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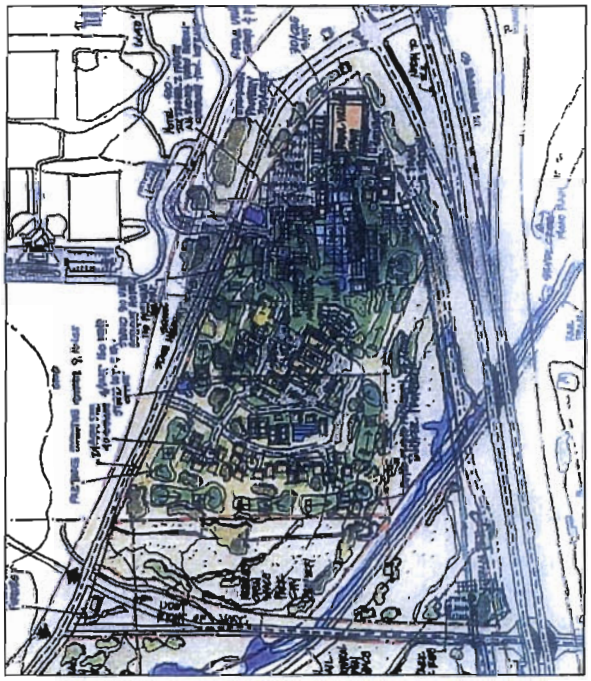
MIDA Development

Traffic Impact Study



Park City, Utah

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UT09-186

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EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Military Installation Development Authority (MIDA) development located at Quinn's Junction in Summit County, Utah. The proposed development is located east of Park City in the triangular portion of land between SR-248 and US-40, and north of Old Landfill Road.

Included within the analyses for this study are the traffic operations and recommended mitigations for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site. Future (2020) conditions were also analyzed.

TRAFFIC ANALYSIS

The following is an outline of the traffic analysis performed by Hales Engineering for the traffic conditions of this project.

Existing (2009) Background Conditions Analysis

Hales Engineering obtained weekday p.m. peak period traffic counts at the following intersection(s):

- Old Landfill Road / SR-248
- Round Valley Drive (IHC Access) / SR-248
- SB US-40 Ramps / SR-248
- NB US-40 Ramps / SR-248

These counts were performed on Wednesday, August 12, 2009. The p.m. peak hour was determined to be between 4:45 and 5:45 p.m.

As shown in Table ES-1, all of the study intersections have acceptable levels of delay in during the p.m. peak hour.

Project Conditions Analysis

The proposed land use for the project has been identified as follows:

- Condominiums 160 Units
- Military Resort Hotel 400 Rooms
- Motion Picture Studios 150,000 square feet
- Office Space (for Studios) 80,000 square feet
- Amphitheater 1,500 seats

- Hotel 100 Rooms
- Retail Shops 30,000 square feet
- Executive 9-hole Golf Course

The projected net trip generation for the development during the a.m. and p.m. peak hours is as follows:

- a.m. peak hour trips: 488 vehicles per hour (vph)
- p.m. peak hour trips: 802 vph

Existing (2009) Plus Project Conditions Analysis

As shown in Table ES-1, all of the study intersections experience acceptable levels of delay.

Future (2020) Background Conditions Analysis

As shown in Table ES-1, all of the study intersections experience acceptable levels of delay.

Future (2020) Plus Project Conditions Analysis

As shown in Table ES-1, several of the study intersections experience unacceptable levels of delay. Most of the failing intersections can be mitigated as will be discussed in the body of the report.

RECOMMENDATIONS

The following mitigations are recommended:

Existing (2009) Background Conditions Analysis

No mitigations are recommended.

Existing (2009) Plus Project Conditions Analysis

No mitigations are recommended.

Future (2020) Background Conditions Analysis

No mitigations are recommended beyond those improvements assumed to have occurred to the roadway network by 2020. See the body of the report for details.

Future (2020) Plus Project Conditions Analysis

The following mitigations are recommended:

Round Valley Drive / SR-248:

- Lengthen the westbound left turn lane to 250 feet (southwest-bound SR-248 to southeast-bound Project Access)
- Provide protected/permitted phasing for the east- and westbound left turn movements (left turn movements from SR-248 to side streets)

US-40 SB Ramps / SR-248:

- Provide dual southbound left turn lanes

US-40 NB Ramps / SR-248:

- Provide dual northbound left turn lanes

Table ES-1 Summary p.m. Peak Hour Level of Service

Intersection Description	Existing 2009 Background LOS (Sec/Veh)[1]	Existing 2009 Plus Project LOS (Sec/Veh)[1]	Future 2020 Background LOS (Sec/Veh)[1]	Future 2020 Plus Project LOS (Sec/Veh)[1]	Future 2020 Plus Project – Mitigated LOS (Sec/Veh)[1]
Old Landfill Road / SR-248	NB / B (10.4)	NB / C (16.0)	C (23.0)	D (39.1)	D (37.7)
RIRO Access / SR-248[2]	-	NB / A (7.0)	-	NB / F (>50.0)	NB / F (>50.0)
Round Valley Drive / SR-248	A (4.1)	B (18.9)	C (33.9)	E (67.0)	D (46.1)
US-40 SB Ramps / SR-248	B (11.0)	B (10.2)	C (31.1)	E (69.7)	C (23.8)
US-40 NB Ramps / SR-248	B (10.3)	B (13.4)	C (29.3)	E (55.4)	C (26.7)

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for signalized and all-way stop-controlled intersections and the worst approach for all other unsignalized intersections.
2. This is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, August 2009

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Military Installation Development Authority (MIDA) development located at Quinn's Junction in Summit County, Utah. The proposed development is located east of Park City in the triangular portion of land between SR-248 and US-40, and north of Old Landfill Road.

Included within the analyses for this study are the traffic operations and recommended mitigations for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways in the vicinity of the site. Future (2020) conditions were also analyzed.

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Old Landfill Road / SR-248
- Round Valley Drive (IHC Access) / SR-248
- SB US-40 Ramps / SR-248
- NB US-40 Ramps / SR-248

B. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections.

The Highway Capacity Manual 2000 (HCM 2000) methodology was used in this study to remain consistent with "state-of-the-practice" professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized and all-way stop intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections LOS is reported based on the worst approach. Hales Engineering has also calculated overall delay values for unsignalized intersections, which provides additional information and represents the overall intersection conditions rather than just the worst approach.

Table 1 Level of Service Descriptions

Level of Service	Description of Traffic Conditions	Average Delay (seconds/vehicle)
	Signalized Intersections	**Overall Intersection**
A	Extremely favorable progression and a very low level of control delay. Individual users are virtually unaffected by others in the traffic stream.	0 ≤ 10.0
B	Good progression and a low level of control delay. The presence of other users in the traffic stream becomes noticeable.	> 10.0 and ≤ 20.0
C	Fair progression and a moderate level of control delay. The operation of individual users becomes somewhat affected by interactions with others in the traffic stream.	>20.0 and ≤ 35.0
D	Marginal progression with relatively high levels of control delay. Operating conditions are noticeably more constrained.	> 35.0 and ≤ 55.0
E	Poor progression with unacceptably high levels of control delay. Operating conditions are at or near capacity.	> 55.0 and ≤ 80.0
F	Unacceptable progression with forced or breakdown operating conditions.	> 80.0
	Unsignalized Intersections	**Worst Approach**
A	Free Flow / Insignificant Delay	0 ≤ 10.0
B	Stable Operations / Minimum Delays	>10.0 and ≤ 15.0
C	Stable Operations / Acceptable Delays	>15.0 and ≤ 25.0
D	Approaching Unstable Flows / Tolerable Delays	>25.0 and ≤ 35.0
E	Unstable Operations / Significant Delays Can Occur	>35.0 and ≤ 50.0
F	Forced Flows / Unpredictable Flows / Excessive Delays Occur	> 50.0

Source: Hales Engineering Descriptions, based on Highway Capacity Manual, 2000 Methodology (Transportation Research Board, 2000)

C. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. However, if LOS E or F conditions exist, an explanation and/or mitigation measures will be presented. An LOS D threshold is consistent with "state-of-the-practice" traffic engineering principles.

II. EXISTING (2009) BACKGROUND CONDITIONS

A. Purpose

The purpose of the existing (2009) background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified and potential mitigation measures can be recommended. This analysis will provide a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

SR-248 – is a state-operated roadway (classified by UDOT access management standards as a "Regional Rural" facility, or access category 4 roadway, for most of the portion of SR-248 that is fronted by the proposed development) that provides direct access to the proposed site. This roadway is currently composed of a three-lane cross section with one through travel lane in each direction and a center two-way left turn lane (TWLTL). As identified and controlled by UDOT, a "Regional Rural" access classification identifies minimum signalized intersection spacing of one half-mile (2,640 feet), minimum street spacing of 660 feet, and minimum unsignalized access spacing of 500 feet. Northeast of Round Valley Drive, SR-248 is composed of a five-lane cross section and is classified as a System Priority Urban roadway (access category 3) with minimum signalized spacing of one half-mile (2,640 feet), and no unsignalized access permitted. The posted speed limit on SR-248 is 50 mph.

C. Traffic Volumes

Hales Engineering performed weekday p.m. (4:00 to 6:00) peak period traffic counts at the following intersection(s):

- Old Landfill Road / SR-248
- Round Valley Drive (IHC Access) / SR-248
- US-40 SB Ramps / SR-248
- US-40 NB Ramps / SR-248

These counts were performed on Wednesday, August 12, 2009. The p.m. peak hour was determined to be between 4:45 and 5:45 p.m. The traffic counts were seasonally adjusted based on data obtained from an automatic traffic recorder (ATR) controlled by

UDOT on SR-248 adjacent to the proposed project. Based on the combination of current (2009) intersection volumes and traffic generated by the site, the weekday p.m. peak hour was the critical time period identified for analysis. ATR data on SR-248 confirmed that the p.m. peak hour represents the critical period of the day. Detailed count data is included in Appendix A.

According to UDOT data, approximately 2 percent of traffic on SR-248 in the vicinity of the site is composed of combination truck traffic.

D. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2000 methodology introduced in Chapter I, the p.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 2 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2009) conditions. As shown in Table 2, all study intersections have acceptable levels of delay during the p.m. peak period.

Table 2 Existing (2009) Background p.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Old Landfill Road / SR-248	NB/SB Stop	NB	10.4	B	2.0	A
Round Valley Drive / SR-248	Signal	-	-	-	4.1	A
US-40 SB Ramps / SR-248	Signal	-	-	-	11.0	B
US-40 NB Ramps / SR-248	Signal	-	-	-	10.3	B

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way-stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle).
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2009

E. Mitigation Measures

No mitigations are recommended based on operational needs.

According to UDOT Administrative Rule R930-6 (UDOT, 2006), SR-248 (Access Category 4 roadway) is required to have left- and right turn acceleration and deceleration lanes based on anticipated peak hour turning volumes. Currently, left turn deceleration lanes exist at Old Landfill Road. The following are the requirements for the other acceleration and deceleration lanes:

- Right turn deceleration lane
  - Required when projected peak-hour right turning volume greater than 25 vph.
- Right turn acceleration lane
  - Required when projected peak-hour right turning volume greater than 50 vph if posted speed limit is greater than 40 mph (SR-248 is currently posted at 50 mph).
- Left turn acceleration lane
  - Required if it will benefit the safety and operations of the roadway

Based on these requirements and the data collected for the Old Landfill Road intersection (see Figure 1a in Appendix D), no additional acceleration or deceleration lanes are required.

III. PROJECT CONDITIONS

A. Purpose

The project conditions analysis explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in the Introduction.

B. Project Description

This study addresses the traffic impacts associated with the proposed MIDA development located at Quinn's Junction in Summit County, Utah. The proposed development is located east of Park City in the triangular portion of land between SR-248 and US-40, and north of Old Landfill Road.

A concept plan for the proposed development has been included in Appendix C.

The proposed land use for the project has been identified as follows:

- Condominiums 160 Units
- Military Resort Hotel 400 Rooms
- Motion Picture Studios 150,000 square feet
- Office Space (for Studios) 30,000 square feet
- Amphitheater 1,500 seats
- Hotel 100 Rooms
- Retail Shops 30,000 square feet
- Executive 9-hole Golf Course

C. Trip Generation

Trip generation for most of the development was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation, 8th Edition, 2008*. Trip Generation for the film studio is not available from ITE; therefore, Hales Engineering conducted a local trip generation study at the LDS Motion Picture Studio in Provo, Utah. The LDS Motion Picture Studio is approximately 30 acres in size, has approximately 100,000 square feet of buildings, and has a non-production-period staff of approximately 75 employees. During production of a film, the number of people on-site can increase to several hundred including staff, cast members, and extras. The LDS Motion Picture Studio was not producing a film during the data collection period for this study, however, the trip generation estimates were considered sufficiently high for typical operations. Trip Generation for the proposed project is included in Table 4.

The ITE trip generation rates identify gross trips to and from a facility as if it were a stand-alone activity. Gross ITE trip generation rates do not account for trips already on adjacent roadways or for internal capture. Hales Engineering adjusted the gross trip generation to account for internal capture trips between the residential, office, studio, retail, amphitheater, and golf course land uses. For these land uses, the overall internal capture rate was approximately 13 percent. No internal capture reductions were taken for the hotel land uses as no data currently exists from ITE. This assumption was made to be conservative as it is likely that significant internal capture will occur between the 100-room hotel (non-military) and the motion picture studios because the intent of the hotel is to serve clientele of the motion picture studio. No pass-by trip reductions were taken because the specific nature of the retail land use is not yet known and residential and office land uses do not typically have significant pass-by reductions. A five percent transit reduction was taken for the office and motion picture studio land uses. No pedestrian reductions were taken because of the proximately of the development to Park City, however, it is likely that trips will be reduced due to walking and biking as these modes of transportation are common in the Park City area.

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially in close proximity to the site. The resulting overall distribution of project generated trips is as follows:

To/from the Development:

- 50% West on SR-248
- 30% North on US-40
- 15% South on US-40
- 5% East on SR-248

These trip distribution assumptions were used to assign the p.m. peak hour generated traffic at the study intersections to create a trip assignment for the proposed development. Trip assignment is shown in Appendix D.

E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

- Main access across from IHC complex (Round Valley Drive)

- Right-in/right-out (RIRO) access approximately 1,000 feet south of Round Valley Drive (half-way between Round Valley Drive and Old Landfill Road).

Access from the site directly to Old Landfill Road has been discussed as a possibility, but was not considered likely at the time this report was prepared.

As was discussed in Chapter II above, SR-248 is classified by UDOT as an Access Category 4 roadway, which permits minimum signalized intersection spacing of one half-mile (2,640 feet), minimum street spacing of 660 feet, and minimum unsignalized access spacing of 500 feet. The proposed RIRO access meets these criteria as it is spaced approximately 1,000 feet north and south of the nearest intersections.

Table 3
Park City - MIDA TIS
Trip Generation

	Land Use[1]	Number of Units	Unit Type	Daily Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Daily Trips
	Residential Condominium/Townhouse (230)	160	Dwelling Units	968	50%	50%	484	484	968
	Resort Hotel (330)[2]	400	Rooms	2,048	50%	50%	1,024	1,024	2,048
	Motion Picture Studio	150	1,000 Sq. Ft. GFA						
	General Office Building (710)	30	1,000 Sq. Ft. GFA	528	50%	50%	264	264	528
	Movie Theater with Matinee (444)[3]	1500	Seats	2,640	50%	50%	1,320	1,320	2,640
	Hotel (310)	100	Rooms	522	50%	50%	261	261	522
	Shopping Center (820)	30	1,000 Sq. Ft. GLA	3,105	50%	50%	1,553	1,553	3,105
	Golf Course (430)	9	Holes	322	50%	50%	161	161	322
	Project Total Daily Trips						5,066	5,066	10,133
	Land Use[1]	Number of Units	Unit Type	a.m. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
	Residential Condominium/Townhouse (230)	160	Dwelling Units	75	17%	83%	13	62	75
	Resort Hotel (330)	400	Rooms	124	72%	28%	89	35	124
	Motion Picture Studio[4]	150	1,000 Sq. Ft. GFA	66	86%	14%	57	9	66
	General Office Building (710)	30	1,000 Sq. Ft. GFA	72	88%	12%	63	9	72
	Movie Theater with Matinee (444)[3]	1500	Seats	15	80%	20%	12	3	15
	Hotel (310)	100	Rooms	41	61%	39%	25	16	41
	Shopping Center (820)	30	1,000 Sq. Ft. GLA	76	61%	39%	46	30	76
	Golf Course (430)	9	Holes	20	79%	21%	16	4	20
	Project Total a.m. Peak Hour Trips						321	168	488
	Land Use[1]	Number of Units	Unit Type	p.m. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total p.m. Trips
	Residential Condominium/Townhouse (230)	160	Dwelling Units	88	67%	33%	59	29	88
	Resort Hotel (330)	400	Rooms	150	43%	57%	64	85	150
	Motion Picture Studio[4]	150	1,000 Sq. Ft. GFA	78	37%	63%	29	49	78
	General Office Building (710)	30	1,000 Sq. Ft. GFA	112	17%	83%	19	93	112
	Movie Theater with Matinee (444)	1500	Seats	105	39%	61%	41	64	105
	Hotel (310)	100	Rooms	59	53%	47%	31	28	59
	Shopping Center (820)	30	1,000 Sq. Ft. GLA	284	49%	51%	139	145	284
	Golf Course (430)	9	Holes	25	45%	55%	11	14	25
	Internal Capture						-45	-45	-90
	Transit Reduction (Office, Studio - 5%)						-2	-7	-10
	Project Total p.m. Peak Hour Trips						347	455	802
	Land Use[1]	Number of Units	Unit Type	Saturday Daily Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Sat. Daily Trips
	Residential Condominium/Townhouse (230)	160	Dwelling Units	1,007	50%	50%	504	504	1,007
	Resort Hotel (330)[2]	400	Rooms	4,456	50%	50%	2,228	2,228	4,456
	Motion Picture Studio	150	1,000 Sq. Ft. GFA						
	General Office Building (710)	30	1,000 Sq. Ft. GFA	83	50%	50%	41	41	83
	Movie Theater with Matinee (444)	1500	Seats	3,360	50%	50%	1,680	1,680	3,360
	Hotel (310)	100	Rooms	667	50%	50%	334	334	667
	Shopping Center (820)	30	1,000 Sq. Ft. GLA	4,328	50%	50%	2,164	2,164	4,328
	Golf Course (430)	9	Holes	366	50%	50%	183	183	366
	Project Total Saturday Trips						7,133	7,133	14,266
	Land Use[1]	Number of Units	Unit Type	Sat Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Sat Pk Hr Trips
	Residential Condominium/Townhouse (230)	160	Dwelling Units	89	54%	46%	48	41	89
	Resort Hotel (330)[2]	400	Rooms	412	56%	44%	231	181	412
	Motion Picture Studio	150	1,000 Sq. Ft. GFA						
	General Office Building (710)	30	1,000 Sq. Ft. GFA	12	54%	46%	7	6	12
	Movie Theater with Matinee (444)	1500	Seats	690	56%	44%	386	304	690
	Hotel (310)	100	Rooms	73	56%	44%	41	32	73
	Shopping Center (820)	30	1,000 Sq. Ft. GLA	392	52%	48%	204	188	392
	Golf Course (430)	9	Holes	41	49%	51%	20	21	41
	Project Total Saturday Peak Hour Trips						937	773	1,710

1. Land Use Code from the Institute of Transportation Engineers - 8th Edition Trip Generation Manual (ITE Manual)

3. Not available for this time period, therefore, was estimated from Land Use Code 310 - Hotel and assuming an 82 percent occupancy rate.

3. Not available for this time period, therefore, was estimated from Land Use Code 443 - Movie Theater without Matinee.

4. Based on a local trip generations study completd by Hales Engineering

SOURCE: Hales Engineering, August 2009

IV. EXISTING (2009) PLUS PROJECT CONDITIONS

A. Purpose

This section of the report examines the traffic impacts of the proposed project at each of the study intersections. The net trips generated by the proposed development were combined with the existing background traffic volumes to create the existing plus project conditions. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Project trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements.

The existing (2009) plus project p.m. peak hour volumes were generated for the study intersections and are shown in Appendix D.

C. Level of Service Analysis

Using Synchro/SimTraffic, which follow the Highway Capacity Manual (HCM) 2000 methodology introduced in Chapter I, the p.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 3 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. As shown in Table 3, all of study intersections experience acceptable levels of delay during the p.m. peak hour.

D. Mitigation Measures

No mitigations are recommended.

Table 4 Existing (2009) Plus Project p.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Old Landfill Road / SR-248	NB/SB Stop	NB	16.0	C	2.7	A
RIRO Access / SR-248	NB Stop	NB	7.0	A	2.1	A
Round Valley Drive / SR-248	Signal	-	-	-	18.9	B
US-40 SB Ramps / SR-248	Signal	-	-	-	10.2	B
US-40 NB Ramps / SR-248	Signal	-	-	-	13.4	B

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way-stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle).
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2009

V. FUTURE (2020) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2020) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified and potential mitigation measures recommended.

B. Traffic Volumes

Traffic volumes for the future year 2020 were projected by analyzing historical trends in traffic on SR-248 obtained from UDOT as well as projections from previous traffic studies. According to historical traffic data, the ADT on SR-248 has grown by approximately 3.6 percent per year over the last 13 years. Assuming a 4 percent growth rate, the ADT on SR-248 would be approximately 20,000 to 21,000 vehicles per day by 2020.

In addition to the assumed background growth on SR-248, Hales Engineering also obtained traffic estimates for other proposed developments in the vicinity of SR-248 / US-40 interchange. Those developments and their associated peak hour trip generation are as follows:

- IHC Campus (West of SR-248) including hospital, medical offices, USSA facilities, and recreation facilities:
  - Entering trips: 450 vehicles per hour (vph)
  - Exiting trips: 819 vph
  - Total trips: 1,269
- Park City Heights (East of SR-248 and south of Old Landfill Road) including 73 attached and 75 detached units:
  - Entering trips: 82 vph
  - Exiting trips: 45 vph
  - Total trips: 127
- Park City Heights attainable housing (East of SR-248 and south of Old Landfill Road) – 14 units:
  - Entering trips: 8 vph
  - Exiting trips: 4 vph
  - Total trips: 12
- IHC attainable housing (East of SR-248 and south of Old Landfill Road) – 26 units:
  - Entering trips: 13 vph

  - Exiting trips: 7 vph
  - Total trips: 20
- Park City Mines attainable housing (East of SR-248 and south of Old Landfill Road) – 57 units:
  - Entering trips: 25 vph
  - Exiting trips: 13 vph
  - Total trips: 38
- Richardson Flats (East of US-40 and south of Old Landfill Road) – 750 parking stalls
  - Entering passenger car trips: 0 vph
  - Exiting passenger car trips: 270 vph
  - Total passenger car trips: 270
  - Entering bus trips: 8 vph
  - Exiting bus trips: 8 vph
  - Total bus trips: 16

Traffic data for these developments were obtained from previous traffic engineering work completed by Hales Engineering and Horrocks Engineers between 2005 and 2008.

