PARK CITY COUNCIL MEETING
SUMMIT COUNTY, UTAH
December 5, 2023

The Council of Park City, Utah, will hold a special 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.

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

3:00 p.m. - Discuss 2024 Insurance Premiums - Staff Report to Follow

3:45 p.m. - Discuss Main Street Area Plan Advisory Committee

4:15 p.m. - Discuss Clark Ranch Feasibility Study Results

4:45 p.m. - Microtransit Pilot Analysis

5:15 p.m. - Break

REGULAR MEETING - 5:30 p.m.

I. ROLL CALL

II. PRESENTATIONS

1. Consideration to Adopt Resolution 22-2023, a Resolution Welcoming the Return of Winter in Park City
   (A) Public Input (B) Action

III. PARK CITY GENERAL MUNICIPAL ELECTION CANVASS

1. Consideration to Approve Resolution 23-2023, a Resolution of the Board of Canvassers Certifying the Official Canvassers' Report from the November 21, 2023, Municipal General Election for Park City, Utah
   (A) Public Input (B) Action

IV. COMMUNICATIONS AND DISCLOSURES FROM COUNCIL AND STAFF

Council Questions and Comments

Staff Communications Reports

1. Bus Stop Improvements Public Outreach Update

2. Treasure Hill Conservation Easement Update

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

VI. CONSIDERATION OF MINUTES

1. Consideration to Approve the City Council Meeting Minutes from November 16, 2023

VII. OLD BUSINESS

1. Deer Valley Development Company, Inc. Petition to Vacate Public Right-Of-Way – Deer Valley Drive West and South Sections – The City Council Will Conduct a Public Hearing on the Vacation of City Right-of-Way (ROW) as it Pertains to Deer Valley's Snow Park Base Redevelopment (2250 Deer Valley Drive South). This Meeting is a Continuation of the City Council's Public Hearing on March 16, 2023, Work Session on June 1, 2023, Public Input on June 15, 2023, and Public Hearings on July 6, 2023, August 29, 2023, September 28, 2023, November 2, 2023, November 16, 2023, and November 30, 2023. The Proposed Vacation is Approximately 114,337 Square Feet or 2.62 Acres of City ROW.

   To submit written comment, please email planning@parkcity.org.
   (A) Public Hearing (B) No Final Action (C) Continue to December 14, 2023 for Possible Final Action

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.**

City Council Staff Report

Subject: Main Street Area Plan Advisory Committee
Author: Erik Daenitz
Department: Economic Development and Analytics
Date: December 5, 2023
Type of Item: Work Session

Summary

At City Council's September 2023 Strategic Planning Retreat, the Council discussed several options in contemplating the next phase of strategic planning and investment in Park City's Historic Main Street area. After receiving direction to initiate a planning process, this report seeks to confirm key planning milestones and obtain additional direction on public engagement and outreach methodology.

The opportunity to convene a strategic and investment planning process for the Main Street area is an exciting opportunity to work with businesses, stakeholders, and residents. We are excited to begin the process, yet we seek some additional direction given the importance of Main Street to Park City.

Key Goals of a Renewed Main Street Plan

Following Council's September 2023 Retreat, we believe several key goals reflect the sentiment expressed by Council to plan for Main Street's future thoughtfully and diligently. To that end, any plan should seek to achieve the following:

- **Preserve** the character of one of Park City's and Utah's unique cultural and economic assets;
- **Develop** additional infrastructure to improve and contemplate the future of transportation access to Main Street;
- **Improve** the quality of life for residents by mitigating tourism impacts;
- **Stabilize** access and accessibility for a workforce that enables business activity and success in Park City; and
- **Enhance** economic vibrancy and competitiveness within Park City's historic commercial core to counterbalance regional changes and challenges.

Confirmation of the high-level goals will help guide our future planning process.

Region for Analysis

In the September 2023 Council Retreat, a specific region of focus was left as an open question. After considering the set of opportunities for evolution in the area, we illustrated a potential boundary for the area plan. This boundary encompasses the core of Main Street and Swede Alley, but also allows for analysis of connections to Park City's Historic core along Park Avenue. In addition, some residential streets to the West of Main Street are included.

We believe the inclusion of a few residential streets is essential to create the opportunity to improve traffic flow analysis and adequately contemplate alternatives. Yet, significant or material changes for the built environment of these residential areas are not likely to be recommended.

A potential boundary for the area of analysis is included below.

Figure 1. Potential Main Street Area Plan Boundary Map. Source: PCMC as of November 2023.

Work Approach for the Plan

Next, in addition to the key values above, Council expressed a willingness to move forward with a relatively nimble process, without a multi-year, consultant-driven process. Yet, this remains a valid path forward if Council prefers that option. We are often criticized for moving too fast or too slow, and nothing is arguably more sensitive than a Main Street area planning exercise.

In considering options, we look to past successful models and action plans for the Main Street area. In particular, in 1998, the community-group-representative model seen in the **1998 Downtown Action Plan stands out as a primary example of an efficient and very effective process.** This plan drove a legacy of important infrastructure change and success in the Main Street area.

Currently, we propose two options, detailed below:

- **Option 1** – City Staff organizes and drives an advisory committee-based planning process utilizing the knowledge, expertise, and feedback of key representative stakeholders in the community. Representatives include local board, business group, members of the public, and key staff (Police, Fire, Utilities, and Public Works). At minimum, a Council member and Planning Commissioner actively incorporated on the committee.
    - This advisory committee will have capacity to hire external consultants for focused tasks if necessary. If hypothetical visual renderings for site options and/or if traffic modelling needs arise, external consultant may be necessary. Yet, the primary analyses and recommendations will be driven directly by committee members. Further, similar to the 1998 Downtown Action Plan, we expect representation from:
        - **Park City Council**
        - **Park City Planning Commission**
        - **Historic Park City Alliance**
        - **Park City Resident(s)**
        - **Park City Chamber of Commerce**
        - **Park City Area Lodging Association**
        - **Park City Area Restaurant Association**
        - **Park City Historic Preservation Board**
        - **Park City Municipal Staff**

      As part of this option, the Council could have a Council member participate directly as a voting member of the advisory committee. Alternatively, Council members could act more in the capacity of an observer and advisor while also providing key context and information to the group on Council's higher-level priorities. We believe either path is feasible and seek the Council's input in this regard.

  Key responsibilities of committee members include:
    - **Providing Knowledge** of current business conditions and geographic and environmental needs;

    - **Support the Target Outcomes** enumerated by Council;
    - **Represent Their Organization** and proactively serve as a liaison between their organization and the advisory committee;
    - **Provide Project Recommendations** deliver change and progress to the targeted outcomes; and
    - **Support Implementation** of the projects that the advisory committee recommends.

- **Option 2** – Source the professional services of an external consultant to oversee and facilitate the entire planning process. As mentioned, this is a valid path and benefits from the dedicated focus of an external consulting team. If preferred, we can propose a budget, timeline, and technique (similar to the Bonanza Park Small Area Plan). This process requires a public procurement.

Through the lens of efficiency and direct community representation, we recommend Council pursue Option 1, led by the Economic Development Director.

Potential Sub-Streams of the Plan
While the entire proposed geographic area provides the physical boundaries of analysis, specific areas for capital improvement are expected. Four key work sub-streams, or areas of focus, stand out as opportunities to examine and emphasize, and are provided below:

- Utility Infrastructure
    - As mentioned in the previous Staff Report, water utilities are needed on Main Street. This group will work to understand sequencing, timing and communication of these efforts. This is a very important area of focus and need.
- Land Management Code
    - While not expected to make large recommendation for the area, the committee may study and make proposed refinements to the land management code in the are.
- Economic Enhancement
    - Perhaps the largest, positive, opportunity for the committee is the potential redevelopment or enhancement of underutilized parcels in the area. This will be a specific focus of the committee.
- Transportation
    - The committee will investigate possible improvements to Park City's Old Town Transit Center, potential traffic flow improvements, enhancements for walkability in Historic Park City, and other related opportunities to promote accessibility, support progress, and continue to mitigate neighborhood impacts.

Conclusion
Historic Park City Main Street and Old Town remain a top destination within Park City and Utah. In the context of current and future development, internal and external to the

City, Park City is in a prime window to guide the future evolution of its most iconic asset. With the momentum of existing small area plans and General Plan activities underway or beginning, we are prepared to collaborate directly with the community to drive forward planning efforts on Main Street should Council desire.

Funding to conduct this planning initiative is available and unrestricted, presenting a unique opportunity to continue to invest in Historic Park City.

Department Review
This report has been reviewed by Economic Development and Data Analytics, City Attorney's Office, and City Manager.

Exhibits
A – Main Street Area Historical Capital Investment and Potential Main Street Area Plan
B – 1998 Downtown Action Plan

Main Street Area Plan Advisory Committee

Main Street Future: Key Targets

Preserve — The character of Park City's most unique asset

Develop — Systematic infrastructure for transportation access

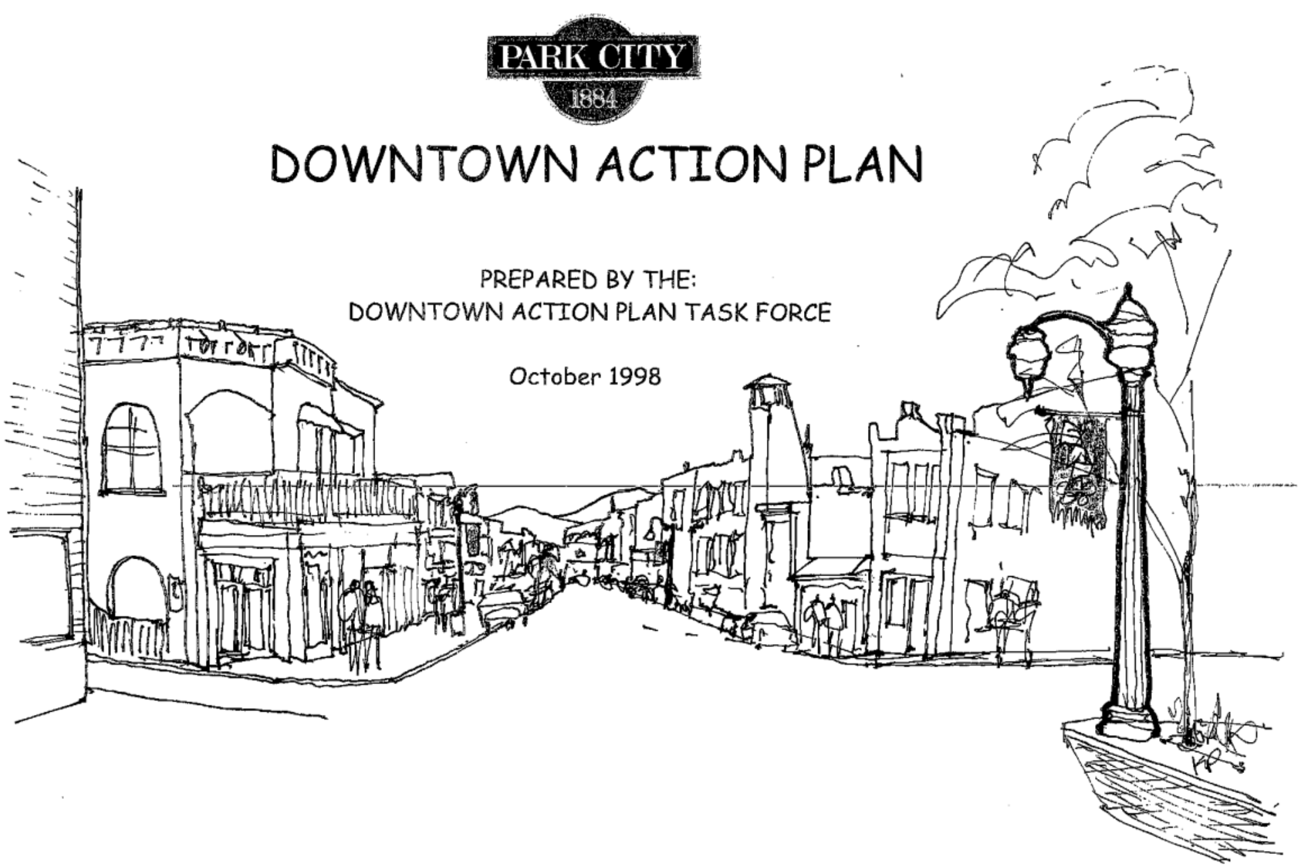
Improve — Quality of life for residents by mitigating vehicle impacts

Stabilize — Access for workforce that drives business success

Enhance — Economic vibrancy within Park City's historic commercial core

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

Predecessor


PARK CITY
1884

DOWNTOWN ACTION PLAN

PREPARED BY THE:
DOWNTOWN ACTION PLAN TASK FORCE

October 1998

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

Predecessor

Downtown Action Plan Task Force Members:

Fred Jones, Chairman, Representing the Planning Commission
Chuck Klingenstein, Representing the City Council
Jim Petrie, Representing the Historic District Commission
Steve Hooker, Representing the Main Street Merchant Association
Neil Breton, Representing the Restaurant Association
Jan Wilking, Representing the Chamber of Commerce

Other members serving as alternates:
- Hugh Daniels, Representing the City Council
- Joan Calder, Representing the Chamber of Commerce
- Paul Brown, Representing the Restaurant Association
- Mac McQuoid, Representing the Historic District Commission

Park City Municipal Corporation Staff Members:

Richard E. Lewis, Director of Community Development
Pat Putt, Planning & Zoning Administrator
Nora Shepard, Special Projects Planner
Myles Rademan, Director of Public Affairs
Eric DeHaan, City Engineer
Hope Bleeker, Transportation Director
Kurt von Puttkammer, Architectural Review and Graphics
Thomas Barlow, Planning Intern, Graphics Support

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

Main Street Future: Work Approach

Methods to Proceed

Council Acts Directly on Staff Advice Only	Advisory Committee Represents Community	Consultant-Based Process
No Public Feedback	Recommended Path	Council Has Signaled to Not Follow this Path

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

Main Street Future: Work Approach

Advisory Group Approach
Represented Body
City Council (Either Direct or Advisor)
Planning Commission
Historic Park City Alliance
Park City Chamber of Commerce
Park City Area Lodging Association
Park City Area Restaurant Association
Park City Historic Preservation Board
Resident Community Member
Park City Municipal Staff

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

Main Street Future: Work Approach

Advisory Group Responsibilities	
Provide Knowledge	Of current industry/geography conditions and needs
Support the Target Outcomes	That Council has specified
Represent Their Organization	Serve as liaison between industry group, advisory group and Council and represent the public interest
Provide Project Recommendations	That seek to deliver on targeted outcomes
Support Implementation	Provide information to the public

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

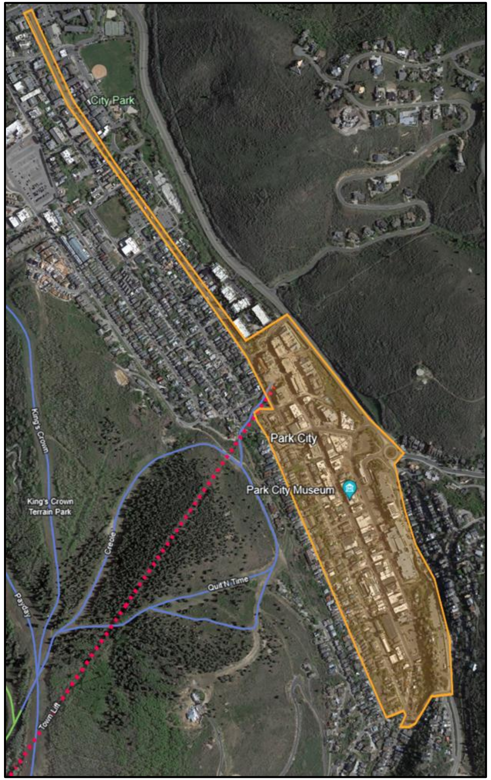
Main Street Future: Key Streams

Key areas of focus	
Utility Infrastructure	Needed uplift of Main Street water infrastructure
Land Management Code	Potential code revisions to target affordable housing, vibrancy, chain businesses, etc.
Economic Enhancement	Potential asset development opportunities to stabilize demand base and recirculate customers of Main Street
Transportation	Potential traffic flow revisions, streetscape infrastructure and uses

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

Plan Boundaries

Option to consider Park Ave. corridor as part of project.



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

3 Regions - Timing

Seeking to Prepare a Global Recommendation

Target timing to coincide with close of BOPA process.

- Regionally significant parking facility
- 248 dedicated BRT, direct routes to resorts, Main Street
- Higher frequency express routes to resort bases, Main Street
- Parking reductions in Main Street core, Bonanza Park

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

Appendix

Main Street Future: Key Takeaways

Renewed Investment in Main Street Is Needed

Scale & Scope of Change is Dependent on Council Priorities

Some things must be done…

…while other opportunities are discretionary.

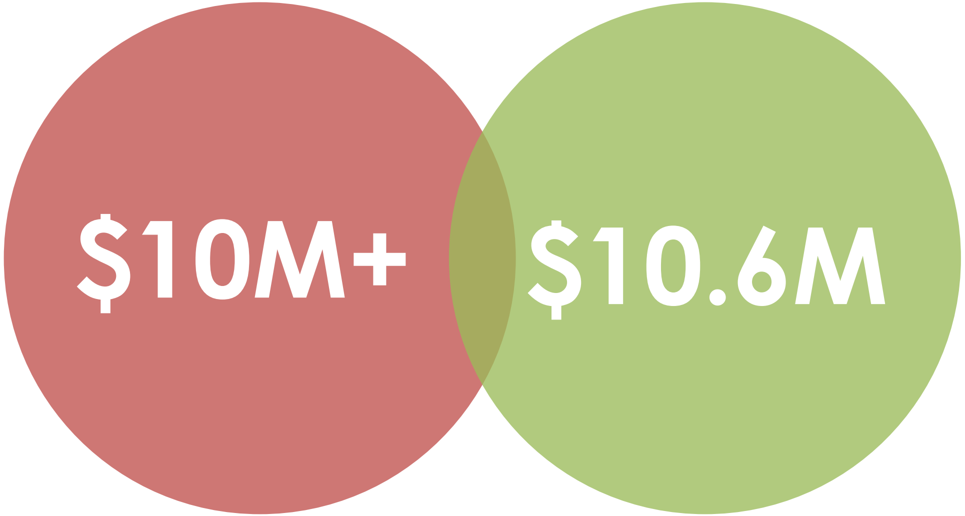
Source: Park City Municipal Corporation. As of September 2023.

A Look Back: Funding Over Time

Primary sources of expense for downtown capital projects have traditionally come from Main Street RDA and Additional Resort Sales Tax.

Main St. RDA

Additional Resort City Sales Tax

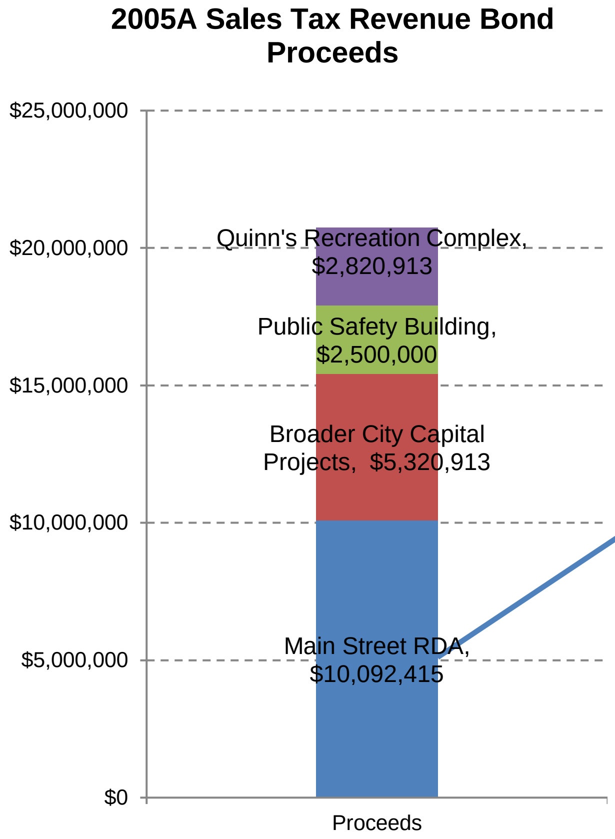


Since 2005 (last instantiation of MS RDA)

Since 2012 (ARCST Spending in Old Town)

Source: Park City Municipal Corporation. As of 3/8/2021.

Main Street RDA History



Project	Actual Expense	Budgeted Future Expense
SWEDE ALLEY/MARSAC (CHINA BRIDGE)	$ 6,249,974	
SHELL SPACE (KPCW, Liquor Store)	$ 1,823,037	
DOWNTOWN REVITALIZATION	$ 426,704	
OLD TOWN STAIRS	$ 424,606	$ 284,253
MAIN STREET BOLLARDS PHASE I	$ 88,282	
ECONOMIC STUDY	$ 45,413	
HISTORICAL INCENTIVE GRANT	$ 41,434	
HISTORICAL INCENTIVE GRANTS	$ 32,500	
SANDRIDGE PARKING LOT	$ 29,700	
ABATEMENT FUND	$ 15,380	
TOWN GREEN COMPLEX	$ 8,520	
DOWNTOWN REVITALIZATION	$ 6,833	
ADDL PARKING MAIN AND SWEDE	$ 5,342	
RELOCATED UTILITIES	$ 930	
PROPERTY IMPROVEMENTS	$ 350	
OLD TOWN ACCESS & CIRCULATION PLAN		$ 60,000
PAVEMENT MANAGEMENT IMPLEMENTATION		$ 52,000
CITY-WIDE SIGNS PHASE 1		$ 20,000
MAIN STREET BOLLARDS PHASE I		$ 11,718
Total Historical & Budgeted Projects		**$ 9,626,977**

Additionally, FY22 budgets small operational expenses and projects an ending balance of ~$100K

Source: Park City Municipal Corporation. As of June 17, 2021.

Additional Resort City Sales Tax History

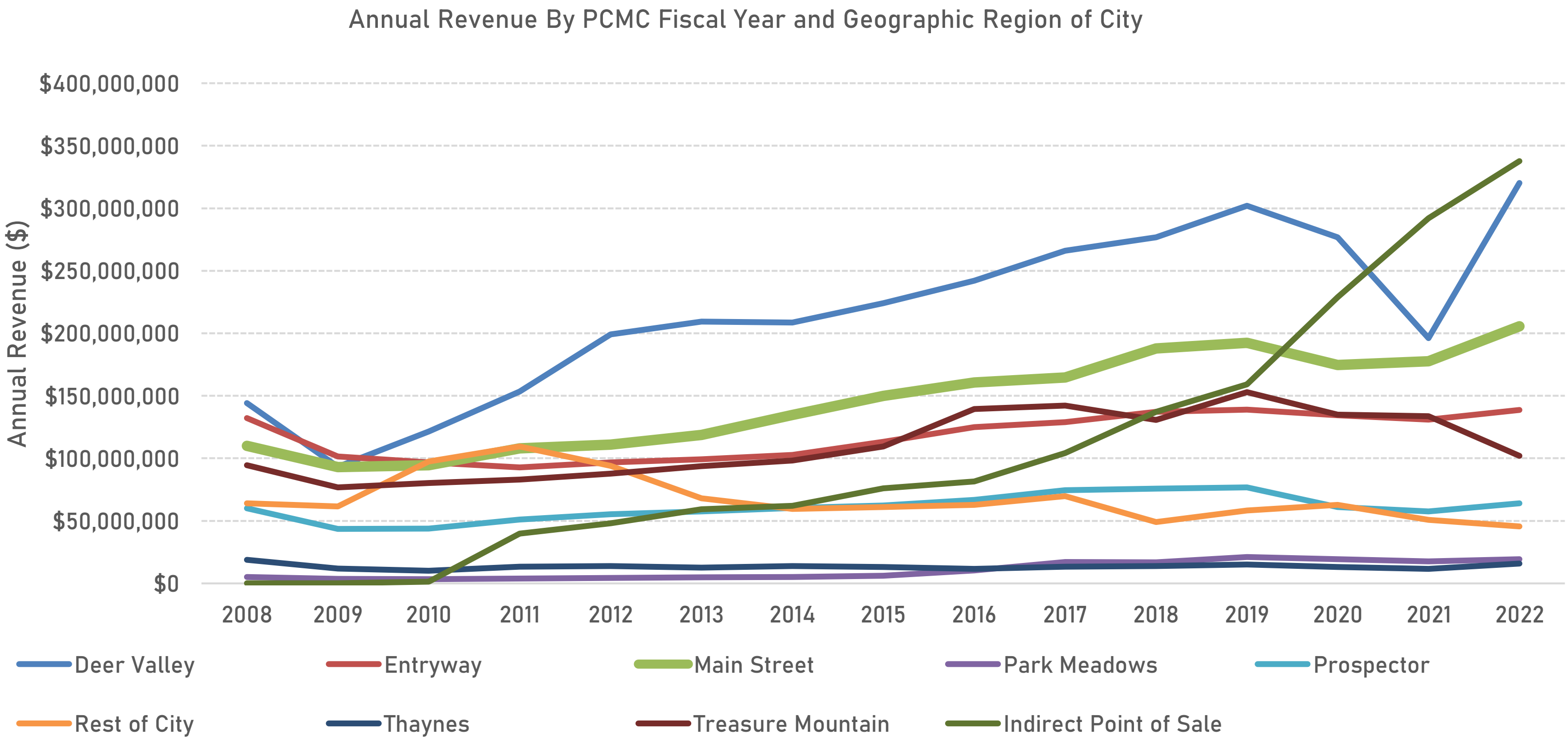
Historical Spending on ARCST-Related Capital Projects							
Category	Project	ARST Cash Spend	2014 STR Bond Proceeds	2015 STR Bond Proceeds	2017 STR Bond Proceeds	2019 STR Bond Proceeds	Total
Open Space/Land	TREASURE HILL				$6,000,000	$8,128,142	**$14,128,142**
Open Space/Land	OPEN SPACE ACQUISITION	$17,709	$3,974,140	$6,403,619			**$10,395,468**
Open Space/Land	LAND ACQUISITION/BANKING PROGRAM	$4,725,155					**$4,725,155**
Downtown Infrastructure	DT ENHANCEMENT PHASE 2	$34,703	$489,174	$3,874,470	$16,608		**$4,414,955**
Downtown Infrastructure	OTIS PHASE II(A)	$500,000	$1,556,919	$375,177			**$2,432,096**
Downtown Infrastructure	OTIS PHASE III(A)	$2,236,589		$0			**$2,236,589**
Stormwater	STORM WATER IMPROVEMENTS	$2,021,416		$8,678			**$2,030,094**
Downtown Infrastructure	DEER VALLEY DR PHS II	$97,656		$719,981			**$817,637**
Downtown Infrastructure	DOWNTOWN PROJECTS PLAZAS	$61,005			$231,828		**$292,833**
Open Space/Land	PRIVATE LAND ACQUISTION #1	$258,522					**$258,522**
Downtown Infrastructure	MS INFRASTRUCTURE MAINT	$252,098					**$252,098**
Stormwater	LITTLE BESSIE STORM DRAINS			$217,005			**$217,005**
Downtown Infrastructure	DOWNTOWN PROJECTS - PHASE III	$430		$165,228			**$165,658**
Stormwater	PROSPECTOR AVE STORM WATER	$137,870					**$137,870**
Downtown Infrastructure	PARK AVE. RECONSTRUCTION	$300					**$300**
	Total With Open Space	**$10,343,454**	**$6,020,233**	**$11,764,158**	**$6,248,436**	**$8,128,142**	**$42,504,422**
	Total Ex Open Space	**$5,342,067**	**$2,046,093**	**$5,360,539**	**$248,436**	**$0**	**$12,997,136**

Total of Downtown Infrastructure lines = $10.6M

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

Main Street Trends: Sales Tax

Positive historical trend, but losing market share.

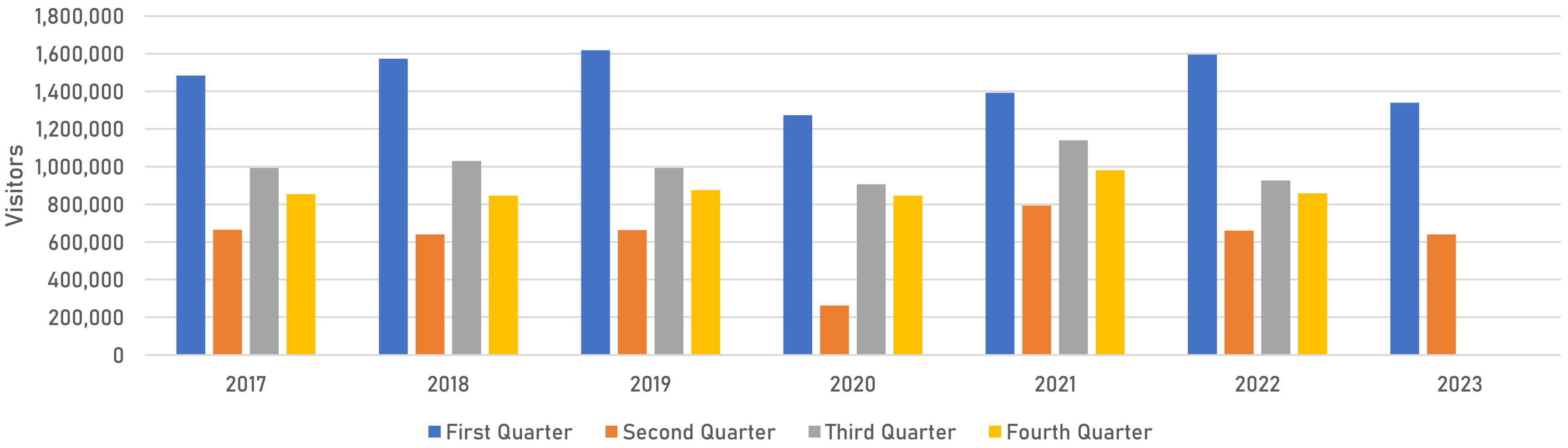


Source: Park City Municipal Corporation. As of August 2023.

Main Street Trends: Visitors

COVID bump is fading.

Estimated Main Street Visitors by Calendar Year and Quarter



Main Street Visitors

Calendar Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Calendar Year
2017	1,483,161	665,538	993,336	853,676	3,995,711
2018	1,573,286	640,188	1,030,691	845,928	4,090,093
2019	1,618,275	663,881	992,946	875,761	4,150,863
2020	1,273,540	262,389	906,242	846,605	3,288,776
2021	1,391,936	793,237	1,139,918	981,176	4,306,267
2022	1,594,725	659,935	926,687	858,567	4,039,914
2023	1,339,568	640,027			

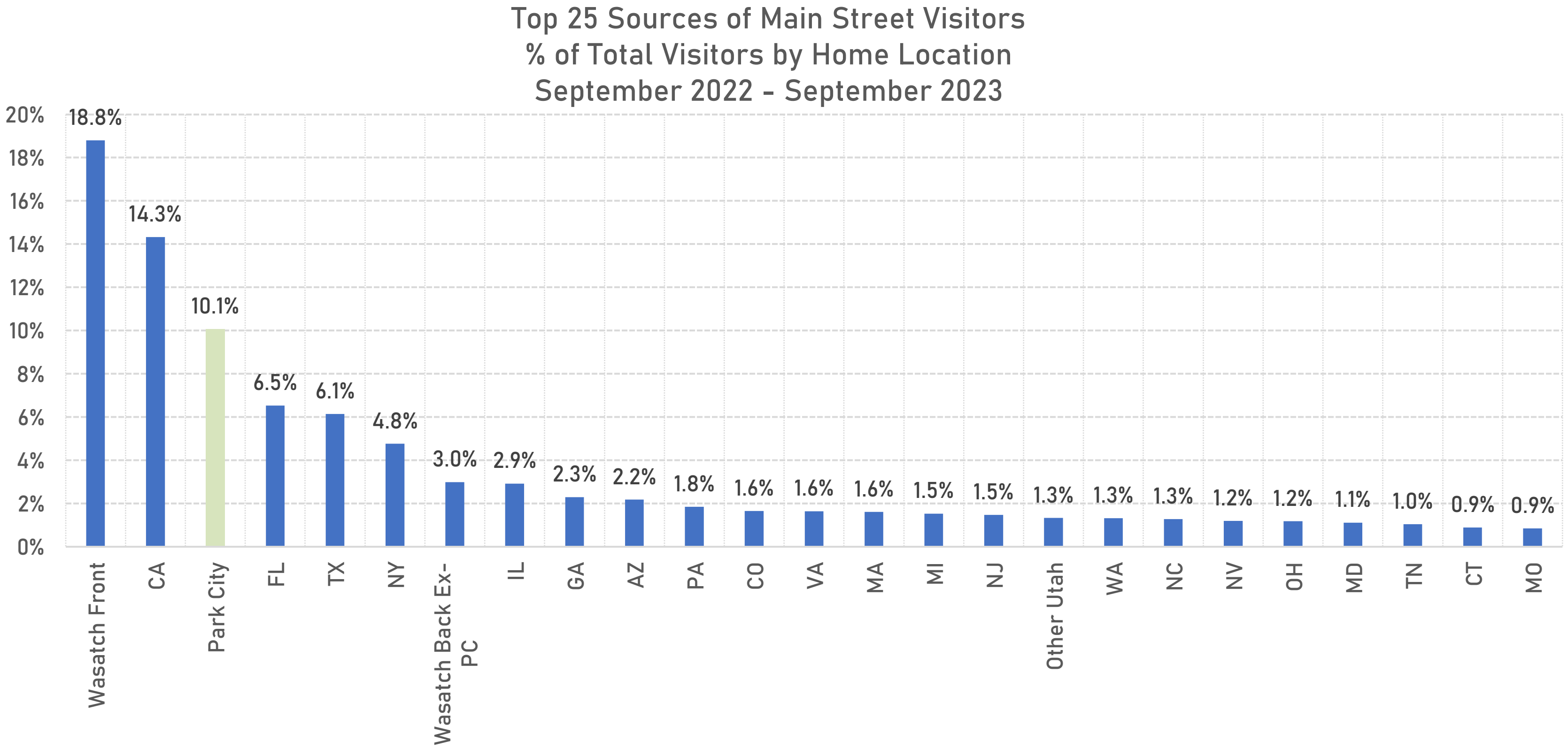
Main Street Visitors, YoY % Change

Calendar Year	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total Calendar Year
2018	6%	-4%	4%	-1%	2%
2019	3%	4%	-4%	4%	1%
2020	-21%	-60%	-9%	-3%	-21%
2021	9%	202%	26%	16%	31%
2022	15%	-17%	-19%	-12%	-6%
2023	-16%	-3%			

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

Main Street Trends: Visitors

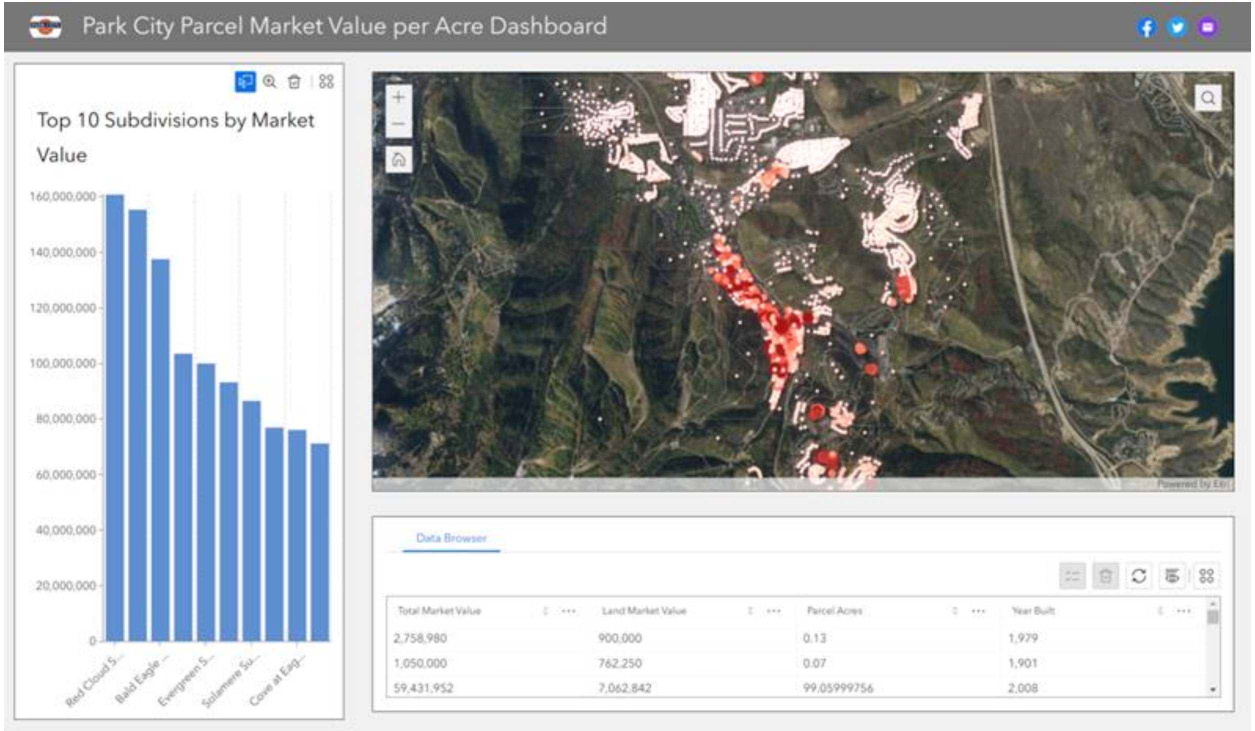
Wasatch Front, California, Florida, Texas and New York remain important.



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

Data Science: Early New Products

$700M - $1B of new, complementary, assessed value could be added in Park City's historic core, which can aide PCMC in its Transportation and Housing goals.



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

Infrastructure Needs

Water, Storm Water, Sewer

- $10M+ Systematic replacement of main lines, laterals
- Minimum two, possibly three season, capital project
- Storm water improvements would be paired with the project
- Snyderville Basin Water Reclamation District would collaborate to replace sewer in Main Street north of Heber Ave.

Natural Gas, Electrical, Telecom

- These utilities were paired with Main Street granite sidewalks improvements
- However, work stopped at Heber Ave., lower Main Street could be reviewed

Streets

- A crown correction, grind, and overlay are needed on Main Street barring any change in vehicle traffic use
- A seal coat may provide temporary extension
- Park Avenue Reconstruction outreach is in progress, remains a need, and costs are increasing since last estimate

Parking Maintenance

- Planned conditions assessment on China Bridge parking and related infrastructure

Waste Management

- Council approved waste management contact as of August 2023.

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

Key Questions That Could be Considered in an Area Plan

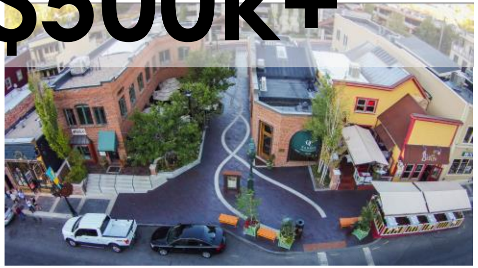
Evaluate Existing Conditions in Detail	▪ Set clear baseline on existing land use, historic property information, traffic patterns, parking uses, etc.
Redevelopment of Swede Alley	▪ Potential redevelopment and expanded use of PCMC owned parcels on/near Swede Alley ▪ Sidewalk and pedestrian infrastructure
Traffic Flows	▪ Study current and potential future traffic flows through the district
Pedestrianization	▪ Potential pedestrianization and/or active transportation on Main Street
Lower Main Street	▪ Inclusion of Lower Main in infrastructure planning discussions
Asset-Level Analysis	▪ Similar to 5-Acre site in Bonanza Park, asset-specific feasibility analysis could be included

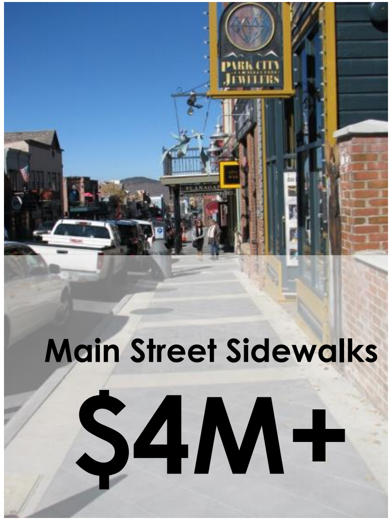
Source: Park City Municipal Corporation. As of September 2023.

2012 Downtown Improvements

Café Terigo Plaza

$500k+





Main Street Sidewalks

$4M+

Swede Alley Crosswalks

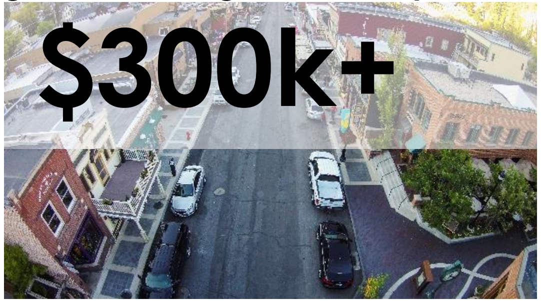
$200k+

Bob Wells Plaza

$650k+

Lights, Furnishings, Streetscape

$300k+



Bear Bench Walkway

$731k+

Source: Park City Municipal Corporation. As of 3/8/2021.

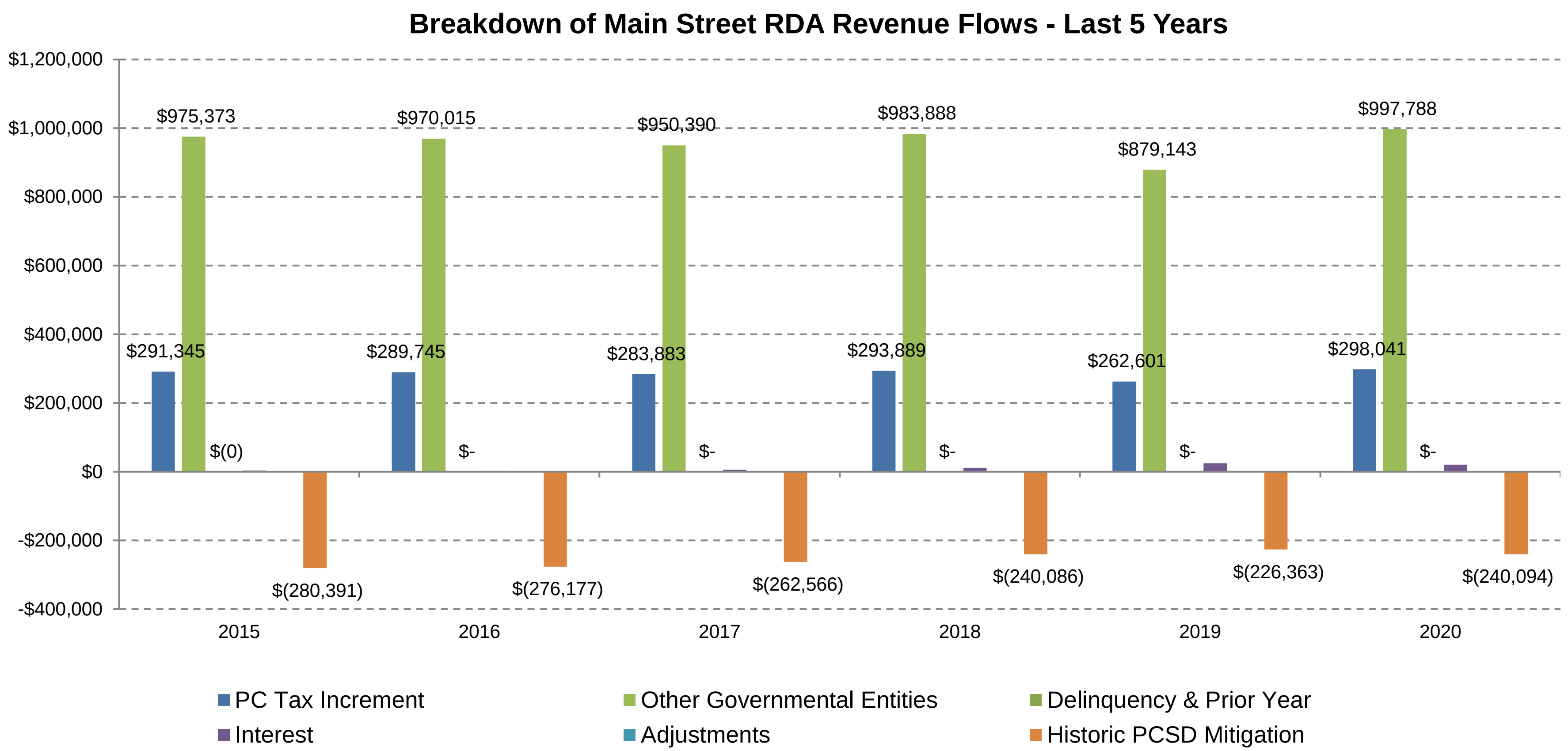
Main Street RDA History

Last Renewed 2005

2021 Expired

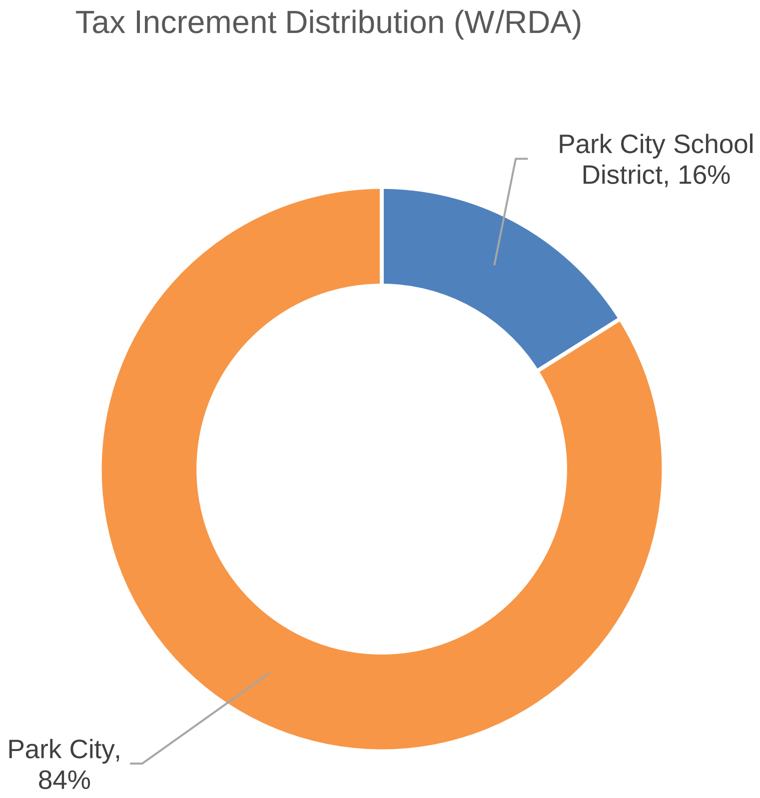
Source: Park City Municipal Corporation. As of June 17, 2021.

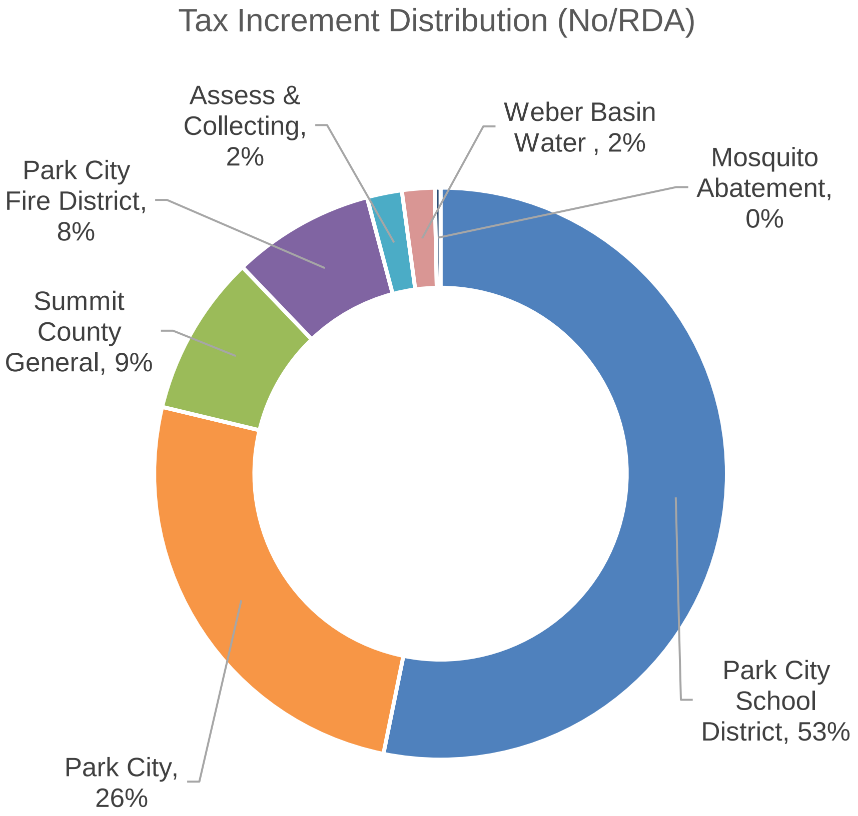
Main Street RDA History



Source: Park City Municipal Corporation. As of June 17, 2021.

Main Street RDA Revenue Distribution



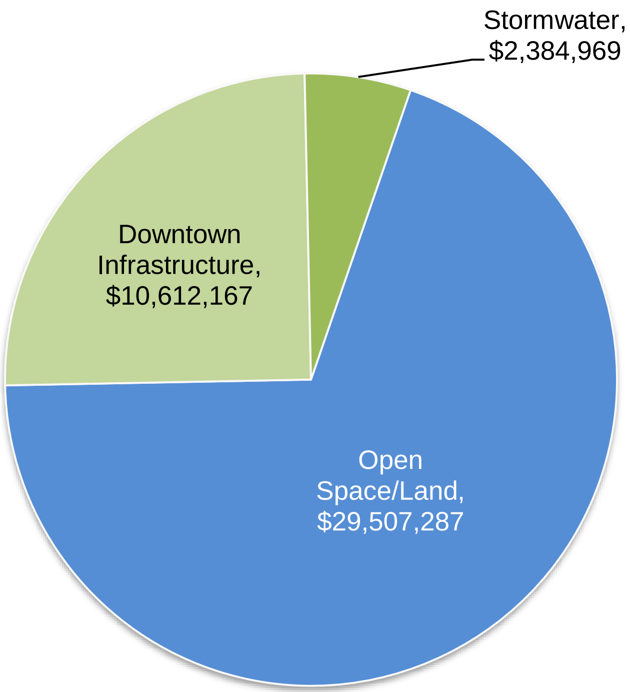


Source: Park City Municipal Corporation. As of June 17, 2021.

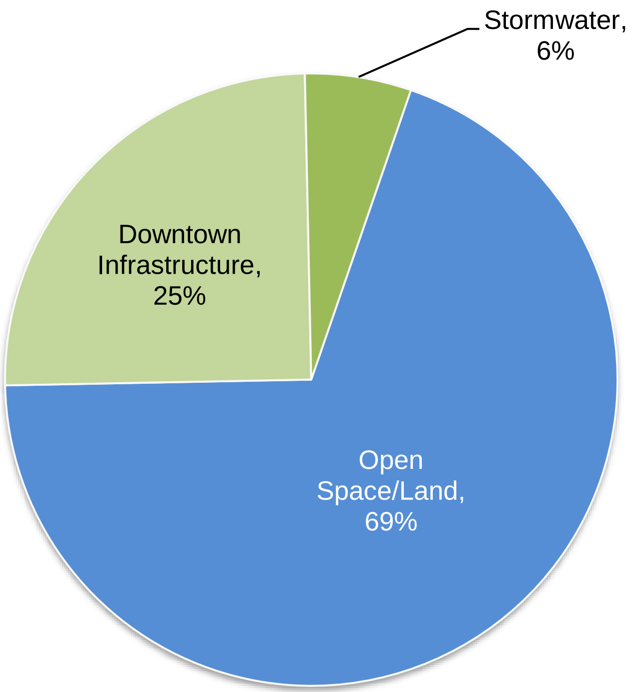
Historic ARST Cash & Bond Proceed Spend

The below encompasses ARST capital project cash expenditures by project type in $ and % since 2012.

ARST Historical Cash Spend by Project Type, $



ARST Historical Cash Spend by Project Type, %

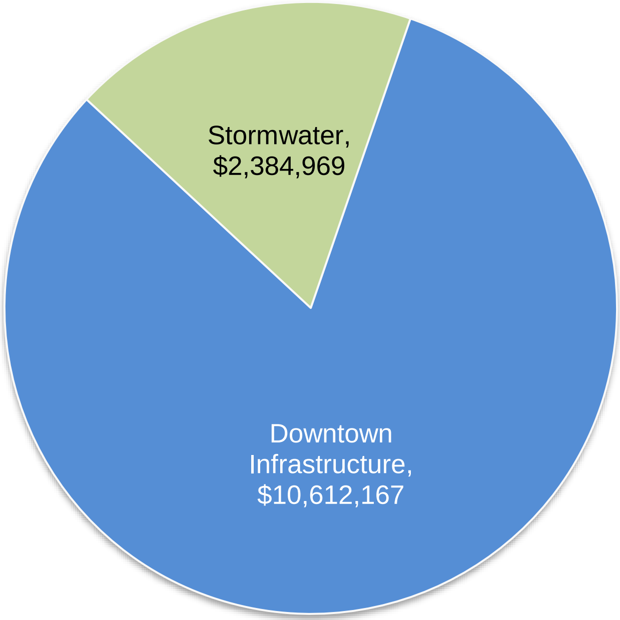


Source: Park City Municipal Corporation. As of 3/8/2021.

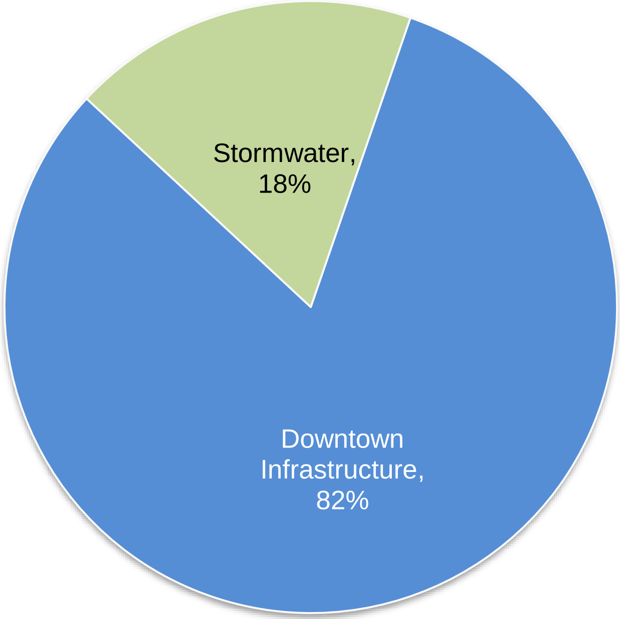
A Look Back:
Historic ARST Cash & Bond Proceed Spend

The below encompasses ARST capital project cash expenditures (excluding Open Space) by project type in $ and % since 2012.

ARST Historical Cash Spend by Project Type, $



ARST Historical Cash Spend by Project Type, %



Source: Park City Municipal Corporation. As of 3/8/2021.

City Council Staff Report

Subject: Clark Ranch Feasibility Study Results
Author: Browne Sebright, Housing Program Manager
Department: Housing
Date: December 5, 2023
Type of Item: Work Session

Recommendation

Continue the public policy discussion on the potential disposition and/or future use(s) of a select portion of the City's Clark Ranch property for affordable housing. This discussion is a continuation from the November 2, 2023 (Staff Report, Draft Feasibility Study) presentation and discussion.

Stereotomic, the Clark Ranch Feasibility Study consultant, and the City's Housing Team, are providing additional information in response to specific Council questions.

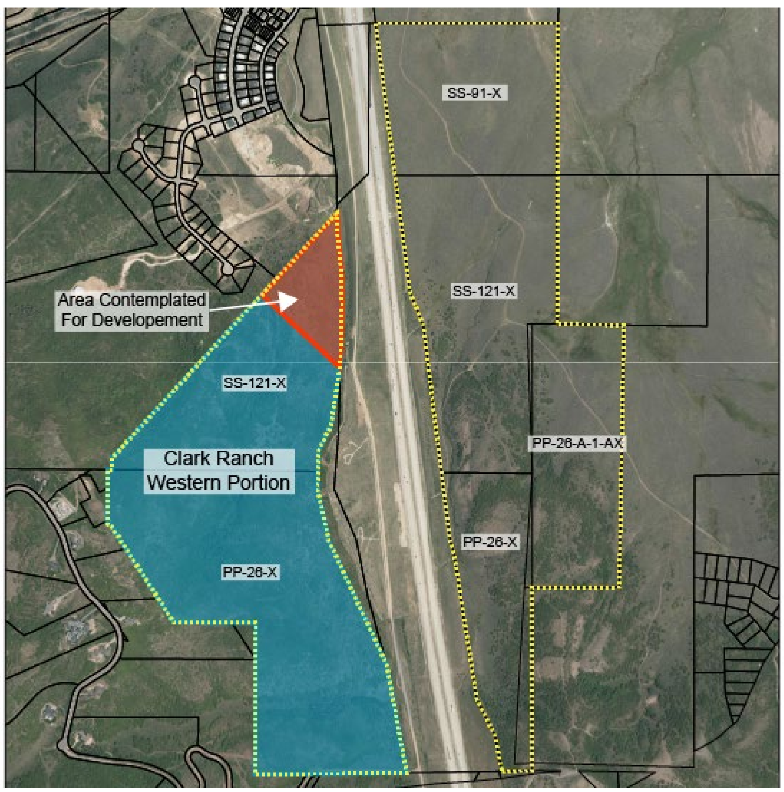


Figure 1. Map of Clark Ranch, outlined in yellow; western half, highlighted in blue; northwest corner, identified for potential housing development highlighted in Red.

Summary

The Clark Ranch land use feasibility study ("Study") was authorized by the City Council on February 16, 2023 (Staff Report, Meeting Minutes). The City Council received an informational presentation on November 2, 2023 (Staff Report, Draft Feasibility Study). to evaluate potential future uses, including affordable housing or City services. The

Study includes site analysis, evaluation of potential site density, and draft design concepts. Site constraints such as slopes, access, utilities, and zoning limit the layout but provide various uses, unit types, densities, and site design options.

The Study identified several factors that could dictate the type of development that could be accommodated, such as available water pressure, sewer capacity, steep slopes, and site access. The Study found that an affordable housing development between 90 and 275 units is possible on 12 limited acres. This option allows the remaining 113 acres on the west side to be permanently protected as open space through a conservation easement, as contemplated during the property acquisition process.

To be clear, we are not recommending additional uses of the property beyond the limited area noted (northwest corner) for community housing, though a previous version of work and reports identified an area in the northeast for potential municipal purposes.

Background

Survey work was completed for the Property's western half (approximately 125 acres). As recommended by COSAC[1] in 2016, our primary focus was concentrated in the northwestern most 10-15 acres depicted on the map above. For more information and background for the Study, refer to the November 2, 2023 (Staff Report, Draft Feasibility Study).

Answers to Work Session Questions

What is the estimated length of the Frontage Road that would need to be improved to facilitate a community housing development?

- Approximately 3,549 linear feet (0.67 miles) of Frontage Road would need to be improved to connect Phase 1 of the development to the existing development, or the Piper Way Road.
    - An additional 422 linear feet (0.07 miles) of the Frontage Road would need to be improved to serve the Phase 2 development.
- Approximately 300 feet of Piper Way may need to be modified to accommodate the new connection to an improved Frontage Road.

Do the estimated development cost calculations include the land acquisition?

- The cost calculations have been adjusted to include original land acquisition costs. See the table below.
    - The City paid $18,000 per acre for Clark Ranch in 2014. Thus, the City paid approximately $216,000 for the +/-12 acres identified in the Study, if you value every acre of land equally.

[1] Staff Report, p. 79

Cost Analysis						
Infrastructure Costs						
	Initial Land Cost*	Frontage road	Roads	Utilities	Misc	Total
Phase 1	$216,000	$1,239,648	$1,865,764	$1,344,965	$642,146	$5,308,523
Phase 1+2	$216,000	$1,329,648	$4,882,551	$2,294,610	$1,435,432	$10,158,241

Figure 2. Table summarizing infrastructure costs.

Would the estimated housing subsidy ranges shown in the previous report change if the project was envisioned as a rental project rather than a for-sale project?

- Rental projects typically require less public subsidy to make the units affordable than for-sale projects.
    - Some forms of financing, like the Low-Income Housing Tax Credit (LIHTC), are used primarily to develop rental housing. Please note that this type of funding places limitations on the units.
- A for-sale project was used in the estimated calculations to more easily demonstrate potential public or private subsidies.

How would the Study be used to prepare an RFP for a potential public-private development?

- All the information in the Study will help potential bidders prepare a realistic scenario and answer quite a few of the "unknowns" that typically accompany a development proposal. This will make respondents more confident in their proposals, garner more proposals overall, and help create better accuracy with estimated development costs.
- We recommend the Study is included in its entirety in any RFP for development.
- If the Council prefers to limit proposals to specific parameters identified in the Study, we can list those as preferences or requirements. This could include:
    - Criteria for proposals that utilize a specific road layout;
    - Criteria for specific unit types (townhomes, multi-family, etc.);
    - Criteria for a specific rental/ownership mix;
    - Criteria for a specific target income level or range;
    - Creiteria for specific community amenities; and
    - Criteria for a specific density range.

Could the City recommend a project with a mix of rental and ownership units?

