QUINN'S JUNCTION

SR-248 ACCESS STUDY
Silver Mountain Resort with IHC

PARK CITY, UTAH

February 2, 2007

HORROCKS

ENGINEERS

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INTRODUCTION AND SUMMARY

Purpose of Report and Study Objectives

The purpose of this report is to identify potential access locations to service future development on SR-248 between US-40 and approximately 0.75 miles south-west of US-40 in Park City, Utah. The study objectives are to describe existing conditions, define the study area, estimate trip generation and distribution for potential future development, analyze existing PM conditions with traffic added from the Quinn's Recreation Center, Phase I of the IHC Hospital and Silver Mountain Resort, analyze 2025 conditions under full build-out of the area with two access options, and recommend improvements to mitigate traffic impacts.

Executive Summary

Site Location and Study Area. Properties adjacent to SR-248 include the Silver Mountain Resort (Quinn's Junction Partnership), IHC, Quinn's Recreation Complex, National Ability Center (existing), and Barnes Banking Company. The study intersections include SR-248 and the U.S. 40 northbound and southbound ramps in addition to Landfill Road and SR-248. The proposed IHC Road and Silver Mountain 1 accesses were also analyzed.

Future Development Descriptions. The Silver Mountain Resort includes 600 Townhouses/Condominiums, a Hotel with 1800 rooms with a convention center, a retail shopping center of 1,000 sq feet, and a live theater with 2000 seats. Phase I of the IHC hospital includes a 121,000 sq. ft. hospital and a 30,000 sq. ft. attached medical office building. Full build out of the hospital includes approximately 500,000 sq. ft. of space that includes a hospital, medical support facilities and medical office space. The Quinn's Recreation Complex includes a 46,000 sq. ft. Ice Sheet and several outdoor playing fields. The Barnes Banking parcel is approximately 20 acres where it was assumed (at 10,000 sq. ft./acre) that up to 200,000 sq. ft. of retail would be developed.

Principal Findings.

Silver Mountain Resort is expected to generate approximately 23,000 daily trips with 813 and 806 of these occurring during the AM and PM peak hours, respectively. Phase I of the IHC hospital is expected to generate approximately 3,160 daily trips with 215 and 250 of these occurring during the AM and PM peak hours, respectively. Full build-out of the various parcels are expected to generate up to 49,000 new daily trips with 1,600 and 2,500 of these occurring during the AM and PM peak hours, respectively.

The 2005 PM conditions were analyzed with traffic added from the recreation center and phase I of the IHC Hospital. One shared access that services the recreation center and phase I of the hospital was modeled on SR-248 as a unsignalized and a signalized access. With the shared access being unsignalized the intersection is expected to operate at LOS F. The traffic simulation

model shows eastbound left turns having a difficult time finding large enough gaps to turn onto SR-248. With the shared access being signalized the intersection is expected to operate at LOS B.

The 2025 conditions were analyzed with full build-out of the various parcels, including the Silver Mountain Resort (Quinn's Junction Partnership), IHC, Quinn's Recreation Complex, National Ability Center (existing), and Barnes Banking Company, under two proposed options (see page 5 for details of the two options). All the study intersections in the various options are expected to operate at LOS E or better under 2025 conditions with full build-out the various parcels mentioned above.

Conclusions and Recommendations.

It is recommended that the joint access to SR-248 for the proposed IHC hospital and Quinn's Recreation Center be signalized upon completion of the developments. It is also recommended that an additional through lane in each direction on SR-248 be added at this intersection prior to 2025. Also, the conclusion of this report is that the second access, Silver Mountain 1, can be unsignalized and restricted to right turns only (Option 1B); this will not adversely affect traffic flow in the area.

PROPOSED DEVELOPMENT

Site Location

The study area is on SR-248 between US-40 and approximately 0.75 miles south-west of US-40 in Park City. The study intersections include SR-248 and the U.S 40 northbound and southbound ramps in addition to Landfill Road and SR-248. The proposed IHC Road and Silver Mountain 1 accesses were also analyzed. Properties adjacent to SR-248 include IHC, Quinn's Recreation Complex, National Ability Center (existing), Barnes Banking Company, and the Quinn's Junction Partnership. See Figure 1.

Land Use

The Silver Mountain Resort includes 600 Townhouses/Condominiums, a Hotel with 1800 rooms with a convention center, a retail shopping center of 1,000 sq feet, and a live theater with 2000 seats. Phase I of the IHC hospital includes a 121,000 sq. ft. hospital and a 30,000 sq. ft. attached medical office building. Full build out of the hospital includes approximately 500,000 sq. ft. of space that includes a hospital, medical support facilities and medical office space. The Quinn's Recreation Complex includes a 46,000 sq. ft. Ice Sheet and several outdoor playing fields. The Barnes Banking parcel is approximately 20 acres where it was assumed (at 10,000 sq. ft./acre) that up to 200,000 sq. ft. of retail would be developed.

ANALYSIS OF EXISTING AND FUTURE CONDITIONS

SR-248 Characteristics

SR-248 is currently a three-lane road that is classified by the Utah Department of Transportation as a category 4 Regional Rural roadway with a minimum signal spacing of ½ mile. However, UDOT is currently reevaluating its access management standards. It is anticipated, based upon conversations with the Region 2 traffic engineer, that SR-248 category will be changed so that the signal spacing minimum will be ¼ mile and no unsignalized access will be allowed.

Based upon counts obtained from UDOT, SR-248 currently carries approximately 13,500 vehicles per day (vpd). A typical three-lane roadway has a daily capacity of 15,000 vpd.