In addition to the added development, Hales Engineering also assumed that some traffic heading between the Browns Park area (along SR-248 east of US-40) and Park City will utilize Old Landfill Road as a "cut-through" route. This traffic was quantified by Hales Engineering in a previous report and is as follows:

- Westbound: 218 vph
- Eastbound: 327 vph
- Total: 545 vph

The resulting future 2020 p.m. peak hour traffic volumes are shown in Appendix D.

C. Background Geometric Changes

Some background changes were assumed to have occurred along SR-248 by the year 2020. These changes include the following:

SR-248:

- According to the Draft SR-248 Corridor Plan (H. W. Lochner, January 2009), the preferred alternative for SR-248 between Park City and Old Landfill Road is a four-lane cross section with one general purpose lane and one high occupancy vehicle (HOV) lane in each direction of travel as well as a bike lanes in both directions. Hales Engineering assumed that the HOV lanes on SR-248 would end to the south and west of the SR-248 / Old Landfill Road intersection. Between

Old Landfill Road and US-40, SR-248 would be a five-lane cross section with two general purpose lanes in each direction of travel and a center TWLTL.

Old Landfill Road / SR-248:

- Signalize intersection of SR-248 and Old Landfill Road and coordinate with traffic signals to the northeast.
- Add a 250-foot northbound right turn lane (northbound/eastbound SR-248 to eastbound Old Landfill Road)
- Add a 250-foot westbound left turn lane (westbound Old Landfill Road to southbound/westbound SR-248)

All of these improvements have been previously identified in other traffic studies completed for the Quinn's Junction area.

D. Level of Service Analysis

Using Synchro/SimTraffic, which follows the Highway Capacity Manual (HCM) 2000 methodology introduced in Chapter I, the p.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 5 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. These results serve as a baseline condition for the impact analysis of the proposed development during future (2020) conditions. As shown in Table 5, all of the study intersections have acceptable levels of service.

E. Mitigation Measures

No mitigations are recommended.

Table 5 Future (2020) Background p.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Old Landfill Road / SR-248	Signal	-	-	-	23.0	C
Round Valley Drive / SR-248	Signal	-	-	-	33.9	C
US-40 SB Ramps / SR-248	Signal	-	-	-	31.1	C
US-40 NB Ramps / SR-248	Signal	-	-	-	29.3	C

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way-stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle).
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2009

VI. FUTURE (2020) PLUS PROJECT CONDITIONS

A. Purpose

This section of the report examines the traffic impacts of the proposed project at each of the study intersections during future 2020 conditions. The trips generated by the proposed development were combined with the future 2020 background traffic volumes to create the future plus project conditions. The future plus project scenario evaluates the impacts of the project traffic on the surrounding roadway network assuming full build out of the project. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Trips were assigned to the study intersections based on the trip distribution percentages discussed in Chapter III and permitted intersection turning movements.

The future (2020) plus project p.m. peak hour volumes were generated for the study intersections and are shown in Appendix D.

C. Level of Service Analysis

Using the Synchro/SimTraffic Software which follow the Highway Capacity Manual (HCM) 2000 methodology introduced in Chapter I, the future 2020 plus project p.m. peak hour LOS was computed for each study intersection. The results of this analysis are reported in Table 6 (see Appendix B for the detailed LOS reports). Multiple runs of SimTraffic were used for the analysis to provide a statistical evaluation of the interaction between the intersections. As shown in Table 6, all of the study intersections experience acceptable levels of delay.

Table 6 Future (2020) Plus Project p.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Old Landfill Road / SR-248	Signal	-	-	-	39.1	D
RIRO Access / SR-248	NB Stop	NB	>50.0	F	9.1	A
Round Valley Drive / SR-248	Signal	-	-	-	67.0	E
US-40 SB Ramps / SR-248	Signal	-	-	-	69.7	E
US-40 NB Ramps / SR-248	Signal	-	-	-	55.4	E

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way-stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle).
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2009

D. Mitigation Measures

The following mitigations are recommended:

Round Valley Drive / SR-248:

- Lengthen the westbound left turn lane to 250 feet (southwest-bound SR-248 to southeast-bound Project Access)
- Provide protected/permitted phasing for the east- and westbound left turn movements (left turn movements from SR-248 to side streets)

US-40 SB Ramps / SR-248:

- Provide dual southbound left turn lanes

US-40 NB Ramps / SR-248:

- Provide dual northbound left turn lanes

Table 7 shows the SimTraffic analysis results after implementing the above mitigations. As is shown in Table 7, delay is decreased at all of the signalized intersections to acceptable levels. However, high levels of delay still exist for vehicles exiting the RIRO Project Access due to lack of sufficient gaps in the northeast-bound traffic stream on SR-248 as well as queuing from Round Valley Drive signalized intersection.

Since the demand to make this right turn egress movement is less than 50 vehicles per hour (the threshold for right turn egress volume which requires a right turn acceleration lane by UDOT for an Access Category 4 roadway), and because mitigation of this delay would require significant capacity enhancing improvements (such as adding an additional northeast-bound through travel lane), no additional mitigations are recommended. Drivers should be able to utilize courtesy gaps in the traffic stream to exit the site from vehicles queued at the Round Valley Drive traffic signal.

Table 7 Future (2020) Plus Project – Mitigated p.m. Peak Hour Level of Service

Intersection		Worst Approach			Overall Intersection	
Description	Control	Approach[1,3]	Aver. Delay (Sec/Veh)[1]	LOS[1]	Aver. Delay (Sec/Veh)[2]	LOS[2]
Old Landfill Road / SR-248	Signal	-	-	-	37.7	D
RIRO Access / SR-248	NB Stop	NB	>50.0	F	6.5	A
Round Valley Drive / SR-248	Signal	-	-	-	46.1	D
US-40 SB Ramps / SR-248	Signal	-	-	-	23.8	C
US-40 NB Ramps / SR-248	Signal	-	-	-	26.7	C

1. This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for non-all-way-stop unsignalized intersections.
2. This represents the overall intersection LOS and delay (seconds / vehicle).
3. SB = Southbound approach, etc.

Source: Hales Engineering, August 2009

HALES ENGINEERING
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APPENDIX A

Turning Movement Counts

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

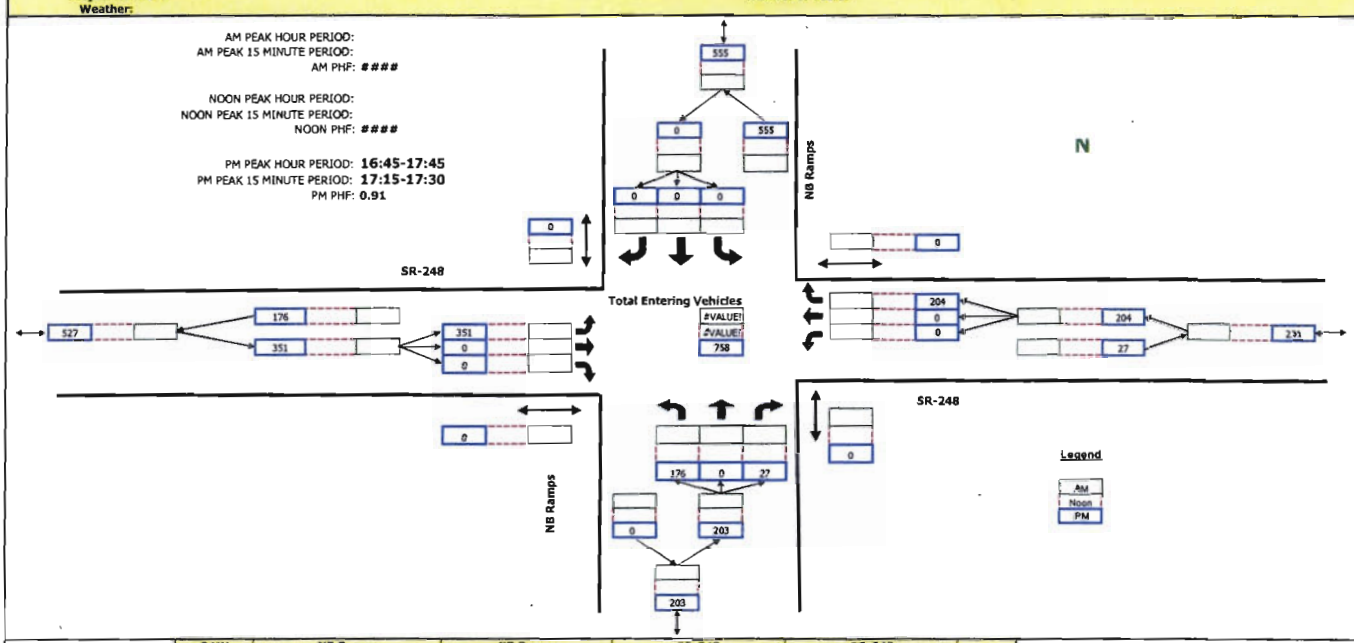
Intersection: NB Ramps / SR-248
North/South: NB Ramps
East/West: SR-248
Jurisdiction: Summit County/UDOT
Project Title:
Project No: P279
Weather:

Date: 8-12-09, Wed
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 112.9%
Adjustment Station #:
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD:
AM PEAK 15 MINUTE PERIOD:
AM PHF: ####

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:15-17:30**
PM PHF: **0.91**



RAW COUNT SUMMARIES	NB Ramps Northbound				NB Ramps Southbound				SR-248 Eastbound				SR-248 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
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOON PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	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
16:00-16:15	36	0	7	0	0	0	0	0	67	0	0	0	0	0	47	0	157
16:15-16:30	40	0	3	0	0	0	0	0	68	0	0	0	0	0	50	0	161
16:30-16:45	31	0	5	0	0	0	0	0	81	0	0	0	0	0	49	0	166
16:45-17:00	42	0	7	0	0	0	0	0	79	0	0	0	0	0	58	0	186
17:00-17:15	43	0	4	0	0	0	0	0	104	0	0	0	0	0	43	0	194
17:15-17:30	38	0	8	0	0	0	0	0	109	0	0	0	0	0	53	0	208
17:30-17:45	53	0	8	0	0	0	0	0	59	0	0	0	0	0	50	0	170
17:45-18:00	33	0	5	0	0	0	0	0	67	5	0	0	0	0	54	0	164

TrafficCounts
2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

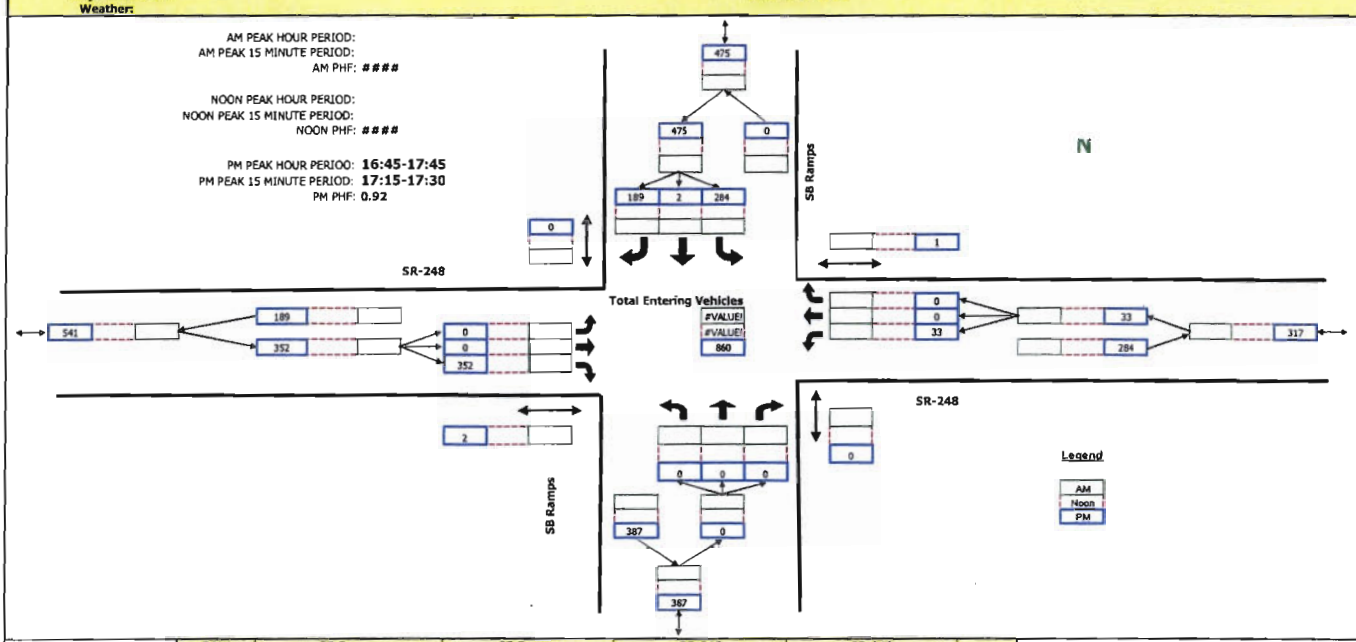
Intersection: SB Ramps / SR-248
North/South: SB Ramps
East/West: SR-248
Jurisdiction: Summit County/UDOT
Project Title:
Project No: P279
Weather:

Date: 8-12-09, Wed
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 112.9%
Adjustment Station #:
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD:
AM PEAK 15 MINUTE PERIOD:
AM PHF: ####

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: 16:45-17:45
PM PEAK 15 MINUTE PERIOD: 17:15-17:30
PM PHF: 0.92



RAW COUNT SUMMARIES	SB Ramps Northbound Left	Thru	Right	Peds	SB Ramps Southbound Left	Thru	Right	Peds	SR-248 Eastbound Left	Thru	Right	Peds	SR-248 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**
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	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**
16:00-16:15	0	0	0	0	54	2	26	0	0	0	73	0	5	0	0	0	160
16:15-16:30	0	0	0	0	57	0	50	0	0	0	68	0	7	0	0	0	182
16:30-16:45	0	0	0	0	63	0	34	0	0	0	92	0	10	0	0	0	199
16:45-17:00	0	0	0	0	60	1	42	0	0	0	85	0	9	0	0	0	197
17:00-17:15	0	0	0	0	64	1	38	0	0	0	91	0	10	0	0	1	204
17:15-17:30	0	0	0	0	80	0	55	0	0	0	89	0	10	0	0	0	234
17:30-17:45	0	0	0	0	80	0	54	0	0	0	87	2	4	0	0	0	225
17:45-18:00	0	0	0	0	63	0	46	0	0	0	50	0	9	0	0	0	168

TrafficCounts

2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

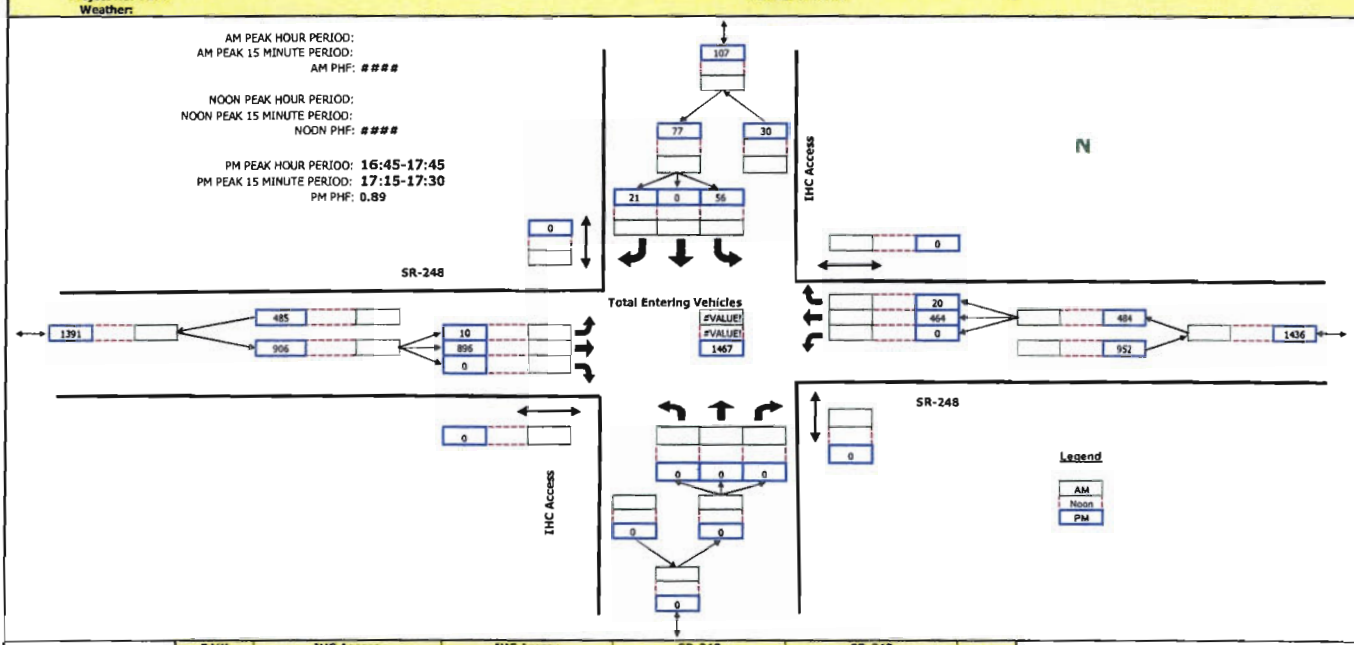
Intersection: IHC Access / SR-248
North/South: IHC Access
East/West: SR-248
Jurisdiction: Summit County/UDOT
Project Title:
Project No: P279
Weather:

Date: 8-12-09, Wed
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 112.9%
Adjustment Station #:
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD:
AM PEAK 15 MINUTE PERIOD:
AM PHF: ####

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: 16:45-17:45
PM PEAK 15 MINUTE PERIOD: 17:15-17:30
PM PHF: 0.89



RAW COUNT SUMMARIES	IHC Access Northbound Left	Thru	Right	Peds	IHC Access Southbound Left	Thru	Right	Peds	SR-248 Eastbound Left	Thru	Right	Peds	SR-248 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**
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	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**
16:00-16:15	0	0	0	0	18	0	4	1	4	170	0	0	0	97	1	0	294
16:15-16:30	0	0	0	0	13	0	3	0	6	167	0	0	0	115	4	0	308
16:30-16:45	0	0	0	0	12	0	4	0	1	193	0	0	0	106	4	0	320
16:45-17:00	0	0	0	0	11	0	3	0	3	200	0	0	0	110	5	0	332
17:00-17:15	0	0	0	0	17	0	6	0	1	228	0	0	0	98	7	0	357
17:15-17:30	0	0	0	0	15	0	8	0	4	258	0	0	0	126	3	0	414
17:30-17:45	0	0	0	0	13	0	4	0	2	210	0	0	0	130	5	0	364
17:45-18:00	0	0	0	0	17	0	4	0	4	153	0	0	0	123	6	0	307

TrafficCounts
2364 North 1450 East
Lehi, UT 84043
801.636.0891

Intersection Turning Movement Summary

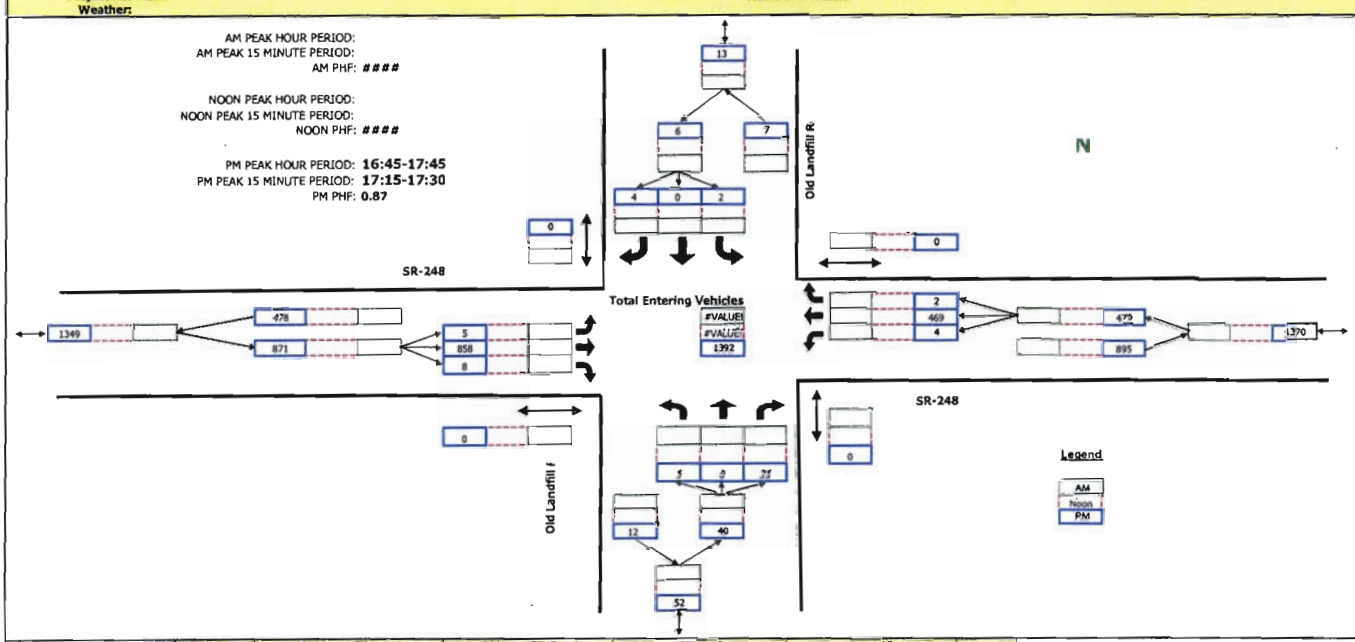
Intersection: Old Landfill Road / SR-248
North/South: Old Landfill Road
East/West: SR-248
Jurisdiction: Summit County/UDOT
Project Title:
Project No: P279
Weather:

Date: 8-12-09, Wed
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 112.9%
Adjustment Station #:
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD:
AM PEAK 15 MINUTE PERIOD:
AM PHF: ####