- Yes, the City can identify its preference for unit type in an RFP.
- The 2021 Housing Needs Assessment (p. 28) states demand for at least 800 to 1,000 affordable housing units before 2026.
- Given Park City's prevailing workforce wage, the demand for units will be primarily for affordable rental housing.

How close would the Clark Ranch development be to Park City Heights?

- The Study depicts a development that is setback 25’ from the exterior boundary, as required by the AMPD[2].
    - The closest development in Park City Heights to Clark Ranch (Phase 5) is anticipated to be setback approximately 40’ from the exterior boundary.
- The development depicted in the density scenarios is conceptual and is not intended to represent final design concepts or exact development recommendations.
- The Study recommends that any development be clustered low on the site to reduce visual impact and site disturbance and to cluster housing close to existing transit, bicycle, and pedestrian facilities.

Site Analysis

Physical Conditions

The site survey found no encumbrances, such as known contaminated soils or historic sites, that would impede development. But the slope in this area ranges from 17%-25%. Slopes between 15%-30% are considered Steep Slopes in the Sensitive Lands Overlay, which require 75% of the area to remain Open Space.

Water pressure and sewer capacity may also constrain a future housing development. The existing Park City Heights water tank can potentially serve additional development, but development would be limited to an elevation of 6,917’ to maintain adequate water pressure. There is sewage capacity to support additional residential development. The total carrying capacity of the existing site infrastructure is estimated to be upwards of 275 residential units.

Site Access

The site can be accessed from two points: a primary access point from the Hwy 40 frontage road, which would require improvements and a secondary access point to the existing Park City Heights neighborhood. The Study identified potential road layouts to maximize access within the site. A development could be built in phases, with a lower road segment built in Phase 1 and an upper road built in Phase 2.

Careful consideration should be applied to the road layout identified in Phase 2 of the options. In both options, extending the upper road to the Frontage Road would require significant cuts into the hillside, increasing visual impact.

Sterotomic also evaluated the total trips generated by a potential Clark Ranch residential development, including 1,338 daily trips, 116 AM peak hour trips, and 113 PM peak hour trips if built to the abovementioned capacity. We also estimated the projected peak hour two-way volumes on Richardson Flat Road, determining the Level of Service as a “B” or better, indicating that Richardson Flat Road has the capacity to receive additional trips from a Clark Ranch residential development.

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[2] LMC § 15-6.1-7 *Setbacks*

Pedestrian and bicycle access may be challenging due to the site's topography, just over half a mile from an existing #6/silver transit stop. See Illustration 10.1 in the Study (Exhibit A, p. 10) for a map of pedestrian and bicycle connections.

Density Scenarios
The Study identified three potential density scenarios to help illustrate what a future housing development might constitute. The scenarios provide a point of reference to evaluate pros and cons of different development parameters and are not intended to represent final design concepts. The Scenarios are summarized in the following table:

	Density Option 1	Density Option 2	Density Option 3
Phase 1	90	150	230
Phase 1 + Phase 2	140	200	275

Figure 3. Table summarizing the unit yield for each density option.

Site Improvements
The Study also determined that the Frontage Road must be improved to provide a secondary access point. The City Engineer recommends that any new road be improved to a 36' paved section with two 12-foot lanes, shoulders, curb, and gutter. The cost to enhance the Frontage Road is estimated at $1,241,000.

The Study also evaluated the internal utility and road infrastructure costs, estimating Phase 1 at $3,852,875 (not including the Frontage Road). Including the Frontage Road, Phase 1 infrastructure cost is projected at $5,310,162. We estimate internal utility and road infrastructure costs for Phase 2 an additional $4,759,718.

Including the Frontage Road and Phase 1 infrastructure, the estimated cost of all utilities and roads at full buildout is $10,069,880.

	Density Option 1	Density Option 2	Density Option 3
Phase 1	$56,601	$33,961	$22,148
Phase 1 + Phase 2	$70,384	$49,269	$35,832

Figure 4. Table summarizing the infrastructure costs per unit for each density option.

Study Findings

All three density options have a calculated occupancy less than the total of Park City Heights at buildout and below the calculated carrying capacity of existing utility infrastructure. Additionally, because the units are generally envisioned to be smaller than the single-family homes of PC Heights, the overall square footage of development would be significantly less than the adjacent neighborhood.

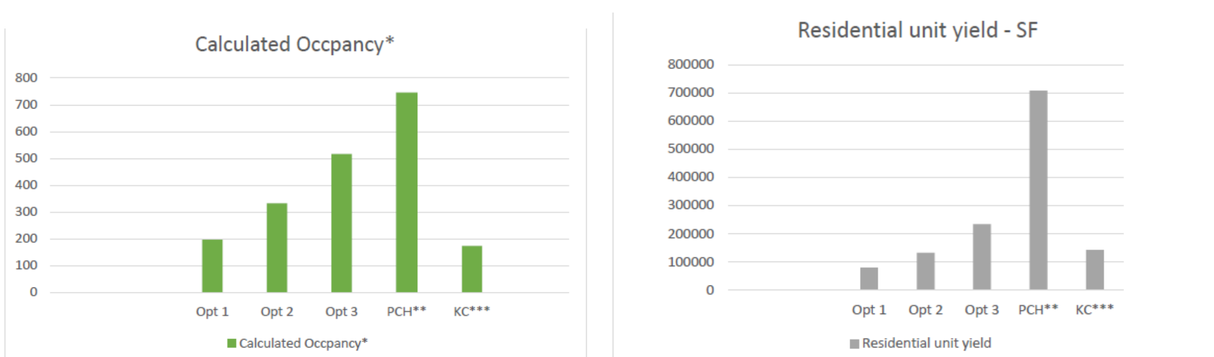


Figure 5. Charts of calculated occupancy and residential unit yield (square footage), comparing the three Clark Ranch density options to Park City Heights and Kings Crown.

As is generally true in residential development, the Study found economic efficiency in developing denser housing, which reduces the development cost per unit. In Figure 5, the Study shows how increasing the number of units reduces the per-unit cost of building the homes and spreads out the cost of site infrastructure across a larger number of residences.

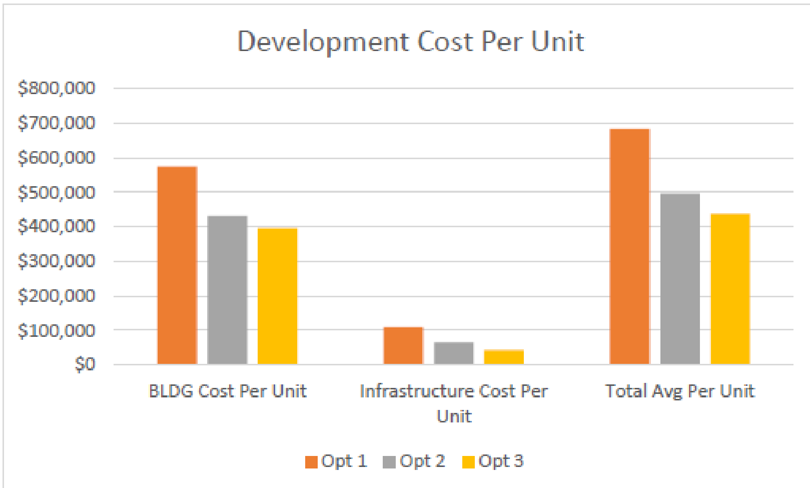


Table 68.2 - Project Development Cost Analysis - Factoring in Building (vertical) Costs as well as Infrastructure (horizontal) costs divided between the total number of units per option. (Stereotomic)

Figure 6. Development Cost Per Unit.

These efficiencies of scale also factor into the projected subsidy required to make the units affordable. The Study found that the least dense option (density option 1: townhomes) would require a subsidy for all target affordability ranges from 30% to 100% of AMI. Conversely, the densest option (density option 3: small-scale multi-family) would require a subsidy for the most deeply affordable target range (30%-50% of AMI). Still, it could break even or be profitable for units in the range of 50%-100% of AMI.

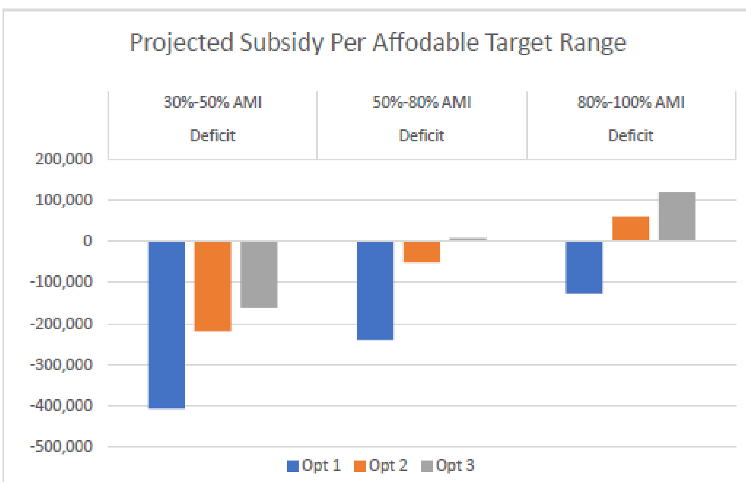


Table 68.3 - Project Development Cost Analysis - Negative numbers denote a financial shortage which would be needed to subsidize the project(Stereotomic)

Figure 7. Projected Subsity Per Affordable Target Range.

The projected subsidy per affordable target range depicted in Figure 7 represents a 100% affordable housing project. The "subsidy" described is on a per-unit cost basis and can be made up through various tools, including some portion of market-rate units, tax credit financing, or direct City subsidy.

Recommendation

Council consider the density scenarios outlined in the Study and assess how to prioritize Clark Ranch for open space conservation and future affordable housing development. Affordable housing is feasible on the site at various densities. Site access may be difficult, but the Study found feasible options for improving site access and providing mobility options for future residents.

As Council considers future uses for Clark Ranch, we recommend you consider prioritizing the following parameters for a potential RFP:

Engagement

- The Study area is located next to an existing neighborhood made up of full-time residents with additional phases under construction. Residents should be provided ample and meaningful engagement opportunities for their perspectives to be understood and reflected in the project outcomes.
- New affordable housing inventory can benefit the broader community. Special attention should be given to ensuring equitable engagement opportunities for working families and individuals who may be unable to attend in-person meetings or public hearings.

Open Space Easement

- Utah Open Lands was selected[3] to hold the conservation easement for Clark Ranch and has prepared a draft conservation easement, baseline documentation, and the Park City Clark Ranch Management plan working through a process with the City and COSAC.
- The Management Plan, drafted in 2015, provides a comprehensive framework for the ongoing management and preservation of Clark Ranch. This document also includes key recommendations on how to most appropriately site development on the property in order to mitigate its impacts to the property's conservation values.
- Due to its steep slopes, the west parcel of Clark Ranch is more visible than the east parcel. Development may be most appropriate in the parcel's lowest portions, less visible from the highway because the Frontage Road's cut bank blocks them.
- The conservation easement has not yet been placed on the property, as it has been held pending the property's annexation into the City, and evaluaton of the 10-acre portion of the property contemplated for City-determined uses. The granting of the conservation easement should be simultaneous to the subdivision or development agreement in conjunction with the 10-acre future use.

Financial Viability

- The Study found that deeper affordability levels require fewer subsidies in the most dense scenarios.
- Larger projects tend to be more financially viable and are more likely to attract high-quality responses to an RFP than small projects.

Entitlement Needs

[3] Clark Ranch Preservation Easement RFP, March 19, 2015 (Staff Report, p. 263)

- The property will require, at a minimum, a rezone application and a subdivision to make the property viable for an affordable housing development. The City may consider proactively submitting land use applications so that RFP respondents are not required to take on this additional risk.
- The City could seek to rezone the property to a zoning district that permits housing uses and AMPDs or subdivide the property to delineate which parts should be conserved or considered for development.

Transportation & Access

- The Study found sufficient road capacity to accommodate car trips generated by the maximum number of required parking spaces.
- An RFP should affirmatively seek responses that align the project with City goals to provide numerous transportation options to get in and around Park City, including innovative pedestrian, bicycle, and transit mobility solutions.

Targeted Occupancy

- Park City's current inventory of 650 deed-restricted affordable housing units comprises approximately 70% owner-occupied and 30% rental units.
- Approximately 500 new affordable rental units have recently been entitled or are under construction (EngineHouse, Studio Crossing, HoPa).
    - Park City's projected inventory of deed-restricted units is anticipated to be approximately 40% owner-occupied and 60% rental units.
- Most of Park City's future affordable housing demand is expected to come from the more than 8,000 out-of-county workers who commute daily into Park City for employment. Housing demand from commuters will primarily be for rentals.
- An RFP could affirmatively seek responses that address the housing needs of specific groups, such as the workforce, seniors, essential/frontline workers, municipal employees, or families.

Based on the feasibility study findings, the Housing team recommends that the Council consider Clark Ranch as an opportunity for a public-private partnership to develop affordable housing. The next steps would include directing staff to prepare a draft Request for Proposals (RFP) and to return to Council with the draft for your review.

Exhibits

Exhibit A: Clark Ranch Feasibility Study

CLARK RANCH

AFFORDABLE HOUSING FEASIBILITY STUDY - DRAFT

SEPTEMBER 19, 2023

PARK CITY 1884

HOFFMANLAW

TALISMAN CIVIL CONSULTANTS

G.B:D

stereotomic

Contents

Introduction

Mr. Browne Sebright
Housing Program Manager
Park City Municipal Corporation
445 Marsac Ave. / P.O. Box 1480
Park City, UT 84060
435-615-5153

Dear Browne,

We appreciate the opportunity to assist in the preliminary planning phases of this exciting new potential to service the community through affordable housing. In an effort to provide the requested data as a means for assisting city staff and elected officials to further define a path forward for the project, we initiated a (3) phase process in an effort to provide clarity.

For the course of the study, we executed an extensive site analysis phase, examining the natural and existing infrastructure statistics surrounding the city owned property identified for development. As well as analyzing two separate entitlements processes; the Master Plan development process and the Affordable Master Plan development process defined by the city's Land Management Code (LMC).

We then established baseline estimates per each of the scenario's outlined in the scope of services, by creating baseline numbers using the optimum unit balance as requested per our various conversations.

The final step included balancing the statistical goals with an architectural test fit, including basic massing studies using computer aided processes.'

The results of the steps outlined above are then included in the subsequent pages of this study. As the project is advanced forward, careful development of the site planning, as well as refinement of the visual logic should be carefully considered to provide the type of function and aesthetics which will compliment the existing adjacent open space.

We hope the information contained here will provide significant clarity to you and your team. As always, please feel free to reach out with any questions you may have as you implement the information.

Sincerely,

Principal-in-Charge,
AIA, NCARB, LEED AP, BD+C
Stereotomic Architecture + design

executive summary

The following information provided in the study is presented as a means to help guide city management and elected officials with a basic, high level analysis of the existing Clark Ranch - West Parcel (Clark Ranch West - CRW) and the potential of the site for affordable housing development. The approach utilized a 3 phase approach. Phase I, represented here in the site analysis section, looks to gather critical information on the current site and infrastructure to form a comprehensive understanding of the project constraints and attributes.

The Alta Survey and Title Report do not indicate any encumbrances to the sites development. The topographic survey illustrates the magnitude to which the sloping site will dictate the overall layout. With slopes between 11% to +70%, the land absolutely dictates many aspects to the design. Fortunately, the Topographic site survey and the visual impact analysis show the areas which are the most prime for development coincide with the lowest slopes and the least amount of visual impact. Based on the current Sensitive Lands Overlay defined in the Land Management Code, it would be most advantageous to include a minimum site area of 125 acres to include in any future entitlements procedure even though we've targeted a clustered approach on +/- 12 acres in the northeast corner of the west parcel.

Any pursuit of development entitlements would require a rezone of the property, as the current zoning (RO - Recreation Open Space) do not allow for the addition of residential units. Based on our review of the current zoning and Land Management code, several possible existing zones could be re designated for the site to allow for the options represented here. Of course, there is the possibility of creation of a new zone, but in most instances our team has looked into approaches which could be satisfied with existing zones and regulations already defined by the code.

The overall location and sloping topography of the site provide substantive challenges, both to the overall cost to develop the project as well as structural challenges to provide a simple, yet welcoming environments. With a substantial price tag for the horizontal infrastructure (installation of roads, utilities, storm-water controls, etc...) it challenges the design to develop a site sensitive project which can offset the increased infrastructure costs by maximizing the unit count. The initial carrying capacity of the existing infrastructure (water, sewer, traffic volume) would support upwards of 275 units.

Through our overall analysis, we propose a simplified road layout which balances cut/fill excavation operations. The density options presented range from 90 units of grouped Town-homes, to 230 units of multifamily stacked flat configurations. We purpose the units to be provided through multiple unit types, including a mix of duplexes, town-homes and small to medium scale stacked flats. The Higher unit count maximizes the efficiency of the current carrying capacity of the infrastructure, while provided the best offset on a per unit basis of the overall development costs. The grouping of units in this fashion provide a greater potential for sustainable development (net zero energy & carbon), while still achieving a very human centric built environment.

vision statement

The Clark Ranch study provide a unique opportunity to envision a new model for Park City in the 21st century. As our community continues to grows exponentially, it becomes increasing more important to provide an equitable, sustainable development to ensure a diverse population. At the forefront of this idea is to strike an equal balance between social, environmental and financial constraints. The social aspect looks to maximize accessibility, afford-ability and equity. The environmental leg must exalt the preservation of natural character, and look to provide a regenerative project which limits the carbon and energy usage as a means to protect the future. Last but not least, the project must strike a fiscal balance to guarantee the vision can become reality.

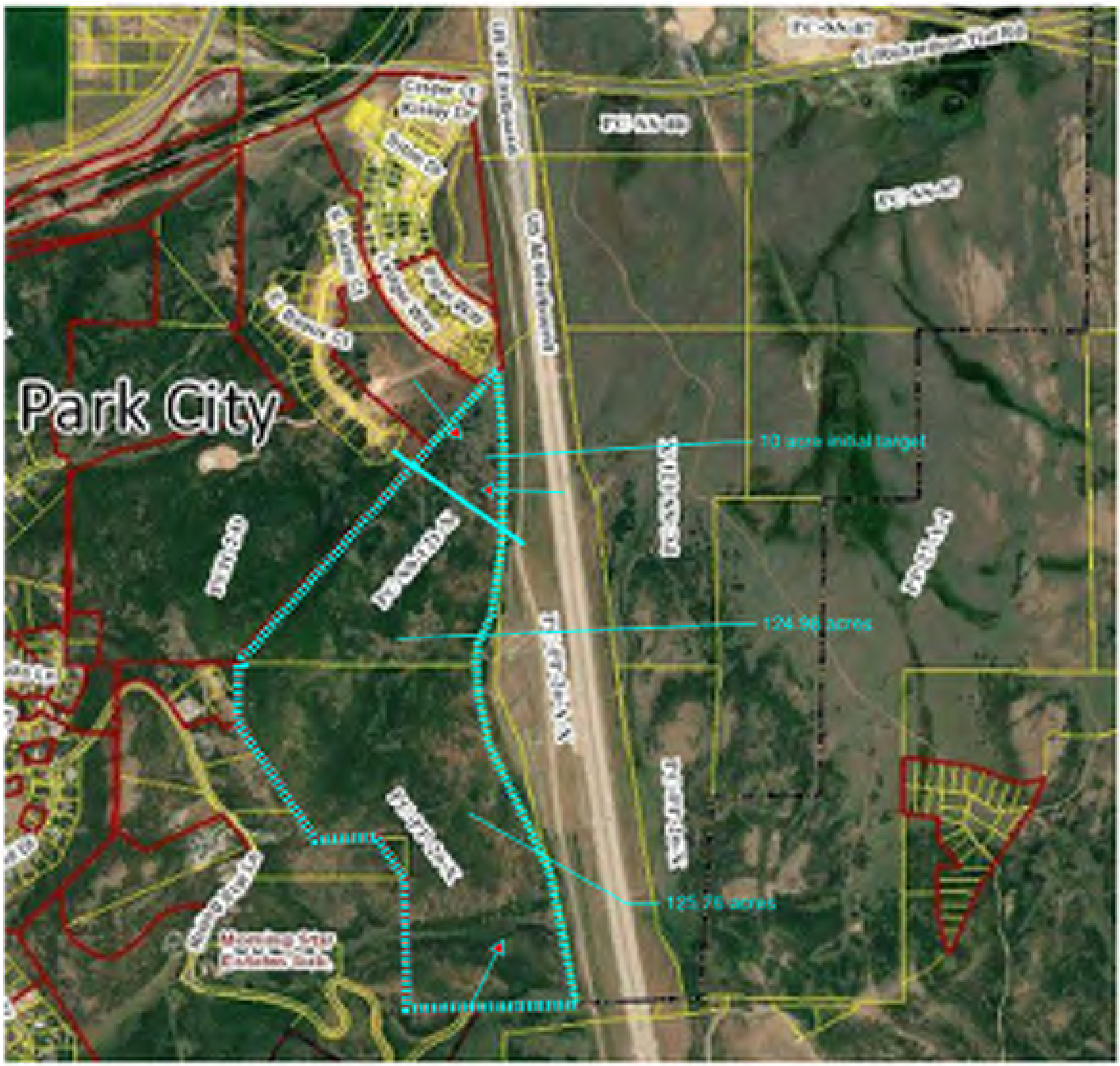
The feasibility study here proposes to aid in creating an increase in available housing targeting the "missing middle". As we've seen the evolution of our economy and the speculative investment in housing rapidly pushes beyond the level of affordable for many in our community, it becomes important to embrace the typologies which suit our current gap.

Our work here proposes to take a "critical regionalist" approach; in which modern ideas and solutions to more urban problems are adapted to our regional locale. This approach looks to define what may be summed up as "Mountain Urbanism".

Site analysis

The first phase for the design team began by making a comprehensive site analysis exercise to understand the physical constraints apparent or deduced for the CRW property. From this exercise, several factors are identified as major constraints and many others are categorized as major & minor considerations, based on the potential impact they hold for future development. The major constraints include: topography, access, infrastructure and visual impact. Major considerations include; potential pedestrian access & accessibility, potential traffic impact, Hazard potential and preservation of natural environment. Minor considerations include; soil characteristics, financial impacts, remediation of potential hazards. The major factors of note are included here as part of the site analysis phase.

Illustration 6.1



site characteristics

Alta Survey

City Staff provided the Title report for the entirety of the City Owned property at Clark Ranch. Talisman Civil Consultants and Hoffman Law provided a review, and noted No notable discrepancies or identified items which would need resolutions.
As part of this study, Talisman Civil Consultants conducted an ALTA/NSPS Land Title Survey dated July 21, 2023. Upon completion of the survey, no remarkable easements, or barriers to development on the northeast portion of the west side parcel were identified. A copy of the completed Survey is included in Appendix A.

Topography / Slope Analysis

Talisman Civil Consultants has developed a preliminary Topography Survey of the parcel utilizing state topography data system. This dataset, although accurate to within 2 feet, was determined this would be the most cost effective given the significant snow cover which persisted late into the spring season.
The results of the study indicate the topography will play a major role in the layout & design of any development targeting for the CRW parcel. The predominant slope descends East through North-East, with very minor discrepancies. Slope angles vary from 11%-15% at the lower and mid elevations on the Northeast, to over 70% on the west side. It should be noted that the average slope encountered in the develop-able target (10 acres in the Northeast tip) is 17%-25% (6:1 – 4:1 ratio). Shallow to moderately shallow drainage pathways exist across the slope.
The slope analysis is key to identifying the amount of available area that can be targeted for development based on the LMC Sensitive Lands Overlay (S.L.O.) guidelines. The SLO identifies the following slope categories and development restrictions on the following slope categories:

Steep Slopes (15% - 30%) – 75% of the area must remain as Open space.
Steep Slopes (30%- 40%) - 75% of the area must remain as Open space.
Very Steep Slopes (+40%) – No Development Allowed

Much of the area targeted for development lies within the Steep Slopes (15%-30%) which require 75% of the area to remain as Open space.

Considering the language of the SLO, section 15-2.21-4 (H) defines the density and outlines the amount of land development which can occur in the Steep Slopes (15%-30%). Section A defines the maximum Density as outlined by the underlying zoning, without significant adverse visual or environmental impacts. Section B recommends several organizational strategies for development, and as such it has

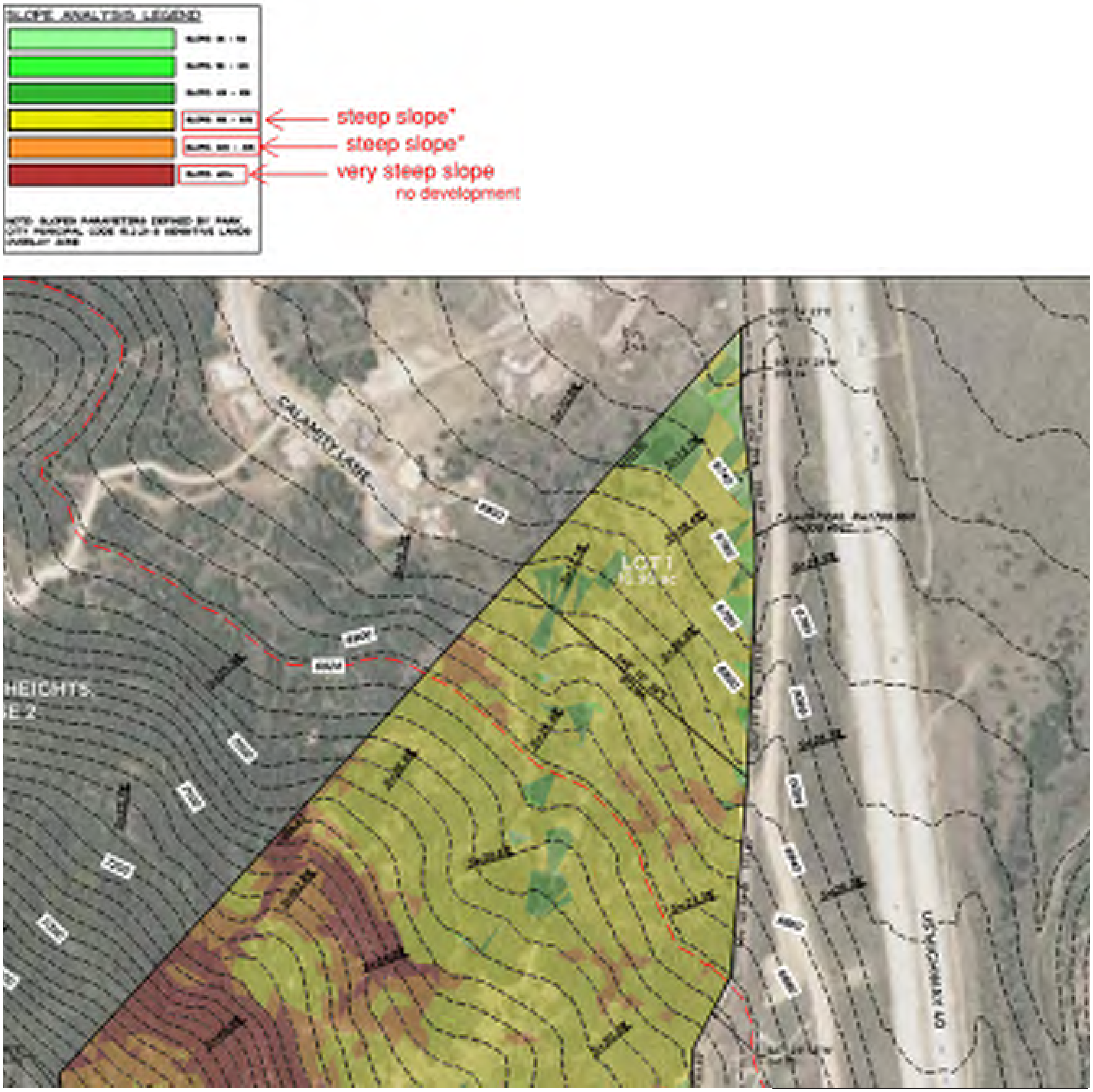


Illustration 8.1

been identified a "Clustered Development" would provide the least intrusive visual and environmental impact on the site. Section C allows for a transfer of density to the "least intrusive portion of the site". In this instance, the Northeast corner of the site provides the "least intrusive" portion of the site, both visually and through horizontal development (grading & cut/fill operations)

Therefore, it should be noted that the full 125 acres of the study parcel should be kept intact, with much of the west – southwest portion of the parcel (which contain the steepest slopes) to be designated as permanent Open space for the benefit of the community as outlined in the SLO

Illustration 9.1

Access Analysis

The evaluation process of the potential access options for the Clark Ranch West parcel identified the existing frontage road grade as the best primary access option. Discussions with the Park City Engineering team offered a solution to the access point from Richardson Flats road, given its close proximity to the Piper Way intersection. (Approx. 145') A direct access as it intersects Richardson Flats Road is deemed not sufficient in its proximity with Piper way. A 300' min. separation is suggested to provide the proper safe spacing, which is not possible. An alternate option of utilizing the existing piper way intersection, then adding a roundabout at the intersection of Kinley Way and Piper Way with a spur running to the east connecting to the frontage road grade. The logistics of which would need the endorsements from UDOT, Summit County as well as Park City Engineering.

Based on our discussions with City and county officials, it has been ascertained that Summit County currently is responsible for the existing frontage road grade within the UDOT easement for highway 40. If and when developed, the process would be in cooperation with UDOT, Summit County and Park City Municipal Corporation for design, whereas long term maintenance would fall to Park City as a city public right-of-way.

Based on NFPA (National Fire Protection Assoc) section 1140 "Standard for Wild-land Fire Protection", the team recommends (2) distinct and separate vehicular access paths. Per section 11.1.4.1, these

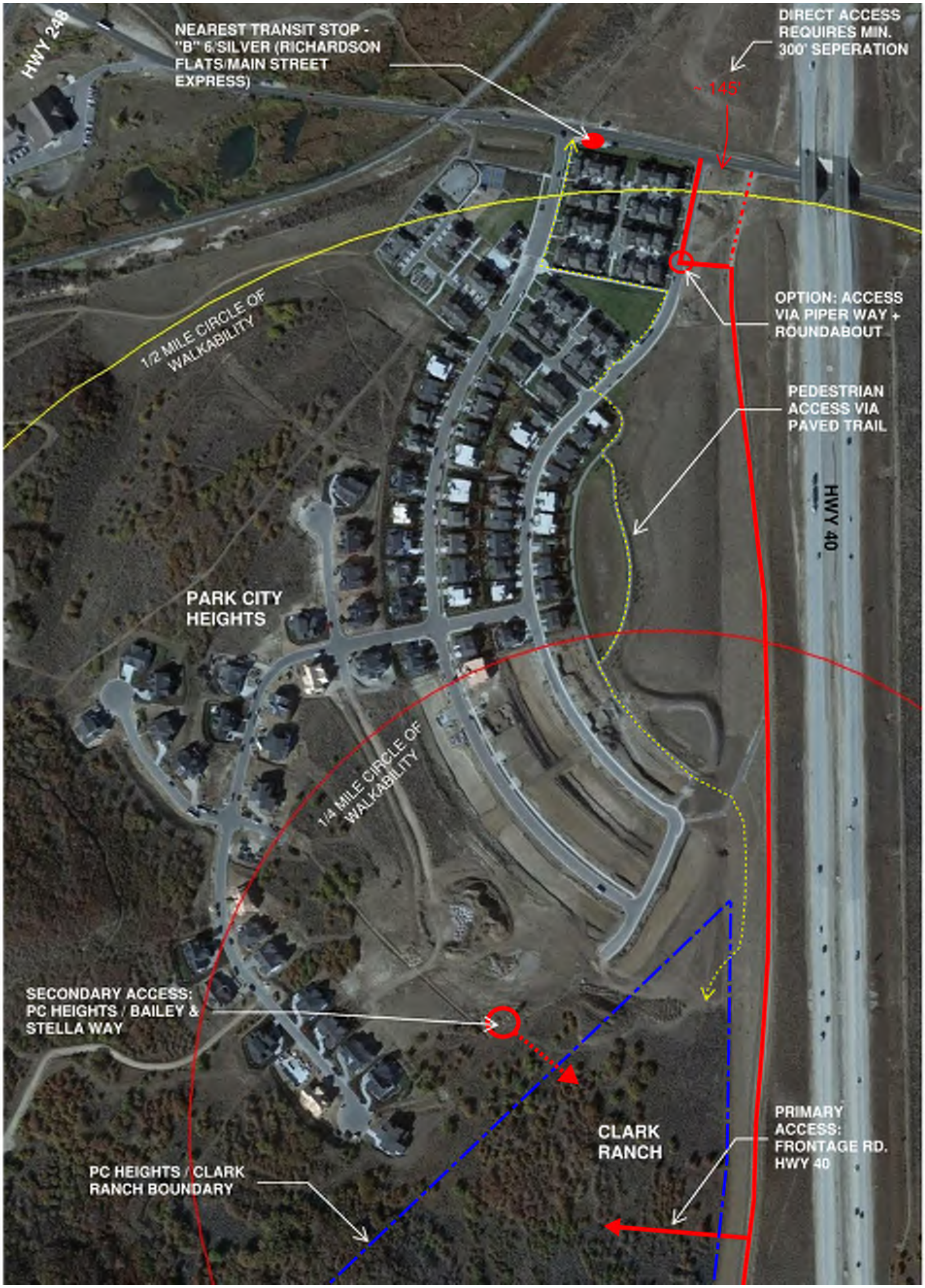


Illustration 10.1

Table 11.1.4.1(a) Required Number of Access Routes for Residential Areas

Number of Households	Number of Access Routes
0–100	1
101–600	2
>600	3

Fig. 11.1 - source National Fire Protection Assoc. (2022) Sect 1140- "Standard for Wild-land Fire Protection"

11.1.4.3 Where multiple means of access are required, one of the means of access shall be permitted to be restricted for emergency use only, when approved by the AHJ.

11.1.4.4 Where multiple means of access are required, they shall be located as remotely from each other as practical and acceptable to the AHJ.

Fig. 11.2 - source National Fire Protection Assoc. (2022)Sect 1140- "Standard for Wild-land Fire

connections should be located "as remotely from each other as practical".

Secondary access for the development was considered for both safety and functionality, and it was determined that a connection to the existing Park City Heights neighborhood directly to the north would be the most advantageous. Several provisions in the LMC provide for neighborhood connectivity. Section PCMC 15-7.3-4 (A)(1)(d) reads " Proposed Streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions, or unless in the opinion of the Planning Commission such an extension is not necessary for the coordination of the layout of the Subdivision with the existing layout or the most advantageous future Development of adjacent tracts." Additionally, PCMC 15-7.3-4 (A)(6) "CONSTRUCTION OF DEAD-END ROADS" provides guidelines for fire protection, convenience and efficient utilities by outlining the connections between adjacent developments.

Hoffman Law has conducted a background review and finds no evidence which would preclude development of a secondary connection to the existing planned streets in the Park City Heights neighborhood. There is a stub available for the Clark Ranch West property in the next phase of Park City Heights development, and the roads in the existing neighborhood are public.

illust. 11.3- source: Park City Planning Commission, Park City Heights Plat Map

Pedestrian / Bicycle Access

Pedestrian and bicycle access provide a slight challenge given the nature of the existing topography and distances to existing public transit infrastructure. The current north edge of the proposed CRW parcel lies approximately 1/2 mile from the transit stop for Park City heights. This is what is generally at the acceptable limit for walk-ability; especially considering the elevation gain / loss from the transit stop to CRW.

In discussions with Park City Staff, a combination of micro-transit, and paved walking/biking paths would be planned to connect the north end of the parcel with the existing trail, bus stop at PCH, and eventually the rail trail. A new transit stop for the development could be possible, and would need coordination with transit staff over the logistics.

The main Pedestrian connection would be via a paved 8' wide trail exiting the Clark Ranch Parcel on the Northeast end, connecting to the existing trails developed as part of the Park City Heights neighborhood. This path would have one road crossing in the Park City Heights development (Piper Way) and it is recommended further study to understand the current traffic volumes at this location. Several upgrades my be advantageous given the current volume of cars passing this location.

Within the plan for the development is a series of single track gravel and multiple use paved trails to be used for distinct pedestrian and bicycle movement between buildings. This provides two advantages; the first by decoupling the automobile traffic from the pedestrian, and second by providing alternative means of ascending and descending the natural slopes of the terrain at lower angles from the road grade with sidewalks adjacent to road.

Initial Traffic volume estimates

As preparation for the validity of our density studies, a simulated trip generation report was completed with analysis from Fehr & Peers traffic engineers. Fehr & Peers collected turning movement counts for a separate project at the SR-248 / Richardson Flat Road Intersection in January 2020. The 2020 counts at the intersection showed two-way volumes on Richardson Flat Road (east of SR-248) of 214 vehicles and 172 vehicles in the AM peak hour and PM Peak Hour, respectively. A high level assessment was performed to ascertain the peak hour trip generation on the Richardson Flat Road. The Roadway Level of Service was estimated based on planning level generalized peak hour two way volumes for roadway capacities.

Level of Service	Peak Hour Traffic Capacity Estimates
	2 Lanes
LOS B or better	≤ 1,098
LOS C	1,099 – 1,215
LOS D	> 1,215

Source: Fehr & Peers, based on FDOT Generalized Peak Hour Two-Way Volumes for developed areas less than 5,000 population, adjusted for non-state signalized roadway.

Fig. 13.1

As a generalized assessment, to preserve the existing Level of Service (LOS) B (or better), the different between the current Peak Hour Two way traffic Thresholds and the observed use from January 2020 is approximately 884 Peak hour two way trips – AM and 926 Peak hour two way trips - PM.

View-shed Corridors / Visual Impact analysis

As outlined in accordance with the “Sensitive Lands Overlay” (SLO) outlined in the Park City Land Management Code (LMC), the visual impacts have been evaluated to understand the areas of the CRW parcel which could hold the least invasive impact to the entry corridor along highway 40 and highway 248. Often considered the “back entrance” to Park City, this corridor is quickly becoming the front door for the increasing number of workers who migrated into town from the Heber valley and eastern summit county.

Along the approach coming south on highway 40, it’s obvious the west ridge of the parcel provides the most prominent visual landmark for the area. As one would expect, the closer you get to the subject parcel, the more prominent the lower slopes of the land area become. But, as vehicles become adjacent to the CRW study area, the lower grades on the Northeast tip become obscured by the elevated grade of the Highway 40 corridor. This reinforces the initial identification of the Northeast corner of the parcel to be the least invasive for development.

Illust. 14.1 - Clark Ranch West Parcel as viewed from Hwy 40 Southbound

Illust. 14.2 - Clark Ranch West Parcel as viewed from Hwy 40 Southbound; as you approach from the north

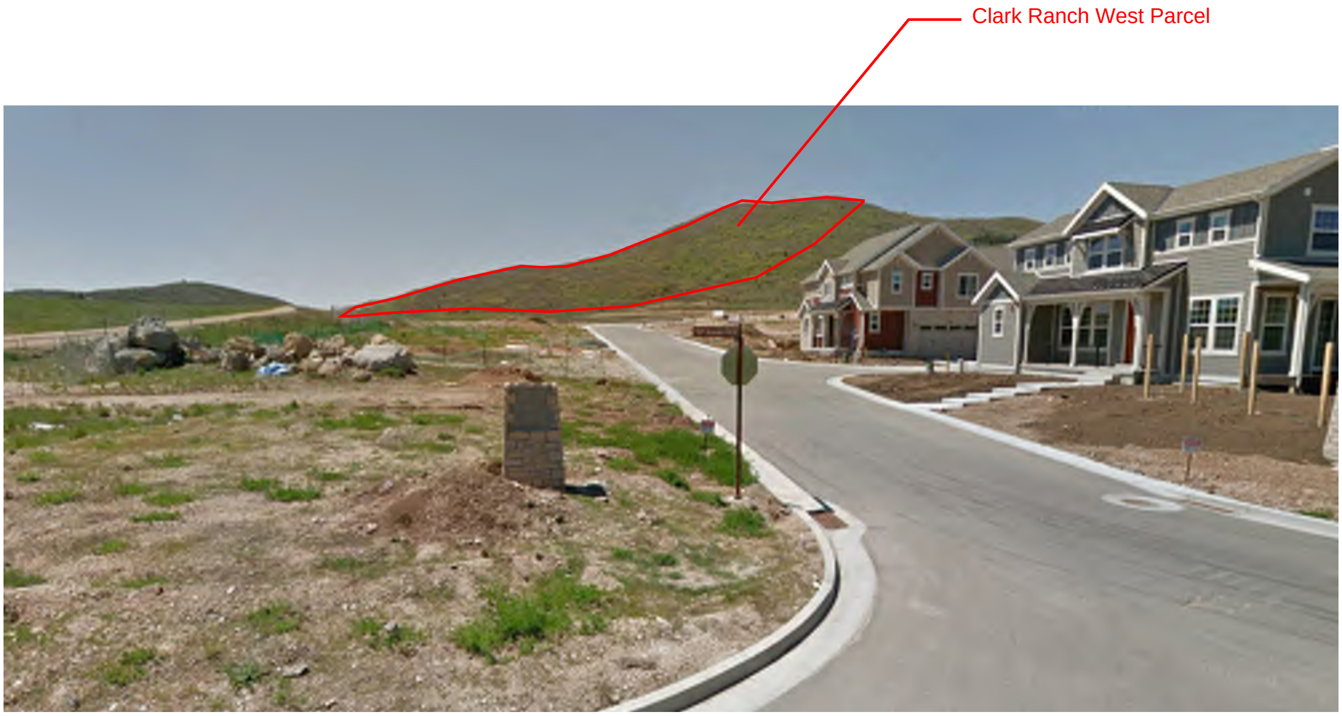
Illust. 14.3 - The Clark Ranch West Parcel s Northeast corner becomes obscured by the grading for HWY 40 in close proximity

As you approach traveling northbound on Highway 40 from the south, the topography makes a transition from a easterly slope to more Northeast facing slope. This transition in terrain obscures the view of the lowest most elevations on the parcel, which correspond to the same area in the northeast quadrant as identified by traveling in the southern direction.

As illustrated by the following illustrations, the lower Northeast corner of the site is the location of least visual impact from a variety of different locations in the vicinity.

Illust. 15.1 - The North portion of Clark Ranch West Parcel as viewed from HWY 248 near the Par k City Film Studios

Illust. 15.2 - The North portion of Clark Ranch West Parcel as viewed from the roundabout at the Park City Hospital



Illust. 16.1 - The North portion of Clark Ranch West Parcel as viewed from the intersection of Piper Way and Richardson Flat Road

Illust. 16.1 - The North portion of Clark Ranch West Parcel as viewed from the intersection of the rail-trail and Richardson Flat Road

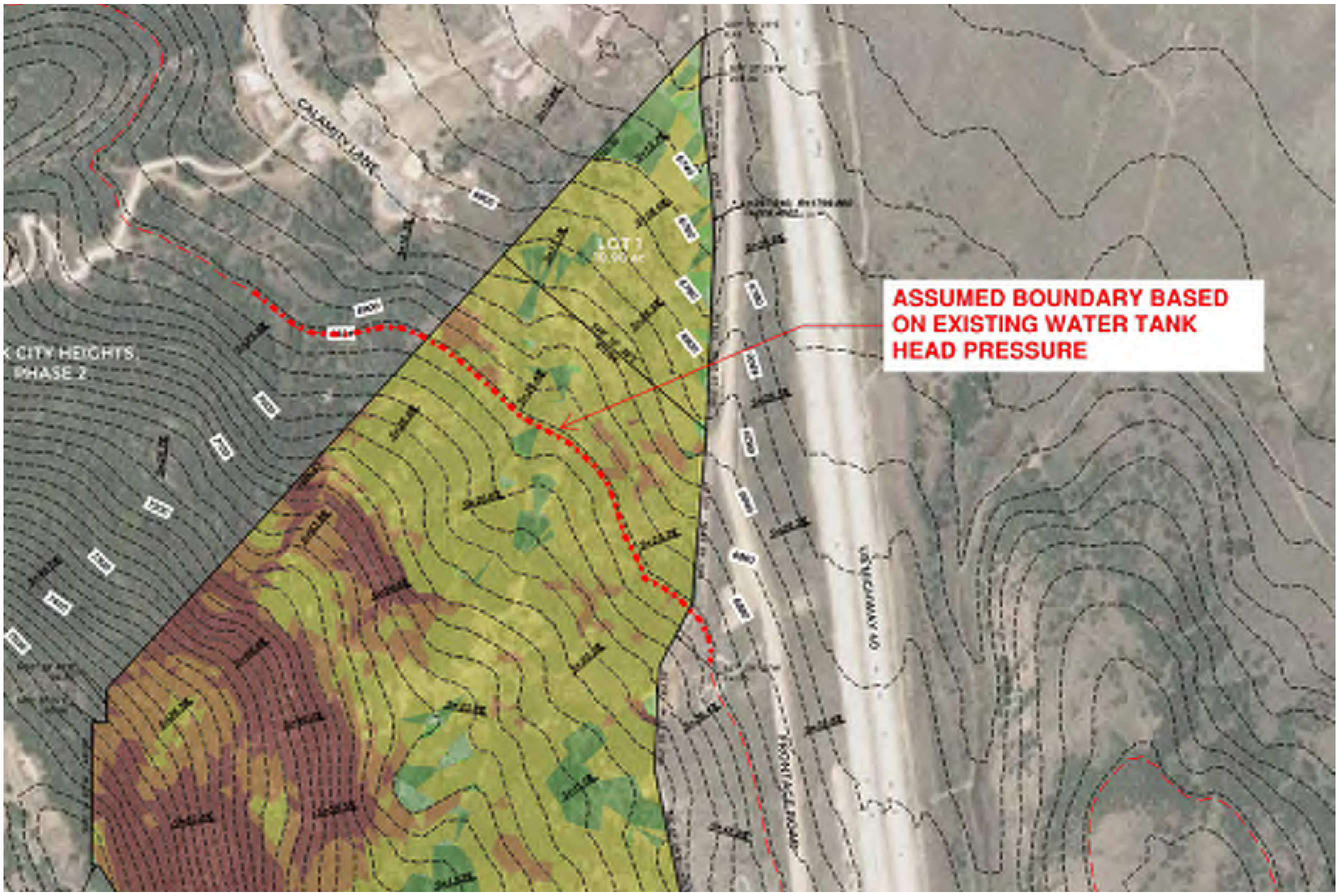
Utilities - Preliminary Assessment

Culinary water

The culinary water system is owned, operated, and maintained by Park City's Water Division. The Equivalent Residential Connection (ERC) is a unit of measurement that represents water demand per household. Utah Administrative Code: R309-510-7 defines peak day demand to be 800 gallons per day per ERC. Utah Administrative Code: R309-510-7 also provides guidance for outdoor irrigation demand. The proposed Clark Ranch Development is located in Map Zone 2 for "Low" Normal Annual Effective Precipitation. The corresponding irrigation demand per Table 510-3 is 2.8 gpm per irrigated acre Water access to the site is through the city's municipal water supply. The current holding tank located above and directly west of Park City Heights would be the supply branch to service any new development in the Clark Ranch Area. Currently, an existing 2,000,000-gallon storage tank services Park City Heights. The existing elevation of the storage tank is at elevation 7,017 feet. To maintain a minimum service pressure of 40 psi without booster pumps, the development of Clark Ranch may not exceed an elevation of 6917.' The proposed culinary water system for Clark Ranch will connect to an assumed 8"

Illust. 17.1 - Conceptual Water Connection layout

stub off the cul-de-sac of Calamity Lane in Phase 5 of Park City Heights. From the connection in the Calamity Lane, the proposed culinary water runs 2,331 linear feet of 10″ C-900 PVC pipe the entire length of the new roadway, reconnecting at an intersection of the new road to provide a water loop. The development also requires a pressure reducing valve station to mitigate high water pressure due to elevation drop in the new water system.



Illust. 18.1 - Assumed boundary based on existing water tank head pressure

Sanitary Sewer

Talisman Civil Consultants estimates that the Clark Ranch Development will require approximately 2,300 linear feet of 8″ SDR-35 PVC pipe. See Exhibit 1 in the Appendix. The proposed sanitary sewer infrastructure will connect to existing manhole #23 and run the length of Piper Way in Park City Heights. See Figure 2 below. The conveyance system would ultimately direct wastewater flow to the Silver Creek Water Reclamation Facility where it is treated and returned to Silver Creek before eventually flowing to Echo Reservoir. According to discussions with SBWRD, the existing sewer line between manholes #58 and #59 limits the available capacity at 54.3 gpm. The existing sewer system has enough capacity to serve 229 units without requiring upgrades to the existing infrastructure. If the Clark Ranch Development were to build greater than the baseline of 229 units, the existing sewer line between manholes #8 to #58 to #59 must be upsized from an 8″ pipe to a 12″ pipe. Improvements to the sewer line between manhole #8 and #40 require special attention. The existing sewer line is shallow in slope and also makes an aerial crossing over a natural waterway which will complicate design solutions.

Illust. 19.1 - Existing Sanitary Sewer map for the Park City Heights Development

Storm-water Management

The Park City Storm-water Management Program and the Park City Storm-water Drainage Design Manual dictates the parameters used to evaluate requirements for the Clark Ranch storm drain system. Important design parameters from these documents include but are not limited to:

- Pipe shall be designed to convey the 10-year storm recurrence interval
- Detention ponds shall be designed for the 100-year storm recurrence interval
- The allowable post-development discharge rate must be less than or equal to the pre-development discharge rate
- The minimum storm drain pipe diameter shall be 15"
- The source for precipitation data is NOAA Atlas 14

As of July 1st, 2020, the Utah Division of Water Quality has implemented a requirement to retain and infiltrate the 80th percentile storm event for new development projects that disturb greater than or equal to 1 acre. The 80th percentile storm depth for Park City is approximately 0.47".

Preliminary Soils Evaluation

A custom soil resource map for the CRW project area was included as part of a larger soils study on the adjacent Park City Heights project. As identified in the report, the majority of the soil consists of Loam/Clay/Cobbly Loam / Stony Loam – clay. The general depth to restrictive soils formation (Lithic Bedrock) was identified as 40"-60", with locally variable differences.
Although a complete Geotechnical report of the soils for this parcel has not been conducted, the data from the adjacent parcel for Park City Heights identified the following characteristics:

"The subsurface sequence generally consists of surficial clays underlain by clayey gravels with some sands and generally occasional cobbles. The clays generally extend to depths ranging from 2.5 – 9.5 feet….are moderately to highly plastic. These soils exhibit high expansive characteristics." Topsoil has been identified as 6"-12", containing major roots and organic materials…. Clays below the loose surface zone exhibit moderate strength and compressibility characteristics….Bedrock appears to consist of quartzite with relatively high strength and low compressibility characteristics."

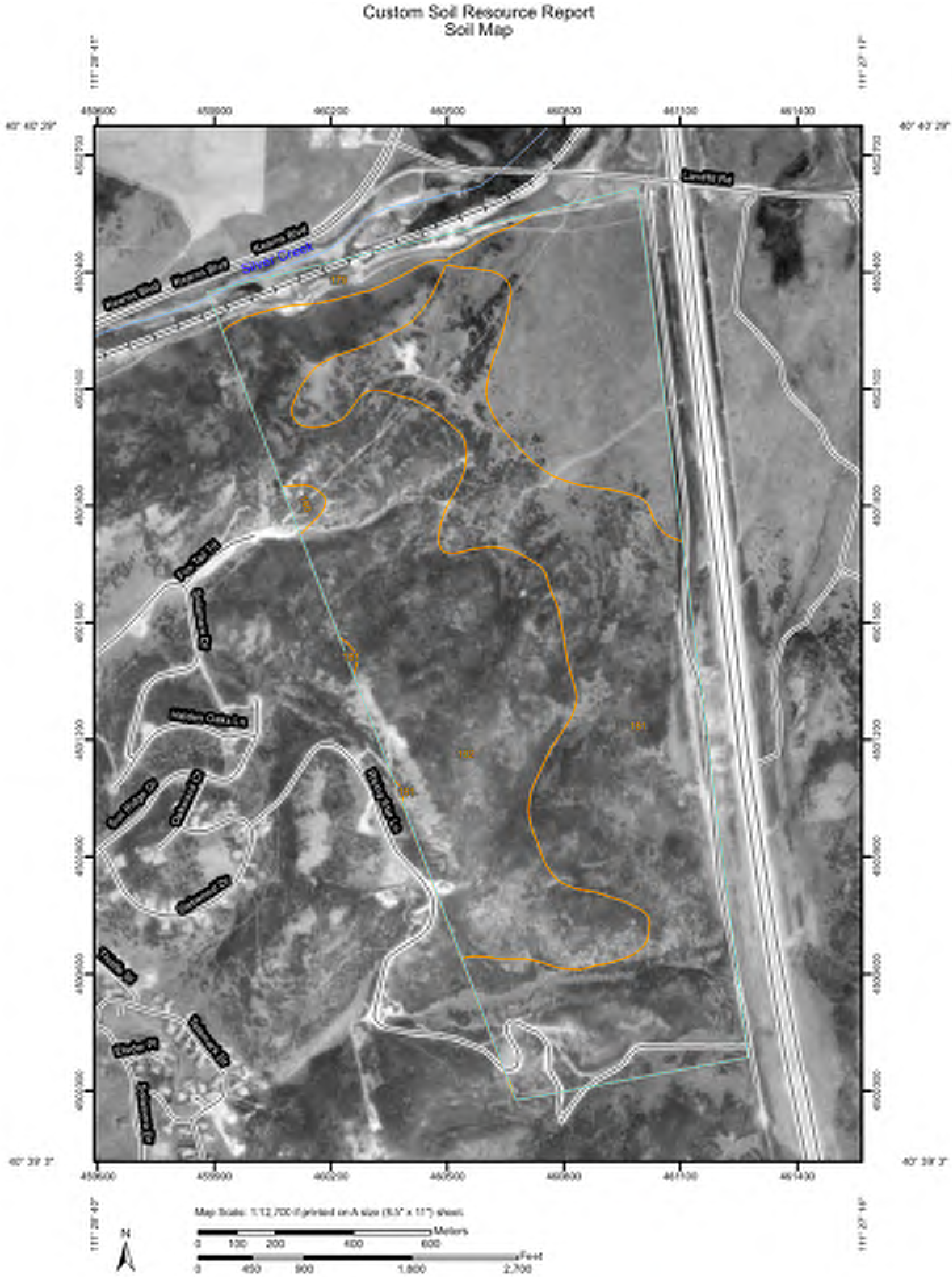
A full copy of the preliminary soils investigations are available in appendix H.

As of this study, no evidence has been found of significant soils contamination. The CLR parcel lies outside of the established Park City Soils Remediation boundary. It should be noted further exploration of development should include a soils management plan. The plan would need to be coordinated with the soils management team at Park City Municipal Corporation, and include, as a first step, a coordinated testing protocol which follows the established method outlined by the city.

Map Unit Legend

Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties (UT613)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
179	Wanship-Kovich loams, 0 to 3 percent slopes	14.8	3.1%
180	Yeates Hollow-Henefer complex, 3 to 15 percent slopes	2.1	0.4%
181	Yeates Hollow-Henefer complex, 15 to 30 percent slopes	205.3	42.9%
182	Yeates Hollow-Henefer complex, 30 to 60 percent slopes	256.9	53.6%
Totals for Area of Interest		**479.1**	**100.0%**

Fig. 20.1-Major soils composition for the Clark Ranch West Parcel Source: "Custom Soil Resource Report for ...Park City heights Soil Survey", 01/2011, USDA / Natural Resources Conservation Service



Illust. 21.1 - map illustrating the major soils composition for the Clark Ranch West Parcel; Source: "Custom Soil Resource Report for ...Park City heights Soil Survey", 01/2011, USDA / Natural Resources Conservation Service

Environmental Analysis / Hazardous assessment

The property consists of currently undeveloped lands adjacent to other residential developments and transportation infrastructure. Ground cover on the property consists mainly of grasses, sagebrush, gamble oak and small clusterings of Pine near the ridge on the far west side. The existing use of the property is primarily open space, with a small collection of trails which traverse the upper portions (west side) of the study parcel.

The primary historical use of the property has been for livestock grazing for 3 to 4 generations. The property was originally owned by the Clark family, and subsequently purchased by the Gilmor family around the 1940's, who had previously leased the property for their livestock operations.

General indications and research suggest no direct contamination could be anticipated from the site (The Clark Ranch West Parcel). Although the Clark Ranch Conservation Resources Inventory mentions a EPA Phase 1 Environmental Assessment from 2015 (by Kleinfelder) for the Clark Ranch parcels, a grama request to Park City Municipal produced no results. The Conservation Resources Inventory makes mention of reported higher than normal lead levels (pg 9), and mentions the proximity is "... located directly south of the Richardson Flats Tailings facility..." Therefore, it is assumed this is in reference to the east parcel of the Ranch. It should be of note, the western parcel, due to its proximity of the property to the Richardson Flat tailings site as well as to the Park City Heights (with historical slurry transfer ditch containing trace tailings as well as lead containing soil and cement debris), a site specific Phase I environmental site assessment should be conducted prior to any anticipated development.

Wildlife – Due to the encroaching infrastructure, the potential for wildlife habitat fragmentation is high. The Clark Ranch Conservation Resources inventory lists the parcels as a migratory area for Mule deer, Elk, and Moose. It is also listed as a potential habitat for Sage grouse, which is listed as a "Species of Concern" by the BLM and US Forest service. Although the last documented sighting of the Greater Sage Grouse is listed as 2008. It is recommended that any development be clustered to reduce habitat fragmentation, although encroachment of development to natural habitats is always a threat to the existing wildlife using the parcel. It is recommended the city "closely manage and regulate" the areas where domestic dogs may be off leash, and "actively develop" trail connectivity and discourage rouge trails from old trails and road cuts. (Wheeler, Morris and Coles-Ritchie, "Clark Ranch Conservation Resources inventory" 2015)

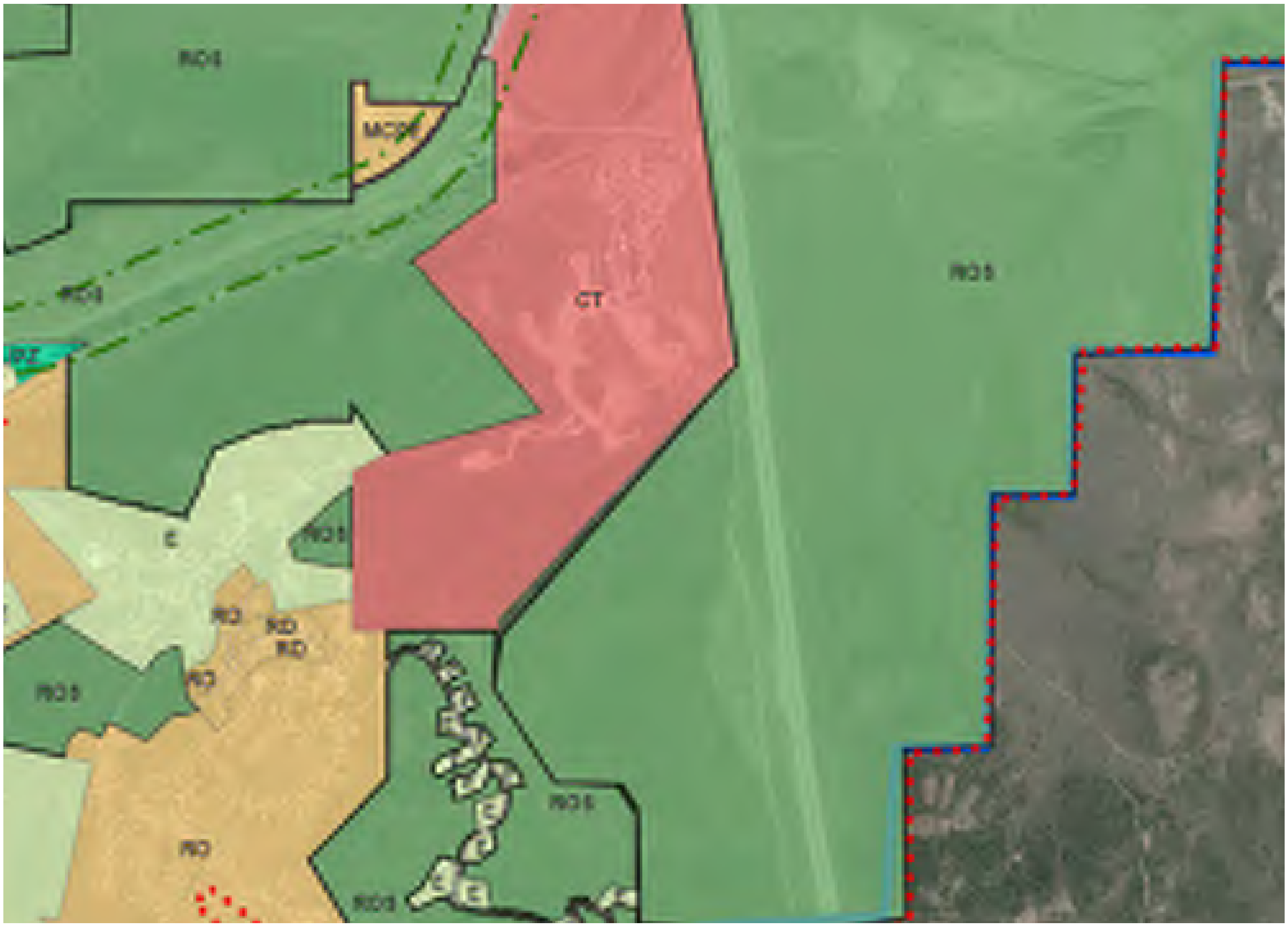
Vegetation – Similar threats to the native vegetation exist in parallel to those of the wildlife threats. A secondary consideration is the potential spread of noxious weeds, which can be exacerbated by grubbing, clearing and excavation activities.