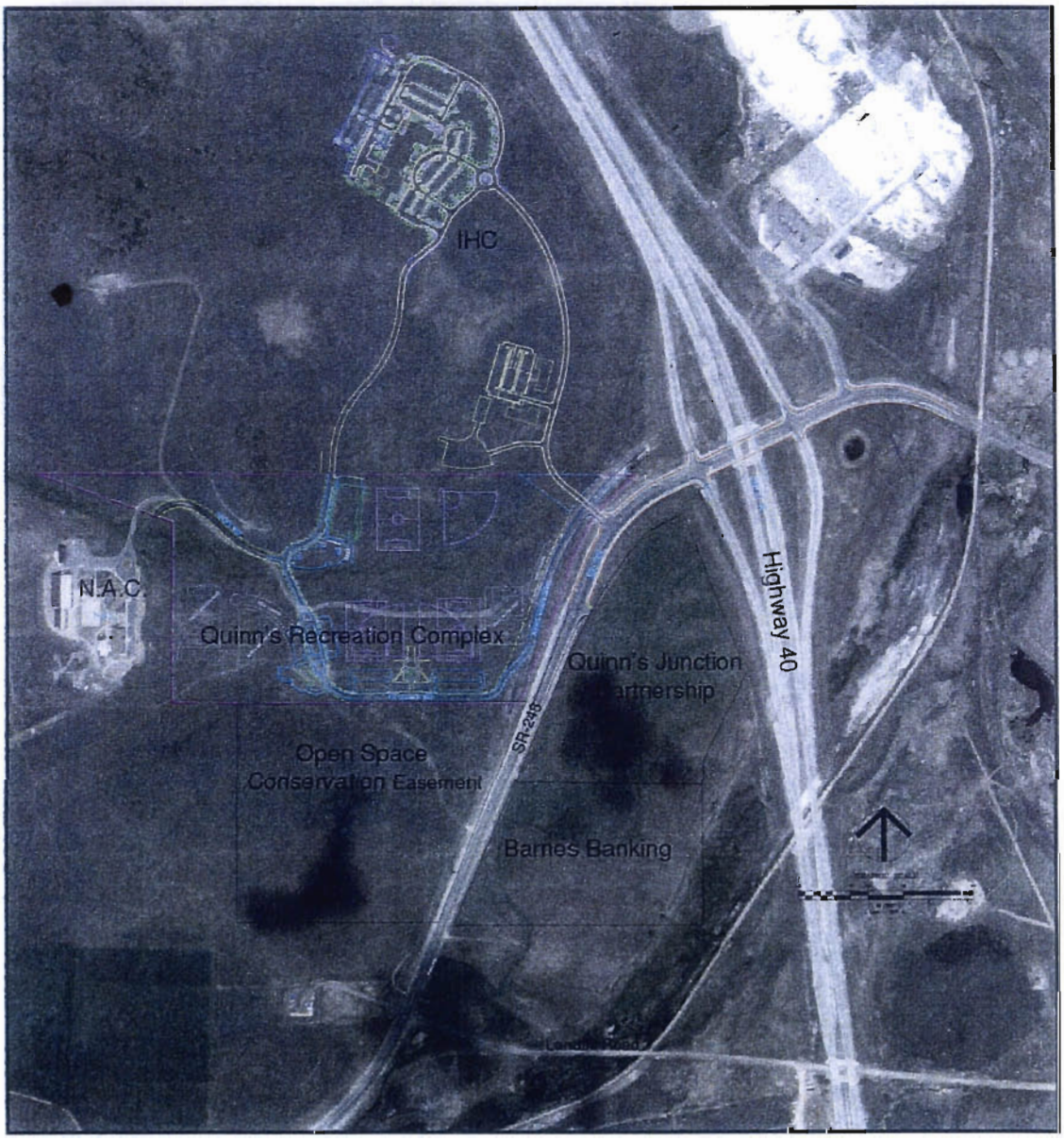

Figure 1 Site Location

Assumptions

The following assumptions were made in performing the study:

2005 Conditions

- The U.S. 40 northbound and southbound ramps have been signalized since the Spring of 2006.

2025 Conditions

- A frontage road will be in place that runs between Quinn's Junctions and Silver Creek. It was assumed that the frontage road would carry up to 5,000 trips per day.
- It was assumed that SR-248 would be expanded to 5-lanes. As stated before, a three-lane roadway has a capacity of approximately 15,000 vpd. Based upon straight line growth projections SR-248 will exceed 15,000 vpd by the year 2010.
- It was assumed that Landfill Road would carry up to 5,000 trips per day.

ACCESS OPTIONS

Two main access alternatives where developed for analysis. Each main alternative has three different scenarios associated with it, resulting in a total of six different scenarios analyzed in this report. Both options allow for a future signal to be located at the Landfill Road/SR-248 intersection. The following is an overview of each option.

Option #1: This option has a signal located approximately 1400 ft southwest of the U.S. Southbound ramp which provides access to the properties on both sides of SR-248. See figure 2. This signal location provides the ¼ mile spacing required by UDOT access management standards. The distance from the access (referred to as IHC Road) to Landfill Road is approximately 2200 ft. This option was analyzed under the current conditions with two through lanes in each direction on SR-248 (Option 1), as well as with three through lanes in each direction on SR-248 (Option 1A).

One additional option (Option 1B) adds a second access to Option 1A approximately 700 ft southwest of the IHC Road access. This additional access (referred to as Silver Mountain 1) does not have a traffic signal and restricts the access to allow only right turns in and out of the development, with right turns onto SR-248 being stop controlled. The distance from Silver Mountain Road to Landfill Road is approximately 1500 ft. See Figure 3.

Option #2: This option relocates the IHC Road access in Option #1 to a point approximately 1100 feet southwest of the U.S. Southbound ramp, and adds a second access (referred to as Silver Mountain 1) located on the border of the Barnes Banking and Quinn's Junction Partnership properties approximately 1100 feet southwest of IHC Road. See figure 4. The distance from this access to Landfill Road is approximately 1400 ft. The benefit of this access location is that it serves the Barnes Banking, Quinn's Junction Partnership, recreation center and IHC properties.

Option #2 was analyzed under the current conditions with two through lanes in each direction on SR-248 (Option 2), as well as with three through lanes in each direction on SR-248 at IHC Road (Option 2A). Options 2 and 2A analyze the Silver Mountain 1 access as a signalized intersection with left and right turns permissible out of and onto Silver Mountain 1. One additional option (Option 2B) analyzed in the report has a configuration identical to 2A except for a change in the configuration of IHC Road west of SR-248. See figure 5. The change did not affect the analysis

at the intersection, and therefore the results of the analysis of Option 2B are omitted from this report.

Table 1 summarizes the different options analyzed in this report. The different options are shown in Figures 2 through 5.

