

NOTICE AND AGENDA

Notice is hereby given that the City Council of the City of Santaquin will hold a City Council Meeting on Wednesday, July 17, 2013, in the Council Chambers, 45 West 100 South, at 7:00 pm.

1. ROLL CALL
2. PLEDGE OF ALLEGIANCE
3. INVOCATION/INSPIRATIONAL THOUGHT
4. CONSENT AGENDA
 - a. Minutes
 1. July 03, 2013 – Work Session Minutes
 2. July 03, 2013 – Council Meeting Minutes
 3. July 10, 2013 – Work Session Minutes
 - b. Bills
 1. \$1,749,181.47
5. FORUM, BID OPENINGS, AWARDS, AND APPOINTMENTS
Public Forum is held to a 30-minute maximum with each speaker given no more than 5 minutes each. If more than 6 Speakers, time will be adjusted accordingly to meet the 30 minute requirement
6. FORMAL PUBLIC HEARING
7. UNFINISHED BUSINESS
8. BUSINESS LICENSES
9. REPORTS OF OFFICERS, STAFF, BOARDS, AND COMMITTEES
10. NEW BUSINESS
11. INTRODUCTIONS AND ADOPTION OF ORDINANCES AND RESOLUTIONS
 - a. Resolution 06-07-2013, "A Resolution adopting a development agreement with William James & JoAnn J Ferguson"
 - b. Resolution 07-01-2013, "A Resolution Declaring Surplus Property of Santaquin City"
 - c. Ordinance 07-03-2013, "An Ordinance affecting regulations for parking of Mobile Homes, Trailers, and Semi-Trailers on Public Streets"
12. PETITIONS AND COMMUNICATIONS
13. REPORTS BY MAYOR AND COUNCIL MEMBERS
 - a. Mayor DeGraffenried
 - b. Council Members
14. EXECUTIVE SESSION (May be called to discuss the character, professional competence, or physical or mental health of an individual)
15. EXECUTIVE SESSION (May be called to discuss the pending or reasonably imminent litigation, and/or purchase, exchange, or lease of real property)
16. CONVENE OF THE COMMUNITY DEVELOPMENT BOARD
17. ADJOURNMENT TO A REGULAR COUNCIL MEETING
18. ADJOURNMENT

If you are planning to attend this Public Meeting and, due to a disability, need assistance in understanding or participating in the meeting, please notify the City ten or more hours in advance and we will, within reason, provide what assistance may be required.

CERTIFICATE OF MAILING

The undersigned duly appointed City Recorder for the municipality of Santaquin City hereby certifies that a copy of the foregoing Notice and Agenda was e-mailed to the Payson Chronicle, Payson, UT, 84651.

BY: 
Susan B. Farnsworth, City Recorder

POSTED:
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® Amendment to the agenda

**MINUTES OF A COUNCIL MEETING
HELD IN THE COUNCIL CHAMBERS
JULY 17, 2013**

The meeting was called to order by Mayor James E. DeGraffenried at 7:00 pm. Council Members attending: Keith Broadhead, Matthew Carr, James Linford, Kirk Hunsaker, and Rick Steele.

Others present: City Manager Ben Reeves, Director Dennis Howard, and Director Dennis Marker.

PLEDGE OF ALLEGIANCE

Director Marker led the Pledge of Allegiance.

INVOCATION/INSPIRATIONAL THOUGHT

City Manager Reeves Offered an Invocation.

CONSENT AGENDA

Minutes

July 03, 2013 – Work Session Minutes
July 03, 2013 – Council Meeting Minutes
July 10, 2013 – Work Session Minutes

Bills

\$1,749,181.47

Council Member Steele moved to approve the Consent Agenda. Council Member Carr seconded the motion. Council Members Broadhead, Carr, Linford, Hunsaker and Steele voted in the unanimous.

FORUM, BID OPENINGS, AWARDS, AND APPOINTMENTS

Nothing

FORMAL PUBLIC HEARING

Nothing

UNFINISHED BUSINESS

Nothing

BUSINESS LICENSES

See the Work Session Minutes for a list of Business Licenses issued during the month of July.

REPORTS OF OFFICERS, STAFF, BOARDS, AND COMMITTEES

Director Marker reported the Planning Commission reviewed 2 single lot splits during their last meeting. They will be holding a public hearing in August with regard to development design requirements.

Director Marker reported he received an updated with regard to US6/SR168/Highland Drive Alternatives Analysis drafted by J-U-B Engineers (see attachment "A" for the information). The information is in the Council drop box for their review.

NEW BUSINESS

Nothing

INTRODUCTIONS AND ADOPTION OF ORDINANCES AND RESOLUTIONS

Resolution 06-07-2013, "A Resolution adopting a development agreement with William James & JoAnn J Ferguson"

Council Member Linford moved to approve Resolution 06-07-2013, "A Resolution adopting a development agreement with William James & JoAnn J Ferguson". Council Member Hunsaker seconded the motion. Council Members Broadhead, Carr, Linford, Hunsaker and Steele voted in the unanimous through a roll call vote.

Resolution 07-01-2013, "A Resolution Declaring Surplus Property of Santaquin City"

Council Member Steele moved to approve Resolution 07-01-2013, "A Resolution Declaring Surplus Property of Santaquin City". Council Member Linford seconded the motion. Council Members Broadhead, Carr, Linford, Hunsaker and Steele voted in the unanimous through a roll call vote.

Ordinance 07-03-2013, "An Ordinance affecting regulations for parking of Mobile Homes, Trailers, and Semi-Trailers on Public Streets"

Council Member Carr moved to approve Ordinance 07-03-2013, "An Ordinance affecting regulations for parking of Mobile Homes, Trailers, and Semi-Trailers on Public Streets" as written. Council Member Linford seconded the motion. Council Members Broadhead, Carr, Linford, and Hunsaker voted in the unanimous through a roll call vote. Council Member Steele voted against the motion.

PETITIONS AND COMMUNICATIONS

Nothing

REPORTS BY MAYOR AND COUNCIL MEMBERS

Mayor DeGraffenried

Mayor DeGraffenried deferred to Council Member Broadhead.

Council Members

Council Member Broadhead requested the City Manager draft different options as to how to make sure the revenue generated through the tax increase would actually be used for road repairs. There is a worry that future revenue would be used for different needs of the City. Council Members Broadhead and Carr, Mayor DeGraffenried and Director Eva will be working with City Manager Reeves to draft the options and have them available for the public hearing.

EXECUTIVE SESSION (May be called to discuss the character, professional competence, or physical or mental health of an individual)

Nothing

EXECUTIVE SESSION (May be called to discuss the pending or reasonably imminent litigation, and/or purchase, exchange, or lease of real property)

Nothing

CONVENE OF THE COMMUNITY DEVELOPMENT BOARD

Nothing

ADJOURNMENT TO A REGULAR COUNCIL MEETING


Nothing

ADJOURNMENT

At 7:34 pm Council Member Linford moved to approve. Council Member Hunsaker seconded the motion. Council Members Broadhead, Carr, Linford, Hunsaker and Steele voted in the unanimous.

Approved on August 7, 2013.


James E. DeGraffenried, Mayor


Susan B. Farnsworth, City Recorder



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MEMORANDUM

DATE: June 18, 2013

TO: Doug Bassett, Project Manager, UDOT Region 3

CC: Larry Montoya, P.E.; Brent Schvaneveldt, P.E.; Brian Phillips, P.E.; Lori Labrum, P.E.
P.T.O.E.; Craig Friant, P.E.

FROM: Vijay Kornala, P.E, P.T.O.E.

SUBJECT: U.S. 6/S.R. 198/Highland Drive—Alternatives Analysis Summary and Cost Estimates

J-U-B Engineers, Inc. (J-U-B) has been retained by UDOT to perform an alternatives analysis for the U.S. 6/S.R. 198/Highland Drive intersection in Santaquin, Utah. The subject intersection is located approximately 300 feet east from the I 15 northbound (NB) ramps and currently operates as an all-way stop controlled intersection. The purpose of this technical memo is to evaluate the U.S. 6/S.R. 198/Highland Drive intersection operations.

J-U-B prepared the North Santaquin Interchange Study, dated November 14, 2011, which evaluated both short and long term improvements to the I 15 interchange ramps and the U.S. 6/S.R. 198/Highland Drive intersection. The short-term improvements identified a continuous lane on S.R. 198 for the southbound right-turn to the I 15 NB on-ramp. The long term improvement options identified for the intersection included a roundabout and a traffic signal in addition to the short term improvements. UDOT recently conducted a traffic signal warrant study for the U.S. 6/S.R. 198 intersection and determined that a traffic signal is warranted at that location based on 2013 traffic volumes.

J-U-B staff attended a meeting with UDOT staff on May 1, 2013 and reviewed the U.S. 6/S.R. 198/Highland Drive intersection alternatives that were evaluated in the North Santaquin Interchange Study. UDOT staff tasked J-U-B with the evaluation of two alternatives for the U.S. 6/S.R. 198/Highland Drive intersection for the 2013 and future 2030 conditions. The two alternatives are as follows:

1. Alternative 1 - U.S. 6/S.R. 198/Highland Drive intersection with a traffic signal with the current lane configuration.
2. Alternative 2 - U.S. 6/S.R. 198/Highland Drive intersection with a traffic signal plus a dedicated slip ramp from S.R. 198 southbound right-turn to I 15 northbound.

The VISSIM models calibrated for the North Santaquin Study were used for the analyses. This was done to evaluate the U.S. 6/S.R. 198/Highland Drive intersection operations and its interaction with the I 15 interchange ramps. The I 15 SB ramps are under signal control and the I 15 NB ramps operate with a stop condition on the NB off-ramp movement.



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Weekday AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hour intersection turning movement counts were conducted by L2 Data Collection on May 9, 2013 for the following intersections.

- U.S. 6/S.R. 198
- U.S. 6/I-15 NB Ramps
- U.S. 6/I-15 SB Ramps

The AM and PM peak hour corridor traffic volumes for U.S. 6 were developed by balancing the thru volumes from the individual turning movement counts. Heavy vehicle percentages were also obtained from the intersection turning movement counts.

2013 Base Conditions Analysis

The 2013 AM and PM traffic volumes and truck percentages were input into the calibrated VISSIM model to evaluate the two alternatives for the 2013 base conditions. The assumptions for the two alternatives and corresponding illustrations are as follows:

Alternative 1 – 2013 base conditions:

- A traffic signal is installed at U.S. 6/S.R. 198/Highland Drive without any changes to the intersection geometry.
- No improvements were assumed to the I-15 NB ramps.
- Traffic signal timing was optimized for the U.S. 6 corridor.



Alternative 2 – 2013 base conditions:

- A traffic signal is installed at U.S. 6/S.R. 198/Highland Drive with a dedicated slip ramp for the S.R. 198 southbound right-turn to the I 15 NB on-ramp, with an additional lane on the I 15 NB on-ramp.



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- No improvements were assumed for the I-15 NB off-ramp.
- The proportion of the S.R. 198 southbound right turn traffic volume destined for I 15 northbound was estimated to be 43% for AM and 12% for PM and used in the analysis.
- Traffic signal timing was optimized for the U.S. 6 corridor.