Historical Analysis

There are currently no historical structures or significant sites listed on the Clark Ranch open space parcels on file with the park city planning department. The historical uses of the property include use as grazing grounds for livestock and a dairy farm operated by the Clark Family for 3 to 4 generations prior to the purchase of the property by the Gilmor Family in the early 1940's. There are mention of existing concrete slabs on the east parcel, remnants of the structures associated with the dairy barn and farm structures prior to the 1940's.

Current Zoning & LMC assessment

The Park City "Clark Ranch" property on the west side of Highway 40 is comprised of 2 parcels of roughly equal size, totaling over 250 acres, in the Recreation Open Space (ROS) zone (the "Clark Ranch West parcels"). The ROS zone does not allow for any residential uses and is not compatible with the Affordable Master Planned Development (AMPD) provisions in the Park City Code. Any affordable project on this property would need to be re-zoned to a zone that is compatible with the AMPD provisions or utilize an entirely new zone.



Illust. 23.1 - map illustrating the current zoning district for Clark Ranch West Parcel; Source: Park City Planning Department map gallery

Our team has developed 3 different density and site plan layouts, all of which can be accommodated through the existing AMPD process, once the subject property is re-zoned to an underlying zone that allows for the AMPD process. Any specific issues or requested changes to the AMPD provisions can be effectuated via a text amendment to the AMPD requirements. For example, in the layouts provided by our team that utilize a more dense, multi-family concept, the "10-foot step back" requirements that then allow an applicant to "earn" a maximum height of 45 feet for a given building could be removed or amended through a text amendment for projects with at least 90-95% open space. Due to the unique nature and sheer size of this property, the City could tailor the amendments to the AMPD process to impact only this project, or to incentive well-clustered, affordable housing projects on the perimeter of ROS zoned land within the City. The most accommodating zone for this project is the Residential Multiple (RM) zone. It provides the most regulatory flexibility for a clustered, affordable, development.

The entitlements process we envision for development of the property into a viable affordable housing project would involve at least sixteen steps, in the following general sequence: (1) Council's decision to include of one or both of the Clark Ranch West parcels in the proposed project (a total project size of roughly 125 acres if one parcel is included, or 250+ acres, if both parcels are included); (2) Council's initial decision regarding proposed subsidies for the affordable components of the project; (3) the selection of a private development partner who would serve as the project applicant; (4) negotiation and memorialization of the terms of a public/private partnership (Public/Private Partnership Agreement); (5) further refinement of project parameters with input from the private partner; (6) staff review, input, and eventual endorsement; (7) negotiate and draft an initial Development Agreement as a condition of rezoning to constrain the proposal to the negotiated configuration, design, cost, construction timing, and density, (8) Planning Commission review and recommendation to rezone and AMPD to correspond to the Development Agreement; (9) modification of the project based on Planning Commission input; (10) Council input and ultimate rezone, subject to the Development Agreement; (11) as the LMC currently reads, a likely a second AMPD Development Agreement within six (6) months of the Planning Commission's approval of the AMPD; (12) a Development Improvement Agreement, infrastructure assurance, and recordation of affordable housing deed restrictions; (13) horizontal infrastructure installation; (14) vertical construction; (15) selection of qualified tenants; and (16) occupancy. This sequencing analysis assumes no text amendments to streamline the process to assure maximum public participation and scrutiny.

Once the initial Development Agreement has been negotiated with the chosen private developer, and the parcel has been rezoned to an accommodating zone, the applicant would then pursue an AMPD process with the Planning Commission to effectuate the disturbance of, and development on, only +/- 12 acres in the northeastern most portion of the property, with the remainder of the property (110 - 238+ acres) fully deed restricted as open space. This process ensures that a portion of the property can be developed as affordable housing, with most (90-95%) of the Clark Ranch West parcels remaining as open space.

Illust. 25.1 - one option for access to the Clark Ranch West parcel. Source: Talisman Civil

The road layout developed as part of option A includes a balance of cut and fill operations, while selecting the most efficient and effective circulation option. This option allows the project to be phased, with the lower section of the road to be completed first, and the potential to be built out completely before the upper phase 2 is added. All of the slopes are compatible with the utility infrastructure, while maintaining lower slopes to the road sections providing slightly more linear road distances for the location of residential units.

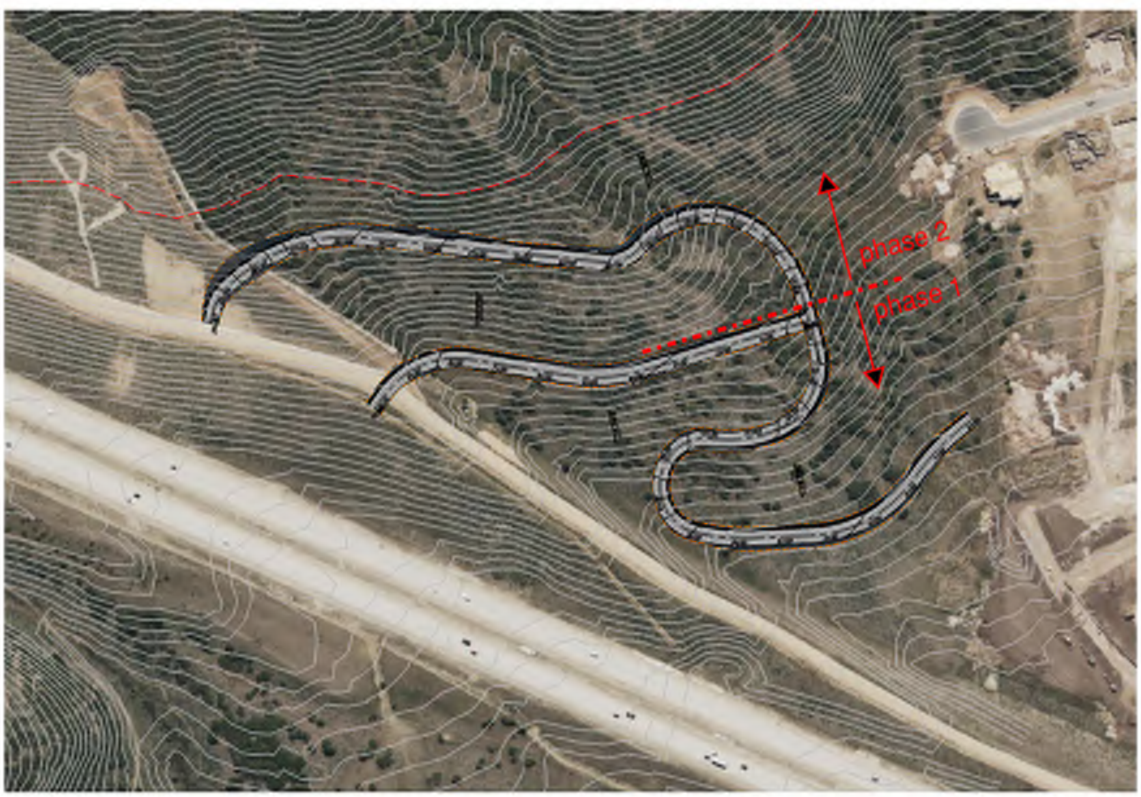
site circulation option A

Illust. 26.1 - second option for access to the Clark Ranch West parcel. Source: Talisman Civil

The road layout for option B looks to reduce the amount of overall site retain-age, while striking a balance between cut and fill operations. Due to the increased grading which happens at each road intersections, this option simplifies the connection and grading at the intersection of the middle access road. All of the slopes are compatible with the utility infrastructure. There is an increase in the linear distance to which this layout runs perpendicular with the topography, which slightly limits the street frontage available for the location of residential units.

site circulation option B

Illust. 27.1 - phasing illustration for the selected road layout Source: Talisman Civil



Illust. 27.2 - phasing illustration for the selected road layout Source: Talisman Civil

Part II - Conceptual Density Plan Proposals & Evaluation

Concept Density Plans

Illust. 29.1 - Illustration of the town-home unit typologies as part of the overall site design (stereotomic)

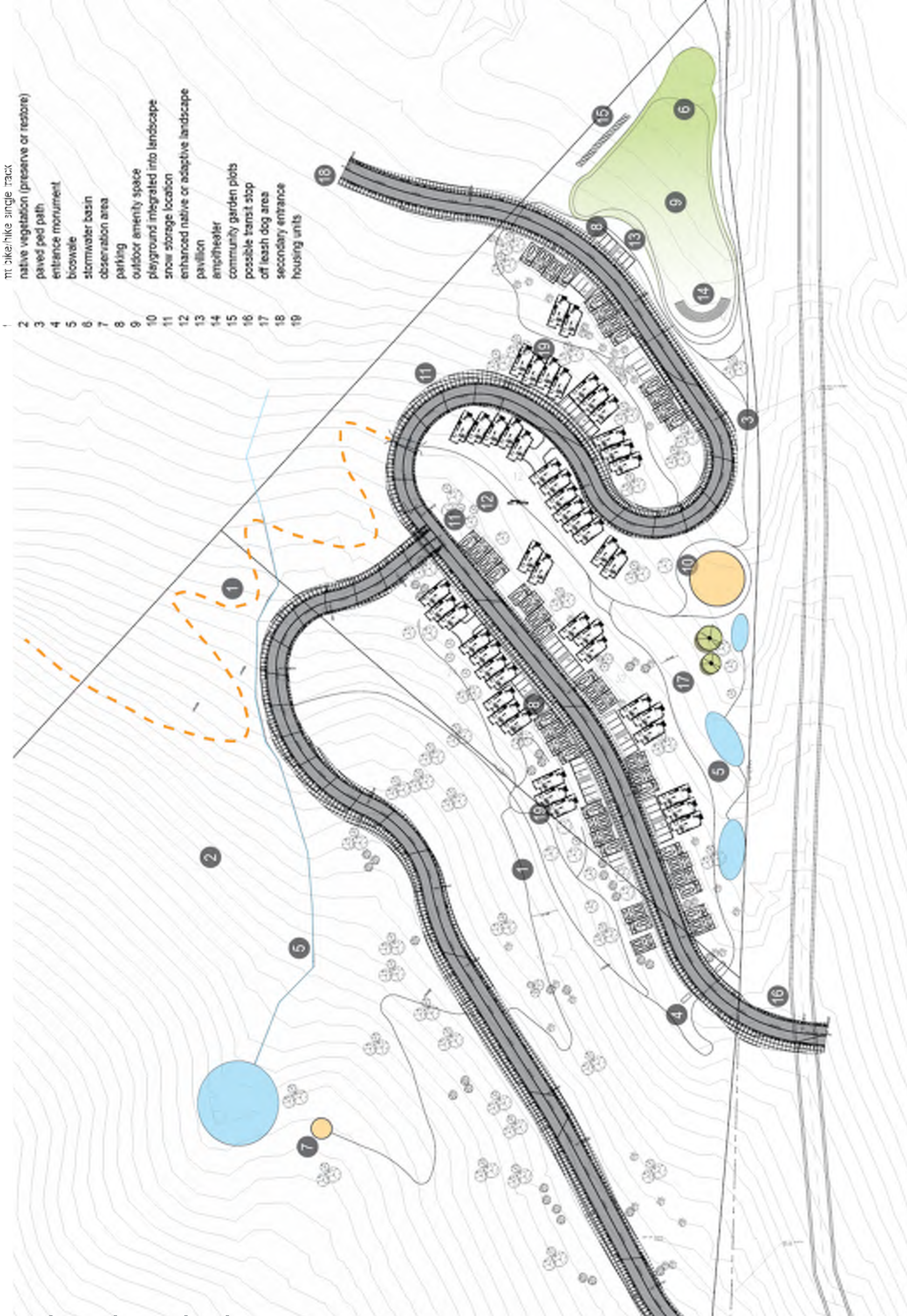
Density Option 1

The first density option plan proposes to provide a bridge between the single family & cottage typologies of the adjoining Park City Heights Development. The 90 Units proposed in this option represent the least dense option; which utilizes only a fraction of the capacity the existing infrastructure. The material and massing represent a unique approach which upholding the existing character of Park City. While providing a human centric focus to increased density, the row of town-homes is moderately spaced along the minimal road access being conscious and working in harmony with the steep topography. The overall character of the site and inherent characteristics of the parcels drive the

illust. 30.1 - conceptual visualization of the town-homes typology with shared entry access. The open areas between the units provide a unique approach to walk-ability by decoupling the pedestrian paths from the roadways. (Stereotomic)

Illust. 31.1 - Conceptual visualization of the smaller scale town homes with shared entry and shared parking as part of the overall plan. Shared open spaces allow generous access to the natural landscape and promote a sense of community (Stereotomic)

design to be sensitive to the existing open space by clustering the development to the lower north east corner of the site. The major constraints (topography, access, infrastructure and visual impact) drive the overall layout. Units are stretched along the existing topography, and provide much of the retaining necessary to install the roadways. This allows abundant green-space and pedestrian trails to weave in and out of the units, provide visual and audible access in close proximity to all units.



Density Option 1 - site plan

illust. 32.1 - (Stereotomic)

Illust. 33.1 - conceptual images to illustrate the option of public park / gathering spaces which double as retention pond areas - public art benches and / or amphitheater options

illust. 33.2

Simplified road layouts and amplifying infrastructure to double as outdoor amenity spaces work to nestle the development deep into the natural fabric of the lots. By utilizing the topography to define the characteristics of the development, a unique, park city centric design emerges to embrace what it means to live efficiently in the mountain west.

While this option is test fit across phase I of the development, phase 2 could be developed to provide additional units or used to reduce the developed area density by dispursing 90 units across both phase I and phase II.

The total density (90 units total, 0.72 units / acre) make the least efficient use of the carrying capacity of the site (culinary & wastewater capacities) with a trade-off of lower overall budget to construct, and the least overall scale of the massings.

illust. 34.1

illust. 34.2 - conceptual images to illustrate the option of public park / gathering spaces which double as retention pond areas - public art benches and / or amphitheater options Source: Stereotomic Arch & Design

illust. 35.1 - east view of the massing as it relates to the lower hillside (Stereotomic)

illust. 35.2 - south birdseye view looking north east towards the junction of hwy 248 & hwy 40 (Stereotomic)

illust. 36.1 - West view of the massing as it relates to the lower hillside (Stereotomic)

illust. 36.2 - north birdseye view looking south along hwy 40 (Stereotomic)

Density Option 1 Statistics

Density	**Unit size (SF)**	# of units		Units per acre	0.72	
Parcels		acre				
PC-SS-121-X	5455377	124.98				
	0					
Open Space		112		89.6%		
Developed area		12.98		10.4%	6.9	
	5,455,377	124.98		**124.98**		
Units total					**90**	
Parking total (req'd)					**115**	
Total F/A/R					**0.02**	
Open Space						
Unit distribution					***PARKING PER MPD**	****PARKING PER AMPD**
MF Units			**SF subtotal**			
studio	400	0	0	0%	0.0	0
1 bdr	600	0	0	0%	0.0	0
2 bdr	900	0	0	0%	0.0	0.5
3 bdr	1100	0	0	0%	0.0	1
bldg units		**0**				
bldg park required					**0**	**2**
bldg park provided						
Townhome units						
3+ bdr	1800	5	9000	6%	5	0
1 bdr	900	30	27000	33%	30	0
2 bdr	1300	30	39000	33%	30	0.5
3 bdr	1600	25	40000	28%	50	1
bldg units		**90**				
bldg park required					**115**	**2**
bldg park provided						
Total Residential		**90**	**115,000.00** SF		**115**	**3**
Commerical			**0** SF		**0**	**0**
Total SF			**115,000**			
Max F/A/R					**5,455,377**	**124,681**
					5,340,377	**9,681**
Total Parking, Req'd					**115**	**3**
Total Parking, Potential					**0**	**0**
Total F/A/R			**0.02**			

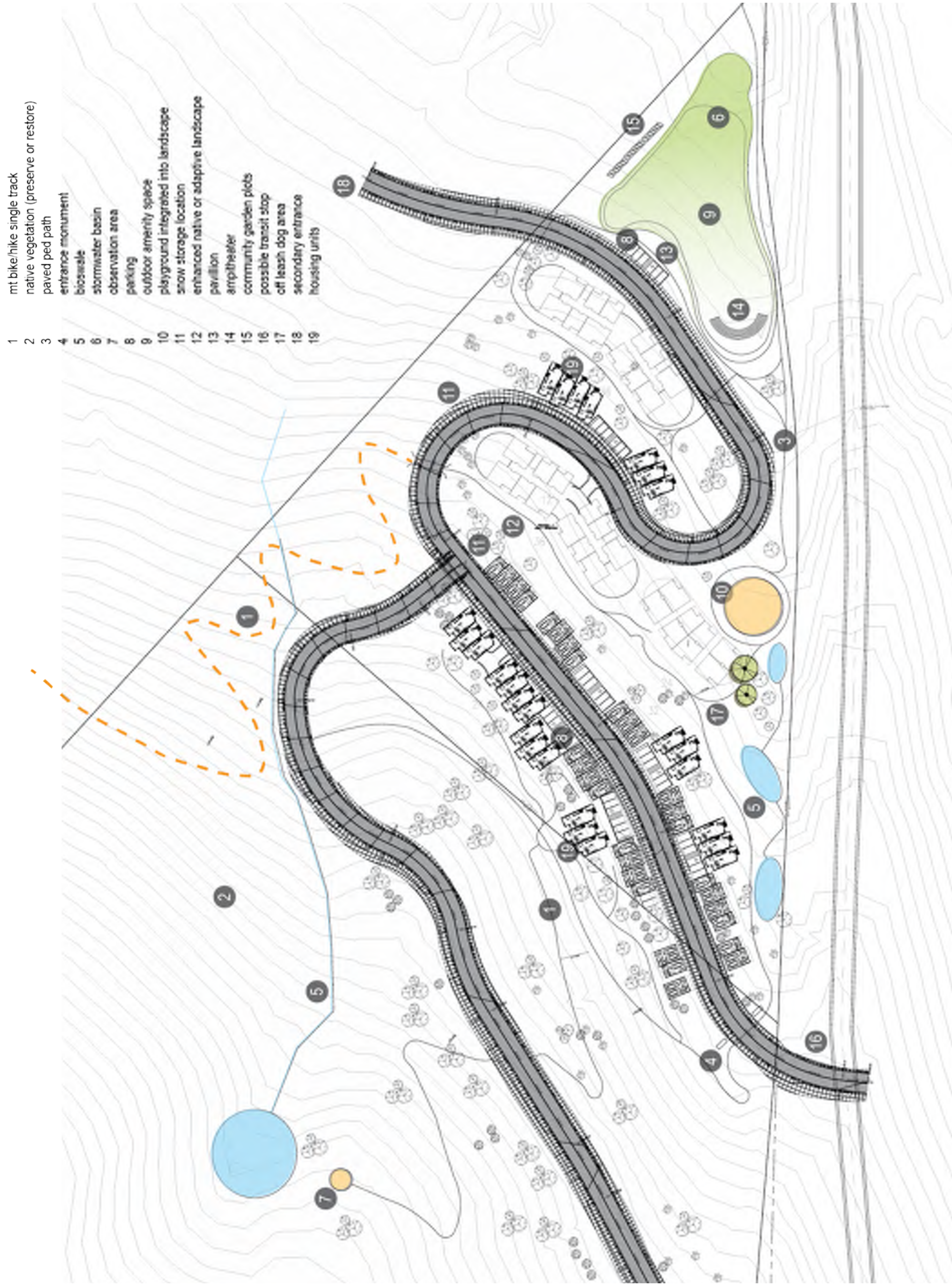
Preliminary Budget	$ / sf		Per Unit Avg
	450	**$51,750,000.00**	**$575,000.00**
	350	**$40,250,000.00**	**$447,222.22**

fig. 37.1 - (Stereotomic)

Alternative Density Option 2

Alternative option 2 explores an increase in centralized massing as a means to soften the increase in the overall number of total units . This option holds the potential to reduce the overall vertical construction costs through increased efficiency with units clustered into larger massing of 3 multifamily, stacked flat units. In exchange for the increase in massing, the larger massed units are limited to the lowest elevation, Northeast corner of the site which has the least overall visual impact.

illust. 38.1 (Stereotomic)



Alternative Density Option 2 - site plan

illust. 39.1 (Stereotomic)

The second option in this feasibility plan provides 150 units, consisting of both town-home units and stacked flat units. The Stacked flats would be constructed of 3 stories or less above ground, with the potential for structured parking on the lowest level which could be contained fully subterranean. This unit yield is currently distributed across the first phase of the road layout, and a phase II could provide either an increase in units or spread the units out over a larger land area. The overall character of the site and inherent characteristics of the parcels drive the design to be sensitive to the existing open space by clustering the development to the lower north east corner of the site. The major constraints (topography, access, infrastructure and visual impact) drive the overall layout. Units are stretched along the existing topography, and provide much of the retaining necessary to install the roadways. This allows abundant green-space and pedestrian trails to weave in and out of the units, provide visual and audible access in close proximity to all units.

While this option is test fit across phase I of the development, phase 2 could be developed to provide additional units or used to reduce the developed area density by dispursing the total (150) units across both phase I and phase II.

illust. 40.1 - conceptual visualization of the medium scale multifamily structures with shared entry and shared parking. (Stereotomic)

illust. 41.1 - The larger units of stacked flats occupy the lowest, North east corner of the sight with the least visual impact on the community. (Stereotomic)

illust. 42.1 - West view of the massing as it relates to the lower hillside (Stereotomic)

illust. 42.2 - north birdseye view looking south along hwy 40 (Stereotomic)

illust. 43.1 - east view of the massing as it relates to the lower hillside (Stereotomic)

illust. 43.2 - south birdseye view looking north east towards the junction of hwy 248 & hwy 40 (Stereotomic)

Alternative Density Option 2 Statistics

Density	**Unit size (SF)**	# of units		Units per acre	**1.20**	
Parcels		acre				
PC-SS-121-X	5455377	124.98				
	0					
Open Space		112		89.6%		
Developed area		12.98		10.4%	11.6	
	5,455,377	124.98		**124.98**		
Units total					**150**	
Parking total (req'd)					**163**	
Total F/A/R					**0.03**	
Open Space						
Unit distribution					***PARKING PER MPD**	****PARKING PER AMPD**
MF / stacked flat Units			**SF subtotal**			
studio	400	9	3600	9%	9.0	0
1 bdr	600	35	21000	37%	35.0	0
2 bdr	900	35	31500	37%	35.0	0.5
3 bdr	1100	16	17600	17%	24.0	1
bldg units		**95**				
bldg park required					**103**	**2**
bldg park provided						
Townhome Units						
3+ bdr	1800	10	18000	18%	10	0
1 bdr	900	20	18000	36%	20	0
2 bdr	1300	20	26000	36%	20	0.5
3 bdr	1600	5	8000	9%	10	1
bldg units		**55**				
bldg park required					**60**	**2**
bldg park provided						
Total Residential		**150**	**143,700.00** SF		**163**	**3**
Commerical			**0** SF		**0**	**0**
Total SF			**143,700**			
Max F/A/R					**5,455,377**	**124,681**
					5,311,677	**-19,019**
Total Parking, Req'd					**163**	**3**
Total Parking, Potential					**0**	**0**
Total F/A/R			**0.03**			

Preliminary Budget	$ / sf		Per Unit Avg
	450	**$64,665,000.00**	**$431,100.00**
	350	**$50,295,000.00**	**$335,300.00**

fig. 44.1 - (Stereotomic)

Alternative Density Option 3

Density Option 3 provides a smaller scale alternative to increased unit counts. Spreading and staggering the units across the land, while stepping the massing complimentary with the landscape, allows a reduction in the overall massing while occupying a higher percentage of the overall developable area. The unit typology is a morphed version of the standard stacked flats typology. While the overall number of units is increased to 230 total units, the majority of the units are smaller in scale and area. The overall massing of the units and the amount of relief in the massing is increased to minimize the scale of the visual impact. This option may have the highest upfront cost to develop, it would be more financially effective, as it is assumed this unit type will generally be more cost effective to build.

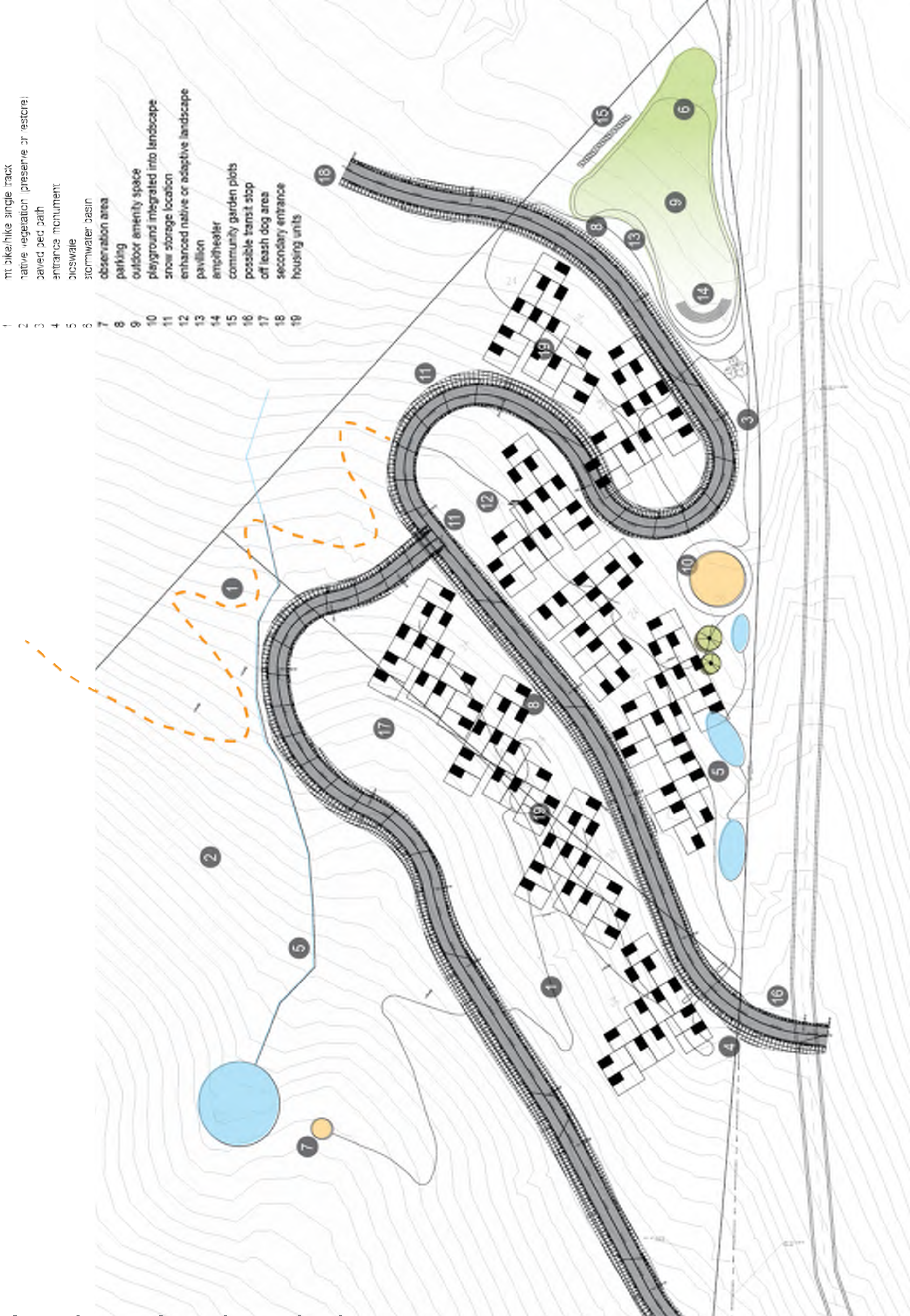
illust. 45.1 - (Stereotomic)

Several optimization strategies could be used within this scheme to not only increase the overall energy efficiency, but significantly offset the carbon footprint. Shared, or chained, heating/cooling systems utilizing a ground source heat exchange system hold the potential to decrease the overall energy use by up to 50%. Prefabricated elements could be used to lower the overall cost to produce, as well as minimize the time to erect on site. The massings for this option would be limited to generally 2 stories or less, and offset with the topography to lower the overall footprint.

This option incorporates both Phase I & Phase II of road development. Access to the upper portions of the residential units would be required for adequate fire protection access.

illust. 46.1 - conceptual visualization of the scale of the multifamily structures with shared entry and shared parking. The low profile structures with shared open areas between the units provide a unique approach to walk-ability and close access to nature. (stereotomic)

illust. 47.1 - Conceptual visualization of the smaller scale express of the increased density, 230 units total. (stereotomic)



Alternative Density Option 3 - site plan

illust. 48.1 - (Stereotomic)

illust. 49.1 - east view of the massing as it relates to the lower hillside (Stereotomic)

illust. 49.2 - south birdseye view looking north east towards the junction of hwy 248 & hwy 40 (Stereotomic)

illust. 50.1 - West view of the massing as it relates to the lower hillside (Stereotomic)

illust. 50.2- north birdseye view looking south along hwy 40 (Stereotomic)

Alternative Density Option 3 Statistics

Density	**Unit size (SF)**	# of units		Units per acre	**1.84**	
Parcels		acre				
PC-SS-121-X	5455377	124.98				
	0					
Open Space		112		89.6%		
Developed area		12.98		10.4%	17.7	
	5,455,377	124.98		**124.98**		
Units total					**230**	
Parking total (req'd)					**265**	
Total F/A/R					**0.04**	
Open Space						
Unit distribution					***PARKING PER MPD**	****PARKING PER AMPD**
BLDG - Stacked Flats			**SF subtotal**			
studio	400	20	8000	11%	20.0	0
1 bdr	600	65	39000	35%	65.0	0
2 bdr	900	60	54000	32%	60.0	0.5
3 bdr	1100	40	44000	22%	60.0	1
bldg units		**185**				
bldg park required					**205**	**2**
bldg park provided						
BLDG - Townhomes						
MF Units	1800	0	0	0%	0	0
1 bdr	900	15	13500	33%	15	0
2 bdr	1300	15	19500	33%	15	0.5
3 bdr	1600	15	24000	33%	30	1
bldg units		**45**				
bldg park required					**60**	**2**
bldg park provided						
Total Residential		**230**	**202,000.00** SF		**265**	**3**
Commerical			**0** SF		**0**	**0**
Total SF			**202,000**			
Max F/A/R					**5,455,377**	**124,681**
					5,253,377	**-77,319**
Total Parking, Req'd					**265**	**3**
Total Parking, Potential					**0**	**0**
Total F/A/R			**0.04**			

Preliminary Budget	$ / sf		Per Unit Avg
	450	**$90,900,000.00**	**$395,217.39**
	350	**$70,700,000.00**	**$307,391.30**

fig. 51.1 - (Stereotomic)

Density Option Comparisons

To frame the scale of each density option presented as part of the study, two distinct precedents have been analyzed, to provide a context to the proposed density relative scale. The Kings Crown development adjacent to Park City Mountain Resort was selected based on the similarity to the sloped topography to Clark Ranch West as well as the moderate density. Park City Heights was selected

KINGS CROWN - 2019

illust. 52.1 - (https://www.parkcitykingscrown.com/

PARK CITY HEIGHTS - 2013

illust. 52.2- (https://ivoryhomes.com/community-details/)

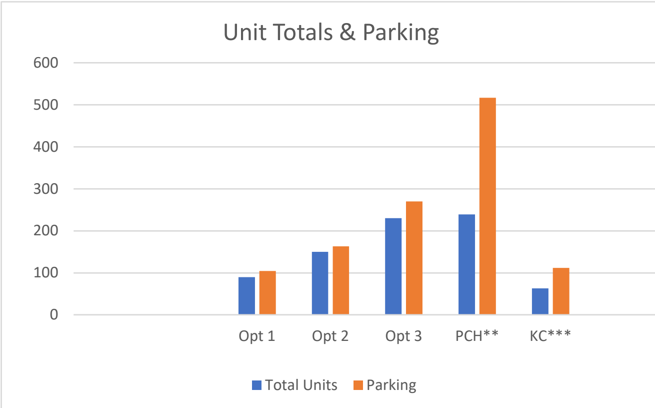
because of its relative proximity to the project, and its context, which includes a significant open space contained on 2 sides of the development.

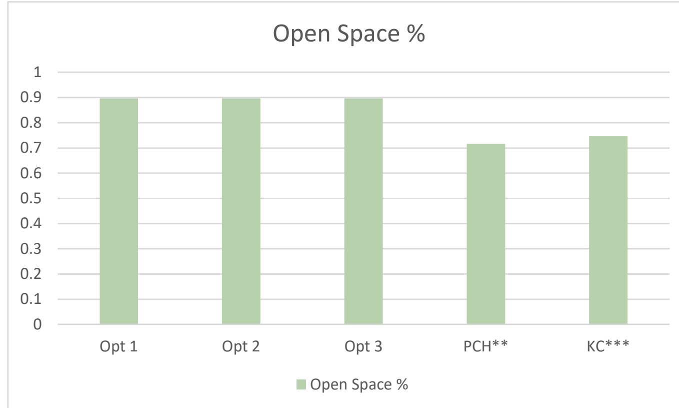
As figure 52.3 illustrates, both Kings Crown and Park City Heights include a significant portion of the overall land included as dedicated open space. All three options for Clark Ranch included as part of this study increase the dedicated open space to more than 89% (given the 125 unit parcel PC-SS-121-X is included as a minimum). This increase of open space comes with a trade-off; the units used for comparison for Clark Ranch are significantly smaller in overall scale. A second strategy to maximize the open space is the density of units within the developed area. This measurement is a means to understand the compactness of the density proposed. All but density option 3 are lower in the number of units per developable area when compared to Kings Crown. All of the density options are higher in the number of units per developable area when balanced against Park City Heights.

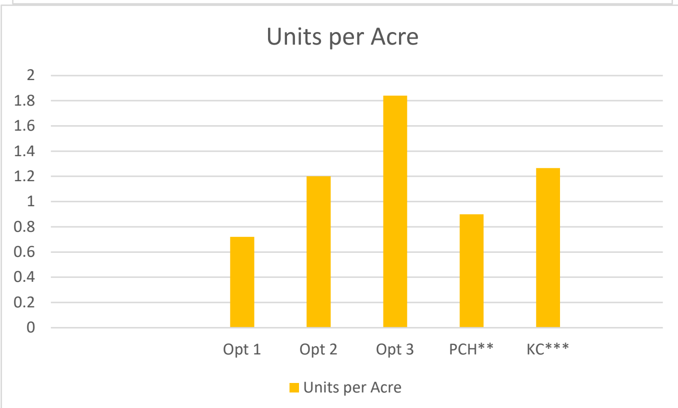
There are 2 decisive factors which must be considered when using this stat as a comparison. The first is the average unit size; even option 1 of this feasibility study, which has the highest average square foot per unit, is less than half (56%) of the Kings Crown Development. The second consideration is the steep topography of the site, and the SLO considerations. Both the moderate slopes and the Sensitive

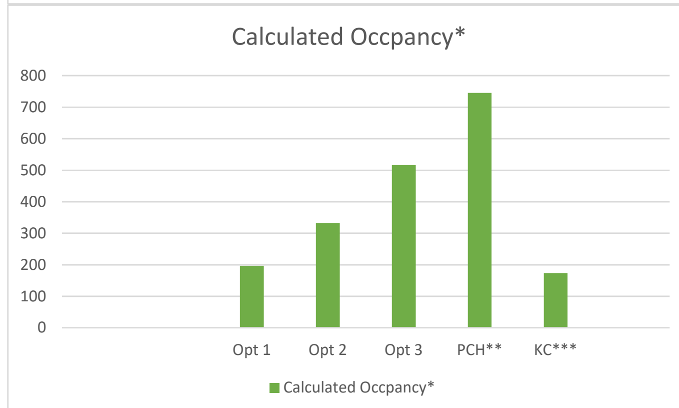
Comps	Total Units	Parking	Residential unit yield	Units per Acre	Avg SF per Unit	Calculated Occpancy*	Open Space %	Units per Developed Area
Opt 1	90.00	115	115,000	0.72	1,277.78	198.00	89.61%	6.93
Opt 2	150.00	163	143,700	1.20	958.00	332.40	89.61%	11.56
Opt 3	230.00	265	202,000	1.84	878.26	498.00	89.61%	17.72
PCH**	239.00	517	707,000	0.90	2,958.16	745.20	71.55%	3.51
KC***	63.00	112	142,129	1.27	2,256.02	174.00	74.67%	16.58

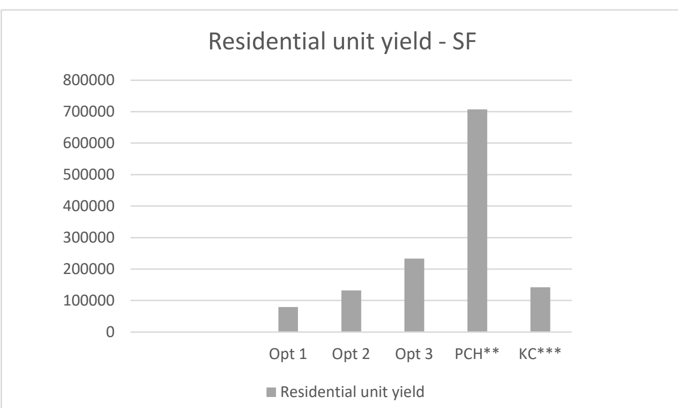
fig. 52.3 (Stereotomic)

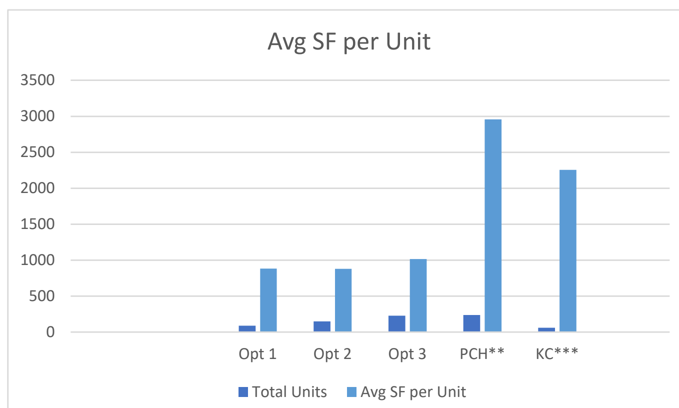












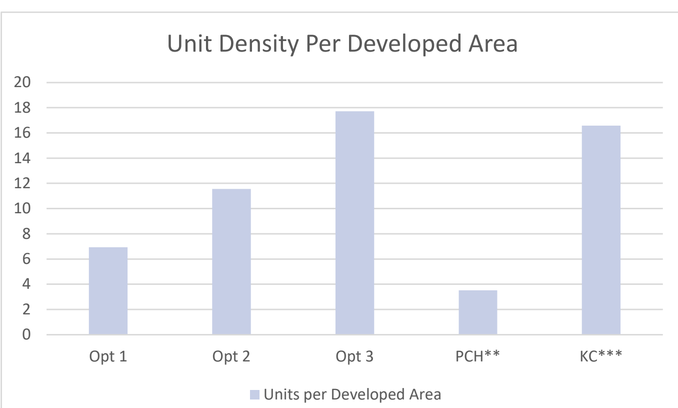


fig. 53.1 the Graphs Above illustrate the comparisons of Each Density Option with the Existing Kings Crown and Park City Heights developments (Stereotomic)

Lands Overlay Zone constrain the amount of area which should be developed. This compliments the current idea to preserve as much of the Clark Ranch Acreage as dedicated open space. We are suggesting a concentration of small units into a smaller area, as opposed to spreading larger units over a significant area.

Feasibility Infrastructure Assessment

The following sections describe proposed utility infrastructures for the Clark Ranch Development including culinary water, sanitary sewer, storm-water, electrical, and communications. Natural gas is not included in this infrastructure assessment as the project stakeholders do not intend to use gas as part of this project.

Culinary Water Infrastructure

The Equivalent Residential Connection (ERC) is a unit of measurement that represents water demand per household. Utah Administrative Code: R309-510-7 defines peak day demand to be 800 gallons per day per ERC. For this analysis, it is conservatively estimated that 1 unit is equal to 1 ERC.
Utah Administrative Code: R309-510-7 also provides guidance for outdoor irrigation demand. The proposed Clark Ranch Development is located in Map Zone 2 for "Low" Normal Annual Effective Precipitation. The corresponding irrigation demand per Table 510-3 is 2.8 gpm per irrigated acre.
The densest Clark Ranch Development concept comprises 230 units (or ERCs) and an estimated 5 acres of irrigable outdoor space. At 800 gpd per ERC, the indoor demand for the proposed units is 184,000 gpd, or 127.78 gpm. The outdoor water demand for 5 irrigable acres is estimated to be 24,408 gpd, or 16.95 gpm.

The total peak water demand for the Clark Ranch Development is conservatively estimated to be 208,408 gpd, or 144.73 gpm.

Additionally, Utah Administrative Code R309-510-8 requires 400 gallons of storage per ERC (indoor demand), and 1,873 gallons of storage per irrigated acre (outdoor demand) per Table 510-5 of Map Zone 2. For 230 ERC's, the indoor storage requirement is 92,000 gallons. The outdoor storage requirement for 5 acres is 9,365 gallons.

The total indoor and outdoor storage requirement is 101,365 gallons.
The culinary water system is owned, operated, and maintained by Park City's Water Division. Currently, an existing 2,000,000-gallon storage tank services Park City Heights. Park City Water Division determined that the existing storage tank has adequate source and storage capacity to provide additional service to the Clark Ranch Development's 230 units and 5 acres of irrigable outdoor space. It is assumed that the existing tank has enough fire flow storage to allow for 2 hours of flow at 2,000 gpm.

The existing elevation of the storage tank is at elevation 7,017 feet. To maintain a minimum service pressure of 40 psi without booster pumps, the development of Clark Ranch may not exceed an elevation of 6917'.

table 55.1 - Clark Ranch Culinary Water Demand & Storage Estimates (Talisman Civil)

Indoor Demand					
ERC's	Peak Day Demand per ERC	Peak Day Demand (GPD)	Peak Day Demand (GPM)	Storage per ERC (Gal)	Required Storage (Gal)
230	800	184,000	127.78	400	92,000
Outdoor Demand					
Acres	Demand Per Acre (GPM)	Peak Day Demand (GPD)	Peak Day Demand (GPM)	Storage Per Acre (Gal)	Required Storage (Gal)
5.00	3.39	24,408	16.95	1,873	9,365
	GPD	GPM			
Indoor Demand	184,000	127.78		Indoor Storage	92,000
Outdoor Demand	24,408.00	16.95		Outdoor Storage	9,365
Total Demand	208,408	144.73		Total Required Storage (Gal)	101,365

The proposed culinary water system for Clark Ranch will connect to an assumed 8" stub off the cul-de-sac of Calamity Lane in Phase 5 of Park City Heights.

Sanitary Sewer Infrastructure

The sanitary sewer infrastructure in this area is and will be owned, operated, and maintained by Snyderville Basin Water Reclamation District (SBWRD). Per Utah Administrative Code R317-3, Residential Equivalent (RE) is a unit of measurement that represents the volume of wastewater per residential connection. SBWRD considers an RE to be 100 gpd per person, with an average of 3.2 people per household such that 1 RE is equal to 320 gpd demand of wastewater.

Wastewater demand is based off the estimated occupancy rates for each unit. Local occupancy ratios were provided by Park City and Mountainlands. For this analysis, we have utilized an occupancy ratio of 1.2 occupants per bedroom, which while being more conservative, is also consistent with observed occupancy levels in affordable housing projects across Utah. See Table below.

table 55.2 - Clark Ranch Sanitary Sewer Demand per occupancy equivalent (Talisman Civil)

Unit Type	# of Occupants per Unit (Local)	# of Occupants per Unit (Clark Ranch Analysis)
Studio	1.2	1.2
1 Bedroom	1.1	1.2
2 Bedroom	1.9	2.4
3 Bedroom	N/A	3.6
Multi Family (4BR)	3.7	4.8

The densest Clark Ranch Development concept comprises 230 units total. Of these, there are 10 studios, 80 one-bedroom units, 80 two-bedroom units, and 60 three-bedroom units. There are an estimated 516 occupants. At 100gpd/person, the wastewater demand is conservatively estimated at 516,000 gpd or 161.25 REs or. See Table 56.1

table 56.1 - Clark Ranch Sanitary Sewer Demand Calculation, for highest proposed density (230 units) (Talisman Civil)

Unit Type	Unit Count	Occupants per Unit	# of Occupants	Demand (GPD) (100gpd/occupant)	Demand (GPM)	Demand (RE)
Studio	10	1.2	12	1,200	0.83	3.75
1 Bedroom	80	1.2	96	9,600	6.67	30
2 Bedroom	80	2.4	192	19,200	13.33	60
3 Bedroom	60	3.6	216	21,600	15.00	67.5
Multi Family (4BF)	0	4.8	0	0	0.00	0
Total			**516**	**51,600**	**36**	**161.25**

It is intended to connect the Clark Ranch wastewater system into the existing system in Park City Heights. according to discussions with SBWRD, after the full build out of Park City Heights, the limiting factor in the existing wastewater system lies between manholes #58 and #59 with an available capacity at 229 REs or 50.89 gpm.

The wastewater demand for 230 units from the densest Clark Ranch concept is conservatively estimated at 36 gpm, far less than the 50.89 gpm of available capacity. Therefore, it is estimated that the existing sewer system has enough capacity to accommodate the Clark Ranch Development without requiring upgrades to the existing infrastructure.

If the Clark Ranch wastewater demand were to exceed 51gpm or 229 REs, the existing sewer line between manholes #59 & Manhole #8 must be upsized from an 8″ pipe to a 12″ pipe. Improvements to the sewer line between manholes #40 and #8 require special attention. The existing sewer line is shallow in slope and makes an aerial crossing over a natural waterway which will complicate design solutions.

It is also worth discussing reducing wastewater demand requirements from 100gpd per person to 75gpd per person, or 320 gpd per RE to 240 gpd per RE. This number is based off analogous developments in Park City which have received such a reduction. If SBWRD accepts a reduction in demand, the existing sewer system capacity of 50.89 gpm could support 305 RE's, which is nearly double the densest Clark Ranch development concept.

TCC estimates that the Clark Ranch Development will require approximately 2,300 linear feet of 8″ SDR35 PVC pipe. See Exhibit X101 in the Appendix. The proposed sanitary sewer infrastructure will connect to existing manhole #23 and run the length of Piper Way in Park City Heights. The conveyance system would ultimately direct wastewater flow to the Silver Creek Water Reclamation Facility where it is treated and returned to Silver Creek before eventually flowing to Echo Reservoir.

Storm-water Infrastructure

The Park City Storm-water Management Program and the Park City Storm-water Drainage Design Manual dictates the parameters used to evaluate requirements for the Clark Ranch storm drain system.

Important design parameters from these documents include but are not limited to:

- Pipe shall be designed to convey the 10-year storm recurrence interval.
- Detention ponds shall be designed for the 100-year storm recurrence interval.
- The allowable post-development discharge rate must be less than or equal to the predevelopment discharge rate.
- The minimum storm drain pipe diameter shall be 15".
- The source for precipitation data is NOAA Atlas 14.

As of July 1st 2020, the Utah Division of Water Quality has implemented a requirement to retain and infiltrate the 80th percentile storm event for new development projects that disturb greater than or equal to 1 acre. The 80th percentile storm depth for Park City is approximately 0.47".

Using the above criteria along with a hydraulic model based on SCS curve number methodology, TCC calculates that the densest Clark Ranch Development concept disturbs approximately 400,000 square feet and must be able to retain 15,666 cubic feet and detain approximately 45,000 cubic feet of storm drain runoff. The open space in the northern corner of the Clark Ranch Development is relatively flat and sufficient in area for a basin with the capacity to detain and retain runoff for the entire site.

illust. 57.1 - Clark Ranch Detention Basin (Talisman Civil)

The detention pond will maintain water quality and control discharge to the greater storm-water system in Highway 40. It may also serve as a secondary recreational purpose for the surrounding community when not detaining storm-water.

TCC also anticipates incorporating bio swales throughout the project which will capture a portion of runoff and reduce the required capacity of the detention basin.

There are limited areas where the proposed road profile slopes toward Frontage Road, storm-water will be unable to drain to the detention basin. UDOT may grant permission for runoff to flow downhill to the UDOT storm drain system in US-40, in which case discharge will be limited to 0.2 cfs/acre.

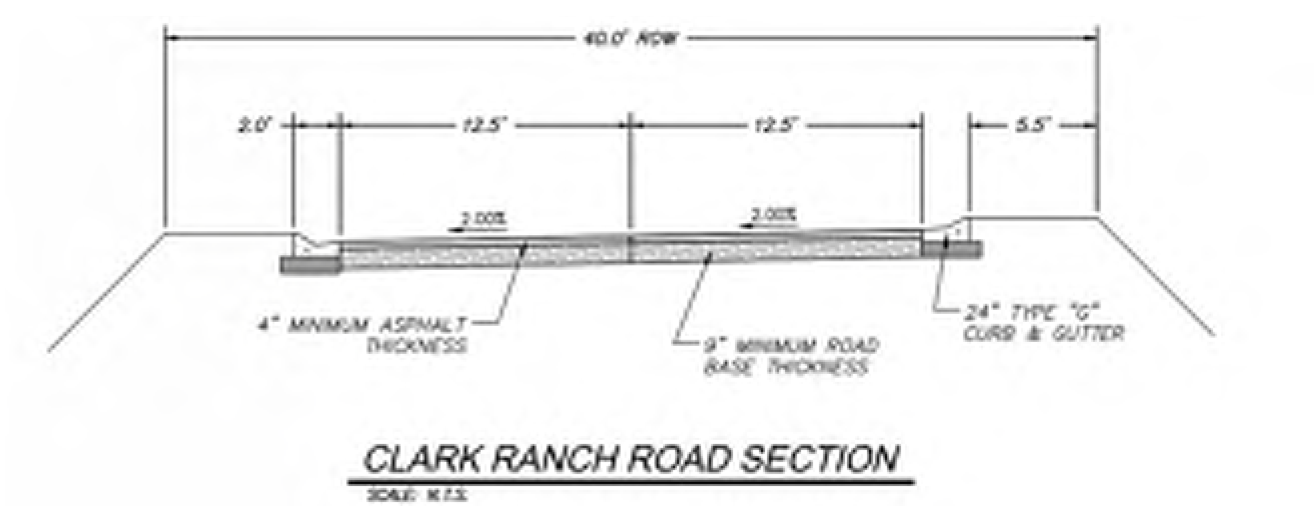
ROADWAY INFRASTRUCTURE

The following sections describe roadway infrastructure for the Clark Ranch Development.

Roadway Design Parameters

TCC proposes the design of two new roads in the Clark Ranch Development – Phase 1, which consists of "Road 1" the lower road that connects to Park City Heights and the frontage road, and Phase 2 which consists of "Road 2" which sits above Road 1. The design for both roadways adhere to Park City Engineering standards and AASHTO guidelines for a 25 mph design speed. Park City's Engineering Department has also specified the cross-section widths as follows:

- 40' Right-of-Way Width
- 25' of Asphalt Surface
- 24" Type "G" Curb and Gutter on Either Side
- 5.5' of Landscaped Shoulder
- No Sidewalk
- Able to Support an 80,000 lb Fire Truck



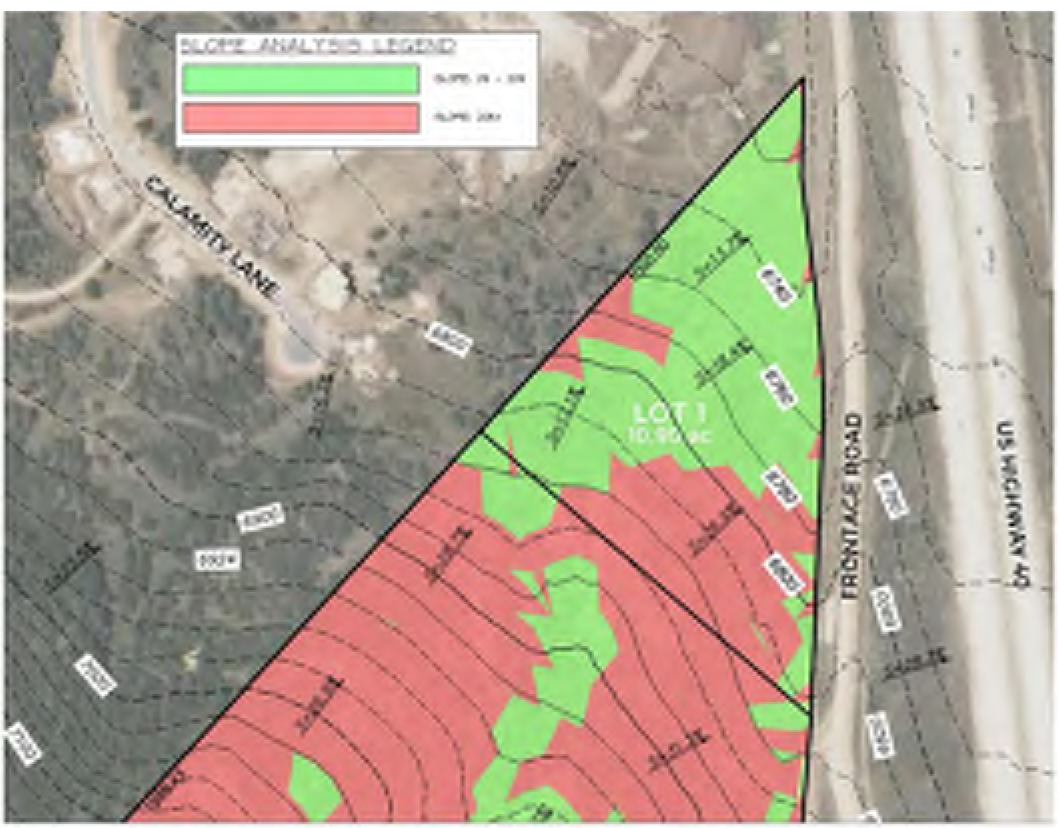
illust. 58.1 - Clark Ranch Road Section (Park City Municipal Corp.)

The road will feature a minimum of 4″ thick asphalt on a minimum of 9″ thick commercial road base. See Figure 4 below:

Regarding life safety, Road 2 which provides the second connection to Frontage Road could be designed as a dead-end, however Park City Municipal Code 15-7.3-4 stipulates that,
For greater convenience to traffic and more effective police and fire protection, permanent dead-end Streets shall, in general, be limited in length to six hundred and fifty feet (650′).

Appendix D of the International Fire Code would also require a 70′ hammer head or other acceptable turnaround for fire apparatus access for any dead end greater than 150′ in length. Furthermore, the Park City Fire District will have the final say and may require at least two roadway entrances/exits to both Phase 1 and Phase 2 of the Clark Ranch development.
The primary road alignment and associated right-of-way is the main conduit for the primary utilities listed in Section 2.0 that service the Clark Ranch Development.

A slope analysis exhibit shows that the existing topography is steep in areas with slopes that exceed 25%.



illust. 59.1 - Clark Ranch Slope Analysis (Talisman Civil)

The horizontal road design intends to mitigate steep slopes by utilizing oblique approaches to the topography where possible, small radius curves, and a 2.0% cross-slope over the roadway width. The maximum centerline profile grade of the roads does not exceed the 10% prescribed by Park City Engineers. Due to the steep nature of the topography and the profile design limits, TCC anticipates areas where significant retaining walls greater than 10’ will be necessary. For this analysis, TCC assumes using concrete retaining walls, however a variety of slope treatments may be considered at varying costs.

The frontage road providing access to Clark Ranch will also need to be developed. Assuming a 36’ paved section (2x12’ lanes with 6’ shoulders & curb and gutter) it is estimated improvements to the frontage road will cost around $1.25M see table 4.0d below.

Pedestrian Circulation

The Park City Engineering Department has specified that, due to the steep slopes of the vertical road alignments, sidewalks would not be practical and therefore are not to be included in the road cross section. Instead, as the design for the entire project continues to develop, TCC anticipates incorporating pedestrian walkways throughout the Clark Ranch Development between proposed units, to access existing trailheads, and community recreation spaces.

Preliminary Traffic Assessment

The proposed development will be composed of affordable multifamily housing units, and is in the process of determining land use numbers. Currently the following three options are in consideration:

- Option 1: 90 - 160 total dwelling units
- Option 2: 150 - 225 total dwelling units
- Option 3: 230 - 290 total dwelling units

To assess the greatest impact, option 3 with up to a maximum of 290 dwelling units was analyzed for this study (site plan attached in Appendix). Fehr & Peers used trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, 2021, to estimate trip generation rates for this study. The following ITE land use code was assumed for the proposed Clark Ranch development.

- Multifamily Housing (Mid-Rise) (ITE Land Use 221) – 290 dwelling units

The ITE Trip Generation includes a land use code for affordable housing. However, it is a new land use code with a low sample size and limited data. Therefore, the affordable housing land use code was not used for this study.

Fehr & Peers submitted a Trip Generation Memo for the Ski Rail Housing in August, 2023. The proposed development for that included 10 studio apartments and 192 dormitory-style bedrooms, and unique elements to significantly reduce the vehicle trips generated. To account for the unique characteristics of that project site, Fehr & Peers estimated the trip generation using the ITE land use codes for Multifamily Housing (Mid-Rise) (ITE Land Use 221) for the studio apartments and Off Campus Student Apartment (ITE Land Use 226) for the dormitory-style bedrooms. The proposed Clark Ranch development does not include the unique characteristics and restrictions imposed by the Ski Rail Housing, so the Off-Campus Student Apartment land use was not used for this study.

The calculated trip generation for the proposed Clark Ranch development is shown below in Table 1.

Table 601 - Clark Ranch Trip generation

Land Use[1]	Number of Units	Unit Type	Daily Trip Generation[2]	% Entering[3]	% Exiting[3]	Trips Entering	Trips Exiting	New Daily Trips
Multifamily Housing (Mid-Rise) (221)	290	Dwelling Units	1,338	50%	50%	669	669	**1,338**
Net Weekday Trips						**669**	**669**	**1,338**
Land Use[1]	**Number of Units**	**Unit Type**	**AM Peak Hour Trip Generation[2]**	**% Entering[3]**	**% Exiting[3]**	**Trips Entering**	**Trips Exiting**	**New AM Peak Hour Trips**
Multifamily Housing (Mid-Rise) (221)	290	Dwelling Units	116	23%	77%	27	89	**116**
Net Weekday AM Peak Hour Trips						**27**	**89**	**116**
Land Use[1]	**Number of Units**	**Unit Type**	**PM Peak Hour Trip Generation[2]**	**% Entering[3]**	**% Exiting[3]**	**Trips Entering**	**Trips Exiting**	**New AM Peak Hour Trips**
Multifamily Housing (Mid-Rise) (221)	290	Dwelling Units	113	61%	39%	69	44	**113**
Net Weekday PM Peak Hour Trips						**69**	**44**	**113**

1. (XXX) indicates ITE Land Use Code. Land Use Code from the Institute of Transportation Engineers - 11th Edition Trip Generation Manual (ITE Manual)
2. Traffic Generated by the development according to trip generation rates provided in the ITE Manual
3. Percentage of trips Entering and Exiting the development according to the ITE Manual

SOURCE: Fehr & Peers

As shown in Table 1, the proposed Clark Ranch development is estimated to generate 1,338 daily trips, 116 AM peak hour trips, and 113 PM peak hour trips.

PROJECT IMPACTS

Fehr & Peers collected turning movement counts for another project at the SR-248 / Richardson Flat

Road intersection in January 2020 (attached in Appendix). The 2020 counts at the intersection showed two-way volumes on Richardson Flat Road (east of SR-248) of 214 vehicles and 172 vehicles in the AM peak hour and PM peak hour, respectively.

Fehr & Peers performed a high-level assessment of the project impacts of the peak hour trip generation on the roadway capacity of Richardson Flat Road. The roadway Level of Service (LOS) was estimated based on planning level generalized peak hour two-way volumes for roadway capacities. These volumes are published by the Florida Department of Transportation (FDOT) based on planning applications of the Highway Capacity Manual (HCM) and are widely used for planning level evaluation of roadway capacity. Table 2 below shows the peak hour two-way capacity estimates for a 2-lane undivided roadway in developed areas less than 5,000 population.

Table 61.1 - Roadway Level of Service Peak Hour Two-Way Traffic Thresholds

Level of Service	Peak Hour Traffic Capacity Estimates
	2 Lanes
LOS B or better	≤ 1,098
LOS C	1,099 – 1,215
LOS D	> 1,215

Source: Fehr & Peers, based on FDOT Generalized Peak Hour Two-Way Volumes for developed areas less than 5,000 population, adjusted for non-state signalized roadway.

Table 3 below shows the projected peak hour two-way volumes on Richardson Flat Road with the proposed Clark Ranch development.

Table 61.2 - Peak Hour Two-Way Volumes on Richardson Flat Road

Peak Hour	Background[1]	Project[2]	Plus Project
AM	214	116	**330**
PM	172	113	**285**

1. From turning movement counts at the SR-248 / Richardson Flat Road intersection counted in 2020.
2. Estimated for proposed Clark Ranch development, as shown in Table 1.

Source: Fehr & Peers

As shown in Table 3, the AM and PM peak hour estimated trips on Richardson Flat Road are 330 vehicles and 285 vehicles, respectively, with the proposed Clark Ranch development. This is well below the LOS B threshold as shown in Table 2.

CONCLUSION

Fehr & Peers evaluated the total trips generated by the proposed Clark Ranch development. The estimated trips generated by the development are 1,338 daily trips, 116 AM peak hour trips, and 113 PM peak hour trips. Fehr & Peers also estimated the projected peak hour two-way volumes on Richardson Flat Road with the proposed development. The estimated trips are 330 vehicles and 285 vehicles in the AM peak hour and PM peak hour, respectively. This is well below the LOS B threshold, indicating that Richardson Flat Road has the capacity to receive the additional trips from the proposed Clark Ranch development.