NOON PEAK HOUR PERIOD:
NOON PEAK 15 MINUTE PERIOD:
NOON PHF: ####

PM PEAK HOUR PERIOD: **16:45-17:45**
PM PEAK 15 MINUTE PERIOD: **17:15-17:30**
PM PHF: **0.87**



RAW COUNT SUMMARIES	Old Landfill Road Northbound Left	Thru	Right	Peds	Old Landfill Road Southbound Left	Thru	Right	Peds	SR-248 Eastbound Left	Thru	Right	Peds	SR-248 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**
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOON PERIOD COUNTS																	
Period	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**TOTAL**
11:00-11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45-13:00	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**
16:00-16:15	3	0	3	0	0	0	0	0	0	167	5	0	1	114	0	0	293
16:15-16:30	4	0	5	0	0	0	0	0	0	176	3	0	0	118	0	0	306
16:30-16:45	2	0	1	0	0	0	0	0	0	187	2	0	1	109	1	0	303
16:45-17:00	2	0	1	0	1	0	1	0	1	206	2	0	0	120	0	0	334
17:00-17:15	0	0	3	0	1	0	2	0	2	216	1	0	1	97	0	0	323
17:15-17:30	2	0	27	0	0	0	0	0	0	229	5	0	2	132	2	0	399
17:30-17:45	1	0	4	0	0	0	1	0	2	207	0	0	1	120	0	0	336
17:45-18:00	0	0	0	0	0	0	0	0	0	147	3	0	2	148	0	0	300

HALES ENGINEERING
innovative transportation solutions

APPENDIX B

LOS Results

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Existing (2009) Background*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: Old Landfill Road & SR-248
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	5	95	5.9	A
	T	869	875	101	2.0	A
	R	8	8	97	1.5	A
	Subtotal	882	888	101	2.0	A
SB	L	4	5	118	5.9	A
	T	479	473	99	1.1	A
	R	2	2	100	0.4	A
	Subtotal	485	480	99	1.1	A
EB	L	2	2	100	19.2	C
	R	4	5	118	4.1	A
	Subtotal	6	7	117	8.4	A
WB	L	5	6	114	15.8	C
	R	35	34	98	9.5	A
	Subtotal	***40***	***40***	***100***	***10.4***	***B***
Total		1,414	1,415	100	2.0	A

Intersection: Round Valley Drive & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	10	10	98	5.6	A
	T	896	901	101	2.2	A
	Subtotal	906	911	101	2.2	A
SB	T	465	460	99	1.9	A
	R	20	19	95	0.2	A
	Subtotal	485	479	99	1.8	A
EB	L	56	52	93	59.2	E
	R	21	20	95	1.6	A
	Subtotal	77	72	94	43.2	D
Total		1,468	1,462	100	4.1	A

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Existing (2009) Background*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: SR-248 & SB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	284	290	102	31.0	C
	T	2	2	100	32.3	C
	R	189	187	99	8.4	A
	Subtotal	475	479	101	22.2	C
EB	T	600	605	101	6.2	A
	R	352	348	99	3.3	A
	Subtotal	952	953	100	5.1	A
WB	L	33	31	95	16.8	B
	T	296	294	99	11.4	B
	Subtotal	329	325	99	11.9	B
Total		1,755	1,757	100	11.0	B

Intersection: SR-248 & NB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	176	172	98	27.6	C
	R	27	26	95	7.2	A
	Subtotal	203	198	98	24.9	C
EB	L	351	360	102	11.3	B
	T	534	536	100	5.4	A
	Subtotal	885	896	101	7.8	A
WB	T	152	152	100	8.8	A
	R	204	202	99	8.6	A
	Subtotal	356	354	99	8.7	A
Total		1,444	1,448	100	10.3	B

1: Old Landfill Road & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Delay / Veh (s)		2.9	21.2	7.2	6.6	1.9	1.1	3.6	1.0		1.8
Vehicles Entered	0	1	1	8	1	210	2	1	113	0	337
Vehicles Exited	0	1	1	8	1	211	2	1	114	0	339
Hourly Exit Rate	0	4	4	32	4	844	8	4	456	0	1356
Input Volume	2	4	5	33	5	826	8	4	455	2	1344
% of Volume	0	100	80	97	80	102	100	100	100	0	101

1: Old Landfill Road & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Delay / Veh (s)		6.2	18.0	10.0	4.4	1.7	1.1	11.1	1.0		1.8
Vehicles Entered	0	1	2	8	2	209	2	1	113	0	338
Vehicles Exited	0	1	2	8	2	209	2	1	113	0	338
Hourly Exit Rate	0	4	8	32	8	836	8	4	452	0	1352
Input Volume	2	4	5	33	5	826	8	4	455	2	1344
% of Volume	0	100	160	97	160	101	100	100	99	0	101

1: Old Landfill Road & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Delay / Veh (s)		7.0	23.7	11.1	4.6	2.2	2.4	5.9	1.1	0.4	2.2
Vehicles Entered	0	1	1	10	2	247	2	1	131	1	396
Vehicles Exited	0	1	1	10	2	246	1	2	132	1	396
Hourly Exit Rate	0	4	4	40	8	984	4	8	528	4	1584
Input Volume	2	5	6	40	6	999	9	5	551	2	1625
% of Volume	0	80	67	100	133	98	44	160	96	200	97

1: Old Landfill Road & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Delay / Veh (s)		4.4	13.7	8.1	4.7	2.1	2.6	3.2	1.0	0.3	2.0
Vehicles Entered	0	1	1	8	1	210	2	1	114	1	339
Vehicles Exited	0	1	1	8	1	209	2	1	114	1	338
Hourly Exit Rate	0	4	4	32	4	836	8	4	456	4	1352
Input Volume	2	4	5	33	5	826	8	4	455	2	1344
% of Volume	0	100	80	97	80	101	100	100	100	200	101

1: Old Landfill Road & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.1	0.0	0.8
Delay / Veh (s)	19.2	4.1	15.8	9.5	5.9	2.0	1.5	5.9	1.1	0.4	2.0
Vehicles Entered	2	5	6	33	5	876	7	5	471	2	1412
Vehicles Exited	2	5	6	34	5	875	8	5	473	2	1415
Hourly Exit Rate	2	5	6	34	5	875	8	5	473	2	1415
Input Volume	2	4	5	35	5	869	8	4	479	2	1414
% of Volume	100	118	114	98	95	101	97	118	99	100	100

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	0.2	0.0	0.0	0.1	0.1	0.0	0.4
Delay / Veh (s)	56.4	1.8	3.9	2.0	1.9	0.2	4.0
Vehicles Entered	13	5	3	217	111	5	354
Vehicles Exited	13	5	3	217	111	5	354
Hourly Exit Rate	52	20	12	868	444	20	1416
Input Volume	53	20	10	852	442	19	1396
% of Volume	98	100	120	102	100	105	101

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	0.2	0.0	0.0	0.1	0.1	0.0	0.4
Delay / Veh (s)	58.9	1.7	5.1	2.1	1.7	0.1	3.7
Vehicles Entered	10	4	2	215	113	4	348
Vehicles Exited	11	4	2	215	110	4	346
Hourly Exit Rate	44	16	8	860	440	16	1384
Input Volume	53	20	10	852	442	19	1396
% of Volume	83	80	80	101	100	84	99

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	0.3	0.0	0.0	0.2	0.1	0.0	0.5
Delay / Veh (s)	56.7	1.4	8.0	2.5	2.2	0.2	4.5
Vehicles Entered	16	6	2	254	126	6	410
Vehicles Exited	15	6	2	252	127	6	408
Hourly Exit Rate	60	24	8	1008	508	24	1632
Input Volume	64	24	11	1030	533	23	1685
% of Volume	94	100	73	98	95	104	97

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	0.2	0.0	0.0	0.1	0.1	0.0	0.4
Delay / Veh (s)	60.9	1.3	6.0	2.3	1.7	0.2	4.3
Vehicles Entered	12	6	3	216	111	5	353
Vehicles Exited	13	6	3	216	112	5	355
Hourly Exit Rate	52	24	12	864	448	20	1420
Input Volume	53	20	10	852	442	19	1396
% of Volume	98	120	120	101	101	105	102

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	0.9	0.0	0.0	0.6	0.2	0.0	1.7
Delay / Veh (s)	59.2	1.6	5.6	2.2	1.9	0.2	4.1
Vehicles Entered	51	20	11	902	460	19	1463
Vehicles Exited	52	20	10	901	460	19	1462
Hourly Exit Rate	52	20	10	901	460	19	1462
Input Volume	56	21	10	896	465	20	1468
% of Volume	93	95	98	101	99	95	100

3: SR-248 & SB Ramps Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.2	0.1	0.0	0.2	0.6	0.0	0.1	1.3
Delay / Veh (s)	6.0	3.2	18.1	11.2	30.4		8.2	10.7
Vehicles Entered	145	84	7	72	69	0	43	420
Vehicles Exited	147	83	7	72	68	0	42	419
Hourly Exit Rate	588	332	28	288	272	0	168	1676
Input Volume	570	334	31	281	270	2	180	1668
% of Volume	103	99	90	102	101	0	93	100

3: SR-248 & SB Ramps Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.2	0.1	0.0	0.2	0.5	0.0	0.1	1.2
Delay / Veh (s)	5.7	3.3	15.6	10.8	28.7	18.3	8.1	10.3
Vehicles Entered	142	83	7	69	68	1	48	418
Vehicles Exited	142	83	7	70	69	1	48	420
Hourly Exit Rate	568	332	28	280	276	4	192	1680
Input Volume	570	334	31	281	270	2	180	1668
% of Volume	100	99	90	100	102	200	107	101

3: SR-248 & SB Ramps Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.3	0.1	0.0	0.3	0.7	0.0	0.1	1.6
Delay / Veh (s)	6.5	3.5	16.4	12.1	33.6		8.5	11.7
Vehicles Entered	166	97	8	80	80	0	52	483
Vehicles Exited	167	98	8	80	79	0	53	485
Hourly Exit Rate	668	392	32	320	316	0	212	1940
Input Volume	690	405	38	339	326	2	217	2017
% of Volume	97	97	84	94	97	0	98	96

3: SR-248 & SB Ramps Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.3	0.1	0.0	0.2	0.6	0.0	0.1	1.4
Delay / Veh (s)	6.5	3.2	17.0	11.4	31.1		8.5	11.3
Vehicles Entered	149	82	9	72	73	0	44	429
Vehicles Exited	149	83	9	72	74	0	44	431
Hourly Exit Rate	596	332	36	288	296	0	176	1724
Input Volume	570	334	31	281	270	2	180	1668
% of Volume	105	99	116	102	110	0	98	103

3: SR-248 & SB Ramps Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	1.0	0.3	0.1	0.9	2.5	0.0	0.4	5.4
Delay / Veh (s)	6.2	3.3	16.8	11.4	31.0	32.3	8.4	11.0
Vehicles Entered	603	346	31	293	290	2	187	1752
Vehicles Exited	605	348	31	294	290	2	187	1757
Hourly Exit Rate	605	348	31	294	290	2	187	1757
Input Volume	600	352	33	296	284	2	189	1755
% of Volume	101	99	95	99	102	100	99	100

4: SR-248 & NB Ramps Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.3	0.2	0.1	0.1	0.3	0.0	1.0
Delay / Veh (s)	10.8	4.7	6.9	8.3	29.3	7.5	9.9
Vehicles Entered	87	128	37	49	41	7	349
Vehicles Exited	85	128	38	50	42	7	350
Hourly Exit Rate	340	512	152	200	168	28	1400
Input Volume	334	507	144	194	167	26	1372
% of Volume	102	101	106	103	101	108	102

4: SR-248 & NB Ramps Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.3	0.2	0.1	0.1	0.3	0.0	0.9
Delay / Veh (s)	10.8	4.6	8.2	8.4	28.3	7.5	9.9
Vehicles Entered	86	125	35	48	40	7	341
Vehicles Exited	86	126	36	47	40	7	342
Hourly Exit Rate	344	504	144	188	160	28	1368
Input Volume	334	507	144	194	167	26	1372
% of Volume	103	99	100	97	96	108	100

4: SR-248 & NB Ramps Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.3	0.3	0.1	0.1	0.4	0.0	1.2
Delay / Veh (s)	12.8	6.5	10.7	8.8	26.4	6.7	11.2
Vehicles Entered	96	150	42	55	49	6	398
Vehicles Exited	97	151	42	56	46	6	398
Hourly Exit Rate	388	604	168	224	184	24	1592
Input Volume	403	614	175	234	202	31	1659
% of Volume	96	98	96	96	91	77	96

4: SR-248 & NB Ramps Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.3	0.2	0.1	0.1	0.3	0.0	1.0
Delay / Veh (s)	10.7	5.4	9.1	8.5	26.7	6.9	10.1
Vehicles Entered	91	132	37	49	42	6	357
Vehicles Exited	91	131	37	50	44	6	359
Hourly Exit Rate	364	524	148	200	176	24	1436
Input Volume	334	507	144	194	167	26	1372
% of Volume	109	103	103	103	105	92	105

4: SR-248 & NB Ramps Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	1.1	0.8	0.4	0.5	1.3	0.1	4.1
Delay / Veh (s)	11.3	5.4	8.8	8.6	27.6	7.2	10.3
Vehicles Entered	360	536	151	201	172	26	1446
Vehicles Exited	360	536	152	202	172	26	1448
Hourly Exit Rate	360	536	152	202	172	26	1448
Input Volume	351	534	152	204	176	27	1444
% of Volume	102	100	100	99	98	95	100

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Total Delay (hr)	3.4	3.3	4.3	3.6	14.6
Delay / Veh (s)	24.6	24.3	27.7	26.0	25.7
Vehicles Entered	487	485	569	492	2038
Vehicles Exited	493	483	558	501	2040
Hourly Exit Rate	1972	1932	2232	2004	2040
Input Volume	10405	10405	12578	10405	10948
% of Volume	19	19	18	19	19

Intersection: 1: Old Landfill Road & SR-248, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	27	47	7	10
Average Queue (ft)	6	25	1	2
95th Queue (ft)	26	52	10	13
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Old Landfill Road & SR-248, Interval #2

Movement	EB	WB	NB	SB	B15
Directions Served	LR	LR	L	L	T
Maximum Queue (ft)	25	46	7	18	89
Average Queue (ft)	7	28	1	3	13
95th Queue (ft)	29	55	7	16	187
Link Distance (ft)	697	1167			785
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			170	175	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 1: Old Landfill Road & SR-248, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	21	52	10	15
Average Queue (ft)	5	29	1	4
95th Queue (ft)	23	57	11	19
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Old Landfill Road & SR-248, Interval #4

Movement	EB	WB	NB	NB	SB
Directions Served	LR	LR	L	TR	L
Maximum Queue (ft)	18	52	7	4	10
Average Queue (ft)	4	25	1	1	2
95th Queue (ft)	22	54	10	9	12
Link Distance (ft)	697	1167		1047	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			170		175
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 1: Old Landfill Road & SR-248, All Intervals

Movement	EB	WB	NB	NB	SB	B15
Directions Served	LR	LR	L	TR	L	T
Maximum Queue (ft)	34	66	20	4	26	89
Average Queue (ft)	6	27	1	0	3	3
95th Queue (ft)	25	55	10	4	15	91
Link Distance (ft)	697	1167		1047		785
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			170		175	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	47	47	19	21	59	63	61	9	10
Average Queue (ft)	18	23	10	4	24	30	27	1	2
95th Queue (ft)	49	52	25	19	58	70	64	11	14
Link Distance (ft)		847	847		785	785	724	724	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300			390					115
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	41	50	21	18	54	73	71	12	3
Average Queue (ft)	13	21	7	4	21	26	23	2	0
95th Queue (ft)	41	54	23	18	55	65	60	14	6
Link Distance (ft)		847	847		785	785	724	724	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300			390					115
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: Round Valley Drive & SR-248, Interval #3

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	60	57	20	20	86	81	81	9	12
Average Queue (ft)	23	28	9	5	30	39	37	1	2
95th Queue (ft)	62	64	24	22	72	88	87	11	13
Link Distance (ft)		847	847		785	785	724	724	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300			390					115
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: Round Valley Drive & SR-248, Interval #4

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	42	49	19	21	64	76	63	8	7
Average Queue (ft)	20	26	9	6	29	31	22	0	0
95th Queue (ft)	52	58	24	24	69	74	62	5	5
Link Distance (ft)		847	847		785	785	724	724	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300			390					115
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	L	R	L	T	T	T	T	R
Maximum Queue (ft)	68	72	23	27	94	97	96	24	23
Average Queue (ft)	19	24	9	5	26	31	27	1	1
95th Queue (ft)	52	57	24	21	64	75	70	11	10
Link Distance (ft)		847	847		785	785	724	724	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300			390					115
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 3: SR-248 & SB Ramps, Interval #1

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	107	83	37	101	61	195
Average Queue (ft)	59	49	18	60	34	134
95th Queue (ft)	115	90	44	112	64	206
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						0
Queuing Penalty (veh)						0

Intersection: 3: SR-248 & SB Ramps, Interval #2

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	110	82	40	103	62	201
Average Queue (ft)	56	47	18	53	31	138
95th Queue (ft)	108	91	47	100	68	224
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						1
Queuing Penalty (veh)						1

Intersection: 3: SR-248 & SB Ramps, Interval #3

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	114	107	36	124	70	246
Average Queue (ft)	66	61	20	69	36	162
95th Queue (ft)	121	112	43	120	74	269
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						2
Queuing Penalty (veh)						5

Intersection: 3: SR-248 & SB Ramps, Interval #4

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	108	92	49	113	60	210
Average Queue (ft)	61	57	22	60	33	142
95th Queue (ft)	114	100	55	118	68	222
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						0
Queuing Penalty (veh)						1

Intersection: 3: SR-248 & SB Ramps, All Intervals

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	139	121	56	141	77	267
Average Queue (ft)	61	53	19	60	34	144
95th Queue (ft)	115	99	48	114	69	233
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						1
Queuing Penalty (veh)						2

Intersection: 4: SR-248 & NB Ramps, Interval #1

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	146	57	72	44	42	141	10
Average Queue (ft)	90	26	42	17	18	93	2
95th Queue (ft)	160	74	88	49	46	150	16
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 4: SR-248 & NB Ramps, Interval #2

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	176	56	76	54	37	134
Average Queue (ft)	94	25	44	24	15	85
95th Queue (ft)	193	66	84	64	42	142
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	1					
Queuing Penalty (veh)	2					

Intersection: 4: SR-248 & NB Ramps, Interval #3

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	188	81	110	66	41	148
Average Queue (ft)	109	40	58	28	18	97
95th Queue (ft)	188	88	112	69	46	162
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 4: SR-248 & NB Ramps, Interval #4

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	159	67	96	51	41	148
Average Queue (ft)	96	29	49	22	19	94
95th Queue (ft)	167	74	99	54	47	159
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 4: SR-248 & NB Ramps, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	228	100	122	76	52	180	10
Average Queue (ft)	97	30	48	23	18	92	0
95th Queue (ft)	179	77	97	60	45	154	8
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	0						
Queuing Penalty (veh)	1						

Network Summary

Network wide Queuing Penalty, Interval #1: 1
Network wide Queuing Penalty, Interval #2: 3
Network wide Queuing Penalty, Interval #3: 7
Network wide Queuing Penalty, Interval #4: 2
Network wide Queuing Penalty, All Intervals: 3

HALES ENGINEERING
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SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Existing (2009) Plus Project*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: Old Landfill Road & SR-248
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	7.8	*A*
	T	1,049	1,043	99	2.6	*A*
	R	8	7	85	1.6	*A*
	Subtotal	1,062	1,056	99	2.6	*A*
SB	L	4	3	71	10.3	*B*
	T	697	696	100	1.8	*A*
	R	2	3	150	0.9	*A*
	Subtotal	703	702	100	1.8	*A*
EB	L	2	2	100	21.9	*C*
	R	4	5	118	5.5	*A*
	Subtotal	6	7	117	10.2	*B*
WB	L	5	5	95	34.4	*D*
	R	35	34	98	13.3	*B*
	Subtotal	***40***	***39***	***98***	***16.0***	***C***
Total		1,812	1,804	100	2.7	*A*

Intersection: Round Valley Drive & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	10	11	107	11.1	*B*
	T	918	922	100	10.1	*B*
	R	143	136	95	3.2	*A*
	Subtotal	1,071	1,069	100	9.2	*A*
SB	L	157	161	103	93.5	*F*
	T	464	464	100	7.1	*A*
	R	20	20	100	1.1	*A*
	Subtotal	641	645	101	28.5	*C*
EB	L	56	56	100	34.0	*C*
	T	10	11	107	39.0	*D*
	R	21	22	105	4.9	*A*
	Subtotal	87	89	102	27.4	*C*
WB	L	218	217	100	33.7	*C*
	T	10	9	88	39.0	*D*
	R	205	202	98	18.4	*B*
	Subtotal	433	428	99	26.6	*C*
Total		2,232	2,231	100	18.9	*B*

HALES ENGINEERING
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SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Existing (2009) Plus Project*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: SR-248 & SB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	284	290	102	14.9	*B*
	T	2	2	100	13.0	*B*
	R	283	286	101	8.9	*A*
	Subtotal	569	578	102	11.9	*B*
EB	T	754	751	100	11.7	*B*
	R	425	429	101	3.9	*A*
	Subtotal	1,179	1,180	100	8.9	*A*
WB	L	33	32	98	20.7	*C*
	T	359	360	100	10.7	*B*
	Subtotal	392	392	100	11.5	*B*
Total		2,140	2,150	100	10.2	*B*

Intersection: SR-248 & NB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	223	221	99	17.5	*B*
	R	27	29	106	7.0	*A*
	Subtotal	250	250	100	16.3	*B*
EB	L	485	496	102	19.6	*B*
	T	554	544	98	7.9	*A*
	Subtotal	1,039	1,040	100	13.5	*B*
WB	T	168	171	102	14.4	*B*
	R	204	208	102	8.8	*A*
	Subtotal	372	379	102	11.3	*B*
Total		1,661	1,669	100	13.4	*B*

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SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Existing (2009) Plus Project*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: South Access & SR-248
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1,049	1,044	99	1.7	A
	R	37	36	97	0.9	A
	Subtotal	1,086	1,080	99	1.7	A
SB	T	703	703	100	2.6	A
	Subtotal	703	703	100	2.6	A
WB	R	22	23	105	7.0	A
	Subtotal	***22***	***23***	***105***	***7.0***	***A***
Total		1,811	1,806	100	2.1	A

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
Total						

1: Old Landfill Road & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.3
Delay / Veh (s)		5.4	26.8	10.7	7.0	2.3	1.4	4.2	1.6	0.8	2.2
Vehicles Entered	0	1	1	7	1	244	2	1	165	1	423
Vehicles Exited	0	1	1	7	1	244	2	1	164	1	422
Hourly Exit Rate	0	4	4	28	4	976	8	4	656	4	1688
Input Volume	2	4	5	33	5	997	8	4	662	2	1722
% of Volume	0	100	80	85	80	98	100	100	99	200	98

1: Old Landfill Road & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.3
Delay / Veh (s)		3.9	20.5	12.7	6.6	2.5	1.5	11.6	1.4	0.0	2.4
Vehicles Entered	0	2	2	9	2	253	2	1	162	1	434
Vehicles Exited	0	2	2	9	2	254	2	1	162	1	435
Hourly Exit Rate	0	8	8	36	8	1016	8	4	648	4	1740
Input Volume	2	4	5	33	5	997	8	4	662	2	1722
% of Volume	0	200	160	109	160	102	100	100	98	200	101

