TRAFFIC IMPACT STUDY FOR

GOETHE TRACT DRI 2523

Interstate West Parkway, Cobb County, Georgia

DECEMBER 16, 2015

PREPARED FOR:
GRTA, ARC, Realicorp & Core 5

PREPARED BY:
Randall Parker, PTP, PTOE, PE, AICP
1255 Canton Street,
Roswell, GA 30075

MULKEY
ENGINEERS & CONSULTANTS
www.mulkeyinc.com

With:

Urban Engineers, Inc.
1904 Monroe Drive, Suite 150
Atlanta, GA 30324

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. Introduction

A new warehouse distribution center development is proposed on Interstate West Parkway in southern Cobb County, Georgia. A 781,438 square foot high-cube building with 398 personal vehicle parking spaces is proposed for the currently undeveloped 76 acres Goethe Tract. The development site is south of Interstate 20, west of Factory Shoals Road (with the site having a small frontage, but topographically inaccessible for vehicular access), east of Interstate West Parkway and existing industrial developments fronting on Interstate West Parkway, and northeast of Thornton Road (SR6). The development is expected to be completed in 2016.

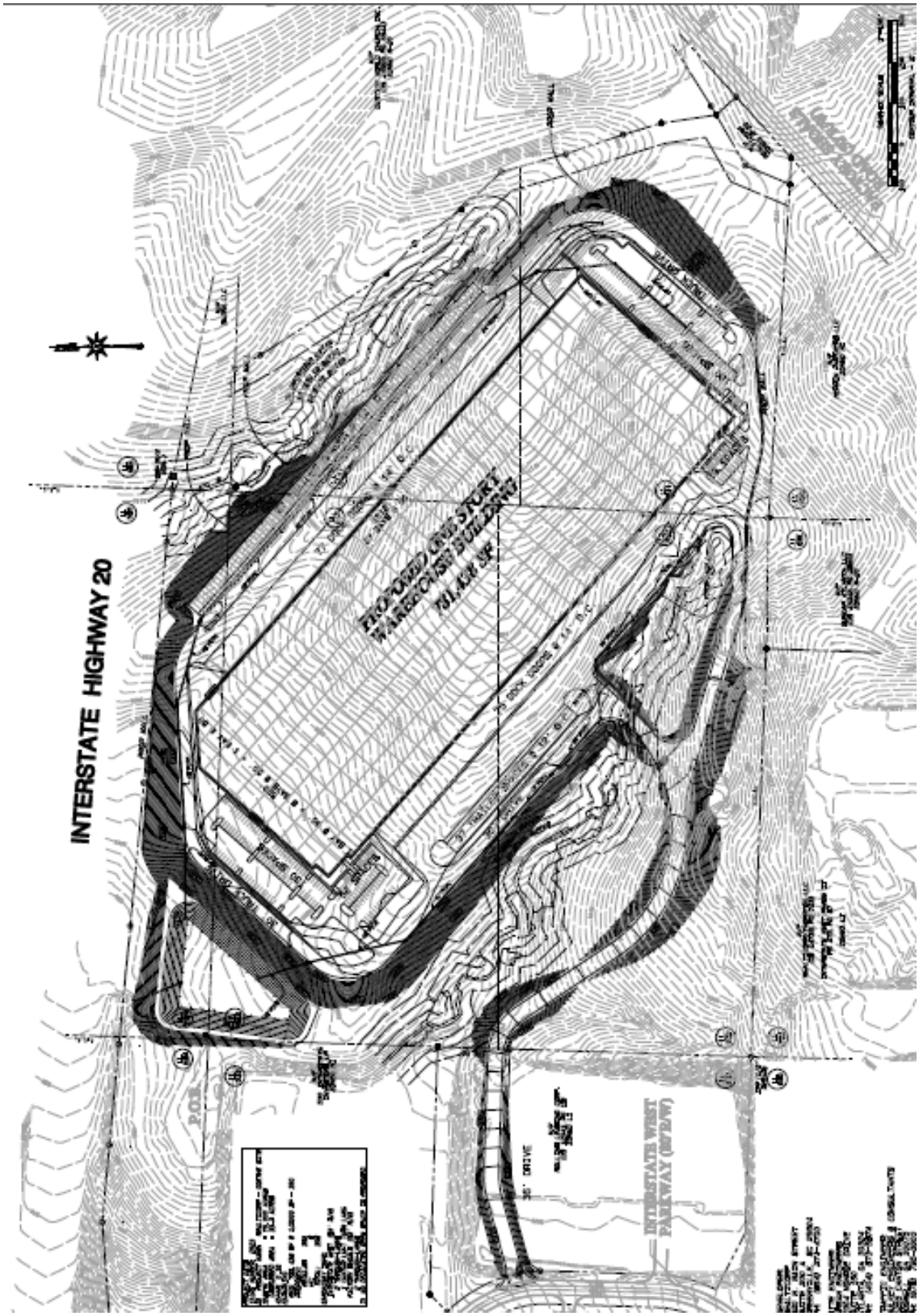
The development will access the external roadway network via a single access driveway on Interstate West Parkway. Interstate West Parkway intersects with Thornton Road (SR 6) in Douglas County at two (2) full-movement intersections west of the site. The northern Blairs Bridge Road intersection is controlled by a traffic signal and the southern Bob Arnold Road intersection is side-street stop controlled.