Table 1: Options Analyzed

Option	Number of Full Accesses	Approximate Distance from U.S. SB Ramp to IHC Road	Lanes on SR-248 at IHC Road	Silver Mountain 1 Traffic Control	Restrictions on Silver Mountain 1
1	1	1400 feet	2	-	-
1A	1	1400 feet	3	-	-
1B	1 + 1 Right In/Right out	1400 feet	3	Stop Controlled	Right In/ Right Out
2	2	1100 feet	2	Signalized	None
2A	2	1100 feet	3	Signalized	None
2B	2	1100 feet	3	Signalized	None

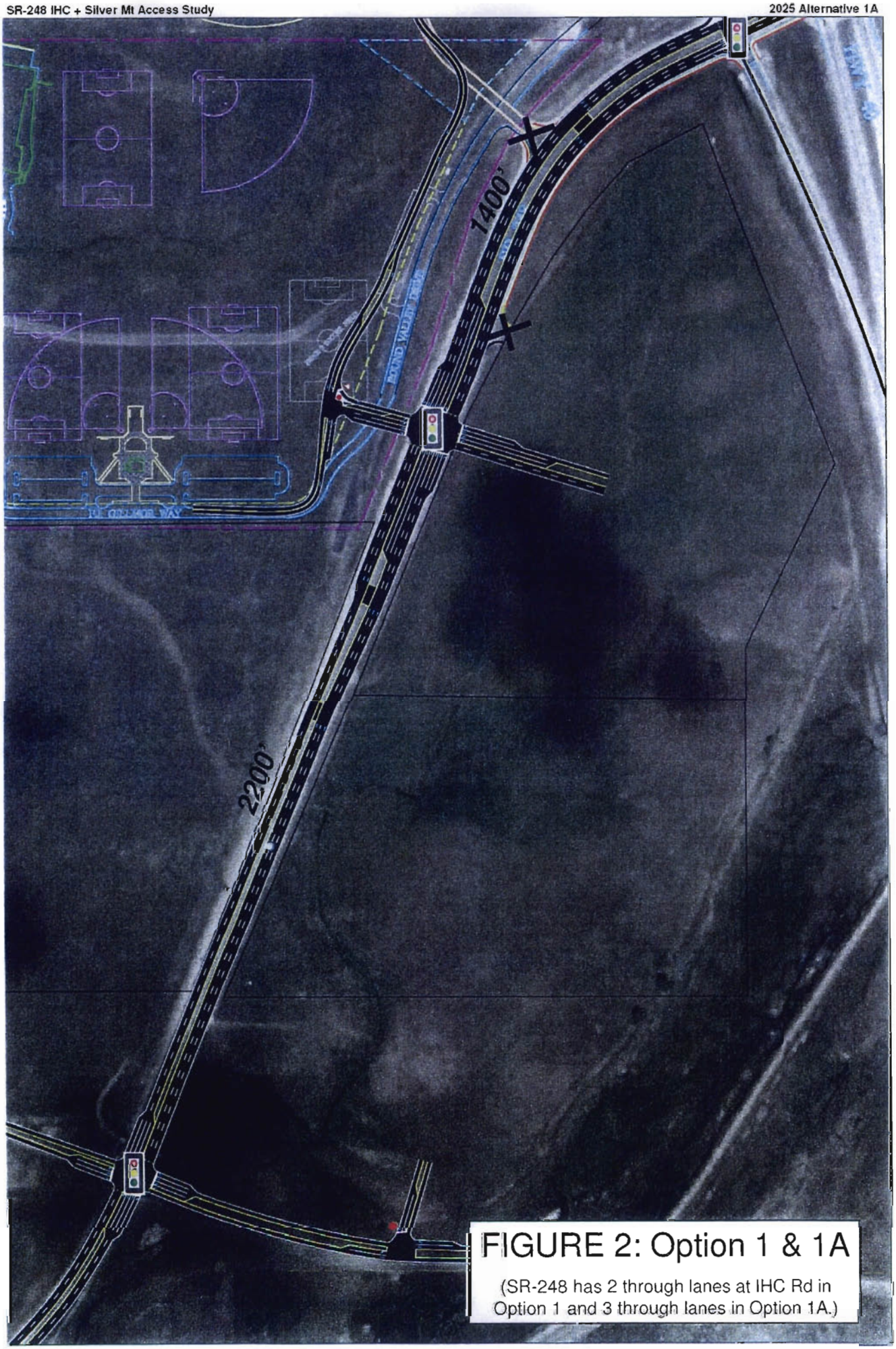

FIGURE 2: Option 1 & 1A

(SR-248 has 2 through lanes at IHC Rd in Option 1 and 3 through lanes in Option 1A.)

