

MEMORANDUM

Date: February 3, 2021
To: Nathaniel Bullen, Colmena Group
From: Seishi Yamagata, Fehr & Peers
Preston Stinger, Fehr & Peers
Subject: **Park City Highland Flats Existing Traffic Conditions Assessment**

UT19-2250

INTRODUCTION

The purpose of this technical memorandum is to summarize Fehr & Peers' assessment of existing traffic conditions in the vicinity of the proposed Highland Flats residential development in Park City, Utah. This memorandum will discuss the following:

- Existing traffic conditions assessment
- Trip generation assessment

EXISTING TRAFFIC CONDITIONS ASSESSMENT

The proposed project site is located in the parcel in the southwest corner of the I-80 / US-40 junction in Park City, Utah. The proposed project will have accesses on Highland Drive, which connects to SR-224 via Ute Boulevard to the west, and to Silver Summit Parkway to the southeast. For this assessment, new traffic data (such as intersection turning movement counts or roadway counts) was not collected. Instead, previous traffic studies that were performed in the vicinity of the project site were referenced to assess existing conditions at the following intersections:

- Ute Boulevard / SR-224
- Silver Creek Drive / US-40 SB Ramps
- Silver Creek Drive / US-40 NB Ramps

According to previous studies, the intersections listed above experience significant congestion in existing conditions already. Detailed intersection traffic operation information taken from previous studies is attached in the appendix. In the previous study (traffic study for Marketplace at Silver Creek), Fehr & Peers recommended a Single-Point Urban Interchange (SPUI) to replace the traditional diamond interchange at

the US-40 ramps on Silver Creek Drive. This will improve traffic operations at the interchange for near-term and long-term conditions.

In the previous study (traffic study for Olympic View), Fehr & Peers states that SR-224 is currently being studied by the Utah Department of Transportation (UDOT) where potential mitigation measures are being evaluated and recommended. Therefore, the traffic operations at the Ute Boulevard / SR-224 and the nearby SR-224 / I-80 interchange will likely be improved with the recommended mitigation measures that UDOT may implement.

For this assessment, Fehr & Peers also evaluated the existing traffic volumes on Highland Drive in the project vicinity. Based on 2017 data from UDOT, the Annual Average Daily Traffic (AADT) on Highland Drive is 2,800 vehicles. The AADT data also suggests that there is minimal growth on Highland Drive from 2012 to 2017 (300 vehicle increase from 2012), and there is likely minimal growth, if any, from 2017 to existing conditions. Therefore, it is assumed that the AADT on Highland Drive in existing conditions is close to the 2,800 vehicles reported in 2017.

TRIP GENERATION ASSESSMENT

The current plan for the proposed project assumes 410 total units of multi-family housing and 20,000 ft² church building (site plan is attached in the appendix). Trip generation for the project was computed using trip generation rates published in the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition, 2017. The table below shows the daily, AM peak hour, and PM peak hour trip generation for the proposed Highland Flats development.

**Park City Highland Flats
Trip Generation**

Land Use ¹	Number of Units	Unit Type	Daily Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	New Daily Trips
Multifamily Housing (220)	410	Dwelling Unit	3,060	50%	50%	1,530	1,530	3,060
Church (560)	20,000	Square Feet	140	50%	50%	70	70	140
Weekday Trips						1,600	1,600	3,200
Land Use ¹	Number of Units	Unit Type	a.m. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	New Weekday a.m. Peak Hour Trips
Multifamily Housing (220)	410	Dwelling Unit	182	23%	77%	42	140	182
Church (560)	20,000	Square Feet	7	60%	40%	4	3	7
Weekday a.m. Peak Hour Trips						46	143	189
Land Use ¹	Number of Units	Unit Type	p.m. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	New Weekday p.m. Peak Hour Trips
Multifamily Housing (220)	410	Dwelling Unit	207	63%	37%	130	77	207
Church (560)	20,000	Square Feet	10	45%	55%	4	6	10
Weekday p.m. Peak Hour Trips						134	83	217