The purpose of this study is to provide an overall assessment of the traffic conditions in the area surrounding the site and to document the future impact expected from the development. Intersection capacity analyses indicating the Levels of Service (LOS) for existing weekday peak morning and evening peak volume hours of the adjacent roadway traffic volumes, for expected future 2016 traffic volumes with additional background traffic generated by additional growth outside the study area estimated at 1% annually and the additional traffic generated by four (4) nearby recently approved but not yet occupied DRIs (#1110, #2492, #2493, #2513), and for 2016 background volumes with the Goethe Tract DRI 2523 generated trips will be provided in this study.

Figure 1 shows the site location in southern Cobb County, Georgia. The site plan is shown in Figure 2. A copy of the site plan is included with this Report.

Figure 1: Vicinity Map

Figure 2: Site Plan



2. Existing Conditions

2.1. Transportation Facilities

Interstate West Parkway is a three-lane local collector roadway with a center two-way left turn lane with an assumed 30 mph speed limit. It primarily provides access to commercial, office, and light industrial uses. Interstate West Parkway is a semi-circular roadway to the east and terminates at Thornton Road (State Route 6) at the Blairs Bridge Road and at the Bob Arnold Boulevard intersections.

Thornton Road (SR 6) is a median-divided four-lane arterial roadway with left and right turn lanes carrying traffic from Interstate 20 to the northwest and beyond to Riverside Parkway and beyond to the southeast. The posted speed limit is 55 mph.

Blairs Bridge Road is a two-lane local collector roadways providing access to commercial, office, and light industrial uses located on the northwest side of Thornton Road. Blairs Bridge Road terminates at Thornton Road to the south and Mt Vernon Road, but then continues as Monier Road to Lee Road to the northwest.

Bob Arnold Boulevard is a three-lane local collector roadway with a center two-way left turn lane providing access to commercial, office, and light industrial uses located on the northwest side of Thornton Road, and residential uses via Preston Boulevard. Bob Arnold Boulevard terminates at Thornton Road to the south and Blairs Bridge Road to the northwest.

Existing intersections and proposed site driveway intersection lane configurations and traffic controls are shown in Figure 3.

2.2. Traffic Volumes

Vehicular turning movement counts were collected on Thursday, October 29, 2015 at the intersections of Interstate West Parkway with Thornton Road at Blairs Bridge Road and Bob Arnold Boulevard. The peak hour of traffic at these intersections in the AM begins at 7:00 and in the PM begins at 4:30. Heavy trucks composed approximately 3% of the total entering peak hour volumes at both study intersections.

On Wednesday, November 4, 2015 bi-directional vehicular counts were collected on Interstate West Parkway near the proposed site driveway location. During the 24 hours, 990 vehicles (including 123 single unit trucks and 37 combination trucks) were counted on Interstate West Parkway. The counts worksheets are included in the Appendix.

Figure 3 shows the AM and PM peak hour existing volumes at the study intersections.