Level of Service (LOS) is a qualitative description of the level of congestion ranging from LOS A to LOS F. LOS A represents free-flowing traffic and LOS F represents gridlock. LOS is defined by the average delay per vehicle and is illustrated in the Level of Service Definitions Table.

Level of Service Definitions

Level of Service	Unsignalized Intersection (Delay in Seconds per Vehicle)	Signalized Intersection (Delay in Seconds per Vehicle)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

The minimum acceptable level of service for UDOT Region 3 roadways is LOS "D"

The LOS for the two alternatives for the 2013 base conditions is summarized below and the detailed results are included in Appendix - 1.



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LOS Summary - 2013 Base Conditions

Description		Volume	2013 AM Peak Hour (Signal only)		2013 AM Peak Hour (Signal+SB slip ramp)	
Movement			Delay (sec)	LOS	Delay (sec)	LOS
U.S. 6 /S.R. 198/Highland Drive	NBL	122	30.7	C	31.5	C
	NBT	110	21.7	C	24.1	C
	NBR	25	10.8	B	11.4	B
	SBL	0	0	A	0	A
	SBT	43	22.3	C	23.7	C
	SBR	138	11	B	11.3	B
	EBL	252	11.3	B	9	A
	EBT	66	7.7	A	6.1	A
	EBR	59	3.4	A	2.5	A
	WBL	12	11.5	B	9.9	A
	WBT	72	11.9	B	10.7	B
	WBR	1	10	A	9.9	A
OVERALL		900	14.9	B	14.6	B

Description		Volume	2013 PM Peak Hour (Signal only)		2013 PM Peak Hour (Signal+SB slip ramp)	
Movement			Delay (sec)	LOS	Delay (sec)	LOS
U.S. 6 /S.R. 198/Highland Drive	NBL	101	44.7	D	40.8	D
	NBT	61	19.6	B	20.5	C
	NBR	11	7.3	A	6.2	A
	SBL	1	24.1	C	11.5	B
	SBT	92	27.5	C	25.1	C
	SBR	267	16.6	B	14.9	B
	EBL	227	13.1	B	13.3	B
	EBT	81	11.2	B	10.5	B
	EBR	178	5.5	A	5.2	A
	WBL	15	15.8	B	13.8	B
	WBT	82	14.1	B	14.8	B
	WBR	5	9.7	A	12.3	B
OVERALL		1121	16.6	B	15.7	B

As shown above, the intersection under the two alternatives is expected to operate at LOS "B" in the 2013 AM and PM peak hours. An addition of the S.R. 198 southbound right-turn to I 15 NB slip ramp does not provide a significant benefit to the intersection operations, if a signal is installed at the U.S. 6/S.R. 198/Highland Drive intersection. The overall delay would improve by 0.3 seconds in the AM peak hour and 0.9 seconds in the PM peak hour.

Future 2030 Conditions Analysis With 2013 Baseline Network

The 2013 traffic volumes were forecasted to 2030 conditions using a linear annual growth rate of 2% per year identified in the North Santaquin Interchange Study. The two alternatives for the U.S. 6/S.R. 198/Highland Drive were analyzed for the 2030 conditions. It was assumed that there would be no additional improvements to the I 15 interchange beyond the 2013 base condition



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alternatives. The LOS for the two alternatives for the 2030 conditions with 2013 baseline network is summarized below and the detailed results are included in Appendix – 1.

LOS Summary - 2030 Conditions With 2013 Baseline Network

Description		Volume		2030 AM Peak Hour (Signal only)			2030 AM Peak Hour (Signal+SB slip ramp)	
Movement				Delay (sec)	LOS		Delay (sec)	LOS
U.S. 6 /S.R. 198/Highland Drive	NBL	164		37.4	D		31.2	C
	NBT	147		19.4	B		19.7	B
	NBR	32		11.2	B		11.5	B
	SBL	0		0	A			A
	SBT	58		20.5	C		20.5	C
	SBR	185		12.6	B		12	B
	EBL	337		16.5	B		16	B
	EBT	88		9	A		9.1	A
	EBR	79		4.4	A		4.5	A
	WBL	16		12.5	B		12.1	B
	WBT	96		14	B		13.2	B
	WBR	1		8.6	A		7.4	A
OVERALL		1203		17.5	B		16.7	B

Description		Volume	2030 PM Peak Hour (Signal only)		2030 PM Peak Hour (Signal+SB slip ramp)	
Movement			Delay (sec)	LOS	Delay (sec)	LOS
U.S. 6 /S.R. 198/Highland Drive	NBL	136	44.4	D	41.6	D
	NBT	81	21.6	C	21.7	C
	NBR	15	9.2	A	8.5	A
	SBL	1	21.4	C	20.1	C
	SBT	123	34.8	C	33.1	C
	SBR	358	24.3	C	22.7	C
	EBL	304	18.1	B	17.4	B
	EBT	108	12.6	B	12.3	B
	EBR	238	6.9	A	7	A
	WBL	20	23.7	C	22.3	C
	WBT	111	23.8	C	23.5	C
	WBR	7	12.3	B	13.6	B
OVERALL		1502	21.6	C	20.5	C

As shown above, the intersection under the two alternatives is expected to operate at LOS “B” in the 2030 AM peak hour and LOS “C” in the PM peak hour. An addition of the S.R. 198 southbound right-turn to I 15 NB slip ramp does not provide a significant benefit to the intersection operations in the 2030 conditions, if a signal is installed at the U.S. 6/S.R. 198/Highland Drive intersection. With the dedicated slip ramp, the overall delay would improve by 0.8 seconds in the AM peak hour and 1.1 seconds in the PM peak hour.

Future 2030 Condition With Interchange Improvements

The two alternatives for the U.S. 6/S.R. 198/Highland Drive were also analyzed for the 2030 conditions with assumed improvements to the interchange ramps. The North Santaquin



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Interchange Study identified six long term alternatives for the I 15 interchange. Of the six alternatives, a partial clover leaf ramp for the U.S. 6 eastbound to I 15 northbound movement along with a traffic signal at the I 15 NB ramps provided optimal operational performance. Therefore, the partial clover leaf alternative was selected for the analysis of the 2030 conditions with the interchange improvements. The 2030 conditions with interchange improvements were used for the two alternatives and they are illustrated below.

Alternative 1 – 2030 conditions with Partial Clover at I 15 NB ramps



Alternative 2 – 2030 conditions with Partial Clover at I 15 NB ramps



The LOS for the two alternatives is summarized below and the detailed results are included in Appendix – 1.



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LOS Summary - 2030 Conditions with Partial Clover at I 15 NB Ramps

Description		Volume	2030 AM Peak Hour (Signal only)		2030 AM Peak Hour (Signal+SB slip ramp)	
Movement			Delay (sec)	LOS	Delay (sec)	LOS
U.S. 6 /S.R. 198/Highland Drive	NBL	164	42	D	32.5	C
	NBT	147	20.9	C	20	B
	NBR	32	13.2	B	11.3	B
	SBL	0	0	A	0	A
	SBT	58	21.6	C	21	C
	SBR	185	12.5	B	11.8	B
	EBL	337	15.6	B	15.9	B
	EBT	88	8.7	A	8.6	A
	EBR	79	4.6	A	4.5	A
	WBL	16	11	B	11	B
	WBT	96	13.6	B	13	B
	WBR	1	9.9	A	14.1	B
OVERALL	1203	18.1	B	16.9	B	

Description		Volume	2030 PM Peak Hour (Signal only)		2030 PM Peak Hour (Signal+SB slip ramp)	
Movement			Delay (sec)	LOS	Delay (sec)	LOS
U.S. 6 /S.R. 198/Highland Drive	NBL	136	44	D	42	D
	NBT	81	18.8	B	18.6	B
	NBR	15	7.2	A	7.2	A
	SBL	1	35.5	D	38.8	D
	SBT	123	44.5	D	42.1	D
	SBR	358	31.5	C	29.5	C
	EBL	304	22.3	C	21.5	C
	EBT	108	15.6	B	14.5	B
	EBR	238	9	A	8.4	A
	WBL	20	18.7	B	18.1	B
	WBT	111	19.8	B	19.4	B
	WBR	7	12.3	B	10.8	B
OVERALL	1502	24.9	C	23.6	C	

As shown above, the intersection under the two alternatives is expected to operate at LOS "B" in the 2030 AM peak hour and LOS "C" in the PM peak hour. An addition of the S.R. 198 southbound right-turn to I 15 NB slip ramp does not provide a significant benefit to the intersection operations in the 2030 conditions, if a signal is installed at the U.S. 6/S.R. 198/Highland Drive intersection. With the dedicated slip ramp, the overall delay would improve by 1.2 seconds in the AM peak hour and 1.3 seconds in the PM peak hour.

It is concluded that the slip ramp for the S.R. 198 southbound right-turn to I 15 northbound movement does not provide significant benefits in the 2013 and 2030 conditions if a signal is installed at the U.S. 6/S.R. 198/Highland Drive intersection. Therefore, the dedicated slip ramp is not recommended based on current and future traffic operations.



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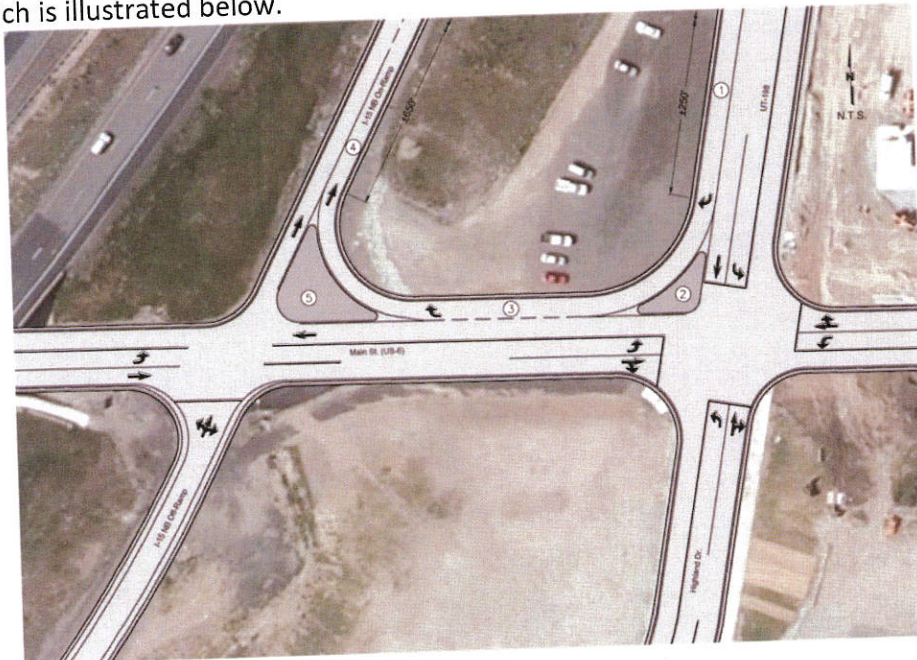


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Cost Estimates

The LOS and delay results were presented to UDOT Region 3 staff on May 29, 2013. Pursuant to the review of the results, UDOT staff asked J-U-B to estimate the conceptual costs for the following options.