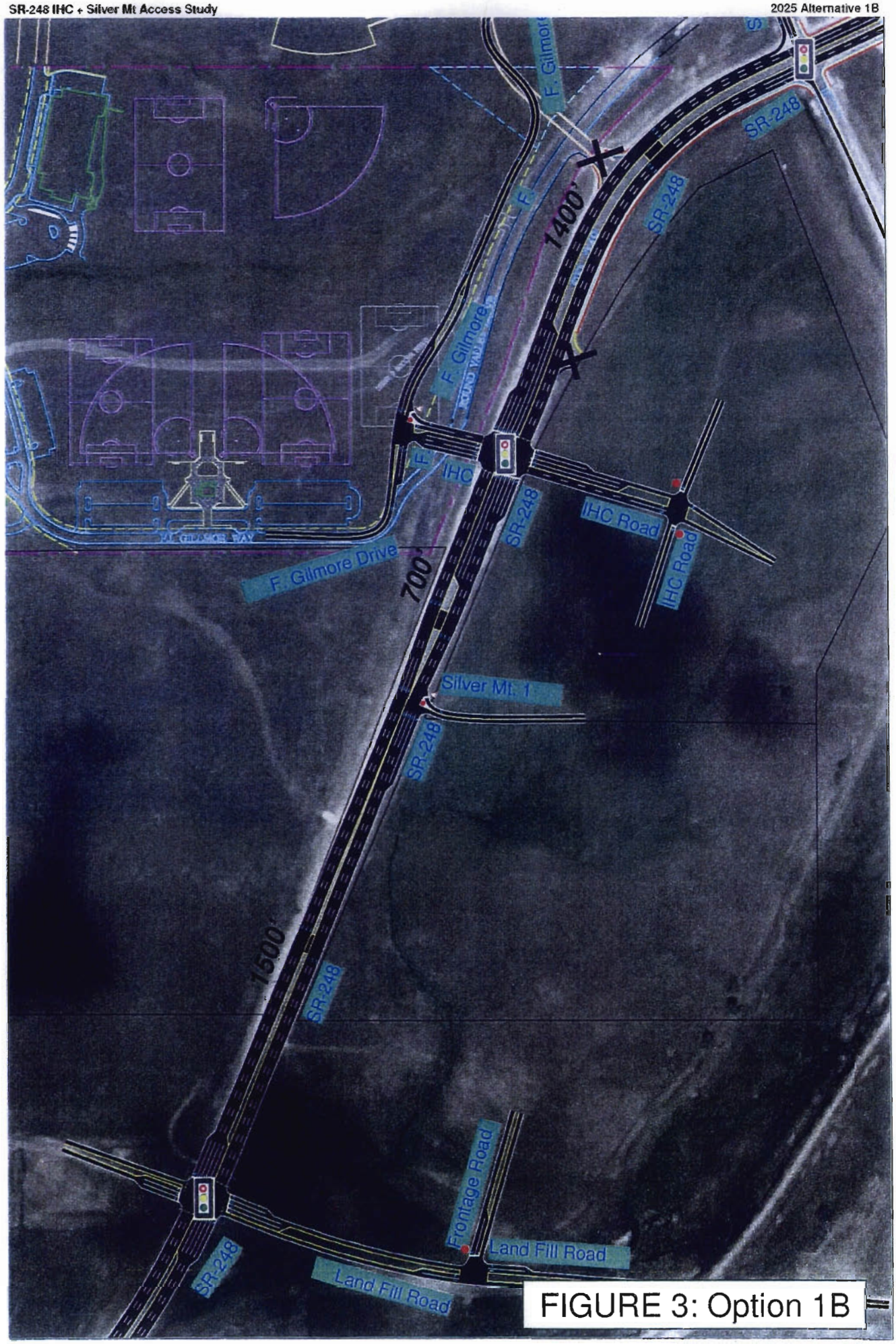

FIGURE 3: Option 1B

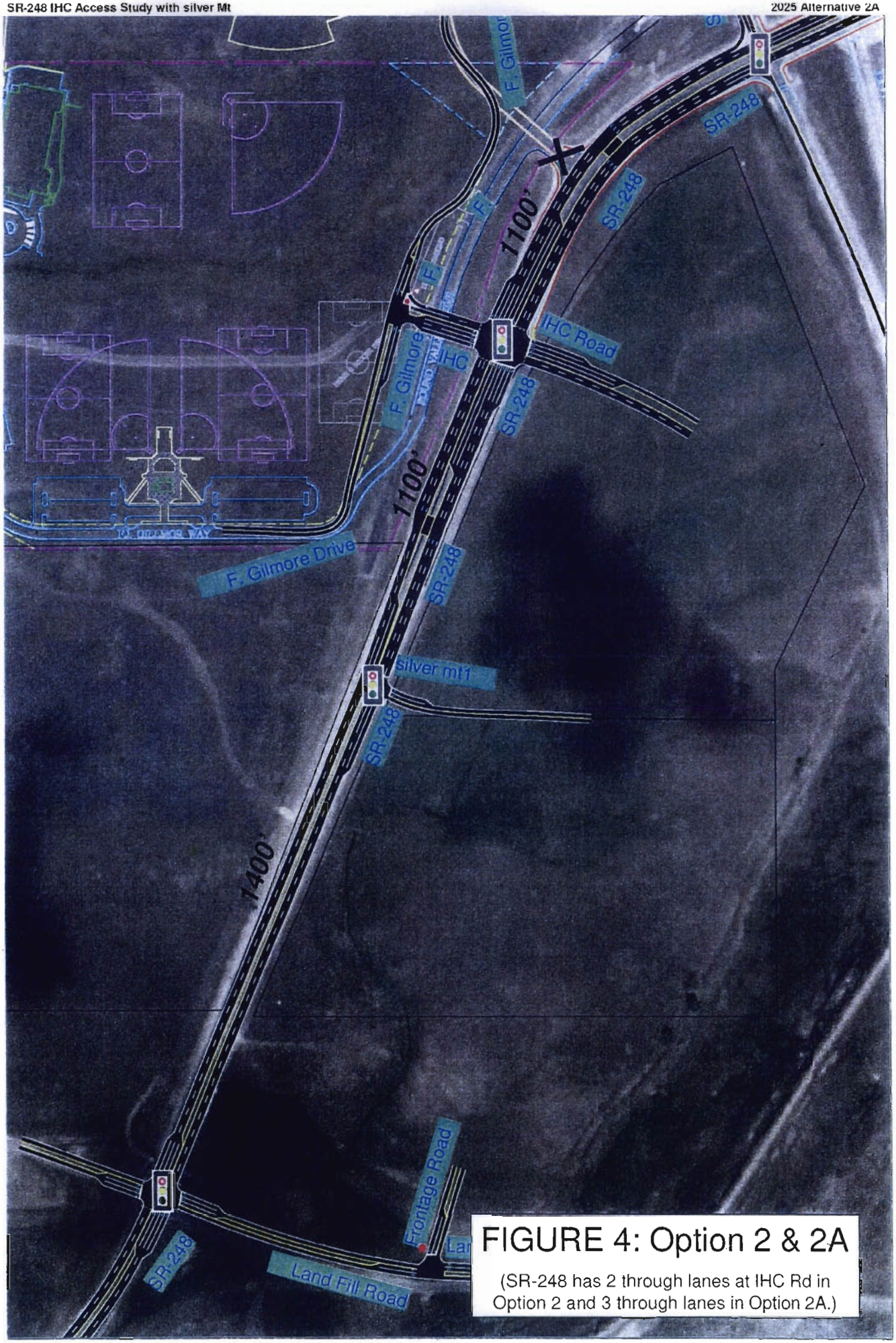

FIGURE 4: Option 2 & 2A

(SR-248 has 2 through lanes at IHC Rd in Option 2 and 3 through lanes in Option 2A.)

FIGURE 5: Option 2B

PROJECTED TRAFFIC

Site Traffic Forecasts

Trip Generation. The Institute of Transportations Engineers' (ITE) Trip Generation manual, 7th Edition was used to calculate new trip volumes. Table 2 details the expected trip generation for the Silver Mountain Resort. Table 3 details the expected trip generation for phase I of the hospital in addition to the recreation center. Table 4 details the expected trip generation for full build-out of the hospital and the development of the Barnes Banking and Quinn's Junction Partnership parcels.

Table 2: Trip Generation - Silver Mountain Resort

Land Use	Land Use	ITE Code	Variable	Quantity	Daily Trips	Weekday AM Peak Hour of Adjacent Street					Weekday PM Peak Hour of Adjacent Street				
						Total	In		Out		Total	In		Out	
Residential Lots	Townhouses/Condominiums	230	Dwelling Unit	600	2,944	216	17%	37	83%	180	261	67%	175	33%	86
Hotel	Rooms & Convention Center	310	Room	1,800	15,737	1,472	61%	898	39%	574	1,062	53%	563	47%	499
Retail	Shopping Center	820	1,000 Sq. Ft. GLA	48	4,214	101	61%	61	39%	39	386	48%	185	52%	201
Live Theatre	Live Theatre	441	Seats	2,000	80	40	50%	20	50%	20	40	50%	20	50%	20
Subtotal (Total Trips)					22,975	1,829	-	1,016	-	813	1,749	-	943	-	806
Internal Capture of Retail Lots Only (Use 50%)					2,107	50	-	31	-	20	193	-	93	-	100
Total New Trips					20,868	1,779		986		793	1,556		850		706