Figure 3: Lane Configurations and Traffic Control

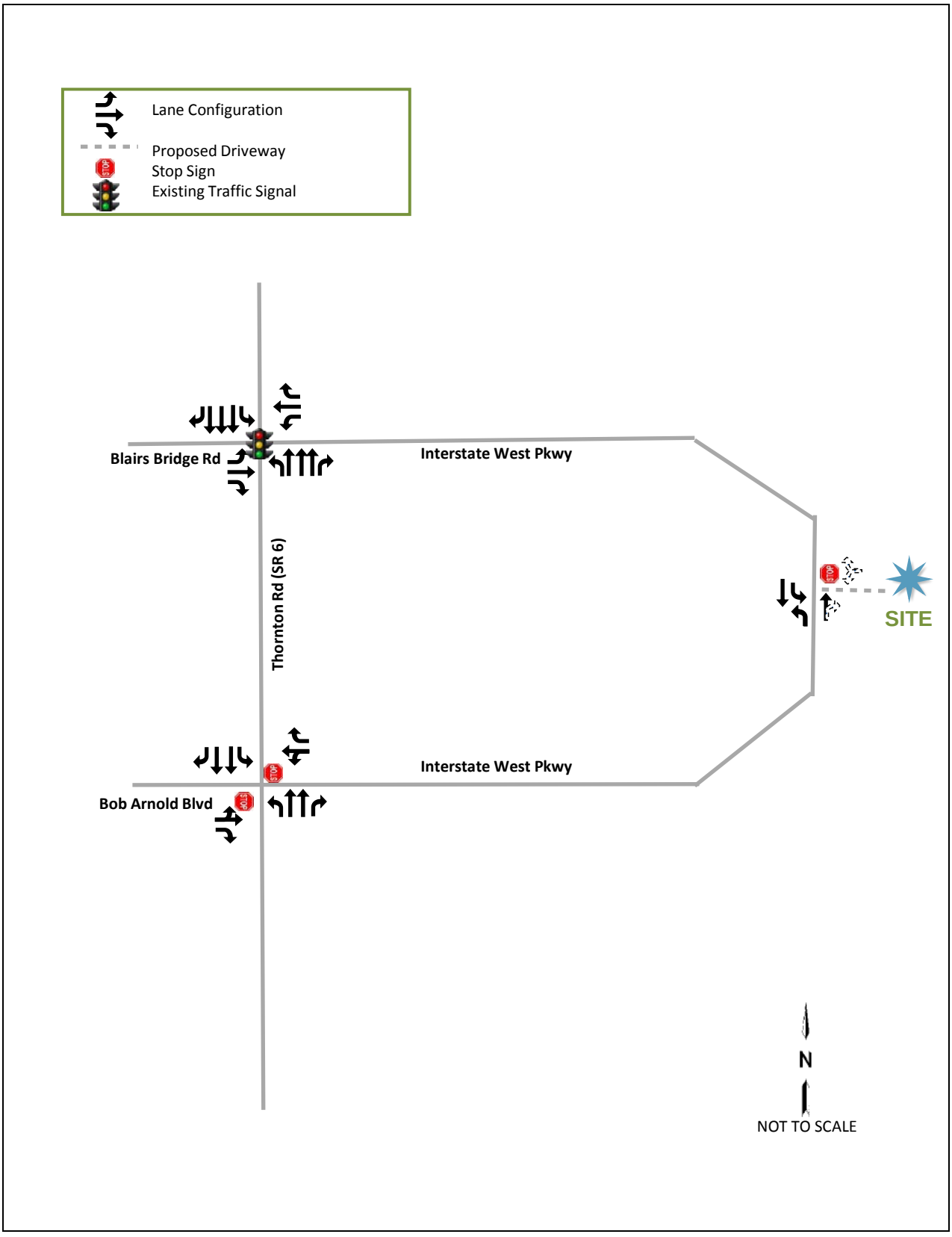
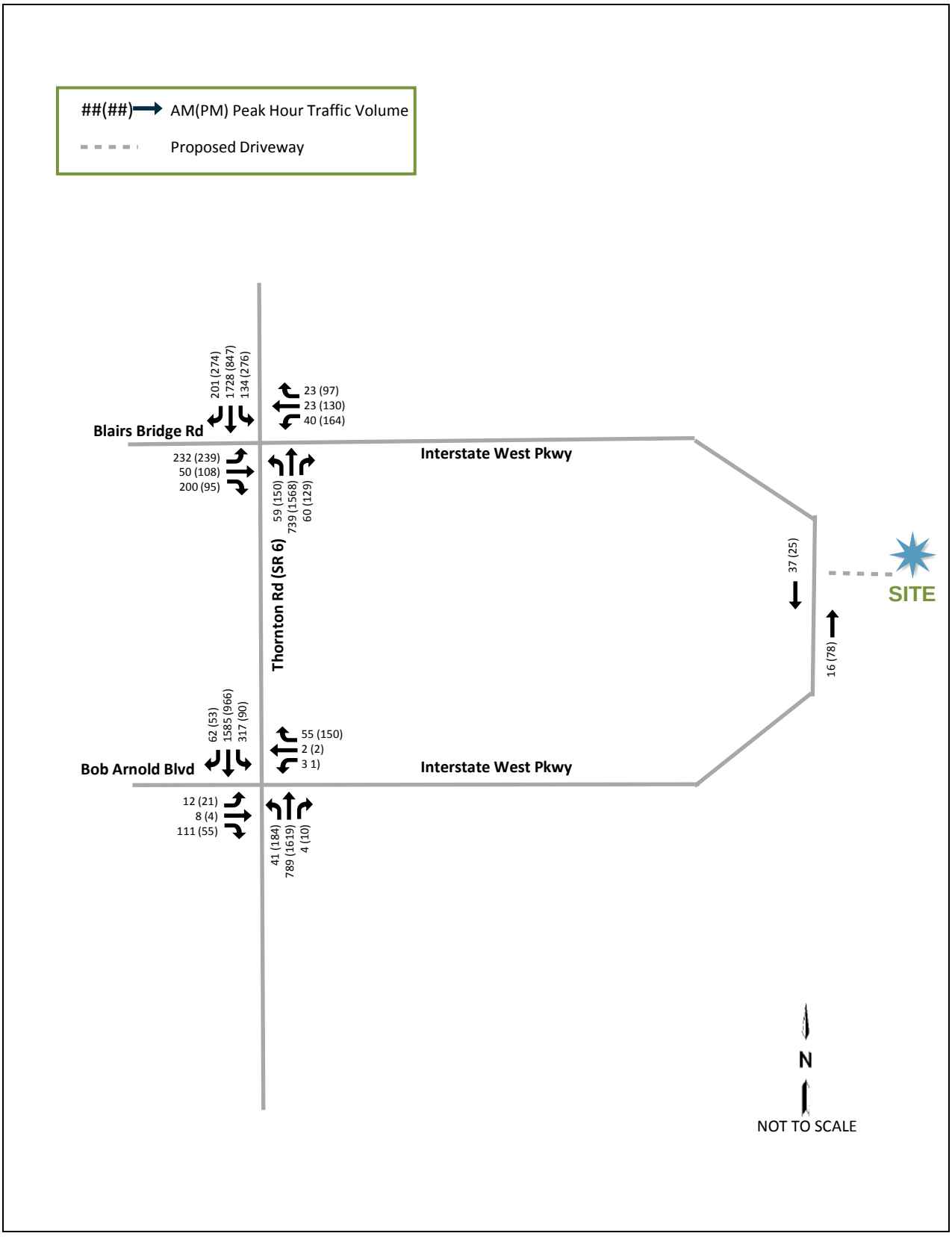