- A traffic signal at the U.S. 6/S.R. 198/Highland Drive intersection
- A 112-foot diameter roundabout at the U.S. 6/S.R. 198/Highland Drive intersection
- A right turn slip ramp identified in "Figure 2.4" of the North Santaquin Interchange Study, which is illustrated below.



A summary of the conceptual cost for the three options is as follows and the detailed estimates are included in Appendix -2.

Traffic Signal

Item Description	Cost	Notes
Construction	\$188,000	Includes a 10% contingency for items not included
Contingency	\$17,000	9% of construction cost for Change Orders (CO)
Preconstruction Engineering	\$28,000	15% of construction cost
Construction Engineering	\$28,000	15% of construction cost
TOTAL	\$261,000	

112' Diameter Roundabout

Item Description	Cost	Notes
Construction	\$639,000	Includes a 20% contingency for items not included
Contingency	\$64,000	10% of construction cost (9% for CO, 1% for aesthetics)
Preconstruction Engineering	\$77,000	12% of construction cost
Construction Engineering	\$64,000	10% of construction cost
TOTAL	\$844,000	



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Right Turn Slip Ramp

Item Description	Cost	Notes
Construction	\$544,000	Includes a 10% contingency for items not included
Contingency	\$54,000	10% of construction cost (9% for CO, 1% for aesthetics)
Preconstruction Engineering	\$65,000	12% of construction cost
Construction Engineering	\$54,000	10% of construction cost
TOTAL	\$717,000	

For the roundabout option at the intersection, the North Santaquin Interchange Study assumed a 112' diameter inscribed circle based guidance from the NCHRP Report 672 for accommodating a WB-50 Design Vehicle. In the May 25, 2013 meeting, the diameters of the Bloomington Interchange roundabouts (St. George) were reviewed. The smaller roundabout had a diameter of approximately 150'. Therefore, for comparison purposes, we put together a cost estimate for a roundabout with a diameter of 150' as shown below.

150' Diameter Roundabout

Item Description	Cost	Notes
Construction	\$793,000	Includes a 20% contingency for items not included
Contingency	\$80,000	10% of construction cost (9% for CO, 1% for aesthetics)
Preconstruction Engineering	\$95,000	12% of construction cost
Construction Engineering	\$79,000	10% of construction cost
TOTAL	\$1,047,000	

Conclusions and Recommendations

The U.S. 6/S.R. 198/Highland Drive intersection was evaluated under two alternatives: Alternative 1 with a traffic signal at the intersection; and Alternative 2 with a traffic signal and a slip ramp. The traffic operations of the intersection were evaluated for the 2013 base conditions and the the future 2030 condition with and without improvements to the I 15 interchange. The slip ramp does not provide significant operational benefits if a signal is installed at the U.S. 6/S.R. 198/Highland Drive intersection. The slip ramp is therefore not recommended.

J-U-B also estimated conceptual costs for three options, which are summarized as follows:

- Traffic signal at U.S. 6/S.R. 198/Highland Drive - \$261,000.00
- 112 foot roundabout at U.S. 6/S.R. 198/Highland Drive - \$844,000.00
- Slip ramp from S.R. 198 to I 15 - \$717,000.00



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APPENDIX - 1

2013 Signal @ UT-198 AM.xlsx
 Delay (600-4200)

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		23.5	18.2	0.2	60
		Through		0.3	0.3	0	0.7
		Right		5.3	2.7	0.2	14.1
		Total		14.8	16.4	0	60
	EB	Left		5.2	7.4	0.1	40.6
		Through		3.8	6.7	0	32.5
		Total		3.9	6.7	0	40.6
	SB	Left		24.8	17.7	0.1	61.3
		Through		26.1	17.7	0	58.1
		Right		6.8	3.4	0.1	17.2
		Total		20.4	17.3	0	61.3
	WB	Left		7.5	9.3	0.2	33.6
		Through		3.5	6.7	0	32.5
		Right		1.9	2.4	0	14.9
		Total		3.4	6.5	0	33.6
	Total		A	5.6	10	0	61.3
Main St. I-15 S. Ramp	EB	Through		5.2	7.5	0	58.9
		Total		5.2	7.5	0	58.9
	SEB	Right		2.3	3.7	0.1	23.8
		Total		2.4	3.8	0.1	23.8
	SWB	Left		24.6	18.3	0	64.7
		Through		31.2	17.7	0.2	55.2
		Right		6.5	3.9	0.1	28.9
		Total		12.2	13.8	0	64.7
	WB	Left		16.6	15.7	0.2	62.1
		Through		4.7	7.4	0	30.3
		Total		6.1	9.9	0	62.1
	Total		A	6.6	9.7	0	64.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		20.5	19.6	4.5	166.1
		Total		20.4	19.5	4.5	166.1
	NEB	Right		7.5	8.2	3.3	156
		Total		7.5	7.9	3.3	156
	EB	Left		7.6	7.9	0.2	56.4
		Through		1.9	3.8	0	62.5
		Total		4.5	6.5	0	62.5
	WB	Through		0.8	0.9	0	6
		Right		0.7	0.7	0	6.7
		Total		0.7	0.8	0	6.7
	Total		A	3.8	6.8	0	166.1
Main St. Highland Dr./UT-198	NB	Left		30.7	21.4	0.2	114.6
		Through		21.7	17.5	0	70.4
		Right		10.8	12.9	0.1	56
		Total		24.7	20.2	0	114.6
	EB	Left		11.3	12	0.1	95.7
		Through		7.7	10.8	0	60.8
		Right		3.4	5	0	33.1
		Total		9.3	11.3	0	95.7
	SB	Through		22.3	18.7	0	65.5
		Right		11	10.9	0.2	62.8
		Total		13.1	13.8	0	65.5
	WB	Left		11.5	14.2	0	59.8
		Through		11.9	14	0	52.5
		Right		10	14	0.2	41
		Total		11.9	14	0	59.8
	Total		B	14.9	16.4	0	114.6
NETWORK TOTAL				7.5	11.8	0	166.1

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. 400 E.	NB	Left	10	3.9
		Through	1	0.4
		Right	9	3.7
		Total	19	7.7
	EB	Left	18	7.5
		Through	555	224.1
		Total	572	231.2
	SB	Left	69	28.1
		Through	4	1.6
		Right	22	9.1
		Total	95	38.3
	WB	Left	5	2.4
		Through	244	98.8
		Right	35	14.5
		Total	285	115.2
	Total		971	392.4
Main St. I-15 S. Ramp	EB	Through	616	248.8
		Total	616	248.8
	SEB	Right	17	7.2
		Total	17	7.2
	SWB	Left	53	21.9
		Through	2	1
		Right	127	51.2
		Total	182	73.6
	WB	Left	28	11.7
		Through	158	64
		Total	186	75.3
	Total		1001	404.5

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. I-15 N. Ramp	NB	Left	15	6.2
		Total	15	6.2
	NEB	Right	53	21.4
		Total	53	21.4
	EB	Left	328	132.6
		Through	346	140.1
		Total	674	272.4
	WB	Through	173	69.9
		Right	164	66.2
		Total	337	136.1
	Total		1078	435.8
Main St. Highland Dr./UT-198	NB	Left	125	50.8
		Through	108	43.8
		Right	26	10.5
		Total	259	104.7
	EB	Left	272	110.1
		Through	68	27.7
		Right	60	24.4
		Total	400	161.9
	SB	Through	42	16.9
		Right	138	55.8
		Total	180	72.6
	WB	Left	10	4.5
		Through	73	29.7
		Right	1	0.8
		Total	85	34.3
	Total		924	373.3
NETWORK TOTAL			3974	1605.8

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		29.8	21.8	0.2	67.6
		Through		3.8	5.4	0.1	23.2
		Right		4.7	2.6	0.2	16.4
		Total		10	14.8	0.1	67.6
	EB	Left		10.4	11.2	0.2	60.3
		Through		3.4	6.6	0	37.2
		Right		1.7	2	0.1	7.2
		Total		3.8	7	0	60.3
	SB	Left		28.6	20.8	0.1	71.9
		Through		27	19.8	0	65
		Right		7.5	3.8	0.1	21.9
		Total		20.9	19.5	0	71.9
	WB	Left		5.5	8	0.2	38.2
		Through		3.8	6.9	0	37.8
		Right		1.8	2.2	0	12.3
		Total		3.6	6.7	0	38.2
	Total		A	5.2	9.9	0	71.9
Main St. I-15 S. Ramp	EB	Through		10.8	9.9	0	71.3
		Total		10.6	9.8	0	71.3
	SEB	Right		3.5	6.2	0.1	38
		Total		3.5	6	0.1	38
	SWB	Left		15.9	12.1	0	55.8
		Right		10.5	7.5	0.2	48.7
		Total		12.1	9.4	0	55.8
	WB	Left		18.7	13.5	0.2	66
		Through		8.8	9.3	0	40.1
		Total		10.5	10.8	0	66
	Total		B	11.2	10.1	0	71.3

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		23.4	19.4	4.6	96.4
		Total		22.7	19.7	4.6	96.4
	NEB	Right		8.5	5.3	3.4	35.3
		Total		8.5	5.7	3.4	35.3
	EB	Left		8.9	10	0.2	51.8
		Through		1.5	1.9	0	27.4
		Total		3.4	6.1	0	51.8
	WB	Through		0.6	0.6	0	3.9
		Right		0.5	0.5	0	3.6
		Total		0.6	0.6	0	3.9
	Total		A	3	6.6	0	96.4
Main St. Highland Dr./UT-198	NB	Left		44.7	36.4	0.2	255.5
		Through		19.6	18.9	0	71.2
		Right		7.3	10.3	0.1	52.5
		Total		32.6	32.3	0	255.5
	EB	Left		13.1	12.9	0.1	77
		Through		11.2	13	0	56.6
		Right		5.5	7.3	0	39.3
		Total		10.1	11.7	0	77
	SB	Left		24.1	19.9	0.3	51.2
		Through		27.5	19.4	0	85.3
		Right		16.6	13.7	0	75.7
		Total		18.8	16	0	85.3
	WB	Left		15.8	16.1	0.3	55.9
		Through		14.1	16.5	0	59.1
		Right		9.7	11.8	0.1	44.7
		Total		14	16.1	0	59.1
	Total		B	16.6	19.6	0	255.5
NETWORK TOTAL				9	13.3	0	255.5

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. 400 E.	NB	Left	8	2.9
		Through	6	1.8
		Right	17	7.3
		Total	26	11.6
	EB	Left	27	12.5
		Through	336	173.7
		Right	784	5.9
		Total	431	191.4
	SB	Left	51	23.8
		Through	9	3
		Right	31	14
		Total	91	40.3
	WB	Left	19	7.8
		Through	512	265.6
		Right	827	28.3
		Total	678	301.4
	Total		1225	544.7
Main St. I-15 S. Ramp	EB	Through	370	191.2
		Total	430	191.2
	SEB	Right	1565	13.3
		Total	29	13.3
	SWB	Left	162	83.2
		Right	334	173.3
		Total	576	256.1
	WB	Left	58	28.7
		Through	252	129
		Total	354	157.5
	Total		1390	617.7