Table 3: Trip Generation – IHC Phase I and Quinn's Junction Rec Center

Land Use	Land Use Code	Variable	Quantity	Weekday Daily Trips	Weekday AM Peak Hour of Adjacent Street					Weekday PM Peak Hour of Adjacent Street				
					Total	In		Out		Total	In		Out	
Hospital	610	1000 sq. ft GLA	118	2,073	142	33%	47	67%	95	139	33%	46	67%	93
Medical Office Building	720	1000 sq. ft GLA	30	1,084	74	79%	59	21%	16	109	66%	72	34%	37
USSA Training Facility	495	1000 sq. ft GLA	83	2,262	221	50%	110	50%	110	203	27%	55	73%	148
Rec Center	Park City Specific	-	-	2,065	84	50%	42	50%	42	413	29%	120	71%	293
Total New Trips				7,484	520	49%	258	51%	263	863	36%	293	64%	571

Table 4: Trip Generation – Full Build-Out of the Various Parcels

Land Use	Land Use Code	Variable	Quantity	Weekday Daily Trips	Weekday AM Peak Hour of Adjacent Street					Weekday PM Peak Hour of Adjacent Street				
					Total	In		Out		Total	In		Out	
Specialty Retail Center	814	1000 sq. ft GLA	500	22,160	308	61%	188	39%	120	1,221	44%	537	56%	684
Pass-By Traffic (30% of Sub-Total)				6,648	92	–	56	–	36	366	–	161	–	205
Total Commercial Development New Trips				15,512	216	61%	132	39%	84	855	44%	376	56%	479
Hospital	610	1000 sq. ft GLA	400	7,028	480	33%	158	67%	322	472	33%	156	67%	316
Medical Office Building	720	1000 sq. ft GLA	50	1,807	124	79%	98	21%	26	181	66%	119	34%	62
Rec Center	Park City Specific	-	-	2,065	84	50%	42	50%	42	413	29%	120	71%	293
USSA Training Facility	495	1000 sq. ft GLA	83	2,262	221	50%	110	50%	110	203	27%	55	73%	148
Internal Capture (5%)				1,230	39	43%	17	57%	22	87	37%	33	63%	54
Total New Trips				27,443	1,085	48%	523	52%	562	2,037	39%	793	61%	1,244

As shown above, the Silver Mountain Resort is expected to generate 20,868 daily trips with 1,779 and 1,556 of these occurring during the AM and PM peak hours respectively. Phase I of the IHC hospital is expected to generate 3,157 daily trips with 216 and 248 of these occurring during the AM and PM peak hours respectively. Full build-out of the various parcels would generate up to 26,171 new daily trips with 798 and 1,710 of these occurring during the AM and PM peak hours respectively.

Trip Distribution. New trips generated by the various parcels were assigned to turning movements at the study intersections using the software program Traffix (version 7.5). The trip generation, trip distribution and travel routes (with percentages) are entered into the program. Traffix then calculates the new turning movements at each intersection and adds them to the existing traffic. The travel route percentages were calculated based on existing traffic. Figure 6 details the trip distribution used for the project traffic.

Figure 6: Trip Distribution

TRAFFIC AND IMPROVEMENT ANALYSIS

Study Intersection Level of Service

Level of Service (LOS) is a term used by the *Highway Capacity Manual* (HCM) to describe the traffic operations of an intersection, based on congestion and delay. It ranges from LOS A (almost no congestion or delay) to LOS F (traffic demand is above capacity and the intersection experiences long queues and delay). LOS C is generally considered acceptable for rural

intersections. LOS D is acceptable for urbanized intersections. LOS E is the threshold when the intersection reaches capacity. The following tables summarize LOS delay criteria for unsignalized and signalized intersections.

Table 5: Unsignalized Intersection LOS Criteria

LOS	Stop Delay per Vehicle (s)
A	10
B	> 10 and 15
C	> 15 and 25
D	> 25 and 35
E	> 35 and 50
F	> 50

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Table 6: Signalized Intersection LOS Criteria

LOS	Stop Delay per Vehicle (s)
A	10
B	> 10 and 20
C	> 20 and 35
D	> 35 and 55
E	> 55 and 80
F	> 80

Source: Highway Capacity Manual, Transportation Research Board, 2000.

For this report, the LOS was calculated using the Synchro/SimTraffic 7 software package. The 2005 PM conditions were analyzed with traffic added from the recreation center and phase I of the IHC Hospital. One shared unsignalized access was modeled on SR-248 that services the recreation center and phase I of the hospital. It should be noted that traffic from the resort was not added to the existing conditions analysis; it was considered in the analysis of 2025 conditions presented later in this report. The following table shows the results of the 2005 analysis.

Table 7: PM 2005 Conditions Plus Project Unsignalized Traffic Analysis Summary

Intersection	2005 PM	
	Delay (sec)	LOS
Northbound U.S. 40 On/Off Ramp & SR-248	12.7	B
Southbound U.S. 40 On/Off Ramp & SR-248	8.9	A
IHC/Rec Center Access & SR-248*	>100	F

*Stop controlled intersection, only the approach with the highest delay is shown

As shown in the table with the shared access being unsignalized the intersection is expected to operate at LOS F. The traffic simulation model shows eastbound left turns having a difficult time finding large enough gaps to turn onto SR-248. The 2005 PM conditions were analyzed with traffic added from the recreation center and phase I of the IHC Hospital with a shared signalized access. The following table shows the results of the analysis.

Table 8: PM 2005 Conditions Plus Project Signalized Traffic Analysis Summary

Intersection	2005 PM	
	Delay (sec)	LOS
Northbound U.S. 40 On/Off Ramp & SR-248	13.4	B
Southbound U.S. 40 On/Off Ramp & SR-248	9.1	A
IHC/Rec Center Access & SR-248	17.8	B

As shown in the table with the shared access being signalized the intersection is expected to operate at LOS B.

The 2025 conditions were analyzed with full build-out of the various parcels and the resort under the six proposed options. The following table shows the results of the analysis. The results of the analysis of Option 2B were omitted from the report because changing the IHC access road had little effect on the traffic at the study intersections.

Table 9: PM 2025 Conditions Plus Build-Out Traffic Analysis Summary

	Option # 1		Option # 1A		Option # 1B		Option # 2		Option #2A	
Intersection	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Northbound U.S. 40 On/Off Ramp & SR-248	32.0	C	35.2	D	36.8	D	39.8	D	26.9	C
Southbound U.S. 40 On/Off Ramp & SR-248	25.1	C	22.1	C	37.6	D	23.9	C	21.2	C
IHC/Rec Center Road & SR-248	64.1	E	32.7	C	32.1	C	45.0	D	29.4	C
Silver Mountain 1 & SR-248	-	-	-	-	2.4*	A*	35.1	D	19.4	B
Landfill Road & SR-248	36.4	D	36.6	D	20.3	C	53.4	E	55.8	E

*Stop-controlled in this option, only the approach with the highest delay is shown.