Preliminary Cost Analysis

HORIZONTAL INFRASTRUCTURE

Based on the roadway alignment and assumption that utilities generally run parallel to the roadway centerline, TCC calculated the following quantities and associated cost estimates for the proposed Clark Ranch Development. The Phase 1 costs consisting of Road 1 and associated utilities is found below.

Table 64.1 - Clark Ranch Phase i Estimate / Horizontal Infrastructure (Talisman Civil)

Clark Ranch, Phase 1 Estimate					
Item		Unit	Unit Price	Quantity	Cost
Site Preparation and Demolition					
1	Clear and Grub	S.F.	$2	110,645	$221,290
				Subtotal	**$221,290**
Site Improvements					
2	Cut	C.Y.	$20	3,737	$74,740
3	Fill	C.Y.	$10	8,653	$86,530
4	4" Asphalt Paving	S.Y.	$27	6,264	$169,128
5	9" Road Base Material	C.Y.	$52	1,566	$81,432
6	Type "G" Curb and Gutter - Catch	L.F.	$28	2,286	$64,008
7	Type "G" Curb and Gutter - Spill	L.F.	$28	2,155	$60,340
8	Retaining Walls (Concrete)	S.F.	$50	21,194	$1,059,700
9	Shoulder Landscape	S.F.	$2	24,298	$48,596
				Subtotal	**$1,644,474**
Utility Improvements					
10	Connect to Existing Water Stub	Each	$2,000	1	$2,000
11	10" C-900 PVC Pipe	L.F.	$125	2,221	$277,625
12	PRV Station	Each	$100,000	1	$100,000
13	Connect to Existing Sewer Stub	Each	$2,000	1	$2,000
14	8" SDR-35 PVC Pipe	L.F.	$100	2,218	$221,800
15	Sewer Manhole	Each	$5,000	5	$25,000
16	15" Class III RCP Pipe	L.F.	$150	2,215	$332,250
17	Detention/Retention Volume	C.Y.	$20	2,250	$45,000
18	Storm Drain Inlet	Each	$5,000	9	$45,000
19	4" PVC Electrical Conduit	L.F.	$10	2,214	$22,140
20	4" PVC Communications Conduit	L.F.	$10	2,215	$22,150
21	Additional Electrical Appurtenances	L.S.	$250,000	1	$250,000
				Subtotal	**$1,344,965**
Sub Total		$3,210,729			
20% Contingency		$642,146			
Total		**$3,852,875**			

The second phase comprises the development of remaining Road 2 and associated utilities.

Table 64.1 - Clark Ranch Phase II Estimate / Horizontal Infrastructure (Talisman Civil)

Clark Ranch, Phase 2 Estimate					
	Item	Unit	Unit Price	Quantity	Cost
Site Preparation and Demolition					
1	Clear and Grub	S.F.	$2	99,980	$199,960
				Subtotal	$199,960
Site Improvements					
2	Cut	C.Y.	$20	32,275	$645,500
3	Fill	C.Y.	$10	1,228	$12,280
4	4" Asphalt Paving	S.Y.	$27	4,375	$118,125
5	9" Road Base Material	C.Y.	$52	1,094	$56,888
6	Type "G" Curb and Gutter - Catch	L.F.	$28	1,533	$42,924
7	Type "G" Curb and Gutter - Spill	L.F.	$28	1,619	$45,332
8	Retaining Walls (Concrete)	S.F.	$50	37,226	$1,861,300
9	Shoulder Landscape	S.F.	$2	17,239	$34,478
				Subtotal	$2,816,827
Utility Improvements					
10	Connect to Existing Water Stub	Each	$2,000	1	$2,000
11	10" C-900 PVC Pipe	L.F.	$125	1,615	$201,875
12	Connect to Existing Sewer Stub	Each	$2,000	1	$2,000
13	8" SDR-35 PVC Pipe	L.F.	$100	1,598	$159,800
14	Sewer Manhole	Each	$5,000	4	$20,000
15	15" Class III RCP Pipe	L.F.	$150	1,583	$237,450
16	Storm Drain Inlet	Each	$5,000	9	$45,000
17	4" PVC Electrical Conduit	L.F.	$10	1,574	$15,740
18	4" PVC Communications Conduit	L.F.	$10	1,578	$15,780
19	Additional Electrical Appurtenances	L.S.	$250,000	1	$250,000
				Subtotal	$949,645
	Sub Total	$3,966,432			
	20% Contingency	$793,286			
	Total	$4,759,718			

The following table shows the combined total of Phase 1 and Phase 2.

Table 65.1 - Clark Ranch Total combined Estimate / Horizontal Infrastructure (Talisman Civil)

Clark Ranch Total Estimate					
Item		Unit	Unit Price	Quantity	Cost
Site Preparation and Demolition					
1	Clear and Grub	S.F.	$2	210,625	$421,250
				Subtotal	**$421,250**
Site Improvements					
2	Cut	C.Y.	$20	36,012	$720,240
3	Fill	C.Y.	$10	9,881	$98,810
4	4" Asphalt Paving	S.Y.	$27	10,639	$287,253
5	9" Road Base Material	C.Y.	$52	2,660	$138,320
6	Type "G" Curb and Gutter - Catch	L.F.	$28	3,819	$106,932
7	Type "G" Curb and Gutter - Spill	L.F.	$28	3,774	$105,672
8	Retaining Walls (Concrete)	S.F.	$50	58,420	$2,921,000
9	Shoulder Landscape	S.F.	$2	41,537	$83,074
				Subtotal	**$4,461,301**
Utility Improvements					
10	Connect to Existing Water Stub	Each	$2,000	2	$4,000
11	10" C-900 PVC Pipe	L.F.	$125	3,836	$479,500
12	PRV Station	Each	$100,000	1	$100,000
13	Connect to Existing Sewer Stub	Each	$2,000	2	$4,000
14	8" SDR-35 PVC Pipe	L.F.	$100	3,816	$381,600
15	Sewer Manhole	Each	$5,000	9	$45,000
16	15" Class III RCP Pipe	L.F.	$150	3,798	$569,700
17	Detention/Retention Volume	C.Y.	$20	2,250	$45,000
18	Storm Drain Inlet	Each	$5,000	18	$90,000
19	4" PVC Electrical Conduit	L.F.	$10	3,788	$37,880
20	4" PVC Communications Conduit	L.F.	$10	3,793	$37,930
21	Additional Electrical Appurtenances	L.S.	$500,000	1	$500,000
				Subtotal	**$2,294,610**
	Sub Total	$7,177,161			
	20% Contingency	$1,435,432			
	Total	**$8,612,593**			

The electrical costs in Section 4.0 include proposed electrical conduit for a total of $37,880. This excludes costs for conductors, transformers, or other electrical equipment. For the purpose of this report, TCC estimates remaining electrical infrastructure improvements to be roughly $250,000 for each phase, or $500,000 total. This assumes existing Rocky Mountain infrastructure in the area such as substations, etc., will not require a significant upgrade to service the Clark Ranch Development. TCC recommends further coordination with Rocky Mountain Power and performing an Electric Service Study (ESSA), and System Impact Study, to determine any necessary upgrades.

The frontage road providing access to Clark Ranch will also need to be developed. Assuming a 36' paved section (2x12' lanes with 6' shoulders & curb and gutter) it is estimated improvements to the frontage road will cost around $1.25M see table 4.0d below.

Table 66.1 - Clark Ranch Frontage Road Improvements Cost Estimate (Talisman Civil)

Frontage Road					
	Item	Unit	Unit Price	Quantity	Cost
Site Preparation and Demolition					
1	Clear and Grub	S.F.	$1	208,747	$208,747
				Subtotal	**$208,747**
Site Improvements					
2	4" Asphalt Paving	S.Y.	$27	15,289	$412,803
3	9" Road Base Material	C.Y.	$52	3,823	$198,796
4	Type "G" Curb and Gutter	L.F.	$28	7,645	$214,060
				Subtotal	**$825,659**
	Sub Total	$1,034,406			
	20% Contingency	$206,881			
	Total	**$1,241,287**			

SUMMARY & CONCLUSION

In summary, the total estimated costs of utility and road infrastructure for the Clark Ranch Development is conservatively estimated at $8,600,000. Improvements to the frontage road will cost an additional $1,250,000. It is important to note that the retaining walls contribute a large portion of the overall cost. Due to the steepness of the overall project topography, maintaining a maximum road grade of 10% will have a significant impact on the height and quantity of retaining walls.

At a conceptual level, even for the densest Clark Ranch Development Option, there is adequate source and storage capacity for water infrastructure, and adequate capacity within the existing sewer infrastructure in Park City Heights. Storm drain infrastructure will be addressed by an 45,000 cubic feet detention and 15,666 cubic feet retention ponds built on-site, and ultimately discharging to the UDOT drainage system in US-40.

VERTICAL INFRASTRUCTURE

Given the very preliminary nature of the density studies included here, and the volatile nature of the construction environment in the last 2 years, the following estimates are for comparisons only. The process for deriving the following estimates included proposing a basic unit type breakdown, and assigning a rough estimate of typical square footages for each unit size.

By using a total rough estimate in each density summary, the total square footage estimates then allows us to assign a basic cost per square foot number. For general comparison, we have assumed the high end costs to be $450 per square foot cost. To generate a range, and to help understand the shifting nature of the current economy and potential economies of scale, a $350 per square foot cost has been assigned for the low end. The result of the totals generates a range of anticipated costs for this type of project.

In the summary, the total estimated costs and the breakdown for comparisons assumes the high end of the range.

Based on the Low and High cost ranges, we have estimated the following basic cost parameters for each of the density options illustrated previously.

Infrastructure Costs					
	Frontage road	Roads	Utilities	Misc	Total
	$1,241,287	$4,882,551	$2,294,610	$1,435,432	$9,853,880

Building Costs					
	Low Range $350	High Range $450	BLDG Cost Per Unit	Infrastructure Cost Per Unit	Total Avg Per Unit
Opt 1	$40,250,000	$51,750,000	$575,000	$109,488	$684,488
Opt 2	$50,295,000	$64,665,000	$431,100	$65,693	$496,793
Opt 3	$70,700,000	$90,900,000	$395,217	$42,843	$438,060

Table 67.1 - Clark Ranch Vertical & Horizontal Construction Cost Estimate (Talisman Civil & Stereotomic)

The projected lowest cost option would be option 1, (90 units of town-homes) which could range from $40.2 mil to $51.7 mil. The Highest cost option 3, ranges from $70.7 mil to $90.9, consists of Multifamily units of stacked flat apartments.

Total Development							
	bldg cost		infrastructure cost			totals	
	Low Range ($350 sf)	High Range ($450)	utilities	roads	misc.	low	high
Opt 1	$40,250,000	$51,750,000	$2,294,610	$6,123,838	$1,435,432	$50,103,880	$61,603,880
Opt 2	$50,295,000	$64,665,000	$2,294,610	$6,123,838	$1,435,432	$60,148,880	$74,518,880
Opt 3	$70,700,000	$90,900,000	$2,294,610	$6,123,838	$1,435,432	$80,553,880	$100,753,880

Table 67.2 - Clark Ranch Total Construction Cost Estimates (Talisman Civil & Stereotomic)

When factoring in the associated horizontal costs, we arrive at the general projected “total development” costs. These costs do not include the cost of the land, as well as hard and soft costs associated with the pre-development (testing, further analysis, and entitlements process) as well as the design and engineering costs, utility infrastructure fees, and associated soft costs.

As anticipated, Option 1 is the lowest cost option for total development while Option 3 is the largest. Although Option 3 has the largest total cost of development, it also has the greatest value when considering the average cost per unit. The average cost per unit does not account for different sizes and unit types, but is a simple calculation of total development costs divided by the units provided in the scenario.

Further analysis gives a clear picture on the nature of our tight affordable housing situation. The following table illustrates three (3) distinct affordable housing ranges, (30%-50% AMI, 50%-80% AMI, & 80%-100% AMI) and compares the cost to develop the project (on a per unit basis), with the maximum mortgage loan amount calculated for each affordable category.

Affordable Unit Cost Limit+						
	30%-50% AMI		50%-80% AMI		80%-100% AMI	
	Max. Mortgage Loan Amt	Deficit	Max. Mortgage Loan Amt.	Deficit	Max. Mortgage Loan Amt.	Deficit
Opt 1	278,650	-$405,838	$445,780	-$238,708	557,270	-$127,218
Opt 2	278,650	-$218,143	$445,780	-$51,013	557,270	$60,477
Opt 3	278,650	-$159,410	$445,780	$7,720	557,270	$119,210

Table 68.1 - Clark Ranch Affordable Unit Cost Comparison table. This table assumes all the units developed as part of each of the density options would be affordable units. The "Maximum Mortgage Loan Amount" is referenced from Afford-ability Calculator from the Utah Afford-ability Housing Forecast tool, 2021 - Table 6, "Park City's Housing Needs Assessment 2021" prepared by Wood, James. pg 24 (Talisman Civil & Stereotomic)

Based on the assumptions outlined previously, all the options would need significant subsidies to be financially viable. Only Option 2 and Option 3 become financially viable without subsidies when targeting the 80%-100% AMI income level.

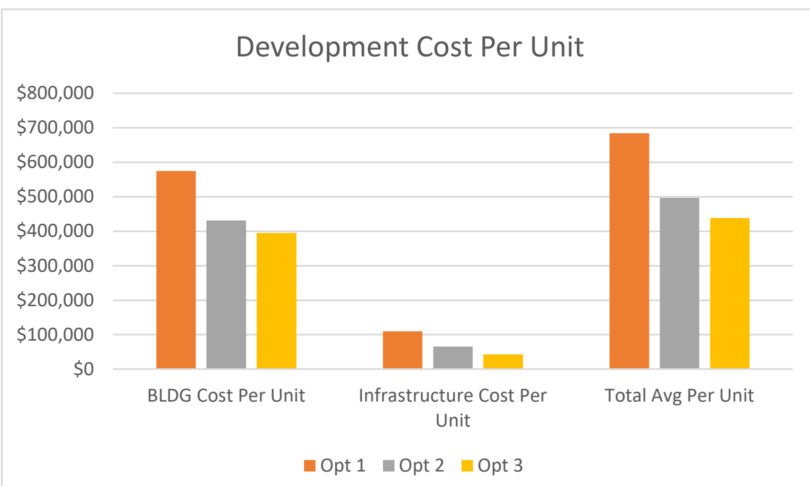


Table 68.2 - Project Development Cost Analysis - Factoring in Building (vertical) Costs as well as Infrastructure (horizontal) costs divided between the total number of units per option. (Stereotomic)

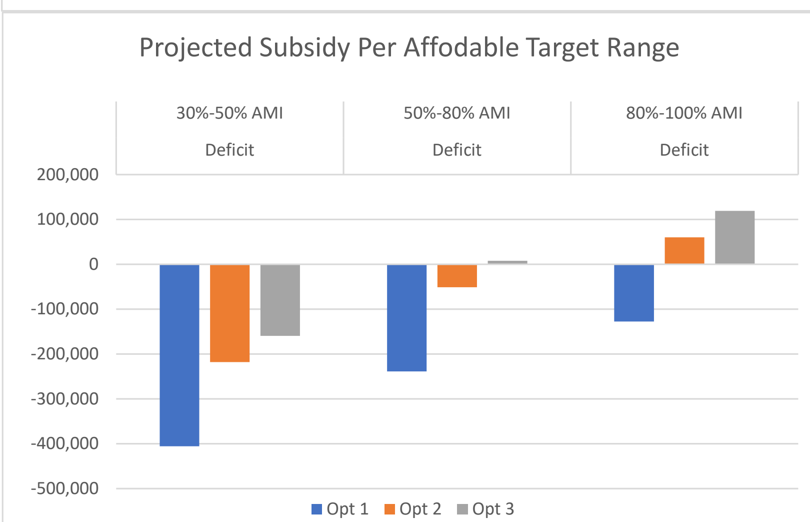


Table 68.3 - Project Development Cost Analysis - Negative numbers denote a financial shortage which would be needed to subsidize the project(Stereotomic)

Financing Options

Through a public-private partnership between the City and a private developer, there are several financing strategies that could promote development of an affordable project on this site.

Public Options

First, the City could dedicate the land necessary to the affordable project, through a Development Agreement (a Development Agreement is a requirement in the AMPD process). Second, the City can dedicate and/or construct all, or a portion, of the infrastructure required for the project. Third, the City can apply for Federal infrastructure grants, like grants available through the Inflation Reduction Act or through remaining opportunities in the COVID-19 relief funds and dedicate the revenues from such grants to the affordable portions of the project. Fourth, if the City retains ownership of certain units, the City can use general fund monies to subsidize the project. Fifth, the City can waive fees such as building permit fees, plan check fees, and impact fees for the affordable project. And finally, the City can encourage other service providers, such as the Snyderville Basin Water Reclamation District, to waive impact fees.

Private Options

The City's private developer partner can further take advantage of Low-Income Housing Tax Credits (LIHTCs) from the federal government and either use the tax credits internally, to offset ordinary income or capital gains generated by that business or sell such credits to interested parties. The proceeds of such tax credits sale or utilization would then be applied to offset a portion of the affordable development.

There are two types of LIHTCs, a 4% tax credit, which typically offsets 30% of the gross construction cost of the affordable units, and a 9% tax credit, which offsets roughly 70% of the gross construction cost of the affordable units. The 4% LIHTC is not competitive, meaning: if applied for, a qualifying project will receive the 4% LIHTC.

The 9% LIHTC is competitive annually among a variety of LIHTC applicants across the state. Not all applicants receive requested tax credits. The 9% LIHTC is prioritized for "higher needs" or "very low-income" populations. Projects that utilize LIHTCs are required to include at least: (1) 20% of units rented to families or individuals who earn less than 50% AMI; or (2) 40% of units rented to families who earn less than 60% AMI. (Units up to 80% AMI are allowed in option 2 if the average income of all subsidized units is not more than 60%). LIHTCs can be applied for on a building-by-building basis, so that an entire project would not be required to meet the LIHTC occupancy requirements, only the portion subsidized by the LIHTC.

On larger affordable housing projects, a private developer can pair a LIHTC with a tax-exempt bond to further subsidize the project. Tax exempt bonds for low-income housing have the same AMI occupancy requirements as LIHTCs. Typically, tax exempt bonds for low-income housing cost at least 5-6% in fees for offerings in excess of $5 Million.

Additionally, Council should be aware that all federally assisted new construction of five (5) or more residential units must construct at least 5% of units as Americans with Disabilities Act accessible.

Density Scenario - Pros and Cons Comparison		
	Con's	Pro's
Opt 1	Highest cost per unit	Lowest density per developable acres
	Least efficient use of existing infrastructure	lowest footprint on the land
	Highest level of finanacial subsidies required for affordable prices	Ability to develop only Phase 1
Opt 2	Mix of medium sized MF stacked flat massings	Balance between Density and infrastructure cost
	Requires financial subsidies to provide affordable prices	Stacked flat massing in the least intrusive portion of lot
	groups unit types together (townhomes vs stacked flats)	Highest density with 1 Phase
Opt 3	Requires Ph 1 & Ph 2 to achieve full unit count	Lowest cost per unit
	Highest density per developable area	Makes the most of the existing site / infrastructure
	Stepped massing is complex to build	Potential for positive cash flow (no subsidies)

Table 70.1 - Project option Pro vs. Con for each scenario (Stereotomic)

Appendices

Appendix A - ALTA / NSPS Land Title Survey

Appendix B - Topographic Slope Analysis

Appendix C- Clark Ranch Conservation Resources Inventory, 2015

Appendix D- Clark Ranch Management Plan, 2015

Appendix E - Traffic - Trip Generation Memorandum

Appendix F - Access Road Layouts and Profiles

Appendix G - Storm-water Retention Pond Exhibit

Appendix H - Soils Survey - Park City Heights / Clark Ranch

Appendix I - Environmental Assessment / Phase 1 - Park City Heights

Appendix J - Clark Ranch Infrastructure Assessment, Talisman Civil

- end -

City Council
Staff Report

Subject: Microtransit Pilot Analysis
Author: Kim Fjeldsted, Transit Manager
Department: Transportation
Date: December 5, 2023
Type of Item: Work Session

Summary

Receive a presentation from High Valley Transit (HVT) on Park City's summer/fall microtransit pilot program.

Background and Analysis

On May 25, 2023, the City Council approved continuing microtransit services through April 2024, citywide, to all Park City households and businesses.

Our partner and microtransit provider, HVT, produced the following performance stats and will further elaborate on findings, takeaways, and industry trends in their presentation. Highlights include:

2023 Summer/Fall Pilot Performance, Data from July 2 – November 2, 2023:

- 16,233 microtransit trips
- 640 riders took 2+ rides
- 356 riders took 5+ rides
- 131 rides per day
- $24.60 cost per ride
- 51% of rides were shared
- 3.1 Average micro utilization (passenger per hour)

	Nov '22 - Feb '23	Mar '23 - Apr'23	July '23 - Nov '23	Nov '22 - Nov '23 Total
Number of Micro Trips	3,594	12,510	16,233	32,337
Riders that took 2+ Rides	260	924	640	1643
Riders that took 5+ Rides	130	506	356	910

	Nov '22 - Feb '23	Mar '23 - Apr'23	July '23 - Nov '23	Nov '22 – Nov '23 Average
Average Rides per day	34	272	131	116
Average Number of Shared Rides	33%	63%	51%	54%
Micro Utilization (Passengers Per Hour)	0.6	3.9	2.8 (3.1 post-August)	2.1

Key Takeaways

Since March 1, the most utilized stops are in the Empire Pass and the Silver Lake Village areas. The high utilization in the Empire Pass area may be a result of our advertising campaign encouraging people to take microtransit to trails to ease parking congestion. Because these areas are served by the 9 Purple and 4 Orange fixed routes, we analyzed the data to see if adjustments could be made given the overlapping services and redundancy.

Ride filtering logic is designed to provide a micro trip only if no fixed-route option is available within the established threshold. The logic throughout the pilot program has been adjusted based on Park City Transit's input and to focus on efficiency and demand. Presently, micro trips are not offered if:

- There is a fixed-route trip that could get the rider to their destination without adding more than 25 minutes to their trip when compared to a micro trip; and,
- The fixed-route trip requires less than a combined total of 250 meters of walking during the winter and 500 meters of walking in the off-season.

Despite our adjustments, micro trips may be provided in the Empire Pass/Silver Lake areas due to the following:

- Walking distance: The walking distances exceed the 250/500-meter threshold.
- Difficult connections: Some fixed-route connections may increase the total trip time; therefore, micro is the faster option.
    - For example, a fixed-route trip from the Stein Erikson Lodge to the PC MARC takes longer than micro due to a ~28 min connection (transfer) between the 4 Orange Silver Lake and the 2 Green Park Meadows fixed-routes.
    - The Prospector-Montage trips are impacted by the transfer time between the Yellow and the Purple routes. The increased frequency of feeder routes (Yellow, Red, Green & Blue) this winter and the 50 Teal's return should reduce the number of micro trips offered as riders will have greater access to the fixed service and better transfer timing.
- General Transit Feed Specification (GTFS) issues: We discovered that our GTFS system continued to recognize a temporary detour, causing numerous Prospector Housing trips to default to micro even after a temporary detour had ended. We believe we have resolved the issue and will continue to monitor it.

While the increased winter service should reduce these types of inefficient trips, in the interim, the algorithm has been adjusted to route all Montage trips to pickups/drop-offs at the fixed route bus stop to help ensure that the Prospector-Montage trips are directed to the fixed route instead.

Microtransit Service Request For Proposals (RFP) Update
As directed previously by the City Council, we drafted an RFP with two options to bid for future microtransit services:

- Full turn-key solution with software, vehicles, and staff provided by the vendor or
- Software-only option to allow for in-house micro-operations with a mobile application, vehicles, and all labor provided by Park City Transit.

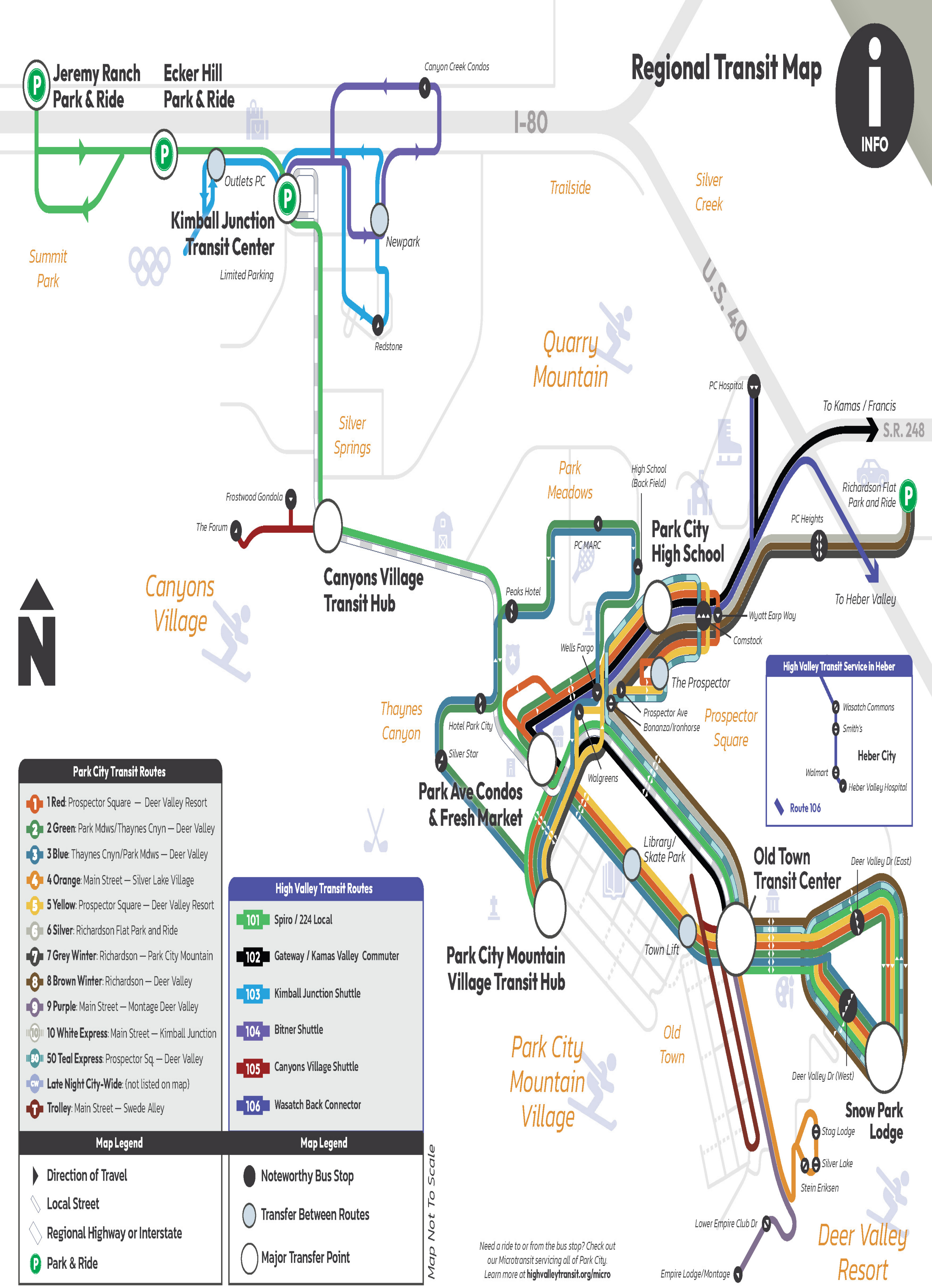
Importantly, the draft RFP awaits the Utah Department of Transportation (UDOT) Public Transit Team's approval for required federal clauses. This approval would allow us to seek federal grant reimbursement for microtransit operations and capital. However, the funding is not guaranteed. We aim to finish the RFP process by mid-January and return to the City Council in February with a recommendation.

Discussion

Our existing agreement with HVT provides citywide microtransit service through April 15, 2024. Based on the work session report and presentation, we seek feedback and direction from the Council on any desired changes to the pilot program.

Exhibits

Exhibit A: PC Transit Service Map


Regional Transit Map
INFO
Jeremy Ranch Park & Ride
Ecker Hill Park & Ride
I-80
Canyon Creek Condos
Outlets PC
Kimball Junction Transit Center
Limited Parking
Newpark
Redstone
Summit Park
Trailside
Silver Creek
U.S. 40
Quarry Mountain
Silver Springs
PC Hospital
To Kamas / Francis
S.R. 248
Richardson Flat Park and Ride
PC Heights
To Heber Valley
Park Meadows
High School (Back Field)
PC MARC
Park City High School
Frostwood Gondola
The Forum
Canyons Village Transit Hub
Canyons Village
Peaks Hotel
Wyatt Earp Way
Comstock
Wells Fargo
The Prospector
Prospector Ave
Bonanza/Ironhorse
Prospector Square
Thaynes Canyon
Hotel Park City
Silver Star
Park Ave Condos & Fresh Market
Walgreens
High Valley Transit Service in Heber
Wasatch Commons
Smith's
Heber City
Walmart
Heber Valley Hospital
Route 106
Library/ Skate Park
Old Town Transit Center
Deer Valley Dr (East)
Town Lift
Park City Mountain Village Transit Hub
Old Town
Park City Mountain Village
Deer Valley Dr (West)
Snow Park Lodge
Stag Lodge
Silver Lake
Stein Eriksen
Lower Empire Club Dr
Empire Lodge/Montage
Deer Valley Resort
Need a ride to or from the bus stop? Check out our Microtransit servicing all of Park City. Learn more at highvalleytransit.org/micro
Park City Transit Routes
1 Red: Prospector Square – Deer Valley Resort
2 Green: Park Mdws/Thaynes Cnyn – Deer Valley
3 Blue: Thaynes Cnyn/Park Mdws – Deer Valley
4 Orange: Main Street – Silver Lake Village
5 Yellow: Prospector Square – Deer Valley Resort
6 Silver: Richardson Flat Park and Ride
7 Grey Winter: Richardson – Park City Mountain
8 Brown Winter: Richardson – Deer Valley
9 Purple: Main Street – Montage Deer Valley
10 White Express: Main Street – Kimball Junction
50 Teal Express: Prospector Sq. – Deer Valley
CW Late Night City-Wide: (not listed on map)
T Trolley: Main Street – Swede Alley
High Valley Transit Routes
101 Spiro / 224 Local
102 Gateway / Kamas Valley Commuter
103 Kimball Junction Shuttle
104 Bitner Shuttle
105 Canyons Village Shuttle
106 Wasatch Back Connector
Map Legend
Direction of Travel
Local Street
Regional Highway or Interstate
Park & Ride
Map Legend
Noteworthy Bus Stop
Transfer Between Routes
Major Transfer Point
Map Not To Scale
N

Resolution No. 22-2023

RESOLUTION WELCOMING THE RETURN OF WINTER IN PARK CITY

WHEREAS, Park City has a rich outdoor recreation heritage, offers exceptional world-class winter sports, including downhill skiing and snowboarding, cross-country skiing, snowshoeing, snow biking, hockey, and ice skating: and,

WHEREAS, Park City is home to two world-class resorts, Deer Valley and Park City Mountain, together offering locals and visitors from around the world the Greatest Snow on Earth®; and,

WHEREAS, in 2023 Park City Mountain celebrates its 60th anniversary and Sundance Institute celebrates its 40th anniversary; and

WHEREAS, Our world-class resorts benefit from talented and committed ski patrollers and instructors, groomers, and service industry professionals who are dedicated to providing a safe, quality experience; and,

WHEREAS, Park City's past and future Olympic spirit is unrivaled thanks to the presence of world-class Olympic legacy facilities which are amenities for athletes of all ages and abilities to pursue their highest aspirations; and,

WHEREAS, Our resilient and creative business community works to keep our local economy vibrant, authentic, and strong; and,

WHEREAS, The Park City community has much to be thankful for, and Park City Municipal is committed to providing a safe environment for locals, workforce, and visitors alike; and

WHEREAS, Park City's Parks and Streets teams are at their best when Mother Nature is most fierce, working around the clock to keep roads clear so residents and guests can access Park City's world-class slopes, dining, and lodging; and

WHEREAS, Park City's Transit, Parking, Police, Trails, Event, and Traffic teams spent months preparing to provide dependable service during some of the harshest conditions through renovated systems to help protect residential areas, prioritize transit, and improve traffic flow; and

NOW, THEREFORE, BE IT RESOLVED that the Mayor and City Council officially, heartily, and frostily welcome the Return of Winter to Park City and declare 'LET IT SNOW!'

PASSED AND ADOPTED December 5, 2023.

PARK CITY MUNICIPAL CORPORATION

Mayor Nann Worel

ATTEST:

Michelle Kellogg, City Recorder

Approved as to form:

City Attorney’s Office

Resolution No. 23-2023

RESOLUTION OF THE BOARD OF CANVASSERS CERTIFYING THE OFFICIAL CANVASSERS' REPORT FROM THE NOVEMBER 21, 2023, MUNICIPAL GENERAL ELECTION FOR PARK CITY, UTAH

WHEREAS, Utah Code Section 20A-4-301(2), provides:

(a) The mayor and the municipal legislative body are the board of municipal canvassers for the municipality.

(b) The board of municipal canvassers shall meet to canvass the returns at the usual place of meeting of the municipal legislative body:

(i) for canvassing of returns from a municipal general election, no sooner than seven days after the election and no later than 14 days after the election; or

(ii) for canvassing of returns from a municipal primary election, no sooner than seven days after the election and no later than 14 days after the election.

(c) Attendance of a simple majority of the municipal legislative body shall constitute a quorum for conducting the canvass.

WHEREAS, the Park City Municipal General Election was held on November 21, 2023, with all ballots being sent by mail or dropped in a dropbox:

NOW THEREFORE, be it resolved by the Park City Board of Canvassers as follows:

SECTION 1. ELECTION RESULTS

The following counts include mail-in ballots postmarked on or before November 20, 2023, ballots deposited in official Summit County drop boxes, and provisional ballots verified as acceptable for counting by the Summit County Clerk's Office.

COUNCIL CANDIDATES	TOTAL	PERCENTAGE
Ryan Dickey	1,744	25.92%
Ed Parigian	1,292	19.20%
Bill Ciraco	1,130	16.80%
Bob Sertner	1,057	15.71%
Matthew Nagie	959	14.25%
John Greenfield	546	08.12%
Total Votes Cast	**6,728**	**100.00%**
Recreation Bond	**Yes 1,137**	**No 1,418**

These numbers represent the unofficial ballot count. The official count will be presented during Council meeting.

City Council candidates Ryan Dickey, Ed Parigian, and Bill Ciraco received the highest number of votes in the 2023 General Election and are elected to the City Council.

MUNICIPAL ELECTION TURNOUT

TURNOUT	TOTAL
Active Registered Voters	5,480
Number Ballots Cast	2,555
Number Ballots Rejected	TBD
Turnout Percentage	46.62%

SECTION 2. CERTIFICATION

The Board of Canvassers has reviewed this resolution and the attached exhibits as the official Canvassers' Report and hereby certifies that the election information contained in them are accurate.

PASSED AND ADOPTED this 5th day of December, 2023.

PARK CITY MUNICIPAL CORPORATION
BOARD OF CANVASSERS

Council Member Becca Gerber

Council Member Jeremy Rubell

Council Member Max Doilney

Council Member Ryan Dickey

Council Member Tana Toly

Mayor Nann Worel

Attest:

Michelle Kellogg, City Recorder

CERTIFICATION

It is hereby certified as follows:

Results of the canvass will be published in *The Park Record*, a newspaper of general circulation; and a copy of the canvass will be filed with the Office of the Lieutenant Governor, and in the office of the Park City Recorder.

____
Michelle Kellogg, Election Official

City Council
Staff Communications Report

Subject: Bus Stop Improvements Outreach Update
Author: Anna Maki, Julia Collins, Gabriel Shields
Department: Transportation Planning, Engineering
Date: December 5, 2023

Summary

When developing the Short-Range Transit Plan (SRTP) and Park City Forward, the City's comprehensive Long-Range Transportation Plan, a reoccurring priority from community input was to improve Park City bus stops. This sparked successful efforts to secure federal and local grants and implement a comprehensive redesign and construction phasing approach to enhance bus stops throughout Park City.

As part of this effort, a multi-year program is underway to identify bus stop needs, create design parameters, and review and approve construction drawings and contracts, resulting in a minimum of 72 bus stops receiving improvements in Park City. In addition to an extensive analysis of existing conditions at each location, project managers also seek resident and stakeholder feedback to help determine bus stop locations and prioritize the types of amenities they might receive. This Staff Communications is a follow-up to the October 5, 2023, City Council meeting update that was provided.

The bus stop improvement program will be divided into three phases given the size, scope, and duration required for such a large undertaking. Phase 1 bus stops are already being designed. Currently, we are reviewing phase 2 bus stop locations and determining the types of amenities sought using public engagement.

The final phase is anticipated to begin Fall 2024 and will follow the same community engagement process. Additional details about the project timeline can be found in the October 5 "Bus Stop Program Staff Report."

Initial Engagement [2022-2023]:

- **Engage Park City Webpage [English and Spanish]**
  Engageparkcity.org, published December 2022, included project information and a link to the Survey123 survey. The webpage was updated upon finalizing phase 1 bus stop locations and is described in further detail under 'Current and Ongoing Engagement'.

- **Survey using Esri's Survey123 App [English and Spanish]**
  Survey123 was open for responses from December 2022 to April 2023. Respondents can select a bus stop on a map, indicate amenity preferences, and add additional comments. 81 responses were received (Exhibit A results).

- **Survey using Polco (moved from Esri Survey123 App)**
  In April 2023, the survey was transferred to the Polco platform to take advantage of the site's Park City resident subscribers. 66 responses were received (Exhibit B results).

- **Flyers [English and Spanish]**
  Informational flyers with a link to the survey were placed at bus stops slated for phase 1 improvements and on Park City Transit buses.

- **Door Hangers**
  Door hangers with project information and a link to the survey were placed at households close to bus stops being considered during phase 1. Flyer locations can be found here.

Current and Ongoing Engagement [2023-2025]:

- **Engage Park City Webpage: [English and Spanish]**
  The Engage Park City platform accepts comments from community members and provides a visual representation of the locations for bus stop improvements. The webpage will be open through the duration of the project and will accept comments throughout. We encourage residents to visit the webpage and share their feedback. [EngagePC Bus Stop Improvements Project Page Link]

- **Email BusStopComments@parkcity.org:**
  To enhance accessibility and convenience, we set up a dedicated email address, BusStopComments@parkcity.org, where individuals can send comments, questions, and recommendations. This email serves as an additional avenue for community members to engage directly.

- **Project Dashboard**
  Community members can see a visual representation of the project via the Dashboard. Additional project information about Phase 1 is included, as well as a reminder to email BusStopComments@parkcity.org with comments. The Dashboard is linked in Engage Park City as well as Park City Transit's website. [Bus Stop Improvements Project Dashboard]

- **Community Resident Liaisons:**
  Recognizing the importance of localized communication in residential areas that will experience a significant amount of bus stop improvements, we will begin requesting community resident liaisons for the Thaynes and Park Meadows neighborhoods. Liaisons will play a crucial role in fostering open communication

between the project team and residents. Liaisons are currently being identified. They will be asked to help disseminate information about the Project, review designs in greater detail, and facilitate feedback from their neighborhoods.

- **Working Closely with directly Impacted Residents:**
  A few of the proposed bus stop locations are within proximity of residents' property lines, making improvements more impactful to these properties. The project team chose these locations based on existing conditions as well as community feedback. We conducted onsite meetings and will hold design review meetings directly with adjacent property owners. We are working to ensure improvements and final designs are context-sensitive and incorporate their feedback.

*Project managers are in the process of creating Spanish-language engagement for current and ongoing projects.

The project team is committed to fostering a transparent and inclusive decision-making process. The input of our community members through these mechanisms is essential to the success of the Bus Stop Improvements Project, and we are excited to enhance the ridership experience throughout Park City.

ObjectID	StopID	How do you ge	What amenities would yo	Amenities1	Amenities2	Amenities3	Amenities4	Other - What amenities would you like to s	What other comments on this bus stop would you lik	Do you have additional comments about this project?
15	1245	Walk,Bike	Bench	Lighting	Pedestrian_crossing	Shelter	Bike_Parking/Lockers		Heat for the 6 months of winter	
65	1245	Walk	Lighting							
60	1250	Walk,other	Better_Signage	Artwork	Bike_Parking/ Lockers				It'd be nice to see another banksy put in here if you could get him for it. Really a fan of his work and I think it spiced up the downtown!	Very happy to see the city making this change, it was a long time coming!
12	1493	Walk	Shelter	other				heaters during Winter	I believe heaters are needed for during winter since temperatures could go below 0, at least on major stops like Fresh Market on Park Ave.	
13	1493	other	Shelter	other				Add Heat! I see people freezing waiting for their bus everyday and think to myself "Why in a world class resort town don't we have heated bus stops? It would certainly make riding the bus more enjoyable not freezing while waiting."	I'm not intending to only make a comment on this individual stop but rather the whole project- Like I said previously add heat to the shelters. I think if we expect/want to encourage people to use transit we should try to make it as comfortable as possible when doing so. We could add solar to the roofs to produce the power for the heaters. Some of our stops don't have shelters as well, let's build them so people aren't standing in a snowstorm waiting. Let's make our bus stops as World Class as our town is!	
64	1505	Walk	Bench	Lighting	Shelter					
54	1520	Walk	Lighting	Trash						
24	2225	Walk	Bench	Pedestrian_crossing	Shelter	Trash			This stop definitely needs a crosswalk, bench, shelter and a trash can. We live right at the house by this stop and we are constantly picking up trash or watching people walk all over our landscaping or sitting on our landscaping. There also needs to be a crosswalk to the other side of 224 where the other buss stop is. No one walks the long distance to the light to cross and it is kind of dangerous.	
41	10030	Walk	other					Nothing	Improve snow removal at bus stop area	
57	10110	Walk	other					Not at this location!!!	To whom it may concern: We are adamantly opposed to the building of a bus stop facility in our front yard! When the busses starting stopping directly in our front yard and driveway (on our side of the street) a few years ago, we did not complain. We have had our grass destroyed, trash deposited on our property and also our privacy invaded (people walking up and standing on our front porch to wait for the bus) plus we have difficulty getting in and out of our driveway safely. We absolutely do NOT want our view of the mountains across the street from us taken away and obscured by a large and very visible bus structure blocking our beautiful view and certainly do not want more of our personal property destroyed by the structure and the people!	(Not sure when we hit the 1,000th word. So I will try and submit the last paragraph here.) We built this house and have lived in our beautiful home for the past 28 years. We are contesting this new idea of building a very visible structure in front of our home! We ask that you please discontinue moving forward with this new idea immediately! Consider moving the structure further West in the commercial area of Sidewinder Drive. Thank you, Morton & Marilyn Phillips 2298 Sidewinder Drive
14	15030	Walk	other					Every bus stop should have a digital sign with actual, real (not just scheduled) times of arriving buses	Every bus stop should have real-time digital sign of when the next bus will arrive. MyStop app is good, but doesn't always work. And printed schedule is pretty accurate (except when buses are running late).	

61	15030 Drive	Bench	Ski_rack	Bike_Parking/ Lockers	other		You can install Revolving Doors , to seal the Bus Stop and Protect from the Wind and Snow , on Cold days .	There is a broken window in that bus stop for more than ten days, and they still haven't repaired it, and I couldn't use the seat because it's wet with snow or water. The same thing happened a few years ago at the Fresh Market bus stop, and they didn't repair the glass in more than a month, too long, since taxes are very expensive in Utah :(!!	I have seen a lot of people putting their feet on the seats, especially teenagers, they should put up signs that inform passengers not to put their feet on the seats, like the signs you see installed on SLC Trax. You could install Plastic Seats , Because the Metal seats are very Cold !!
55	15050 Walk	Bench	Better_Signage	Pedestrian_crossing	Shelter	Ski_rack		Perhaps the road could have a cut in for the bus. It could avoid the current backups during busy times, but should be designed in a way to calm traffic (another ihitative in the Prospector neighborhood.)	Excellent communication on project; thanks for seeking inout. The more information about the various routes that is available to riders at the stops themselves the better. Especially during Sundance and other busy periods, it is very common for people who are not familiiar with the system or routes to be confused. Perhaps this project could incorporate some new or clearerr signage to help those unfamiliar with the system.
53	15080 Walk	Pedestrian_crossing						Add a pedestrian crossing from sidewinder drive to this bus stop.	
70	20080 Walk	Better_Signage	Pedestrian_crossing					Blue line should run all year	
51	20140 Walk	Bench	Shelter					Add a parking area for this stop. It's a long walk from the end of Creek Dr to the bus stop.	
21	20155 Walk	Better_Signage	Pedestrian_crossing	Shelter	Trash	other	Protective balusters (like those installed caddycorner to protect electrical box) at bus stop as well as on all four crosswalk waiting areas . This is a VERY scary intersection and prevents us/kids from using the bus since stop has been moved onto 224.	This recently relocated stop is now oddly placed, sort of in a no-mans land, away from any cleared walkway. There is a lovely -- but unfinished -- trail system adjacent. Can we please connect trails, then clear in winter? The bus stop needs three short but critical connections: (1) from the northwest, at Payday Drive/Prospector corner (where White Pine grooms for nordic) so that pedestrians in slippery ski boots aren't forced by plow-banks into the icy road and traffic at the often-blind 224/Payday corner -- many in our neighborhood now avoid riding the bus because of this scary situation; (2) from the south, at the parkway trail along Prospector, probably requiring a small bridge to cross stream; and from the northeast, at the corner crosswalk, as this is the primary in-bound stop for Peaks Hotel guests. (Forcing winter pedestrians into the 224 highway or into traffic at the blind corner on Payday isn't safe access.) Thank you!	First, THANK YOU!! Please broaden focus a bit on this stop: The checklist is all about creature comforts, which would of course be nice -- but no one is avoiding the stop because there's no bench or ski rack. We avoid it because it's unsafe! Much more important than comfort/shelter at this stop are safety and pedestrian accessibilty. Please install balusters and connect and clear a trail to Payday Drive, see above, thanks!
44	20155 Walk	other					snow removal	Move to walkway at corner so snowplow berm does not block access like it has the last 2 days and a few other days this season	
45	20155 Walk	other					sidewalk	provide a maintained sidewalk so users not walking in traffic	
68	29010 Drive	other					Plowing	The plowing is often sorely neglected in the lot. I also just took a really hard fall on an icy spot this morning, right in front of the bus shelter.	
20	30030 Walk	Shelter						Tired of standing in the road especially when there is feet of snow. Dangerous	
25	30030 Walk	Bench	Lighting	Shelter	Trash				

46	30030	Walk	other				See comments below	This is a low-use stop adjacent to protected conservation space. The main users are occasional winter seasonal workers and a handful of local residents. The main issue is to have enough snow cleared around the stop during winter so that people don't have to stand on the road. It would be a waste of money to consider much more than this. In the summer, there is ample space to stand on the verge.	
26	30040	Walk	Bench	Lighting	Shelter				
47	30040	Walk	other				None. See comments below	This stop is an extremely local, low-use stop on the edge of a local resident's property. It is our local stop. This winter, I have seen a couple of seasonal workers standing there in the mornings because they are renting a nearby house, but otherwise the stop is barely used except occasionally by locals. Other than clearing snow around the stop in winter so the occasional users don't have to stand on the road, I wouldn't want to see any other improvements - it would be a waste of money and would not be in keeping with the location of this stop, immediately butting up against someone's side yard.	Please be judicious about which stops to upgrade so the money is spent appropriately, and also so that the upgrades to the stops reflect the nature of their locations (ie I would expect more upgrades to high-use stops in more urban locations and/or along 224 vs the low-use stops in local neighborhoods). It would look weird and be a waste of money to have highly-upgraded bus stops in locations where it isn't warranted. Thanks!
22	30050	Walk	Pedestrian_crossing	Shelter	other		Pull-out or landing pad (cleared in winter), and walkway to entry. Not working. . . stopping equidistant from the entry, dumping riders into the icebank, forcing to icy road with lots of morning traffic...	The two Silver Star stops are oddly located, sort of halfway beyond the elevator entry (and even the entry road). Is there a way to move one stop closer to the elevator entry? Ideal would be a pull-out/pad of some sort, as pedestrians are now dumped into the icebank along this growingly busy road, then have to walk in traffic and on ice to access the Silver Star complex. (Maybe these stops predate the complex, and the change in population center has been addressed?) Just doesn't seem efficient or safe, especially in busy AM traffic.	Thank you!
27	30050	Walk	Bench	Lighting	Shelter	Trash			
63	30050	Walk	Ski_rack					Move the stop closer to the elevator access to the Silver Star lift so that more skiers will use public transit to this ski lift and avoid the base mountain.	
28	30060	Walk	Bench	Lighting	Pedestrian_crc	Trash			
29	30070	Walk	Bench	Lighting	Shelter	Trash			
30	30080	Walk	Bench	Lighting	Shelter	Trash			
31	30090	Walk	Bench	Lighting	Shelter	Trash			
11	45030	Walk	other				Some place across from Fawngrove (Deer Valley Drive North) that would allow passengers to exit the bus onto a stable surface. Dangerous with no level stop for rideers in ski boots.	we just need someplace generally free of snow (both fallen and plowed up) that would allow riders in ski boots to safely exit the bus. Currently there are NO planned bus stop improvements on Deer Valley Drive North and pads installed this past year are never	
18	50060	Walk	Pedestrian_crossing					We need better service, not amenities at the stop. Also, the app is not updating well and there's no good way to see real time info. Why did the city discontinue support of ITS programs?	
56	50060	Walk	Shelter	other				The bus stop on the west side of Comstock is a mess in winter. It is never plowed and people have to stand in traffic to catch the bus.	This should be highest priority because of the danger!
59	50060	Walk	Pedestrian_crossing	other				This intersection really needs a stop sign. People and busses speed down Comstock.	
19	50100	Walk	Shelter					Often not safe because drivers (not bus) don't see use standing there	

49	60050	Walk	Better_Signage	TV_Sign	other			Heat of some kind (propane, solar, etc)	Clear signage telling when the next but is coming.	All of this bus stops could be more user friendly. Metal benches are freezing in the winter. Improve signage indicating when next bus is coming. Add some sort of heating. The map above is impossible to use. I have no idea what stops are which. It is confusing to riders since some busses have pull cords for stops and others don't. Many tourists don't know what inbound/outbound means in relation to where they want to go
62	90040	Drive	TV_Sign	other				Wi-Fi	You could install Wi-Fi ,please .	The Wi-Fi Does Not Work in the Buses :(!!! In the OTTC , the Buses should Hold on for at least for 3 minutes , because in winter I wait the bus inside of the OTTC for the cold and walk to the bus is around one minute .
32	90070	Walk	Shelter	Trash	Bike_Parking/Lockers				The bus does not run late enough and it's nearly impossible to get up or down the hill without it.	Pleaaaase more busses for shift workers
43	90070	Walk	other					Easier interface to use		We are in Orange line in DV. We love having the bus as a way to get to PC . Our only sugestión is to make the website to follow the bus progression easier to use
17	**N/A**	Walk	Bench	Lighting	Pedestrian_crossing	Shelter	Ski_rack			
35	N/A	Walk	Better_Signage						I think any bus stops that have a shelter should have enlarged maps posted of all the routes (city AND county). So often tourists don't do their research, have no idea what buses they need, don't pick up a printed map, don't download the app. A posted, enlarged printed map (just like subway maps in any big city subway), can be used to figure out what a rider needs to do.	
38	N/A	Walk,Bike,Driv	Pedestrian_crossing	other					You are overthinking it. People just want a safe structure. One with safe pedestrian access. Artwork? Ski racks? Tv sign? Are you nuts or simply out of touch. Have you ever taken a bus from 224. You are dumped off on the side of a busy road. In the winter you cant even get into the shelter unless you climb over a snow bank. Safe access, lighting, crosswalk. I keep saying this on every survey I take. If you want PC to promote pedestrian traffic (vs cars) you need to make it pedestrian safe /pedestrian friendly.	Read the comments from others as I cant imagine you are on the right track
40	N/A	Walk	Better_Signage	Shelter	Ski_rack	Bike_Parking/l	other	Heating. Proper simple maps		

42	N/A	Walk	Lighting	Pedestrian_crossing	Shelter	Trash			It is important to keep these areas WELL lit, shelter from the elements but with the ability to see into them by law enforcement and pedestrians as well, a trash can for all garbage keeping things clean and a large back wall map showing all the bus stops as well as the shelter that the participants are located. A bench provides an a appropriate place for seniors , mothers and people with disabilities to sit and wait for the bus service. The shelters seem to be well used throughout the city and a wonderful addition to a green initiative. The shelters in the front and across the street from Fresh Food Market in Park City are highly utilized but so dark and dangerous. It would be appropriate with the amount of use that particular area gets to have a safe pedestrian tunnel under the road like at the PC High School. Bikers and walkers alike traverse that crossing spot with very high level of traffic.	
48	N/A	Drive	Better_Signage	other					Flagpole bus drivers need to respect other drivers and pedestrians	
50	N/A	Drive	other					Light rail	Add light rail. Electric	
52	N/A	Walk	Bench	Lighting	Better_Signage	TV_Sign	other	Heater every winter		
58	N/A	Drive	other						More busses	More busses
67	N/A	Walk	other					Just would like another stop in Park Meadows near the country club.	Currently, I have to drive to a bus stop.	
69	N/A	Walk	Better_Signage						I like the bus rides a lot	It helps me get a around

ObjectID	StopID	CreationDate	What improvements would you like to see in the future?
30	326	4/1/2023 23:25	Trim the bushes hanging over the bus stop sign so bus drivers can see the sign in the summer when the bush is full of leaves.
23	**558**	2/20/2023 15:00	Walk: Monitor with bus arrival info to include High valley info. : Focus on pathways to the bus being salted. I know this is tough to control, but I know several people that don't take the bus because they are afraid of falling. As a local, I see traffic growing year over year. Part of the reason that people are not using the bus, is because of the uncertainty that comes with it (when is my bus coming). If we can make riding the bus easier, we can convince others to use our now empty park and rides.
42	1705	2/27/2023 18:32	Walk: Lighting,Pedestrian_crossing,Shelter,Trash : The shelters seem to be well used throughout the city and a wonderful addition to a green initiative. The shelters in the front and across the street from Fresh Food Market in Park City are highly utilized but so dark and dangerous. It would be appropriate with the amount of use that particular area gets to have a safe pedestrian tunnel under the road like at the PC High School. Bikers and walkers alike traverse that crossing spot with very high level of traffic.
34	1705	2/24/2023 17:06	Walk: Lighting,TV_Sign
66	2585	3/20/2023 18:48	Walk,other - Sometime micro transit van : Better_Signage,Pedestrian_crossing,Shelter : To take the bus from this location you have to stand on the side of 224. Traffic is going min 45 mph plus. In winter snow ploughing reduces space. Bus stop is an only a pole. Residents don't use the bus here because of the danger. Improve it and we will. Also, will aid in reducing # of cars who drive to use McLeod and Farm Trailheads. Park Meadows residents would take transit more. I've heard it said that this stop isn't on the current plan because no one uses it. I would argue that many would use it if they didn't feel they were putting their lives at risk waiting on a highway for Sometimes over 20 minutes for a bus to come. Why are we redoing perfectly serviceable shelters and not doing more with underserved neighborhoods and stops like this one? At least other stops along 224 have sidewalks to stand on off the road. This location lacks even that. : The design is good and as a member of the public art advisory board I am hopeful we can integrate artwork into the design.
39	2585	2/26/2023 15:57	Walk: Shelter,other : Put a bus stop at 224 and Meadows as a Phase 1 priority. There is no place to stand or wait for the bus safely!
36	2585	2/25/2023 22:29	Walk: Bench,Shelter,Bike_Parking/Lockers,other : Glass or plexiglass barrier to shield waiting passengers from vehicles. A bike rack eould be great. No lockers. : I have asked the mayor an PCMC for a bus shelter at inbound 224 and Meadows many times. The answer is always no. Why? The bus stop is miserable, even when it's not snowed in as it has been for months. I think you can expect residents along Meadows to continue to drive cars until a decent bus shelter is built.
23	29010	3/11/2023 22:13	Direct buses to PC base and to Canyons
22	29010	3/11/2023 17:54	Please have a line directly from Richardson Flats to Park City Mountain

20	29015	3/6/2023 12:51	Please keep bus stop at Park City Heights
26	45080	3/18/2023 15:15	Shelter, bench and lights
15	45090	2/17/2023 21:40	Signage to include arrival bus times Closed heated waiting area Lighted Benches
16	234010	2/17/2023 23:21	Walk: Bench,Lighting,Pedestrian_crossing: The bus stops at Snow Park often have 3 to 4 buses waiting at the same time, especially during ski season. Can the buses, or the stop, have signage or some type of indication as to when they will depart? Several times I have gotten on 1 of the buses, only to sit for up to 10 minutes while every other bus departed.
25	234020	3/18/2023 15:14	Lights
13	234070	12/13/2022 17:55	CONTINUED.... Nothing has been done and according to your latest map with this article, Deer Valley Dr N and Deer Valley Dr E (also having the same hazard) the grant monies received. are not being used to improve these dangerous bus stops. Imagine managing children and ski equipment and being dropped off on the road where you have less than 12" to stand between you and the bus. Often, you have to stand on the snow bank which is slippery and hard to keep balance. Please install proper bus stops along Deer Valley Dr N across from Fawngrove East and West entrances ASAP before somebody is killed.
12	234070	12/13/2022 17:55	The north side of Deer Valley Dr North is an extremely dangerous place to stand, particularly in the winter. The bus stops are at the base of the hill where the hill meets the shoulder of the road. The snow plows plow snow that covers nearly all of the shoulder. Often, buses will stop so close to the snow bank that to load or offload, one must stand on the snow bank or the 6-12 inches of shoulder remaining. Standing so close to the bus as it arrives or departs is extremely dangerous and must be rectified. I have contacted Park City in the past year and a neighbor has done the same.
27	ALL	3/18/2023 15:16	Add lights so bus drivers can see people waiting for bus...
29	N/A	3/30/2023 16:40	It helps me a lot to get a around
28	N/A	3/27/2023 20:16	Love to see Silver bus go non stop from Richardson Flats to PC resort ski area. Lots of skiers in this area would use it if it were non stop
24	N/A	3/15/2023 22:34	Who the fuck thought it was a good idea to only run one line to canyons? What the fuck happened to the ski bus? And this town…
19	N/A	3/5/2023 2:35	Heat activation. They have this in the airport bus stops.
18	N/A	3/4/2023 21:54	Los fines de semana muy malo el horario de las rutas 101 y 10 no cumplen horarios. Que en los paraderos paren en el mismo el 10 y rl 101. Me gustaría que el día domingo en horas de la mañana las rutas no salen a tiempo y que en las paraderos uno pueda tomar las fis rutas el 10 y el 101 , los fines de semana no cumplen con los horarios

Polco

PARK CITY
1884

Bus Stop Improvements Survey

Survey Results
FINAL

05/08/2023

Please tell us about yourself:

Full-time resident living in 84060 zip code 62% (41)

Part-time/seasonal resident living in 84060 zip code 17% (11)

Summit County resident (84098 zip code) 18% (12)

Business Owner or employee working in 84060 3% (2)

How do you get to/from the bus stop?

Walk 79% (52)

Bike 12% (8)

Drive 18% (12)

Other (Please Explain) 11% (7)

Please describe any other method(s) you use to reach the bus stop.

There is no bus stop near me!

Too far from bus stops and no parking available in Park Meadows to use existing bus stops.

My spouse drops me off in the car

Never take the bus

HVT

High valley transit

Walk, drive or hitch a ride

Which bus stop you use most often? *Please indicate the Stop ID or Stop Name using the map above.

None close to me.

Deer Valley Dr/Deer Valley Loop

10010

777

none. I would if accessible from my house.

