
 - Dedicated transit lanes during peak winter season
8. Transportation Demand Management (TDM) Plan
 - Outlines existing programs and efforts to reduce trips
 - Identifies new strategies to reduce trips
 - See Snow Park Village TDM Plan for details



Latest Traffic Impact Study Review

Please see the WCG review memo dated May 3rd, 2023 for details.

A few highlights of our review include:

- Concerns with trip generation and distribution were corrected
- Questions about parking were addressed with a detailed parking management plan
- Concerns about the pick-up / drop-off area were addressed
- The VISSIM model was calibrated and refined with additional data



Recommended Next Steps

WCG recommends the following next steps:

- PCMC Staff and the Deer Valley Team establish a regular TDM meeting schedule
- Implement a monitoring system
- Establish clear goals and metrics that can be tracked and measured
- Be flexible in trying new methods for reducing travel demand
- Consider reservation parking and reconsider the parking reduction with offsite mitigation (20% reduction to support Park City goals)
- Driveway spacing and access widths can be refined if the project proceeds towards final design

From: [planning](#)
To: [Alexandra Ananth](#)
Subject: FW: [External] Deer Valley Snow Park Village - I'm For It!
Date: Tuesday, July 18, 2023 12:11:09 PM

From: Bruce Emerson <emersonbk58@gmail.com>
Sent: Monday, July 10, 2023 11:29 AM
To: planning <planning@parkcity.org>
Subject: [External] Deer Valley Snow Park Village - I'm For It!

[CAUTION] This is an external email.

Dear Planning Commission,

First off, I must disclose that I am a part time Deer Valley Mountain Host. But I don't think that impacts my personal opinions on this project. I'm struggling a bit to understand what the big fuss is regarding vacating parts of Deer Valley Drive in exchange for Doe Pass Road and the proposed transportation plan. As I look at the plans, I'd like to make a few comments:

1. Some form of development will happen, the project is not going away even if you do not approve the current traffic plan. Traffic will increase as more people come to Deer Valley. However Deer Valley caps daily lift tickets, so DV is not going to see unlimited increased numbers of skiers like we have seen at PCMR.
2. Currently there are very few apre ski options at Snow Park. With more apre ski options and spreading traffic over a 2 hour period, vs. everyone leaving at 4PM, this will enhance flow through town.
3. People most impacted seem to be the Trails End Development, and those coming from Royal Street. Rather than making the loop, they will need to turn left to access Town. Who wants to make the loop through skier traffic anyway? I don't see that as a huge inconvenience.
4. The condo's along Deer Valley Drive East will either finish the loop out to the east and around into town, or possibly access Doe Pass Rd. Again, what is the big inconvenience?
5. It seems to me with road improvements to lanes and lights, this should enhance the flow of traffic vs. the free for all that we currently have.

The main bottleneck seems to be the roundabout at Deer Valley Drive, Marsac and the PC Transit Hub. This has nothing to do with vacating part of Deer Valley Loop. The worst traffic days I experienced at Deer Valley this past year was when the mine road was closed due to weather, and everyone was forced down Royal Street. Yes, it took me over an hour to get home. But once I got past the roundabout, traffic flowed smoothly. That roundabout seems to be the issue.

I get a bit frustrated with the entitlement that I keep reading about and hearing about, and how

contentious everything has become in our town. Please use facts, logic, and common sense as you work through this project and try to keep the public outcry in perspective. I think it is a vocal minority that does not want, or fears, change to the status quo. That is why I'm writing this email, to make sure that you hear from the silent majority.

Regards,

Bruce Emerson
Northshore Resident