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	1561	10.8
		Total	24	10.8
	NEB	Right	45	22
		Total	49	22
	EB	Left	906	69.7
		Through	1167	205.1
		Total	617	274.6
	WB	Through	286	147
		Right	844	36.9
		Total	413	183.6
	Total		1103	490.4
Main St. Highland Dr./UT- 198	NB	Left	82	40.8
		Through	49	25.5
		Right	780	4.3
		Total	158	70.2
	EB	Left	205	106.5
		Through	79	38.3
		Right	1698	82.8
		Total	511	227.3
	SB	Left	6	0.6
		Through	70	35.8
		Right	213	109.5
		Total	327	145.5
	WB	Left	14	6.3
		Through	67	33.3
		Right	4	2
		Total	93	41.2
	Total		1089	484.1
NETWORK TOTAL			4807	2136.8

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		29	20.8	0.1	71.4
		Through		1.9	4.3	0	10.8
		Right		4.3	2.3	0.5	11.5
		Total		17.2	19.7	0	71.4
	EB	Left		5.6	8.7	0.2	38.9
		Through		3.7	6.7	0	38.4
		Total		3.6	6.7	0	38.9
	SB	Left		30.2	20.9	0.1	70.5
		Through		30.1	22.1	0	63.4
		Right		6.8	3.3	0.1	17.1
		Total		24	20.7	0	70.5
	WB	Left		9.2	11.5	0.2	47.7
		Through		4.2	7	0	35.9
		Right		2.2	2.3	0	11.8
		Total		4	6.7	0	47.7
	Total		A	6.1	11.4	0	71.4
Main St. I-15 S. Ramp	EB	Through		4.6	6.3	0	70.6
		Total		4.8	6.5	0	70.6
	SEB	Right		2.1	3.3	0.1	20.3
		Total		2.3	3.9	0.1	20.3
	SWB	Left		29.8	21.4	0	74.2
		Through		34.9	20.8	3	66.5
		Right		6.5	3.8	0.1	25.1
		Total		13.6	16.2	0	74.2
	WB	Left		13.9	15.1	0.2	71.5
		Through		3.2	6.7	0	28.2
		Total		4.7	9.1	0	71.5
	Total		A	6.2	10	0	74.2

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		19.1	16.8	4.5	112
		Total		19.6	18.2	4.5	112
	NEB	Right		6.9	4.6	3.3	46.1
		Total		7	4.6	3.3	46.1
	EB	Left		7.7	7.4	0.2	66.4
		Through		1.8	2.7	0	33.7
		Total		4.5	6.1	0	66.4
	WB	Through		0.6	0.8	0	6.8
		Right		0.6	0.7	0	6.2
		Total		0.6	0.8	0	6.8
	Total		A	3.9	6.2	0	112
Main St. Highland Dr./UT-198	NB	Left		31.5	22.2	0.1	139.5
		Through		24.1	19.5	0	90.1
		Right		11.4	13.3	0.1	67.3
		Total		25.8	21	0	139.5
	EB	Left		9	10.1	0.1	54.8
		Through		6.1	9.8	0	39.2
		Right		2.5	4.1	0	32.8
		Total		7.6	9.6	0	54.8
	SB	Through		23.7	19.8	0	70.2
		Right		11.3	11.6	0.2	70
		Total		14.8	15.8	0	70.2
	WB	Left		9.9	12.7	0	46.9
		Through		10.7	13.6	0	56
		Right		9.9	13.2	0.2	48.6
		Total		11	13.7	0	56
	Total		B	14.6	17.3	0	139.5
NETWORK TOTAL				7.4	12.3	0	139.5

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. 400 E.	NB	Left	9	3.8
		Through	1	0.4
		Right	9	3.7
		Total	19	7.7
	EB	Left	18	7.4
		Through	555	224.2
		Total	572	231.2
	SB	Left	69	27.8
		Through	4	1.6
		Right	22	9.1
		Total	94	38
	WB	Left	5	2.2
		Through	243	98.4
		Right	36	14.8
		Total	284	114.9
	Total		969	391.7
Main St. I-15 S. Ramp	EB	Through	619	250.2
		Total	619	250.2
	SEB	Right	17	7.3
		Total	17	7.3
	SWB	Left	53	21.6
		Through	2	1
		Right	126	51.1
		Total	181	73.2
	WB	Left	27	11.4
		Through	158	64.2
		Total	186	75.2
	Total		1004	405.5

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	15	6.2
		Total	15	6.2
	NEB	Right	53	21.5
		Total	53	21.5
	EB	Left	327	132.2
		Through	347	140.5
		Total	674	272.4
	WB	Through	171	69.3
		Right	105	42.4
		Total	276	111.5
	Total		1018	411.3
Main St. Highland Dr./UT-198	NB	Left	125	50.8
		Through	108	43.8
		Right	26	10.5
		Total	259	104.7
	EB	Left	273	110.5
		Through	69	27.9
		Right	60	24.4
		Total	402	162.5
	SB	Through	42	16.9
		Right	78	31.4
		Total	119	48.3
	WB	Left	10	4.5
		Through	73	29.5
		Right	1	0.8
		Total	85	34.1
	Total		864	349.3
NETWORK TOTAL			3855	1557.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		30.1	21.2	0.3	65.3
		Through		3.8	6.4	0	28.2
		Right		5	2.7	0.5	20.3
		Total		10	14.7	0	65.3
	EB	Left		9.9	10.6	0.2	54.5
		Through		3.3	6.5	0	36.8
		Right		1.7	2	0	8.2
		Total		3.7	6.9	0	54.5
	SB	Left		29	20.9	0.1	71.1
		Through		25.4	19.9	0	65.3
		Right		7.5	3.8	0.1	20.6
		Total		21.1	19.7	0	71.1
	WB	Left		5.6	8.4	0.2	35.4
		Through		3.3	6.6	0	39.2
		Right		1.6	2	0	11.7
		Total		3.3	6.4	0	39.2
	Total		A	4.9	9.8	0	71.1
Main St. I-15 S. Ramp	EB	Through		11.5	9.9	0	54.5
		Total		11.4	9.9	0	54.5
	SEB	Right		3.2	5.2	0.1	28.1
		Total		3.1	5.1	0.1	28.1
	SWB	Left		15.8	12.2	0.1	59.3
		Right		10.3	7.4	0.3	49.4
		Total		12	9.5	0.1	59.3
	WB	Left		17.8	14.3	0.3	82.7
		Through		9.4	9.7	0	40.3
		Total		10.9	11.1	0	82.7
	Total		B	11.4	10.1	0	82.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		27.2	26.6	4.5	144.1
		Total		25.9	25.4	4.5	144.1
	NEB	Right		8.1	5.1	3.4	36.3
		Total		8.2	5.3	3.4	36.3
	EB	Left		10.7	12.5	0.2	89.2
		Through		1.5	1.9	0	19.1
		Total		3.8	7.4	0	89.2
	WB	Through		0.5	0.6	0	4.6
		Right		0.4	0.5	0	4.6
		Total		0.5	0.6	0	4.6
	Total		A	3.3	8.2	0	144.1
Main St. Highland Dr./UT-198	NB	Left		40.8	30.5	0.2	163.3
		Through		20.5	19	0	64.9
		Right		6.2	8	0.1	46.8
		Total		31.1	28.1	0	163.3
	EB	Left		13.3	12.4	0.1	84.6
		Through		10.5	12.3	0	47.6
		Right		5.2	6.6	0.1	37.9
		Total		9.8	11.2	0	84.6
	SB	Left		11.5	12	0.3	30.9
		Through		25.1	18.4	0	90
		Right		14.9	13.1	0.3	65.9
		Total		17.6	15.6	0	90
	WB	Left		13.8	14.5	0.2	54.6
		Through		14.8	17	0	57.2
		Right		12.3	13.6	0.2	47.4
		Total		13.9	16.3	0	57.2
	Total		B	15.7	18.1	0	163.3
NETWORK TOTAL				8.9	12.9	0	163.3

2013 Signal @ UT-198 Imp PM.xlsx
 Volumes (600-4200)

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. 400 E.	NB	Left	7	2.9
		Through	4	1.8
		Right	18	7.3
		Total	29	11.6
	EB	Left	30	12.4
		Through	430	173.6
		Right	14	5.9
		Total	473	191.2
	SB	Left	59	23.9
		Through	7	3
		Right	34	14
		Total	100	40.4
	WB	Left	19	7.8
		Through	660	266.6
		Right	70	28.5
		Total	749	302.5
	Total		1351	545.7
Main St. I-15 S. Ramp	EB	Through	473	191.2
		Total	473	191.2
	SEB	Right	32	13.3
		Total	32	13.3
	SWB	Left	205	83.1
		Right	428	173.2
		Total	633	255.9
	WB	Left	71	28.7
		Through	321	129.6
		Total	391	158.1
	Total		1530	618.2

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	26	10.8
		Total	26	10.8
	NEB	Right	54	21.9
		Total	54	21.9
	EB	Left	173	69.8
		Through	508	205.6
		Total	681	275.2
	WB	Through	366	147.8
		Right	56	22.6
		Total	421	170.3
	Total		1182	477.6
Main St. Highland Dr./UT-198	NB	Left	101	40.9
		Through	63	25.5
		Right	10	4.2
		Total	174	70.2
	EB	Left	263	106.4
		Through	95	38.4
		Right	205	82.8
		Total	562	227.3
	SB	Left	1	0.6
		Through	88	35.8
		Right	238	96.1
		Total	327	132.1
	WB	Left	15	6.3
		Through	83	33.4
		Right	4	2
		Total	102	41.3
	Total		1165	470.7
NETWORK TOTAL			5227	2112

2030 Signal @ UT-198_No Clover AM.xlsx
 Delay (600-4200)

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		22.7	17.3	0.6	59
		Through		2.5	3	0.4	7.6
		Right		5.6	3.9	0.1	20.4
		Total		14.7	15.7	0.1	59
	EB	Left		9.1	9.9	0.2	35
		Through		5.1	7.5	0	39.9
		Total		5.1	7.5	0	39.9
	SB	Left		25.4	17.6	0.1	61.3
		Through		24.9	20	0	56.2
		Right		6.6	3.7	0.1	19.5
		Total		20.7	17.5	0	61.3
	WB	Left		11.5	13.2	0.2	58.4
		Through		4.7	7.8	0	40.1
		Right		2.1	2.3	0	11.5
		Total		4.4	7.6	0	58.4
	Total		A	6.7	10.4	0	61.3
Main St. I-15 S. Ramp	EB	Through		11.6	13.1	0	114.6
		Total		11.9	13.3	0	114.6
	SEB	Right		7.5	12.4	0.1	84.1
		Total		7.6	12.3	0.1	84.1
	SWB	Left		23.9	18.1	0	68.3
		Through		25.9	19.3	0.6	53.1
		Right		6.6	4.4	0.1	27.9
		Total		12	13.4	0	68.3
	WB	Left		23.7	18.1	0.3	94.6
		Through		3.9	7.4	0	35.8
		Total		6.8	12	0	94.6
	Total		B	10.8	13.1	0	114.6