As shown in the table, in the one access options (1 and 1A), adding an additional through lane in each direction on SR-248 at IHC Road minimally affects most of the study intersections but greatly improves the LOS at the IHC Road intersection. Similarly, a comparison of Options 2 and 2A shows that adding an additional through lane in each direction on SR-248 minimally affects the Southbound Ramp and Landfill Road intersections, but improves the LOS at the other three study intersections. Therefore, it is recommended that these additional lanes be installed on SR-248 before 2025.

In discussion between the city and the developers, it was decided that Option 1B is the preferred option because it allows for a second access while maintaining the minimum required signal spacing of ¼ mile. Consequently, a comparison of Options 1B and 2A is necessary in order to determine whether making Silver Mountain 1 Option be stop controlled and restricted to right turns only is acceptable. As shown in Table 7, the levels of service at the Northbound and Southbound Ramps and at IHC Road are worse in Option 1B but are still at acceptable levels. The level of service at IHC Road is the same in the two scenarios, with a slightly better average delay in Option 1A. The levels of service at Silver Mountain 1 and at Landfill Road are significantly better in Option 1B. Therefore, Option 1B produces satisfactory levels of service and is an acceptable option.

CONCLUSIONS AND RECOMMENDATIONS

It is recommended that the joint access to SR-248 for the proposed IHC hospital and Quinn's Recreation Center be signalized upon completion of the developments. It is also recommended that an additional through lane in each direction on SR-248 be added at this intersection prior to 2025. Lastly, the conclusion of this report is that the second access, Silver Mountain 1, can be unsignalized and restricted to right turns only (Option 1B); this will not adversely affect traffic flow in the area.

APPENDIX

1: SR-248 & NB On/Off Ramp Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	9.9	4.9	4.1	19.0
Delay / Veh (s)	28.5	32.3	45.3	32.0
Vehicles Entered	1249	547	327	2123
Vehicles Exited	1254	548	327	2129
Hourly Exit Rate	1881	822	491	3194
Input Volume	1371	534	339	2243
% of Volume	137	154	145	142

2: SR-248 & SB On/Off Ramp Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	5.6	6.1	8.4	20.1
Delay / Veh (s)	14.4	36.8	34.1	25.1
Vehicles Entered	1392	601	884	2877
Vehicles Exited	1389	598	882	2869
Hourly Exit Rate	2084	897	1323	4304
Input Volume	1594	607	877	3078
% of Volume	131	148	151	140

4: SR-248 & IHC Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	20.7	20.0	10.8	9.4	60.9
Delay / Veh (s)	56.2	68.2	86.0	57.7	64.1
Vehicles Entered	1314	1061	455	588	3418
Vehicles Exited	1320	1044	447	578	3389
Hourly Exit Rate	1980	1566	671	867	5084
Input Volume	1567	1043	470	595	3675
% of Volume	126	150	143	146	138

15: IHC Road & F. Gilmore Drive Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	1.1	0.4	7.1	8.6
Delay / Veh (s)	10.9	8.1	63.0	32.8
Vehicles Entered	350	189	412	951
Vehicles Exited	348	189	402	939
Hourly Exit Rate	522	284	603	1409
Input Volume	359	195	405	959
% of Volume	145	145	149	147

17: SR-248 & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	21.1	4.5	3.0	1.2	29.8
Delay / Veh (s)	53.3	14.2	41.7	37.8	36.4
Vehicles Entered	1423	1152	261	110	2946
Vehicles Exited	1416	1143	261	111	2931
Hourly Exit Rate	2124	1715	392	167	4397
Input Volume	1674	1171	260	100	3205
% of Volume	127	146	151	166	137

22: Land Fill Road & Frontage Road Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.2	0.1	0.2	0.5
Delay / Veh (s)	2.8	1.9	6.0	3.4
Vehicles Entered	223	169	146	538
Vehicles Exited	224	169	146	539
Hourly Exit Rate	336	254	219	809
Input Volume	245	161	149	555
% of Volume	137	157	147	146

23: IHC Road & Performance by approach

Approach	EB	NB	All
Total Delay (hr)	0.1	0.0	0.1
Delay / Veh (s)	0.9	0.2	0.7
Vehicles Entered	508	148	656
Vehicles Exited	507	148	655
Hourly Exit Rate	761	222	983
Input Volume	566	148	714
% of Volume	134	150	138

Total Network Performance

Total Delay (hr)	278.8
Delay / Veh (s)	211.9
Vehicles Entered	4733
Vehicles Exited	4628
Hourly Exit Rate	6942
Input Volume	29609
% of Volume	23

1: SR-248 & NB On/Off Ramp Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	16.6	7.2	7.7	31.5
Delay / Veh (s)	30.9	33.4	54.4	35.2
Vehicles Entered	1934	782	509	3225
Vehicles Exited	1929	780	509	3218
Hourly Exit Rate	1929	780	509	3218
Input Volume	2056	801	508	3365
% of Volume	94	97	100	96

2: SR-248 & SB On/Off Ramp Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	9.1	6.6	11.1	26.8
Delay / Veh (s)	15.1	27.5	29.6	22.1
Vehicles Entered	2156	871	1354	4381
Vehicles Exited	2151	870	1353	4374
Hourly Exit Rate	2151	870	1353	4374
Input Volume	2391	910	1316	4617
% of Volume	90	96	103	95

4: SR-248 & IHC Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	19.2	15.4	6.5	5.9	47.0
Delay / Veh (s)	33.9	35.7	34.0	23.8	32.7
Vehicles Entered	2041	1557	690	897	5185
Vehicles Exited	2041	1545	688	898	5172
Hourly Exit Rate	2041	1545	688	898	5172
Input Volume	2351	1564	705	892	5512
% of Volume	87	99	98	101	94

15: IHC Road & F. Gilmore Drive Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	2.4	0.1	1.8	4.4
Delay / Veh (s)	17.7	1.4	10.7	11.3
Vehicles Entered	498	288	608	1394
Vehicles Exited	495	288	613	1396
Hourly Exit Rate	495	288	613	1396
Input Volume	539	293	607	1439
% of Volume	92	98	101	97