1: Old Landfill Road & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.5
Delay / Veh (s)	21.3	6.3	42.3	19.9	7.2	3.2	1.7	11.4	2.3	1.3	3.4
Vehicles Entered	1	2	2	9	2	295	2	1	199	1	514
Vehicles Exited	1	2	2	9	2	292	2	1	197	1	509
Hourly Exit Rate	4	8	8	36	8	1168	8	4	788	4	2036
Input Volume	2	5	6	40	6	1206	9	5	801	2	2082
% of Volume	200	160	133	90	133	97	89	80	98	200	98

1: Old Landfill Road & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.3
Delay / Veh (s)			19.6	10.4	12.5	2.5	0.8		1.8		2.4
Vehicles Entered	0	0	1	8	1	251	2	0	171	0	434
Vehicles Exited	0	0	1	8	1	252	2	0	173	0	437
Hourly Exit Rate	0	0	4	32	4	1008	8	0	692	0	1748
Input Volume	2	4	5	33	5	997	8	4	662	2	1722
% of Volume	0	0	80	97	80	101	100	0	105	0	102

1: Old Landfill Road & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.8	0.0	0.0	0.3	0.0	1.3
Delay / Veh (s)	21.9	5.5	34.4	13.3	7.8	2.6	1.6	10.3	1.8	0.9	2.7
Vehicles Entered	2	5	5	33	6	1043	7	3	698	3	1805
Vehicles Exited	2	5	5	34	6	1043	7	3	696	3	1804
Hourly Exit Rate	2	5	5	34	6	1043	7	3	696	3	1804
Input Volume	2	4	5	35	5	1049	8	4	697	2	1812
% of Volume	100	118	95	98	114	99	85	71	100	150	100

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.0	0.0	0.5	0.0	0.2	0.0	0.6	0.0	0.6	0.2	0.0
Delay / Veh (s)	32.8	39.6	5.8	31.8	35.0	16.1	10.9	9.6	3.0	58.0	7.0	1.0
Vehicles Entered	14	2	5	51	3	47	3	214	33	40	112	4
Vehicles Exited	13	2	5	51	3	48	3	215	33	39	110	4
Hourly Exit Rate	52	8	20	204	12	192	12	860	132	156	440	16
Input Volume	53	10	20	207	10	195	10	872	136	149	441	19
% of Volume	98	80	100	99	120	98	120	99	97	105	100	84

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	All
Total Delay (hr)	2.3
Delay / Veh (s)	15.8
Vehicles Entered	528
Vehicles Exited	526
Hourly Exit Rate	2104
Input Volume	2122
% of Volume	99

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.0	0.0	0.5	0.0	0.2	0.0	0.6	0.0	0.7	0.2	0.0
Delay / Veh (s)	31.2	37.3	3.7	31.8	43.2	15.9	10.2	9.6	2.9	61.7	6.3	1.3
Vehicles Entered	13	3	6	51	2	46	3	222	34	39	106	4
Vehicles Exited	14	3	6	52	2	46	3	222	34	40	107	4
Hourly Exit Rate	56	12	24	208	8	184	12	888	136	160	428	16
Input Volume	53	10	20	207	10	195	10	872	136	149	441	19
% of Volume	106	120	120	100	80	94	120	102	100	107	97	84

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	All
Total Delay (hr)	2.3
Delay / Veh (s)	15.7
Vehicles Entered	529
Vehicles Exited	533
Hourly Exit Rate	2132
Input Volume	2122
% of Volume	100

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.0	0.0	0.6	0.0	0.4	0.0	0.8	0.0	1.3	0.3	0.0
Delay / Veh (s)	35.6	42.0	6.2	34.8	36.9	23.6	12.9	10.6	3.8	116.7	8.0	1.2
Vehicles Entered	16	3	5	64	2	57	3	261	36	44	132	6
Vehicles Exited	15	3	5	63	2	56	3	261	36	38	133	6
Hourly Exit Rate	60	12	20	252	8	224	12	1044	144	152	532	24
Input Volume	64	11	24	251	11	236	11	1056	164	180	533	23
% of Volume	94	109	83	100	73	95	109	99	88	84	100	104

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	All
Total Delay (hr)	3.6
Delay / Veh (s)	20.9
Vehicles Entered	629
Vehicles Exited	621
Hourly Exit Rate	2484
Input Volume	2564
% of Volume	97

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.1	0.0	0.0	0.5	0.0	0.2	0.0	0.7	0.0	1.5	0.2	0.0
Delay / Veh (s)	39.2	37.3	5.3	35.3	28.5	17.2	10.0	10.5	3.1	131.9	7.1	1.2
Vehicles Entered	13	2	5	51	2	51	2	223	33	38	115	5
Vehicles Exited	14	3	5	52	3	53	2	223	34	45	114	5
Hourly Exit Rate	56	12	20	208	12	212	8	892	136	180	456	20
Input Volume	53	10	20	207	10	195	10	872	136	149	441	19
% of Volume	106	120	100	100	120	109	80	102	100	121	103	105

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	All
Total Delay (hr)	3.4
Delay / Veh (s)	22.4
Vehicles Entered	540
Vehicles Exited	553
Hourly Exit Rate	2212
Input Volume	2122
% of Volume	104

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.5	0.1	0.0	2.0	0.1	1.0	0.0	2.6	0.1	4.2	0.9	0.0
Delay / Veh (s)	34.0	39.0	4.9	33.7	39.0	18.4	11.1	10.1	3.2	93.5	7.1	1.1
Vehicles Entered	56	11	22	217	9	201	11	920	136	161	464	19
Vehicles Exited	56	11	22	217	9	202	11	922	136	161	464	20
Hourly Exit Rate	56	11	22	217	9	202	11	922	136	161	464	20
Input Volume	56	10	21	218	10	205	10	918	143	157	464	20
% of Volume	100	107	105	100	88	98	107	100	95	103	100	100

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	All
Total Delay (hr)	11.7
Delay / Veh (s)	18.9
Vehicles Entered	2227
Vehicles Exited	2231
Hourly Exit Rate	2231
Input Volume	2232
% of Volume	100

3: SR-248 & SB Ramps Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.5	0.1	0.0	0.3	0.3	0.0	0.2	1.4
Delay / Veh (s)	10.6	3.6	21.4	10.3	14.3		8.8	9.6
Vehicles Entered	179	98	7	88	68	0	68	508
Vehicles Exited	178	98	8	89	68	0	67	508
Hourly Exit Rate	712	392	32	356	272	0	268	2032
Input Volume	716	404	31	342	270	2	269	2034
% of Volume	99	97	103	104	101	0	100	100

3: SR-248 & SB Ramps Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.6	0.1	0.0	0.2	0.3	0.0	0.2	1.4
Delay / Veh (s)	11.3	3.8	17.6	9.8	14.3		8.8	9.8
Vehicles Entered	182	101	8	82	72	0	68	513
Vehicles Exited	181	101	8	80	72	0	69	511
Hourly Exit Rate	724	404	32	320	288	0	276	2044
Input Volume	716	404	31	342	270	2	269	2034
% of Volume	101	100	103	94	107	0	103	100

3: SR-248 & SB Ramps Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.8	0.1	0.0	0.3	0.4	0.0	0.2	1.9
Delay / Veh (s)	13.4	4.1	19.0	11.5	16.4		9.5	11.2
Vehicles Entered	209	119	9	104	83	0	81	605
Vehicles Exited	208	119	9	103	83	0	81	603
Hourly Exit Rate	832	476	36	412	332	0	324	2412
Input Volume	867	489	38	411	326	2	325	2458
% of Volume	96	97	95	100	102	0	100	98

3: SR-248 & SB Ramps Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.6	0.1	0.0	0.3	0.3	0.0	0.2	1.4
Delay / Veh (s)	11.2	3.9	22.3	10.9	14.5	9.7	8.4	9.8
Vehicles Entered	181	111	8	87	68	1	69	525
Vehicles Exited	184	112	8	88	68	1	69	530
Hourly Exit Rate	736	448	32	352	272	4	276	2120
Input Volume	716	404	31	342	270	2	269	2034
% of Volume	103	111	103	103	101	200	103	104

3: SR-248 & SB Ramps Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	2.4	0.5	0.2	1.1	1.2	0.0	0.7	6.1
Delay / Veh (s)	11.7	3.9	20.7	10.7	14.9	13.0	8.9	10.2
Vehicles Entered	751	429	32	361	291	2	286	2152
Vehicles Exited	751	429	32	360	290	2	286	2150
Hourly Exit Rate	751	429	32	360	290	2	286	2150
Input Volume	754	425	33	359	284	2	283	2140
% of Volume	100	101	98	100	102	100	101	100

4: SR-248 & NB Ramps Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.6	0.3	0.2	0.1	0.3	0.0	1.4
Delay / Veh (s)	17.4	7.6	14.2	8.8	17.4	6.9	12.6
Vehicles Entered	117	129	40	48	55	8	397
Vehicles Exited	117	129	40	48	55	8	397
Hourly Exit Rate	468	516	160	192	220	32	1588
Input Volume	461	526	160	194	212	26	1579
% of Volume	102	98	100	99	104	123	101

4: SR-248 & NB Ramps Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.5	0.3	0.1	0.1	0.2	0.0	1.3
Delay / Veh (s)	15.2	7.5	12.2	8.6	16.7	7.5	11.6
Vehicles Entered	120	132	40	45	50	7	394
Vehicles Exited	119	132	40	46	49	6	392
Hourly Exit Rate	476	528	160	184	196	24	1568
Input Volume	461	526	160	194	212	26	1579
% of Volume	103	100	100	95	92	92	99

4: SR-248 & NB Ramps Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	1.0	0.3	0.2	0.2	0.3	0.0	2.1
Delay / Veh (s)	25.6	8.3	17.1	9.2	19.2	6.6	15.7
Vehicles Entered	140	151	50	64	64	10	479
Vehicles Exited	137	151	49	64	64	10	475
Hourly Exit Rate	548	604	196	256	256	40	1900
Input Volume	557	636	193	234	256	31	1907
% of Volume	98	95	102	109	100	129	100

4: SR-248 & NB Ramps Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	0.7	0.3	0.2	0.1	0.2	0.0	1.5
Delay / Veh (s)	19.4	8.0	13.7	8.5	16.1	7.1	13.1
Vehicles Entered	120	132	40	50	53	5	400
Vehicles Exited	122	132	42	50	53	5	404
Hourly Exit Rate	488	528	168	200	212	20	1616
Input Volume	461	526	160	194	212	26	1579
% of Volume	106	100	105	103	100	77	102

4: SR-248 & NB Ramps Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.7	1.2	0.7	0.5	1.1	0.1	6.2
Delay / Veh (s)	19.6	7.9	14.4	8.8	17.5	7.0	13.4
Vehicles Entered	497	545	170	208	221	29	1670
Vehicles Exited	496	544	171	208	221	29	1669
Hourly Exit Rate	496	544	171	208	221	29	1669
Input Volume	485	554	168	204	223	27	1661
% of Volume	102	98	102	102	99	106	100

15: South Access & SR-248 Performance by movement Interval #1 5:00

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.1	0.0	0.1	0.2
Delay / Veh (s)	7.3	1.6	0.8	2.5	2.0
Vehicles Entered	6	242	9	166	423
Vehicles Exited	6	244	8	167	425
Hourly Exit Rate	24	976	32	668	1700
Input Volume	21	997	35	668	1721
% of Volume	114	98	91	100	99

15: South Access & SR-248 Performance by movement Interval #2 5:15

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.1	0.0	0.1	0.2
Delay / Veh (s)	5.5	1.6	0.9	2.3	1.9
Vehicles Entered	5	254	9	164	432
Vehicles Exited	5	253	10	164	432
Hourly Exit Rate	20	1012	40	656	1728
Input Volume	21	997	35	668	1721
% of Volume	95	102	114	98	100

15: South Access & SR-248 Performance by movement Interval #3 5:30

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.2	0.0	0.2	0.3
Delay / Veh (s)	9.7	2.0	1.1	3.0	2.4
Vehicles Entered	6	294	9	201	510
Vehicles Exited	6	293	9	200	508
Hourly Exit Rate	24	1172	36	800	2032
Input Volume	25	1206	43	808	2082
% of Volume	96	97	84	99	98

15: South Access & SR-248 Performance by movement Interval #4 5:45

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.1	0.0	0.1	0.2
Delay / Veh (s)	6.2	1.6	0.9	2.5	2.0
Vehicles Entered	5	252	9	171	437
Vehicles Exited	5	253	9	172	439
Hourly Exit Rate	20	1012	36	688	1756
Input Volume	21	997	35	668	1721
% of Volume	95	102	103	103	102

15: South Access & SR-248 Performance by movement Entire Run

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.5	0.0	0.5	1.1
Delay / Veh (s)	7.0	1.7	0.9	2.6	2.1
Vehicles Entered	23	1042	36	702	1803
Vehicles Exited	23	1044	36	703	1806
Hourly Exit Rate	23	1044	36	703	1806
Input Volume	22	1049	37	703	1811
% of Volume	105	99	97	100	100

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Total Delay (hr)	6.3	6.2	9.4	7.7	29.6
Delay / Veh (s)	33.8	33.3	42.1	39.7	37.4
Vehicles Entered	672	678	818	678	2849
Vehicles Exited	672	679	787	711	2851
Hourly Exit Rate	2688	2716	3148	2844	2851
Input Volume	13609	13609	16448	13609	14319
% of Volume	20	20	19	21	20

Intersection: 1: Old Landfill Road & SR-248, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	21	51	5	7
Average Queue (ft)	5	24	1	1
95th Queue (ft)	23	57	11	11
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Old Landfill Road & SR-248, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	25	50	10	13
Average Queue (ft)	8	28	2	2
95th Queue (ft)	29	57	14	13
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Old Landfill Road & SR-248, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	31	58	20	17
Average Queue (ft)	8	31	2	3
95th Queue (ft)	31	70	15	16
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Old Landfill Road & SR-248, Interval #4

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	12	43	13	7
Average Queue (ft)	2	24	2	2
95th Queue (ft)	14	50	14	12
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Old Landfill Road & SR-248, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LR	LR	L	L
Maximum Queue (ft)	32	71	26	25
Average Queue (ft)	6	27	2	2
95th Queue (ft)	25	59	14	13
Link Distance (ft)	697	1167		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			170	175
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	39	40	23	25	84	99	28	99	22	121	126	42
Average Queue (ft)	17	17	7	10	43	61	8	54	5	68	79	17
95th Queue (ft)	44	43	25	28	88	103	30	106	21	122	138	42
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)											2	
Queuing Penalty (veh)											3	

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	161	94	109	18
Average Queue (ft)	107	46	55	4
95th Queue (ft)	190	119	112	20
Link Distance (ft)		723	723	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			115
Storage Blk Time (%)	28	0	0	
Queuing Penalty (veh)	63	0	0	

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	39	44	32	20	71	92	21	89	16	140	130	29
Average Queue (ft)	15	19	9	10	44	60	6	51	4	74	74	15
95th Queue (ft)	43	48	33	25	80	94	22	90	17	136	133	31
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)											2	
Queuing Penalty (veh)											2	

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	145	123	124	21
Average Queue (ft)	109	57	55	3
95th Queue (ft)	197	180	128	17
Link Distance (ft)		723	723	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			115
Storage Blk Time (%)	27	0	0	
Queuing Penalty (veh)	59	0	0	

Intersection: 2: Round Valley Drive & SR-248, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	42	41	30	24	92	99	22	122	21	151	169	81
Average Queue (ft)	20	19	10	10	59	71	6	75	5	93	101	23
95th Queue (ft)	49	45	31	28	95	106	23	132	22	159	174	85
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)											5	
Queuing Penalty (veh)											9	

Intersection: 2: Round Valley Drive & SR-248, Interval #3

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	189	237	206	20
Average Queue (ft)	145	122	100	4
95th Queue (ft)	230	306	244	19
Link Distance (ft)		723	723	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			115
Storage Blk Time (%)	56	0	1	
Queuing Penalty (veh)	148	1	0	

Intersection: 2: Round Valley Drive & SR-248, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	39	52	26	20	78	94	28	109	18	142	169	55
Average Queue (ft)	14	24	8	9	47	60	7	57	4	84	93	17
95th Queue (ft)	41	56	28	25	84	97	31	107	17	148	169	58
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)											4	
Queuing Penalty (veh)											5	

Intersection: 2: Round Valley Drive & SR-248, Interval #4

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	182	282	243	21
Average Queue (ft)	156	151	103	5
95th Queue (ft)	238	432	315	22
Link Distance (ft)		723	723	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			115
Storage Blk Time (%)	57	0	1	
Queuing Penalty (veh)	125	0	0	

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	52	63	39	30	98	112	41	134	31	167	189	109
Average Queue (ft)	17	20	9	10	48	63	7	59	5	80	87	18
95th Queue (ft)	44	48	29	26	88	101	27	111	20	143	156	58
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)											3	
Queuing Penalty (veh)											5	

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	SB	SB	SB	SB
Directions Served	L	T	T	R
Maximum Queue (ft)	196	315	280	28
Average Queue (ft)	129	94	79	4
95th Queue (ft)	221	290	220	20
Link Distance (ft)		723	723	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			115
Storage Blk Time (%)	42	0	0	
Queuing Penalty (veh)	98	0	0	

Intersection: 3: SR-248 & SB Ramps, Interval #1

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	143	106	45	83	79	144
Average Queue (ft)	87	67	19	46	45	83
95th Queue (ft)	148	109	49	87	82	150
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: SR-248 & SB Ramps, Interval #2

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	156	118	35	58	62	120
Average Queue (ft)	99	71	18	39	38	80
95th Queue (ft)	160	120	42	67	68	122
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: SR-248 & SB Ramps, Interval #3

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	208	149	48	78	85	155
Average Queue (ft)	123	85	23	48	52	97
95th Queue (ft)	211	151	53	84	85	158
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: SR-248 & SB Ramps, Interval #4

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	179	117	53	77	76	135
Average Queue (ft)	103	74	22	43	46	76
95th Queue (ft)	178	123	54	76	82	126
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: SR-248 & SB Ramps, All Intervals

Movement	EB	EB	WB	WB	WB	SB
Directions Served	T	T	L	T	T	LT
Maximum Queue (ft)	232	164	60	98	96	166
Average Queue (ft)	103	74	20	44	45	84
95th Queue (ft)	178	128	50	79	81	141
Link Distance (ft)	514	514		560	560	830
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: SR-248 & NB Ramps, Interval #1

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	203	75	94	54	52	135
Average Queue (ft)	135	35	56	33	35	84
95th Queue (ft)	237	79	99	63	66	136
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	2					
Queuing Penalty (veh)	6					

Intersection: 4: SR-248 & NB Ramps, Interval #2

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	181	69	90	51	50	112
Average Queue (ft)	123	32	55	27	27	74
95th Queue (ft)	192	77	97	56	53	114
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	1					
Queuing Penalty (veh)	2					

Intersection: 4: SR-248 & NB Ramps, Interval #3

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	281	124	136	72	69	159
Average Queue (ft)	185	70	69	38	35	99
95th Queue (ft)	326	264	155	74	68	163
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		2				
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	10					
Queuing Penalty (veh)	31					

Intersection: 4: SR-248 & NB Ramps, Interval #4

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	242	82	100	56	61	117	6
Average Queue (ft)	150	36	58	30	33	75	1
95th Queue (ft)	271	84	98	59	62	123	12
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	5						
Queuing Penalty (veh)	12						

Intersection: 4: SR-248 & NB Ramps, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	318	147	148	74	73	159	6
Average Queue (ft)	148	43	60	32	33	83	0
95th Queue (ft)	266	151	116	64	63	137	6
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)		0					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	4						
Queuing Penalty (veh)	12						

Intersection: 15: South Access & SR-248, Interval #1

Movement	WB
Directions Served	R
Maximum Queue (ft)	33
Average Queue (ft)	19
95th Queue (ft)	43
Link Distance (ft)	668
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: South Access & SR-248, Interval #2

Movement	WB
Directions Served	R
Maximum Queue (ft)	33
Average Queue (ft)	13
95th Queue (ft)	38
Link Distance (ft)	668
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: South Access & SR-248, Interval #3

Movement	WB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	39	8	17
Average Queue (ft)	20	1	4
95th Queue (ft)	50	12	28
Link Distance (ft)	668	1007	1007
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: South Access & SR-248, Interval #4

Movement	WB
Directions Served	R
Maximum Queue (ft)	36
Average Queue (ft)	17
95th Queue (ft)	43
Link Distance (ft)	668
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: South Access & SR-248, All Intervals

Movement	WB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	47	8	17
Average Queue (ft)	17	0	1
95th Queue (ft)	44	6	13
Link Distance (ft)	668	1007	1007
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty, Interval #1: 72
Network wide Queuing Penalty, Interval #2: 63
Network wide Queuing Penalty, Interval #3: 190
Network wide Queuing Penalty, Interval #4: 142
Network wide Queuing Penalty, All Intervals: 117

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Background*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: Old Landfill Road & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	7	7	97	37.0	*D*
	T	1,425	1,425	100	26.1	*C*
	R	381	384	101	18.5	*B*
	Subtotal	1,813	1,816	100	24.5	*C*
SB	L	64	64	100	82.1	*F*
	T	1,005	1,014	101	9.7	*A*
	R	3	4	133	7.0	*A*
	Subtotal	1,072	1,082	101	14.0	*B*
EB	L	3	2	67	21.4	*C*
	R	6	6	96	6.0	*A*
	Subtotal	9	8	89	9.9	*A*
WB	L	264	262	99	41.0	*D*
	R	341	341	100	30.1	*C*
	Subtotal	605	603	100	34.8	*C*
Total		3,500	3,509	100	23.0	*C*

Intersection: Round Valley Drive & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	188	188	100	45.4	*D*
	T	1,582	1,550	98	29.4	*C*
	Subtotal	1,770	1,738	98	31.1	*C*
SB	T	727	741	102	8.8	*A*
	R	229	227	99	3.6	*A*
	Subtotal	956	968	101	7.6	*A*
EB	L	421	383	91	119.9	*F*
	R	344	342	99	22.5	*C*
	Subtotal	765	725	95	74.0	*E*
Total		3,492	3,431	98	33.9	*C*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Background*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: SR-248 & SB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	409	406	99	85.8	*F*
	T	3	2	67	93.7	*F*
	R	418	417	100	26.0	*C*
	Subtotal	830	825	99	55.6	*E*
EB	T	1,285	1,194	93	39.4	*D*
	R	717	687	96	5.6	*A*
	Subtotal	2,002	1,881	94	27.1	*C*
WB	L	48	48	99	27.1	*C*
	T	538	549	102	8.1	*A*
	Subtotal	586	597	102	9.6	*A*
Total		3,418	3,303	97	31.1	*C*