Figure 4: Existing Vehicular Turning Movement Counts



2.3. Existing Capacity Analysis

Intersection capacity analyses of the existing counted turning movement peak hour volumes at the two existing study intersections provided the existing Levels of Service (LOS), as defined by the Highway Capacity Manual (HCM). The Synchro output reports are included in the Appendix.

Table 1: Existing Conditions Capacity Analysis Results

Intersection	Control	Approach Movement	From Counts		Reassigned Side Street Left/Thru	
			AM LOS	PM LOS	AM LOS	PM LOS
Interstate West Pkwy/Blairs Bridge Rd at Thornton Rd	Signal	Overall	C	C	C	C
Interstate West Pkwy/ Bob Arnold Blvd at Thornton Rd	Side Street Stop Control	Northbound Left	C	B	C	B
		Southbound Left	B	C	B	C
		Eastbound	F	F	D	B
		Westbound	F	F	A	A

The intersection of Interstate West Pkwy and Blairs Bridge Rd at Thornton Rd operates adequately in both peak hours with the signal phasing and timing optimized.

The un-signalized intersection of Interstate West Pkwy and Bob Arnold Blvd at Thornton Rd operates adequately overall; however, the existing peak hour counted eastbound and westbound left turning and crossing traffic rely on upstream and downstream signalized intersection gaps in traffic. The HCM 2010 methodology and Synchro software does not provide for recognition of these gaps in traffic in calculating the LOS. Attempts were made to adjust the gap acceptance variable for these movements; but since a reduction of over half of the standard time was required this approach to calibrate the analyses was abandoned.