17: SR-248 & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	30.7	8.2	4.7	1.6	45.2
Delay / Veh (s)	51.0	17.0	45.5	35.1	36.6
Vehicles Entered	2172	1750	373	158	4453
Vehicles Exited	2168	1749	372	159	4448
Hourly Exit Rate	2168	1749	372	159	4448
Input Volume	2511	1756	390	150	4807
% of Volume	86	100	95	106	93

22: Land Fill Road & Frontage Road Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.2	0.1	0.3	0.7
Delay / Veh (s)	2.5	2.0	5.4	3.2
Vehicles Entered	339	230	220	789
Vehicles Exited	339	227	220	786
Hourly Exit Rate	339	227	220	786
Input Volume	367	242	223	832
% of Volume	92	94	99	94

23: IHC Road & Performance by approach

Approach	EB	NB	All
Total Delay (hr)	0.2	0.0	0.2
Delay / Veh (s)	0.9	0.2	0.8
Vehicles Entered	790	210	1000
Vehicles Exited	787	209	996
Hourly Exit Rate	787	209	996
Input Volume	849	222	1071
% of Volume	93	94	93

Total Network Performance

Total Delay (hr)	346.4
Delay / Veh (s)	176.1
Vehicles Entered	7101
Vehicles Exited	7062
Hourly Exit Rate	7062
Input Volume	48520
% of Volume	15

1: SR-248 & NB On/Off Ramp Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	19.4	7.2	7.0	33.6
Delay / Veh (s)	35.5	32.1	49.3	36.8
Travel Dist (mi)	243.3	43.1	129.9	416.4
Travel Time (hr)	26.8	8.8	11.6	47.2
Avg Speed (mph)	9	5	11	9
Vehicles Entered	1972	808	512	3292
Vehicles Exited	1957	808	513	3278
Hourly Exit Rate	1957	808	513	3278
Input Volume	1885	734	466	3085
% of Volume	104	110	110	106

2: SR-248 & SB On/Off Ramp Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	28.8	5.7	12.4	46.9
Delay / Veh (s)	45.2	22.6	34.8	37.6
Travel Dist (mi)	200.1	114.4	280.9	595.3
Travel Time (hr)	34.6	9.2	22.4	66.2
Avg Speed (mph)	8	12	16	12
Vehicles Entered	2306	913	1278	4497
Vehicles Exited	2283	914	1285	4482
Hourly Exit Rate	2283	914	1285	4482
Input Volume	2191	834	1206	4231
% of Volume	104	110	107	106

4: SR-248 & IHC Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	22.9	12.0	6.3	6.4	47.6
Delay / Veh (s)	36.4	28.0	35.5	25.6	32.1
Travel Dist (mi)	196.2	267.2	24.0	40.1	527.4
Travel Time (hr)	28.6	19.4	7.6	8.7	64.3
Avg Speed (mph)	7	14	3	5	8
Vehicles Entered	2274	1544	640	896	5354
Vehicles Exited	2265	1545	638	894	5342
Hourly Exit Rate	2265	1545	638	894	5342
Input Volume	2155	1434	559	818	4966
% of Volume	105	108	114	109	108

15: IHC Road & F. Gilmore Drive Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	2.3	0.1	1.8	4.2
Delay / Veh (s)	15.7	1.7	10.6	10.7
Travel Dist (mi)	24.0	9.1	48.7	81.8
Travel Time (hr)	3.8	0.6	3.7	8.0
Avg Speed (mph)	6	15	13	10
Vehicles Entered	529	290	614	1433
Vehicles Exited	529	291	613	1433
Hourly Exit Rate	529	291	613	1433
Input Volume	494	269	556	1319
% of Volume	107	108	110	109

17: SR-248 & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	9.6	5.5	10.3	1.3	26.8
Delay / Veh (s)	14.0	11.3	101.9	31.5	20.3
Travel Dist (mi)	299.4	247.0	49.4	10.0	605.8
Travel Time (hr)	17.6	11.9	12.4	1.8	43.7
Avg Speed (mph)	17	21	4	6	14
Vehicles Entered	2471	1770	367	153	4761
Vehicles Exited	2457	1756	364	151	4728
Hourly Exit Rate	2457	1756	364	151	4728
Input Volume	2302	1610	358	138	4406
% of Volume	107	109	102	110	107

22: Land Fill Road & Frontage Road Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.3	0.2	0.4	0.9
Delay / Veh (s)	2.7	3.2	7.9	4.1
Travel Dist (mi)	50.7	52.7	28.7	132.1
Travel Time (hr)	2.4	2.0	1.6	6.0
Avg Speed (mph)	21	27	18	22
Vehicles Entered	378	246	200	824
Vehicles Exited	379	246	199	824
Hourly Exit Rate	379	246	199	824
Input Volume	336	222	204	763
% of Volume	113	111	97	108

23: IHC Road & Performance by approach

Approach	EB	NB	All
Total Delay (hr)	0.2	0.0	0.2
Delay / Veh (s)	0.9	0.2	0.7
Travel Dist (mi)	43.6	13.9	57.5
Travel Time (hr)	2.4	0.5	2.9
Avg Speed (mph)	18	29	20
Vehicles Entered	820	230	1050
Vehicles Exited	817	229	1046
Hourly Exit Rate	817	229	1046
Input Volume	778	204	982
% of Volume	105	113	107

29: SR-248 & Silver Mt. 1 Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	1.5	0.1	0.0	1.7
Delay / Veh (s)	2.4	0.3	1.5	1.4
Travel Dist (mi)	311.2	84.7	7.2	403.1
Travel Time (hr)	9.6	2.3	0.3	12.2
Avg Speed (mph)	33	37	21	33
Vehicles Entered	2269	1774	94	4137
Vehicles Exited	2276	1772	93	4141
Hourly Exit Rate	2276	1772	93	4141
Input Volume	2155	1610	87	3852
% of Volume	106	110	107	108

Total Network Performance

Total Delay (hr)	183.6
Delay / Veh (s)	88.1
Travel Dist (mi)	6268.4
Travel Time (hr)	377.6
Avg Speed (mph)	17
Vehicles Entered	7555
Vehicles Exited	7454
Hourly Exit Rate	7454
Input Volume	50082
% of Volume	15

1: SR-248 & NB On/Off Ramp Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	11.3	4.7	18.6	34.6
Delay / Veh (s)	21.9	21.8	133.5	39.8
Vehicles Entered	1852	776	511	3139
Vehicles Exited	1860	769	493	3122
Hourly Exit Rate	1860	769	493	3122
Input Volume	1960	770	473	3203
% of Volume	95	100	104	97