Intersection: SR-248 & NB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	314	320	102	59.2	*E*
	R	39	39	100	9.1	*A*
	Subtotal	353	359	102	53.8	*D*
EB	L	843	781	93	45.1	*D*
	T	851	810	95	8.7	*A*
	Subtotal	1,694	1,591	94	26.6	*C*
WB	T	272	279	103	34.2	*C*
	R	294	293	100	9.7	*A*
	Subtotal	566	572	101	21.7	*C*
Total		2,612	2,522	97	29.3	*C*

1: Old Landfill Road & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.7	0.5	0.0	1.8	0.3	0.2	0.6	0.0	4.1
Delay / Veh (s)	13.5	4.6	37.0	21.5	41.5	18.7	13.2	63.1	8.7	5.5	17.6
Vehicles Entered	1	2	64	82	2	341	90	14	246	1	843
Vehicles Exited	1	2	65	85	1	338	91	14	241	1	839
Hourly Exit Rate	4	8	260	340	4	1352	364	56	964	4	3356
Input Volume	3	6	251	324	7	1354	362	61	955	3	3326
% of Volume	133	133	104	105	57	100	101	92	101	133	101

1: Old Landfill Road & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.7	0.5	0.0	1.7	0.4	0.2	0.6	0.0	4.1
Delay / Veh (s)		9.3	38.5	20.1	33.1	18.7	13.3	53.0	9.4	8.3	17.7
Vehicles Entered	0	1	65	83	2	332	96	15	236	1	831
Vehicles Exited	0	1	65	82	2	331	95	14	238	1	829
Hourly Exit Rate	0	4	260	328	8	1324	380	56	952	4	3316
Input Volume	3	6	251	324	7	1354	362	61	955	3	3326
% of Volume	0	67	104	101	114	98	105	92	100	133	100

1: Old Landfill Road & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.8	0.8	0.0	4.4	0.9	0.5	0.8	0.0	8.3
Delay / Veh (s)		5.5	40.0	31.1	54.1	39.1	29.3	98.8	10.8	5.9	30.3
Vehicles Entered	0	2	70	99	2	406	110	20	281	1	991
Vehicles Exited	0	2	68	94	2	404	109	18	283	1	981
Hourly Exit Rate	0	8	272	376	8	1616	436	72	1132	4	3924
Input Volume	3	7	303	392	8	1638	438	74	1155	3	4021
% of Volume	0	114	90	96	100	99	100	97	98	133	98

1: Old Landfill Road & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.9	1.1	0.0	2.4	0.4	0.5	0.7	0.0	6.0
Delay / Veh (s)		6.4	47.8	48.4	42.9	25.2	16.5	109.4	9.5	8.3	25.1
Vehicles Entered	0	1	66	79	1	345	88	15	252	1	848
Vehicles Exited	0	1	64	81	1	352	90	18	253	1	861
Hourly Exit Rate	0	4	256	324	4	1408	360	72	1012	4	3444
Input Volume	3	6	251	324	7	1354	362	61	955	3	3326
% of Volume	0	67	102	100	57	104	99	118	106	133	104

1: Old Landfill Road & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	3.0	2.9	0.1	10.3	2.0	1.5	2.7	0.0	22.5
Delay / Veh (s)	21.4	6.0	41.0	30.1	37.0	26.1	18.5	82.1	9.7	7.0	23.0
Vehicles Entered	2	6	264	343	7	1424	384	63	1015	4	3512
Vehicles Exited	2	6	262	341	7	1425	384	64	1014	4	3509
Hourly Exit Rate	2	6	262	341	7	1425	384	64	1014	4	3509
Input Volume	3	6	264	341	7	1425	381	64	1005	3	3500
% of Volume	67	96	99	100	97	100	101	100	101	133	100

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	1.1	0.3	0.4	0.9	0.4	0.0	3.1
Delay / Veh (s)	37.0	10.8	32.6	8.3	8.0	3.2	13.0
Vehicles Entered	104	84	44	386	178	56	852
Vehicles Exited	103	84	45	389	175	54	850
Hourly Exit Rate	412	336	180	1556	700	216	3400
Input Volume	400	327	179	1503	691	218	3318
% of Volume	103	103	101	104	101	99	102

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	1.1	0.2	0.4	0.9	0.4	0.1	3.0
Delay / Veh (s)	39.4	10.6	29.4	9.0	7.7	3.5	13.3
Vehicles Entered	101	80	44	366	170	56	817
Vehicles Exited	100	82	45	365	170	56	818
Hourly Exit Rate	400	328	180	1460	680	224	3272
Input Volume	400	327	179	1503	691	218	3318
% of Volume	100	100	101	97	98	103	99

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	2.1	0.4	0.7	3.0	0.6	0.1	6.8
Delay / Veh (s)	64.8	13.5	49.1	26.0	10.3	4.3	25.7
Vehicles Entered	120	100	50	434	203	61	968
Vehicles Exited	108	100	47	410	201	62	928
Hourly Exit Rate	432	400	188	1640	804	248	3712
Input Volume	484	395	216	1818	836	263	4012
% of Volume	89	101	87	90	96	94	93

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	9.0	1.3	1.0	7.9	0.5	0.0	19.7
Delay / Veh (s)	406.2	58.3	66.7	73.3	9.0	3.2	84.0
Vehicles Entered	89	80	53	387	189	54	852
Vehicles Exited	72	77	52	386	194	54	835
Hourly Exit Rate	288	308	208	1544	776	216	3340
Input Volume	400	327	179	1503	691	218	3318
% of Volume	72	94	116	103	112	99	101

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Total Delay (hr)	13.3	2.1	2.4	12.7	1.8	0.2	32.5
Delay / Veh (s)	119.9	22.5	45.4	29.4	8.8	3.6	33.9
Vehicles Entered	413	344	190	1572	740	227	3486
Vehicles Exited	383	342	188	1550	741	227	3431
Hourly Exit Rate	383	342	188	1550	741	227	3431
Input Volume	421	344	188	1582	727	229	3492
% of Volume	91	99	100	98	102	99	98

3: SR-248 & SB Ramps Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	1.4	0.3	0.1	0.3	1.8	0.0	0.4	4.2
Delay / Veh (s)	15.6	5.2	26.4	8.0	64.8	49.7	14.3	18.1
Vehicles Entered	314	176	10	130	100	1	98	829
Vehicles Exited	311	174	10	134	98	1	98	826
Hourly Exit Rate	1244	696	40	536	392	4	392	3304
Input Volume	1221	681	46	511	389	3	397	3248
% of Volume	102	102	87	105	101	133	99	102

3: SR-248 & SB Ramps Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	2.2	0.2	0.1	0.3	1.2	0.0	0.3	4.4
Delay / Veh (s)	26.4	5.0	28.5	7.6	50.9		11.5	19.9
Vehicles Entered	304	165	12	124	87	0	98	790
Vehicles Exited	303	165	13	124	88	0	97	790
Hourly Exit Rate	1212	660	52	496	352	0	388	3160
Input Volume	1221	681	46	511	389	3	397	3248
% of Volume	99	97	113	97	90	0	98	97

3: SR-248 & SB Ramps Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	4.1	0.3	0.1	0.4	3.2	0.0	1.0	9.1
Delay / Veh (s)	49.1	5.9	29.0	8.8	98.0		30.0	37.0
Vehicles Entered	312	183	14	154	120	0	117	900
Vehicles Exited	291	184	14	148	114	0	115	866
Hourly Exit Rate	1164	736	56	592	456	0	460	3464
Input Volume	1477	824	55	619	470	3	480	3928
% of Volume	79	89	102	96	97	0	96	88

3: SR-248 & SB Ramps Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	5.5	0.3	0.1	0.3	3.5	0.0	1.4	11.0
Delay / Veh (s)	68.8	6.2	24.0	8.0	121.5	66.2	46.0	48.7
Vehicles Entered	284	165	12	143	102	1	106	813
Vehicles Exited	289	164	12	142	105	1	106	819
Hourly Exit Rate	1156	656	48	568	420	4	424	3276
Input Volume	1221	681	46	511	389	3	397	3248
% of Volume	95	96	104	111	108	133	107	101

3: SR-248 & SB Ramps Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	13.2	1.1	0.4	1.2	9.7	0.1	3.0	28.6
Delay / Veh (s)	39.4	5.6	27.1	8.1	85.8	93.7	26.0	31.1
Vehicles Entered	1215	689	48	550	409	2	419	3332
Vehicles Exited	1194	687	48	549	406	2	417	3303
Hourly Exit Rate	1194	687	48	549	406	2	417	3303
Input Volume	1285	717	48	538	409	3	418	3418
% of Volume	93	96	99	102	99	67	100	97

4: SR-248 & NB Ramps Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	1.8	0.5	0.6	0.2	0.9	0.0	4.0
Delay / Veh (s)	31.9	8.7	33.6	9.4	41.4	6.9	22.7
Vehicles Entered	203	206	64	71	78	9	631
Vehicles Exited	195	208	62	70	78	9	622
Hourly Exit Rate	780	832	248	280	312	36	2488
Input Volume	801	809	258	279	298	37	2482
% of Volume	97	103	96	100	105	97	100

4: SR-248 & NB Ramps Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.2	0.4	0.6	0.2	0.8	0.0	4.4
Delay / Veh (s)	40.5	7.5	35.4	9.5	42.6	7.8	25.5
Vehicles Entered	195	196	67	72	72	9	611
Vehicles Exited	203	200	65	72	70	8	618
Hourly Exit Rate	812	800	260	288	280	32	2472
Input Volume	801	809	258	279	298	37	2482
% of Volume	101	99	101	103	94	86	100

4: SR-248 & NB Ramps Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.8	0.5	0.8	0.2	2.0	0.0	6.3
Delay / Veh (s)	51.5	8.8	33.3	9.7	83.9	11.1	34.2
Vehicles Entered	196	209	81	80	90	14	670
Vehicles Exited	190	207	86	81	82	14	660
Hourly Exit Rate	760	828	344	324	328	56	2640
Input Volume	969	978	313	338	361	45	3004
% of Volume	78	85	110	96	91	124	88

4: SR-248 & NB Ramps Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	3.1	0.5	0.6	0.2	1.5	0.0	6.0
Delay / Veh (s)	56.8	9.8	34.2	10.0	64.5	9.5	34.6
Vehicles Entered	195	199	66	71	81	8	620
Vehicles Exited	193	194	66	70	89	8	620
Hourly Exit Rate	772	776	264	280	356	32	2480
Input Volume	801	809	258	279	298	37	2482
% of Volume	96	96	102	100	119	86	100

4: SR-248 & NB Ramps Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	9.8	2.0	2.6	0.8	5.3	0.1	20.6
Delay / Veh (s)	45.1	8.7	34.2	9.7	59.2	9.1	29.3
Vehicles Entered	789	810	279	294	320	39	2531
Vehicles Exited	781	810	279	293	320	39	2522
Hourly Exit Rate	781	810	279	293	320	39	2522
Input Volume	843	851	272	294	314	39	2612
% of Volume	93	95	103	100	102	100	97

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Total Delay (hr)	17.6	18.7	36.7	55.3	128.3
Delay / Veh (s)	54.0	57.6	97.8	167.7	94.5
Vehicles Entered	1191	1165	1411	1184	4952
Vehicles Exited	1165	1171	1291	1187	4818
Hourly Exit Rate	4660	4684	5164	4748	4818
Input Volume	22580	22580	27306	22580	23762
% of Volume	21	21	19	21	20

Intersection: 1: Old Landfill Road & SR-248, Interval #1

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	20	217	195	24	271	239	52	97	115	168
Average Queue (ft)	6	145	125	4	177	153	34	54	73	108
95th Queue (ft)	24	237	215	21	280	259	51	115	128	179
Link Distance (ft)	685		1143		1041	1041			1037	1037
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		0	0		5	0		0		
Queuing Penalty (veh)		1	0		0	1		0		

Intersection: 1: Old Landfill Road & SR-248, Interval #2

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	20	226	195	28	263	241	60	91	137	175
Average Queue (ft)	5	141	111	8	162	145	36	49	81	110
95th Queue (ft)	24	236	201	29	268	248	61	103	141	174
Link Distance (ft)	685		1143		1041	1041			1037	1037
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		1	0		5	0		1	0	
Queuing Penalty (veh)		2	0		0	2		3	0	

Intersection: 1: Old Landfill Road & SR-248, Interval #3

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	24	228	269	48	403	375	126	140	161	207
Average Queue (ft)	7	152	181	11	267	234	51	78	99	144
95th Queue (ft)	26	235	291	66	433	398	140	163	165	213
Link Distance (ft)	685		1143		1041	1041			1037	1037
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		0	2		14	4		5	0	
Queuing Penalty (veh)		1	7		1	18		27	0	

Intersection: 1: Old Landfill Road & SR-248, Interval #4

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	17	246	376	21	351	339	144	130	143	168
Average Queue (ft)	4	156	215	5	212	182	54	75	91	120
95th Queue (ft)	19	287	636	22	365	356	176	175	152	180
Link Distance (ft)	685		1143		1041	1041			1037	1037
Upstream Blk Time (%)			0							
Queuing Penalty (veh)			0							
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		1	10		10	3		6	0	
Queuing Penalty (veh)		4	25		1	12		30	0	

Intersection: 1: Old Landfill Road & SR-248, All Intervals

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	32	291	424	60	417	407	187	170	176	218
Average Queue (ft)	5	148	158	7	204	178	44	64	86	120
95th Queue (ft)	24	251	395	39	355	331	122	144	149	191
Link Distance (ft)	685		1143		1041	1041			1037	1037
Upstream Blk Time (%)			0							
Queuing Penalty (veh)			0							
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		1	3		8	2		3	0	
Queuing Penalty (veh)		2	8		1	8		15	0	

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	B14
Directions Served	L	L	R	L	T	T	T	T	R	T
Maximum Queue (ft)	152	167	143	142	151	177	115	128	61	170
Average Queue (ft)	112	116	77	86	87	102	68	76	39	24
95th Queue (ft)	170	186	140	179	157	179	119	134	64	213
Link Distance (ft)		847	847		1022	1022	724	724		514
Upstream Blk Time (%)										0
Queuing Penalty (veh)										0
Storage Bay Dist (ft)	300			390					115	
Storage Blk Time (%)								1		
Queuing Penalty (veh)								3		

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	EB	EB	EB	NB	NB	NB	SB	SB	SB	B14	B14
Directions Served	L	L	R	L	T	T	T	T	R	T	T
Maximum Queue (ft)	174	177	151	158	147	176	111	121	70	58	224
Average Queue (ft)	112	112	78	83	94	105	67	75	42	8	24
95th Queue (ft)	191	198	151	161	173	192	119	130	75	121	212
Link Distance (ft)		847	847		1022	1022	724	724		514	514
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	1
Storage Bay Dist (ft)	300			390					115		
Storage Blk Time (%)	0	0						1	0		
Queuing Penalty (veh)	0	0						3	0		

Intersection: 2: Round Valley Drive & SR-248, Interval #3

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	B14
Directions Served	L	L	R	L	T	T	T	T	T	T	R	T
Maximum Queue (ft)	255	338	168	220	473	481	137	136	142	154	71	229
Average Queue (ft)	148	163	101	118	238	254	20	20	91	102	45	57
95th Queue (ft)	292	329	174	247	600	621	222	215	143	155	72	338
Link Distance (ft)		847	847		1022	1022	1037	1037	724	724		514
Upstream Blk Time (%)					2	2						1
Queuing Penalty (veh)					21	16						2
Storage Bay Dist (ft)	300			390							115	
Storage Blk Time (%)	7	8			5					4	0	
Queuing Penalty (veh)	18	19			10					10	0	

Intersection: 2: Round Valley Drive & SR-248, Interval #4

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	B14
Directions Served	L	L	R	L	T	T	T	T	T	T	R	T
Maximum Queue (ft)	377	691	508	375	752	771	248	244	111	130	61	56
Average Queue (ft)	312	531	276	204	609	623	210	214	80	95	39	8
95th Queue (ft)	484	1015	819	515	1236	1229	868	878	123	138	61	118
Link Distance (ft)		847	847		1022	1022	1037	1037	724	724		514
Upstream Blk Time (%)		25	7		11	12	3	4				
Queuing Penalty (veh)		0	0		95	99	26	31				
Storage Bay Dist (ft)	300			390							115	
Storage Blk Time (%)	55	54			25					2		
Queuing Penalty (veh)	110	109			46					5		

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	EB	EB	EB	NB	NB	NB	B15	B15	SB	SB	SB	B14
Directions Served	L	L	R	L	T	T	T	T	T	T	R	T
Maximum Queue (ft)	377	691	529	405	752	771	248	244	150	162	82	58
Average Queue (ft)	171	231	133	123	257	271	58	58	76	87	41	2
95th Queue (ft)	354	620	443	319	763	773	431	435	129	143	69	59
Link Distance (ft)		847	847		1022	1022	1037	1037	724	724		514
Upstream Blk Time (%)		6	2		3	3	1	1				0
Queuing Penalty (veh)		0	0		29	29	6	8				0
Storage Bay Dist (ft)	300			390							115	
Storage Blk Time (%)	16	16			8					2	0	
Queuing Penalty (veh)	32	32			14					5	0	

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	B14
Directions Served	T
Maximum Queue (ft)	454
Average Queue (ft)	28
95th Queue (ft)	232
Link Distance (ft)	514
Upstream Blk Time (%)	0
Queuing Penalty (veh)	1
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: SR-248 & SB Ramps, Interval #1

Movement	EB	EB	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	L	T	T	LT	R
Maximum Queue (ft)	328	213	61	51	81	84	492	138
Average Queue (ft)	185	123	9	28	49	55	310	33
95th Queue (ft)	392	275	96	56	91	99	599	228
Link Distance (ft)	514	514	724		560	560	830	
Upstream Blk Time (%)	3	0					1	
Queuing Penalty (veh)	17	0					0	
Storage Bay Dist (ft)				200				240
Storage Blk Time (%)							22	
Queuing Penalty (veh)							87	

Intersection: 3: SR-248 & SB Ramps, Interval #2

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	LT	R
Maximum Queue (ft)	372	297	136	133	65	79	89	326	46
Average Queue (ft)	288	149	91	72	31	41	52	217	7
95th Queue (ft)	605	342	412	377	68	84	95	361	97
Link Distance (ft)	514	514	724	724		560	560	830	
Upstream Blk Time (%)	13	0	1	1					
Queuing Penalty (veh)	81	0	11	8					
Storage Bay Dist (ft)					200				240
Storage Blk Time (%)								9	
Queuing Penalty (veh)								37	

Intersection: 3: SR-248 & SB Ramps, Interval #3

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	LT	R
Maximum Queue (ft)	588	507	611	585	76	84	87	671	322
Average Queue (ft)	452	272	299	274	38	59	70	452	98
95th Queue (ft)	752	540	816	798	80	92	96	831	408
Link Distance (ft)	514	514	724	724		560	560	830	
Upstream Blk Time (%)	34	0	4	4				5	
Queuing Penalty (veh)	263	1	43	45				0	
Storage Bay Dist (ft)					200				240
Storage Blk Time (%)								43	
Queuing Penalty (veh)								205	

Intersection: 3: SR-248 & SB Ramps, Interval #4

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	LT	R
Maximum Queue (ft)	592	312	757	776	68	84	87	627	276
Average Queue (ft)	586	154	719	715	36	56	63	495	164
95th Queue (ft)	597	315	830	857	73	91	92	976	525
Link Distance (ft)	514	514	724	724		560	560	830	
Upstream Blk Time (%)	65		22	17				10	
Queuing Penalty (veh)	415		208	164				0	
Storage Bay Dist (ft)					200				240
Storage Blk Time (%)								40	
Queuing Penalty (veh)								160	

Intersection: 3: SR-248 & SB Ramps, All Intervals

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	LT	R
Maximum Queue (ft)	595	511	763	778	90	95	100	765	460
Average Queue (ft)	378	174	280	265	33	51	60	368	75
95th Queue (ft)	727	395	830	820	70	92	98	760	355
Link Distance (ft)	514	514	724	724		560	560	830	
Upstream Blk Time (%)	29	0	7	5				4	
Queuing Penalty (veh)	194	0	66	54				0	
Storage Bay Dist (ft)					200				240
Storage Blk Time (%)								29	
Queuing Penalty (veh)								122	

Intersection: 4: SR-248 & NB Ramps, Interval #1

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	397	492	171	109	110	270
Average Queue (ft)	311	220	92	66	75	181
95th Queue (ft)	460	596	187	112	118	295
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)		3				
Queuing Penalty (veh)		28				
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	26					0
Queuing Penalty (veh)	105					0

Intersection: 4: SR-248 & NB Ramps, Interval #2

Movement	EB	EB	EB	WB	WB	NB
Directions Served	L	T	T	T	T	LT
Maximum Queue (ft)	399	558	288	108	120	249
Average Queue (ft)	349	371	118	69	80	170
95th Queue (ft)	492	782	343	115	124	272
Link Distance (ft)		560	560	1118	1118	874
Upstream Blk Time (%)		10	0			
Queuing Penalty (veh)		77	0			
Storage Bay Dist (ft)	200					
Storage Blk Time (%)	36					1
Queuing Penalty (veh)	145					0

Intersection: 4: SR-248 & NB Ramps, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	400	576	241	118	124	436	51
Average Queue (ft)	369	452	103	77	89	305	0
95th Queue (ft)	489	810	294	121	135	578	0
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)		16	0			1	
Queuing Penalty (veh)		160	2			0	
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	47					17	
Queuing Penalty (veh)	231					8	

Intersection: 4: SR-248 & NB Ramps, Interval #4

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	400	578	126	101	117	390	51
Average Queue (ft)	399	573	84	62	72	270	7
95th Queue (ft)	402	580	130	103	113	519	107
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)		21				0	
Queuing Penalty (veh)		168				0	
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	56					11	
Queuing Penalty (veh)	227					4	

Intersection: 4: SR-248 & NB Ramps, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	LT	R
Maximum Queue (ft)	400	578	393	139	141	449	51
Average Queue (ft)	357	404	99	68	79	232	2
95th Queue (ft)	488	797	257	114	124	453	52
Link Distance (ft)		560	560	1118	1118	874	
Upstream Blk Time (%)		13	0			0	
Queuing Penalty (veh)		108	1			0	
Storage Bay Dist (ft)	200						310
Storage Blk Time (%)	41					8	
Queuing Penalty (veh)	177					3	

Network Summary

Network wide Queuing Penalty, Interval #1: 244
Network wide Queuing Penalty, Interval #2: 372
Network wide Queuing Penalty, Interval #3: 1109
Network wide Queuing Penalty, Interval #4: 1937
Network wide Queuing Penalty, All Intervals: 916