45090

45020, 45010

Not shown (1985 Prospector Ave)

Canyons Transit Center and Deer Valley Snowpark Lodge

N/A

1705

20020

1108

20080

2168 Saddle View Lane and 224

Richardson Flats

234040

224 & blue roof

Marsac Ave Aimee Court Ironwood... 90050

1000

2585

Prospect Drive & Park Avenue

50020

None

transit center

Silver Star and PayDay

23420, 45080,1505

950/1000/1001/1245/1250/1375/1378/1450/1485/1505/1520

III Kings Dr & Crescent Rd

3 kings

50100

20140

Park Avenue

2585

1705

605

Swede Alley Main Terminal

all

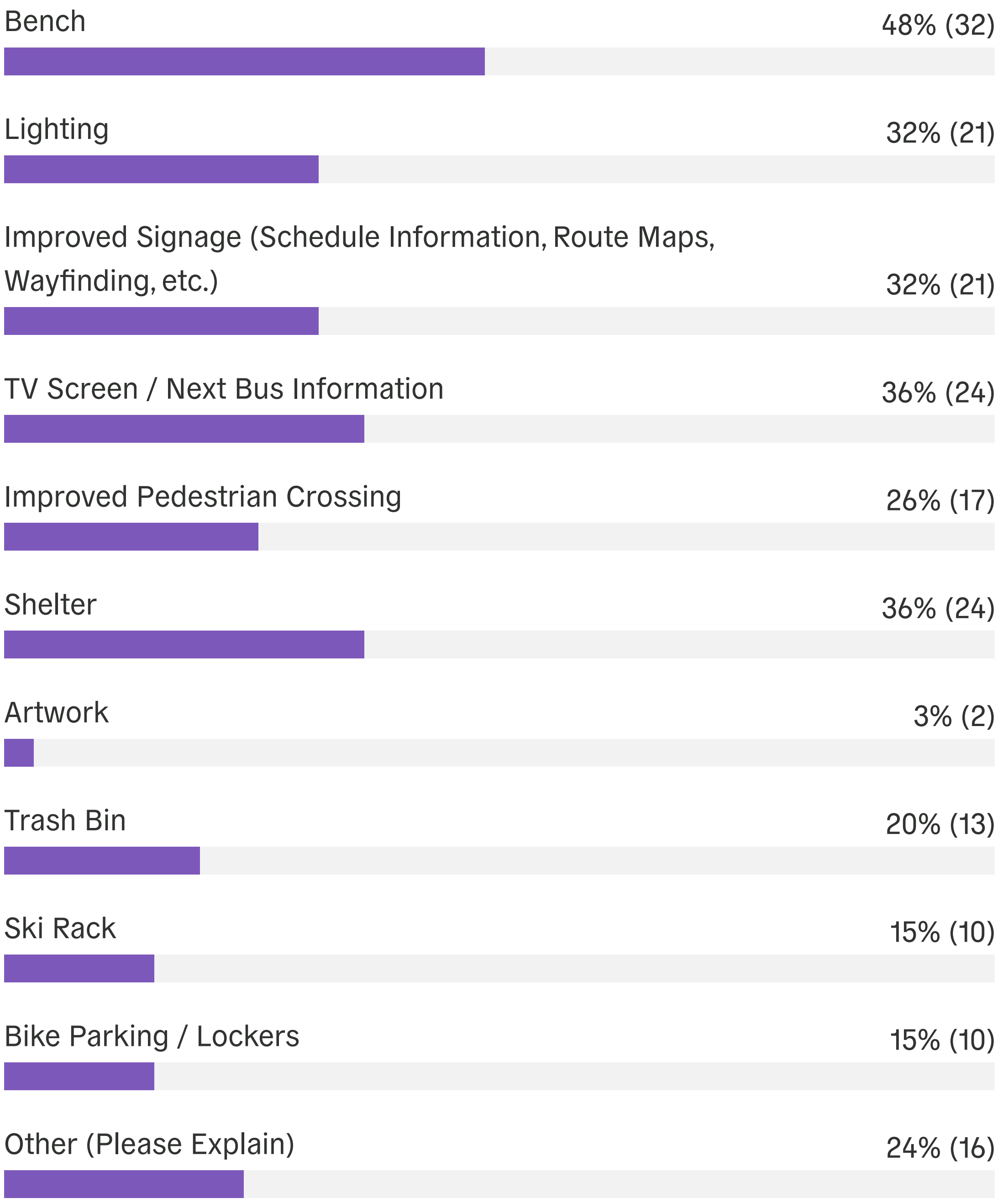
Bear hollow drive nursery

10030

Map won't appear

Richardson Flats
234050
High School Football Field or Baseball Fields (my daughter uses the bus)
the lodges at deer valley
20130
2585
2585
little Kate and lucky John
#! Red
20130
Canyons Transit Hub
20050
Richardson Flats
PC Mountain
604 and 605, depending on direction; 45090 and 234010
Jeremy Ranch
Canyon creek kimball junction
1705, 50040,
20150
MARC
20060
richardson, high school, transit center, PCMR
2585
Park City Heights
10030

What amenities would you like to see at the bus stop?



Please describe the amenity you would like to see at the bus stop.

Area to wait which is not in line of traffic

Heat in the shelter

Stop worrying about the bus nobody uses, focus on traffic flow and parking!

Nothing is needed.

This stop is way too far for most people leaving in Solemere. You should consider adding service to Solemere.

None

I believe all Bus stops that cross at intersection should have crosswalk to ease crossing the street/alert drivers. Major streets with speed limit over 30 should have warning lights to assist drives see a pedestrian is crossing the street. It is even more critical on 4 lane streets! I would hate to read a pedestrian is hit crossing the road because a visitor to city did not realize it was a location that people cross the road.

A clean area in the winter, to not have to wait on the road in a quasi dead spot

stop is fine as is

Hard if not impossible to use in winter. Don't know if bus drivers even know it is a stop. Unprotected. Poorly Lit on 224. no way of knowing if and when a bus will arrive.

This bus stop is VERY dangerous. When there is snow on the side of the road you have to stand almost on the highway. Please consider a shelter ASAP and have the area plowed around it for safety.

More offset from 224 and plowing in the winter

better snow removal, visibility convex mirrors for both directions , slow-down signage, motion-activated hazard lighting

Little free library children’s books and adult books and magazines Sharing bin - extra hats, mittens, granola bars, small toys

a mini convenience shop - like super tiny but has snacks and drinks

Clean. Enclosed. Safely off the road. I specially think about 224 and how dangerous those locations are

Which specific bus stop(s) would you like these amenities added to? *Please indicate the Stop ID or Stop Name using the map above.

Add bus stop near Silver Creek
same
All bus stops should be safe from traffic and waiting area kept clear of snow and ice during winter months
Park Meadows bus stops
45090
45020, 45010
Not shown (1885 Prospector Ave)
Canyons Transit Center
1705
20020
1108
20080
2168
Richardson Flats
234040
90050
1000
2585
50020
Silver Star and PayDay
23420, 45080,1505
950/1000/1001/1245/1250/1375/1378/1450/1485/1505/1520
90020, 50100
1705
Any future stop on Marsac
all
All
1030
Richardson Flats
Park City High School Stops
the lodges at deer valley and the canyons stop
20130
2585
2585
little Kate and lucky John
Wyatt Earp
20130
Canyons Transit Hub
1000
Richardson Flats

All stops.
trash bin at 604/605. Next bus information (including which bus is leaving first) at 45090/234010
Jeremy Ranch
Canyon creek condos kimball junction
1705 and 50040
20150
MARC
20060
all
2585, 2590, 20100, 20140, 20050
Park City Heights
10030 1000

Do you have other comments on this bus stop would you like to provide?

The addition of a bus stop near Silver Creek

no

educational history of the neighborhood. DOGS must be on leash signage and enforcement

I would like a bus stop on upper Meadows drive to be added to provide service to the upper half of Park Meadows.

When leaving Deer Valley it is impossible to know which of several waiting buses is leaving next. I have often gotten on the first bus in line, or to discover too late that other buses left sooner.

Bus service to Park City transportation hub, and better service to both Snow Park and Park City. Busses show up all together (like 3) then no busses for 20 minutes. Could you work on spacing and timing.

Shelter should be larger. Need a park and ride parking lot adjacent to Canyons Transit Center.

Stop worrying about the bus nobody uses, focus on traffic flow and parking!

When the city painted the green bike lane on Park Avenue, it forces cars and buses to drive right up against the curb on the east side of the road. If the road is snowy/slushy/wet, anyone standing at this bus stop can potentially get drenched from any vehicles that pass by. I don't think the bike lane is a good idea because of this

I would like you to bring back the blue line year round, plus we need a pedestrian walkway to blue bus stop to slow down traffic.

Need more frequent pick ups in Winter

Run Silver Bus directly to and from Park City Ski Area. Eliminate the transfer at the transit station.

This stop is way too far for most people leaving in Solemere. You should consider adding service to Solemere.

No improvements needed. In winter (seven months of the year) the snowbanks would need to be removed by hand constantly, and there is nowhere to put the snow. Empire Express provides free service to the location so no homeowners need to ride the bus. Lights? You make us turn off our tree lights that everyone loves, but you want to light a bus stand, please do not. Save your money here and spend it somewhere else.

Need ski racks and benches, gets very crowded

Like many bus stops, hard to reach in the winter. Needs snow removed for access and safety

Do not add more bus stops! Certainly, add shelters and or lighting for bus riders but that’s it.

It's fine

amenities not needed but it would nice if drivers slowed down or looked for riders almost at the stop rather than blowing by

We need a bus stop on Marsac.

Real life timer

Riders at PC Mountain 1000 are often very confused about inbound vs outbound buses, splitting the stop set up so that inbound and outbound always pick up at opposite ends would help clarify this.

N/A

Remember - most of the people taking bus at these stops are minors. It is incumbent upon the city to create a safe area with lighting and shelter when they are waiting for the bus.

This stop got really piled up with snow this winter so having more physical elements there would help with usefulness of the stop.

I live at 2663 eagle cove drive, pc. are any bus stops closer to my house planned?

I love the bus! Drivers are generally helpful which I appreciate

It's not clear if this is referring to the existing stop on the north side of Holiday Ranch or a new proposed one. Please know that this is a BLIND CURVE with a long history of cars losing control while speeding through the curve and crashing into trees and fencing on the south side of Holiday Ranch. Signage is needed in this curve on both sides to warn drivers to SLOW DOWN. It is dangerous to cross between the south and the north sides at this stop because of cars speeding westbound and very limited visibility of westbound cars careening into the curve. The bus drivers should make a better effort to pull out of the traffic lane, as there is a wide bus lane (which is also why SNOW REMOVAL needs to be done assiduously along this road and especially at the bus stops surrounding this curve both for the 2 Green and the seasonal 3 Blue) because when the bus simply stops in the roadway at this stop, impatient drivers swerve into the oncoming lane of traffic at high speed, which is really dangerous to oncoming cars and anyone trying to cross the road - lots of folks cross between Little Kate and the south side of Holiday Ranch. I have been almost hit NUMEROUS TIMES by speeding cars here.

Shelters could be improved, maybe a little larger in size or nicer quality, lighting could be better. Ski racks useful since it is the Canyons.

Many tourists are confused at this main skier bus stop. A map of each route would be helpful.

Most people using this stop are low wage workers. Let’s show kindness and compassion.

It would be cool to have different pavement types that identifies it a bit more, makes it fancier and mayube something just nearby that a kid could play on while we wait - pie in the sky ideas but just hrowing it out there.

Lights and shelter are a must. Leave for work at ski area early so still dark. Difficult for bus to see us!

Easy pedestrian access

When bus stops are on busy streets (ie 248) they need to be SAFE, waiting in a snowbank is not an option!

Do you have additional comments about the bus stop improvements project?

More!

yes, these efforts all look redundant. There are no stops in Solamere

All stops should have safe area for riders to wait, board and exit the bus

A shelter at stop 604 would also be good, but probably less important than shelters at stops with less frequency service.

The system is great. Problem is High Valley vrs Park City. No coordination between the two systems. And lately no consistency. They keep changing who goes around the deer valley route in which direction, then whole routes just stop. And two different web sites to try and figure it all out. I'm getting exhausted they to keep up and have started to drive more.

I see a lot of bus stops and my general impression is the stops that serve seasonal and minority workers have the least improvements. Those are exactly the people who this survey will miss. You need to seriously rethink it. Maybe just forget the survey and do what's right.

Please add more buses and drivers next winter. Buses should run on time. Very unreliable this winter.

Stop worrying about the bus nobody uses, focus on traffic flow and parking!

I would like to see a map of ALL our bus routes in any bus stop that has a shelter. Let tourists/residents try to figure out our bus system by studying these maps

Why not use smaller buses to go in both directions (blue and green lines)

You should consider adding service inside Solemere. The bus stop (234040) is too far for most people to walk to and if you drive there is no parking.

bring back the bus through Silver Springs. I use the bus much less than I used to and drive more often, defeating the purpose of public transportation.

Without a shelter, it is incredibly DANGEROUS and someone will be killed, especially in the winter (due to limited snow removal). There also needs to be more parking near the stop. Currently, it is simply NOT a viable option to take the bus became of parking but mostly SAFETY

People don’t use the buses! The buses I see are almost always almost empty!

Need bus stop at Christian Center

Let's get full bases, I ride alone?

There needs to be better visibility regarding crosswalks and speed limits. People don't stop even when I'm in the middle of a crosswalk. Often the signage is hard to see or the crosswalk paint has worn off.

Quite a few locals live on the East side of Marsac, we have no convenient bus stop or safe way to cross Marsac to get to one. My son can't even get to the school bus for McPolin. I live at the South end of Ontario and would love to take a bus to Deer Valley but it's just not convenient. My next door neighbor and his wife both work at Deer Valley and they also drive to D.V. every day. There is an excellent piece of land, owned by the city, directly in front of my house on 201 Ontario. It's a dirt lot that attracts quite a few trailers and construction vehicles, it would make an outstanding bus stop. Old Town residents are (in my opinion) grossly underserved by our current bus system.

Move the Transit Center by the Richins Building to another location and thus kill Dakota Pacific's housing density.

Nah

My daughter has gotten wet and freezing waiting for a bus by the high school. This is not okay - no easy way to see schedule when phone isn't working (when town is crowded, this happens a lot) - and there needs to be light and shelter. This is unsafe and really poor management of the city to neglect those areas. Please solve issues for full time residents and our children before worrying about improving stops for tourists.

A way to track the busses at all stops would greatly improve the system

I had spoken with Gabriel Shields with PC city hall and he was trying to get the area around that stop plowed better. But it was never done this season. I hardly ever saw someone standing there and when I did it seemed so unsafe. I think the stop would be used more if it was safer.

There should be park-and-ride areas along the 2 Green / 3 Blue routes so that people who don't live along the routes, ie 95% of Park Meadows!, can actually use the buses and not feel like they should illegally park on side streets near the bus stops, or, worse, simply drive into town or the ski resorts, compounding our traffic snarls simply because they don't have user-friendly access to the buses.

Given the amount of traffic the Canyons Transit Hub sees I think it would be a good candidate for improvements. My guess is with the new affordable housing development and the fact that more people are parking at Canyons to take the bus to Park City Mountain this transit hub may see an increase in usage in the future.

Maps at each stop would be helpful.

I think the bus system in PC is pretty good. I don’t use it as much as I should but it’s a great amenity.

Make them family friendly Comfortable and safe Hard to know when next bus arrives Art work that all ages can engage with Example: animals with names in English/Spanish

Thanks or doing it! Definitely needed :-)

Forget the art work and schedule screen. Shelter, light, bench and trash can all that's required. MyStop App gets you current info on where bus is.

The bus stops dont need art. Get the basics down first

Times that the bus will arrive is very helpful. Even better would be a countdown clock to the next bus but it’s actually accurate.

City Council
Staff Communications Report

Subject: Treasure Hill Conservation Easement Update
Author: Heinrich Deters
Department: Trails & Open Space Department
Date: December 5, 2023

Due to recent inquiries regarding the Treasure Hill conservation easement status, a comprehensive project update is provided below, along with a proposed timeline necessary to support a transparent and responsible approval process.

Background

Conservation easements entail perpetual land protections and restrictions. Modifying these types of land protections is highly uncommon, especially when applied to public lands. Consequently, precision and transparency in documentation, relying on specific survey data, reserved land property rights, and extensive title research play a pivotal role in ensuring the success of the easement and facilitating future monitoring and stewardship endeavors.

The Bonanza Flat Conservation Easement is a noteworthy example. This process, coordinated with Utah Open Lands, took almost three years to finalize and underscores the meticulous planning, title examination, survey work, and coordination of reserved rights and stewardship obligations before issuing the ultimate document. That document is frequently used today, sometimes challenged by those seeking access and use to the land, and more.

As you know, Park City acquired the Treasure Hill property in March 2019, with specific conditions outlined in the acquisition documents and property deeds, including a provision to delay the adoption of the conservation easement for 720 days (2 years). This time period was proactively agreed to and sought by the previous landowners. For various reasons, such as COVID disruptions, we are well beyond that deadline and probably should have projected a timelier land assessment and review process. Still, much positive work has transpired, as described below in detail.

Since the property acquisition, various open space and land stewardship projects were completed, including:

- The 2019 Summit Land Conservancy (SLC) Conservation Easement entity contract was awarded;
- In 2021, the Sixth Street Stairs were constructed;
- In 2021/22, the new Mother Urban Trail was constructed ($50,000 Donation) in collaboration with a neighborhood coalition;
- In 2021-2023, a Defensible Space Mitigation/Forestry Plan was created and implemented; and
- In 2022, the Treasure Hill Trailhead/Rich Martinez Statue was completed (Martinez family Donation).

Since 2021, the SLC achieved significant milestones in preparation for the final draft conservation easement, including numerous field visits and data collection efforts to draft the property's baseline document. A baseline document, supported by a complete title review, is a snapshot of the property's condition, to which all future monitoring and compliance decisions are evaluated. It is an important milestone for the property's future stewardship.

Due to the complex nature of surveying in the Old Town area, the City contracted with Alliance Engineering to conduct an ALTA survey of the property. This survey, which goes beyond a typical boundary survey, included critical information such as recorded easements, existing conditions, possible private and public property encroachments, and other pertinent information from title reviews. A boundary survey completed in 2022, and the final ALTA survey was presented to the City's Trails and Open Space Team in September 2023. The SLC has included the ALTA survey in their current conservation easement draft form and legal description and is working toward providing the City with a final draft easement in January 2024.

Recently, the Trails & Open Space Team, the SLC, and representatives from the Sweeney family (original property owners) extensively reviewed the survey and walked the property to consider detailed survey information and proactively assess any identified or potential private property encroachments given the abutting residential neighborhood.

Next Steps

The next phase of the project includes:

1. Notice of Encroachments and Corrective Action to abutting private property owners (December-February 2024):
    - Coordination of potential corrective actions, with possible challenges from affected landowners.
    - Review acceptance/corrective action responses from adjacent landowners.
2. Review a draft final conservation easement (February 2024)
    - Conservation Values

    - Reserved Rights
    - Permitted and Prohibited Uses
3. Presentation to City Council (March/April 2024):
    - Review and approve the Conservation Easement.
    - Grant of Easement and recordation.
4. Implementation and Monitoring (Spring 2024):
    - Coordinate the notice/signage of the easement by SLC along the Woodside residential boundary.
    - Confirmation of encroachments removed by the summer of 2024.
    - Ongoing stewardship and maintenance responsibilities ongoing.

PARK CITY COUNCIL MEETING MINUTES - DRAFT
445 MARSAC AVENUE
PARK CITY, UTAH 84060

November 16, 2023

The Council of Park City, Summit County, Utah, met in open meeting on November 16, 2023, at 3:15 p.m. in the City Council Chambers.

Council Member Toly moved to close the meeting to discuss litigation and property at 3:15 p.m. Council Member Gerber seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

CLOSED SESSION

Council Member Gerber moved to adjourn from Closed Meeting at 4:45 p.m. Council Member Doilney seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

WORK SESSION

Emerging Disruptors Study Update:

Hannah Pack and Alex Roy, Transportation Planning, and Brent Crowther, Kimly Horn, presented this item and Pack stated the purpose of the project was to find disruptive ideas that would promote innovative transportation. She noted the committee met July-October to discuss the pros and cons of the ideas. Crowther stated the committee started with an initial list of eight disruptors. Dedicated bus lanes were explored for bringing them further into town. The committee favored this idea as long as the right-of-way was not expanded. The one-way loop on Kearns, Park Avenue, and Bonanza was analyzed and the group thought this idea could be a benefit and suggested a pilot project and further analysis by City staff. The aerial gondola was studied and it was noted other cities were using this transportation feature. The committee recommended that this would not be a primary form of transportation, but used as an alternate form of transportation. Passenger rail was discussed and the group favored having this connected to a regional system, such as the UTA Frontrunner. The direct airport connection to Park City was explored as part of a visitor's flight reservation.

Implementing a reversible flex lane during peak traffic times was discussed and it was determined this could be implemented relatively quickly. The group recommended analyzing this in a feasibility study with UDOT. They also discussed establishing vehicle-free zones on Main Street and felt any closure of Main Street should be permanent and not just for special events. They recommended making Main Street a permanently closed street. The last idea discussed were tunnels where cars would shuttle people into town without widening roadways. The committee recommended exploring this idea further.

Pack reviewed the next steps for each idea and the estimated impact. Some of the projects needed additional review from City staff and outside firms, while others needed regional partners. Roy indicated vehicle-free zones and the one-way loop were lower priorities since they would not reduce traffic in town.

Council Member Dickey asked if the tunnels were feasible since it was very expensive to implement. Regarding bus rapid transit (BRT), he asked if the idea was a way for people in the County to get into town, to which Pack affirmed. Roy stated the City and County were conducting a park and ride study and they discussed how BRT could be accessed. Council Member Dickey referred to the gondola and asked for more information. Roy stated people wouldn't get out of their car to ride the gondola, but if it went places that weren't accessible by car or was a shortcut route, it would be attractive. Park and rides would be good locations to board a gondola. Council Member Dickey asked if flex lanes would move the bottleneck out to another area. Roy stated that would need to be studied.

Council Member Toly asked why the committee did not recommend trolleys or trains. Roy stated the group focused more on a regional train versus a circulator train. He noted a difficulty of doing a rail system was the expense for putting in the tracks. Trolleys could avoid that expense. Council Member Toly asked if vehicle-free zones were considered in other areas of town. Pack stated the Bonanza Park area was also discussed as a possible location for that idea. Council Member Toly stated a vehicle-free zone on Main Street should be explored with the small area plan. She asked how the cost estimates for the ideas were determined. Roy stated the ideas and recommendations were not solely focused on cost. Council Member Toly asked why the one-way loop would require a road expansion. Roy stated there was modeling of this concept and it would require an additional outbound lane. Council Member Toly asked if a one-way loop was considered for Old Town, to which Roy indicated it was not studied, but the group acknowledged Old Town could be explored for a one-way loop as well.

Council Member Rubell noted there was a procurement report in today's packet for studying the one-way loop and asked if that contract was executed, to which Roy affirmed. Council Member Rubell didn't think this was good use of funds since the idea ranked low. Sarah Pearce, Deputy City Manager, noted the contract was executed before the committee was formed. Council Member Rubell asked if the distinction between the disruptors and the things that would benefit the transportation network was the sentiment of the committee. Roy stated the group was focused on looking at disruptors to offset the traffic coming into town. A major point of discussion involved the traffic problem and they wanted to look at solutions that would solve that issue. Council Member Rubell asked if fast electric vehicle (EV) charging was part of the study, to which Pack stated that idea was not selected for study. Roy noted some of the ideas were going to be implemented anyway and that was one of them.

Council Member Doilney asked if the town's comfortable caring capacity was a topic of discussion when weighing the disruptors. Pack stated the stakeholders didn't want more cars in town, but they didn't focus on the people aspect. Council Member Doilney asked if the City's pain points were a driver of the discussion. He stated pain points changed behavior and asked if that played a part of the study. Roy stated the committee wanted to focus on capacity and how to maximize efficiency without increasing capacity. Council Member Doilney agreed with the work done by the committee. He noted the presentation included areas where the City could research more. He didn't know about the tunnel idea and stated Park City didn't identify with Las Vegas and he didn't want its resources spent on that. The airport connection made a lot of sense, and he thought the City could lead on that among resort communities. The gondola had been discussed for years, but he felt the limited loading zones and the right-of-way issue made for difficult execution. It wasn't a no, but he asked to look at that in conjunction with prior research that was done.

Council Member Rubell looked at the ideas that were feasible and low cost as mid-term options: the airport connection, vehicle-free zones and reversible flex lanes. The aerial gondola and tunnel were harder to achieve and longer-term projects. He wanted to pursue them with the note that they were not near term achievable. He wanted to move forward with the recommendations. Council Member Toly stated the community wanted a fast solution and she wanted to look at a plan for the airport connection, the gondolas, and the tunnel ideas. She thought there was a mid-term solution that was missing and hoped to see something in that range.

Council Member Gerber stated the ideas were focused on taking cars off roads. She didn't want the flex lane idea because that would open the town up for more cars. She felt narrowing roads would be the most disruptive idea and it would promote the buses. Discussion needed to include how to disincentivize cars coming into town. Council Member Dickey stated he felt the same as the other Council members and thought some of these ideas would bring more cars into town. Airport traffic was not a traffic solution because it happened throughout the day and not at 8:00 a.m. He thought the reversible flex lane should be studied further. The vehicle-free Main Street was a good idea but he was concerned for the local businesses and wanted to understand how people could continue to support those businesses.

Mayor Worel favored the airport connection and stated that would be fairly easy to implement. She was glad there were people with the knowledge needed to help it get implemented. The tunnel needed to be studied further and she agreed it should not be a

City funded project. She asked why there was a social equity lens to that idea. Pack stated other tunnels charged fees which was not in line with the City's fare-free status. Mayor Worel favored looking at vehicle-free areas in conjunction with the Bonanza Park and Main Street small area plans.

Council Member Doilney stated the work done was great and it helped Council make decisions and narrow down priorities. Roy stated he heard good feedback and would move forward on the airport connection and BRT. They could work with Planning and Economic Development to look at vehicle-free area possibilities. Council Member Toly felt a vehicle-free Main Street would need a train running down it to help pedestrians navigate the hill.

Childcare Scholarship Program:

Michelle Downard, Resident Advocate, and Sarah Mangano, Human Resources Director, presented this item. Downard reviewed the administrator had begun working with the Division of Workforce Services (DWS) with regard to the childcare scholarship program and they provided feedback on the City requirements for the scholarship. She noted DWS was considering increasing their funding, which in turn would stretch the City's scholarship funds.

Council Member Gerber expressed concern regarding the scholarship endpoint for children over 60 months, since some children missed the school birthdate deadline. Downard stated the focus of the program was for early childcare, but she could adjust the language. Council Member Dickey stated Upwards advocated against the DWS incentive and he asked for the justification for that recommendation. Downard stated the funds would go to the providers. The administrator stated there were providers who didn't accept the DWS money because of the administrative costs associated with receiving those funds. Downard stated Upwards recommended the funds go to the households instead of the childcare facilities to help the families and maximize the benefits. Council Member Gerber stated this was a pilot and the City could see how many providers added children with DWS benefits and if it wasn't an incentive, the City could cut it.

Council Member Toly clarified there was nothing in the program that distinguished or prioritized residents or workforce over the other group. Council Member Rubell stated the $200 was not income qualified, to which Downard stated that had a 150% AMI limit. Council Member Rubell thought 150% AMI was too much since that equaled over $200,000 for a four-person household. He felt the AMI standards needed to be consistent. On the employee childcare benefit, he asked if the same program applied, but employees didn't have to use a Summit County provider. Mangano affirmed, and stated they didn't want to impact the Park City area since it was already impacted. There were also other reasons why employees couldn't move their children to Summit County facilities. Council Member Rubell requested that Childcare Criteria Item One include residents and Park City Municipal employees. He also asked if that employee benefit would extend to boards and commissions, to which Mangano stated the benefit didn't extend to board members at this time because of complications with other state benefits. Council Member Rubell hoped that this benefit could be given to boards to help break down barriers to participation. Council Member Gerber noted the housing incentive was not offered to boards and it should be consistent with that. Mangano stated no benefits were offered to part-time employees because it would trigger other benefits so she would have to look into that more.

Council Member Doilney understood the concerns and noted one of the things Council wanted to figure out during the pilot program was if the scholarship helped people stay in town. He preferred to start narrow and learn from it. Regarding the 150% AMI cap, Council didn't know who needed this benefit and he didn't want to punish families for living in Park City. For the pilot, he thought the way it was laid out was a good start. Council Member Gerber stated this was a complex process and she thanked Downard and Mangano. She agreed with Council Member Doilney and stated it was great to have the pilot. The 150% AMI was the Park City middle class and she wanted to promote that as a workforce incentive.

Mayor Worel summarized the Council agreed to move the age limit to when children started kindergarten. Council Member Rubell stated 150% AMI families wouldn't qualify for an income supported program. If the intent of the program was to incentivize workforce, then that was a different purpose. Downard clarified 100% AMI for a four-person household was $148,600 and 150% AMI was $222,900.

Council Member Toly had a problem with 150% AMI as well. She suggested making it 100% AMI for the first three months and then expanding it if there was a lot of money left over. Council Member Dickey asked how the money would be distributed. Council Member Rubell indicated Criteria Item Two did not require a cost burden. He suggested beginning at 100% AMI and increasing the AMI to 120% if needed with administrator discretion. Council Member Doilney supported that but asked that the administrator come back if there was no response with the 100% AMI. The Council agreed to lower the AMI for the first three months. Mayor Worel asked that this item come back to Council for a vote on November 30, so Council was clear on the direction. Mangano stated she would change the employee benefit to include up to kindergarten eligibility. She had no AMI data for employees, so she didn't want to expand that. Council Member Rubell asked if the childcare benefit should come back to discuss expanding it to boards and commissions.

REGULAR MEETING

I. ROLL CALL

Attendee Name	Status
Mayor Nann Worel Council Member Ryan Dickey Council Member Max Doilney	**Present**

Council Member Becca Gerber Council Member Jeremy Rubell Council Member Tana Toly Sarah Pearce, Deputy City Manager Margaret Plane, City Attorney Michelle Kellogg, City Recorder	
None	**Excused**

II. COMMUNICATIONS AND DISCLOSURES FROM COUNCIL AND STAFF

Council Questions and Comments

Council Member Toly announced tomorrow was the beginning of ski season and Election Day was Tuesday. Council Member Rubell asked for an update on the Fresh Market bus stops. John Robertson, City Engineer, indicated the Park Avenue bus stops would be bigger than the previous ones. They began construction in July, but there were supply chain issues and labor shortages which delayed the project. The concrete would be finished this month, and the structure would be completed by the end of February. A tent was put in front of the Yarrow Hotel and notices distributed to let people know. Council Member Rubell stated there were discussions by Planning Commissioners based on the LMC amendments and the need for contractors. He requested a joint meeting with the Council and Planning Commission to discuss upcoming topics. Mayor Worel indicated she met with Sarah Hall, Planning Commission Chair, and they had agreed to meet every six weeks to keep communication lines open. Council Member Rubell requested this be discussed at the next retreat as well.

Council Member Doilney stated some of the Council went to the Chamber meeting today and they previewed the upcoming ski season. It reminded him that this was a community that welcomed the world and residents were lucky to be here. He reminded people to vote. He indicated there were a lot of letters to the editor in the Park Record. He read that Park City was going to have a lot of new water and he wanted to clarify that. Clint McAffee, Water Manager, stated there was talk that the new 3Kings Water Treatment Plant would add water sources to the City. He stated the plant would treat existing water but would not add additional water. Council Member Doilney added this plant would increase the City's regional collaboration.

Mayor Worel announced dates for early voting and Election Day voting for those who lost their ballots. She stated PCMC achieved an 86 out of 100 on the Human Rights Campaign Municipal Equality Index. This showed the City's commitment to diversity, equity, and inclusion (DEI) and LGBTQ communities. She reminded the public they could take the Bonanza Park survey by going to the City website.

Staff Communications Reports:

1. Procurement Update:

2. August Sales Tax and Budget Monitoring:

3. Sundance Transportation Plan 2024:
Council Member Rubell clarified there were public comments about the plan last year. He stated staff had to try new things and learn from them. They were adjusting this year based on the results from last year.

4. Community Engagement Quarterly Update:

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

Mayor Worel opened the meeting for any who wished to speak or submit comments on items not on the agenda.

John Stafsholt 84060 stated voters in 2018 approved the Treasure Hill bond. He indicated in 2021, a conservation easement was announced, but there still was no conservation easement. He asked that a conservation easement be discussed at the next meeting.

Jennifer Wesselhoff, President of Chamber and Visitors Bureau, thanked Council for putting the Small Business Saturday Resolution on today's agenda. She stated small businesses were the backbone of the community. It was important to shop local. She thought supporting local businesses helped keep the community vibrant.

Mayor Worel closed the public input portion of the meeting.

IV. CONSIDERATION OF MINUTES

1. Consideration to Approve the City Council Meeting Minutes from October 26, 2023:

Council Member Gerber moved to approve the City Council meeting minutes from October 26, 2023. Council Member Dickey seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

V. CONSENT AGENDA

1. Request to Adopt the Proposed Childcare Benefit for all Full-Time Municipal Employees:

2. Request to Approve a Contract for State Lobbying Services, in a Form Approved by the City Attorney, with Consult-LEC, LLC (David Stewart) for $100,800 Per Year through December 31, 2025:

3. Request to Approve a Contract for Federal Lobbying Services, in a Form Approved by the City Attorney, with Barker Leavitt for $109,478 Per Year through November 1, 2026:

4. Request to Approve Resolution 20-2023, a Resolution Declaring November 25, 2023, as "Small Business Saturday" in Park City, Utah:

Council Member Doilney moved to approve the Consent Agenda as amended for employee benefits. Council Member Rubell seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

VI. OLD BUSINESS

1. 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:
Mayor Worel indicated many discussions had taken place between the City and Deer Valley. The Council wanted an inclusive process for this issue and as a result, numerous public hearings were held. They focused on mitigating downstream effects on the community, expanding regional transportation infrastructure, increasing affordable housing, and continuing to offer a world class resort experience to visitors. There were still ongoing discussions, but more details should be given by the next meeting. A public hearing was scheduled for December 5th.

Mayor Worel opened the public hearing.

Deb Rentfrow stated there hadn't been much progress to a resolution to this issue. She noted other projects where the community was organized to solve the issues. Protect the Loop was organized to address this request and minimize impacts that would best serve the community. Transportation and congestion were most concerning to the group.

Manny Kennewick via Zoom made inappropriate comments and Mayor Worel cut off his ability to speak.

Allison Keenan 84060 stated this had been a long process and she appreciated the negotiations. In 2022, a survey was issued by Protect the Loop and the number one concern was traffic. Other concerns were accessibility, walkability, and bike safety. She noted microtransit solved the issue of people needing to be dropped off closer to home. Likewise, in the Snow Park right-of-way issue, Council must consider the traffic implications as negotiations progressed.

Rudy Hess via Zoom made inappropriate comments and Mayor Worel cut off his ability to speak.

Gabe Giles via Zoom made inappropriate comments and Mayor Worel cut off his ability to speak. She then announced public input would not be taken virtually for the remainder of the meeting.

Hannah Tyler, Deer Valley Resort, stated they worked many hours and a lot of effort had been put into negotiations with the City, and she hoped it would all work out.

Charlotte O'Connell 84060 did not favor vacating the right-of-way. She didn't want traffic lights in her neighborhood and wanted to keep the dark skies area.

Vincent Novak 84098 stated whatever the decision was, he hoped it would include easy access for residents. He was partially disabled and hoped disabled parking would be retained at Snow Park. He wanted a robust transportation plan put in place.

John Greenfield indicated he wanted to keep the conversation positive.

Council Member Doilney moved to continue the 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 to November 30, 2023. Council Member Dickey seconded the motion.

RESULT: CONTINUED TO NOVEMBER 30, 2023
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

VII. NEW BUSINESS

1. Consideration to Approve the Funding Recommendations for the FY24-25 DEI and Mental Health Special Service Contracts (SSC):

Jed Briggs and Hans Jasperson, Budget Department, presented this item. Jasperson stated these contracts would help foster a more inclusive community. He reviewed the application process and noted the contracts filled services that would otherwise be filled by the City government. Regular service contracts were long-term contracts for services that would be needed annually. The special service contracts were for innovative contracts and Diversity, Equity, and Inclusion (DEI) related contracts. He noted the criteria for the special service contracts.

Jasperson displayed a list of recommended contracts that included the total City support to the organizations. Council Member Gerber asked if the rental subsidy by the City was over multiple years, to which Jasperson affirmed. He indicated one application was submitted by the Arts Council, but it did not meet the criteria. They advised the Arts Council to apply for a regular service contract in the future.

Mayor Worel liked the recommendation to move to an interview process and thought that would help clarify the organization's intent with their request. Council Member Gerber thought there needed to be a review of the criteria for new or innovative programs. Also, there were requests for large sums of money and requests for things the City already had services for. She suggested reevaluating the term for regular contracts and stated the world was changing fast and four years was a long time for a contract. Council Member Toly stated the process would be refined to make sure the needs of the community were met.

Council Member Dickey asked why Mountainlands was funded since that was an ongoing operations request. Council Member Gerber stated the request was to continue the Housing Resource Center. This funding began two years ago and this funding would enable it to continue. The housing advocacy and housing navigator positions would help people who were looking for rentals and help them navigate through the system. Council Member Dickey liked that the SSCs were set up with the goal that they would become self-funding.

Council Member Rubell asked about funding for PC Tots, and indicated the City was launching a new program for childcare tuition support. He didn't understand why the City singled out a specific provider and would give them extra support. He noted they also received a regular service contract. Council Member Gerber indicated they were expanding their service into the library space, and residents and some workforce would be eligible to apply for some scholarships. They provided deep subsidies, and they would have to get an additional $100,000 in fundraising to provide the proposed tuition scale. Council Member Rubell thought this was an example of double dipping for funding. He asked what the timing was for receiving the funds. Jasperson stated the funding would coincide with the new fiscal year. This funding would go out in the next month and the FY25 funds would be released in July.

Council Member Doilney asked if there were any SSCs that were subsidized and then they became self-sufficient. Council Member Gerber stated the City didn't have to fund these, but they were grants. Council Member Doilney stated if these programs were a community benefit, the City needed to reevaluate to fund them as regular contracts. Council Member Toly suggested all contracts be regular service contracts. She noted there were multiple people applying for the same grants and it was hard to figure it out.

Margaret Plane, City Attorney, stated state law dictated public funds needed to be given for a corporate purpose. She explained that statute came about after Salt Lake City donated to a charitable organization. As the program was being reevaluated, local government could not give above 1% of its budget for charitable purposes.

Mayor Worel opened public input.

Vincent Novak 84098 stated there was a recommendation to conduct interviews like Recreation Advisory Board (RAB). He noted the Summit County RAB Cultural Committee did not interview applicants anymore because their legal advice was that it created a conflict of interest or showed favoritism to certain applicants.

Kris Campbell 84098 stated there were many worthy projects being funded by the City. Mountain Mediation and Park City LGBT Taskforce both got funding and they both had new and innovative projects. The funding enabled them to get their projects going. He noted previous programs that received City funding were now self-sufficient. He suggested increasing the funding budget to help these new programs get started.

Joe Urankar 84098 was on the LGBTQ Taskforce and indicated they had new and innovative programming. Their group was a leadership incubator and offered networking opportunities. He was glad they had support from the City.

Virginia Solomon, 84098, referred to the increased DEI score and thanked the City for its efforts. The LGBTQ Taskforce wanted to relate that they had created a support system for parents of transgender kids. Another member of the taskforce had met with the library team to discuss banned books. Because of their structure, they were contributing to City priorities.

Mayor Worel closed public input.

Council Member Rubell didn't think the process was working as it was intended. This was a function of the City, so it should be simple. This would free up money so organizations could use it as seed money for new programs. He proposed to continue this item, then carve out the operational items and reallocate the rest to the organizations that scored high in the innovative categories. Briggs stated the regular contracts were looked at as the committee evaluated DEI and mental health contracts. He reviewed how the process had evolved over the years. He thought it would be wise to reevaluate the system before the regular contracts were renewed next June. Council Member Rubell asked that the SSC funding be distributed for FY24 and then revamp the process for FY25. Council Member Gerber indicated it took a long time to get through the process and a revamp would take at least 18 months. There was no right way to distribute funds and it was difficult to determine ranking criteria.

Council Member Toly advocated for having one contract process. Council Member Dickey had the same concern with the process and thought this could be fixed for the future. He favored approving the recommendations for FY24 and FY 25 and then coming back later to look at the process. Mayor Worel stated she came from a nonprofit background and she knew nonprofits needed to plan their budgets for four years into the future. She hesitated always requiring a new and innovative program and then only funding it for one year. She supported reviewing the process soon. Council Member Doilney agreed. Council Member Rubell asked if the FY25 funding would come out of the money that would be allocated from a single contract process, to which Briggs affirmed. Council Member Toly wanted a solution where there was no overlap.

Briggs indicated if the recommendations were approved tonight, new funding would be restricted for FY25. Council Member Rubell wanted a stable long-term funding mechanism. Mayor Worel stated there was consensus for the SSC program to be refined and she wanted to be part of the process. Council Member Rubell thought the funding for PC Tots was double dipping. He suggested that money be given to the next highest-ranking applicant that met the criteria. He was concerned with the amount given to Mountainlands and the redundancy with the City's Housing Department. There was also discussion on setting up a regional housing authority and that would be another redundancy. His last concern was the amount allocated for KPCW. He thought the government shouldn't give donations to news agencies that reported on the government. After some discussion, the majority of the Council decided to allocate the funding as recommended.

Council Member Gerber moved to approve the funding recommendations for the FY24-25 DEI and Mental Health Special Service Contracts. Council Member Dickey seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, and Toly
NAY: Council Member Rubell

2. Consideration to Approve Ordinance No. 2023-52, an Ordinance Approving the 902 Woodside Avenue Plat Amendment, Located at 902 Woodside Avenue, Summit County, Park City, Utah:

Lillian Zollinger, Planner, presented this item and stated the amendment was recommended by the Planning Commission prior to the Council's vote to give Final Action authority of plats to the Planning Commission. The current dwelling was not to code so the building would be removed and a new single-family building would be constructed.

Mayor Worel opened the public hearing. No comments were given. Mayor Worel closed the public hearing.

Council Member Dickey moved to approve Ordinance No. 2023-52, an ordinance approving the 902 Woodside Avenue Plat Amendment, located at 902 Woodside Avenue, Summit County, Park City, Utah. Council Member Doilney seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

3. Consideration to Approve Ordinance No. 2023-53, an Ordinance Amending Land Management Code Section 15-5-5(N) Landscaping and Section 15-15-1 Definitions:

Spencer Cawley, Planner II, stated the amendments would allow the City to be in compliance with state requirements for landscaping incentives. He reviewed the landscape incentive program and stated the State of Utah and the Weber Basin Water Conservancy District partnered with the program and enhanced the incentive based on the code amendments. The Planning Commission gave a unanimous recommendation and suggested an additional definition for “Landscaped Area.” The term “Active Recreation Area” definition was also amended.

Mayor Worel opened the public hearing. No comments were given. Mayor Worel closed the public hearing.

Council Member Dickey moved to approve Ordinance No. 2023-53, an ordinance amending Land Management Code Section 15-5-5(N) Landscaping and Section 15-15-1 Definitions. Council Member Toly seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

4. Consideration to Approve Ordinance No. 2023-54, an Ordinance Approving the North Norfolk Plat Amendment Amending the Knudson Subdivision and Parcel SA-200, and Re-Subdividing the Vacant Lots into Four Lots to Allow Four Single-Family Dwellings:

Alex Ananth, Senior Planner, and Justin Keyes, legal representative for the applicant, were present for this item. Ananth reviewed four single family units were proposed for the site and part of the sight had been vacated. The proposed lots would have access from a shared access. Norfolk Avenue was a public right-of-way (ROW) but was privately maintained by properties to the south. She noted the applicant agreed to change the maximum building pad to have the setbacks measured from the shared driveway and they would be responsible for the maintenance of the shared driveway and Norfolk Avenue. The shared driveway would contain a pedestrian easement to connect with the property to the north in the event the City built a staircase. All the lots were compliant with the zone. The Park City Fire Service District required a private staircase which would be maintained by the HOA. There were talks that they could contribute to the public staircase, but the City might not have the same timeline for the staircase.

Ananth reported public concerns for North Norfolk, including the narrowness of the road and lack of turnaround ability. Keyes noted this plat was discussed by the Planning Commission four times. He thought the plat amendment would improve the location. Mayor Worel asked if the Fire Department would pull hoses down the emergency stairs, to which Ananth affirmed.

Council Member Toly asked if street parking was allowed, to which Ananth stated it was not. Toly asked how the snow removal would work. Keyes stated CCRs would be created, and the road maintenance and snow removal were part of that. Council Member Toly asked how trash pickup would work. Keyes stated trash was collected at the end of the street. Ananth added that was a condition of approval. Council Member Toly asked about the emergency staircase. Ananth stated if the emergency staircase was built, it would be private. If the applicant contributed to a City staircase, it would be public. Council Member Dickey asked if a site plan was available that would show a snow storage area, to which Ananth stated some drawings were available but they weren't part of the presentation.

Mayor Worel opened the public hearing.

Deb Rentfrow, 84060, requested that the Council continue the item so additional conditions could be added. A concern was the City didn't maintain its own ROW. It was a narrow road and adding four units without improving the road would be dangerous to those who resided there. She felt the applicant should pay the City a fee for future road improvements since the residences would double on that street. The applicant agreed to take on the maintenance of the road, but the conditions of approval (COA) didn't align with the discussion tonight. The shared driveway and Norfolk should be the responsibility of the HOA. She also indicated the transition from Norfolk to the shared driveway should be a 20-foot width per City code. She also noted the lot sizes were greater than the standard lot sizes. There was no COA to set out construction mitigation plan.

Ed Parigian, 84060, stated this street/driveway didn't work. There was no room to turn a vehicle around and no room to pass. Adding four additional units to the driveway was a lot for this area. He didn't think there was a location to put the snow.

Mayor Worel closed the public hearing.

Mayor Worel asked if the road was being considered with the Woodside Park Phase II project, and asked if this was the road widening issue. Ananth stated that would be part of the Woodside project, but it would be difficult to widen the entire road because of the historic structure.

Council Member Doilney stated there were rules for new developments with Old Town projects and then there was knowledge of the quirks of the area. The Planning Commission's job was to delve into the details and give the Council a recommendation.

This road had come to the Council before. There was no perfect solution on that road and there was a historic home on the road. The applicant went through the process and performed his due diligence. This proposal wasn't perfect, but he supported moving forward with the amendment. Council Member Dickey agreed and stated he would defer to the Planning Commission's recommendation.

Council Member Doilney moved to approve Ordinance No. 2023-54, an ordinance approving the North Norfolk Plat Amendment amending the Knudson Subdivision and Parcel SA-200, and re-subdividing the vacant lots into four lots to allow four single-family dwellings. Council Member Dickey seconded the motion.

RESULT: APPROVED
AYES: Council Members Dickey, Doilney, Gerber, Rubell and Toly

VIII. ADJOURNMENT

With no further business, the meeting was adjourned.

____
Michelle Kellogg, City Recorder

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:	**December 5, 2023**
Type of Item:	**Public Hearing – Petition to Vacate Public Right-of-Way**

Recommendation

The Applicant, Deer Valley Resort Company, LLC. (DVRC) and Alterra Mountain Company Real Estate Development Inc., request the City Council consider the vacation of portions of public Right-of-Way (ROW) (Exhibit A) to expand DVRC's development parcel at the Snow Park Village base area. A new circulation pattern that reroutes traffic from Deer Valley Drive to Doe Pass Road is proposed instead.

Staff recommends the City Council (I) open a public hearing, and (II) consider action, or continue the public hearing to December 14, 2023.

Description

Applicant:	Deer Valley Resort Company, LLC. (DVRC), and Alterra Mountain Company Real Estate Development Inc.,
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]

Exhibits

Exhibit A:	Applicant's ROW Vacation Petition
Exhibit B:	Summary of the Amendments to the DVD MPD
Exhibit C:	Applicant's final Transportation Analysis – SML Alternative
Exhibit D:	WCG's Third Party Transportation Analysis Review

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

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LAS VEGAS
LOS ANGELES
LOS CABOS
ORANGE COUNTY
PHOENIX
PORTLAND
RENO
SALT LAKE CITY
TUCSON

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

January 31, 2022

RECEIVED
FEB 08 2022
Park City Municipal Corp.

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 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.

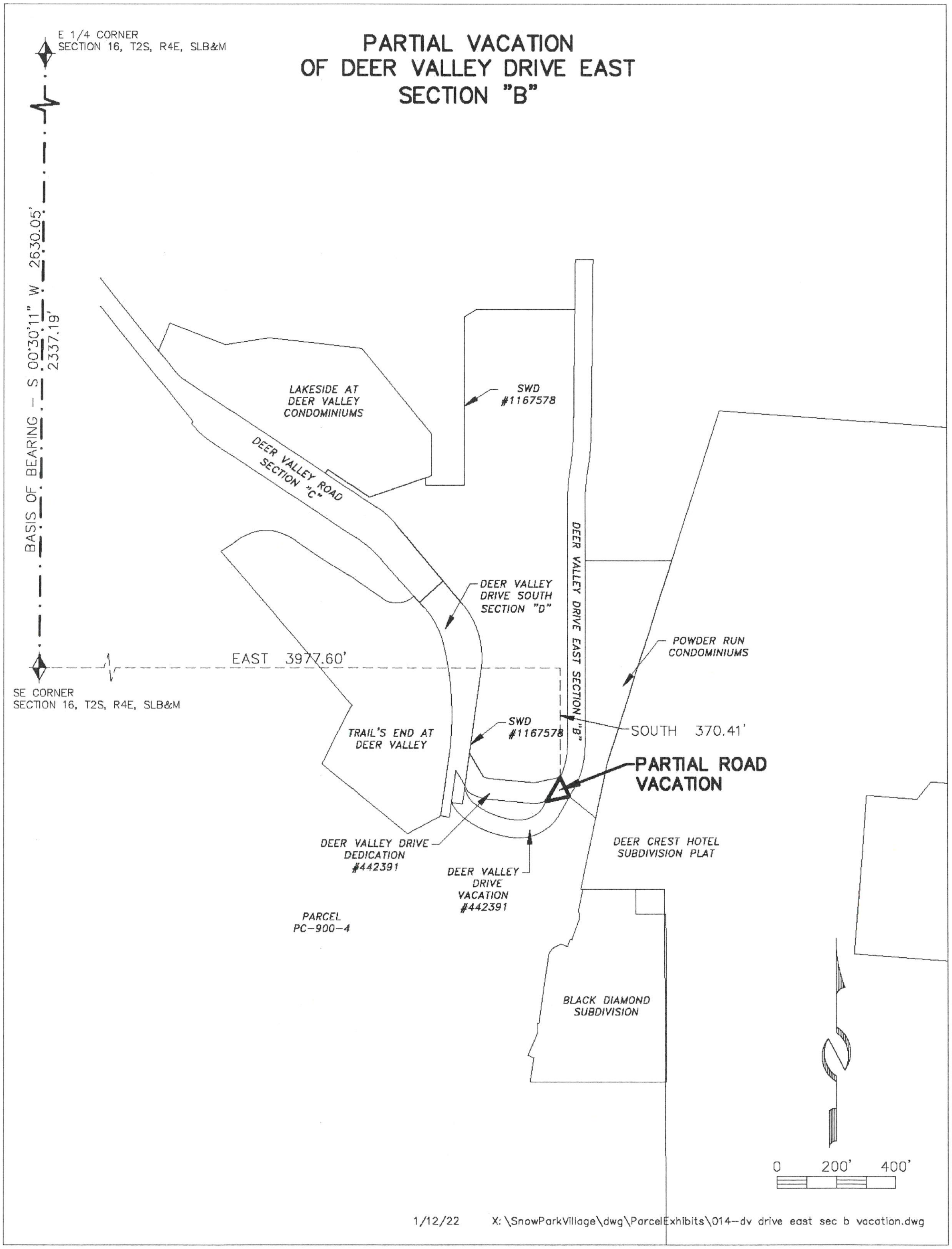
If you have any questions or concerns, please feel free to reach out to us.

Very truly yours,

Wade R. Budge, P.C.

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

Specific area maps and legal descriptions


E 1/4 CORNER
SECTION 16, T2S, R4E, SLB&M
PARTIAL VACATION
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SECTION "B"
BASIS OF BEARING - S 00°30'11" W 2630.05'
2337.19'
LAKESIDE AT
DEER VALLEY
CONDOMINIUMS
SWD
#1167578
DEER VALLEY ROAD
SECTION "C"
DEER VALLEY DRIVE EAST SECTION "B"
DEER VALLEY
DRIVE SOUTH
SECTION "D"
POWDER RUN
CONDOMINIUMS
EAST 3977.60'
SE CORNER
SECTION 16, T2S, R4E, SLB&M
TRAIL'S END AT
DEER VALLEY
SWD
#1167578
SOUTH 370.41'
PARTIAL ROAD
VACATION
DEER VALLEY DRIVE
DEDICATION
#442391
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SNOW PARK VILLAGE

PARTIAL VACATION
OF DEER VALLEY DRIVE EAST
SECTION "B"

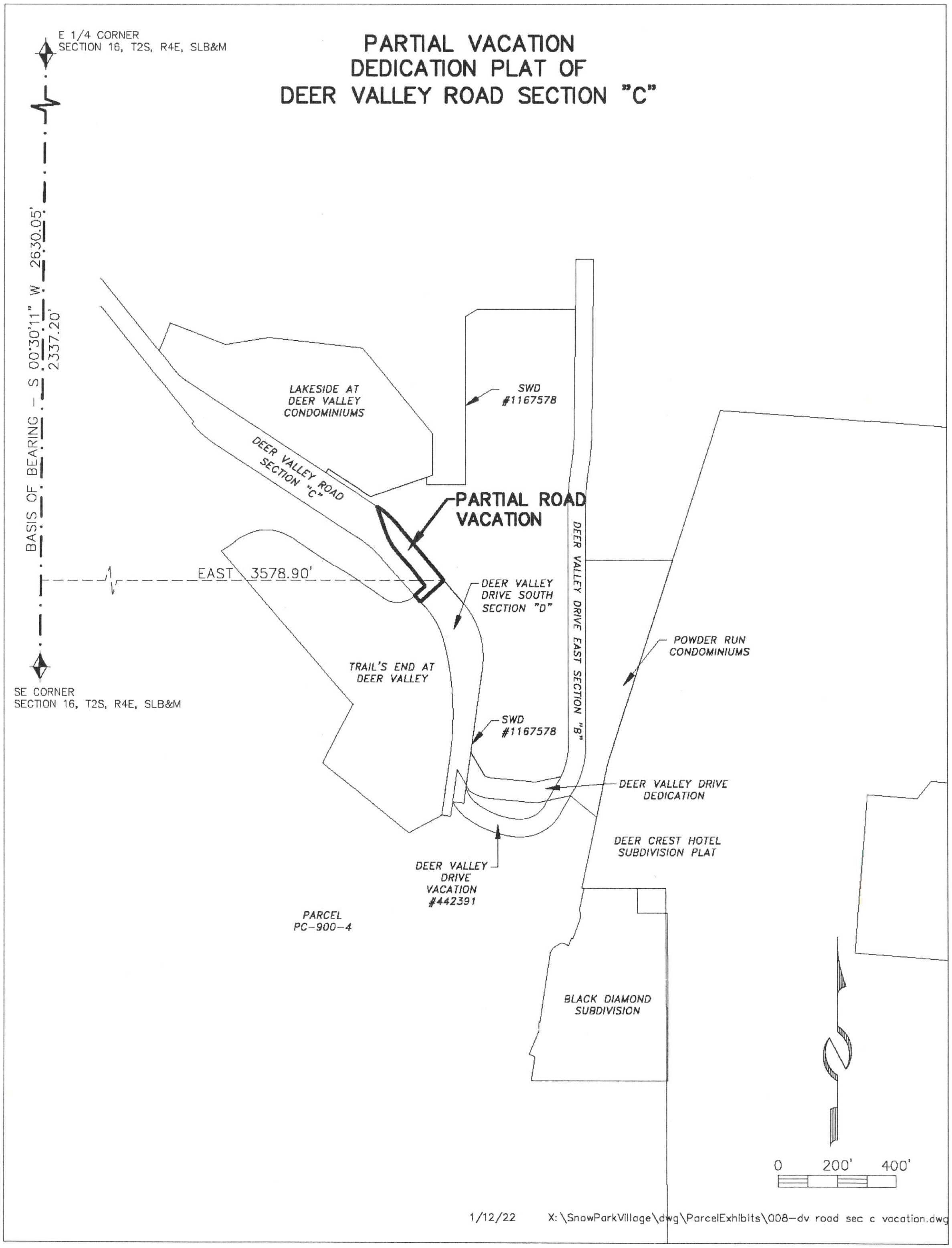
January 13, 2022

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.


PARTIAL VACATION
DEDICATION PLAT OF
DEER VALLEY ROAD SECTION "C"
E 1/4 CORNER
SECTION 16, T2S, R4E, SLB&M
BASIS OF BEARING – S 00°30'11" W 2630.05'
2337.20'
EAST 3578.90'
SE CORNER
SECTION 16, T2S, R4E, SLB&M
LAKESIDE AT
DEER VALLEY
CONDOMINIUMS
SWD
#1167578
DEER VALLEY ROAD
SECTION "C"
PARTIAL ROAD
VACATION
DEER VALLEY DRIVE EAST SECTION "B"
DEER VALLEY
DRIVE SOUTH
SECTION "D"
POWDER RUN
CONDOMINIUMS
TRAIL'S END AT
DEER VALLEY
SWD
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DEER VALLEY DRIVE
DEDICATION
DEER CREST HOTEL
SUBDIVISION PLAT
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PARCEL
PC-900-4
BLACK DIAMOND
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SNOW PARK VILLAGE

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

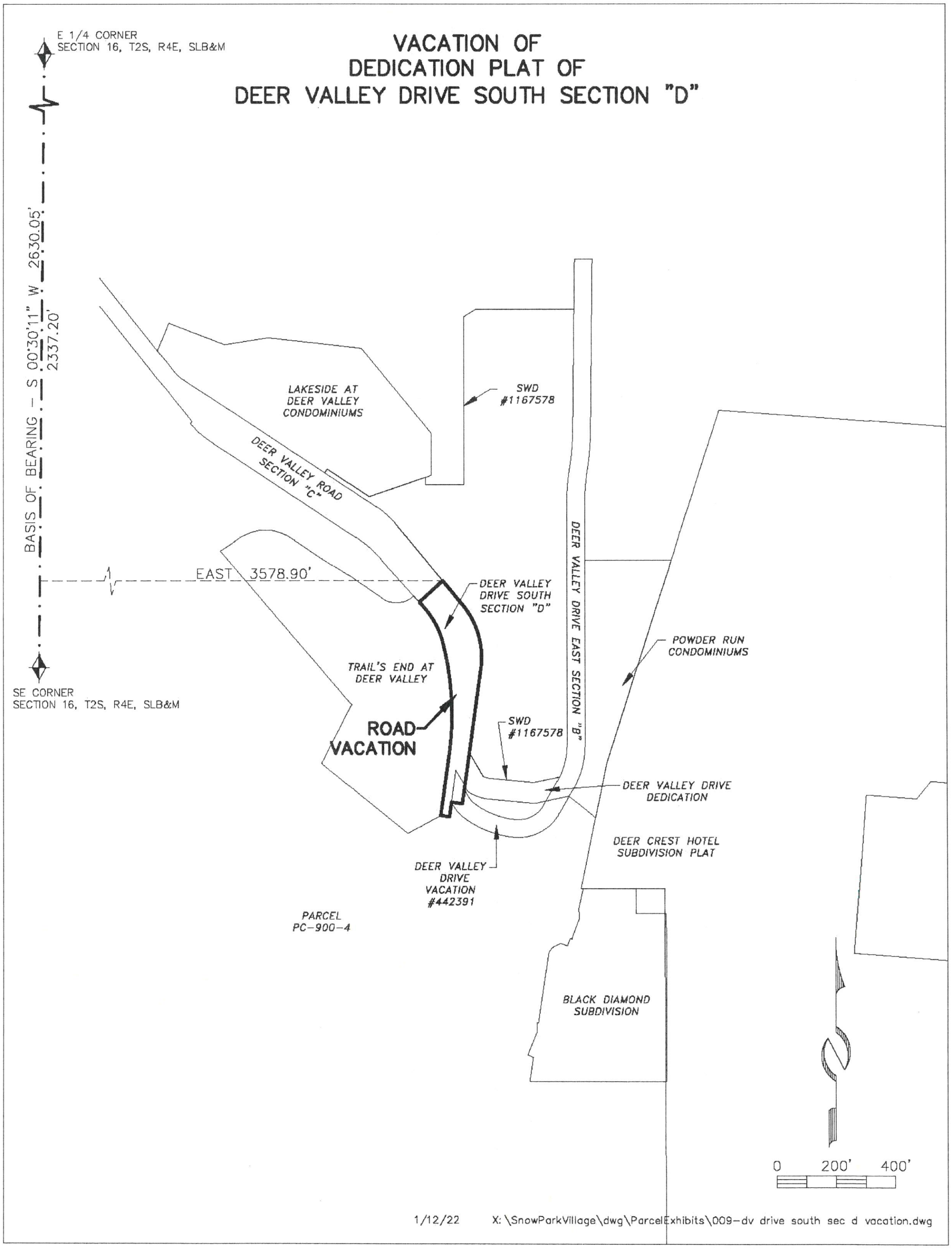
January 18, 2022

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°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°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°06'26" West 29.08 feet; thence North 47°53'34" East 47.72 feet; thence North 37°30'27" West 67.84 feet; thence North 41°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°15'58" East; thence along the arc of said curve 100.21 feet through a central angle of 23°14'46"; thence North 18°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°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°34'20" West; thence 2) along the arc of said curve 88.46 feet through a central angle of 16°25'40"; thence 3) South 40°00'00" East 249.01 feet 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 0.42 acres.


