

MEMORANDUM

Date: September 27, 2010
To: Patrick Moffat - The Boyer Company
From: Ryan Hales, PE, PTOE, AICP - Hales Engineering
Subject: **Park City Heights – Traffic Volume and Trip Generation Update**

UT06-002

This memo summarizes the differences between the original traffic impact study completed for the Park City Heights Traffic Impact Study completed in June 2007 and the proposed updates to the development as of September 2010. The proposed project is located near the intersection of SR-248 and the old haul road. See updated concept plan located in the Appendix.

In order to determine whether or not an update to the traffic impact study would be required this memo compares 2007 traffic volumes with current traffic volumes, and original trip generation with updated trip generation.

Background Traffic Volumes

2006 Traffic Volumes

Traffic counts were collected for the a.m. and p.m. peak period in August 2006.

The p.m. peak hour traffic volume on the southern leg of SR-248 / old haul road was 1,690 vehicles per hour (vph). The p.m. peak hour traffic volume to the north of the intersection was 1,714 vph. The total entering vehicles was 1,734 vph.

Based on historical traffic data from UDOT, the AADT between the US-40 interchange and Wyatt Earp Way was approximately 8,920 vehicles per day (vpd) during 2006.

See appendix for detailed count data.

2009 Traffic Volumes

Hales Engineering obtained the 2009 AADT data which was the most current data available for SR-248 from UDOT.

The AADT between the US-40 interchange and Wyatt Earp Way was approximately 9,230 vpd. The difference between the 2006 and the 2009 volumes is 310 vehicles or an increase of 103 vehicles per year or 1.15%/yr.

Project Related Traffic Volumes

2006 Trip Generation

The land use estimated for the original June 2007 TIS was as follows:

- Condominium: 96 units
- Single Family Detached 207 units

The original TIS used the ITE *Trip Generation*, 7th Edition (2003), as this was the most up-to-date edition at the time.

Total trip generation for the project was estimated to be as follows:

- Daily: 2,650 vpd
- a.m. Peak: 204 vph
- p.m. Peak: 264 vph
- Saturday Daily: 2,862 vpd
- Saturday Peak: 265 vph

The net overall p.m. peak hour trip generation was 264 vph.

See Appendix for detailed Trip Generation calculations.

Updated Trip Generation

The land use estimated for the original TIS was as follows:

- Condominium: 79 units
- Single Family Detached 160 units

Comparing the two land use plans, there is significantly less residential land uses than the previous plan, approximately 64 fewer housing units.

The ITE *Trip Generation*, 8th Edition (2008), as this was the most up-to-date edition at the time.

Total trip generation for the project was estimated to be as follows:

- Daily: 2,126 vpd
- a.m. Peak: 164 vph
- p.m. Peak: 210 vph
- Saturday Daily: 2,369 vpd
- Saturday Peak: 218 vph

The net overall p.m. peak hour trip generation has been updated / reduced to 210 vph. This represents a net decrease of approximately 54 vph.

See Appendix for detailed Trip Generation calculations.

Conclusions/Recommendations

Hales Engineering has concluded the following:

1. Background traffic volumes have remained relatively constant between 2006 and 2009 and have only grown by approximately 1.15%/yr. Overall traffic volumes grew by approximately 310 vph from 2006 to 2009 during the p.m. peak hour.
2. The updated land use contains significantly less residential units (64 less housing units), which equates to 54 less vehicles per hour than the 2006 trip generation.

Hales Engineering recommends the following:

1. The TIS does not need to be updated based on the combination of low background traffic growth and new lower number of housing units / project related trip generation.

If you have any questions about this memo, please feel free to contact us.