HALES ENGINEERING
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SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Plus Project*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: Old Landfill Road & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	7	6	83	75.5	*E*
	T	1,600	1,578	99	59.8	*E*
	R	381	384	101	46.5	*D*
	Subtotal	1,988	1,968	99	57.3	*E*
SB	L	64	55	86	43.3	*D*
	T	1,217	1,090	90	10.2	*B*
	R	3	4	133	6.4	*A*
	Subtotal	1,284	1,149	89	11.8	*B*
EB	L	3	2	67	18.8	*B*
	R	6	6	96	7.9	*A*
	Subtotal	9	8	89	10.6	*B*
WB	L	264	264	100	36.6	*D*
	R	341	338	99	27.6	*C*
	Subtotal	605	602	100	31.5	*C*
Total		3,886	3,727	96	39.1	*D*

Intersection: Round Valley Drive & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	183	176	96	86.8	*F*
	T	1,603	1,553	97	36.7	*D*
	R	143	141	99	23.5	*C*
	Subtotal	1,929	1,870	97	40.4	*D*
SB	L	157	73	47	1016.4	*F*
	T	727	589	81	40.0	*D*
	R	224	184	82	8.3	*A*
	Subtotal	1,108	846	76	117.4	*F*
EB	L	416	408	98	77.8	*E*
	T	10	10	98	58.8	*E*
	R	339	347	102	20.1	*C*
	Subtotal	765	765	100	51.4	*D*
WB	L	218	212	97	65.6	*E*
	T	10	9	88	58.5	*E*
	R	205	204	99	99.5	*F*
	Subtotal	433	425	98	81.7	*F*
Total		4,236	3,906	92	67.0	*E*

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SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Plus Project*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: SR-248 & SB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	409	331	81	191.3	*F*
	T	3	3	100	116.7	*F*
	R	510	410	80	177.5	*F*
	Subtotal	922	744	81	183.4	*F*
EB	T	1,436	1,381	96	34.8	*C*
	R	788	766	97	6.1	*A*
	Subtotal	2,224	2,147	97	24.6	*C*
WB	L	48	38	79	51.2	*D*
	T	598	486	81	92.9	*F*
	Subtotal	646	524	81	89.9	*F*
Total		3,793	3,415	90	69.7	*E*

Intersection: SR-248 & NB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	359	286	80	248.4	*F*
	R	39	31	79	125.6	*F*
	Subtotal	398	317	80	236.4	*F*
EB	L	975	894	92	39.0	*D*
	T	871	815	94	9.7	*A*
	Subtotal	1,846	1,709	93	25.0	*C*
WB	T	287	276	96	73.5	*E*
	R	294	298	101	11.3	*B*
	Subtotal	581	574	99	41.2	*D*
Total		2,825	2,600	92	55.4	*E*

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SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Plus Project*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: South Access & SR-248
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1,908	1,876	98	12.7	*B*
	R	37	36	97	10.6	*B*
	Subtotal	1,945	1,912	98	12.7	*B*
SB	T	1,284	1,149	89	2.3	*A*
	Subtotal	1,284	1,149	89	2.3	*A*
WB	R	22	19	86	69.2	*F*
	Subtotal	***22***	***19***	***86***	***69.2***	***F***
Total		3,251	3,080	95	9.1	*A*

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
Total						

1: Old Landfill Road & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.6	0.4	0.0	2.4	0.4	0.1	0.7	0.0	4.7
Delay / Veh (s)	14.9	12.7	32.5	21.1	35.0	22.8	16.2	37.1	9.2	0.9	18.6
Vehicles Entered	1	1	62	75	2	378	92	14	289	0	914
Vehicles Exited	1	1	61	75	2	376	91	13	288	1	909
Hourly Exit Rate	4	4	244	300	8	1504	364	52	1152	4	3636
Input Volume	3	6	251	324	7	1520	362	61	1156	3	3693
% of Volume	133	67	97	93	114	99	101	85	100	133	98

1: Old Landfill Road & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.6	0.5	0.0	2.9	0.5	0.2	0.8	0.0	5.5
Delay / Veh (s)		4.5	35.2	20.0	68.9	28.1	19.3	46.5	9.8	7.7	21.6
Vehicles Entered	0	2	63	82	1	379	90	15	279	1	912
Vehicles Exited	0	2	64	81	1	378	91	15	278	1	911
Hourly Exit Rate	0	8	256	324	4	1512	364	60	1112	4	3644
Input Volume	3	6	251	324	7	1520	362	61	1156	3	3693
% of Volume	0	133	102	100	57	99	101	98	96	133	99

1: Old Landfill Road & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.9	0.9	0.1	8.8	1.8	0.2	1.1	0.0	13.7
Delay / Veh (s)	7.2	8.7	43.1	33.6	95.4	76.0	59.9	44.6	12.8	14.7	48.2
Vehicles Entered	1	2	71	99	2	420	108	14	310	1	1028
Vehicles Exited	1	2	70	101	2	415	106	15	310	1	1023
Hourly Exit Rate	4	8	280	404	8	1660	424	60	1240	4	4092
Input Volume	3	7	303	392	8	1839	438	74	1400	3	4467
% of Volume	133	114	92	103	100	90	97	81	89	133	92

1: Old Landfill Road & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	0.7	0.8	0.0	12.2	2.3	0.1	0.5	0.0	16.6
Delay / Veh (s)		4.0	34.6	34.1	123.1	107.0	85.7	41.5	8.5		67.5
Vehicles Entered	0	2	67	83	1	412	97	12	211	0	885
Vehicles Exited	0	2	69	82	1	409	96	12	214	0	885
Hourly Exit Rate	0	8	276	328	4	1636	384	48	856	0	3540
Input Volume	3	6	251	324	7	1520	362	61	1156	3	3693
% of Volume	0	133	110	101	57	108	106	79	74	0	96

1: Old Landfill Road & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	2.7	2.6	0.1	26.3	5.0	0.7	3.1	0.0	40.5
Delay / Veh (s)	18.8	7.9	36.6	27.6	75.5	59.8	46.5	43.3	10.2	6.4	39.1
Vehicles Entered	2	6	263	339	6	1590	387	55	1090	4	3742
Vehicles Exited	2	6	264	338	6	1578	384	55	1090	4	3727
Hourly Exit Rate	2	6	264	338	6	1578	384	55	1090	4	3727
Input Volume	3	6	264	341	7	1600	381	64	1217	3	3886
% of Volume	67	96	100	99	83	99	101	86	90	133	96

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	1.9	0.0	0.4	0.7	0.0	0.7	0.5	1.9	0.1	3.0	1.0	0.1
Delay / Veh (s)	68.5	70.0	18.2	53.8	50.6	51.0	52.0	18.0	8.3	389.9	21.1	5.4
Vehicles Entered	100	2	84	52	2	49	38	378	33	37	178	54
Vehicles Exited	96	2	84	48	2	51	38	376	34	20	171	53
Hourly Exit Rate	384	8	336	192	8	204	152	1504	136	80	684	212
Input Volume	395	10	322	207	10	195	174	1523	136	149	691	213
% of Volume	97	80	104	93	80	105	87	99	100	54	99	100

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	All
Total Delay (hr)	10.5
Delay / Veh (s)	38.0
Vehicles Entered	1007
Vehicles Exited	975
Hourly Exit Rate	3900
Input Volume	4025
% of Volume	97

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	1.6	0.0	0.4	0.7	0.0	0.6	1.0	2.1	0.1	6.4	2.0	0.1
Delay / Veh (s)	57.8	53.7	20.5	47.8	63.5	45.1	89.5	20.2	9.7	998.9	42.3	9.3
Vehicles Entered	95	3	80	52	2	48	45	377	33	28	166	53
Vehicles Exited	99	3	78	56	2	47	38	374	32	18	169	54
Hourly Exit Rate	396	12	312	224	8	188	152	1496	128	72	676	216
Input Volume	395	10	322	207	10	195	174	1523	136	149	691	213
% of Volume	100	120	97	108	80	96	87	98	94	48	98	101

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	All
Total Delay (hr)	15.1
Delay / Veh (s)	55.7
Vehicles Entered	982
Vehicles Exited	970
Hourly Exit Rate	3880
Input Volume	4025
% of Volume	96

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	2.8	0.0	0.7	1.1	0.0	1.9	2.0	4.7	0.3	7.6	2.1	0.1
Delay / Veh (s)	92.1	62.3	26.2	68.2	47.4	119.7	146.9	41.9	27.7	1430.6	45.6	10.3
Vehicles Entered	118	2	100	61	2	61	47	413	41	18	164	52
Vehicles Exited	103	2	102	55	2	54	52	398	40	19	162	52
Hourly Exit Rate	412	8	408	220	8	216	208	1592	160	76	648	208
Input Volume	478	11	390	251	11	236	210	1844	164	180	836	257
% of Volume	86	73	105	88	73	92	99	86	98	42	78	81

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	All
Total Delay (hr)	23.4
Delay / Veh (s)	79.6
Vehicles Entered	1079
Vehicles Exited	1041
Hourly Exit Rate	4164
Input Volume	4868
% of Volume	86

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	2.6	0.0	0.3	1.3	0.1	2.5	0.6	7.2	0.4	7.6	1.5	0.1
Delay / Veh (s)	90.1	54.0	14.0	93.7	101.8	175.9	47.8	64.0	46.2	1608.8	63.0	8.2
Vehicles Entered	95	3	83	47	2	49	47	408	36	18	84	25
Vehicles Exited	110	3	83	53	2	52	49	405	35	15	87	26
Hourly Exit Rate	440	12	332	212	8	208	196	1620	140	60	348	104
Input Volume	395	10	322	207	10	195	174	1523	136	149	691	213
% of Volume	111	120	103	102	80	107	113	106	103	40	50	49

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	All
Total Delay (hr)	24.3
Delay / Veh (s)	96.2
Vehicles Entered	897
Vehicles Exited	920
Hourly Exit Rate	3680
Input Volume	4025
% of Volume	91

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	8.8	0.2	1.9	3.9	0.1	5.7	4.2	15.9	0.9	24.6	6.6	0.4
Delay / Veh (s)	77.8	58.8	20.1	65.6	58.5	99.5	86.8	36.7	23.5	1016.4	40.0	8.3
Vehicles Entered	408	10	346	212	9	208	176	1575	142	102	591	183
Vehicles Exited	408	10	347	212	9	204	176	1553	141	73	589	184
Hourly Exit Rate	408	10	347	212	9	204	176	1553	141	73	589	184
Input Volume	416	10	339	218	10	205	183	1603	143	157	727	224
% of Volume	98	98	102	97	88	99	96	97	99	47	81	82

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	All
Total Delay (hr)	73.2
Delay / Veh (s)	67.0
Vehicles Entered	3962
Vehicles Exited	3906
Hourly Exit Rate	3906
Input Volume	4236
% of Volume	92

3: SR-248 & SB Ramps Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	2.2	0.3	0.1	0.5	1.4	0.0	0.5	5.0
Delay / Veh (s)	23.5	6.0	37.8	12.3	59.2	55.1	13.9	20.5
Vehicles Entered	337	191	9	131	92	1	120	881
Vehicles Exited	340	190	10	142	84	1	118	885
Hourly Exit Rate	1360	760	40	568	336	4	472	3540
Input Volume	1364	749	46	568	389	3	485	3604
% of Volume	100	101	87	100	86	133	97	98

3: SR-248 & SB Ramps Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	2.6	0.3	0.1	0.6	1.4	0.0	0.4	5.5
Delay / Veh (s)	29.3	5.7	43.5	14.4	51.6	80.2	13.3	22.6
Vehicles Entered	329	180	12	148	94	1	120	884
Vehicles Exited	322	180	12	139	102	1	120	876
Hourly Exit Rate	1288	720	48	556	408	4	480	3504
Input Volume	1364	749	46	568	389	3	485	3604
% of Volume	94	96	104	98	105	133	99	97

3: SR-248 & SB Ramps Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	4.1	0.3	0.1	2.2	3.3	0.0	3.5	13.6
Delay / Veh (s)	42.1	6.4	43.3	56.5	125.9	76.8	102.4	53.4
Vehicles Entered	353	196	10	149	100	1	130	939
Vehicles Exited	350	196	11	135	91	1	115	899
Hourly Exit Rate	1400	784	44	540	364	4	460	3596
Input Volume	1652	906	55	688	470	3	586	4360
% of Volume	85	87	80	78	77	133	78	82

3: SR-248 & SB Ramps Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	4.4	0.4	0.2	9.8	11.5	0.0	16.4	42.7
Delay / Veh (s)	43.3	6.4	94.7	428.2	797.7		985.5	199.6
Vehicles Entered	372	198	7	95	50	0	64	786
Vehicles Exited	369	200	6	70	54	0	56	755
Hourly Exit Rate	1476	800	24	280	216	0	224	3020
Input Volume	1364	749	46	568	389	3	485	3604
% of Volume	108	107	52	49	56	0	46	84

3: SR-248 & SB Ramps Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	13.4	1.3	0.5	13.0	17.7	0.1	20.8	66.9
Delay / Veh (s)	34.8	6.1	51.2	92.9	191.3	116.7	177.5	69.7
Vehicles Entered	1391	764	38	523	336	3	434	3489
Vehicles Exited	1381	766	38	486	331	3	410	3415
Hourly Exit Rate	1381	766	38	486	331	3	410	3415
Input Volume	1436	788	48	598	409	3	510	3793
% of Volume	96	97	79	81	81	100	80	90

4: SR-248 & NB Ramps Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.2	0.5	0.9	0.2	1.5	0.0	5.4
Delay / Veh (s)	34.8	9.5	53.6	9.8	65.6	8.3	29.6
Vehicles Entered	224	201	65	70	85	10	655
Vehicles Exited	228	207	59	70	81	9	654
Hourly Exit Rate	912	828	236	280	324	36	2616
Input Volume	926	828	273	279	341	37	2684
% of Volume	98	100	86	100	95	97	97

4: SR-248 & NB Ramps Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.2	0.5	1.0	0.2	2.1	0.0	6.1
Delay / Veh (s)	36.5	9.4	49.8	10.1	86.6	10.9	33.3
Vehicles Entered	221	203	67	70	89	10	660
Vehicles Exited	214	196	71	70	89	10	650
Hourly Exit Rate	856	784	284	280	356	40	2600
Input Volume	926	828	273	279	341	37	2684
% of Volume	92	95	104	100	104	108	97

4: SR-248 & NB Ramps Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.6	0.6	1.4	0.3	4.3	0.1	9.3
Delay / Veh (s)	41.3	9.7	60.5	10.9	171.6	52.3	46.5
Vehicles Entered	228	212	85	88	99	10	722
Vehicles Exited	232	220	78	88	82	9	709
Hourly Exit Rate	928	880	312	352	328	36	2836
Input Volume	1121	1000	330	338	413	45	3247
% of Volume	83	88	95	104	79	80	87

4: SR-248 & NB Ramps Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.7	0.5	2.5	0.3	12.8	0.9	19.7
Delay / Veh (s)	43.2	10.1	129.2	14.4	1241.2	1121.9	118.5
Vehicles Entered	224	199	69	70	41	4	607
Vehicles Exited	219	193	68	71	34	3	588
Hourly Exit Rate	876	772	272	284	136	12	2352
Input Volume	926	828	273	279	341	37	2684
% of Volume	95	93	100	102	40	32	88

4: SR-248 & NB Ramps Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	9.7	2.2	5.7	0.9	20.7	1.1	40.3
Delay / Veh (s)	39.0	9.7	73.5	11.3	248.4	125.6	55.4
Vehicles Entered	897	815	286	298	315	33	2644
Vehicles Exited	894	815	276	298	286	31	2600
Hourly Exit Rate	894	815	276	298	286	31	2600
Input Volume	975	871	287	294	359	39	2825
% of Volume	92	94	96	101	80	79	92

15: South Access & SR-248 Performance by movement Interval #1 5:00

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.7	0.0	0.2	0.9
Delay / Veh (s)	12.3	5.6	5.1	2.2	4.3
Vehicles Entered	4	444	8	303	759
Vehicles Exited	4	445	8	303	760
Hourly Exit Rate	16	1780	32	1212	3040
Input Volume	21	1813	35	1220	3089
% of Volume	76	98	91	99	98

15: South Access & SR-248 Performance by movement Interval #2 5:15

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.7	0.0	0.2	1.0
Delay / Veh (s)	16.2	5.9	5.1	2.5	4.6
Vehicles Entered	4	450	9	303	766
Vehicles Exited	4	450	10	296	760
Hourly Exit Rate	16	1800	40	1184	3040
Input Volume	21	1813	35	1220	3089
% of Volume	76	99	114	97	98

15: South Access & SR-248 Performance by movement Interval #3 5:30

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.1	1.5	0.0	0.2	1.9
Delay / Veh (s)	53.8	11.1	7.4	2.6	8.1
Vehicles Entered	6	508	8	319	841
Vehicles Exited	6	495	8	326	835
Hourly Exit Rate	24	1980	32	1304	3340
Input Volume	25	2192	43	1477	3737
% of Volume	96	90	74	88	89

15: South Access & SR-248 Performance by movement Interval #4 5:45

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.2	3.6	0.1	0.1	4.1
Delay / Veh (s)	175.5	27.1	20.8	1.9	20.3
Vehicles Entered	5	481	11	223	720
Vehicles Exited	5	486	11	224	726
Hourly Exit Rate	20	1944	44	896	2904
Input Volume	21	1813	35	1220	3089
% of Volume	95	107	126	73	94

15: South Access & SR-248 Performance by movement Entire Run

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.4	6.6	0.1	0.7	7.8
Delay / Veh (s)	69.2	12.7	10.6	2.3	9.1
Vehicles Entered	20	1884	36	1148	3088
Vehicles Exited	19	1876	36	1149	3080
Hourly Exit Rate	19	1876	36	1149	3080
Input Volume	22	1908	37	1284	3251
% of Volume	86	98	97	89	95

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Total Delay (hr)	28.8	36.4	71.8	119.7	256.8
Delay / Veh (s)	78.2	98.5	173.5	346.8	171.3
Vehicles Entered	1348	1352	1566	1244	5514
Vehicles Exited	1309	1310	1416	1242	5282
Hourly Exit Rate	5236	5240	5664	4968	5282
Input Volume	25701	25701	31085	25701	27047
% of Volume	20	20	18	19	20

Intersection: 1: Old Landfill Road & SR-248, Interval #1

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	26	184	183	27	283	258	50	75	129	174
Average Queue (ft)	6	118	110	7	175	155	36	40	78	110
95th Queue (ft)	26	198	184	28	282	271	53	73	143	181
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		0	0		6	1			0	
Queuing Penalty (veh)		1	0		0	3			0	

Intersection: 1: Old Landfill Road & SR-248, Interval #2

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	28	182	200	48	356	325	116	82	152	200
Average Queue (ft)	6	119	115	9	206	176	48	48	91	123
95th Queue (ft)	25	201	200	64	355	320	135	97	160	207
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		1	0		9	2			0	
Queuing Penalty (veh)		2	1		1	7			0	

Intersection: 1: Old Landfill Road & SR-248, Interval #3

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	28	238	296	30	481	443	175	80	221	268
Average Queue (ft)	6	148	191	7	333	305	87	45	123	163
95th Queue (ft)	25	274	349	28	607	585	264	88	218	272
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		4	4		22	9			1	
Queuing Penalty (veh)		14	14		2	38			1	

Intersection: 1: Old Landfill Road & SR-248, Interval #4

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	22	224	240	42	704	697	244	70	119	165
Average Queue (ft)	5	134	148	7	520	506	143	38	60	83
95th Queue (ft)	25	243	289	61	1017	1035	373	76	134	178
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)					4	4				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		0	5		32	20			0	
Queuing Penalty (veh)		0	13		2	73			0	

Intersection: 1: Old Landfill Road & SR-248, All Intervals

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	36	261	336	83	704	698	270	106	223	279
Average Queue (ft)	6	130	141	8	309	286	78	43	88	120
95th Queue (ft)	25	233	272	49	682	674	245	85	174	222
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)					1	1				
Queuing Penalty (veh)					0	0				
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		1	3		17	8			0	
Queuing Penalty (veh)		4	7		1	30			0	

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	229	242	24	165	110	119	22	188	182	325	371	178
Average Queue (ft)	155	158	7	101	65	72	6	124	105	217	264	58
95th Queue (ft)	245	265	23	181	117	125	24	209	194	365	438	188
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)	0	1						0		0	19	
Queuing Penalty (veh)	0	0						1		0	26	

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	SB	SB	SB	SB	B14	B14
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	199	588	565	62	115	397
Average Queue (ft)	179	331	315	38	24	73
95th Queue (ft)	248	680	656	66	215	386
Link Distance (ft)		723	723		514	514
Upstream Blk Time (%)		0	0		0	1
Queuing Penalty (veh)		2	0		0	4
Storage Bay Dist (ft)	100			115		
Storage Blk Time (%)	86	9	6			
Queuing Penalty (veh)	297	13	12			

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	202	205	21	192	109	120	23	177	265	351	385	164
Average Queue (ft)	142	145	8	105	76	79	6	109	143	210	242	69
95th Queue (ft)	221	216	28	209	122	133	25	211	306	353	408	206
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)								0	1	0	21	
Queuing Penalty (veh)								1	6	1	29	

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	SB	SB	SB	SB	B14	B14	B14
Directions Served	L	T	T	R	T	T	
Maximum Queue (ft)	199	798	764	127	282	567	50
Average Queue (ft)	199	742	625	48	112	221	7
95th Queue (ft)	202	890	972	120	329	601	105
Link Distance (ft)		723	723		514	514	514
Upstream Blk Time (%)		51	3		0	2	0
Queuing Penalty (veh)		270	18		0	6	0
Storage Bay Dist (ft)	100			115			
Storage Blk Time (%)	98	11	8				
Queuing Penalty (veh)	337	16	16				

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Plus Project - Mitigated*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: Old Landfill Road & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	7	6	83	65.3	*E*
	T	1,600	1,595	100	43.3	*D*
	R	381	391	103	34.9	*C*
	Subtotal	1,988	1,992	100	41.7	*D*
SB	L	64	63	98	216.2	*F*
	T	1,217	1,219	100	9.5	*A*
	R	3	4	133	13.3	*B*
	Subtotal	1,284	1,286	100	19.6	*B*
EB	L	3	2	67	50.5	*D*
	R	6	6	96	16.0	*B*
	Subtotal	9	8	89	24.6	*C*
WB	L	264	267	101	75.4	*E*
	R	341	340	100	52.0	*D*
	Subtotal	605	607	100	62.3	*E*
Total		3,886	3,893	100	37.7	*D*