To provide a more conservative analysis, the counted left turning and through movement vehicles at the Interstate West Pkwy/Bob Arnold Blvd intersection with Thornton Road were reassigned to the signalized intersection at Blairs Bridge Road to show adequate side-street LOS for existing volumes. Interstate West Pkwy, as a semi-circle between the Thornton Rd intersections, and a route using Bob Arnold Blvd and Blairs Bridge Rd provide adequate alternate access to Thornton Rd at the signalized intersection. The peak hour left turning and through movement vehicles indicate the minimum hourly side-street volumes required to consider installation of a traffic signal are unlikely to be met (totals of left and through movement volumes of 5 in AM & 3 in PM westbound, 20 in AM and 25 in PM eastbound.)

3. Future Background (No Build) Conditions

3.1. Nearby Developments of Regional Impact

The project is expected to take a year to complete and occupy. During that time, traffic on the adjacent roadway is expected to increase due to four (4) previously approved by not yet completed Developments of Regional Impact in the immediate area (#1110, #2392, #2393, and #2513.)

The new trips expected to be generated by the nearby approved Developments of Regional Impact (DRI) at the study intersections were calculated from the project trips tables and figures provided for the previous GRTA DRI reviews of each development. The DRI #1110 (revised analyses) new trips were shown at the Factory Shoals Road and Thornton Road intersection. The DRI #2392 and DRI #2513 new trips were only shown on Factory Shoals Road west of the developments.

The directional distribution of new trips at Thornton Road for these two Developments of Regional Impact were inferred from the DRI #1110 data and applied to the Factory Shoals Rd trips for the other two developments. Approximately 60% of the new trips on Thornton Road originated and terminated to the north of the Factory Shoals Road intersection.

All of the new trips expected to be generated by DRI #2393 were directionally distributed at the two Interstate West Parkway intersections at Thornton Rd based on the existing traffic counts modified as discussed in the existing conditions analyses section previously. Approximately 66% of the new trips are expected to use the Blairs Bridge Rd signalized intersection at Thornton Road with the remaining 34% using the Bob Arnold Blvd intersection. Overall approximately 60% of the DRI #2393 peak hour trips are expected to originate and terminate to the north, 15% to the west, and 25% to the south.

The new nearby DRI generated trips at the study intersections are show in the following Tables:

Table 2 DRIs 1110, 2392, 2513 Background Trips

	Thornton Rd (SR 6) Through Volumes at Blairs Bridge Rd/Interstate West Pkwy				**Thornton Rd (SR 6) Through Volumes at Bob Arnold Blvd/Interstate West Pkwy**			
	AM		PM		AM		PM	
DRI	NB	SB	NB	SB	NB	SB	NB	SB
1110	100	112	77	123	100	112	77	123
2392	4	8	2	25	4	8	2	25
2315	5	4	17	26	5	4	17	26
Totals	**109**	**124**	**96**	**174**	**107**	**124**	**96**	**174**

Table 3 DRI 2393 Background Trips

Blairs Bridge Rd/Interstate West Pkwy at Thornton Road (SR 6)								
Peak Hour	NB Thru	NB RT	SB LT	SB Thru	EB Thru	WB LT	WB Thru	WB RT
AM	6	0	39	0	10	7	4	12
PM	20	0	27	0	7	25	15	39
Bob Arnold Blvd/Interstate West Pkwy at Thornton Road (SR 6)								
Peak Hour	NB Thru	NB RT	SB LT	SB Thru	EB Thru	WB LT	WB Thru	WB RT
AM	0	17	0	7	0	0	0	6
PM	0	11	0	25	0	0	0	6

In addition to the new trips expected from these four developments, an additional 1% annual growth rate was applied to the existing traffic volumes to account for development outside the immediate area. The total future background growth volumes from the specific area DRIs and other development when the project is completed in 2016 is shown in Figure 4.