2: SR-248 & SB On/Off Ramp Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	7.9	9.0	12.1	29.0
Delay / Veh (s)	12.6	37.5	34.5	23.9
Vehicles Entered	2246	867	1262	4375
Vehicles Exited	2240	865	1263	4368
Hourly Exit Rate	2240	865	1263	4368
Input Volume	2390	845	1256	4491
% of Volume	94	102	101	97

4: SR-248 & IHC Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	28.2	15.2	6.4	12.8	62.6
Delay / Veh (s)	48.0	34.2	54.1	53.3	45.0
Vehicles Entered	2117	1606	425	873	5021
Vehicles Exited	2114	1603	422	861	5000
Hourly Exit Rate	2114	1603	422	861	5000
Input Volume	2250	1564	437	892	5143
% of Volume	94	102	97	97	97

9: Frontage Road & silver mt1 Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.0	0.1	0.2
Delay / Veh (s)	1.1	21.5	27.8	0.7	1.5
Vehicles Entered	203	8	6	315	532
Vehicles Exited	203	8	6	316	533
Hourly Exit Rate	203	8	6	316	533
Input Volume	222	8	4	320	554
% of Volume	91	100	150	99	96

15: F. Gilmore Drive & IHC Road Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.6	4.8	1.5	6.8
Delay / Veh (s)	6.7	29.8	9.4	17.0
Vehicles Entered	310	580	558	1448
Vehicles Exited	311	575	557	1443
Hourly Exit Rate	311	575	557	1443
Input Volume	293	607	539	1439
% of Volume	106	95	103	100

17: SR-248 & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	24.4	14.5	26.9	1.5	67.3
Delay / Veh (s)	36.2	30.0	444.5	36.6	53.4
Vehicles Entered	2436	1738	227	151	4552
Vehicles Exited	2423	1741	211	151	4526
Hourly Exit Rate	2423	1741	211	151	4526
Input Volume	2510	1758	390	150	4808
% of Volume	97	99	54	101	94

22: Frontage Road & Land Fill Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	89.2	10.8	0.3	100.4
Delay / Veh (s)	5018.7	161.7	3.2	549.1
Vehicles Entered	81	251	352	684
Vehicles Exited	47	231	353	631
Hourly Exit Rate	47	231	353	631
Input Volume	223	242	367	832
% of Volume	21	95	96	76

23: IHC Road & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2
Delay / Veh (s)	7.1	6.8	5.7	0.9	1.1
Vehicles Entered	1	8	4	502	515
Vehicles Exited	1	8	4	503	516
Hourly Exit Rate	1	8	4	503	516
Input Volume	2	6	4	528	540
% of Volume	50	133	100	95	96

28: SR-248 & silver mt1 Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	31.4	6.2	3.2	40.8
Delay / Veh (s)	50.9	13.2	42.4	35.1
Vehicles Entered	2234	1705	270	4209
Vehicles Exited	2208	1695	269	4172
Hourly Exit Rate	2208	1695	269	4172
Input Volume	2350	1710	268	4328
% of Volume	94	99	100	96

Total Network Performance

Total Delay (hr)	398.2
Delay / Veh (s)	199.8
Vehicles Entered	7275
Vehicles Exited	7079
Hourly Exit Rate	7079
Input Volume	43553
% of Volume	16

1: SR-248 & NB On/Off Ramp Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	8.0	2.8	4.9	15.6
Delay / Veh (s)	22.7	19.2	57.1	26.9
Vehicles Entered	1253	528	306	2087
Vehicles Exited	1260	524	301	2085
Hourly Exit Rate	1890	786	452	3128
Input Volume	1307	513	315	2135
% of Volume	145	153	143	146

2: SR-248 & SB On/Off Ramp Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	5.2	3.2	8.6	17.0
Delay / Veh (s)	12.6	21.0	36.3	21.2
Vehicles Entered	1484	548	854	2886
Vehicles Exited	1485	552	853	2890
Hourly Exit Rate	2228	828	1280	4335
Input Volume	1593	563	837	2994
% of Volume	140	147	153	145

4: SR-248 & IHC Road Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	11.4	10.1	2.2	3.7	27.3
Delay / Veh (s)	29.4	34.1	27.9	22.0	29.4
Vehicles Entered	1393	1060	280	603	3336
Vehicles Exited	1393	1060	279	603	3335
Hourly Exit Rate	2090	1590	419	905	5003
Input Volume	1500	1043	291	595	3429
% of Volume	139	152	144	152	146

9: Frontage Road & silver mt1 Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	1.3	16.4	31.8	0.6	1.5
Vehicles Entered	138	7	3	201	349
Vehicles Exited	137	8	3	200	348
Hourly Exit Rate	206	12	5	300	522
Input Volume	148	6	3	213	369
% of Volume	139	225	169	141	141

15: F. Gilmore Drive & IHC Road Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.1	1.0	2.2	3.2
Delay / Veh (s)	1.5	8.4	22.0	11.9
Vehicles Entered	202	413	357	972
Vehicles Exited	203	414	360	977
Hourly Exit Rate	305	621	540	1466
Input Volume	195	405	359	959
% of Volume	156	153	150	153

17: SR-248 & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	17.6	10.1	18.0	1.0	46.7
Delay / Veh (s)	39.2	30.8	527.9	37.1	55.8
Vehicles Entered	1624	1176	123	95	3018
Vehicles Exited	1606	1169	117	95	2987
Hourly Exit Rate	2409	1754	176	143	4481
Input Volume	1673	1172	260	100	3205
% of Volume	144	150	68	142	140

22: Frontage Road & Land Fill Road Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	49.6	5.3	0.2	55.1
Delay / Veh (s)	4061.0	145.0	2.6	466.6
Vehicles Entered	55	136	250	441
Vehicles Exited	33	125	249	407
Hourly Exit Rate	50	188	374	611
Input Volume	149	161	245	555
% of Volume	33	116	153	110

23: IHC Road & Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Delay / Veh (s)	4.3	6.0	5.3	1.0	1.1
Vehicles Entered	1	3	4	361	369
Vehicles Exited	1	3	4	361	369
Hourly Exit Rate	2	5	6	542	554
Input Volume	1	4	3	352	360
% of Volume	113	112	225	154	154

28: SR-248 & silver mt1 Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	10.3	3.0	1.7	15.0
Delay / Veh (s)	25.4	9.6	34.6	19.4
Vehicles Entered	1454	1143	175	2772
Vehicles Exited	1451	1144	175	2770
Hourly Exit Rate	2177	1716	263	4155
Input Volume	1567	1140	179	2885
% of Volume	139	151	147	144

Total Network Performance

Total Delay (hr)	231.4
Delay / Veh (s)	172.3
Vehicles Entered	4820
Vehicles Exited	4745
Hourly Exit Rate	7118
Input Volume	31674
% of Volume	22