Intersection: Round Valley Drive & SR-248
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	183	178	97	54.9	*D*
	T	1,603	1,562	97	45.8	*D*
	R	143	143	100	32.0	*C*
	Subtotal	1,929	1,883	98	45.6	*D*
SB	L	157	132	84	205.4	*F*
	T	727	722	99	16.4	*B*
	R	224	222	99	4.8	*A*
	Subtotal	1,108	1,076	97	37.2	*D*
EB	L	416	413	99	74.3	*E*
	T	10	10	98	67.1	*E*
	R	339	347	102	25.7	*C*
	Subtotal	765	770	101	52.3	*D*
WB	L	218	220	101	58.9	*E*
	T	10	9	88	64.4	*E*
	R	205	212	103	55.0	*D*
	Subtotal	433	441	102	57.1	*E*
Total		4,236	4,170	98	46.1	*D*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Plus Project - Mitigated*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: SR-248 & SB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	409	397	97	93.4	*F*
	T	3	3	100	103.5	*F*
	R	510	501	98	42.9	*D*
	Subtotal	922	901	98	65.4	*E*
EB	T	1,436	1,410	98	11.6	*B*
	R	788	778	99	6.2	*A*
	Subtotal	2,224	2,188	98	9.7	*A*
WB	L	48	44	91	39.5	*D*
	T	598	593	99	12.1	*B*
	Subtotal	646	637	99	14.0	*B*
Total		3,793	3,726	98	23.8	*C*

Intersection: SR-248 & NB Ramps
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	359	362	101	69.3	*E*
	R	39	37	95	7.6	*A*
	Subtotal	398	399	100	63.6	*E*
EB	L	975	950	97	25.7	*C*
	T	871	848	97	6.8	*A*
	Subtotal	1,846	1,798	97	16.8	*B*
WB	T	287	286	100	53.0	*D*
	R	294	299	102	9.8	*A*
	Subtotal	581	585	101	30.9	*C*
Total		2,825	2,782	98	26.4	*C*

HALES ENGINEERING
innovative transportation solutions

SimTraffic LOS Report

Project: Park City MIDA TIS
Analysis Period: *Future (2020) Plus Project - Mitigated*
Time Period: *PM Peak Hour* **Project #:** *UT09-186*

Intersection: South Access & SR-248
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	1,908	1,901	100	8.9	*A*
	R	37	37	100	6.3	*A*
	Subtotal	1,945	1,938	100	8.9	*A*
SB	T	1,284	1,290	100	2.2	*A*
	Subtotal	1,284	1,290	100	2.2	*A*
WB	R	22	19	86	62.2	*F*
	Subtotal	***22***	***19***	***86***	***62.2***	***F***
Total		3,251	3,247	100	6.5	*A*

Intersection:
Type:

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
Total						

1: Old Landfill Road & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	1.3	0.9	0.0	2.1	0.4	0.4	0.7	0.0	5.9
Delay / Veh (s)	42.6	9.6	78.6	42.5	29.5	20.3	15.1	86.1	8.9	16.1	23.0
Vehicles Entered	1	1	62	75	2	378	92	15	292	1	919
Vehicles Exited	1	1	60	74	2	377	91	16	295	1	918
Hourly Exit Rate	4	4	240	296	8	1508	364	64	1180	4	3672
Input Volume	3	6	251	324	7	1520	362	61	1156	3	3693
% of Volume	133	67	96	91	114	99	101	105	102	133	99

1: Old Landfill Road & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	1.2	0.8	0.0	2.8	0.5	0.6	0.7	0.0	6.5
Delay / Veh (s)		5.6	66.3	36.1	48.1	26.4	17.9	136.2	8.4	13.6	25.6
Vehicles Entered	0	2	63	82	1	379	90	17	283	1	918
Vehicles Exited	0	2	67	82	1	379	91	15	282	1	920
Hourly Exit Rate	0	8	268	328	4	1516	364	60	1128	4	3680
Input Volume	3	6	251	324	7	1520	362	61	1156	3	3693
% of Volume	0	133	107	101	57	100	101	98	98	133	100

1: Old Landfill Road & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	1.6	1.9	0.1	7.2	1.6	1.2	0.9	0.0	14.6
Delay / Veh (s)	28.6	25.1	83.5	73.0	94.9	61.4	53.5	262.5	10.1	12.6	49.8
Vehicles Entered	1	2	71	99	2	424	108	19	340	1	1067
Vehicles Exited	1	2	65	94	2	426	107	15	337	1	1050
Hourly Exit Rate	4	8	260	376	8	1704	428	60	1348	4	4200
Input Volume	3	7	303	392	8	1839	438	74	1400	3	4467
% of Volume	133	114	86	96	100	93	98	81	96	133	94

1: Old Landfill Road & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	1.4	1.3	0.0	7.1	1.4	1.7	0.9	0.0	13.8
Delay / Veh (s)		12.5	73.2	52.7	95.4	60.9	48.3	354.8	10.4	11.0	49.3
Vehicles Entered	0	2	67	83	1	425	102	16	305	1	1002
Vehicles Exited	0	2	75	91	1	413	102	17	304	1	1006
Hourly Exit Rate	0	8	300	364	4	1652	408	68	1216	4	4024
Input Volume	3	6	251	324	7	1520	362	61	1156	3	3693
% of Volume	0	133	120	112	57	109	113	111	105	133	109

1: Old Landfill Road & SR-248 Performance by movement Entire Run

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Total Delay (hr)	0.0	0.0	5.6	4.9	0.1	19.3	3.8	3.9	3.2	0.0	40.8
Delay / Veh (s)	50.5	16.0	75.4	52.0	65.3	43.3	34.9	216.2	9.5	13.3	37.7
Vehicles Entered	2	6	263	339	6	1606	392	67	1219	4	3904
Vehicles Exited	2	6	267	340	6	1595	391	63	1219	4	3893
Hourly Exit Rate	2	6	267	340	6	1595	391	63	1219	4	3893
Input Volume	3	6	264	341	7	1600	381	64	1217	3	3886
% of Volume	67	96	101	100	83	100	103	98	100	133	100

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	1.9	0.0	0.5	0.9	0.0	0.7	0.4	2.8	0.1	1.1	0.6	0.0
Delay / Veh (s)	71.4	78.9	20.9	61.5	67.0	50.0	38.0	26.9	14.6	113.7	12.2	3.1
Vehicles Entered	100	2	84	52	2	49	38	376	34	35	168	52
Vehicles Exited	97	2	85	50	2	51	40	370	32	36	169	53
Hourly Exit Rate	388	8	340	200	8	204	160	1480	128	144	676	212
Input Volume	395	10	322	207	10	195	174	1523	136	149	691	213
% of Volume	98	80	106	97	80	105	92	97	94	97	98	100

2: Round Valley Drive & SR-248 Performance by movement Interval #1 5:00

Movement	All
Total Delay (hr)	9.1
Delay / Veh (s)	33.3
Vehicles Entered	992
Vehicles Exited	987
Hourly Exit Rate	3948
Input Volume	4025
% of Volume	98

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	1.6	0.1	0.5	0.8	0.0	0.6	0.6	3.3	0.1	1.1	0.6	0.1
Delay / Veh (s)	59.8	68.1	21.1	54.7	59.6	45.8	48.5	31.5	16.1	120.1	13.2	3.5
Vehicles Entered	95	3	80	52	2	48	44	373	32	33	173	56
Vehicles Exited	101	3	78	56	2	47	41	374	33	31	172	55
Hourly Exit Rate	404	12	312	224	8	188	164	1496	132	124	688	220
Input Volume	395	10	322	207	10	195	174	1523	136	149	691	213
% of Volume	102	120	97	108	80	96	94	98	97	83	100	103

2: Round Valley Drive & SR-248 Performance by movement Interval #2 5:15

Movement	All
Total Delay (hr)	9.3
Delay / Veh (s)	33.9
Vehicles Entered	991
Vehicles Exited	993
Hourly Exit Rate	3972
Input Volume	4025
% of Volume	99

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	2.7	0.0	1.0	1.0	0.0	1.1	0.8	5.9	0.4	1.8	0.8	0.1
Delay / Veh (s)	87.7	61.4	34.8	64.4	82.0	67.0	58.8	50.6	37.1	182.2	14.6	5.4
Vehicles Entered	118	2	100	61	2	61	48	425	42	40	203	61
Vehicles Exited	106	2	98	56	2	55	49	420	41	30	202	62
Hourly Exit Rate	424	8	392	224	8	220	196	1680	164	120	808	248
Input Volume	478	11	390	251	11	236	210	1844	164	180	836	257
% of Volume	89	73	101	89	73	93	93	91	100	67	97	96

2: Round Valley Drive & SR-248 Performance by movement Interval #3 5:30

Movement	All
Total Delay (hr)	15.7
Delay / Veh (s)	49.5
Vehicles Entered	1163
Vehicles Exited	1123
Hourly Exit Rate	4492
Input Volume	4868
% of Volume	92

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	2.2	0.1	0.6	0.8	0.0	0.9	0.9	8.1	0.6	3.9	1.3	0.1
Delay / Veh (s)	76.4	62.2	24.2	54.9	54.0	56.0	70.4	70.9	56.0	393.2	25.4	7.0
Vehicles Entered	95	3	83	51	2	52	49	422	36	36	182	52
Vehicles Exited	110	3	87	58	3	59	47	398	37	35	179	53
Hourly Exit Rate	440	12	348	232	12	236	188	1592	148	140	716	212
Input Volume	395	10	322	207	10	195	174	1523	136	149	691	213
% of Volume	111	120	108	112	120	121	108	105	109	94	104	100

2: Round Valley Drive & SR-248 Performance by movement Interval #4 5:45

Movement	All
Total Delay (hr)	19.4
Delay / Veh (s)	65.6
Vehicles Entered	1063
Vehicles Exited	1069
Hourly Exit Rate	4276
Input Volume	4025
% of Volume	106

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	8.5	0.2	2.5	3.6	0.2	3.2	2.7	20.1	1.3	7.9	3.3	0.3
Delay / Veh (s)	74.3	67.1	25.7	58.9	64.4	55.0	54.9	45.8	32.0	205.4	16.4	4.8
Vehicles Entered	408	10	346	216	9	210	179	1597	143	144	726	221
Vehicles Exited	413	10	347	220	9	212	178	1562	143	132	722	222
Hourly Exit Rate	413	10	347	220	9	212	178	1562	143	132	722	222
Input Volume	416	10	339	218	10	205	183	1603	143	157	727	224
% of Volume	99	98	102	101	88	103	97	97	100	84	99	99

2: Round Valley Drive & SR-248 Performance by movement Entire Run

Movement	All
Total Delay (hr)	53.6
Delay / Veh (s)	46.1
Vehicles Entered	4209
Vehicles Exited	4170
Hourly Exit Rate	4170
Input Volume	4236
% of Volume	98

3: SR-248 & SB Ramps Performance by movement Interval #1 5:00

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.5	0.3	0.1	0.4	1.9	0.0	0.7	4.0
Delay / Veh (s)	5.8	6.1	33.8	10.1	78.5	67.4	21.9	16.3
Vehicles Entered	338	190	9	134	91	1	118	881
Vehicles Exited	342	192	9	134	85	1	118	881
Hourly Exit Rate	1368	768	36	536	340	4	472	3524
Input Volume	1364	749	46	568	389	3	485	3604
% of Volume	100	103	78	94	87	133	97	98

3: SR-248 & SB Ramps Performance by movement Interval #2 5:15

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	0.7	0.3	0.1	0.5	1.8	0.0	0.7	4.1
Delay / Veh (s)	8.1	5.8	31.3	11.3	66.9	121.0	19.7	16.7
Vehicles Entered	330	181	12	150	95	1	121	890
Vehicles Exited	329	180	12	147	102	1	121	892
Hourly Exit Rate	1316	720	48	588	408	4	484	3568
Input Volume	1364	749	46	568	389	3	485	3604
% of Volume	96	96	104	104	105	133	100	99

3: SR-248 & SB Ramps Performance by movement Interval #3 5:30

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	1.2	0.4	0.2	0.6	3.3	0.0	2.3	8.0
Delay / Veh (s)	11.7	6.3	51.3	13.8	119.4	72.4	61.7	29.3
Vehicles Entered	375	203	11	160	105	1	134	989
Vehicles Exited	370	202	11	165	98	1	134	981
Hourly Exit Rate	1480	808	44	660	392	4	536	3924
Input Volume	1652	906	55	688	470	3	586	4360
% of Volume	90	89	80	96	83	133	91	90

3: SR-248 & SB Ramps Performance by movement Interval #4 5:45

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	2.0	0.4	0.1	0.5	3.2	0.0	2.3	8.6
Delay / Veh (s)	19.9	6.4	41.1	12.9	105.5		64.6	31.7
Vehicles Entered	372	201	13	158	103	0	128	975
Vehicles Exited	368	204	12	148	112	0	128	972
Hourly Exit Rate	1472	816	48	592	448	0	512	3888
Input Volume	1364	749	46	568	389	3	485	3604
% of Volume	108	109	104	104	115	0	106	108

3: SR-248 & SB Ramps Performance by movement Entire Run

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Total Delay (hr)	4.6	1.3	0.5	2.0	10.3	0.1	6.0	24.7
Delay / Veh (s)	11.6	6.2	39.5	12.1	93.4	103.5	42.9	23.8
Vehicles Entered	1415	776	45	603	394	3	502	3738
Vehicles Exited	1410	778	44	593	397	3	501	3726
Hourly Exit Rate	1410	778	44	593	397	3	501	3726
Input Volume	1436	788	48	598	409	3	510	3793
% of Volume	98	99	91	99	97	100	98	98

4: SR-248 & NB Ramps Performance by movement Interval #1 5:00

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	1.3	0.4	0.8	0.2	1.5	0.0	4.2
Delay / Veh (s)	20.7	6.8	46.2	9.4	63.7	7.5	22.9
Vehicles Entered	228	200	65	70	85	10	658
Vehicles Exited	234	200	64	70	79	9	656
Hourly Exit Rate	936	800	256	280	316	36	2624
Input Volume	926	828	273	279	341	37	2684
% of Volume	101	97	94	100	93	97	98

4: SR-248 & NB Ramps Performance by movement Interval #2 5:15

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	1.5	0.5	0.8	0.2	1.5	0.0	4.5
Delay / Veh (s)	23.6	8.1	45.4	9.6	57.6	7.3	24.1
Vehicles Entered	226	205	67	70	89	10	667
Vehicles Exited	218	200	67	70	96	10	661
Hourly Exit Rate	872	800	268	280	384	40	2644
Input Volume	926	828	273	279	341	37	2684
% of Volume	94	97	98	100	113	108	99

4: SR-248 & NB Ramps Performance by movement Interval #3 5:30

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	1.9	0.4	1.4	0.3	2.2	0.0	6.2
Delay / Veh (s)	27.2	6.4	63.1	10.6	79.8	7.5	29.6
Vehicles Entered	248	220	85	88	102	10	753
Vehicles Exited	252	224	78	88	94	10	746
Hourly Exit Rate	1008	896	312	352	376	40	2984
Input Volume	1121	1000	330	338	413	45	3247
% of Volume	90	90	95	104	91	89	92

4: SR-248 & NB Ramps Performance by movement Interval #4 5:45

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	2.1	0.4	1.1	0.2	1.8	0.0	5.7
Delay / Veh (s)	30.8	5.8	54.5	9.3	75.1	7.3	28.5
Vehicles Entered	252	229	69	70	84	8	712
Vehicles Exited	247	223	77	71	93	9	720
Hourly Exit Rate	988	892	308	284	372	36	2880
Input Volume	926	828	273	279	341	37	2684
% of Volume	107	108	113	102	109	97	107

4: SR-248 & NB Ramps Performance by movement Entire Run

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Total Delay (hr)	6.8	1.6	4.2	0.8	6.9	0.1	20.4
Delay / Veh (s)	25.7	6.8	53.0	9.8	69.3	7.6	26.4
Vehicles Entered	954	854	286	298	360	38	2790
Vehicles Exited	950	848	286	299	362	37	2782
Hourly Exit Rate	950	848	286	299	362	37	2782
Input Volume	975	871	287	294	359	39	2825
% of Volume	97	97	100	102	101	95	98

15: South Access & SR-248 Performance by movement Interval #1 5:00

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.6	0.0	0.2	0.8
Delay / Veh (s)	20.8	4.9	4.2	2.0	3.8
Vehicles Entered	4	444	8	303	759
Vehicles Exited	4	444	8	308	764
Hourly Exit Rate	16	1776	32	1232	3056
Input Volume	21	1813	35	1220	3089
% of Volume	76	98	91	101	99

15: South Access & SR-248 Performance by movement Interval #2 5:15

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.0	0.7	0.0	0.2	0.9
Delay / Veh (s)	21.2	5.5	4.8	2.1	4.2
Vehicles Entered	4	452	9	306	771
Vehicles Exited	4	445	9	301	759
Hourly Exit Rate	16	1780	36	1204	3036
Input Volume	21	1813	35	1220	3089
% of Volume	76	98	103	99	98

15: South Access & SR-248 Performance by movement Interval #3 5:30

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.1	1.3	0.0	0.2	1.6
Delay / Veh (s)	64.5	9.1	6.6	2.3	6.7
Vehicles Entered	6	512	8	356	882
Vehicles Exited	6	510	8	359	883
Hourly Exit Rate	24	2040	32	1436	3532
Input Volume	25	2192	43	1477	3737
% of Volume	96	93	74	97	95

15: South Access & SR-248 Performance by movement Interval #4 5:45

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.2	2.1	0.0	0.2	2.5
Delay / Veh (s)	138.0	15.3	9.5	2.3	10.9
Vehicles Entered	5	494	11	324	834
Vehicles Exited	5	502	11	322	840
Hourly Exit Rate	20	2008	44	1288	3360
Input Volume	21	1813	35	1220	3089
% of Volume	95	111	126	106	109

15: South Access & SR-248 Performance by movement Entire Run

Movement	WBR	NBT	NBR	SBT	All
Total Delay (hr)	0.3	4.7	0.1	0.8	5.9
Delay / Veh (s)	62.2	8.9	6.3	2.2	6.5
Vehicles Entered	20	1902	37	1289	3248
Vehicles Exited	19	1901	37	1290	3247
Hourly Exit Rate	19	1901	37	1290	3247
Input Volume	22	1908	37	1284	3251
% of Volume	86	100	100	100	100

Total Network Performance By Interval

Interval Start	5:00	5:15	5:30	5:45	All
Total Delay (hr)	25.9	27.2	48.8	53.0	154.9
Delay / Veh (s)	69.2	72.8	113.9	131.2	98.0
Vehicles Entered	1345	1354	1582	1433	5717
Vehicles Exited	1353	1334	1500	1479	5667
Hourly Exit Rate	5412	5336	6000	5916	5667
Input Volume	25701	25701	31085	25701	27047
% of Volume	21	21	19	23	21

Intersection: 1: Old Landfill Road & SR-248, Interval #1

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	23	323	360	25	374	344	77	113	211	252
Average Queue (ft)	7	214	195	6	223	198	35	68	109	140
95th Queue (ft)	26	350	448	25	401	367	101	121	229	271
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		10	3		8	3			2	
Queuing Penalty (veh)		32	9		1	9			1	

Intersection: 1: Old Landfill Road & SR-248, Interval #2

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	24	303	405	21	438	437	233	133	158	196
Average Queue (ft)	5	202	200	5	249	233	52	86	90	120
95th Queue (ft)	23	329	426	22	445	444	173	171	175	209
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		6	3		12	5		3	0	
Queuing Penalty (veh)		20	8		1	18		15	0	

Intersection: 1: Old Landfill Road & SR-248, Interval #3

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	34	341	631	31	446	438	109	192	244	273
Average Queue (ft)	9	250	396	8	310	275	45	140	143	170
95th Queue (ft)	37	380	683	30	492	463	129	273	282	296
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		13	24		13	5		28	2	
Queuing Penalty (veh)		51	74		1	21		199	1	

Intersection: 1: Old Landfill Road & SR-248, Interval #4

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	25	328	457	17	516	547	175	213	227	246
Average Queue (ft)	6	238	270	6	357	339	65	184	134	155
95th Queue (ft)	27	369	548	23	609	636	209	314	278	283
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)						0				
Queuing Penalty (veh)						0				
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		13	11		16	6		50	1	
Queuing Penalty (veh)		42	28		1	23		289	1	

Intersection: 1: Old Landfill Road & SR-248, All Intervals

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	42	349	695	35	573	608	292	226	313	329
Average Queue (ft)	7	226	265	6	285	261	49	119	119	146
95th Queue (ft)	29	361	560	25	506	499	159	249	248	270
Link Distance (ft)	685		1143		1041	1041			1038	1038
Upstream Blk Time (%)						0				
Queuing Penalty (veh)						0				
Storage Bay Dist (ft)		250		170			250	175		
Storage Blk Time (%)		10	11		12	5		20	1	
Queuing Penalty (veh)		36	30		1	18		126	1	

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	248	258	28	180	118	133	24	209	163	409	474	165
Average Queue (ft)	172	181	8	109	73	83	7	135	91	303	348	63
95th Queue (ft)	260	281	27	193	123	136	28	224	169	471	527	195
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)	0	0						0		2	29	0
Queuing Penalty (veh)	0	0						0		4	39	0

Intersection: 2: Round Valley Drive & SR-248, Interval #1

Movement	SB	SB	SB	SB	B14	B14
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	232	140	140	56	116	336
Average Queue (ft)	166	87	90	31	17	56
95th Queue (ft)	297	156	159	68	175	333
Link Distance (ft)		723	723		508	508
Upstream Blk Time (%)					0	0
Queuing Penalty (veh)					0	2
Storage Bay Dist (ft)	250			115		
Storage Blk Time (%)	9		5	0		
Queuing Penalty (veh)	30		10	1		

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	221	231	23	186	118	121	24	185	200	470	487	200
Average Queue (ft)	149	149	10	110	77	81	6	124	106	336	366	66
95th Queue (ft)	244	237	32	206	129	135	25	216	209	494	524	196
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)	0	0						1		4	34	0
Queuing Penalty (veh)	0	0						2		7	47	1

Intersection: 2: Round Valley Drive & SR-248, Interval #2

Movement	SB	SB	SB	SB	B14	B14
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	227	143	158	61	58	173
Average Queue (ft)	168	91	96	34	8	48
95th Queue (ft)	294	161	171	59	121	310
Link Distance (ft)		723	723		508	508
Upstream Blk Time (%)					0	0
Queuing Penalty (veh)					0	1
Storage Bay Dist (ft)	250			115		
Storage Blk Time (%)	7		6			
Queuing Penalty (veh)	25		13			

Intersection: 2: Round Valley Drive & SR-248, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	281	293	111	292	124	135	85	271	393	798	837	169
Average Queue (ft)	212	216	19	184	85	98	24	173	160	563	608	70
95th Queue (ft)	313	316	143	317	137	146	181	292	385	955	1016	197
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)										1	2	
Queuing Penalty (veh)										14	18	
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)	2	1						3		20	38	
Queuing Penalty (veh)	0	0						8		43	63	

Intersection: 2: Round Valley Drive & SR-248, Interval #3

Movement	SB	SB	SB	SB	B14	B14
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	311	360	358	98	287	517
Average Queue (ft)	208	143	137	51	41	161
95th Queue (ft)	352	356	334	108	285	583
Link Distance (ft)		723	723		508	508
Upstream Blk Time (%)		0	0		0	2
Queuing Penalty (veh)		3	0		1	8
Storage Bay Dist (ft)	250			115		
Storage Blk Time (%)	23	0	6	1		
Queuing Penalty (veh)	95	0	16	3		