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		54.8	55.3	4.5	255.9
		Total		54.6	55.1	4.5	255.9
	NEB	Right		13.9	21.6	3.4	169.1
		Total		13.8	20.7	3.4	169.1
	EB	Left		12.6	11.6	0.3	76.9
		Through		4	6.1	0	65.3
		Total		8	9.8	0	76.9
	WB	Through		0.9	1	0	7.7
		Right		0.8	0.8	0	5.2
		Total		0.8	0.9	0	7.7
	Total		A	6.8	13.2	0	255.9
Main St. Highland Dr./UT-198	NB	Left		37.4	31.6	0.2	228.9
		Through		19.4	16.1	0	85.6
		Right		11.2	12.4	0.1	56.5
		Total		26.6	25.5	0	228.9
	EB	Left		16.5	14.4	0.1	70.4
		Through		9	11.8	0	48.7
		Right		4.4	6.2	0	32.1
		Total		13.5	13.9	0	70.4
	SB	Through		20.5	16.6	0	65.7
		Right		12.6	10.7	0.1	55.5
		Total		14.1	12.6	0	65.7
	WB	Left		12.5	13.3	0	49.9
		Through		14	14.1	0	51.8
		Right		8.6	8.9	0.2	24.3
		Total		13.9	14.1	0	51.8
	Total		B	17.5	19.2	0	228.9
NETWORK TOTAL				10.3	14.9	0	255.9

2030 Signal @ UT-198_No Clover AM.xlsx
 Volumes (600-4200)

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. 400 E.	NB	Left	12	5.1
		Through	1	0.4
		Right	12	5
		Total	25	10.1
	EB	Left	10	4.2
		Through	757	305.9
		Total	767	310
	SB	Left	94	38
		Through	3	1.5
		Right	30	12.2
		Total	127	51.3
	WB	Left	8	3.4
		Through	318	128.5
		Right	50	20.6
		Total	375	151.8
	Total		1295	523.1
Main St. I-15 S. Ramp	EB	Through	840	339.5
		Total	840	339.5
	SEB	Right	24	9.8
		Total	24	9.8
	SWB	Left	73	29.7
		Through	2	0.9
		Right	168	68.1
		Total	243	98.3
	WB	Left	38	15.7
		Through	207	83.9
		Total	245	99.3
	Total		1353	546.6

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. I-15 N. Ramp	NB	Left	20	8.1
		Total	20	8.1
	NEB	Right	71	28.6
		Total	71	28.6
	EB	Left	441	178.3
		Through	477	192.9
		Total	918	371
	WB	Through	228	92.2
		Right	222	89.7
		Total	450	181.7
	Total		1458	589.1
Main St. Highland Dr./UT-198	NB	Left	169	68.5
		Through	149	60.4
		Right	32	13
		Total	350	141.6
	EB	Left	366	148.1
		Through	95	38.5
		Right	87	35.1
		Total	547	221.4
	SB	Through	56	22.7
		Right	186	75
		Total	242	97.6
	WB	Left	15	6
		Through	96	39
		Right	1	0.5
		Total	112.1	45.3
	Total		1251.3	505.7
NETWORK TOTAL			5356.1	2164.3

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		40.2	27.5	0.2	83.9
		Through		4.1	6.4	0	25.2
		Right		5.1	3.1	0.1	20.8
		Total		12	18.9	0	83.9
	EB	Left		7.2	9.7	0.2	58.3
		Through		3.8	7.5	0	42.4
		Right		1.7	2.2	0	13.2
		Total		4	7.6	0	58.3
	SB	Left		38.6	26.5	0.1	93.1
		Through		32.4	27.3	0	89.6
		Right		8.2	4.5	0.1	28.8
		Total		27.2	25.6	0	93.1
	WB	Left		2.6	3.5	0.2	20.8
		Through		3.6	6.8	0	42
		Right		1.7	2.1	0	13.2
		Total		3.4	6.6	0	42
	Total		A	5.7	12.1	0	93.1
Main St. I-15 S. Ramp	EB	Through		15.8	16.6	0	91.2
		Total		15.7	16.5	0	91.2
	SEB	Right		6.8	9.9	0.2	78.7
		Total		7.2	10.2	0.2	78.7
	SWB	Left		35.5	22.5	0.3	105.3
		Right		29.3	17.7	0.1	93.7
		Total		30.3	19.6	0.1	105.3
	WB	Left		48.3	38.7	0.2	219.8
		Through		12.7	13.2	0	66.2
		Total		18.7	23.8	0	219.8
	Total		C	23.2	21.4	0	219.8

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		87.7	118	4.4	586.3
		Total		82.2	111.5	4.4	586.3
	NEB	Right		47	79.1	3.6	510.2
		Total		41.5	73.4	3.6	510.2
	EB	Left		14.7	17.9	0.3	113.2
		Through		4.6	7.2	0	59.5
		Total		6.8	11.2	0	113.2
	WB	Through		1.1	1.4	0	17.1
		Right		0.5	0.6	0	3.7
		Total		1	1.3	0	17.1
	Total		A	8.4	30.6	0	586.3
Main St. Highland Dr./UT-198	NB	Left		44.4	29.2	0.2	216.6
		Through		21.6	21.6	0	86.3
		Right		9.2	13.5	0.1	64.8
		Total		33.1	28.2	0	216.6
	EB	Left		18.1	16.9	0.1	78.9
		Through		12.6	16.1	0	64.8
		Right		6.9	9.9	0	58.6
		Total		13.1	15.4	0	78.9
	SB	Left		21.4	17.2	5.5	50.7
		Through		34.8	24.2	0	124.2
		Right		24.3	20.4	0.2	122.1
		Total		26.3	21.7	0	124.2
	WB	Left		23.7	24.9	0.2	146.6
		Through		23.8	22.3	0	78.7
		Right		12.3	15.4	0.2	65.4
		Total		22.9	22.3	0	146.6
	Total		C	21.6	22.2	0	216.6
NETWORK TOTAL				15	23.6	0	586.3

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. 400 E.	NB	Left	9	3.7
		Through	7	2.1
		Right	23	10.3
		Total	35	15.7
	EB	Left	25	11.5
		Through	364	188.7
		Right	786	7.3
		Total	466	207.1
	SB	Left	67	31.7
		Through	10	3.3
		Right	40	18.8
		Total	120	53.4
	WB	Left	25	10.9
		Through	684	356.4
		Right	847	38.7
		Total	913	405.8
	Total		1534	681.9
Main St. I-15 S. Ramp	EB	Through	425	220.2
		Total	495	220.2
	SEB	Right	1567	14.2
		Total	31	14.2
	SWB	Left	211	108.7
		Right	445	231.5
		Total	765	340
	WB	Left	76	38.2
		Through	338	174.5
		Total	478	212.4
	Total		1769	786.4

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	1570	15.2
		Total	34	15.2
	NEB	Right	57	28.3
		Total	63	28.3
	EB	Left	925	79.4
		Through	1252	250
		Total	740	329.2
	WB	Through	381	196.8
		Right	869	49.8
		Total	554	246.4
	Total		1391	618.5
Main St. Highland Dr./UT- 198	NB	Left	111	55.7
		Through	63	32.4
		Right	784	6.3
		Total	211	94
	EB	Left	254	132.7
		Through	97	47.6
		Right	1730	99.3
		Total	628	279.3
	SB	Left	5	0.4
		Through	96	49.5
		Right	281	145.2
		Total	438	194.8
	WB	Left	17	7.8
		Through	91	45.8
		Right	6	2.8
		Total	125	55.8
	Total		1403	623.7
NETWORK TOTAL			6098	2710.4

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		22.8	17.3	0.6	58.7
		Through		1.8	2.9	0.3	7.6
		Right		5.7	4.2	0.1	20.4
		Total		14.8	15.8	0.1	58.7
	EB	Left		8.2	9.4	0.2	32.9
		Through		5.2	7.6	0	40.7
		Total		5.2	7.6	0	40.7
	SB	Left		25	17.5	0.2	61.5
		Through		25.1	20	0	56.4
		Right		6.5	3.8	0.1	19.5
		Total		20.5	17.4	0	61.5
	WB	Left		11	13.9	0.3	67.4
		Through		4.7	7.9	0	39.7
		Right		2	2.3	0	10.9
		Total		4.5	7.7	0	67.4
	Total		A	6.7	10.4	0	67.4
Main St. I-15 S. Ramp	EB	Through		11.9	13.8	0	111.5
		Total		12.2	14	0	111.5
	SEB	Right		7.1	11	0.1	78.2
		Total		8.1	13.2	0.1	78.2
	SWB	Left		23.8	17.9	0	65.6
		Through		26.2	19.4	0.6	53.3
		Right		6.7	4.6	0.1	28.2
		Total		12.1	13.3	0	65.6
	WB	Left		25.1	18.7	0.2	126.5
		Through		4.2	7.6	0	32.3
		Total		7.3	12.7	0	126.5
	Total		B	11	13.6	0	126.5

2030 Signal @ UT-198 Imp_No Clover AM.xlsx
 Delay (600-4200)

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		47.3	48.1	4.4	240.4
		Total		47.1	47.9	4.4	240.4
	NEB	Right		12.4	17.3	3.3	152.9
		Total		12.2	16.4	3.3	152.9
	EB	Left		11	10.2	0.2	68.1
		Through		3.7	5.4	0	53.4
		Total		7.1	8.7	0	68.1
	WB	Through		0.7	0.9	0	7.3
		Right		0.6	0.7	0	5.6
		Total		0.7	0.8	0	7.3
	Total		A	6.3	11.6	0	240.4
Main St. Highland Dr./UT-198	NB	Left		31.2	25.2	0.2	187
		Through		19.7	16.2	0	73.9
		Right		11.5	12.5	0.1	56.6
		Total		24	21.2	0	187
	EB	Left		16	14.1	0.1	89.9
		Through		9.1	11.9	0	52.8
		Right		4.5	6.4	0	32.5
		Total		13	13.5	0	89.9
	SB	Through		20.5	17	0	61.4
		Right		12	11.3	0.3	61.3
		Total		14.5	14	0	61.4
	WB	Left		12.1	13.1	0	49
		Through		13.2	14	0	46.8
		Right		7.4	7.3	0.2	24.4
		Total		13.2	14	0	49
	Total		B	16.7	17.4	0	187
NETWORK TOTAL				10	14	0	240.4

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. 400 E.	NB	Left	12	5.1
		Through	1	0.4
		Right	12	5
		Total	25	10.1
	EB	Left	10	4.2
		Through	757	305.8
		Total	767	309.9
	SB	Left	94	38
		Through	3	1.5
		Right	30	12.2
		Total	127	51.3
	WB	Left	8	3.3
		Through	319	129
		Right	46	18.9
		Total	373	150.7
	Total		1292	522
Main St. I-15 S. Ramp	EB	Through	841	339.9
		Total	841	339.9
	SEB	Right	24	9.9
		Total	24	9.9
	SWB	Left	73	29.7
		Through	2	0.9
		Right	168	68.1
		Total	243	98.3
	WB	Left	39	16
		Through	204	82.6
	WB	Total	243	98.3
	Total		1351	546