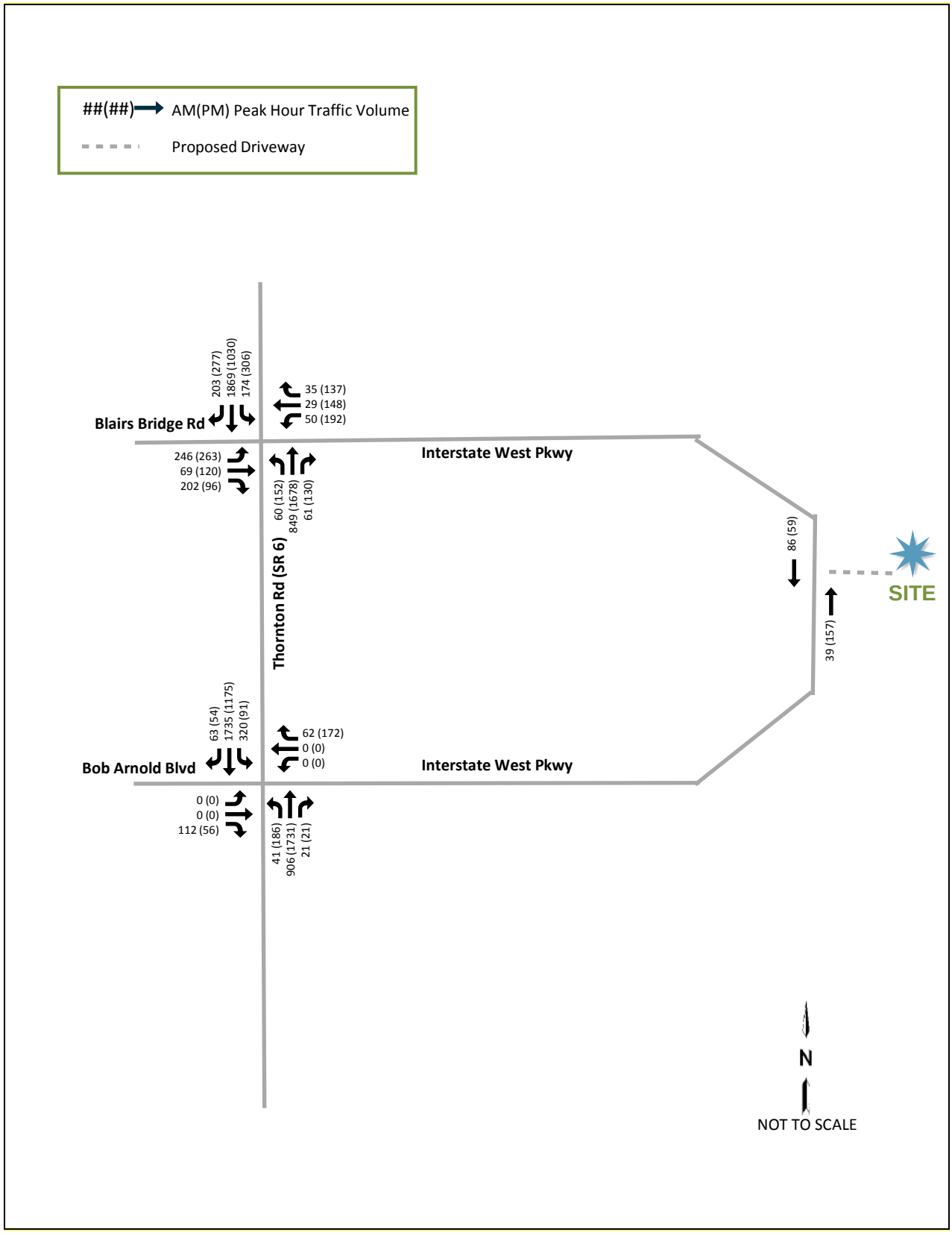
Intersection capacity analyses of the projected future turning movement peak hour volumes, without the Goethe Tract DRI 2523 project traffic at the study intersections provided the expected Levels of Service (LOS), as defined by the Highway Capacity Manual (HCM). The Synchro output reports are included in the Appendix.

Table 4 Background Levels of Service

Intersection	Control	Approach Movement	AM LOS	PM LOS
Interstate West Pkwy/Blairs Bridge Rd at Thornton Rd	Signal	Overall	C	D
Interstate West Pkwy/ Bob Arnold Blvd at Thornton Rd	Side Street Stop Control	Northbound Left	C	C
		Southbound Left	C	C
		Eastbound	D	C
		Westbound	A	A

Both study intersections in both AM and PM peak hours are expected to operate adequately with the additional background traffic, including the new trips from the four (4) nearby DRIs calculated separately from the annual growth rate application to the existing volumes, with the reassignment of the side street left turn and through movement volumes to the signalized intersection at Blairs Bridge Rd/Interstate West Pkwy and Thornton Rd, and the signal phasing and timing optimized.

Figure 5: Background (No Build) Traffic Volumes



4. Future Build Conditions

4.1. Trip Generation

Project trips were calculated using equations contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th Edition, 2012. Table 2 summarizes the trip generation for the proposed development for the appropriate ITE Land Use Code.