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

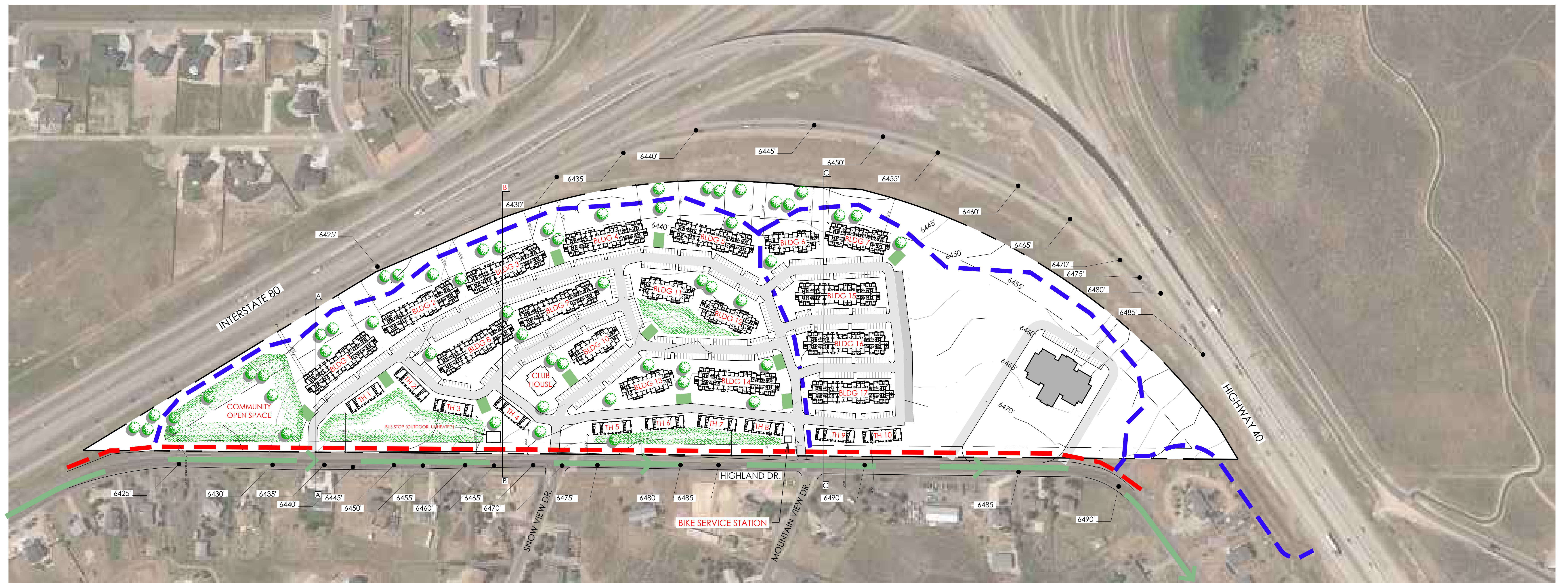
SOURCE: Fehr & Peers 2021

As shown in the table above, the proposed development is expected to generate 3,200 vehicles daily, which will all be accessing the site via Highland Drive. Therefore, for existing plus project conditions, the daily traffic on Highland Drive is expected to be about 6,000 vehicles (AADT 2,800 plus the daily 3,200 project trips). For a high-level roadway capacity analysis, the threshold for a Level of Service (LOS) C (defined as the acceptable LOS for county roads) for a two-lane suburban collector road is 10,499 vehicles. This suggests that the capacity of Highland Drive will be able to accommodate for existing plus project conditions for the proposed development and still have excess capacity for other future growth in the area.

CONCLUSIONS

The existing conditions and trip generation assessment suggests that the roadway capacity of Highland Drive will be able to accommodate for the project trips generated by the proposed Highland Flats development in Summit County. Intersections connecting the proposed development to SR-224 and US-40 currently experience significant congestion already. With the implementation of the recommended improvements in the area, the roadways and intersections providing access to the Highland Flats development should have sufficient capacity to absorb the additional traffic generated by the proposed development. Highland Drive, the roadway providing direct access to Highland Flats, currently has sufficient capacity to absorb the traffic from the proposed development.

APPENDIX



PROJECT BOUNDARY

OVERALL SITE	41.45 ACRES
AREA OF HOUSING BUILDINGS	249,185 SF (5.33 ACRES)
MONTESSORI/PARISH/DAYCARE	20,003 SF (0.46 ACRES)
TOTAL BUILDINGS	269188 SF (5.79 ACRES)
PARKING & DRIVES	1,153,421 SF (26.48 ACRES)
OPEN SPACE/LANDSCAPING	28.79 ACRES (69.46%)
- INCLUDES	
1.7 ACRES OF COMMUNITY OPEN SPACE	
PARKING REQUIRED	
MULTI-FAMILY	632 STALLS
TOWNHOMES	100 STALLS (2/TOWNHOME)
TOTAL	732
PARKING PROVIDED	
SURFACE PARKING	696 STALLS
GARAGE PARKING	100 STALLS (2/TOWNHOME)
TOTAL	796 (1.94 STALLS/UNIT)
CHURCH PARKING (1 STALL/1,000 SF)	21 STALLS