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	20	8.1
		Total	20	8.1
	NEB	Right	71	28.6
		Total	71	28.6
	EB	Left	443	178.9
		Through	477	193.1
		Total	920	371.8
	WB	Through	226	91.4
		Right	142	57.4
		Total	368	148.6
	Total		1378	556.7
Main St. Highland Dr./UT- 198	NB	Left	169	68.3
		Through	149	60.3
		Right	32	13
		Total	350	141.3
	EB	Left	366	148.1
		Through	95	38.6
		Right	87	35.1
		Total	548	221.5
	SB	Through	56	22.7
		Right	104	42
		Total	160	64.5
	WB	Left	15	6
		Through	96	39
		Right	1	0.5
		Total	112	45.3
	Total		1169	472.5
NETWORK TOTAL			5189	2096.9

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		39.9	27.8	0.2	83.9
		Through		9.9	16.2	0	78.9
		Right		5.4	5.3	0.1	71
		Total		12.9	19.6	0	83.9
	EB	Left		14.8	15.1	0.2	83.9
		Through		3.6	7.1	0	40.3
		Right		1.6	2	0	9.9
		Total		4.3	8.3	0	83.9
	SB	Left		38.8	26.6	0.1	89.4
		Through		33.8	27.8	0	89.6
		Right		8.2	4.5	0.1	27.9
		Total		27.4	25.7	0	89.6
	WB	Left		6.5	9.2	0.2	40.5
		Through		3.4	6.6	0	41.7
		Right		1.6	2	0	13.1
		Total		3.4	6.5	0	41.7
	Total		A	5.7	12.3	0	89.6
Main St. I-15 S. Ramp	EB	Through		16.2	19.4	0	191.8
		Total		15.9	18.9	0	191.8
	SEB	Right		7.1	13.9	0.1	154.5
		Total		7.4	13.7	0.1	154.5
	SWB	Left		36.9	23.7	0.3	226
		Right		30.7	18.3	0.2	96.4
		Total		31.7	20.3	0.2	226
	WB	Left		46.7	37.2	0.3	236.8
		Through		13	13.5	0	110.5
		Total		18.7	23.2	0	236.8
	Total		C	23.9	22.5	0	236.8

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		99	126.1	4.5	671.9
		Total		91.4	120.1	4.5	671.9
	NEB	Right		51.6	93.5	3.6	490.8
		Total		45.4	86.9	3.6	490.8
	EB	Left		17.6	26.1	0.2	262.6
		Through		3.9	6.6	0	181.2
		Total		6.9	14.5	0	262.6
	WB	Through		1.2	3.3	0	65
		Right		0.5	1	0	17.6
		Total		1.1	3	0	65
	Total		A	9.3	35.5	0	671.9
Main St. Highland Dr./UT-198	NB	Left		41.6	27.6	0.2	159.1
		Through		21.7	21.7	0	86.3
		Right		8.5	12.2	0.1	52.2
		Total		31.5	26.8	0	159.1
	EB	Left		17.4	16.3	0.1	79.2
		Through		12.3	15.8	0	60.8
		Right		7	9.9	0.1	59.5
		Total		12.7	14.9	0	79.2
	SB	Left		20.1	16.5	2	46.5
		Through		33.1	23.8	0	107.9
		Right		22.7	19.7	0.3	106.2
		Total		25.1	21.4	0	107.9
	WB	Left		22.3	22.2	0.2	81.4
		Through		23.5	22.8	0	134.6
		Right		13.6	18.2	0.2	64.3
		Total		22.4	22.3	0	134.6
	Total		C	20.5	21.4	0	159.1
NETWORK TOTAL				15.2	25.2	0	671.9

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. 400 E.	NB	Left	9	3.7
		Through	5	2.1
		Right	25	10.3
		Total	39	15.7
	EB	Left	28	11.7
		Through	466	188.4
		Right	18	7.3
		Total	512	206.9
	SB	Left	78	31.7
		Through	8	3.3
		Right	46	18.9
		Total	132	53.4
	WB	Left	27	10.9
		Through	887	358.6
		Right	96	38.8
		Total	1010	408
	Total		1693	684
Main St. I-15 S. Ramp	EB	Through	544	219.8
		Total	544	219.8
	SEB	Right	35	14.3
		Total	35	14.3
	SWB	Left	269	108.7
		Right	573	231.5
		Total	841	339.9
	WB	Left	97	39.4
		Through	438	177.1
		Total	535	216.1
	Total		1954	789.6

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	38	15.5
		Total	38	15.5
	NEB	Right	70	28.5
		Total	70	28.5
	EB	Left	197	79.6
		Through	617	249.6
		Total	814	329
	WB	Through	494	199.8
		Right	72	29.2
		Total	566	228.8
	Total		1488	601.2
Main St. Highland Dr./UT- 198	NB	Left	137	55.4
		Through	80	32.4
		Right	15	6.3
		Total	232	93.8
	EB	Left	328	132.6
		Through	117	47.6
		Right	245	99.1
		Total	690	279
	SB	Left	1	0.4
		Through	122	49.5
		Right	316	127.8
		Total	439	177.3
	WB	Left	19	7.8
		Through	113	45.8
		Right	6	2.8
		Total	138	55.8
	Total		1499	605.7
NETWORK TOTAL			6633	2680.4

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		22.8	17.3	0.6	58.8
		Through		5.5	4.5	0.3	11.1
		Right		5.6	4.1	0.1	20.4
		Total		14.9	15.7	0.1	58.8
	EB	Left		7.8	9.2	0.2	34.2
		Through		5.1	7.6	0	40.7
		Total		5.1	7.6	0	40.7
	SB	Left		25	17.5	0.1	61.5
		Through		25	19.9	0	56.2
		Right		6.8	4.1	0.1	24.7
		Total		20.5	17.3	0	61.5
	WB	Left		12	15.2	0.2	71.4
		Through		4.6	7.9	0	41.4
		Right		1.9	2.3	0	12.5
		Total		4.3	7.7	0	71.4
	Total		A	6.6	10.4	0	71.4
Main St. I-15 S. Ramp	EB	Through		4.5	8.1	0	35.5
		Total		4.4	8	0	35.5
	SEB	Right		1.3	2.8	0.1	23.9
		Total		1.4	2.8	0.1	23.9
	SWB	Left		22.7	18	0.1	65.7
		Through		25.4	19.7	0.6	53.6
		Right		5.7	3.5	0.1	24.2
		Total		11	13.2	0.1	65.7
	WB	Left		4	7.2	0.3	30.5
		Through		4.5	8.3	0	34
		Total		4.3	8	0	34
	Total		A	5.6	9.5	0	65.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		24.5	12.9	0.1	45.2
		Right		6	5.1	0	73.2
		Total		9.8	10.4	0	73.2
	EB	Through		6	9.2	0	75.4
		Total		6.4	10.4	0	75.4
	WB	Through		4	6.2	0	40.1
		Right		1	1.9	0	31.2
		Total		2.4	4.7	0	40.1
	Total		A	4.8	8.1	0	75.4
Main St. Highland Dr./UT-198	NB	Left		42	43.8	0.2	322.2
		Through		20.9	21.3	0	219.1
		Right		13.2	16.5	0.1	118.5
		Total		29.1	33.8	0	322.2
	EB	Left		15.6	15	0.1	116.5
		Through		8.7	11.9	0	54.3
		Right		4.6	6.8	0	41.6
		Total		13	14.4	0	116.5
	SB	Through		21.6	17	0	66.8
		Right		12.5	10.6	0.1	57.4
		Total		14.2	12.8	0	66.8
	WB	Left		11	12.4	0	44.3
		Through		13.6	13.9	0	56.7
		Right		9.9	6.8	0.4	24.5
		Total		13.3	13.7	0	56.7
	Total		B	18.1	23.6	0	322.2
NETWORK TOTAL				8.9	15.4	0	322.2

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. 400 E.	NB	Left	12	5.1
		Through	4	0.4
		Right	13	5
		Total	23	10.1
	EB	Left	11	4.2
		Through	587	305.8
		Total	697	309.9
	SB	Left	79	38
		Through	6	1.5
		Right	27	12.2
		Total	115	51.3
	WB	Left	9	2.9
		Through	250	128.3
		Right	46	20.8
		Total	341	151.7
	Total		1176	522.9
Main St. I-15 S. Ramp	EB	Through	650	337.8
		Total	760	337.8
	SEB	Right	1558	9.8
		Total	21	9.8
	SWB	Left	61	29.7
		Through	6	0.9
		Right	134	68.1
		Total	221	98.3
	WB	Left	33	15.7
		Through	165	83.9
		Total	223	99.2
	Total		1225	544.7

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	22	8.1
		Right	58	28.6
		Total	82	36.4
	EB	Through	366	189
		Total	425	189
	WB	Through	182	92.3
		Right	1712	89.7
		Total	409	181.8
	Total		916	407.1
Main St. Highland Dr./UT- 198	NB	Left	135	68.6
		Through	116	60.3
		Right	29	13
		Total	319	141.6
	EB	Left	278	145.1
		Through	78	38.9
		Right	67	34.6
		Total	490	218.2
	SB	Through	45	22.7
		Right	147	75
		Total	219	97.5
	WB	Left	14	6
		Through	78	39
		Right	2	0.5
		Total	102	45.3
	Total		1130	502.5
NETWORK TOTAL			4448	1977.2

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		34.7	21.2	0.3	68.9
		Through		7.9	12.6	0	56.2
		Right		4.9	2.9	0.1	20.3
		Total		11	15.4	0	68.9
	EB	Left		12.4	13.5	0.2	57.2
		Through		4.1	7.3	0	38.3
		Right		1.7	2.2	0	9.2
		Total		4.6	8.1	0	57.2
	SB	Left		29.8	22.1	0.1	75.4
		Through		31.4	22.7	0	67.7
		Right		8.7	4.9	0.1	27.6
		Total		21.7	20.3	0	75.4
	WB	Left		7.3	10.4	0.2	57.2
		Through		3.5	6.8	0	38.6
		Right		2	2.4	0	18.9
		Total		3.6	7	0	57.2
	Total		A	5.4	10.6	0	75.4
Main St. I-15 S. Ramp	EB	Through		4.9	16.6	0	467.6
		Total		5	15.8	0	467.6
	SEB	Right		1.1	1.7	0.1	12.8
		Total		1.1	1.7	0.1	12.8
	SWB	Left		37.5	27.4	0.2	520.3
		Right		23.8	20.1	0.4	380.5
		Total		27.5	23	0.2	520.3
	WB	Left		7.8	10.1	0.2	31.9
		Through		8.8	11.1	0	33.1
		Total		8.6	10.9	0	33.1
	Total		B	15.9	21.6	0	520.3