VACATION OF
DEDICATION PLAT OF
DEER VALLEY DRIVE SOUTH SECTION "D"
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BASIS OF BEARING – S 00°30'11" W 2630.05'
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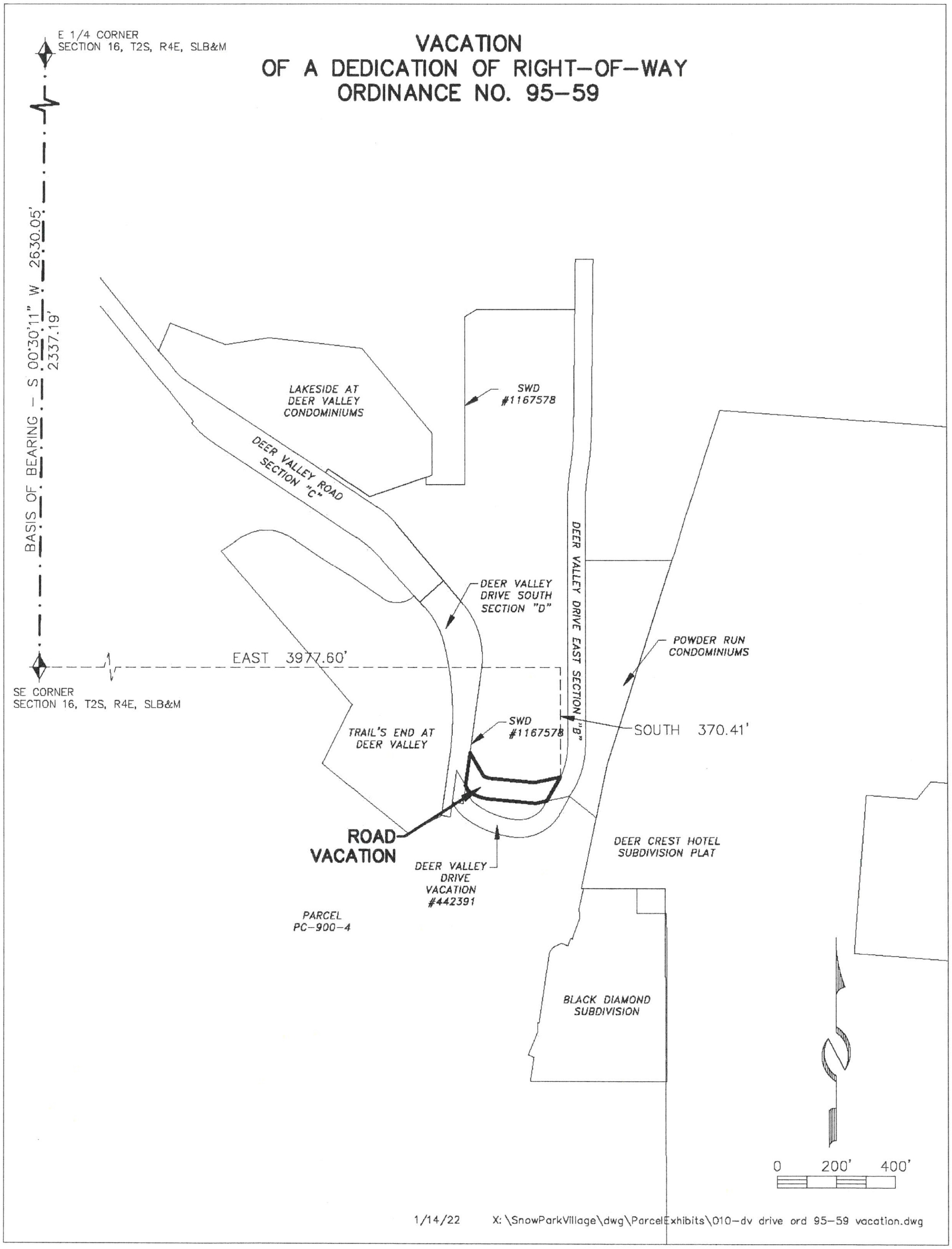
SNOW PARK VILLAGE

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.


VACATION
OF A DEDICATION OF RIGHT-OF-WAY
ORDINANCE NO. 95-59
E 1/4 CORNER
SECTION 16, T2S, R4E, SLB&M
BASIS OF BEARING - S 00°30'11" W 2630.05'
2337.19'
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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
1st Amendment	1979	No change	No change
2nd Amendment	1982	2,237 RUEs Snow Park Parking parcel 0-200 RUEs Hotel parcel 75-105 RUEs	No change
3rd Amendment	1984	No change	Transfers 2,000 SF from Sports Facility to Guest Reception Center
4th Amendment	1985	No change	No change
5th Amendment	1986	No change	No change
1st Amendment to 5th SEP	1989	1901 RUEs Hotel parcel reduced 60-105 RUEs Snow Park Parking parcel 0-200 RUEs	No change
2nd Amendment to 5th SEP	1990	1884.5 RUEs	No change
6th 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
7th Amendment	1993	No change	No change
8th 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
9th Amendment	2006	Transfers 1.75 RUEs from Snow Park Village parcel to Stein Eriksen Lodge parcel leaving 210.75 RUEs	No change
10th Amendment	2009	No change	No change
11th Amendment	2011	Transfers 1 RUE from Snow Park Village parcel to Silver Baron Lodge leaving 209.75 RUEs	No change
12th 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 a 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 to due 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	*Free Flow / Insignificant Delay* Extremely favorable progression. Individual users are virtually unaffected by others in the traffic stream.	< 10.0	< 10.0	< 10.0
B	*Stable Operations / Minimum Delays* Good progression. The presence of other users in the traffic stream becomes noticeable.	> 10.0 to 20.0	> 10.0 to 15.0	> 10.0 to 15.0
C	*Stable Operations / Acceptable Delays* Fair progression. The operation of individual users is affected by interactions with others in the traffic stream	> 20.0 to 35.0	> 15.0 to 25.0	> 15.0 to 25.0
D	*Approaching Unstable Flows / Tolerable Delays* Marginal progression. Operating conditions are noticeably more constrained.	> 35.0 to 55.0	> 25.0 to 35.0	> 25.0 to 35.0
E	*Unstable Operations / Significant Delays Can Occur* Poor progression. Operating conditions are at or near capacity.	> 55.0 to 80.0	> 35.0 to 50.0	> 35.0 to 50.0
F	*Forced, Unpredictable Flows / Excessive Delays* 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.

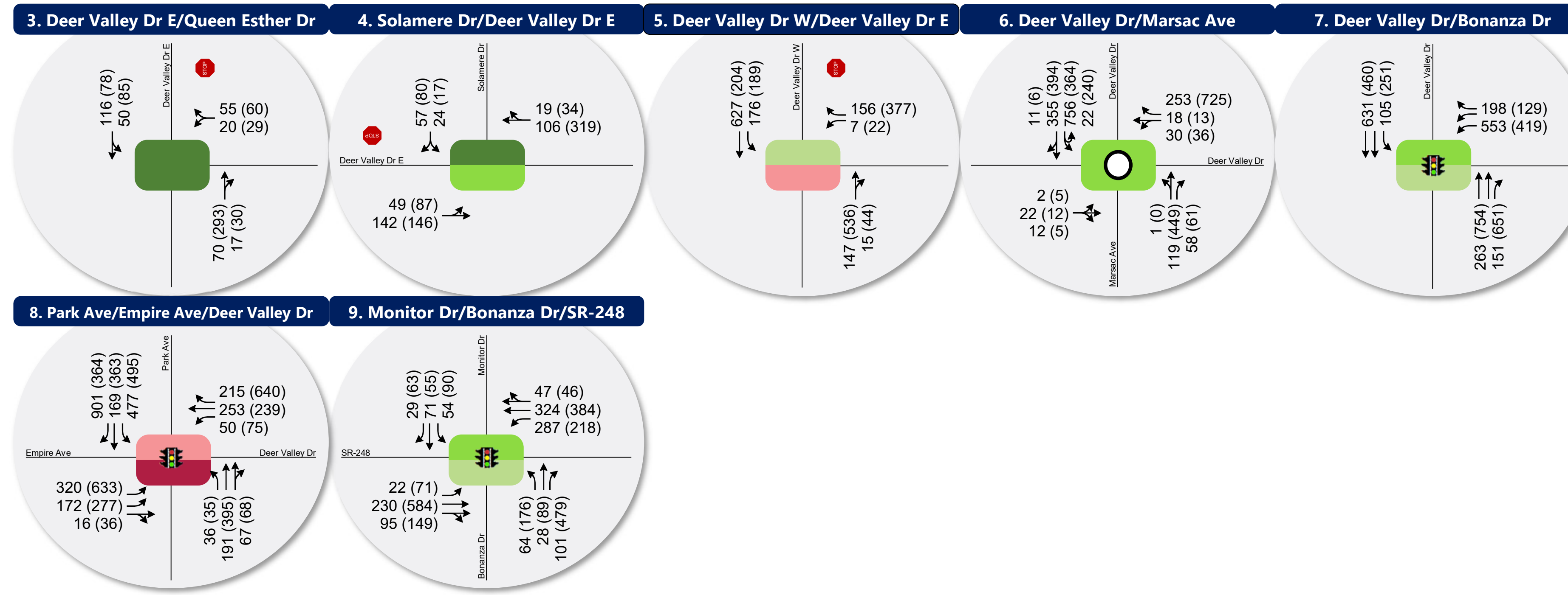
To address comments from City Staff and community members, turning movement counts were collected at study intersections 3 and 4 to better understand how project-generated traffic might affect local intersections not included in the original study scope. The turning movement counts were collected on 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



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

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.

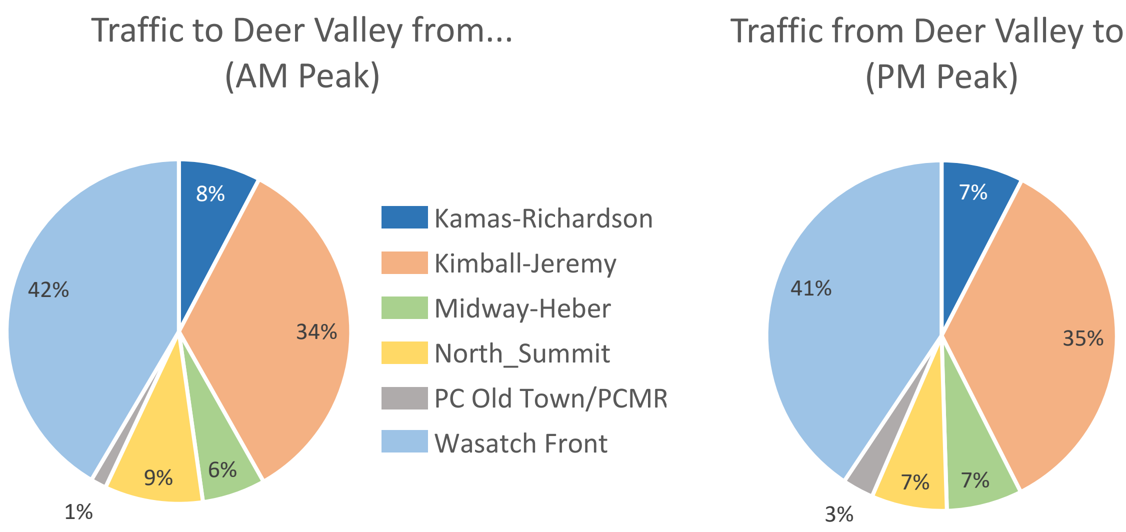
It should be noted that while the Bonanza Drive / Deer Valley Drive intersection operates within acceptable LOS, it is often impacted by vehicle queues spilling back to this intersection from the upstream intersection at Deer Valley Drive / Park Avenue / Empire Avenue in the PM peak hour.

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**.



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

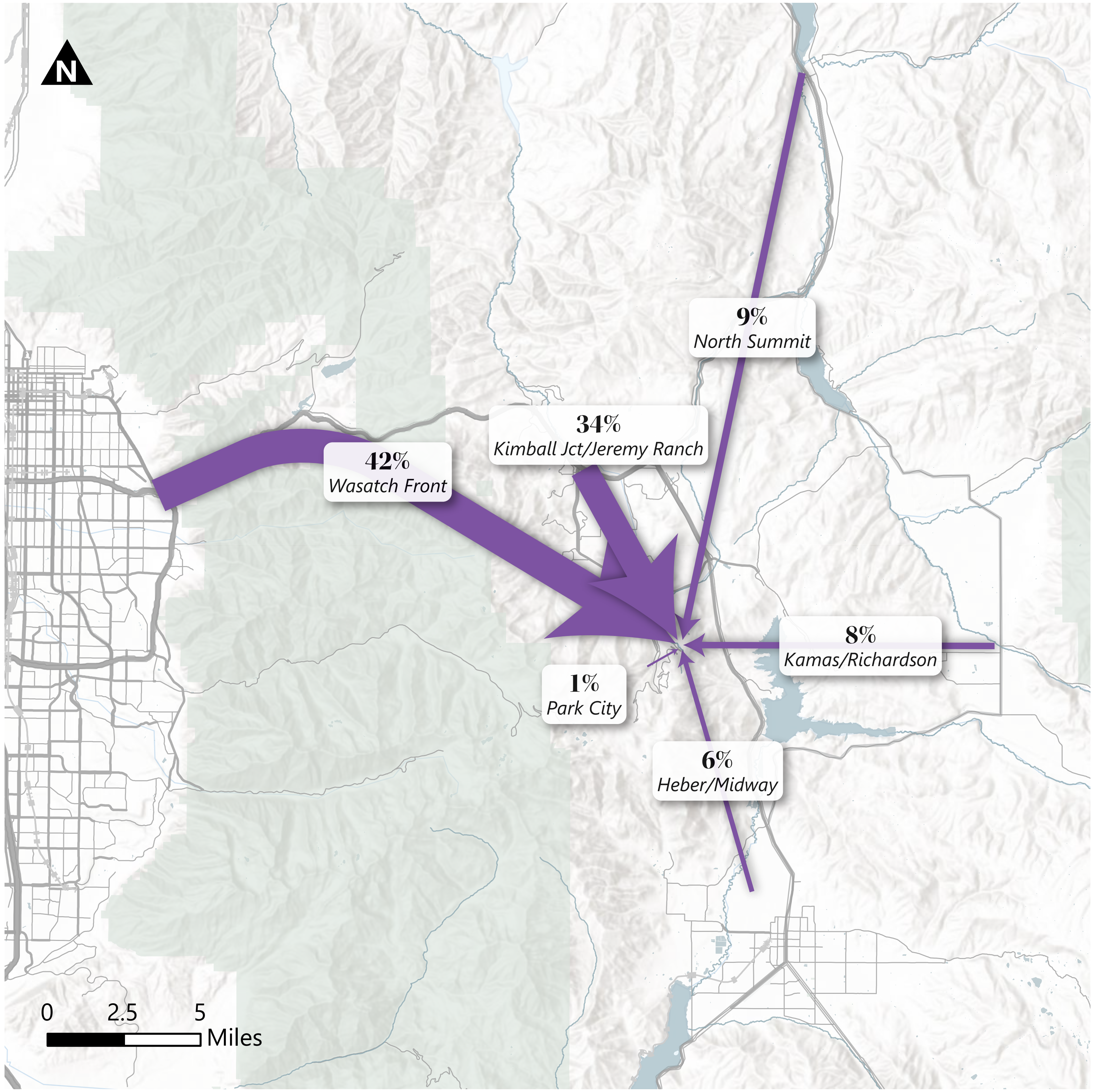
Table 6 presents a summary of vehicle occupancy data, calculated from data collected during the three days listed above. It should be noted that the vehicle occupancy counts were collected during the global COVID-19 pandemic, and the data shown in **Table 6** could be skewed because people are less likely 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.



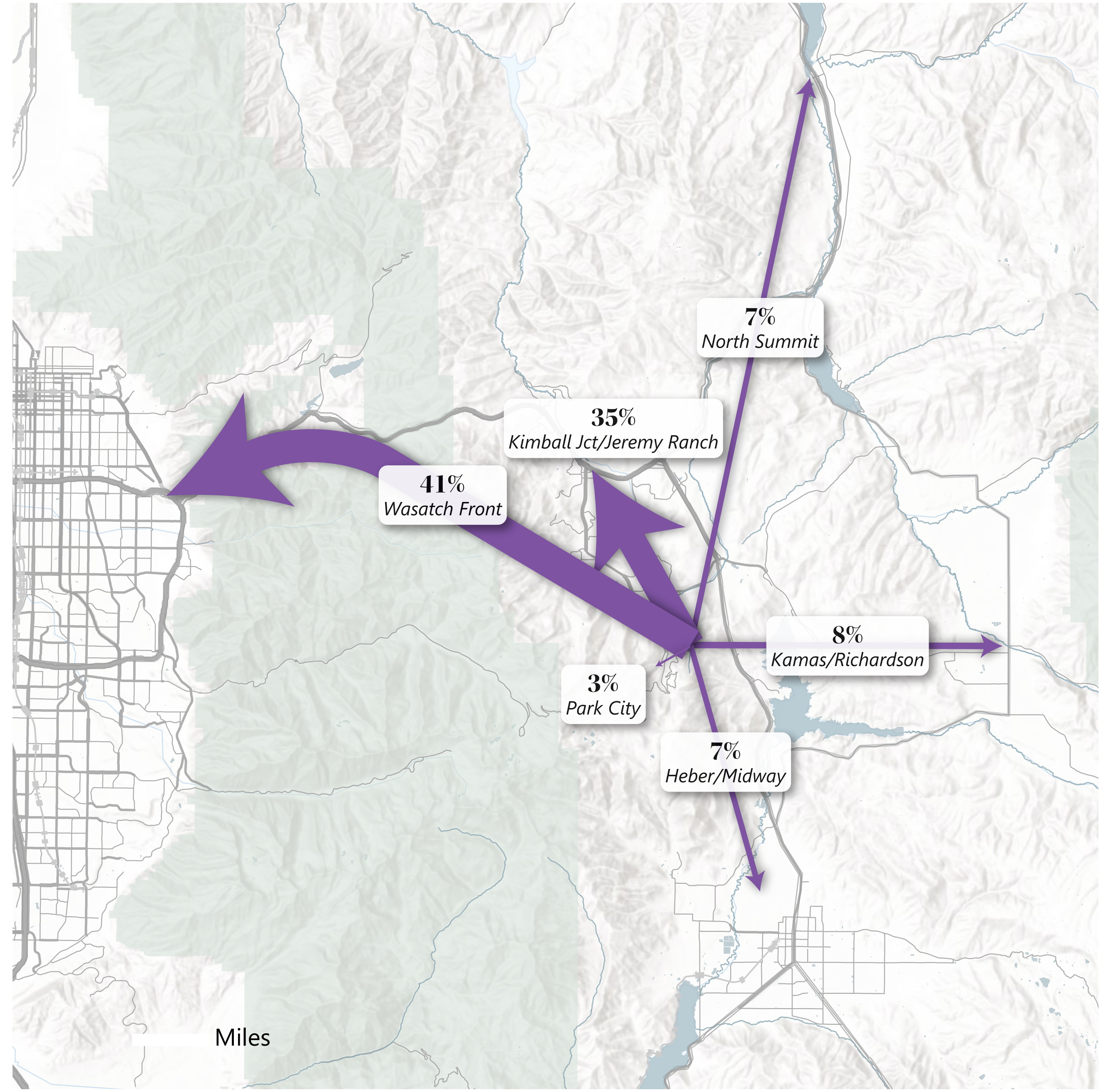


Figure 4

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 *(dwellings, 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

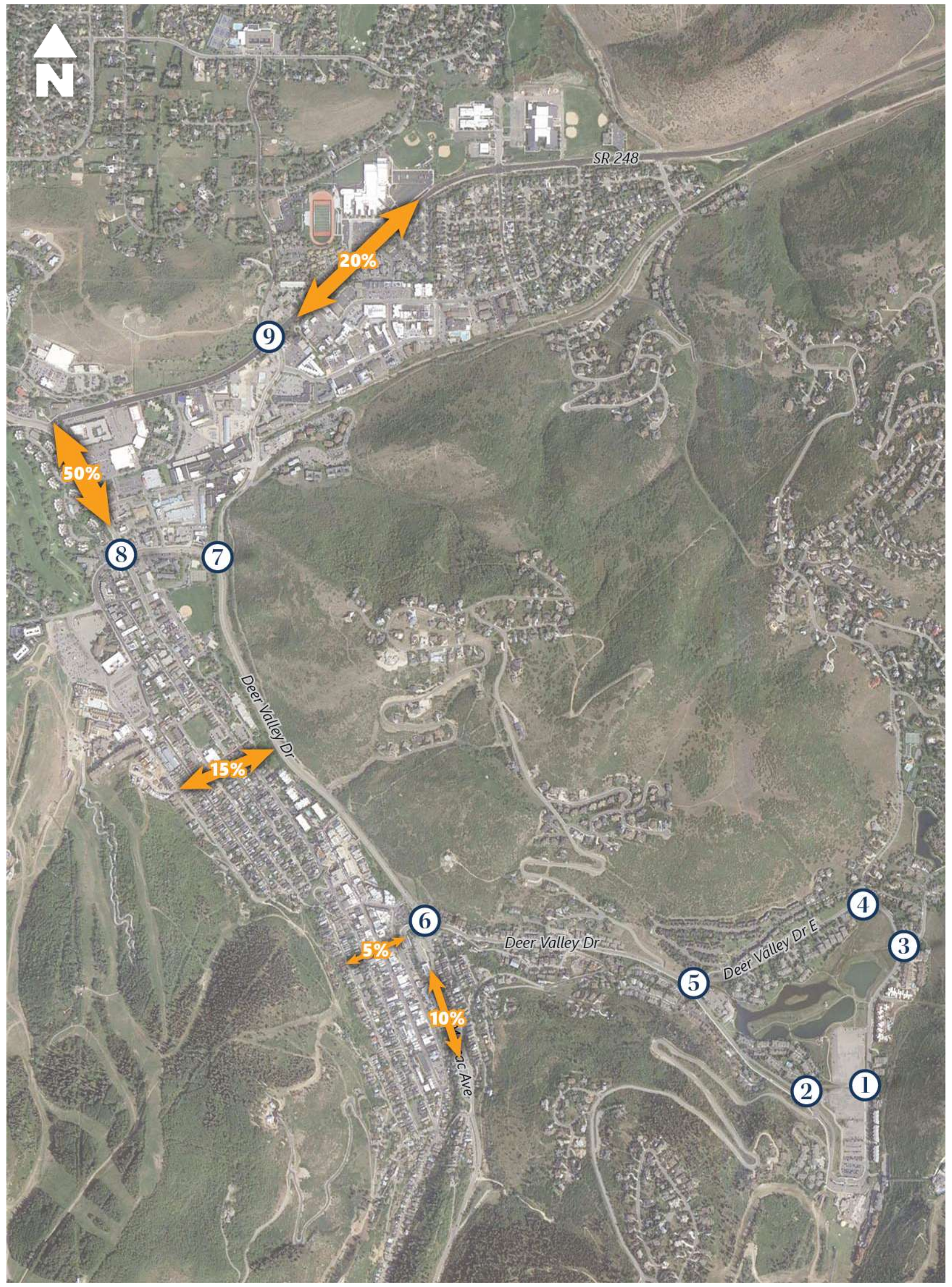
Project traffic was assigned to the roadway network based on the proximity to major streets and freeways, population densities, and local and regional attractions. Existing travel patterns revealed in the Streetlight data, Continuous Count Station (CCS) data collection from UDOT, and observed during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

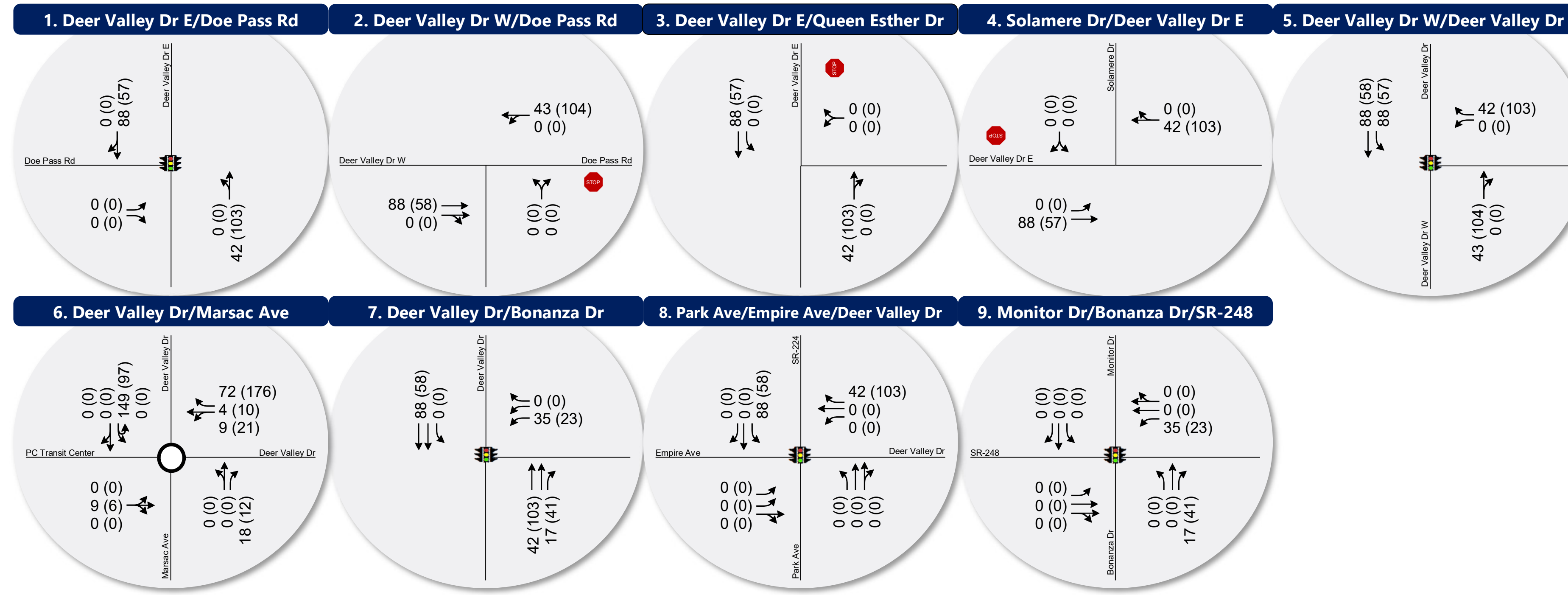
The CCS data from UDOT informed the distribution of trips arriving via SR-224 and SR-248. Closer to the project site, Streetlight data informed the distribution of trips arriving via Marsac Avenue and Deer Valley Drive. Overall, the project-generated trips were distributed to and from these directions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





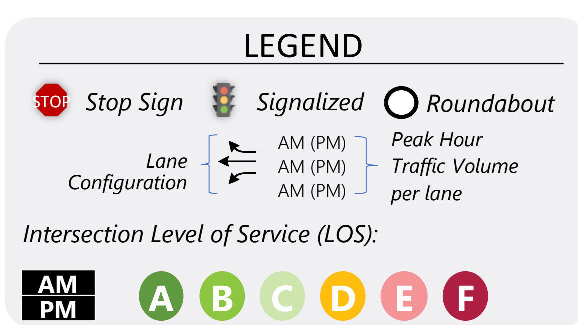


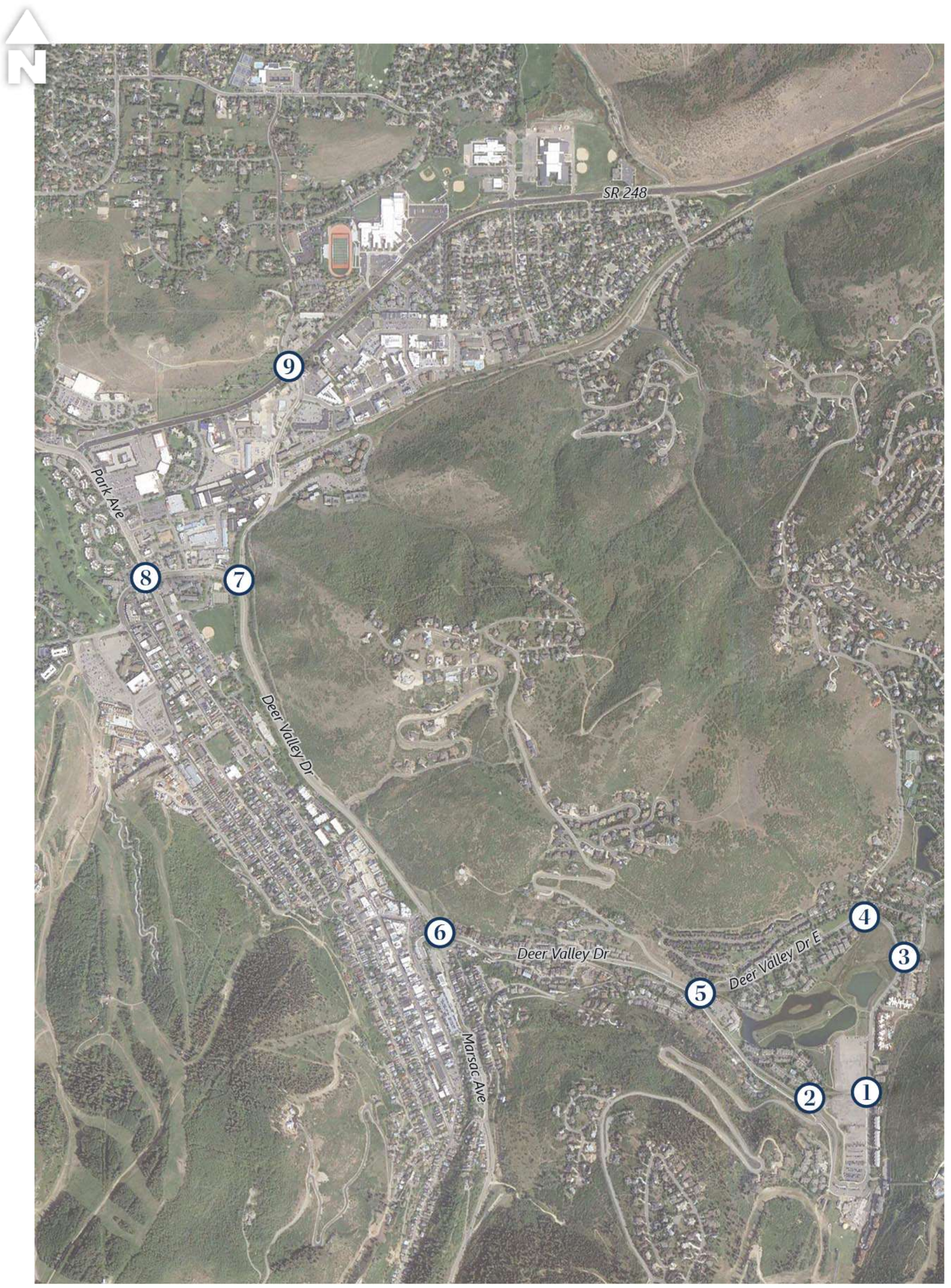
Figure 6
Saturday AM & PM Peak Hour Trip Generation and Distribution

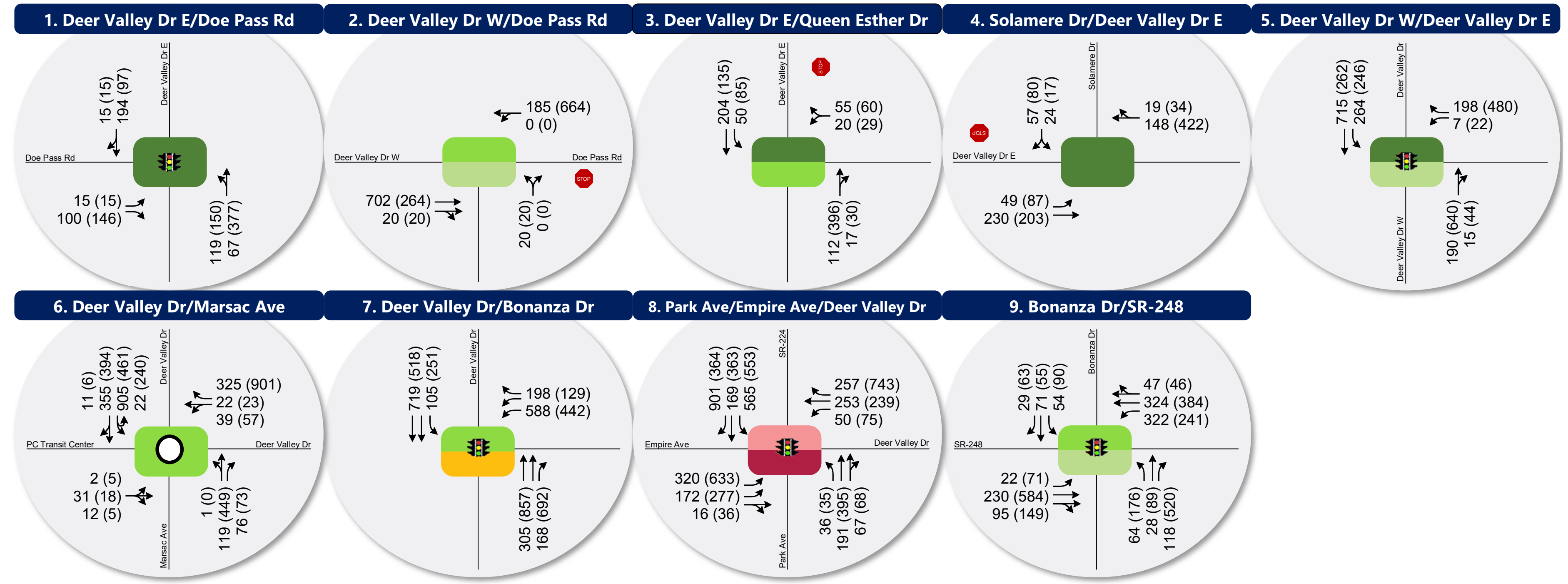
5. Existing 2020 plus Project Conditions

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**.





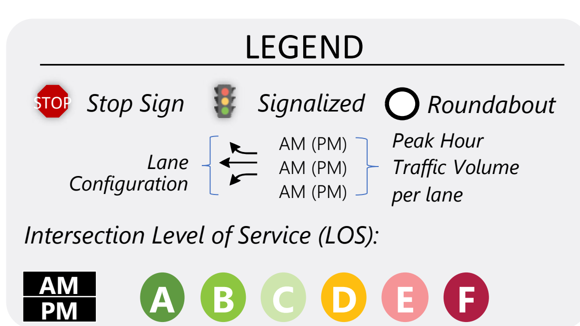


Figure 7
Existing 2020 Plus Project Saturday AM & PM Peak Hour Traffic Conditions

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:

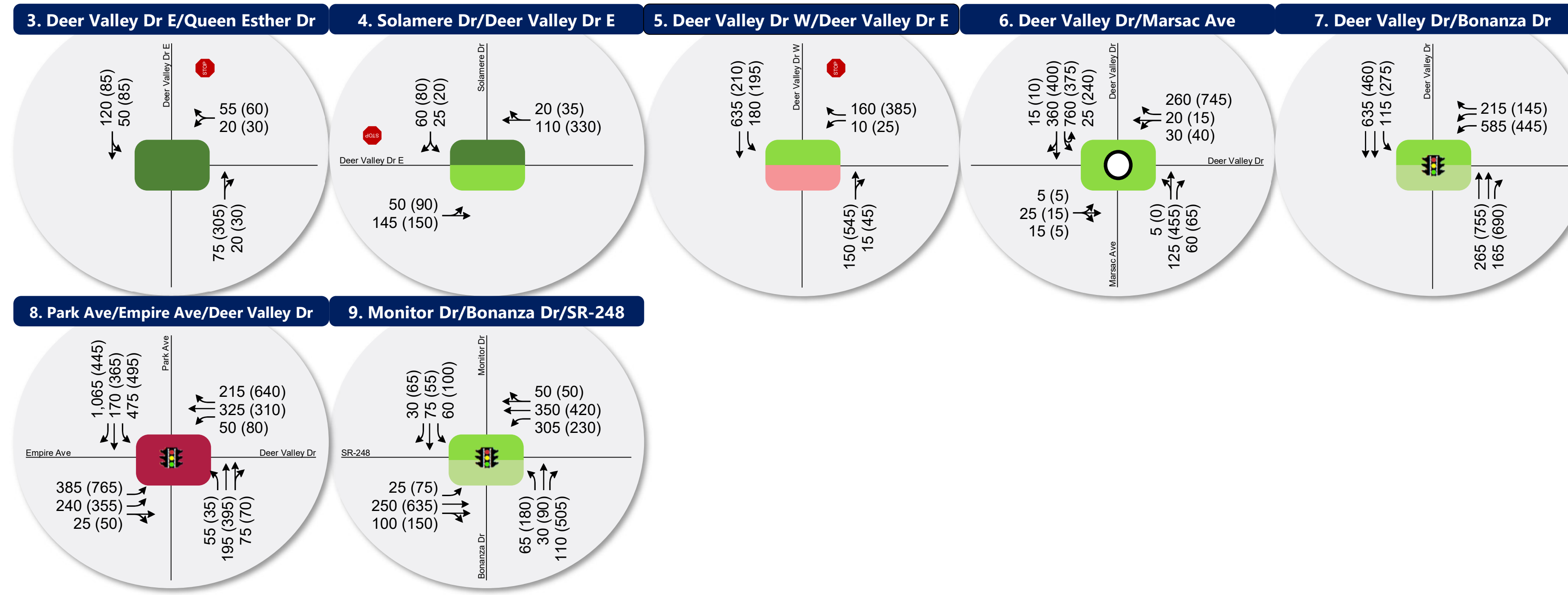
- Deer Valley Drive East / Deer Valley Drive West: LOS E in the PM peak hour
  - This is caused by the high volumes of vehicles exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive West. The westbound approach is stop-controlled, making it difficult for vehicles to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



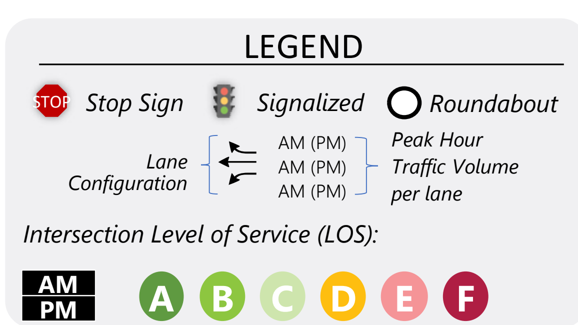


Figure 9
Opening Year 2024 Background Saturday AM & PM Peak Hour Traffic Conditions

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:
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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.

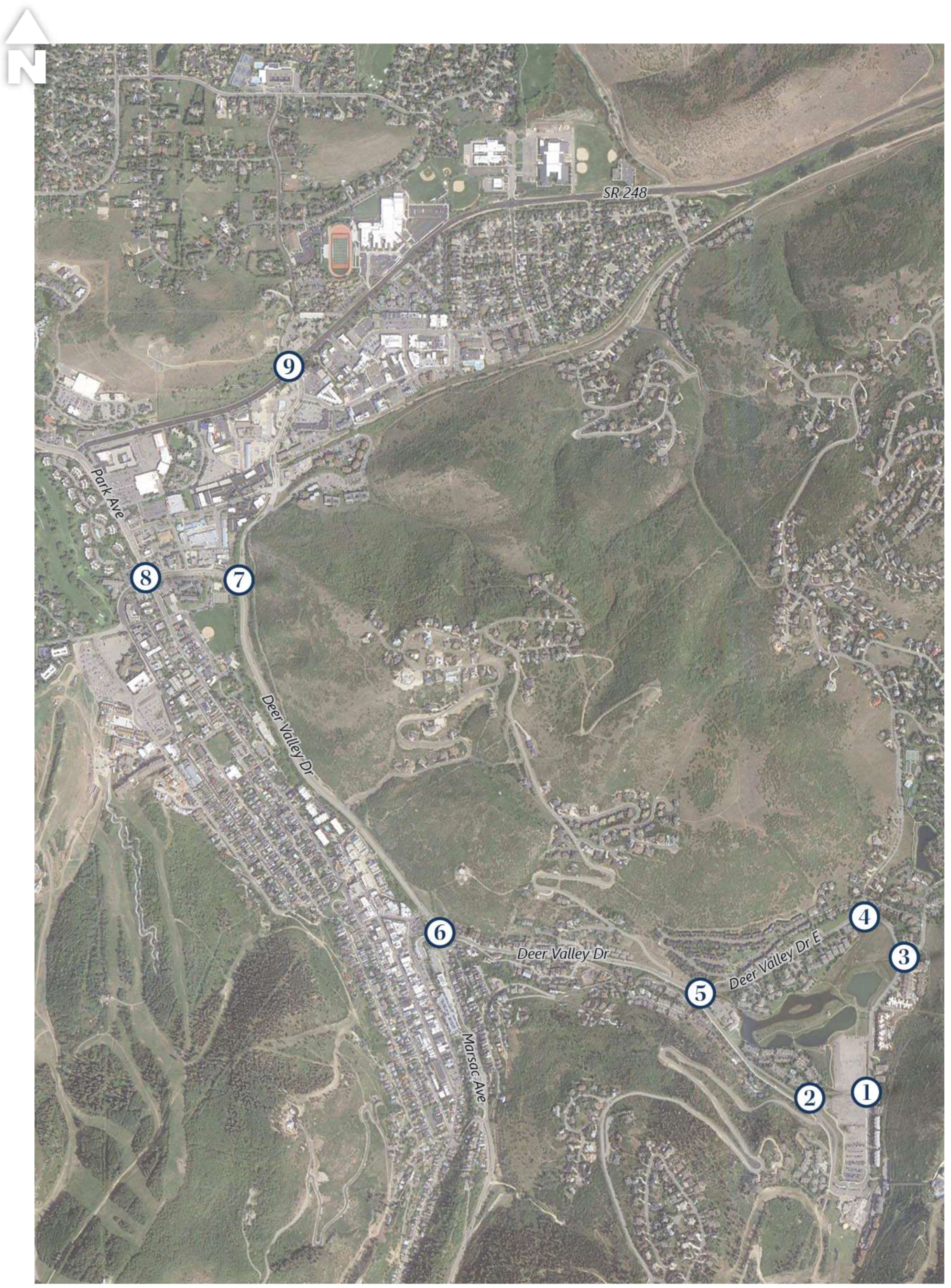
Table 12: Opening Year 2024 plus Project Mitigated Conditions Saturday AM & PM Peak Hour Level of Service

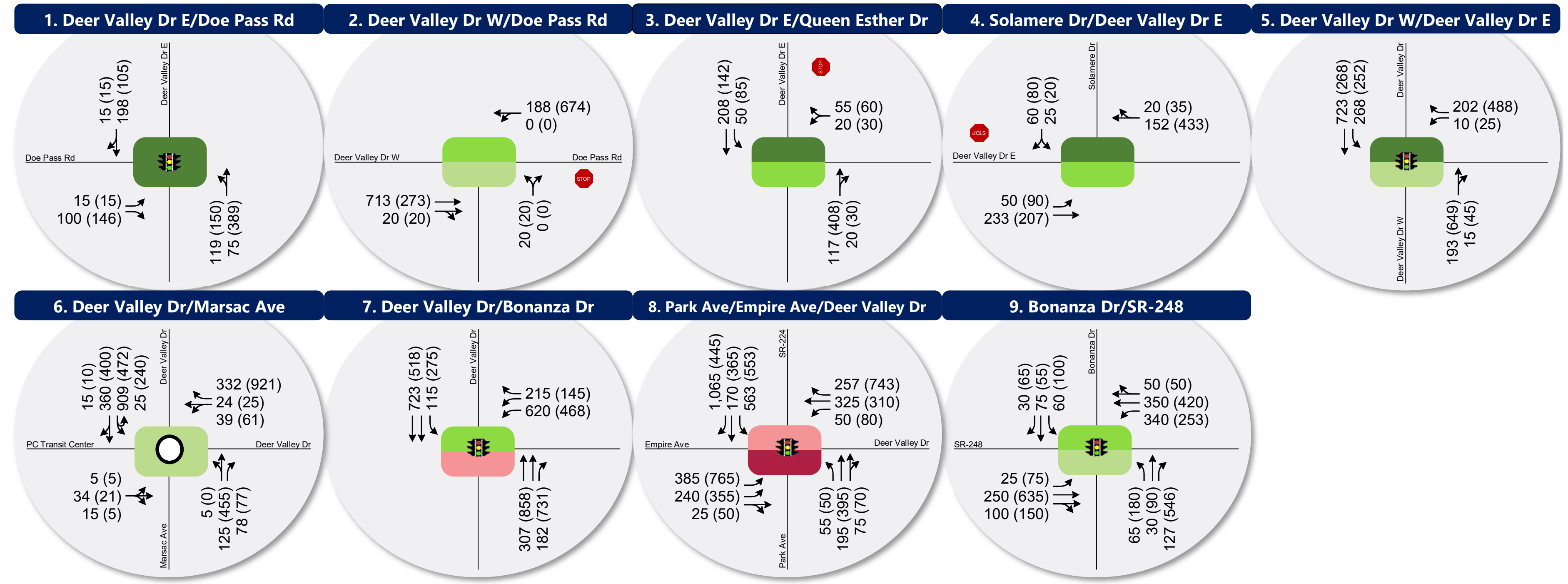
Intersection				Worst Movement[1]			Overall Intersection[2]	
ID	Location	Period	Control	Movement[3]	Delay Sec/Veh	LOS	Avg. Delay Sec/Veh	LOS
1	Doe Pass Rd / Deer Valley Dr East	AM	Signal	-	-	-	5	A
		PM		-	-	-	7	A
2	Doe Pass Rd / Deer Valley Dr West	AM	SSSC[4]	NB Left	10	B	-	-
		PM		NB Left	18	C	-	-
3	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.





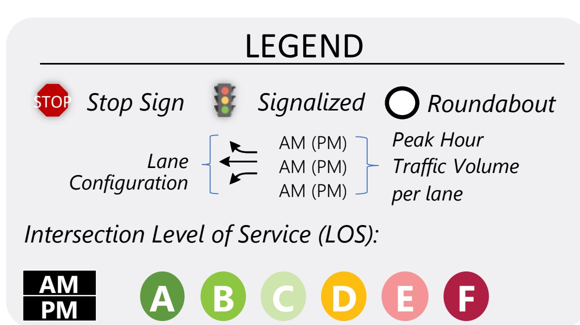


Figure 10
Opening Year 2024 Plus Project Saturday AM & PM Peak Hour Traffic Conditions

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.

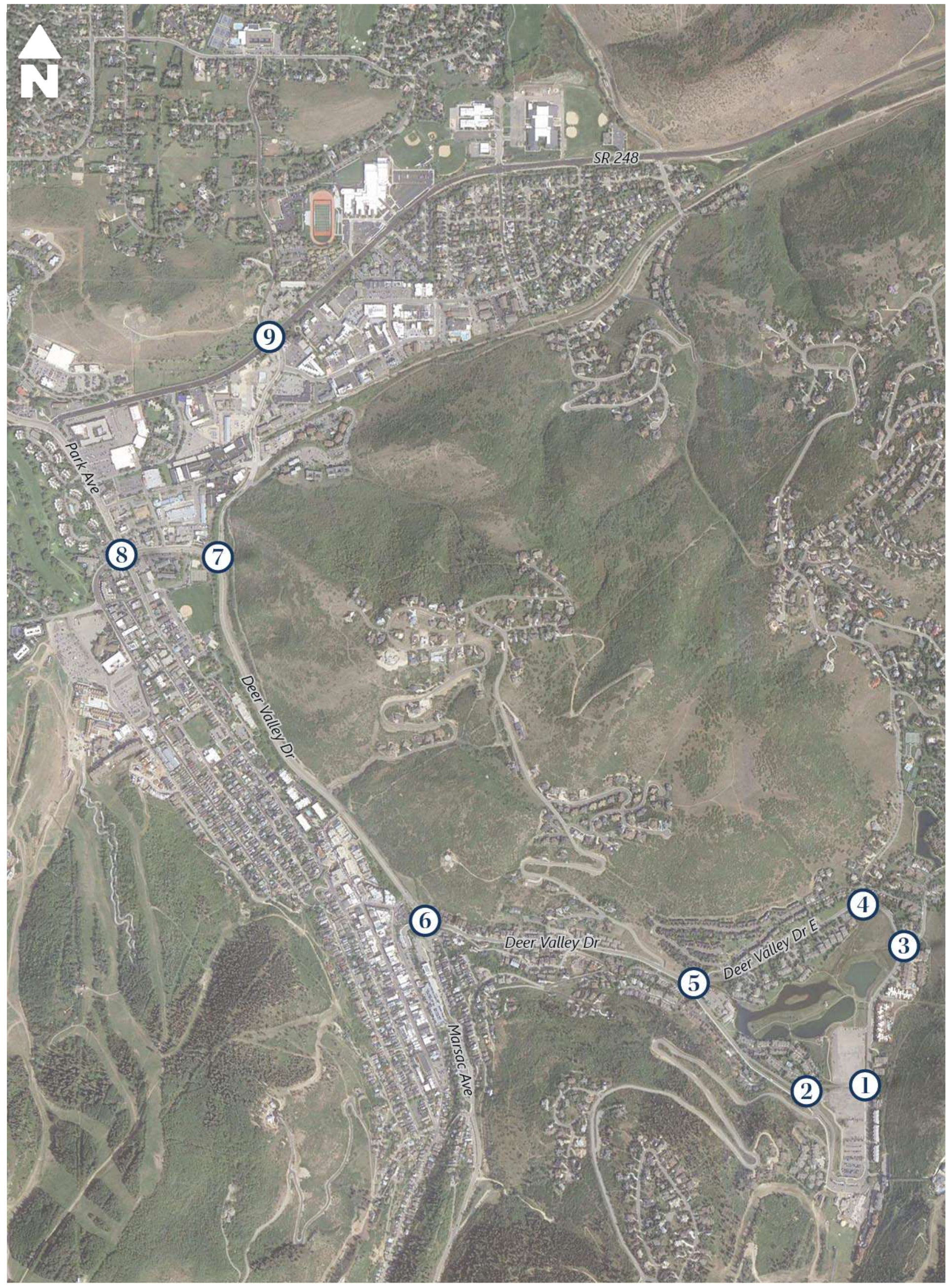
As shown in **Table 13**, all study intersections operated within acceptable LOS (LOS D or better), with the exception of the following locations:

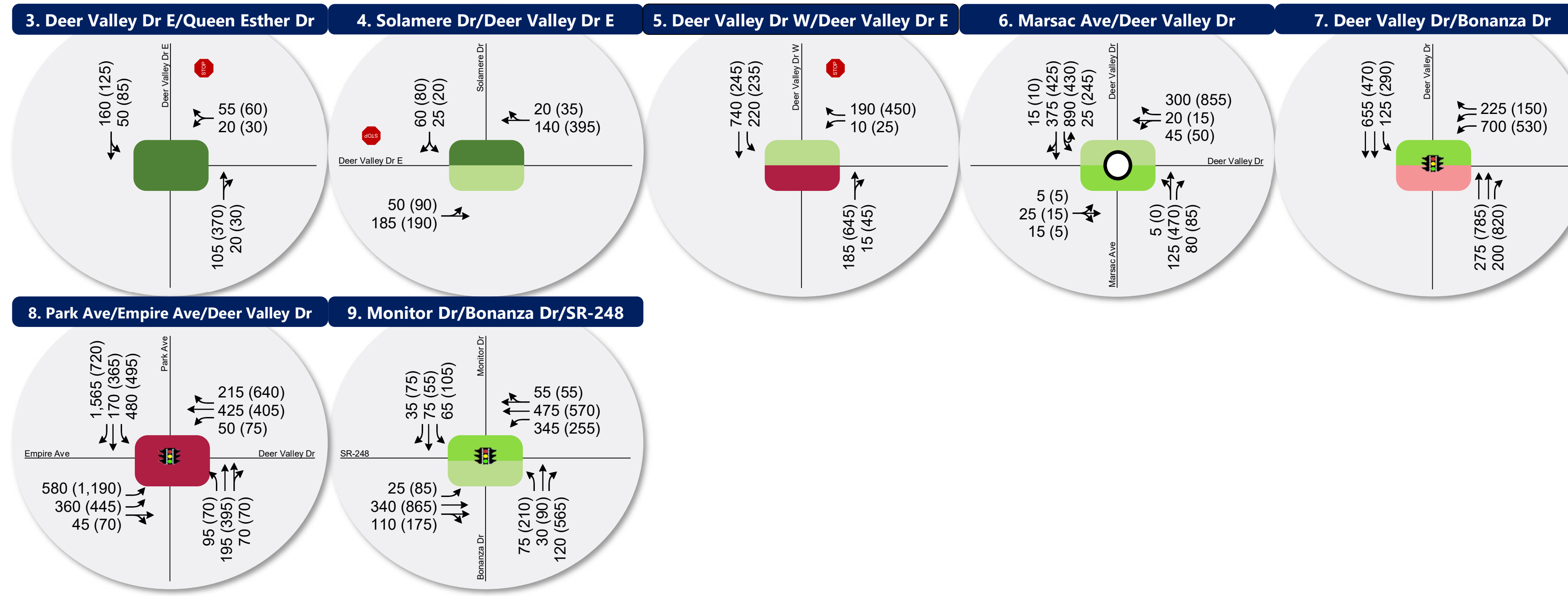
- Deer Valley Drive East / Deer Valley Drive West: LOS F in the PM peak hour
  - This is caused by the high volumes of vehicles exiting the Deer Valley Resort area making a westbound right turn onto Deer Valley Drive West. The westbound approach is stop-controlled, making it difficult for vehicles to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





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

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.

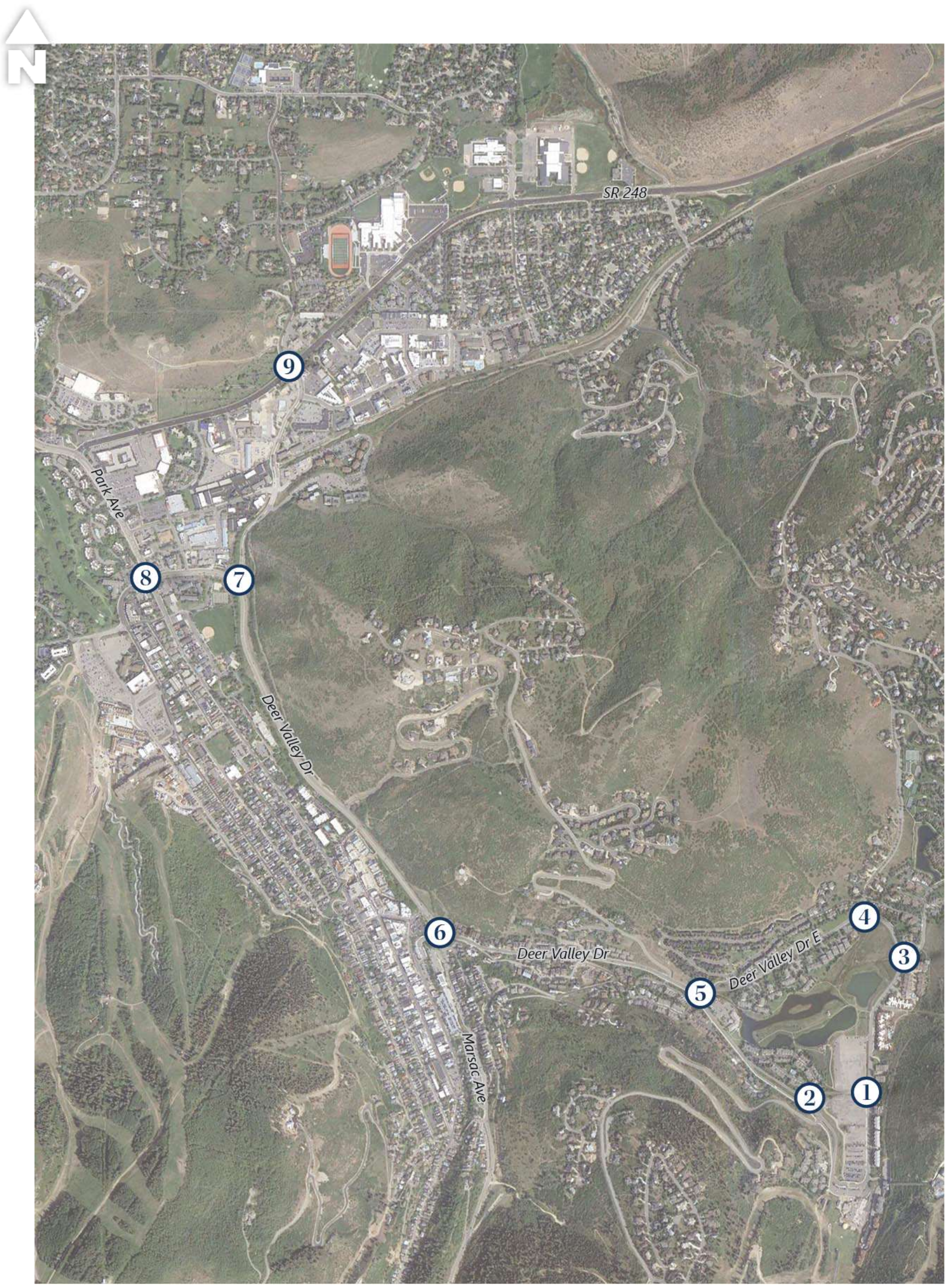
With increased traffic due to the development, the Deer Valley Drive East / Solamere Drive and Deer Valley Drive East / Queen Esther Drive intersections experience increased delays. As a mitigation, the Snow Park Village site plan includes new left-turn pockets at both the Deer Valley Drive East / Solamere 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.

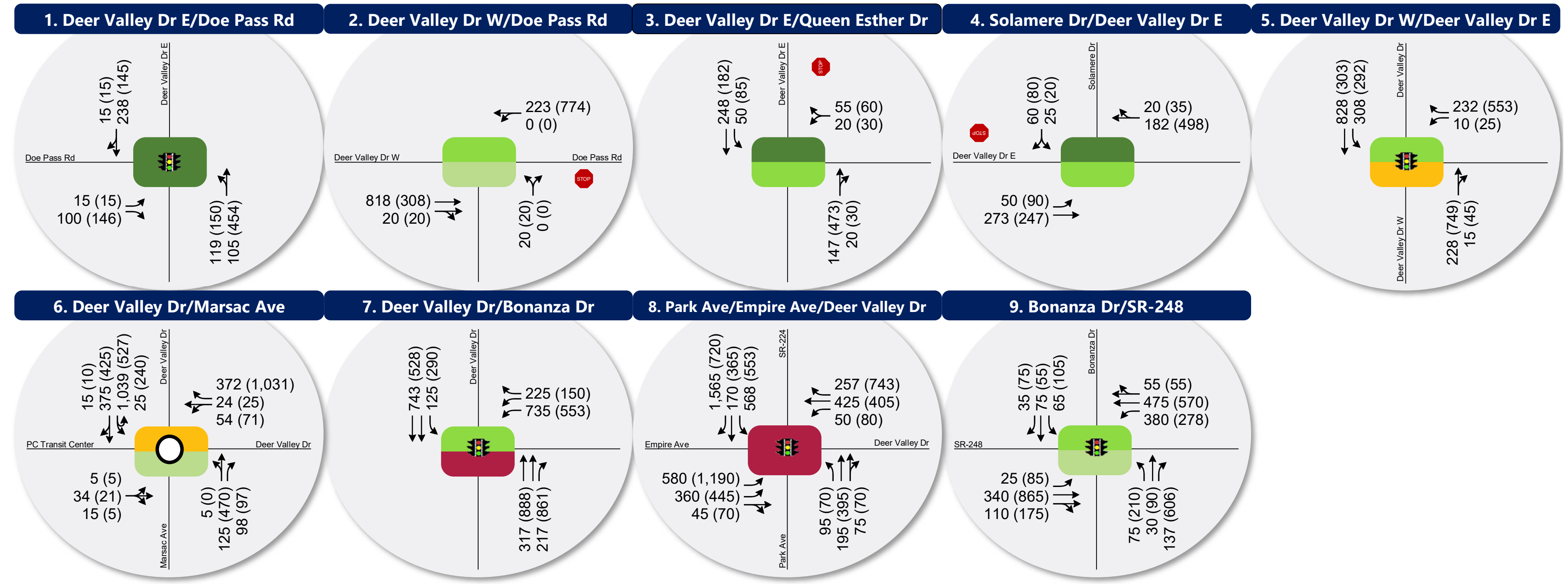
Table 15: Future 2040 plus Project Mitigated Conditions Saturday AM & PM Peak Hour Level of Service

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) AM (PM) 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:

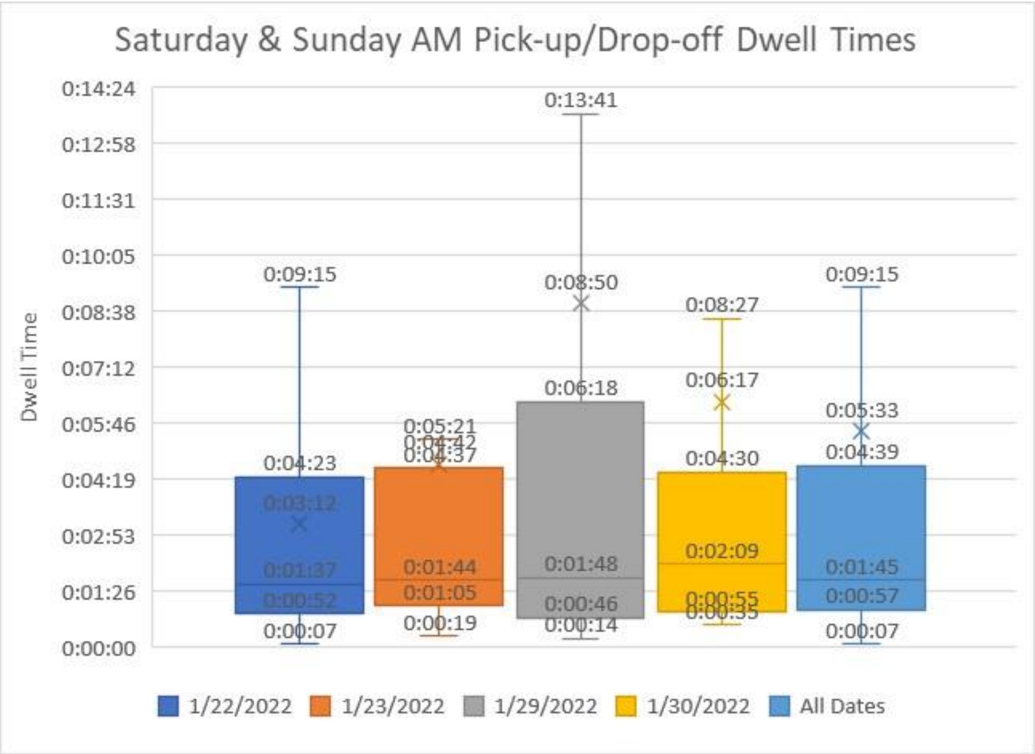
- Average of 4 seconds/vehicle for entry (this was assumed for conservative results, as the development is aiming for a system that would allow free-flow entry)
- Average of 10 seconds/vehicle for exit

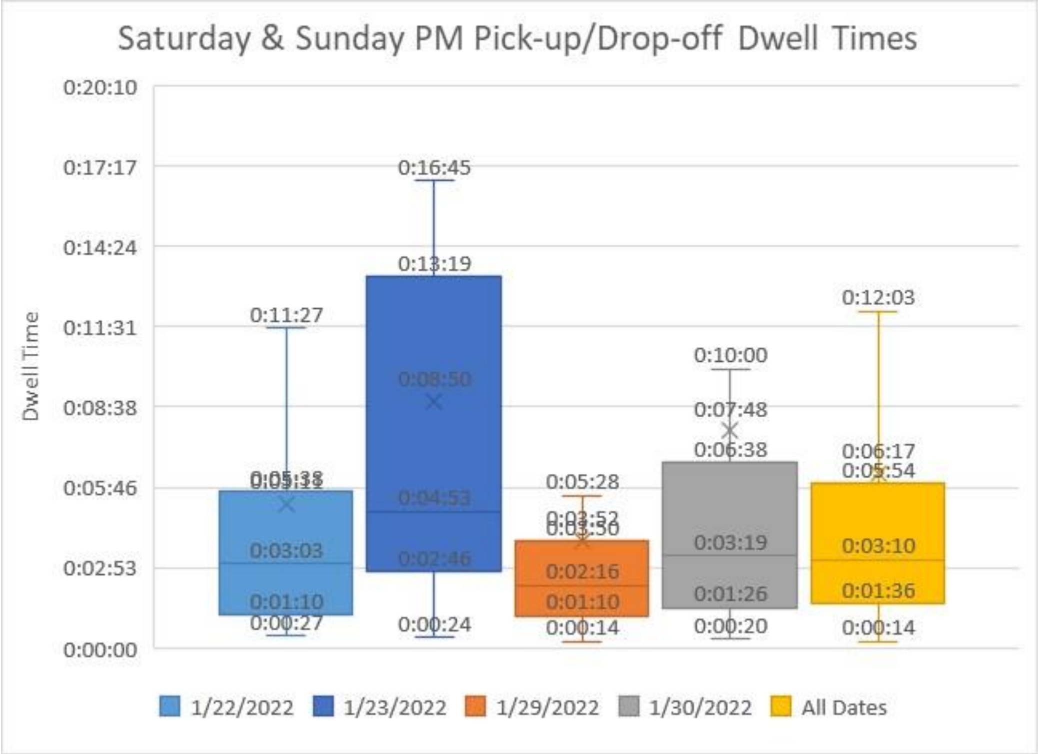
11.1.1.3 Pick-up/Drop-off

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.