APPENDIX

2009 Traffic on Utah Highways

ROUTE NAME	BEG. ACCUM. MILEAGE	END ACCUM. MILEAGE	LOCATION DESCRIPTION	2009 AADT	2008 AADT	2007 AADT
0228	0.000	1.821	I 15 South Leeds - I 15 North Leeds	2,385	2,340	2,404
0232	0.000	0.130	SR 126	26,115	26,270	27,626
0232	0.130	0.272	I 15 North Layton	40,385	40,625	42,720
0232	0.272	1.268	Gordon Avenue Layton	18,700	18,815	19,783
0232	1.268	2.263	Antelope Drive via Hillfield Road	23,435	23,575	24,792
0232	2.263	2.401	SR 193 - Hillfield Air Force Base South Gate	22,835	22,975	24,159
0235	0.000	0.505	SR 89 turns Northwest	24,865	25,015	26,303
0235	0.505	1.088	400 North via Washington Boulevard	25,745	25,900	27,236
0235	1.088	1.233	Larsen Lane	26,215	28,110	29,558
0235	1.233	2.045	1100 North North Ogden	24,065	24,210	27,672
0235	2.045	3.071	1700 North via Washington Boulevard North Ogden	21,300	24,500	25,761
0235	3.071	3.202	2550 North via Washington Boulevard - SR 134	20,600	20,725	21,793
0240	0.000	1.217	I 15 Bear River - SR 38 Honeyville	2,340	2,300	2,359
0241	0.000	0.415	SR 114 - I 15 via 1600 North Orem	16,265	16,365	17,208
0243	0.000	1.397	SR 89 - Beaver Mountain Ski Area	790	775	804
0244	0.000	0.189	SR 6 Helper	2,505	2,460	2,686
0244	0.189	0.910	SR 157 via Poplar Street - SR 6 via Main Street	1,765	1,735	1,781
0248	0.000	1.071	SR 224 Park City	20,545	21,315	22,318
0248	1.071	1.398	Comstock Drive Park City	17,875	18,545	19,419
0248	1.398	3.120	Wyatt Earp Way	14,655	15,210	15,920
0248	3.120	4.640	SR 40 Interchange	9,230	9,575	9,119
0248	4.640	9.326	Browns Canyon Road Route 2586	6,855	5,825	6,100
0248	9.326	12.015	Long View Drive	5,495	5,700	5,968
0248	12.015	14.481	Road Left to Garff Ranches - SR 32 Kamas	5,120	5,310	5,560
0252	0.000	1.591	SR 91 at 1000 West	10,070	10,135	10,655
0252	1.591	2.606	600 South via 1000 West	12,235	12,310	12,942
0252	2.606	4.138	SR 30 (200 North) via 1000 West	14,620	14,705	15,465
0252	4.138	5.516	1400 North via 1000 West	6,905	6,945	7,304
0252	5.516	6.755	1000 West via 2500 North - SR 91 North Logan	9,625	9,680	10,181
0256	0.000	1.817	SR 89 Salina	2,315	2,275	2,334
0256	1.817	2.259	500 South Redmond	745	730	749
0256	2.259	2.374	Main Street Redmond	580	570	583
0256	2.374	5.595	100 North Redmond - SR 89 Axtell	515	505	684
0257	0.000	0.506	SR 21 Center Street Milford	465	455	469
0257	0.506	4.415	600 North Milford	620	610	624
0257	4.415	53.589	Road to Hot Spring	830	815	839
0257	53.589	66.215	Clear Lake	405	400	1,212
0257	66.215	69.246	4500 South Deseret - SR 6 East of Hinckley	1,330	1,310	1,343
0258	0.000	0.469	I 70 Elsinore	1,330	1,305	1,826
0258	0.469	0.792	Center Street Elsinore	2,340	2,300	2,359
0258	0.792	2.022	300 East Elsinore - SR 118 Austin	2,645	2,595	2,666
0259	0.000	0.345	SR 24 - I 70 Sigurd	2,940	2,885	2,963
0260	0.000	1.083	SR 24	2,760	2,710	2,782
0260	1.083	1.388	300 South Aurora	2,015	1,980	2,032
0260	1.388	1.763	Center Street Aurora	1,385	1,360	1,398
0260	1.763	4.179	Salina Old Road - SR 50	1,660	1,630	1,675