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		28.6	21.4	0.2	76.6
		Right		7.6	6.5	0	49.7
		Total		15.1	17.3	0	76.6
	EB	Through		9.6	26.8	0	606.6
		Total		9.6	25.2	0	606.6
	WB	Through		5	8.4	0	42.7
		Right		1.8	4	0	32.8
		Total		4.4	8	0	42.7
	Total		A	7.6	19.8	0	606.6
Main St. Highland Dr./UT-198	NB	Left		44	29.2	0.2	156.7
		Through		18.8	18.9	0	86.6
		Right		7.2	10.3	0.1	50.7
		Total		31.6	27.8	0	156.7
	EB	Left		22.3	19	0	126.1
		Through		15.6	16.8	0	58.6
		Right		9	11.9	0	53.5
		Total		16.6	17.4	0	126.1
	SB	Left		35.5	34.2	0.3	85.5
		Through		44.5	29.3	0	142.5
		Right		31.5	26.4	0.2	139.4
		Total		33.6	27.3	0	142.5
	WB	Left		18.7	17.5	0.3	68.3
		Through		19.8	19.2	0	85.2
		Right		12.3	13.7	0.2	62.1
		Total		19.4	18.8	0	85.2
	Total		C	24.9	24.6	0	156.7
NETWORK TOTAL				13.6	21.2	0	606.6

Volumes				
Intersection	Approach	Movement	Average Volume Served (Vehicle)	Standard Deviation (Vehicle)
Main St. 400 E.	NB	Left	8	3.6
		Through	5	2.1
		Right	25	10.3
		Total	39	15.6
	EB	Left	28	11.6
		Through	465	188
		Right	18	7.3
		Total	511	206.4
	SB	Left	78	31.6
		Through	8	3.3
		Right	46	18.9
		Total	132	53.3
	WB	Left	27	11
		Through	867	351
		Right	94	38
		Total	987	399.8
	Total		1668	674.7
Main St. I-15 S. Ramp	EB	Through	536	216.6
		Total	536	216.6
	SEB	Right	34	14.1
		Total	34	14.1
	SWB	Left	261	105.5
		Right	563	228.1
		Total	824	333.5
	WB	Left	93	37.8
		Through	420	170.3
		Total	513	207.9
	Total		1907	771.7
Main St. I-15 N. Ramp	NB	Left	35	14.3
		Right	68	27.9
		Total	103	41.8
	EB	Through	600	242.6
		Total	600	242.6
	WB	Through	477	193.3
		Right	118	48.1
		Total	594	241.1
	Total		1297	525.4

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (Vehicle)
			Volume Served (Vehicle)	
Main St. Highland Dr./UT-198	NB	Left	133	54.3
		Through	79	32.1
		Right	15	6.2
		Total	227	92.2
	EB	Left	319	129
		Through	116	46.9
		Right	231	94
		Total	665	269.5
	SB	Left	1	0.4
		Through	118	48.3
		Right	348	141.4
		Total	467	189.7
	WB	Left	18	7.6
		Through	113	45.7
		Right	6	2.8
		Total	137	55.3
	Total		1495	606.4
NETWORK TOTAL			6368	2577.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		22.8	17.3	0.5	58.7
		Through		5.5	4.4	0.3	11.1
		Right		5.6	4.1	0.1	20.3
		Total		14.9	15.7	0.1	58.7
	EB	Left		7.3	9	0.2	34.2
		Through		5.1	7.6	0	40.6
		Total		5.1	7.6	0	40.6
	SB	Left		25	17.5	0.1	61.5
		Through		25	19.9	0	56.2
		Right		6.7	4.1	0.1	19.9
		Total		20.5	17.3	0	61.5
	WB	Left		12	15.9	0.2	71.4
		Through		4.6	7.6	0	39.2
		Right		1.9	2.2	0	10.2
		Total		4.3	7.6	0	71.4
	Total		A	6.6	10.4	0	71.4
Main St. I-15 S. Ramp	EB	Through		4.5	8.1	0	35.2
		Total		4.4	7.9	0	35.2
	SEB	Right		1.3	3	0.1	23.8
		Total		1.3	3	0.1	23.8
	SWB	Left		22.7	18	0.1	65.7
		Through		25.4	19.7	0.6	53.5
		Right		5.7	3.5	0.1	24.3
		Total		11	13.1	0.1	65.7
	WB	Left		4.5	7.9	0.3	33.6
		Through		4.2	8	0	34.1
		Total		4.3	8	0	34.1
	Total		A	5.6	9.5	0	65.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		22.5	11.9	0	46
		Right		5.9	5.4	0	88.2
		Total		9.4	9.9	0	88.2
	EB	Through		6.3	10.1	0	95.3
		Total		6.5	10.6	0	95.3
	WB	Through		4.3	6.6	0	42.5
		Right		1	1.8	0	17.5
		Total		2.8	5.3	0	42.5
	Total		A	5.3	8.8	0	95.3
Main St. Highland Dr./UT-198	NB	Left		32.5	28.1	0.1	220.9
		Through		20	17.7	0	137.1
		Right		11.3	12.8	0.1	56.6
		Total		24.6	23.2	0	220.9
	EB	Left		15.9	15	0.1	99.3
		Through		8.6	11.9	0	47.6
		Right		4.5	6.8	0	46.3
		Total		13	14.4	0	99.3
	SB	Through		21	17.1	0	63.7
		Right		11.8	10.4	0.8	54.9
		Total		14.5	13.7	0	63.7
	WB	Left		11	12	0	43.9
		Through		13	13.8	0	53.6
		Right		14.1	11.9	0.2	35.5
		Total		13	13.7	0	53.6
	Total		B	16.9	18.6	0	220.9
NETWORK TOTAL				8.6	13.3	0	220.9

Volumes				
Intersection	Approach	Movement	Average	Standard Deviation (vehicle)
			Volume Served (vehicle)	
Main St. 400 E.	NB	Left	12	5.1
		Through	1	0.4
		Right	12	5
		Total	25	10.1
	EB	Left	10	4.2
		Through	757	305.8
		Total	767	309.9
	SB	Left	94	38
		Through	3	1.5
		Right	30	12.2
		Total	127	51.2
	WB	Left	7	2.9
		Through	320	129.6
		Right	48	19.4
		Total	375	151.7
	Total		1294	522.9
Main St. I-15 S. Ramp	EB	Through	836	337.7
		Total	836	337.7
	SEB	Right	24	9.8
		Total	24	9.8
	SWB	Left	73	29.7
		Through	2	0.9
		Right	168	68.1
		Total	243	98.3
	WB	Left	39	15.9
		Through	207	83.7
		Total	245	99.2
	Total		1348	544.6

Volumes				
Intersection	Approach	Movement	Average Volume Served (vehicle)	Standard Deviation (vehicle)
Main St. I-15 N. Ramp	NB	Left	20	8.2
		Right	71	28.6
		Total	90	36.5
	EB	Through	467	189
		Total	467	189
	WB	Through	228	92.2
		Right	142	57.6
		Total	370	149.6
	Total		928	374.9
Main St. Highland Dr./UT-198	NB	Left	169	68.4
		Through	149	60.3
		Right	32	13
		Total	350	141.4
	EB	Left	356	144
		Through	97	39.3
		Right	85	34.6
		Total	538	217.6
	SB	Through	56	22.7
		Right	106	43
		Total	162	65.5
	WB	Left	15	6
		Through	96	38.9
		Right	1	0.5
		Total	112	45.3
	Total		1162	469.6
NETWORK TOTAL			4731	1912

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. 400 E.	NB	Left		35.1	20.9	0.3	68.9
		Through		8.9	11.7	0	47.4
		Right		5.1	3.1	0.1	22.4
		Total		11.3	15.4	0	68.9
	EB	Left		5.1	7.2	0.1	51.3
		Through		4.4	7.6	0	41.8
		Right		1.8	2.4	0	11.1
		Total		4.4	7.6	0	51.3
	SB	Left		30.5	22	0.1	77.2
		Through		32	22.6	0	67.9
		Right		8.8	5.1	0.1	28
		Total		22.2	20.4	0	77.2
	WB	Left		2.6	3.5	0.2	18.2
		Through		3.6	7.1	0	38.7
		Right		1.9	2.9	0	31.8
		Total		3.5	6.8	0	38.7
	Total		A	5.4	10.6	0	77.2
Main St. I-15 S. Ramp	EB	Through		4.2	8.1	0	33.9
		Total		4.5	8.7	0	33.9
	SEB	Right		0.8	1.2	0.1	11.6
		Total		0.9	1.7	0.1	11.6
	SWB	Left		37.3	23.6	0.2	109.7
		Right		23.7	15.8	0.4	78.3
		Total		27.4	19.6	0.2	109.7
	WB	Left		9.1	10.4	0.2	31.5
		Through		9.6	11.4	0	33.9
		Total		9.4	11.3	0	33.9
	Total		B	15.8	18.3	0	109.7

Delay							
Intersection	Approach	Movement	LOS	Average (s)	Standard Deviation (s)	Min (s)	Max (s)
Main St. I-15 N. Ramp	NB	Left		29.2	21.4	0.2	76.5
		Right		7.5	6.9	0	60.6
		Total		15.2	17.4	0	76.5
	EB	Through		7.8	9.9	0	106.7
		Total		7.8	9.7	0	106.7
	WB	Through		4.7	8.3	0	42.9
		Right		1.6	3.7	0.1	30.4
		Total		4.4	8	0	42.9
	Total		A	6.8	10.3	0	106.7
Main St. Highland Dr./UT-198	NB	Left		42	27.9	0.2	169.2
		Through		18.6	18.9	0	86.6
		Right		7.2	10.4	0.1	50.6
		Total		30.5	26.6	0	169.2
	EB	Left		21.5	18.3	0	87.1
		Through		14.5	16	0	56.1
		Right		8.4	11.1	0	54.9
		Total		15.8	16.7	0	87.1
	SB	Left		38.8	33.9	0.2	85.5
		Through		42.1	28.2	0	141.6
		Right		29.5	25.2	0.7	139
		Total		31.8	26.1	0	141.6
	WB	Left		18.1	17.2	0.3	64.4
		Through		19.4	19.2	0	110.6
		Right		10.8	11.8	0.2	46.1
		Total		18.9	18.8	0	110.6
	Total		C	23.6	23.5	0	169.2
NETWORK TOTAL				13.1	18.2	0	169.2

Volumes				
Intersection	Approach	Movement	Average Volume Served (Vehicle)	Standard Deviation (Vehicle)
Main St. 400 E.	NB	Left	8	3.6
		Through	5	2.1
		Right	25	10.3
		Total	39	15.6
	EB	Left	28	11.5
		Through	465	187.9
		Right	18	7.5
		Total	511	206.4
	SB	Left	78	31.6
		Through	8	3.3
		Right	46	18.9
		Total	132	53.3
	WB	Left	27	11.2
		Through	887	358.5
		Right	98	39.5
		Total	1012	408.9
	Total		1693	684.1
Main St. I-15 S. Ramp	EB	Through	540	218.2
		Total	540	218.2
	SEB	Right	35	14.2
		Total	35	14.2
	SWB	Left	266	107.8
		Right	571	230.8
		Total	837	338.4
	WB	Left	97	39.3
		Through	437	176.6
		Total	533	215.5
	Total		1945	785.9

Volumes				
Intersection	Approach	Movement	Average Volume Served (Vehicle)	Standard Deviation (Vehicle)
Main St. I-15 N. Ramp	NB	Left	36	14.8
		Right	69	28.1
		Total	105	42.5
	EB	Through	610	246.7
		Total	610	246.7
	WB	Through	496	200.3
		Right	72	29.2
		Total	568	229.4
	Total		1283	518.5
Main St. Highland Dr./UT-198	NB	Left	138	55.8
		Through	81	33
		Right	15	6.3
		Total	235	94.8
	EB	Left	322	130.2
		Through	118	47.8
		Right	240	97
		Total	680	274.8
	SB	Left	1	0.4
		Through	123	49.6
		Right	317	128.3
		Total	441	178
	WB	Left	19	7.7
		Through	113	45.7
		Right	6	2.8
		Total	138	55.6
	Total		1492	603.1
NETWORK TOTAL			6413	2591.5



J-U-B ENGINEERS, INC.