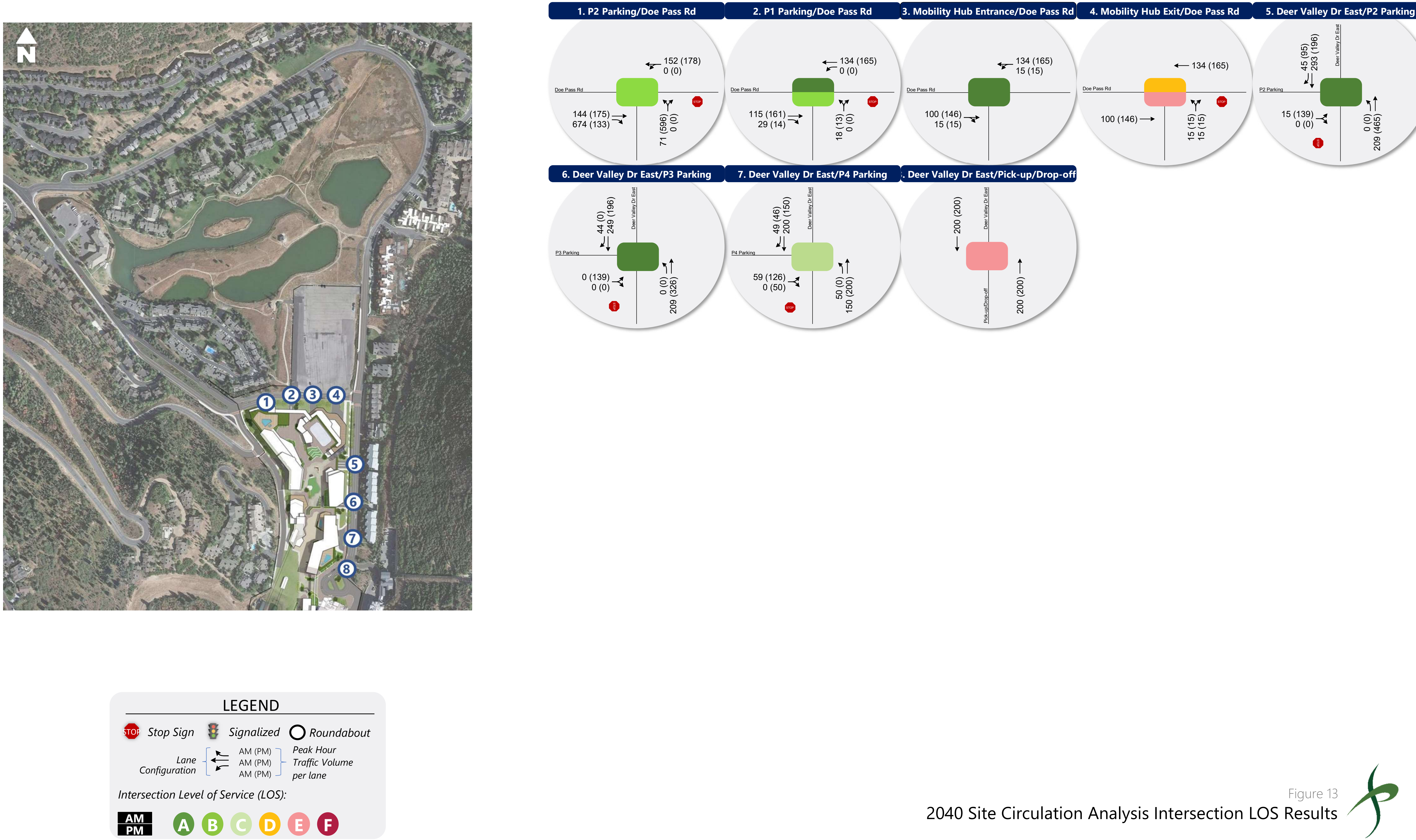


Figure 13
2040 Site Circulation Analysis Intersection LOS Results

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]	
		PM	NB	125
			EB	75
			WB	0
7	Doe Pass Rd / P1 Parking	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]	
			SB	0
			EB	150
13	Snow Park Lodge Pick-up/Drop-off	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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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

	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
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	

L2 Data Collection

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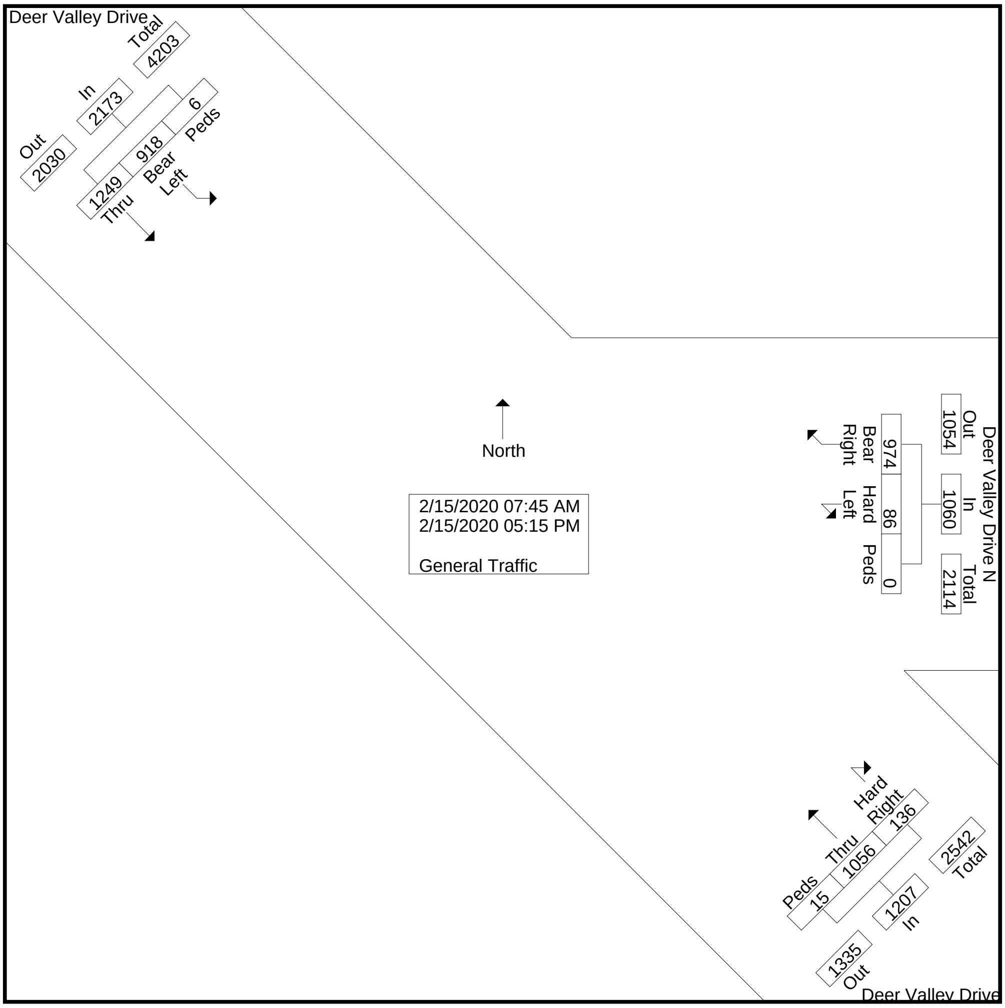
Idaho (208) 860-7554 Utah (801) 413-2993

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 : 2



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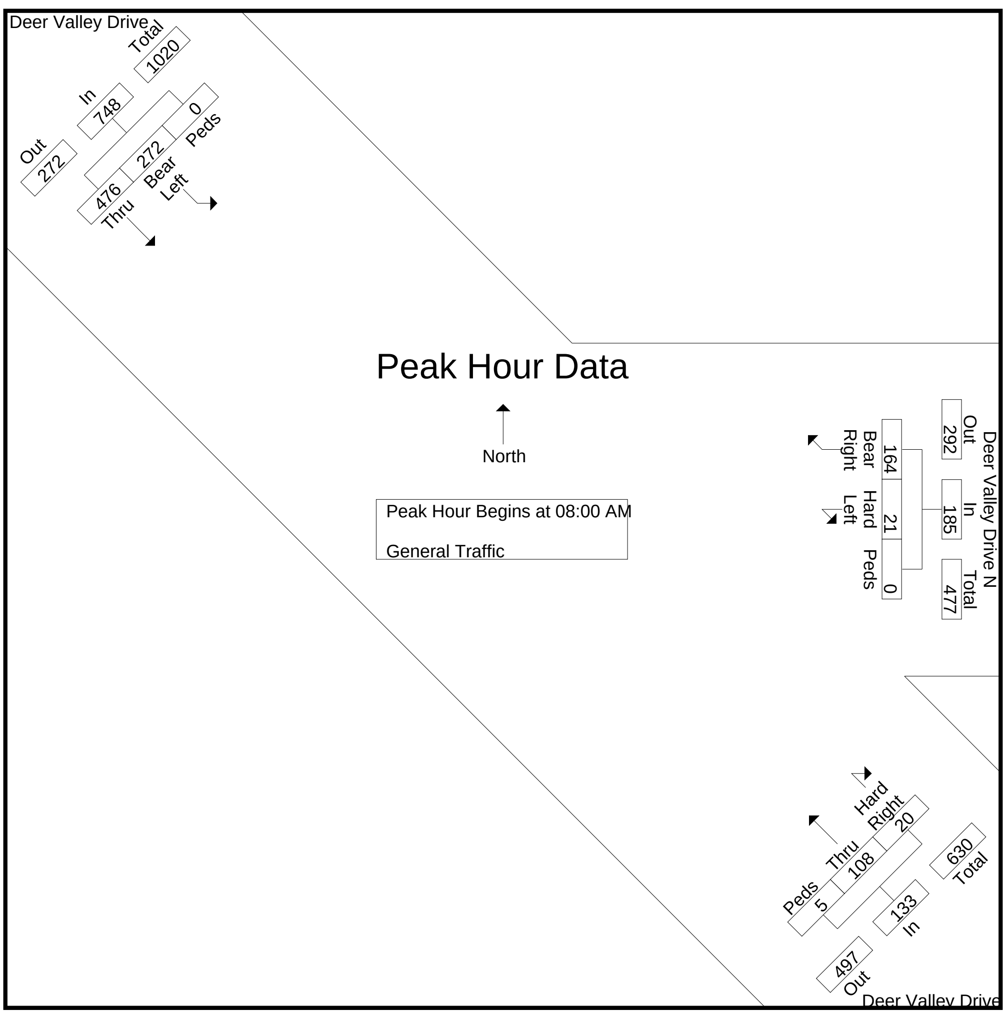
Start Date : 2/15/2020
Page No : 3

	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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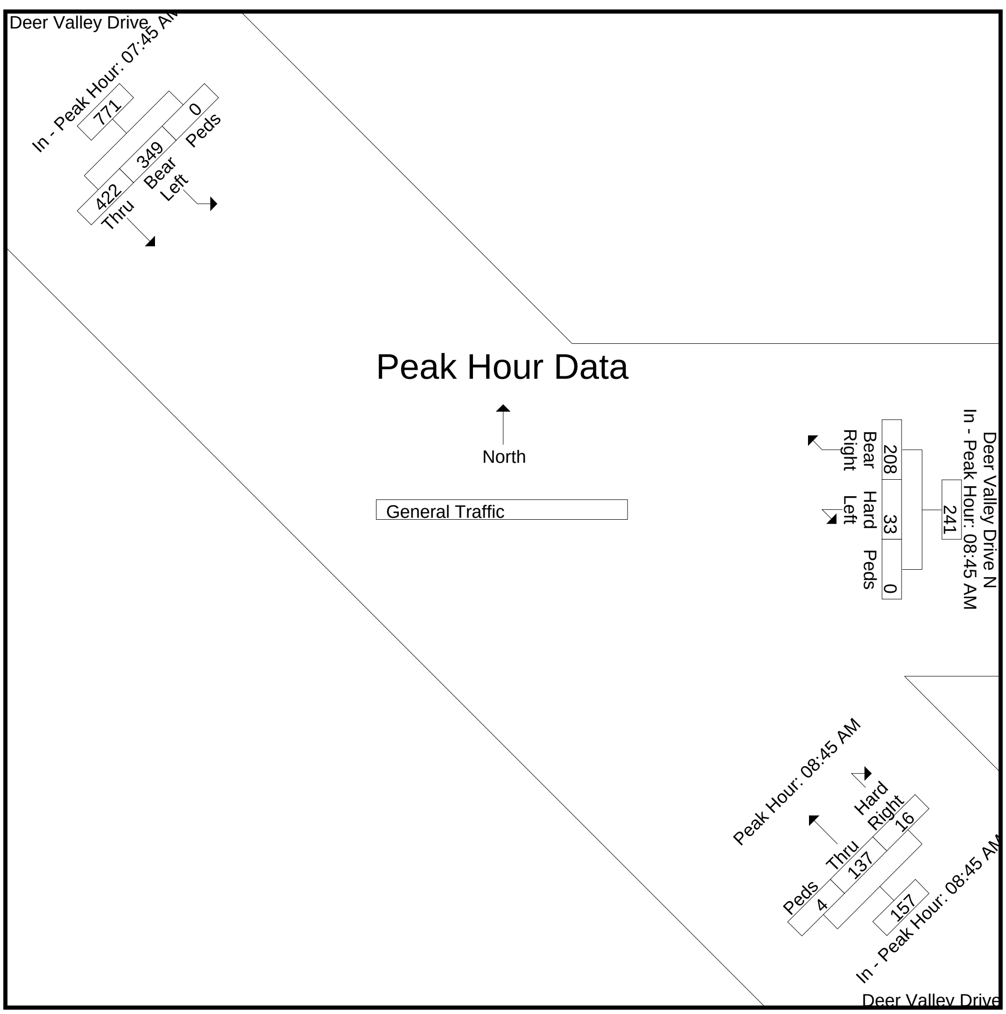
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D1
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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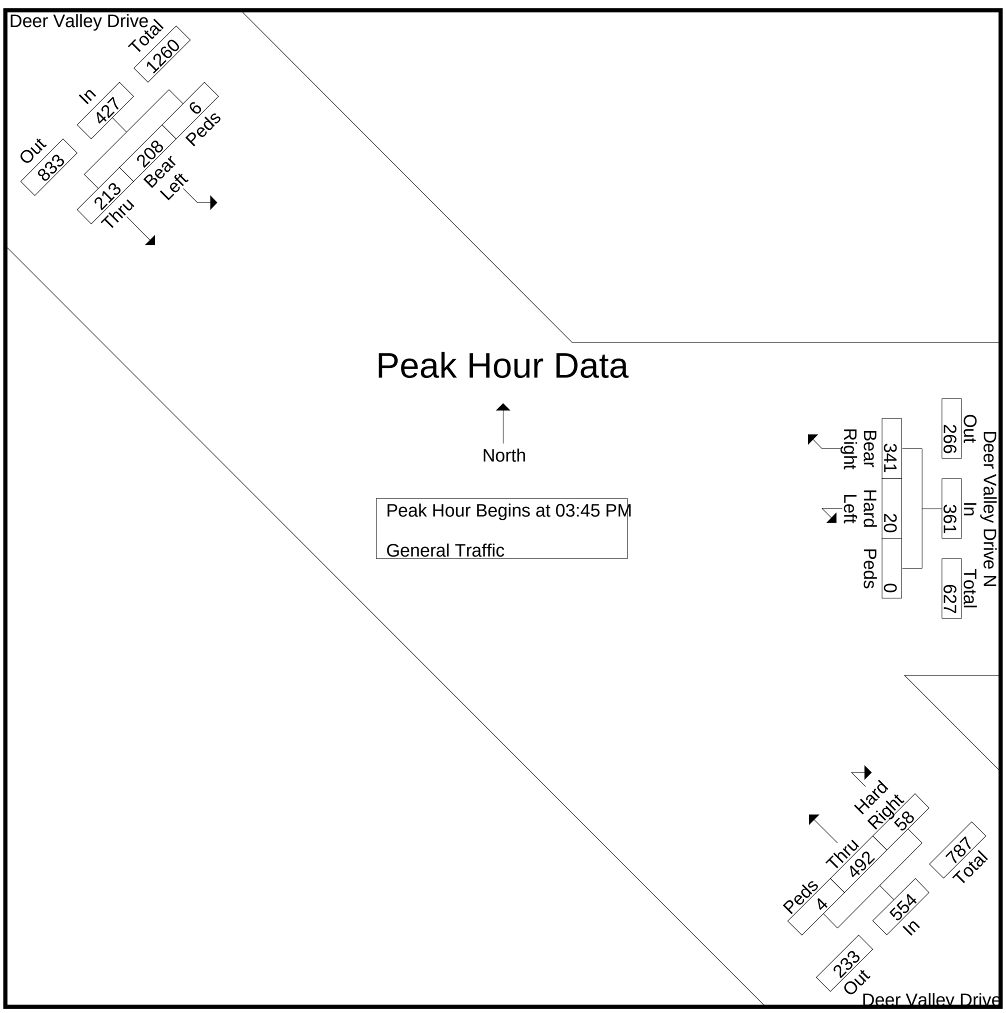
Study: FEHR0119
Intersection:Deer Valley/ Deer Valley N
City, State: Deer Valley, Utah
Control: Stop Sign

File Name : Deer Valley Dr & Deer Valley Dr N - D1
Site Code : Day 1
Start Date : 2/15/2020
Page No : 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



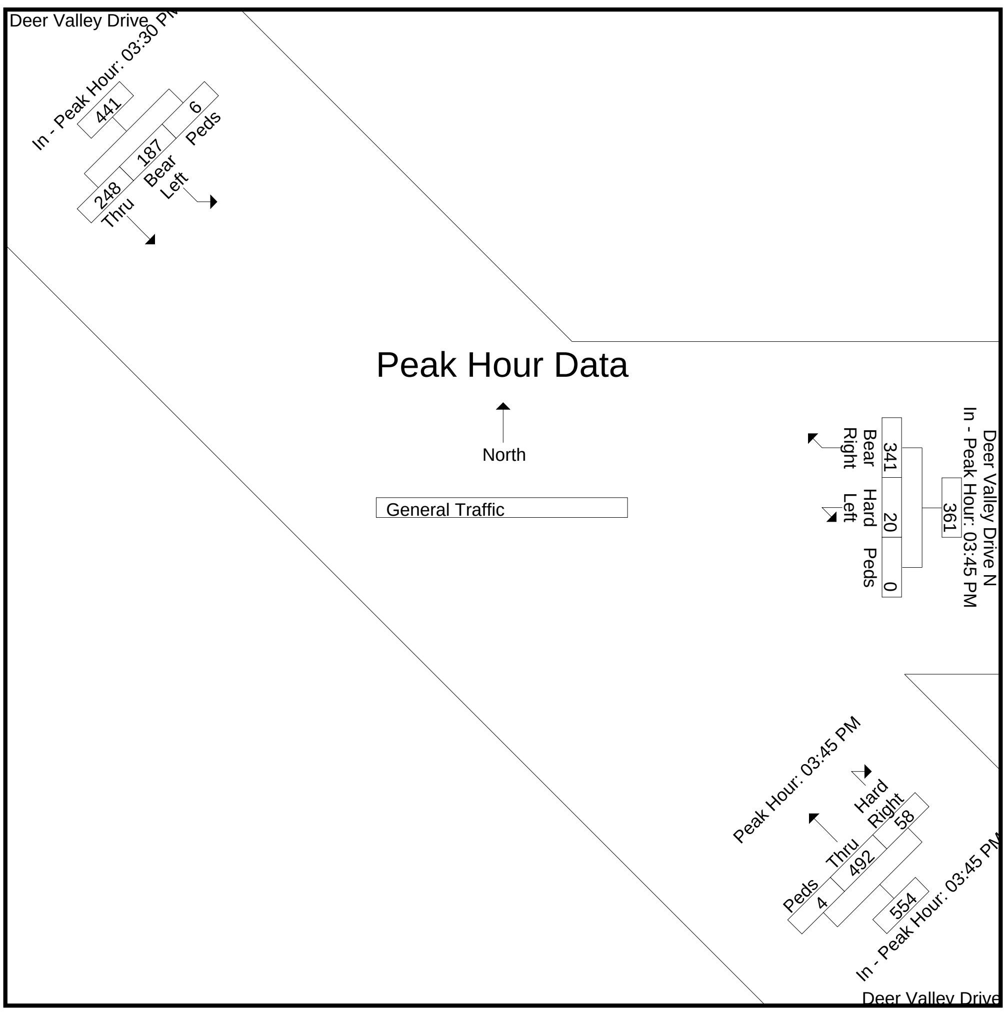
L2 Data Collection

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 - D1
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	



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 - D1
Site Code : Day 1
Start Date : 2/15/2020
Page No : 7

Image 1

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 : 1

Groups Printed- General Traffic

	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
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

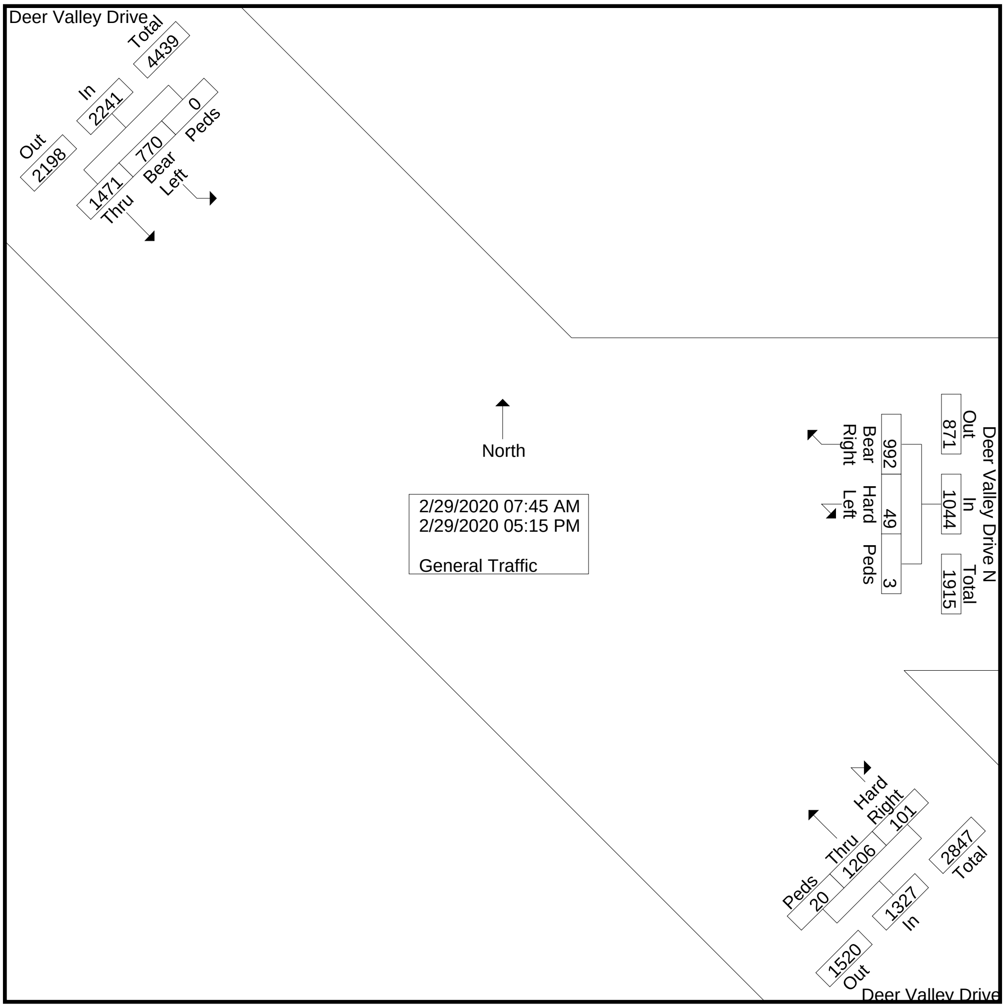
03:30 PM	66	48	0	114	103	3	1	107	10	111	0	121	342
03:45 PM	51	54	0	105	95	4	0	99	10	116	1	127	331
Total	117	102	0	219	198	7	1	206	20	227	1	248	673
04:00 PM	43	45	0	88	102	8	0	110	12	159	1	172	370
04:15 PM	63	52	0	115	76	8	2	86	9	140	0	149	350
04:30 PM	47	38	0	85	104	2	0	106	13	121	1	135	326
04:45 PM	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	

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 : 2



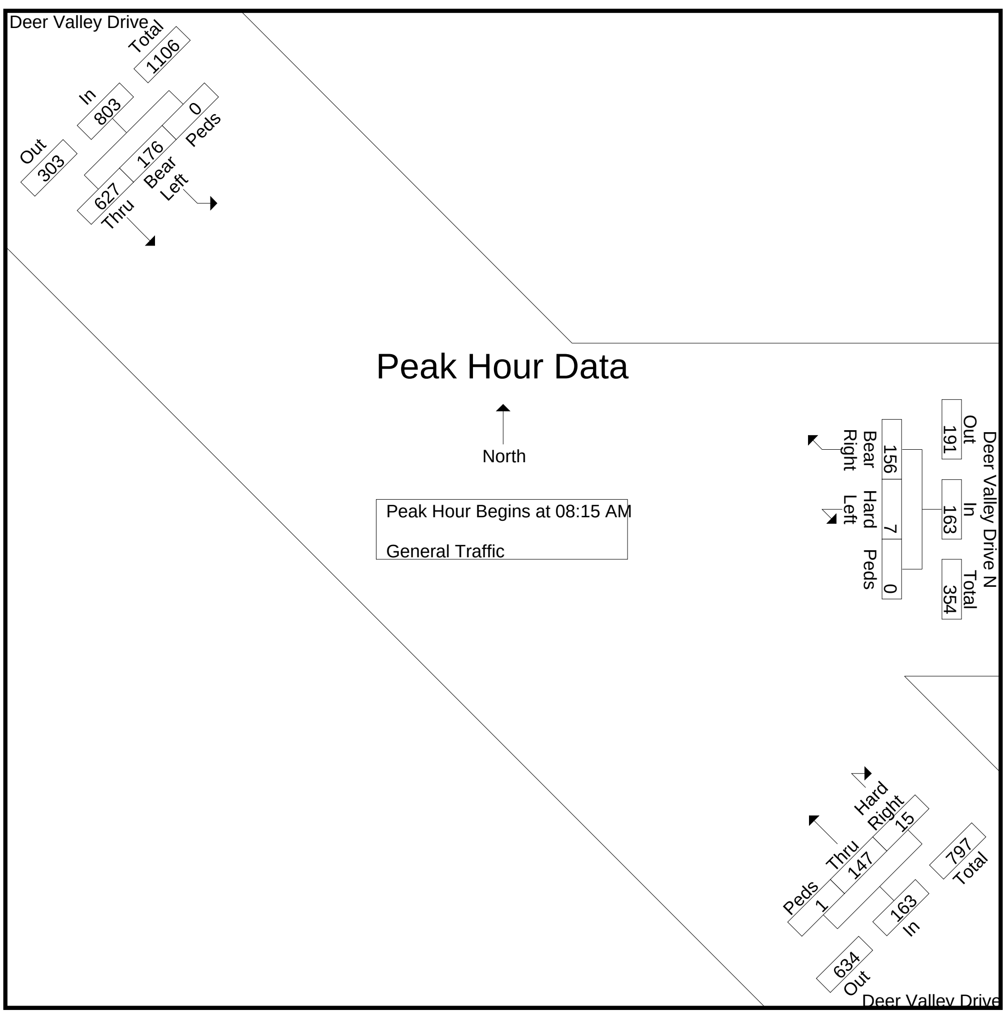
L2 Data Collection

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 : 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



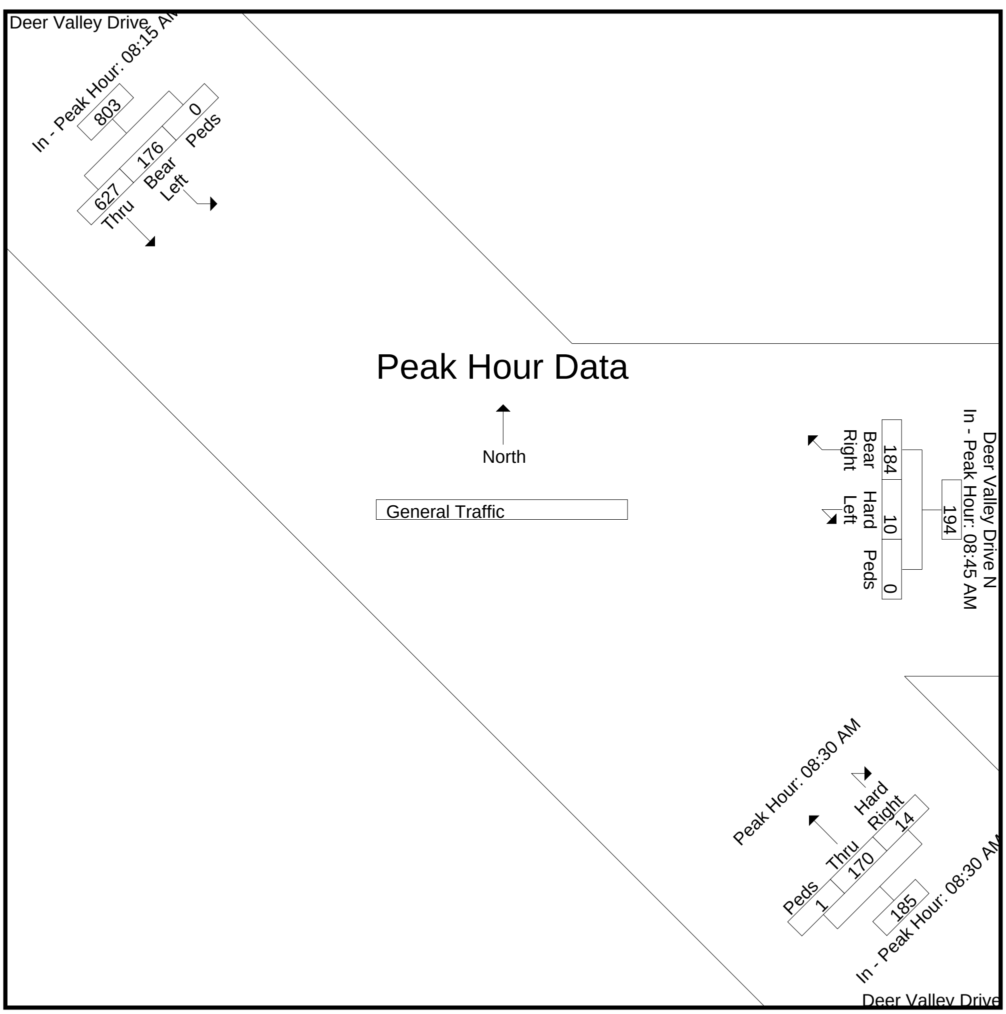
L2 Data Collection

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 : 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	

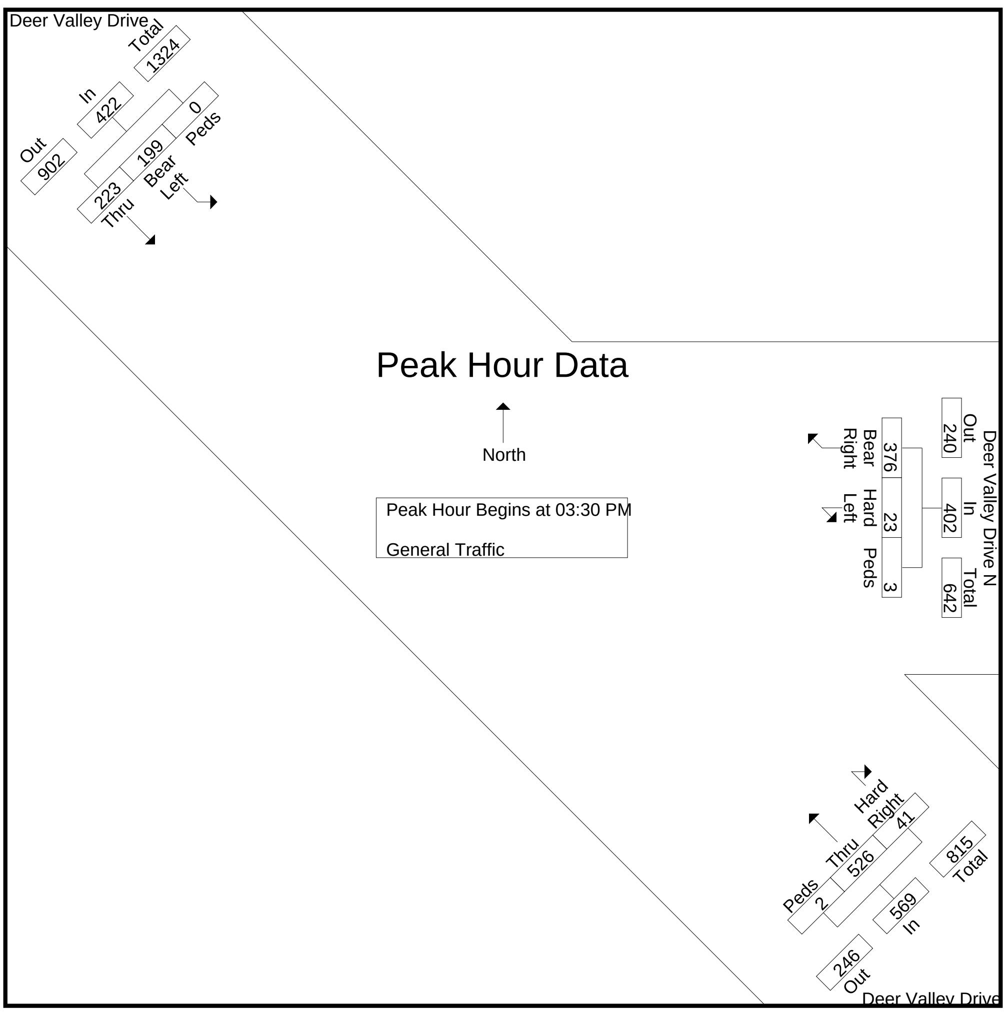


L2 Data Collection
L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

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 : 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



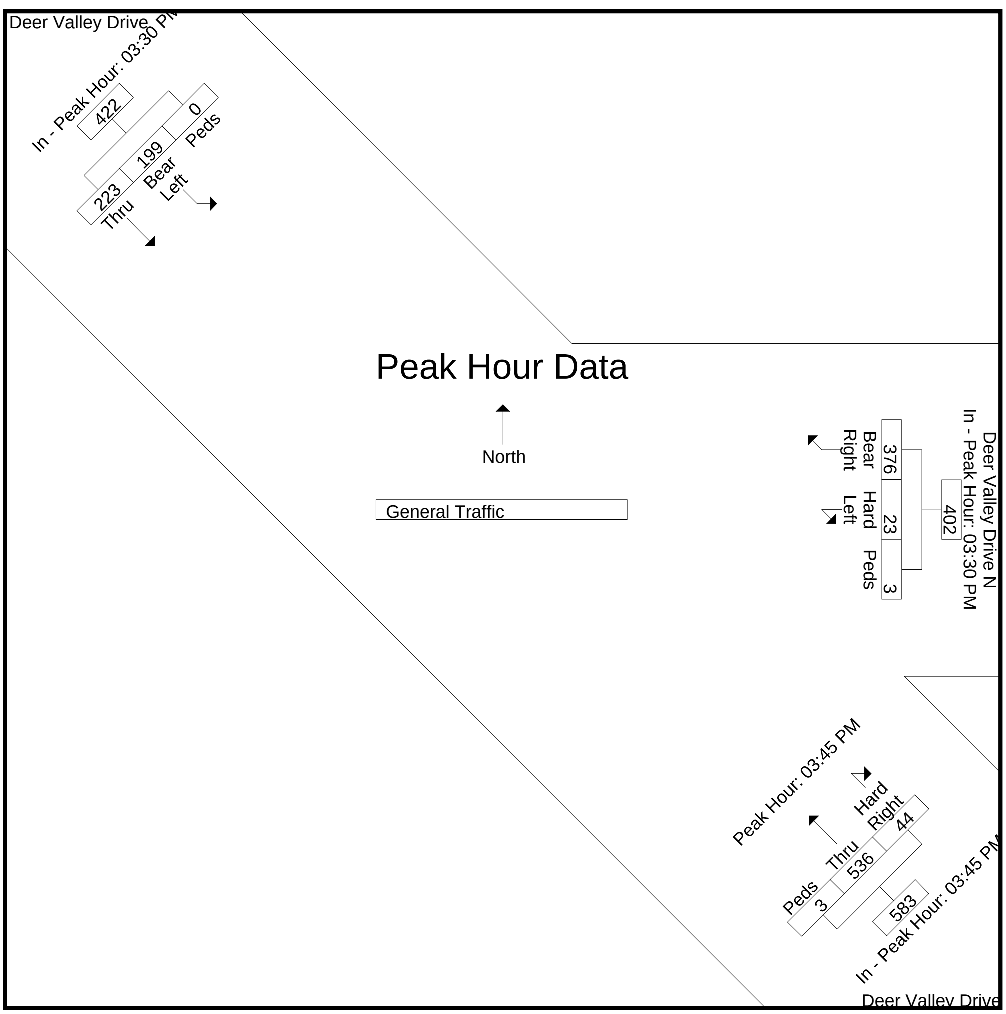
L2 Data Collection

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 : 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				03:30 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

	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
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

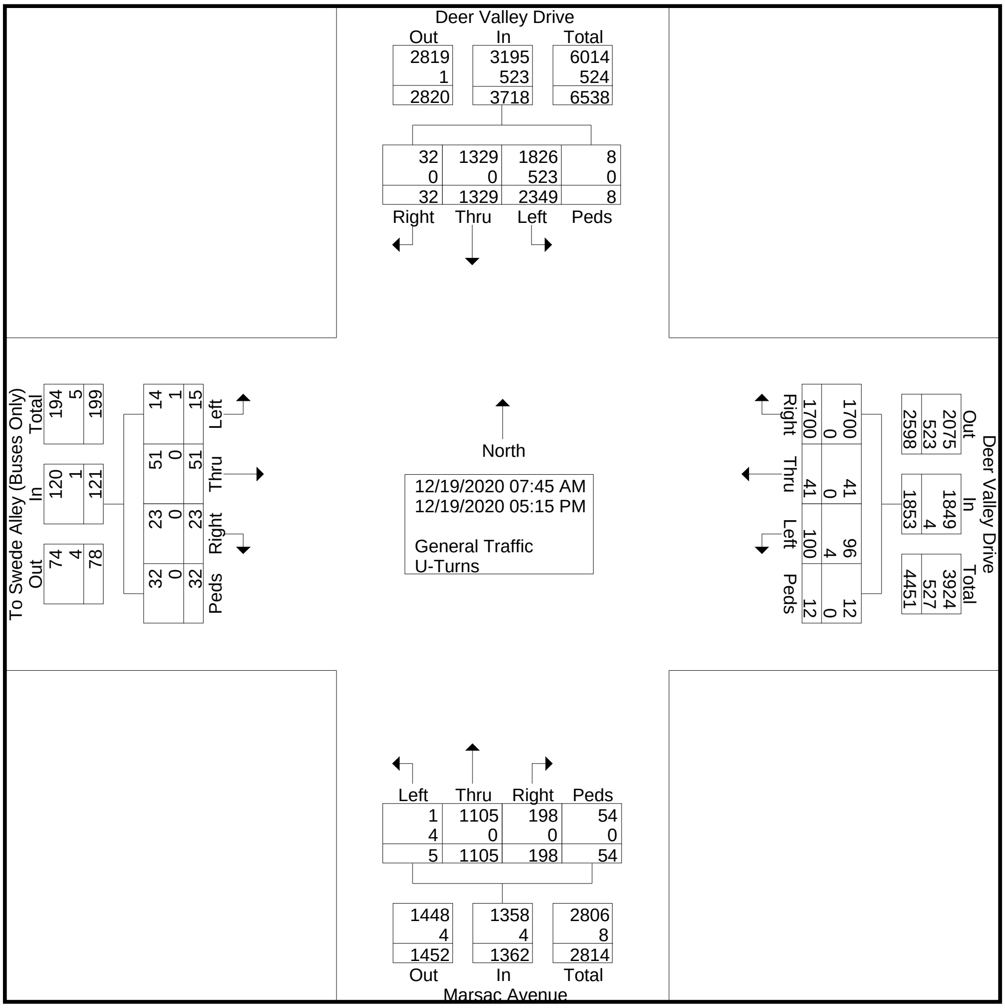
03:30 PM	5	97	155	0	257	155	2	7	0	164	18	97	0	5	120	4	0	3	0	7	548
03:45 PM	2	90	162	0	254	157	4	9	0	170	17	116	0	7	140	2	4	1	4	11	575
Total	7	187	317	0	511	312	6	16	0	334	35	213	0	12	260	6	4	4	4	18	1123
04:00 PM	1	101	141	0	243	177	1	12	0	190	9	106	1	7	123	1	2	0	3	6	562
04:15 PM	1	93	129	5	228	180	3	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



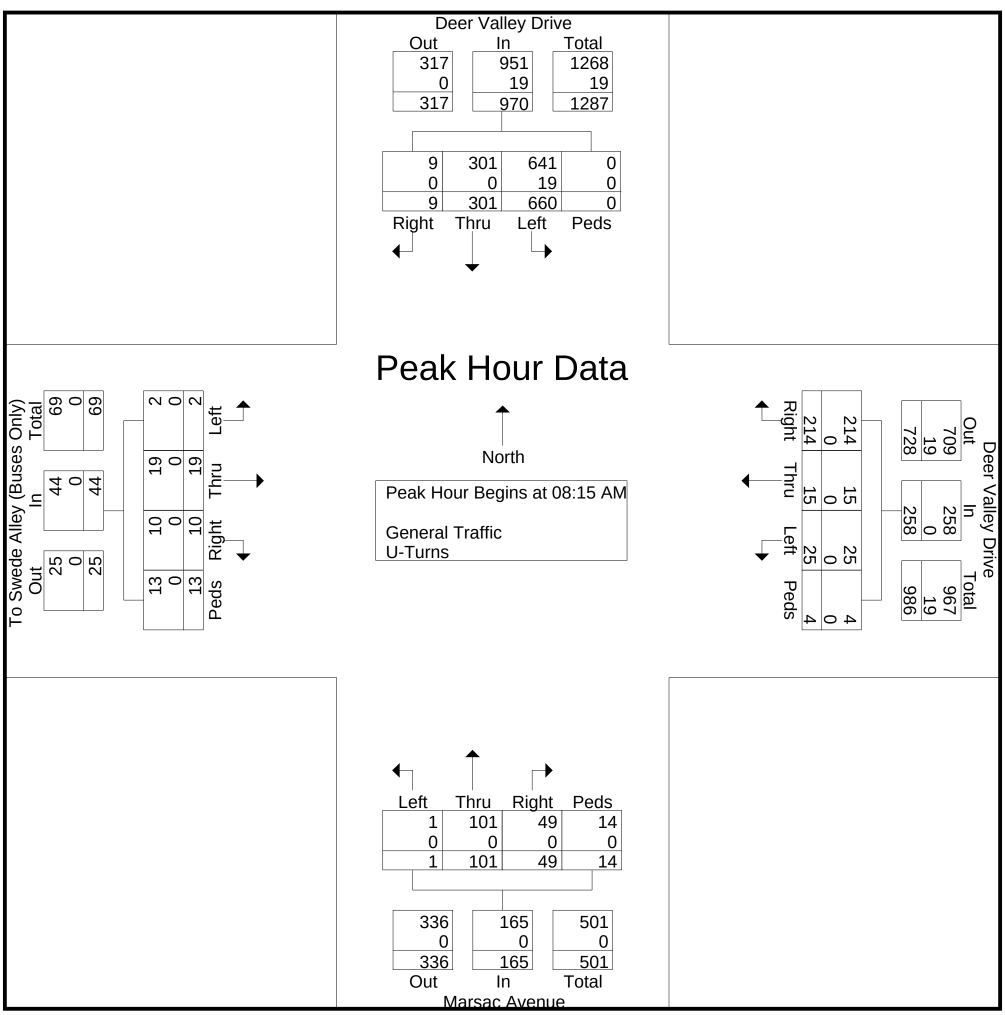
L2 Data Collection

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



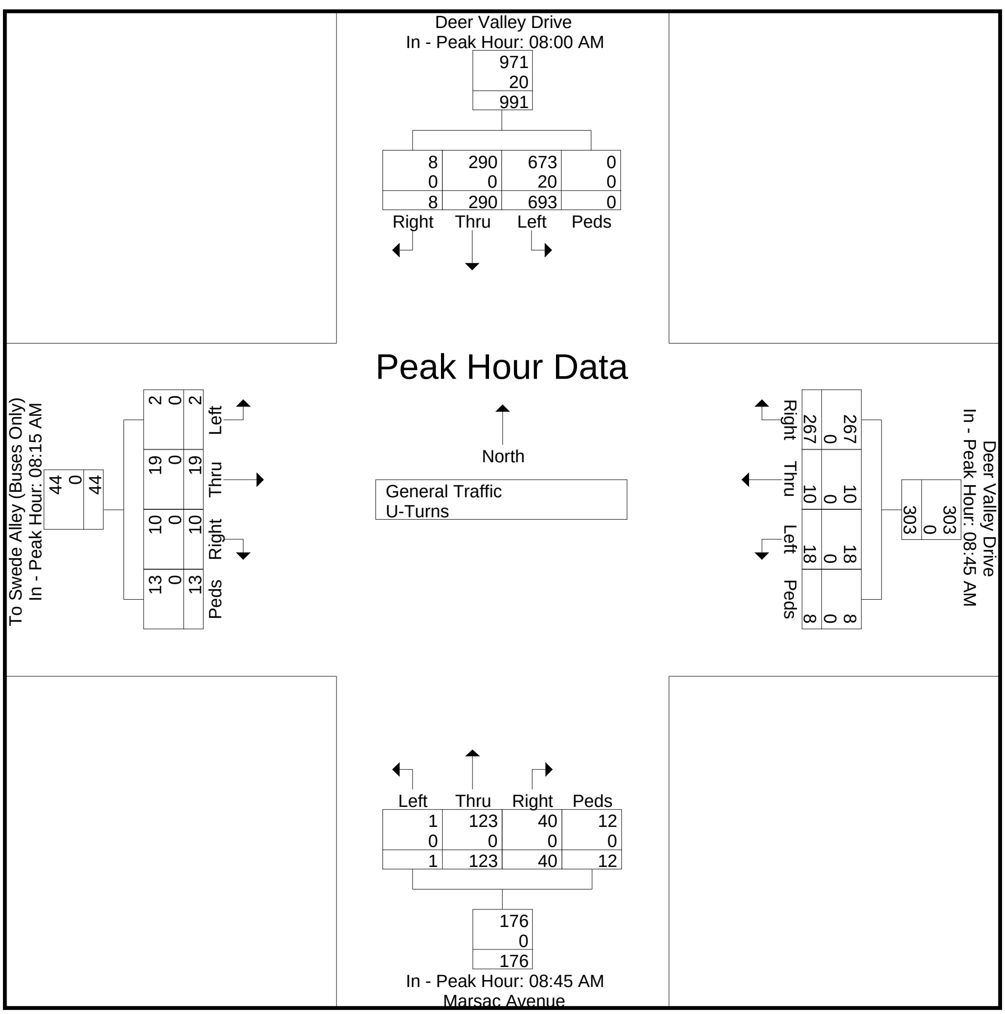
L2 Data Collection

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	



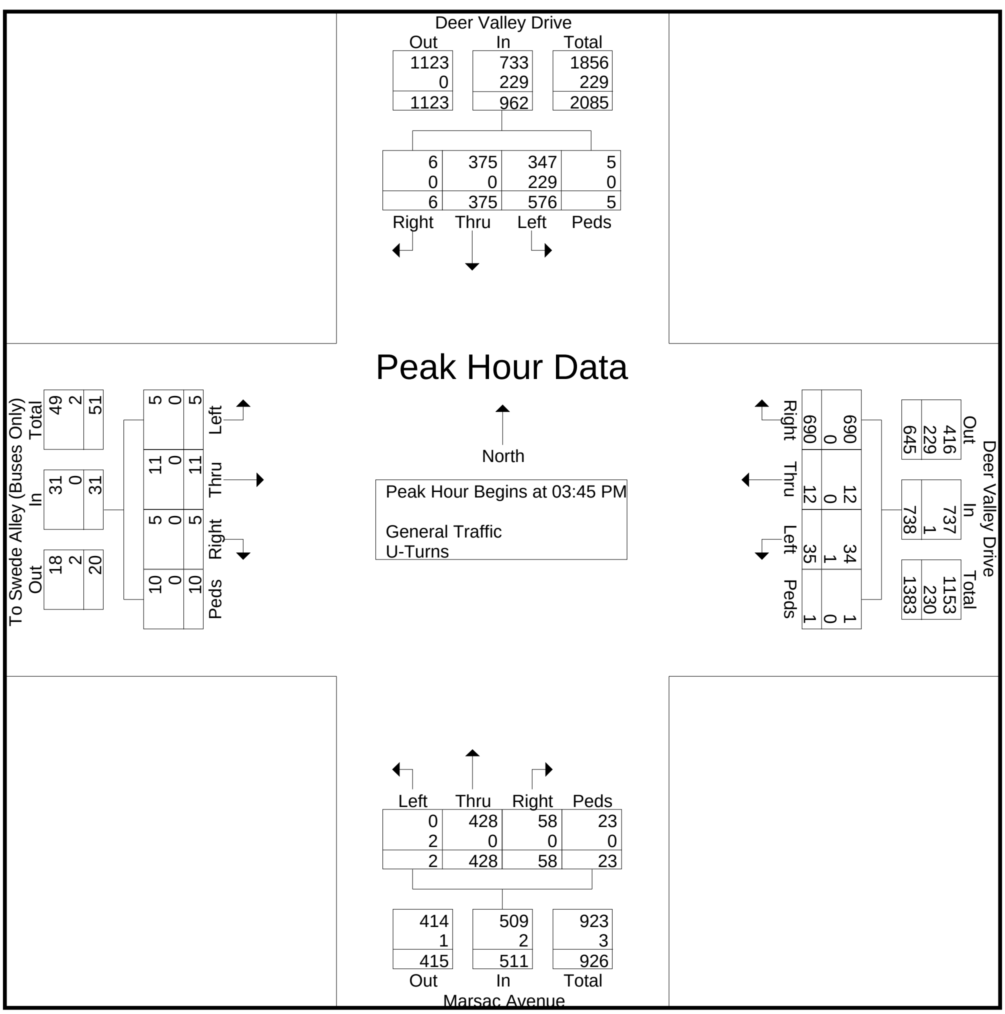
L2 Data Collection

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



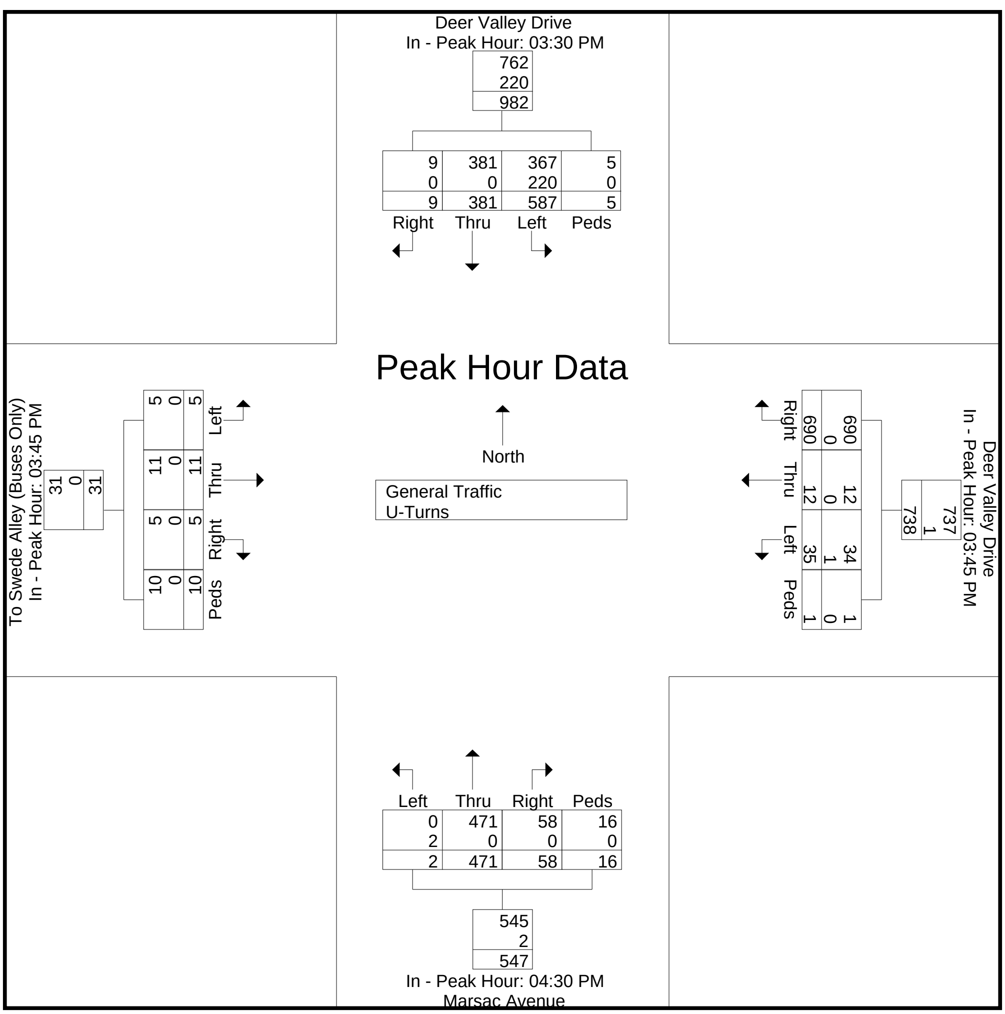
L2 Data Collection

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

	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**
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

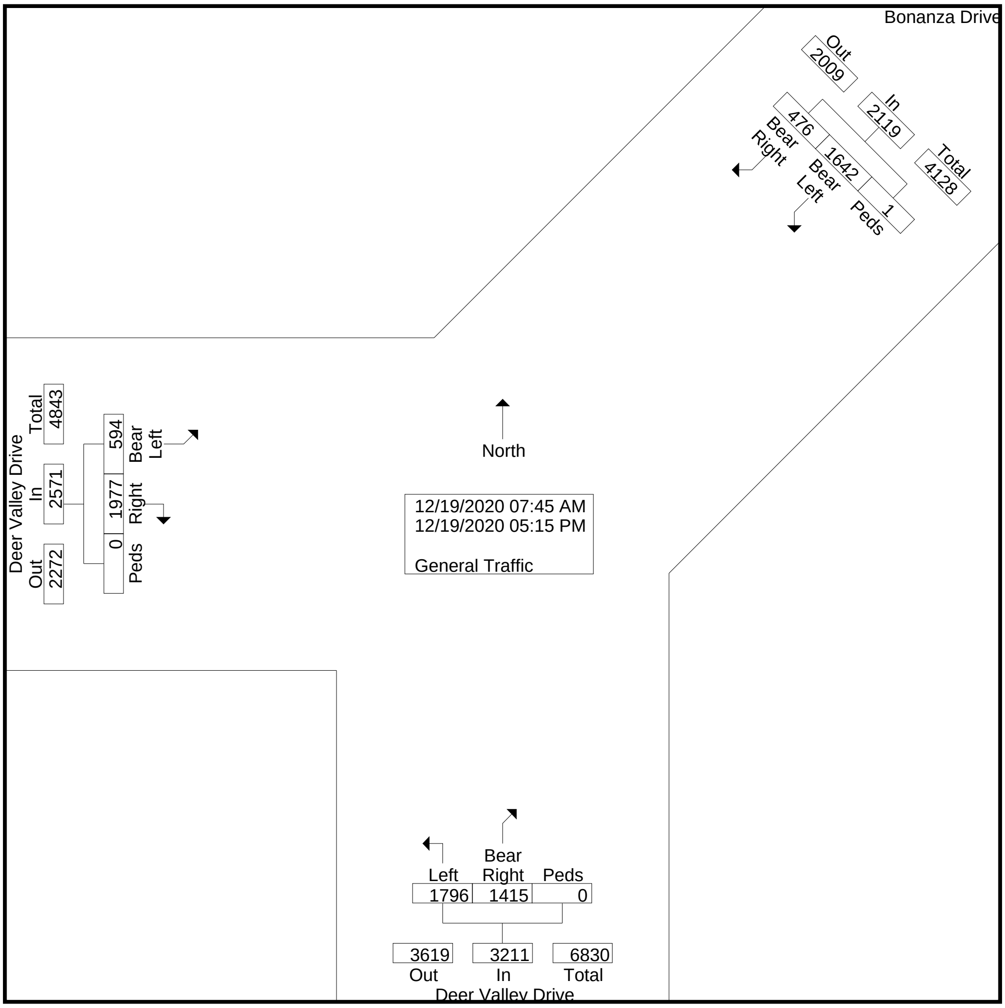
03:30 PM	23	90	0	113	146	174	0	320	120	58	0	178	611
03:45 PM	41	110	1	152	147	184	0	331	110	67	0	177	660
Total	64	200	1	265	293	358	0	651	230	125	0	355	1271
04:00 PM	25	92	0	117	155	175	0	330	119	59	0	178	625
04:15 PM	26	103	0	129	142	177	0	319	110	63	0	173	621
04:30 PM	31	94	0	125	176	182	0	358	99	50	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

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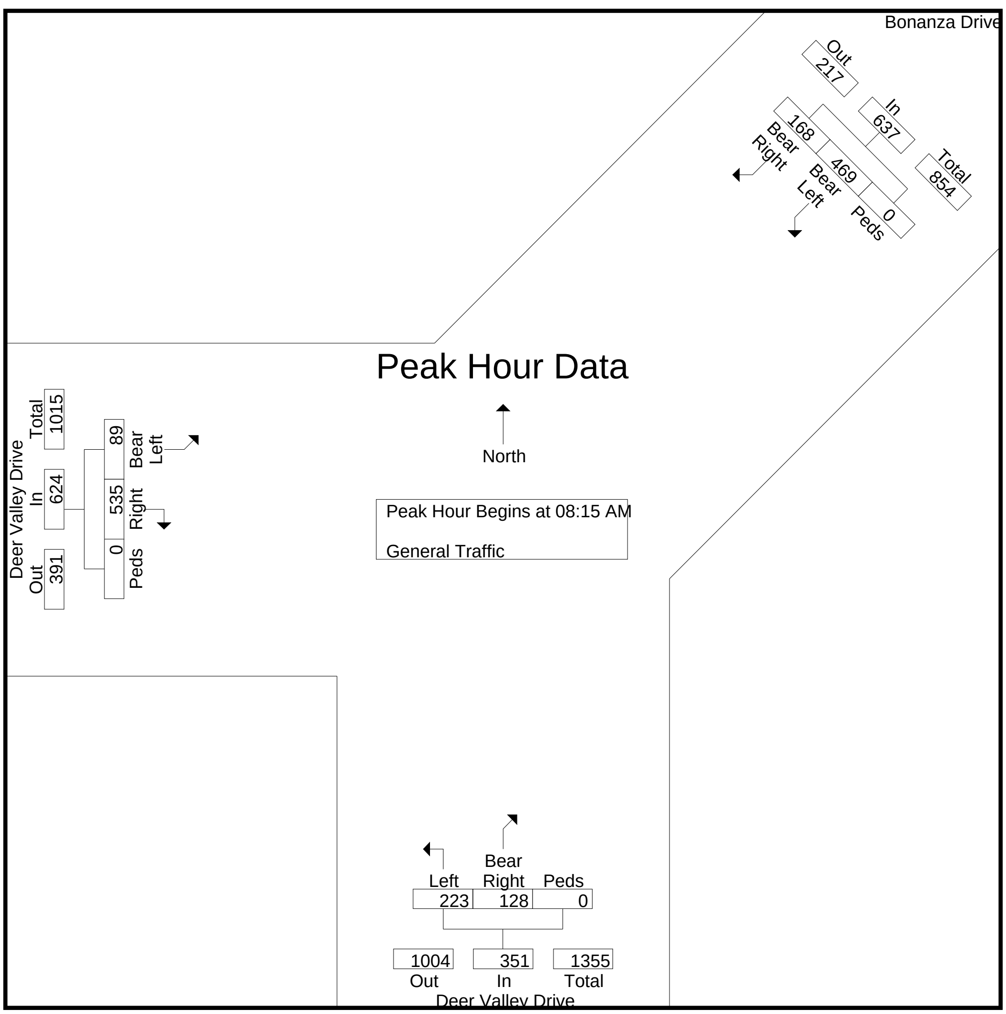
Idaho (208) 860-7554 Utah (801) 413-2993