**Table 2
Park City Heights
Trip Generation**

Land Use ¹	Number of Units	Unit Type	Daily Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Daily Trips
Condominium (230)	96	Dwelling Unit	620	50%	50%	310	310	620
Single Family Detached (210)	207	Dwelling Unit	2,031	50%	50%	1,015	1,015	2,030
Project Total Daily Trips						1,325	1,325	2,650
Land Use ¹	Number of Units	Unit Type	a.m. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total a.m. Trips
Condominium (230)	96	Dwelling Unit	50	17%	83%	8	41	49
Single Family Detached (210)	207	Dwelling Unit	154	25%	75%	39	116	155
Project Total Daily Trips						47	157	204
Land Use ¹	Number of Units	Unit Type	p.m. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total p.m. Trips
Condominium (230)	96	Dwelling Unit	58	67%	33%	39	19	58
Single Family Detached (210)	207	Dwelling Unit	206	63%	37%	130	76	206
Project Total Daily Trips						169	95	264
Land Use ¹	Number of Units	Unit Type	Sat. Daily Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Sat. Daily Trips
Condominium (230)	96	Dwelling Unit	775	50%	50%	388	388	776
Single Family Detached (210)	207	Dwelling Unit	2,085	50%	50%	1,043	1,043	2,086
Project Total Daily Trips						1,431	1,431	2,862
Land Use ¹	Number of Units	Unit Type	Sat. Peak Hour Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Total Sat. Peak Hour Trips
Condominium (230)	96	Dwelling Unit	70	54%	46%	38	32	70
Single Family Detached (210)	207	Dwelling Unit	195	54%	46%	105	90	195
Project Total Daily Trips						143	122	265

1. Land Use Code from the Institute of Transportation Engineers - 7th Edition Trip Generation Manual (ITE Manual)

**Table 1
Park City Heights
Trip Generation**

Daily		Number of Units	Land Use ¹	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Mixed-Use Internal Capture	Transit Reduction	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	Total Daily Trips
1	Single-Family Detached Housing (210)	160	Dwelling Units	1,602	50%	50%	801	801	0%	0%	0%	0%	801	801	1,602
2	Residential Condominium/Townhouse (230)	79	Dwelling Units	524	50%	50%	262	262	0%	0%	0%	0%	262	262	524
Project Total Daily Trips					1,063		1,063						1,063	1,063	2,126
a.m. Peak Hour		Number of Units	Land Use ¹	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Mixed-Use Internal Capture	Transit Reduction	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	Total a.m. Trips
1	Single-Family Detached Housing (210)	160	Dwelling Units	121	25%	75%	30	91	0%	0%	0%	0%	30	91	121
2	Residential Condominium/Townhouse (230)	79	Dwelling Units	43	17%	83%	7	35	0%	0%	0%	0%	7	35	43
Project Total a.m. Peak Hour Trips					38		127						38	127	164
p.m. Peak Hour		Number of Units	Land Use ¹	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Mixed-Use Internal Capture	Transit Reduction	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	Total p.m. Trips
1	Single-Family Detached Housing (210)	160	Dwelling Units	160	63%	37%	101	59	0%	0%	0%	0%	101	59	160
2	Residential Condominium/Townhouse (230)	79	Dwelling Units	50	67%	33%	33	16	0%	0%	0%	0%	33	16	50
Project Total p.m. Peak Hour Trips					134		76						134	76	210
Saturday Daily		Number of Units	Land Use ¹	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Mixed-Use Internal Capture	Transit Reduction	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	Total Sat. Daily Trips
1	Single-Family Detached Housing (210)	160	Dwelling Units	1,655	50%	50%	827	827	0%	0%	0%	0%	827	827	1,655
2	Residential Condominium/Townhouse (230)	79	Dwelling Units	714	50%	50%	357	357	0%	0%	0%	0%	357	357	714
Project Total Saturday Trips					1,184		1,184						1,184	1,184	2,369
Saturday Peak Hour		Number of Units	Land Use ¹	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Mixed-Use Internal Capture	Transit Reduction	Pass-by Reduction	Net Trips Entering	Net Trips Exiting	Total Sat. Peak Hr Trips
1	Single-Family Detached Housing (210)	160	Dwelling Units	152	54%	46%	82	70	0%	0%	0%	0%	82	70	152
2	Residential Condominium/Townhouse (230)	79	Dwelling Units	66	54%	46%	35	30	0%	0%	0%	0%	35	30	66
Project Total Saturday Peak Hour Trips					117		100						117	100	218

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