Intersection: 2: Round Valley Drive & SR-248, Interval #4

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	269	273	30	219	126	138	28	237	363	921	924	185
Average Queue (ft)	178	184	8	135	79	87	9	152	158	751	776	71
95th Queue (ft)	279	284	29	238	134	148	30	275	373	1108	1121	207
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)										4	6	
Queuing Penalty (veh)										35	52	
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)	1	1						3		30	46	0
Queuing Penalty (veh)	0	0						6		53	62	1

Intersection: 2: Round Valley Drive & SR-248, Interval #4

Movement	SB	SB	SB	SB	B14	B14
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	344	477	438	84	57	567
Average Queue (ft)	322	362	330	41	33	187
95th Queue (ft)	396	834	787	82	201	614
Link Distance (ft)		723	723		508	508
Upstream Blk Time (%)		10	1			2
Queuing Penalty (veh)		54	5			5
Storage Bay Dist (ft)	250			115		
Storage Blk Time (%)	70	0	11	0		
Queuing Penalty (veh)	242	1	23	0		

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	R	L	L	T	R	L	T	T	R
Maximum Queue (ft)	310	328	121	302	150	166	93	297	430	962	981	200
Average Queue (ft)	178	182	11	135	79	87	11	146	129	488	524	68
95th Queue (ft)	281	287	76	251	131	143	93	257	305	905	939	199
Link Distance (ft)			847	847			733			1007	1007	
Upstream Blk Time (%)										1	2	
Queuing Penalty (veh)										12	17	
Storage Bay Dist (ft)	300	300			250	250		250	390			100
Storage Blk Time (%)	1	1						2		14	37	0
Queuing Penalty (veh)	0	0						4		27	53	1

Intersection: 2: Round Valley Drive & SR-248, All Intervals

Movement	SB	SB	SB	SB	B14	B14
Directions Served	L	T	T	R	T	T
Maximum Queue (ft)	344	491	462	114	355	577
Average Queue (ft)	216	170	163	39	25	113
95th Queue (ft)	377	493	464	83	203	483
Link Distance (ft)		723	723		508	508
Upstream Blk Time (%)		3	0		0	1
Queuing Penalty (veh)		14	1		0	4
Storage Bay Dist (ft)	250			115		
Storage Blk Time (%)	27	0	7	0		
Queuing Penalty (veh)	98	0	16	1		

Intersection: 3: SR-248 & SB Ramps, Interval #1

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	L	T	T	L	LT
Maximum Queue (ft)	195	121	51	131	151	231	182
Average Queue (ft)	103	64	27	53	66	165	125
95th Queue (ft)	213	133	56	138	161	248	182
Link Distance (ft)	508	508		553	553		830
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			200			240	
Storage Blk Time (%)				0		1	
Queuing Penalty (veh)				0		8	

Intersection: 3: SR-248 & SB Ramps, Interval #2

Movement	EB	EB	WB	WB	WB	SB	SB
Directions Served	T	T	L	T	T	L	LT
Maximum Queue (ft)	230	164	67	168	184	260	187
Average Queue (ft)	132	70	33	60	69	178	126
95th Queue (ft)	290	146	74	185	196	272	200
Link Distance (ft)	508	508		553	553		830
Upstream Blk Time (%)	0						
Queuing Penalty (veh)	0						
Storage Bay Dist (ft)			200			240	
Storage Blk Time (%)				0		3	0
Queuing Penalty (veh)				0		19	0

Intersection: 3: SR-248 & SB Ramps, Interval #3

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	L	LT
Maximum Queue (ft)	310	233	55	38	78	194	212	263	195
Average Queue (ft)	180	126	16	11	40	86	104	190	136
95th Queue (ft)	380	275	146	99	87	195	221	271	210
Link Distance (ft)	508	508	723	723		553	553		830
Upstream Blk Time (%)	1								
Queuing Penalty (veh)	10								
Storage Bay Dist (ft)					200			240	
Storage Blk Time (%)						0		3	0
Queuing Penalty (veh)						0		21	1

Intersection: 3: SR-248 & SB Ramps, Interval #4

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	L	LT
Maximum Queue (ft)	408	330	172	157	80	174	194	262	198
Average Queue (ft)	295	189	66	46	39	83	95	193	132
95th Queue (ft)	582	419	333	291	83	177	203	274	205
Link Distance (ft)	508	508	723	723		553	553		830
Upstream Blk Time (%)	6	0	0	0					
Queuing Penalty (veh)	40	1	1	2					
Storage Bay Dist (ft)					200			240	
Storage Blk Time (%)						0		3	0
Queuing Penalty (veh)						0		18	1

Intersection: 3: SR-248 & SB Ramps, All Intervals

Movement	EB	EB	B14	B14	WB	WB	WB	SB	SB
Directions Served	T	T	T	T	L	T	T	L	LT
Maximum Queue (ft)	444	372	216	194	97	232	257	300	216
Average Queue (ft)	177	112	21	14	35	70	83	182	130
95th Queue (ft)	411	281	176	148	76	177	199	268	200
Link Distance (ft)	508	508	723	723		553	553		830
Upstream Blk Time (%)	2	0	0	0					
Queuing Penalty (veh)	13	0	0	1					
Storage Bay Dist (ft)					200			240	
Storage Blk Time (%)						0		2	0
Queuing Penalty (veh)						0		16	0

Intersection: 4: SR-248 & NB Ramps, Interval #1

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	LT
Maximum Queue (ft)	388	503	240	138	147	187	202
Average Queue (ft)	316	226	108	89	89	136	151
95th Queue (ft)	469	576	247	150	151	200	212
Link Distance (ft)		553	553	1112	1112		874
Upstream Blk Time (%)		1					
Queuing Penalty (veh)		11					
Storage Bay Dist (ft)	200					310	
Storage Blk Time (%)	15						
Queuing Penalty (veh)	62						

Intersection: 4: SR-248 & NB Ramps, Interval #2

Movement	EB	EB	EB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	L	LT	R
Maximum Queue (ft)	392	460	364	146	156	212	220	6
Average Queue (ft)	312	235	135	90	92	144	148	1
95th Queue (ft)	455	592	344	159	159	218	224	12
Link Distance (ft)		553	553	1112	1112		874	
Upstream Blk Time (%)		2	0					
Queuing Penalty (veh)		18	0					
Storage Bay Dist (ft)	200					310		310
Storage Blk Time (%)	19	0						
Queuing Penalty (veh)	77	0						

Intersection: 4: SR-248 & NB Ramps, Interval #3

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	LT
Maximum Queue (ft)	400	568	403	209	200	245	251
Average Queue (ft)	378	408	145	129	130	181	185
95th Queue (ft)	459	765	394	215	204	279	292
Link Distance (ft)		553	553	1112	1112		874
Upstream Blk Time (%)		6	0				
Queuing Penalty (veh)		66	1				
Storage Bay Dist (ft)	200					310	
Storage Blk Time (%)	24	0			0	0	1
Queuing Penalty (veh)	121	0			1	1	2

Intersection: 4: SR-248 & NB Ramps, Interval #4

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	LT
Maximum Queue (ft)	400	569	236	181	172	230	236
Average Queue (ft)	383	479	99	115	110	153	159
95th Queue (ft)	457	766	275	186	181	253	248
Link Distance (ft)		553	553	1112	1112		874
Upstream Blk Time (%)		9					
Queuing Penalty (veh)		80					
Storage Bay Dist (ft)	200					310	
Storage Blk Time (%)	29	0				1	2
Queuing Penalty (veh)	119	1				3	3

Intersection: 4: SR-248 & NB Ramps, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	T	L	LT	R
Maximum Queue (ft)	400	572	484	229	216	261	268	6
Average Queue (ft)	347	337	122	106	105	154	161	0
95th Queue (ft)	478	721	321	183	179	243	249	6
Link Distance (ft)		553	553	1112	1112		874	
Upstream Blk Time (%)		5	0					
Queuing Penalty (veh)		44	0					
Storage Bay Dist (ft)	200					310		310
Storage Blk Time (%)	22	0			0	0	1	
Queuing Penalty (veh)	95	0			0	1	1	

Intersection: 15: South Access & SR-248, Interval #1

Movement	WB
Directions Served	R
Maximum Queue (ft)	27
Average Queue (ft)	12
95th Queue (ft)	33
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: South Access & SR-248, Interval #2

Movement	WB
Directions Served	R
Maximum Queue (ft)	27
Average Queue (ft)	11
95th Queue (ft)	30
Link Distance (ft)	656
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: South Access & SR-248, Interval #3

Movement	WB	NB	NB
Directions Served	R	T	T
Maximum Queue (ft)	55	67	79
Average Queue (ft)	25	28	29
95th Queue (ft)	74	196	187
Link Distance (ft)	656	1038	1038
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			1
Queuing Penalty (veh)			0

Intersection: 15: South Access & SR-248, Interval #4

Movement	WB	NB	NB	NB
Directions Served	R	T	T	R
Maximum Queue (ft)	51	291	281	70
Average Queue (ft)	24	129	132	10
95th Queue (ft)	67	561	546	106
Link Distance (ft)	656	1038	1038	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				250
Storage Blk Time (%)			4	
Queuing Penalty (veh)			1	

Intersection: 15: South Access & SR-248, All Intervals

Movement	WB	NB	NB	NB
Directions Served	R	T	T	R
Maximum Queue (ft)	72	306	297	70
Average Queue (ft)	18	39	40	2
95th Queue (ft)	55	287	279	51
Link Distance (ft)	656	1038	1038	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				250
Storage Blk Time (%)			1	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty, Interval #1: 219
Network wide Queuing Penalty, Interval #2: 273
Network wide Queuing Penalty, Interval #3: 840
Network wide Queuing Penalty, Interval #4: 1193
Network wide Queuing Penalty, All Intervals: 631

HALES ENGINEERING
innovative transportation solutions

APPENDIX C

Site Plan

RALPH FOLLAND EV
VICE PRE
SENIOR DESIG

HK'S ARCHIT
10 EXCHANGE PL
SALT LAKE CITY

801.532
FAX 801 5
CELL 801 5

HALES ENGINEERING
innovative transportation solutions

APPENDIX D

Figures


SR
2
479
4
35
0
5
Old Landfill Roa
ld Landfill Road
2
0
4
5
869
8
SR-248

Park City MIDA TIS
Figure 1b

PM Peak Hour
Existing (2009) Background

Hales Engineering
179 N 1200 E, Ste. 103, Lehi, UT 84043

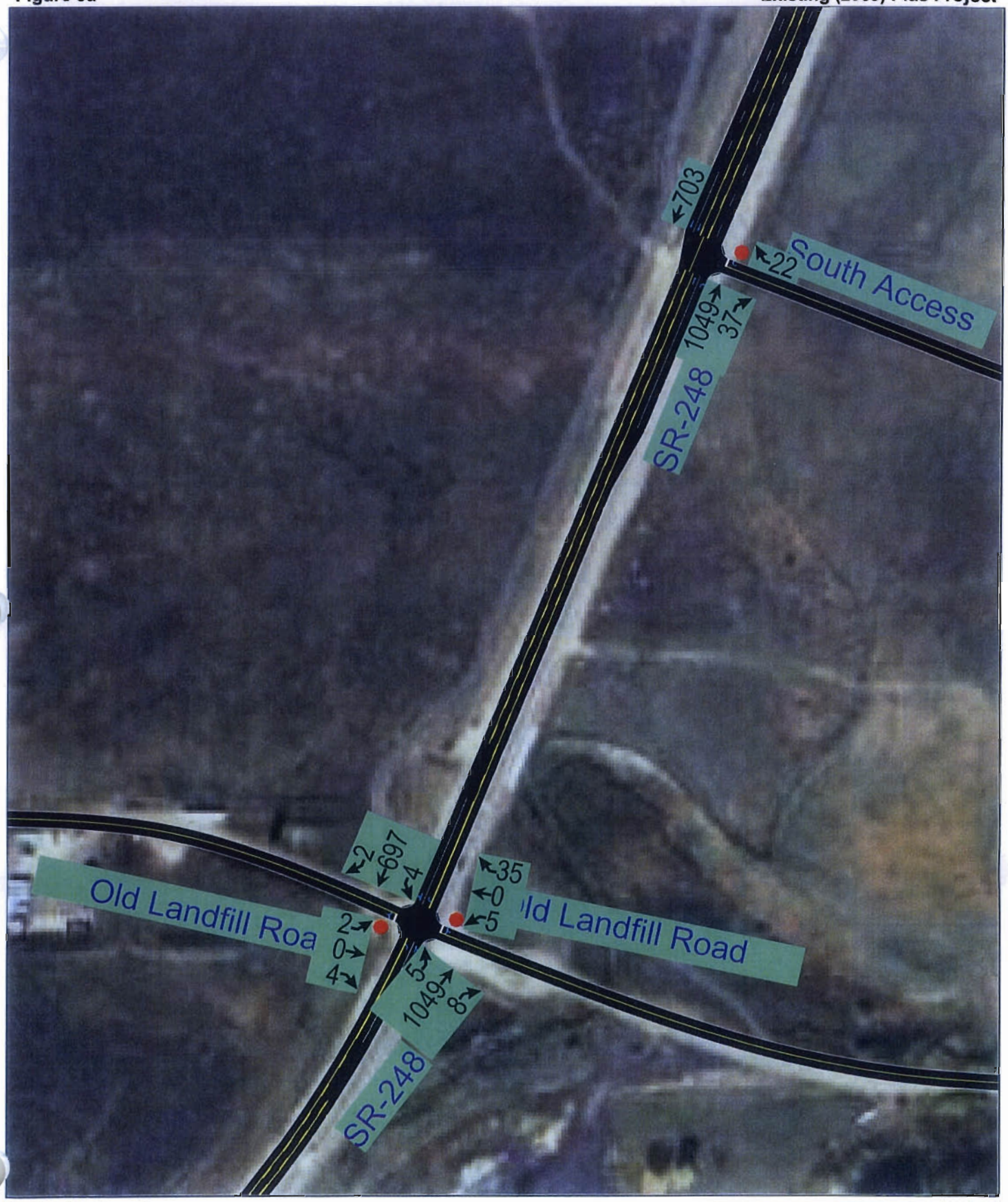
801.766.4343
8/17/2009

PM Peak Hour
Trip Assignment

PM Peak Hour
Trip Assignment

Park City MIDA TIS
Figure 3a

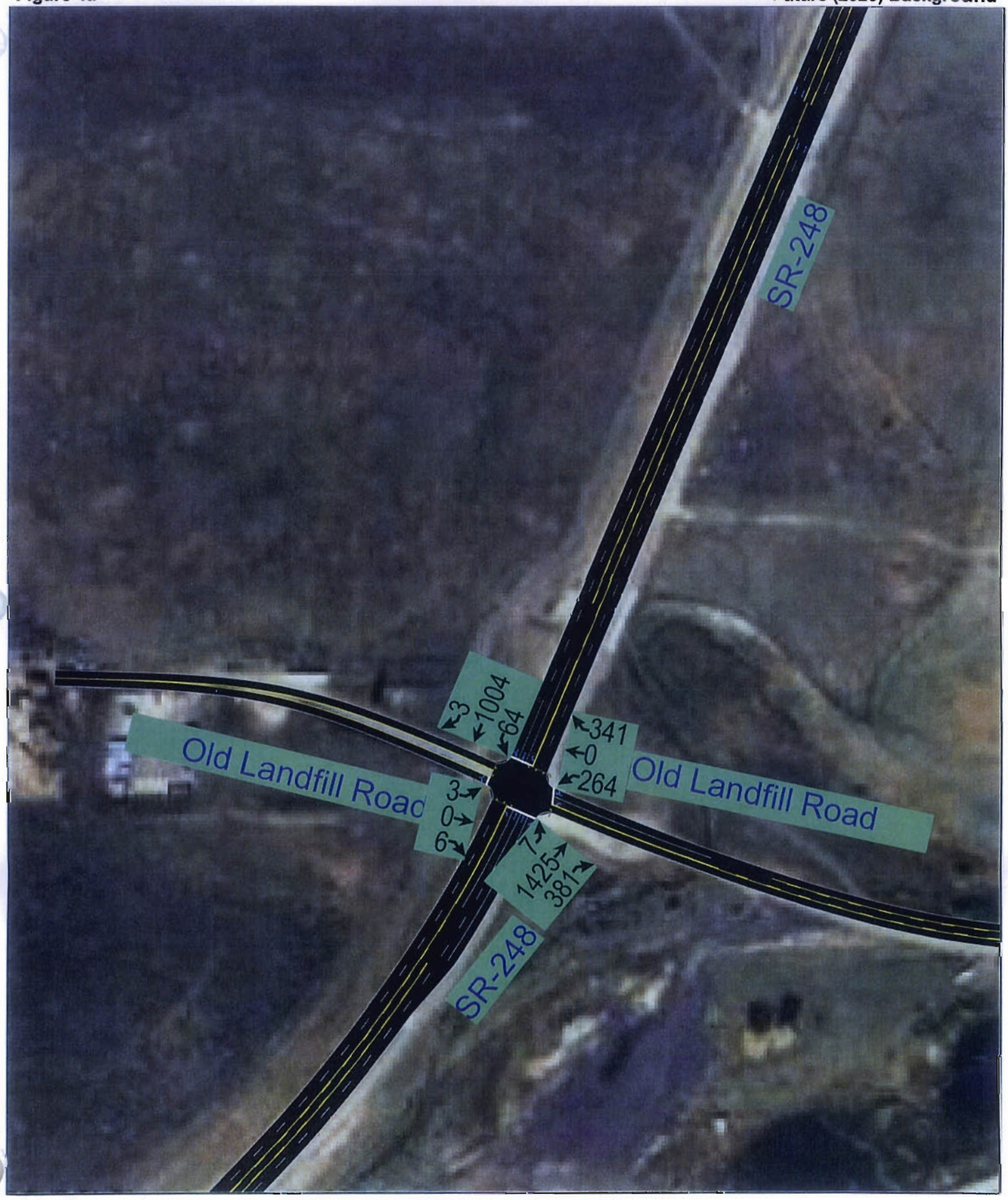
PM Peak Hour
Existing (2009) Plus Project



Hales Engineering
179 N 1200 E, Ste. 103, Lehi, UT 84043

801.766.4343
8/20/2009

PM Peak Hour
Existing (2009) Plus Project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Old Landfill Road
Old Landfill Road
SR-248
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64
341
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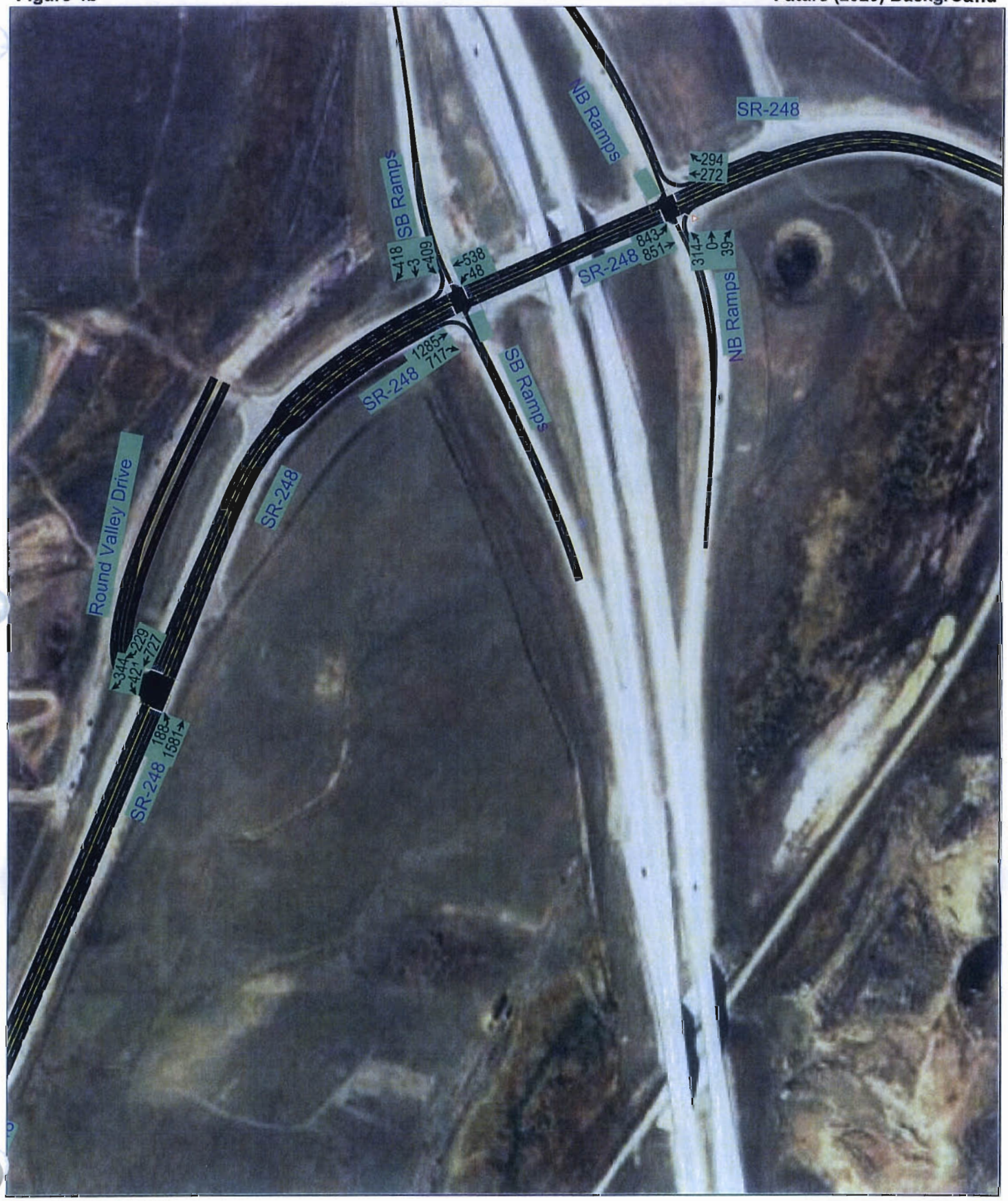
264
3
0
6
7
1425
381


SR-248
NB Ramps
SB Ramps
294
272
418
3
409
538
48
SR-248
843
851
314
0
39
NB Ramps
SB Ramps
1285
717
SR-248
SR-248
Round Valley Drive
344
421
229
727
188
1581
SR-248


1284
22
South Access
1907
37
SR-248
3
1217
64
341
0
264
Old Landfill Road
Old Landfill Road
3
0
6
7
1600
381
R-248


SB Ramps
294
287
510
3
409
598
48
975
870
359
0
39
SR-248
NB Ramps
1436
788
SB Ramps
SR-248
Round Valley Drive
224
727
157
339
10
416
205
10
218
Round Valley Drive (North Access)
183
1603
143
SR-248
1284
22
South Access
1907
37