HOUSING

1-BR	120 UNITS	(29%)
2-BR	144 UNITS	(35%)
3-BR	96 UNITS	(23%)
TOWNHOMES	50 UNITS	(12%)
TOTAL	410 UNITS	(9.89 UNITS/ACRE)

UNIT AREA CALCULATIONS

1-BR	688 SF AVG.
2-BR	901 SF AVG.
3-BR	1,216 SF AVG.

ROOF RIDGE = APPROX. 32' ABOVE FINISH GRADE TYP.
AT APT. BLDGS
ROOF RIDGE = APPROX. 30' ABOVE FINISH GRADE TYP.
AT TOWNHOMES
ALL AREAS CALCULATIONS, ELEVATION LABELS, STALL
COUNTS & RIDGE HEIGHTS ARE APPROXIMATE AND
SUBJECT TO VERIFICATION

- 26' WIDE DRIVE AISLE / FIRE LANE
- 24' DEEP ADDITIONAL PARKING
- EXISTING HIGHLAND TRAIL
- PROPOSED TRAIL CONNECTION
- BROWN LINE BUS ROUTE
- SNOW STORAGE AREAS (APPROX. 1200 sf EACH)

FROM PROJECT SITE, DISTANCE TO:

- NEAREST I-80 EXIT (KIMBALL JUNCTION) 2.8 MILES
- NEAREST HWY. 40 EXIT (SILVER CREEK) 1.3 MILES
- TRAILSIDE SCHOOL/TRAILSIDE PARK 1.1 MILES
- HOME DEPOT (SILVER CREEK) 2.0 MILES
- SMITH'S (KIMBALL JUNCTION) 2.5 MILES
- SILVER SUMMIT CAFE (SILVER CREEK) 1.6 MILES
- SILVER MOUNTAIN SPORTS CLUB 2.5 MILES
- (KIMBALL JUNCTION)

Marketplace at Silver Creek Level of Service and Vehicle Delay Summary																																
Intersection			Existing			Existing + Ph 1			Existing + Ph 2			2025 + Village (300)			2025 + Village (300) + Ph 1			2025 + Village (300) + Ph 2			2025 + Village (300) + Ph 2 + County Ph 1			2030 + Village (300) + Ph 2 + County Ph 2			2040 + Village (Full)			2040 + Village (Full) + Project (Full)		
ID	Location	Period	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS	Control	Delay (sec/veh)	LOS
1	Silver Creek / Promontory Ranch	AM PM	WB Stop	10 11	A B	Roundabout	4 5	A A	Roundabout	4 5	A A	WB Stop	11 15	B B	Roundabout	5 5	A A	Roundabout	5 6	A A	Roundabout	6 8	A A	Roundabout	8 8	A A	Roundabout	7 10	A B	Roundabout	9 11	A B
2	Silver Creek / Pace Frontage	AM PM	Roundabout	7 6	A A	Roundabout	8 12	A B	Roundabout	8 13	A B	Roundabout	10 10	A A	Roundabout	13 27	B D	Roundabout	14 33	B D	Signal	30 41	C D	Signal	44 49	D D	Signal	32 27	C C	Signal	51 55	D D
3	US 40 NB / Silver Creek	AM PM	NB Stop	18 11	C A	NB Stop	28 18	D C	NB Stop	32 19	D C	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -
4	US 40 SB / Silver Creek	AM PM	SB Stop	>120 >120	F F	SB Stop	>120 >120	F F	SB Stop	>120 >120	F F	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -
3 & 4	US 40 / Silver Creek SPUI	AM PM	N/A	- -	- -	N/A	- -	- -	N/A	- -	- -	Signal	25 18	C B	Signal	32 29	C C	Signal	34 30	C C	Signal	43 34	D C	Signal	41 33	D C	Signal	40 36	D D	Signal	40 33	D C
101	Promontory Ranch / Driveway 1	AM PM				N/A	- -	- -	N/A	- -	- -				N/A	- -	- -	N/A	- -	- -	Roundabout	5 6	A A	Roundabout	8 11	A B			Roundabout	8 12	A B	
102	Silver Creek / Driveway 2	AM PM				Roundabout	5 5	A A	Roundabout	5 6	A A				Roundabout	6 7	A A	Roundabout	6 7	A A	Roundabout	7 12	A B	Roundabout	8 10	A A			Roundabout	11 12	B B	
103	Silver Creek / Driveway 3	AM PM				NB/SB Stop	12 11	B B	NB/SB Stop	12 11	B B				NB/SB Stop	12 11	B B	NB/SB Stop	12 12	B B	NB/SB Stop	15 15	C B	NB/SB Stop	11 13	B B			NB/SB Stop	12 14	B B	
104	Pace Frontage / Driveway 4	AM PM				WB Stop	11 13	B B	WB Stop	11 13	B B				WB Stop	11 13	B B	WB Stop	11 13	B B	WB Stop	11 16	B C	WB Stop	13 21	B C			WB Stop	13 23	B C	
105	Pace Frontage / Driveway 5	AM PM				WB Stop	13 20	B C	WB Stop	14 19	B C				WB Stop	14 21	B C	WB Stop	15 21	B C	WB Stop	18 29	C D	Roundabout	9 17	A C			Roundabout	10 21	B C	
106	Pace Frontage / Driveway 6	AM PM				N/A	- -	- -	Roundabout	5 7	A A				N/A	- -	- -	Roundabout	5 7	A A	Roundabout	7 11	A B	Roundabout	10 18	A C			Roundabout	11 24	B C	
107	Pace Frontage / Driveway 7	AM PM				N/A	- -	- -	WB Stop	- -	- -				N/A	- -	- -	N/A	- -	- -	Roundabout	7 9	A A	Roundabout	9 13	A B			Roundabout	9 15	A C	
108	Pace Frontage / Driveway 8	AM PM				N/A	- -	- -	WB Stop	- -	- -				N/A	- -	- -	N/A	- -	- -	Roundabout	7 9	A A	Roundabout	9 14	A B			Roundabout	9 16	A C	