J-U-B COMPANIES



**THE
LANGDON
GROUP**



**GATEWAY
MAPPING
INC.**

APPENDIX - 2

PIN ----- PROJECT # ----- PROJECT NAME: SR-168 & US-6, Signalized Intersection
 Cost Estimate - Concept Level

Prepared By J-U-B Engineers, Inc. Date 6/17/2013

Approximate Route Reference Post (BEGIN) =	(END) =
Accumulated Mileage (BEGIN) =	(END) =
Project Length =	0.000 miles ft
Current FY Year (July-June) =	2013
Assumed Construction FY Year =	2015
Construction Items Inflation Factor =	1.17 2 yrs for inflation
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.0%
Assumed Yearly Inflation for Urban Residential Right of Way (%/yr) =	1.0%
Assumed Yearly Inflation for Urban Commercial Right of Way (%/yr) =	1.0%
Assumed Yearly Inflation for non-Urban Right of Way (%/yr) =	0.0%
Items not Estimated (% of Construction) =	10.0%
Preliminary Engineering (% of Construction + Incentives) =	15.0%
Construction Engineering (% of Construction + Incentives) =	15.0%

Construction Items	Cost	Remarks
Roadway and Drainage	\$21,000	Signal work only, no roadway work req'd
Traffic and Safety	\$149,700	
Structures	\$0	
Environmental Mitigation	\$0	
ITS	\$0	
	Subtotal	\$170,700
	Items not Estimated (10%)	\$17,070
	Construction Subtotal	\$187,770
P.E. Cost	P.E. Subtotal	\$28,166 15%
C.E. Cost	C.E. Subtotal	\$28,166 15%
Right of Way Urban/Suburban Residential	Right of Way Subtotal	\$0
Right of Way Urban Suburban Commercial	Right of Way Subtotal	\$0
Right of Way non-Urban/Suburban	Right of Way Subtotal	\$0
Utilities	Utilities Subtotal	\$0
Incentives	Incentives Subtotal	\$0
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2013	2015
P.E.	\$28,000	\$30,000
Right of Way	\$0	\$0
Utilities	\$0	\$0
Construction	\$188,000	\$219,000
C.E.	\$28,000	\$30,000
Incentives	\$0	\$0
Aesthetics	0% \$0	\$0
Change Order Contingency	9% \$17,000	\$20,000
UDOT Oversight	\$0	\$0
Miscellaneous	\$0	\$0
TOTAL	\$261,000	\$299,000

PROPOSED COMMISSION REQUEST	TOTAL \$261,000	TOTAL \$299,000
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PIN ----- PROJECT # ----- SR-198 & US-6. Roundabout Interesection (115 ft Inscribed Diameter)
 Cost Estimate - Concept Level

Prepared By J-U-B Engineers, Inc. Date 6/17/2013

Approximate Route Reference Post (BEGIN) =		(END) =	
Accumulated Mileage (BEGIN) =		(END) =	
Project Length =	0.000	miles	ft
Current FY Year (July-June) =	2013		
Assumed Construction FY Year =	2015		
Construction Items Inflation Factor =	1.17	2 yrs for inflation	
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.0%		
Assumed Yearly Inflation for Urban Residential Right of Way (%/yr) =	1.0%		
Assumed Yearly Inflation for Urban Commercial Right of Way (%/yr) =	1.0%		
Assumed Yearly Inflation for non-Urban Right of Way (%/yr) =	0.0%		
Items not Estimated (% of Construction) =	20.0%		
Preliminary Engineering (% of Construction + Incentives) =	12.0%		
Construction Engineering (% of Construction + Incentives) =	10.0%		

Construction Items	Cost	Remarks
Roadway and Drainage	\$480,848	
Traffic and Safety	\$39,900	
Structures	\$0	
Environmental Mitigation	\$12,000	
ITS	\$0	
	Subtotal	\$532,748
	Items not Estimated (20%)	\$106,550
	Construction Subtotal	\$639,298
P.E. Cost	P.E. Subtotal	\$76,716 12%
C.E. Cost	C.E. Subtotal	\$63,930 10%
Right of Way Urban/Suburban Residential	Right of Way Subtotal	\$0
Right of Way Urban Suburban Commercial	Right of Way Subtotal	\$0
Right of Way non-Urban/Suburban	Right of Way Subtotal	\$0
Utilities	Utilities Subtotal	\$0
Incentives	Incentives Subtotal	\$0
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2013	2015
P.E.	\$77,000	\$82,000
Right of Way	\$0	\$0
Utilities	\$0	\$0
Construction	\$639,000	\$745,000
C.E.	\$64,000	\$68,000
Incentives	\$0	\$0
Aesthetics	1% \$6,000	\$7,000
Change Order Contingency	9% \$58,000	\$68,000
UDOT Oversight	\$0	\$0
Miscellaneous	\$0	\$0
TOTAL	\$844,000	\$970,000

PROPOSED COMMISSION REQUEST	TOTAL \$844,000	TOTAL \$970,000
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PIN ***** PROJECT # ***** SR-198 & US-6. Hook Right Turn Lane from SR-198 to I-15 nb on ramp
Cost Estimate - Concept Level

Prepared By J-U-B Engineers, Inc. Date 6/17/2013

Approximate Route Reference Post (BEGIN) =	(END) =
Accumulated Mileage (BEGIN) =	(END) =
Project Length =	0.000 miles ft
Current FY Year (July-June) =	2013
Assumed Construction FY Year =	2015
Construction Items Inflation Factor =	1.17 2 yrs for inflation
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.0%
Assumed Yearly Inflation for Urban Residential Right of Way (%/yr) =	1.0%
Assumed Yearly Inflation for Urban Commercial Right of Way (%/yr) =	1.0%
Assumed Yearly Inflation for non-Urban Right of Way (%/yr) =	0.0%
Items not Estimated (% of Construction) =	20.0%
Preliminary Engineering (% of Construction + Incentives) =	12.0%
Construction Engineering (% of Construction + Incentives) =	10.0%

Construction Items	Cost	Remarks
Roadway and Drainage	\$421,868	
Traffic and Safety	\$29,400	
Structures	\$0	
Environmental Mitigation	\$2,000	
ITS	\$0	
	Subtotal	\$453,268
	Items not Estimated (20%)	\$90,654
	Construction Subtotal	\$543,922
P.E. Cost	P.E. Subtotal	\$65,271 12%
C.E. Cost	C.E. Subtotal	\$54,392 10%
Right of Way Urban/Suburban Residential	Right of Way Subtotal	\$0
Right of Way Urban Suburban Commercial	Right of Way Subtotal	\$0
Right of Way non-Urban/Suburban	Right of Way Subtotal	\$0
Utilities	Utilities Subtotal	\$0
Incentives	Incentives Subtotal	\$0
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2013	2015
P.E.	\$65,000	\$69,000
Right of Way	\$0	\$0
Utilities	\$0	\$0
Construction	\$544,000	\$635,000
C.E.	\$54,000	\$57,000
Incentives	\$0	\$0
Aesthetics	1% \$5,000	\$6,000
Change Order Contingency	9% \$49,000	\$57,000
UDOT Oversight	\$0	\$0
Miscellaneous	\$0	\$0
TOTAL	\$717,000	\$824,000

PROPOSED COMMISSION REQUEST	TOTAL \$717,000	TOTAL \$824,000
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PIN ----- PROJECT # ----- SR-198 & US-6. Roundabout Intersection

Cost Estimate - Concept Level

Prepared By J-U-B Engineers, Inc.

Date 6/17/2013

Approximate Route Reference Post (BEGIN) =		(END) =	
Accumulated Mileage (BEGIN) =		(END) =	
Project Length =	0.000	miles	ft
Current FY Year (July-June) =	2013		
Assumed Construction FY Year =	2015		
Construction Items Inflation Factor =	1.17	2 yrs for inflation	
Assumed Yearly Inflation for Engineering Services (PE and CE) (%/yr) =	3.0%		
Assumed Yearly Inflation for Urban Residential Right of Way (%/yr) =	1.0%		
Assumed Yearly Inflation for Urban Commercial Right of Way (%/yr) =	1.0%		
Assumed Yearly Inflation for non-Urban Right of Way (%/yr) =	0.0%		
Items not Estimated (% of Construction) =	20.0%		
Preliminary Engineering (% of Construction + Incentives) =	12.0%		
Construction Engineering (% of Construction + Incentives) =	10.0%		

Construction Items	Cost	Remarks
Roadway and Drainage	\$596,880	
Traffic and Safety	\$40,100	
Structures	\$0	
Environmental Mitigation	\$23,875	
ITS	\$0	
	Subtotal	\$660,855
	Items not Estimated (20%)	\$132,171
	Construction Subtotal	\$793,026
P.E. Cost	P.E. Subtotal	\$95,163 12%
C.E. Cost	C.E. Subtotal	\$79,303 10%
Right of Way Urban/Suburban Residential	Right of Way Subtotal	\$0
Right of Way Urban Suburban Commercial	Right of Way Subtotal	\$0
Right of Way non-Urban/Suburban	Right of Way Subtotal	\$0
Utilities	Utilities Subtotal	\$0
Incentives	Incentives Subtotal	\$0
Miscellaneous	Miscellaneous Subtotal	\$0

Cost Estimate (ePM screen 505)	2013	2015
P.E.	\$95,000	\$101,000
Right of Way	\$0	\$0
Utilities	\$0	\$0
Construction	\$793,000	\$925,000
C.E.	\$79,000	\$84,000
Incentives	\$0	\$0
Aesthetics	1% \$8,000	\$9,000
Change Order Contingency	9% \$72,000	\$84,000
UDOT Oversight	\$0	\$0
Miscellaneous	\$0	\$0
TOTAL	\$1,047,000	\$1,203,000

PROPOSED COMMISSION REQUEST	TOTAL \$1,047,000	TOTAL \$1,203,000
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