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

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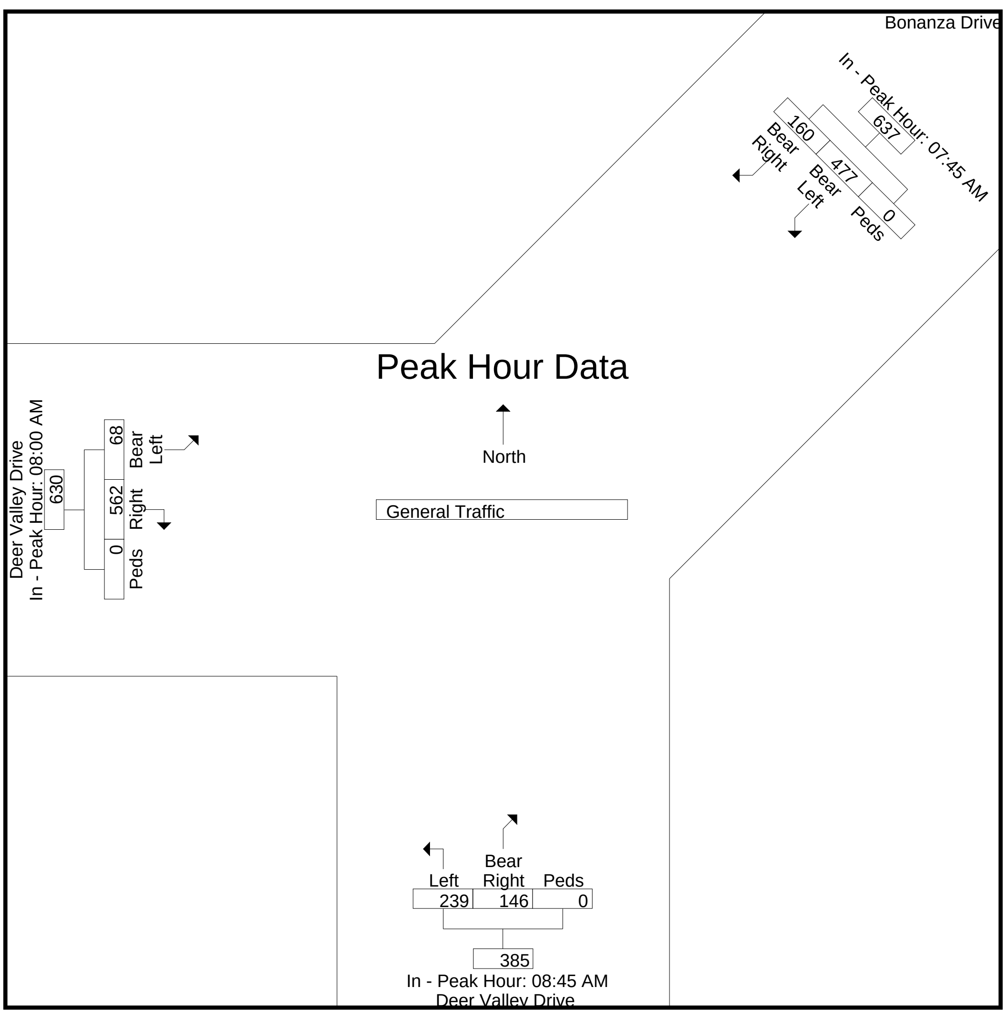
Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

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

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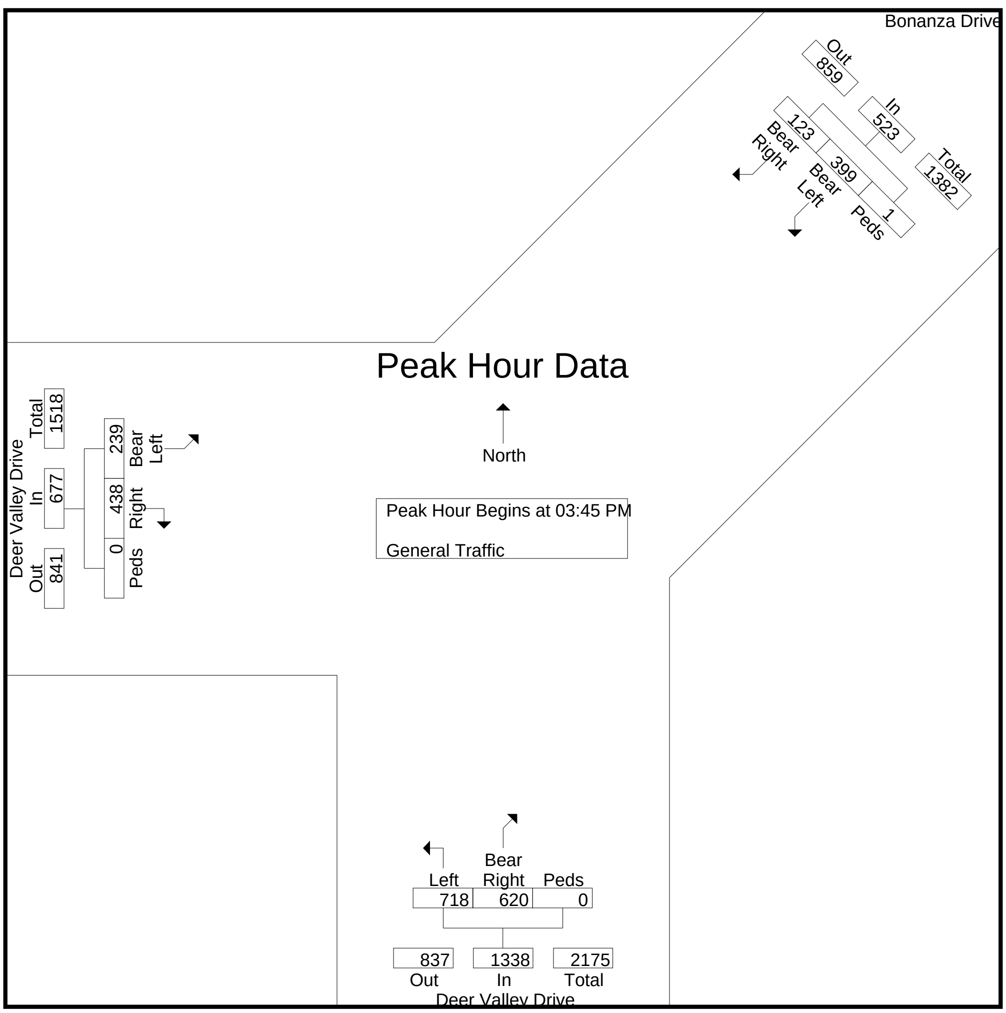
Idaho (208) 860-7554 Utah (801) 413-2993

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

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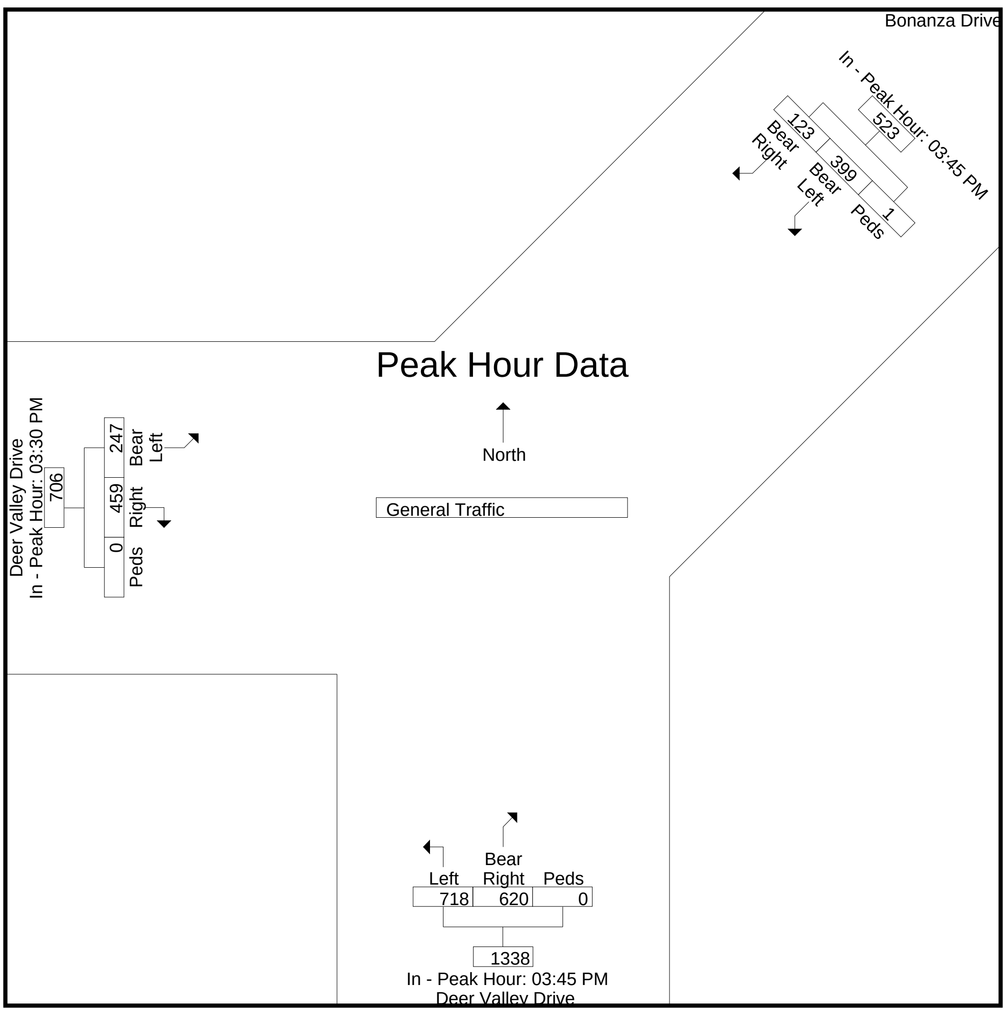
Study: FEHR0124
Intersection: Deer Valley Dr / Bonanza
City, State: Park City, Utah
Control: Signalized

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

FEHR & PEERS

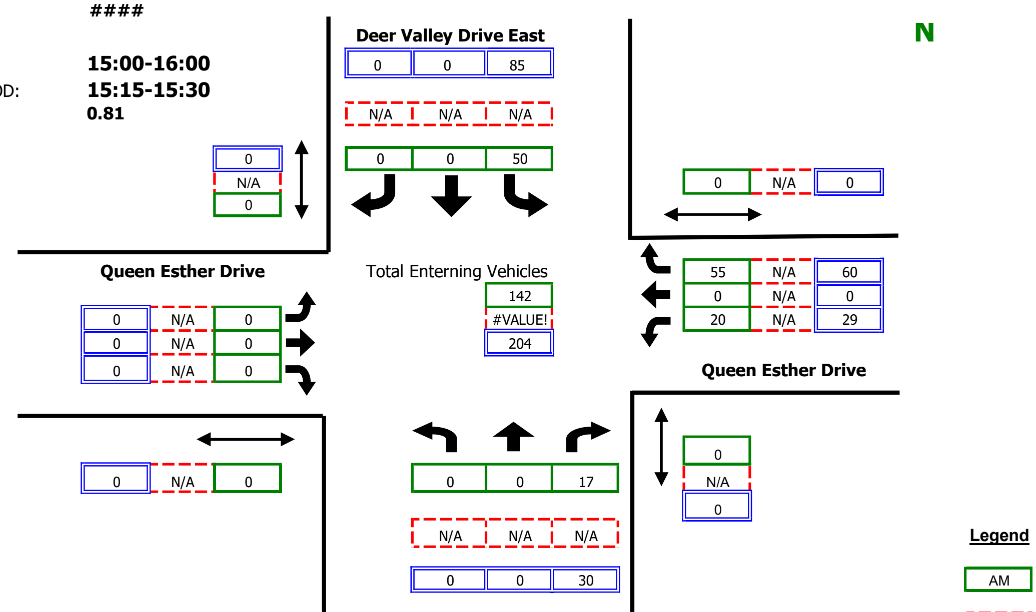
Intersection Turning Movement Summary

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 Left	Thru	Right	Peds	Deer Valley Drive East Southbound Left	Thru	Right	Peds	Queen Esther Drive Eastbound Left	Thru	Right	Peds	Queen Esther Drive Westbound 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
15:45-14:00	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

FEHR PEERS

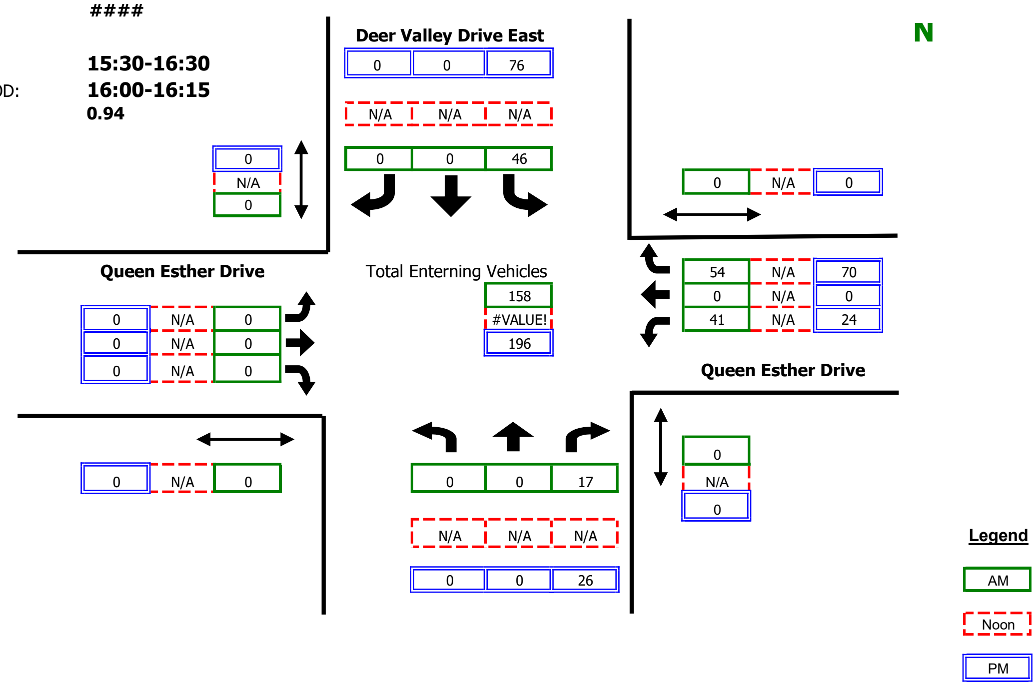
Intersection Turning Movement Summary

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**



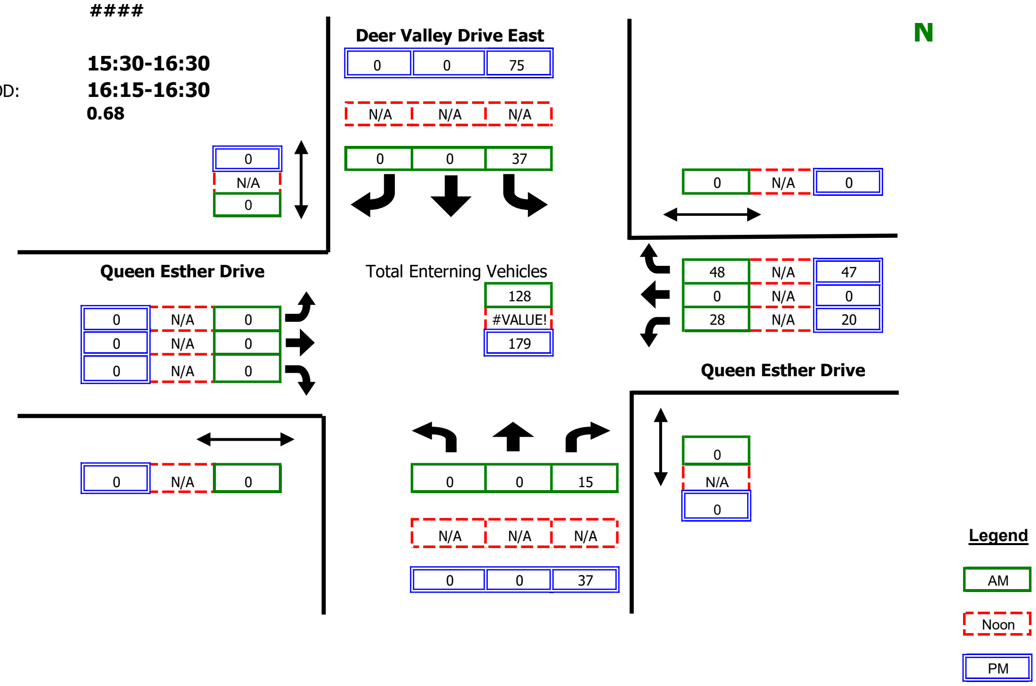
RAW COUNT SUMMARIES	Deer Valley Drive East Northbound				Deer Valley Drive East Southbound				Queen Esther Drive Eastbound				Queen Esther Drive Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	**A**	**B**	**C**	**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
15:45-14:00	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

FEHR & PEERS

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 Left	Thru	Right	Peds	Deer Valley Drive East Southbound Left	Thru	Right	Peds	Queen Esther Drive Eastbound Left	Thru	Right	Peds	Queen Esther Drive Westbound 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
15:45-14:00	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

FEHR PEERS

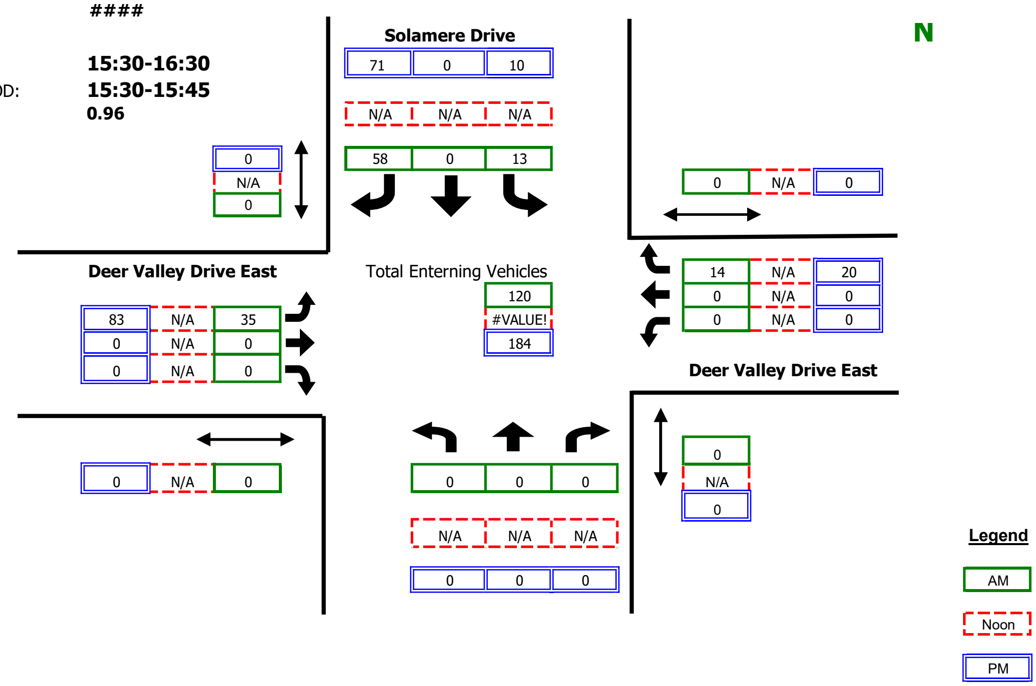
Intersection Turning Movement Summary

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
15:45-14:00	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

FEHR & PEERS

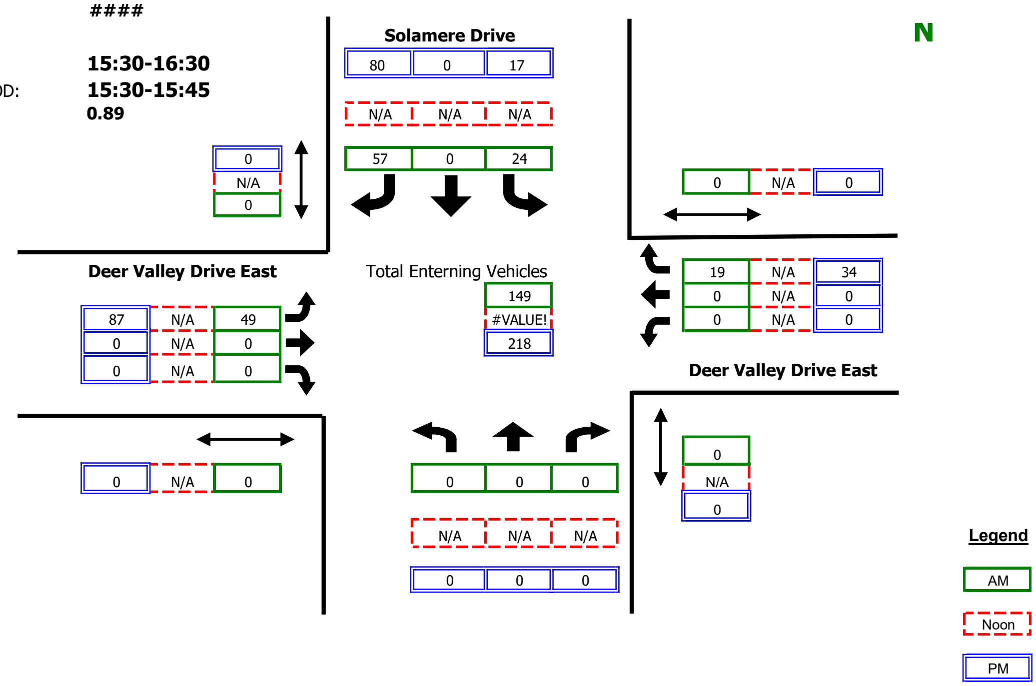
Intersection Turning Movement Summary

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
15:45-14:00	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

FEHR PEERS

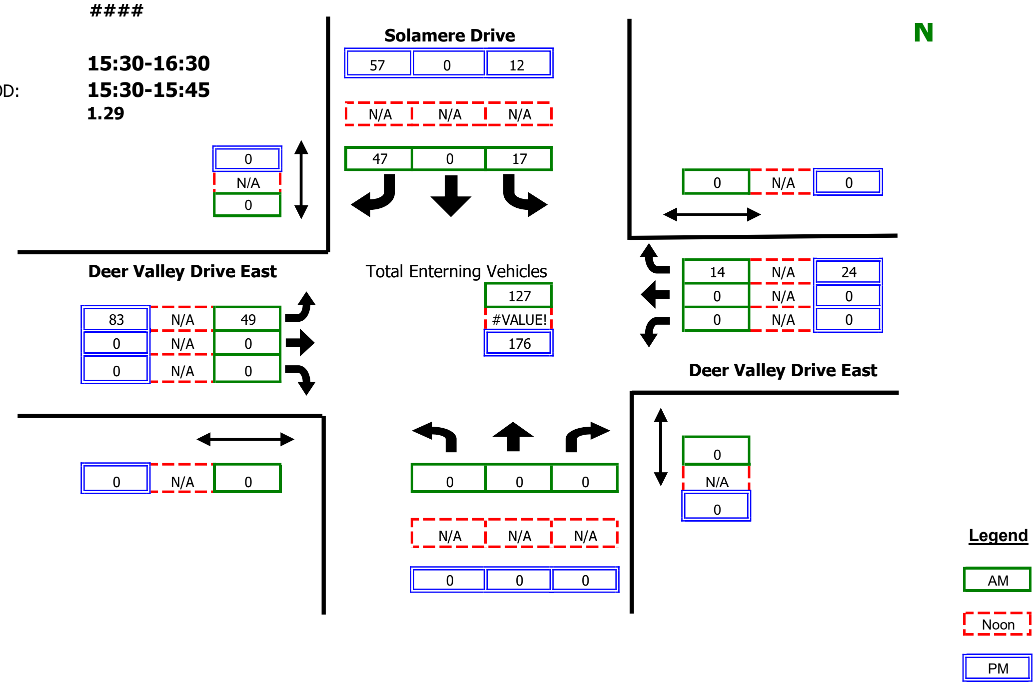
Intersection Turning Movement Summary

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
15:45-14:00	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

L2DataCollection.com
Idaho (208) 860-7554   Utah (801) 413-2993

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

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

L2DataCollection.com
Idaho (208) 860-7554   Utah (801) 413-2993

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

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

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

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 0f 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

L2DataCollection.com
Idaho (208) 860-7554   Utah (801) 413-2993

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

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 0f 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

L2DataCollection.com
Idaho (208) 860-7554   Utah (801) 413-2993

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

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

Page 1

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: FEHR0119
Type: Volume / Direction
Tech: Judd / Mosdell / Anderson
Count: Axle Hits / 2

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 | **Snow Park Village**
Average Results from 10 Runs | **Existing**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 — **Deer Valley Drive East/Queen Esther Drive** — **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 | **Snow Park Village**
Average Results from 10 Runs | **Existing**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 | **Deer Valley Drive West/Deer Valley Drive East** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **Existing**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 3 | **Deer Valley Drive East/Queen Esther Drive** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 **Snow Park Village**
Average Results from 10 Runs **Existing**
Volume and Delay by Movement **PM Peak Hour**

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

		Demand	Served Volume (vph)		Total Delay (sec/veh)		
Direction	Movement	Volume (vph)	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**

		Demand	Served Volume (vph)		Total Delay (sec/veh)		
Direction	Movement	Volume (vph)	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 Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 | **Snow Park Village**
Average Results from 10 Runs | **Existing Plus Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 5 | **Deer Valley Drive West/Deer Valley Drive East** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
Existing Plus Project - Mitigated - March 2023 Update
AM Peak Hour

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 **Snow Park Village**
Average Results from 10 Runs **Opening Year Background**
Volume and Delay by Movement **AM Peak Hour**

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 **Snow Park Village**
Average Results from 10 Runs **Opening Year Background**
Volume and Delay by Movement **AM Peak Hour**

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **Opening Year Background**
Volume and Delay by Movement | **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

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 | **Snow Park Village**
Average Results from 10 Runs | **Opening Year Background**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **Opening Year Plus Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 3 | **Deer Valley Drive East/Queen Esther Drive** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) Std. Dev.	LOS
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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor **Snow Park Village**
Average Results from 10 Runs **Opening Year Plus Project - Mitigated - March 2023 Update**
Volume and Delay by Movement **PM Peak Hour**

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 8 **SR-224-Park Avenue/Empire Avenue-Deer Valley Drive** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Organisation: FEHR AND PEERS | Processed: Friday, July 22, 2022 4:18:58 PM
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
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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 **Snow Park Village**
Average Results from 10 Runs **2040 Background**
Volume and Delay by Movement **PM Peak Hour**

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 3 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project**
Volume and Delay by Movement | **AM Peak Hour**

Intersection 5 | **Deer Valley Drive West/Deer Valley Drive East** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 1 | **Deer Valley Drive East/Doe Pass Road** | **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor
Average Results from 10 Runs
Volume and Delay by Movement

Snow Park Village
2040 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 | **Deer Valley Drive West/Deer Valley Drive East** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed 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.

Organisation: FEHR AND PEERS | Processed: Tuesday, March 7, 2023 3:36:10 PM
Project: C:\Users\syamagata\Desktop\Projects\Snow Park Village\Feb 2023\SIDRA\DeerValleyDrRoundabout.sip8

Intersection 1 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

SimTraffic Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project - Mitigated - March 2023 Update**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 5 **Deer Valley Drive West/Deer Valley Drive East** **Signal**

		Demand	Served Volume (vph)		Total Delay (sec/veh)		
Direction	Movement	Volume (vph)	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**

		Demand	Served Volume (vph)		Total Delay (sec/veh)		
Direction	Movement	Volume (vph)	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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project - Bus Option**
Volume and Delay by Movement | **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

Intersection 5 **Deer Valley Drive East/P2 Parking** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 7 **Deer Valley Drive East/P4 Parking** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
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										
SB	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										
EB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
WB	U Turn										
	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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	500	1	0	1	1	30	2	28	35	NO
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through	500	63	81	4	273	274	176	107	721	NO
	Right Turn	500	89	99	10	338	353	178	189	803	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	100	0	0	0	0	19	22	0	55	NO
	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 103 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through	300	6	1	5	8	74	10	63	95	NO
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	150	13	3	9	19	169	34	131	239	MAX
	Right Turn	150	13	3	10	20	172	34	135	243	MAX
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	75	1	0	1	2	86	20	47	117	MAX
	Through										
	Right Turn	75	2	0	1	2	86	20	47	116	MAX
	Second Right										
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) Average	Average Queue (ft) Std. Dev.	Average Queue (ft) Minimum	Average Queue (ft) Maximum	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Maximum Queue (ft) Minimum	Maximum Queue (ft) Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	28	8	18	44	NO
	Through										
	Right Turn	500	0	0	0	0	28	8	18	44	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	0	0	0	0	NO
	Through	500	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	500	0	0	0	0	0	0	0	0	NO
	Right Turn	500	1	0	1	2	31	0	31	32	NO
	Second Right										

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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
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										
SB	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
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	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										

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 Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	150	10	1	8	11	119	1	117	120	NO
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through	125	52	22	24	94	229	6	217	235	MAX
	Right Turn	125	42	20	17	80	208	6	197	215	MAX
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	75	0	0	0	0	0	0	0	0	NO
	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 2 **P1 Parking/Doe Pass Road** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	150	5	0	4	5	78	2	76	82	NO
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through	125	0	0	0	0	0	0	0	0	NO
	Right Turn	125	0	0	0	0	0	0	0	0	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	75	0	0	0	0	0	0	0	0	NO
	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 3 **Mobility Hub Entrance/Doe Pass Road** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	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										
WB	U Turn										
	Second Left										
	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										

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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	100	14	5	10	28	146	20	120	180	MAX
	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										
	Second Left										
	Left Turn										
	Through	100	0	0	0	0	4	6	0	18	NO
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	75	2	1	2	3	108	10	94	127	MAX
	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) Average	Average Queue (ft) Std. Dev.	Average Queue (ft) Minimum	Average Queue (ft) Maximum	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Maximum Queue (ft) Minimum	Maximum Queue (ft) Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through	160	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	300	0	0	0	1	4	13	0	42	NO
	Right Turn	50	0	0	0	0	0	0	0	0	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	150	1	0	1	2	72	12	55	90	NO
	Through										
	Right Turn										
	Second Right										
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 6 **Deer Valley Drive East/P3 Parking** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through	200	1	0	0	2	38	18	23	81	NO
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	160	2	3	0	10	54	33	13	131	NO
	Right Turn	50	0	0	0	0	0	0	0	0	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
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 7 **Deer Valley Drive East/P4 Parking** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
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										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	75	1	2	0	6	14	18	0	39	NO
	Right Turn	75	1	2	0	6	14	18	0	39	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	150	2	0	1	3	82	1	80	84	NO
	Through										
	Right Turn										
	Second Right										
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 8 **Deer Valley Drive East/Pick-up/Drop-off** **Uncontrolled**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	Average Queue (ft) Minimum	Average Queue (ft) Maximum	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Maximum Queue (ft) Minimum	Maximum Queue (ft) Maximum	Exceeds Storage?
NB	U Turn Second Left Left Turn Through Right Turn Second Right	150	0	0	0	0	5	7	0	21	NO
SB	U Turn Second Left Left Turn Through Right Turn Second Right	150	13	9	0	31	92	42	21	162	NO
EB	U Turn Second Left Left Turn Through Right Turn Second Right										
WB	U Turn Second Left Left Turn Through Right Turn Second Right										

Vissim Post-Processor | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project - Bus Option**
Volume and Delay by Movement | **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

Intersection 3 **Mobility Hub Entrance/Doe Pass Road** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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

Intersection 5 **Deer Valley Drive East/P2 Parking** **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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 | **Snow Park Village**
Average Results from 10 Runs | **2040 Plus Project - Bus Option**
Volume and Delay by Movement | **PM Peak Hour**

Intersection 7 | **Deer Valley Drive East/P4 Parking** | **Side-street Stop**

Direction	Movement	Demand Volume (vph)	Served Volume (vph) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Served Volume (vph) Percent	Total Delay (sec/veh) Average	Total Delay (sec/veh) 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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
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										
SB	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										
WB	U Turn										
	Second Left										
	Left Turn	500	8	1	5	10	52	9	38	66	NO
	Through										
	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) Average	Average Queue (ft) Std. Dev.	Average Queue (ft) Minimum	Average Queue (ft) Maximum	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Maximum Queue (ft) Minimum	Maximum Queue (ft) Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	150	1	0	0	1	30	2	28	34	NO
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through	500	0	0	0	0	0	0	0	0	NO
	Right Turn	500	0	0	0	0	3	5	0	13	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	100	0	0	0	0	54	28	27	103	NO
	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 103 **Deer Valley Drive East/Doe Pass Road** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
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										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	150	7	1	5	9	117	26	69	153	NO
	Right Turn	150	7	1	6	10	120	26	73	156	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	75	2	0	1	3	109	9	90	115	MAX
	Through										
	Right Turn	75	2	0	2	3	109	9	90	115	MAX
	Second Right										
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
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										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn	500	0	0	0	1	34	5	27	44	NO
	Through										
	Right Turn	500	0	0	0	1	34	5	27	44	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	500	0	0	0	0	0	0	0	0	NO
	Through	500	0	0	0	0	0	0	0	0	NO
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	500	0	0	0	0	1	4	0	12	NO
	Right Turn	500	1	0	1	1	31	0	31	31	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 105 **Deer Valley Drive East/Queen Esther Drive** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
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										
SB	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										
WB	U Turn										
	Second Left										
	Left Turn	500	0	0	0	1	27	6	20	38	NO
	Through										
	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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	150	68	0	68	69	121	1	119	122	NO
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through	125	1	0	1	1	59	13	34	73	NO
	Right Turn	125	0	0	0	1	38	12	14	52	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	75	0	0	0	0	0	0	0	0	NO
	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 2 **P1 Parking/Doe Pass Road** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Average Queue (ft) Std. Dev.	Average Queue (ft) Minimum	Average Queue (ft) Maximum	Maximum Queue (ft) Average	Maximum Queue (ft) Std. Dev.	Maximum Queue (ft) Minimum	Maximum Queue (ft) Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	150	4	0	4	4	78	2	76	82	NO
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through	125	0	0	0	0	0	0	0	0	NO
	Right Turn	125	0	0	0	0	0	0	0	0	NO
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	75	0	0	0	0	0	0	0	0	NO
	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 3 **Mobility Hub Entrance/Doe Pass Road** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	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										
WB	U Turn										
	Second Left										
	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										

Intersection 4 **Mobility Hub Exit/Doe Pass Road** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn	100	18	8	8	36	141	15	119	160	MAX
	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										
	Second Left										
	Left Turn										
	Through	100	0	0	0	0	14	12	0	36	NO
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through	75	1	0	0	2	103	17	59	116	MAX
	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) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through	160	0	0	0	0	1	2	0	7	NO
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	300	0	0	0	0	0	0	0	0	NO
	Right Turn	50	0	0	0	0	0	0	0	0	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	150	37	1	36	39	117	1	116	118	NO
	Through										
	Right Turn										
	Second Right										
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
PM Peak Hour

Intersection 6 **Deer Valley Drive East/P3 Parking** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn Second Left Left Turn Through Right Turn Second Right	200	1	0	1	2	68	23	29	105	NO
SB	U Turn Second Left Left Turn Through Right Turn Second Right	160	0	0	0	1	28	11	12	53	NO
EB	U Turn Second Left Left Turn Through Right Turn Second Right	150	35	1	33	37	101	1	101	103	NO
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
PM Peak Hour

Intersection 7 **Deer Valley Drive East/P4 Parking** **Side-street Stop**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through	100	3	1	2	5	116	14	82	139	MAX
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through	75	0	1	0	2	0	0	0	0	NO
	Right Turn	75	0	1	0	2	0	0	0	0	NO
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn	150	19	17	6	66	126	26	84	181	NO
	Through										
	Right Turn	150	22	15	8	63	146	18	111	170	NO
	Second Right										
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
PM Peak Hour

Intersection 8 **Deer Valley Drive East/Pick-up/Drop-off** **Uncontrolled**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn Second Left Left Turn Through Right Turn Second Right	150	39	38	4	124	201	49	99	270	MAX
SB	U Turn Second Left Left Turn Through Right Turn Second Right	150	10	10	1	36	90	36	52	170	NO
EB	U Turn Second Left Left Turn Through Right Turn Second Right										
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
PM Peak Hour

Intersection 0 **//** **Signal**

Direction	Movement	Storage (ft)	Average Queue (ft) Average	Std. Dev.	Minimum	Maximum	Maximum Queue (ft) Average	Std. Dev.	Minimum	Maximum	Exceeds Storage?
NB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
SB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
SE	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
EB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										
WB	U Turn										
	Second Left										
	Left Turn										
	Through										
	Right Turn										
	Second Right										

Project: UT20-2245
Description: Snow Park Transportation Study

Park City Minimum Parking Rates Based *Nonshared* Parking Demand Summary																		
	Project Data		Weekday					Weekend					Weekday			Weekend		
Land Use	Quantity	Unit	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 6 AM	Peak Mo Adj December	Estimated Parking Demand	Peak Hr Adj 6 AM	Peak Mo Adj December	Estimated Parking Demand
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

FEHR PEERS

FEHR & PEERS

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 an 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

FEHR PEERS

FEHR & PEERS

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.

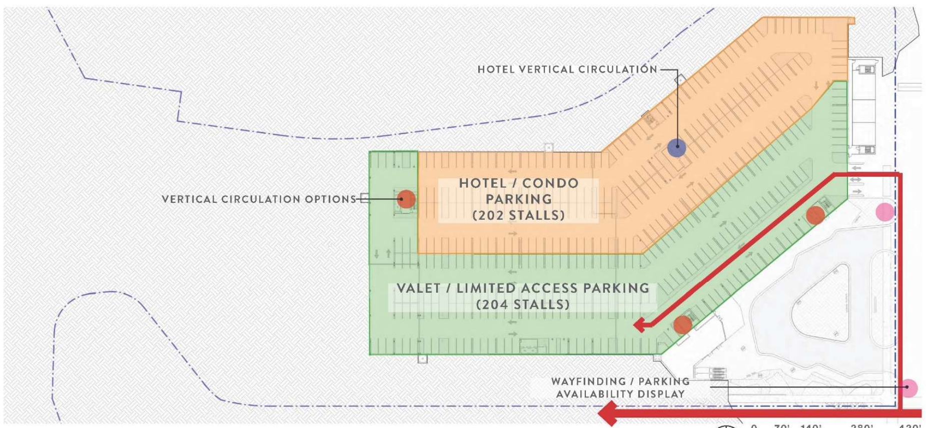
P2 Parking – this level will have 368 stalls. It will primarily be used for winter day skiers and summer resort guests during those seasons, transient parking and special event parking during event periods. Access is provided on Deer Valley Drive East, however an auxiliary exit is provided accessing 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.

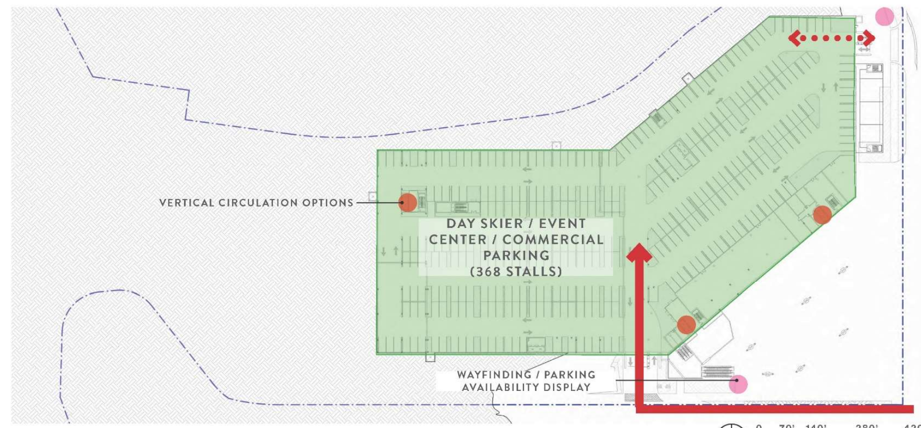
P4 Parking – there are 90 stalls for ski school, valet, and short-term parking on this level. "Short-term" means for visitor parking less than 30 minutes for such purposes as pick-up/drop-off, kiss 'n' ride, and so on. The balance of the parking on this level is 41 for hotel/condo uses.

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.

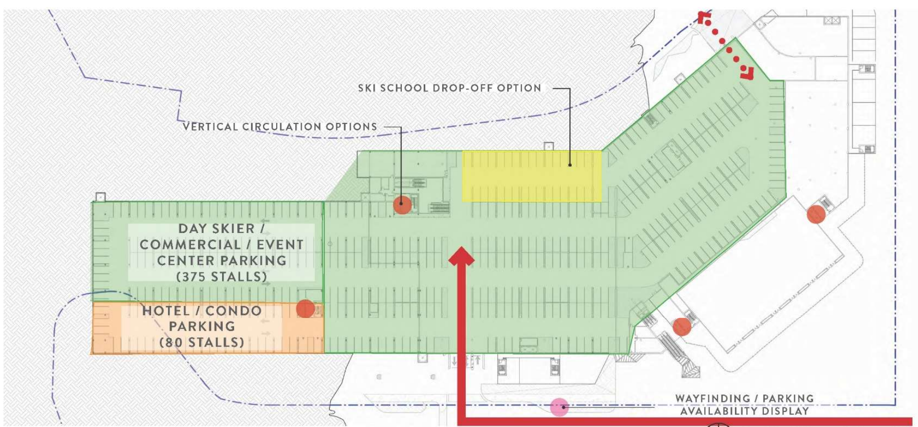
Structured parking layouts ae shown below in **Figure 1**.



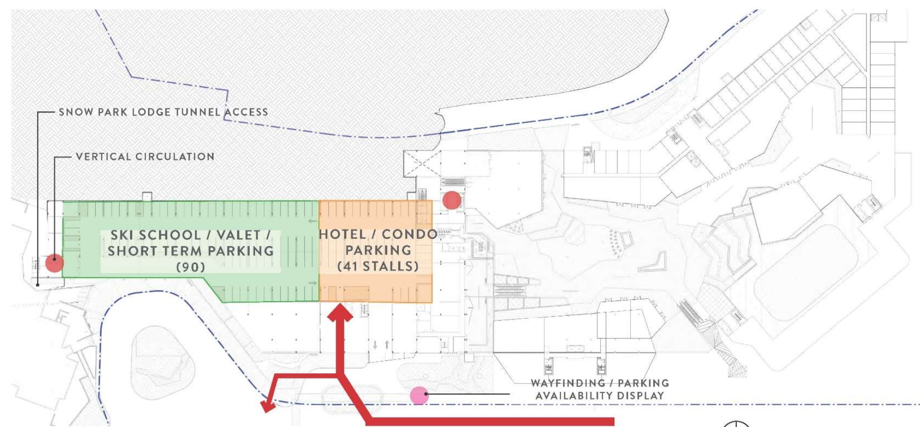
P1 PARKING LEVEL PLAN



P2 PARKING LEVEL PLAN



P3 PARKING LEVEL PLAN



P4 PARKING LEVEL PLAN

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

FEHR PEERS

Snow Park Village

TDM Plan

Prepared for:
Deer Valley

October 2022

UT20-2245

FEHR PEERS

Table of Contents

Table of Figures

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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 Pak 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 patters 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.

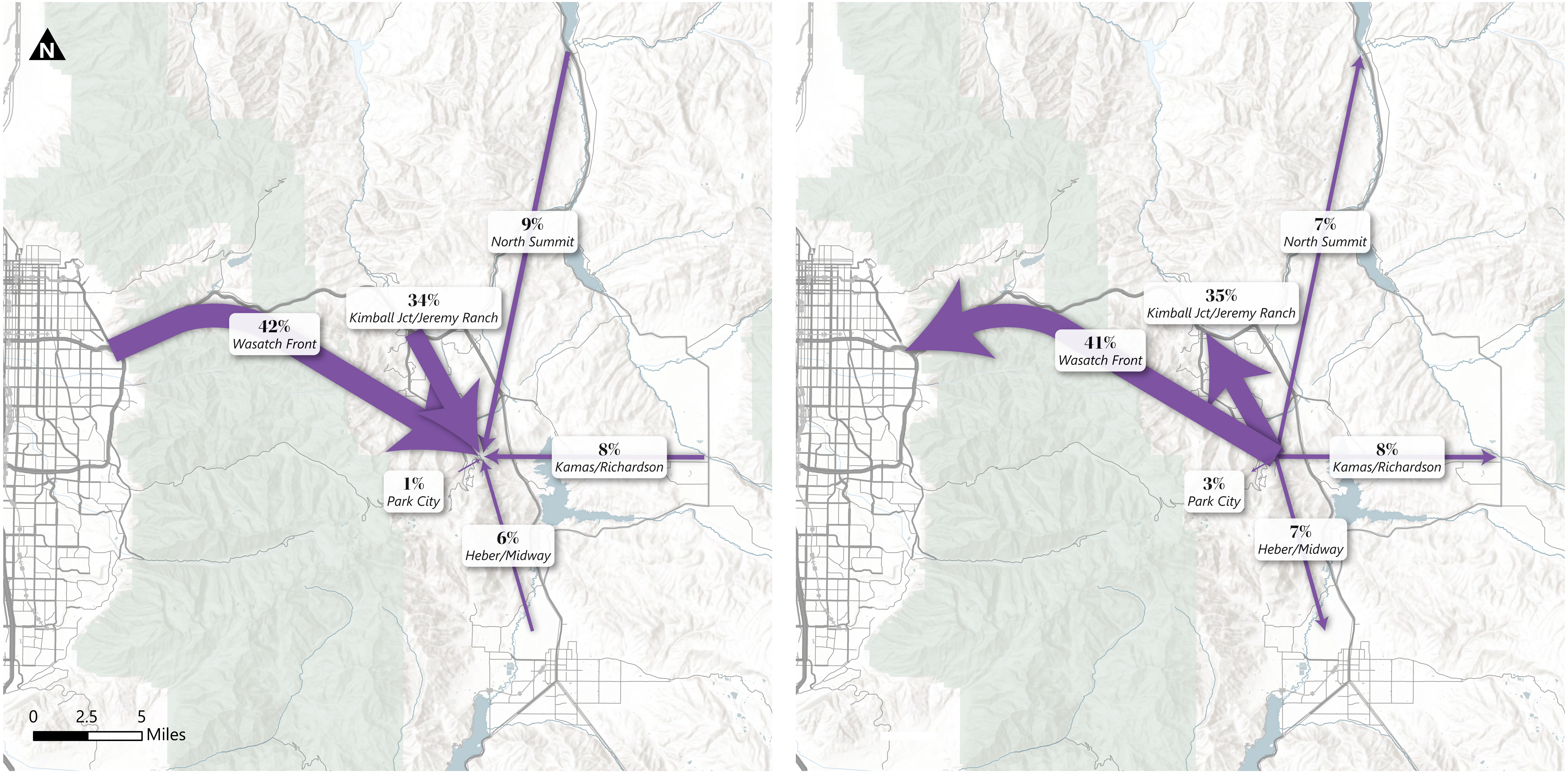

Figure 2

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
Implement Bicycle Parking at Key Destinations and Transit Stops	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.
Expand e-Bike Share	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.
Install Bicycle Repair Stand	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
Implement Real-Time Information Messaging	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
Implementation of Efficient Parking Schemes	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.
Implement Parking Demand Management	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
Establish a TDM Coordinator	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.
Provide Tailored Information and Promotions	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
Provide Employee Transit	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.
Subsidize Transit Passes for Inter-City Commuters	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 mangers 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.

WALL CONSULTANT GROUP
2139 South 1260 West, Salt Lake City, UT 84119-1464

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

Traffic Volume Assumptions								
Period	Nov 2022 Study			Mar 2023 Update (Full Parking Supply)			Increase in Total Vehicles	% Increase in Total Traffic
	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

Alexandra Ananth

From: Spencer Cawley <spencer.cawley@parkcity.org>
Sent: Wednesday, November 29, 2023 8:03 AM
To: Alexandra Ananth
Subject: FW: Deer Valley Snow Park Redevelopment & ROW Vacation

From the Planning email inbox.

From: Ryan Malitz <Ryan@malitzconstructioninc.com>
Sent: Tuesday, November 28, 2023 4:42 PM
To: Council_Mail <Council_Mail@parkcity.org>; planning <planning@parkcity.org>
Subject: [External] Deer Valley Snow Park Redevelopment & ROW Vacation

[CAUTION] This is an external email.

Dear Mayor Worel and Park City Council,

We love Park City! Our love for skiing started in Park City 30 years ago and after traveling and skiing the West for several years, our family settled on Deer Valley, purchased property and we've been 100% Deer Valley skiers for the past 18 years. We're happy to see continued development and improvements made to the area and region. However, we are very concerned that the increased traffic that will come along with this progress is not being adequately addressed in the current project plan and that it will have significant negative impact on both residents and visitors to Park City and Deer Valley. The increase in traffic in the last several years has been significant and makes it so that going into town for groceries or dinner in the evening is often not worth the trouble. The added traffic is also a significant public safety issue.

The current proposal that we have seen vacating the right of way without a manageable new traffic solution would certainly fail to meet the requirement of "net tangible community benefit." Traffic flow and safe circulation are critical issues to be resolved in the consideration of Deer Valley's request. If they have made a good proposal addressing those issues, we, the public have not had a glimpse of them. It also seems prudent for Park City to do its own Traffic Study and not rely on Deer Valley's study for the purposes of this monumental decision.

Traffic mitigation and safe circulation are the critical issues to the future growth and success of the Park City Region. We support Deer Valley's right to the development approved over 40 years ago, but the project should not be approved without providing a long term plan for handling the increase in traffic.

Sincerely,
Ryan Malitz & Family

Alexandra Ananth

From: planning <planning@parkcity.org>
Sent: Tuesday, November 28, 2023 11:04 AM
To: Alexandra Ananth; Rebecca Ward
Subject: FW: [External] Deer Valley Traffic

From: Nann Worel <nann.worel@parkcity.org>
Sent: Tuesday, November 28, 2023 10:57 AM
To: Stephanie Mitchell <stephmmitchell@yahoo.com>; planning <planning@parkcity.org>; Council_Mail <Council_Mail@parkcity.org>
Subject: Re: [External] Deer Valley Traffic

Thanks for taking the time to share your opinion with us, Stephanie. Our planning department will add your comments to the public record.

Kind regards,

Nann Worel
she, her, hers
Mayor
Park City Municipal Corporation
www.parkcity.org
445 Marsac Avenue, PO Box 1480
Park City, UT 84060
o: 435.615.5010 | c: 435.513.9955
PARK CITY 1884

From: Stephanie Mitchell <stephmmitchell@yahoo.com>
Sent: Tuesday, November 28, 2023 7:19:06 AM
To: planning <planning@parkcity.org>; Council_Mail <Council_Mail@parkcity.org>
Subject: [External] Deer Valley Traffic

Warning: Replies to this message will go to stephmmitchell@yahoo.com. If you are unsure this is correct please contact the helpdesk.
[CAUTION] This is an external email.

To Whom It May Concern,

I appreciate the enormous time the city has spent considering the request of Deer Valley to vacate the right of way on Deer Valley Drive. It doesn't appear that Deer Valley has presented viable solutions to the traffic volume and circulation problems. As long time property owners in lower Deer Valley and even longer clients of Deer Valley Resort, we are very concerned about the VERY SIGNIFICANT increase in traffic... with 66 peak traffic days projected.
Deer Valley MUST come up with a plan to reduce traffic and create a safe traffic circulation plan to warrant the vacation in the ROW.

Please protect the rights of the city you represent and require net tangible community benefit for all of 84060 before vacating the ROW to benefit a corporate interest.

Please include this letter as part of public records.

Sincerely,
Stephanie Malitz Mitchell

Alexandra Ananth

From: planning <planning@parkcity.org>
Sent: Tuesday, November 28, 2023 8:42 AM
To: Alexandra Ananth; Rebecca Ward
Subject: FW: Snow Park Development Proposal and the Deer Valley Drive "Vacation Hysteria"

From: Ken Karlson <KenKarlson2021@outlook.com>
Sent: Monday, November 27, 2023 9:15 PM
To: planning <planning@parkcity.org>; Council_Mail <Council_Mail@parkcity.org>
Cc: Nann Worel <nann.worel@parkcity.org>; Elisa Karlson <elisa.karlson@verizon.net>
Subject: [External] Snow Park Development Proposal and the Deer Valley Drive "Vacation Hysteria"

Park City Planning Department, Mayor and City Councilors:

We're full time, primary residents of Lower Deer Valley and have been Park City homeowners for the past 13 years. During that time, we've seen the evolving development plans of both Deer Valley and PCMR and would like to share our thoughts about some of the concerns "PTL" have raised relating to Deer Valley's Snow Park development plan.

Overall, we are in favor of the project and do not agree with many of the "negatives" being discussed.

Right now, DV has five (rather ugly) parking lots that will soon be transformed into a brand-new village for our use. In this village, we'll have access to new hotels, bars, restaurants, shops, an ice-skating rink, a public park and, yes, even an expanded ski beach (which somehow has taken on a negative connotation?). There will also be a high-speed gondola connection to Silver Lake, all of which means that we no longer necessarily have to go to Main Street or Kimball for dining, social, shopping or other recreation opportunities.

We will be provided with a new, shared use "loop" for walking, hiking and cycling that will interconnect with Park City's existing trail systems. Very nice improvement for those of us who are power walkers/hikers.

As DV skiers, we'll see improvements and skier benefits from the development, including the expanded ski beach and expansive new ski terrain as part of the Mayflower development. While Mayflower is independent of the Snow Park village project, in addition to the expanded terrain, the development will absorb skier traffic that might otherwise drive to/from the Snow Park village to start and end their day.

We agree that the new Mayflower "portal" should reduce the amount of DV skier traffic from Heber/Midway that currently drives 248/Kearns Boulevard through Park City to DV (we have several friends who take this route on a regular basis and would prefer to access DV from a full service Mayflower Village), as well DV Skier Traffic from SLC (both the city and the airport) that currently drives 224/Park Avenue through Park City to

Deer Valley. As was mentioned by others, there are no traffic lights or stop signs anywhere between the Salt Lake City Airport and the DV Mayflower exit on route 40.

Here's a point that's not getting enough airtime. We, the taxpayers, are not simply "giving away" a section of Deer Valley Drive to a for-profit company in exchange for nothing. We're trading a small section of DV Drive for Doe Pass, which keeps the "loop" intact from both a traffic/mass transit standpoint and a hiking/pedestrian standpoint. I walk the existing "loop" for exercise on a regular basis and look forward to the walking loop improvements and interconnections to other local trails. I also look forward to the indoor (snowfall free!) parking under the new Snow Park Village!

Taken together, there are significant benefits for skiers and non-skiers alike as we look forward to the anticipated 2030/2034 Winter Olympic Games.

While the plan expands capacity for vehicular traffic, we do not think that will occur, at least not immediately or to the maximum extent forecasted. Here's why: As we know, DV limits the number of daily skiers based on weather and other conditions. DV has not indicated they plan to change that policy. They have agreed not to have "overflow parking" on the DV "loop" as they've done in past years, thereby reducing the peak number of vehicles driving to the hill. With the addition of the hotel/condo "beds" in the new village, there will be fewer cars arriving and departing each day because those skiers will already be at Snow Park (with the exception of a small number of those heading to other resorts to ski, but that would be "reverse" peak traffic). Combined with the new paid parking program, which by all reports has increased car-pooling, ride sharing etc. in the Cottonwoods, we see the potential for reduced day traffic to Snow Park.

I have personally experienced significantly reduced traffic and parking issues at PCMR due to their pre-paid res'y parking system. Last season, I stopped racing to the PCMR parking lot before 8:30 to get a spot, rather I took my time and arrived at or after 9 because I knew I had a guaranteed parking spot. Should be a similar traffic timing benefit at DV?

With the addition of the ski beach and dining and other recreation options in the new village, not every day skier will immediately leave at the end of the ski day, so outbound "pacing" should be improved during the 4-5 PM rush hour. When DV implements their per-paid parking reservation system, as PCMR has done, that will also provide inbound, morning "pacing" as well since with a parking res'y, there's no longer a perceived need to get to the hill early in order to get a parking spot.

To the extent there are changes in traffic patterns, we would insist that DV and the City work together to ensure there are no increases in first responder response time for any existing or new DV residents.

Finally, with the increase in property tax "ratables" generated by the improved real estate, we as primary "homestead" residents should see continued financial benefits of either reduced, or at least stabilized property taxes as the number of non-primary residents and commercial property taxpayers increases in our town.

Overall, we see a number of benefits in this development plan and very few, if any downsides.

Please make our comments part of the public record.

Thanks for your consideration.

Ken and Elisa Karlson
(973) 727-0420

Alexandra Ananth

From: planning <planning@parkcity.org>
Sent: Tuesday, November 28, 2023 8:41 AM
To: Alexandra Ananth; Rebecca Ward
Subject: FW: Snow Park Redevelopment and ROW vacation

-----Original Message-----
From: Claudia Malitz <Claudia@malitzconstructioninc.com>
Sent: Monday, November 27, 2023 6:49 PM
To: planning <planning@parkcity.org>
Subject: [External] Snow Park Redevelopment and ROW vacation

[CAUTION] This is an external email.

Dear Planning Commission,

>> As an 18 year lower Deer Valley property owner, the prospect of over 3000 additional cars per day passing the intersection of Solamere and Deer Valley Drive immediately diminishes the allure that Deer Valley once held. Traffic has already been aweful and parking a nightmare in recent years. Vacating the right of way without a manageable new traffic solution would certainly fail to meet the requirement of "net tangible community benefit." Traffic flow and safe circulation are critical issues to be resolved in the consideration of Deer Valley's request. If they have made a good proposal addressing those issues, we, the public have not had a glimpse of them.
>> To grant Deer Valley's ROW vacation request without equitable compensation to the entire 84060 community is an abdication of the duties of the mayor and council.
>> PLEASE don't let corporate pressure trump the rights of the community. Traffic reduction and safe circulation are the critical issues in this decision.
>> We fully support Deer Valley's right to the development approved over 40 years ago, but they have failed to offer an acceptable solution to the traffic problems the right of way vacation creates.
Please make this letter a part of the public record.
>> Sincerely,

>> John and Claudia Malitz

>>
>> Sent from my iPhone

Alexandra Ananth

From: planning <planning@parkcity.org>
Sent: Tuesday, November 28, 2023 8:41 AM
To: Alexandra Ananth; Rebecca Ward
Subject: FW: Comments on Alterra Development Proposal - November 30, 2023 Hearing

From: Rick Entin <Rick@raeprops.com>
Sent: Monday, November 27, 2023 5:51 PM
To: planning <planning@parkcity.org>
Cc: Council_Mail <Council_Mail@parkcity.org>
Subject: [External] Comments on Alterra Development Proposal - November 30, 2023 Hearing

[CAUTION] This is an external email.

Good Evening Planning Commissions and City Council Members:

I live at 1672 Amber Road in Lower Deer Valley. My unit is part of the Pinnacle Condominium project. Access is off Deer Valley Drive North and I look out the Deer Valley Resort Parking lots and Sno Park project.

Protect the Loop (PTL) does **not** represent me and to my understanding they **do not** represent the Pinnacle HOA. They have never made a presentation to the full Pinnacle HOA and as homeowners we have never take a vote.

While I share concerns about traffic, I feel that the plan presented by Alterra offers a tremendous upside to Park City. Peak traffic on weekends and holiday ski days are a fraction of the annual days. Also, I believe a Village atmosphere will allow help mitigate trips leaving after ski days.

In summary, I am in favor of the City vacating the land to allow the new lifts and development to be connected.

I also believe that long term traffic solutions at Park City and Deer Valley will be benefited by aerial transportation that will eliminate the need for much of the vehicular traffic. I have twice been to Zermatt in the winter to ski and marvel at how their historic village has limited to no cars. Turning the Silver Lake Lift into a Gondola with the Sno Park base built to extend into town would be a win-win.

I am hopeful that the City can decide before the end of 2024 so that Alterra can move forward with the planning and design process.

Thanks

Rick Entin
310 422-3143
1672 Amber Road
Park City UT 84050