LOS SUMMARY

Table 2 and **Table 3** report LOS at each study intersection. Detailed descriptions of the intersection operations can be found in the subsequent chapters.

TABLE 2. LEVEL OF SERVICE SUMMARY AT MAJOR INTERSECTIONS

ID	Intersection Location	Period	Existing Average	2023 Background	2023 Background + Project	2028 Background	2028 Background + Project
			Avg. Delay ¹ / LOS ²	Avg. Delay ¹ / LOS ²	Avg. Delay ¹ / LOS ²	Avg. Delay ¹ / LOS ²	Avg. Delay ¹ / LOS ²
1	I-80 / SR-224	AM	52 / D	50 / D	65 / E	57 / E	77 / E
		PM	27 / C	27 / C	30 / C	27 / C	31 / C
2	Ute Blvd/SR-224	AM	15 / B	15 / B	14 / B	15 / B	15 / B
		PM	66 / E	82 / F	108 / F	100 / F	136 / F
3	Olympic Pkwy/SR-224	AM	9 / A	11 / B	20 / C	18 / B	21 / C
		PM	27 / C	28 / C	30 / C	12 / B	32 / C
4	Olympic Pkwy/Landmark Dr.	AM	13 / B	13 / B	13 / B	13 / B	14 / B
		PM	15 / C	15 / C	20 / C	15 / C	21 / C
5	Ute Blvd/Landmark Dr.	AM	12 / B	12 / B	11 / B	12 / B	11 / B
		PM	15 / B	15 / C	16 / C	16 / C	17 / C
6	Tech Center/Landmark Dr.	AM	14 / B (EBTL)	14 / B (EBTL)	19 / C (EBTL)	14 / B (EBTL)	19 / C (EBTL)
		PM	16 / C (EBTL)	17 / C (EBTL)	32 / D (EBTL)	17 / C (EBTL)	34 / D (EBTL)
7	Kilby Road / Powerwood (2200W)	AM	15 / B (NBL)	15 / B (NBL)	16 / C (NBL)	15 / C (NBL)	16 / C (NBL)
		PM	17 / C (NBL)	17 / C (NBL)	19 / C (NBL)	18 / C (NBL)	19 / C (NBL)

1. Worst movement LOS and average delay for the unsignalized intersections and overall average delay for the signalized intersections.
 2. Represents adjusted traffic conditions for the average day of the year since the traffic counts for this study were collected during April and May.
- Source: Fehr & Peers, 2020.