Table 5 Project Trip Generation

Land Use	Intensity	Units	Project Trips		
High Cube Warehouse (152)	781.438	ksf	Total	IN	OUT
Daily Total Project Trips			1,314	657	657
Trucks			502	251	251
Passenger Vehicles			812	406	406
AM Peak Hour Total Project Trips			84	58	26
Trucks			23	16	7
Passenger Vehicles			61	42	19
PM Peak Hour Total Project Trips			129	40	89
Trucks			31	10	21
Passenger Vehicles			98	30	68

4.2. Distribution

The directional distribution of new project trips was based on the existing entering vehicles counts since most of the existing development is similar to the planned new development. The directional distribution for new trips for the new development is anticipated to be as follows:

- 60% north on Thornton Road toward and from I-20
- 25% south on Thornton Road
- 15% west on Blairs Bridge Road

Figure 5 shows the directional distribution and assignment percentages, Figure 6 shows the expected site generated traffic, and Figure 7 shows the future with project trips volumes.

Figure 6 Directional Distribution of Project Trips

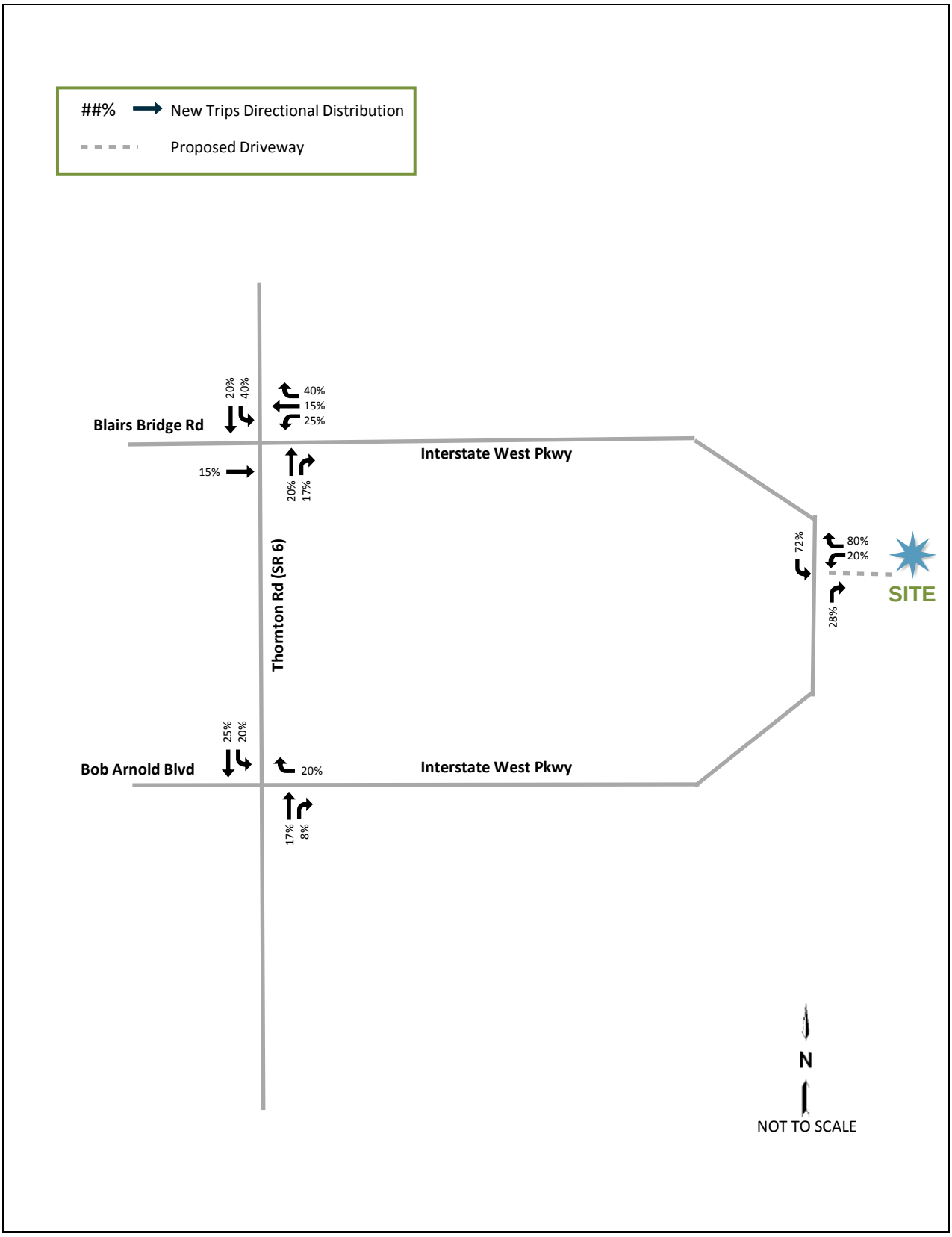


Figure 7: Site Traffic Volume

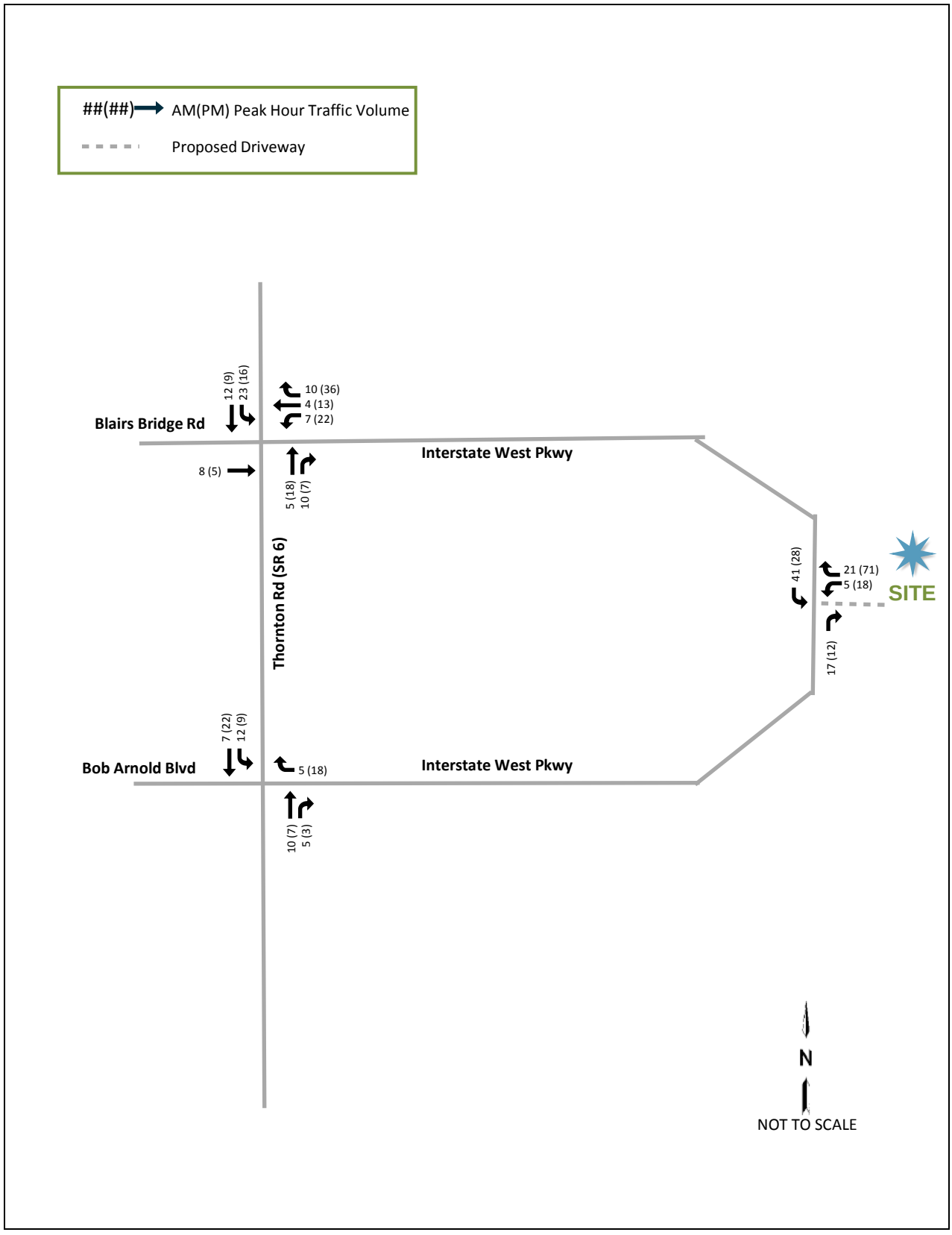
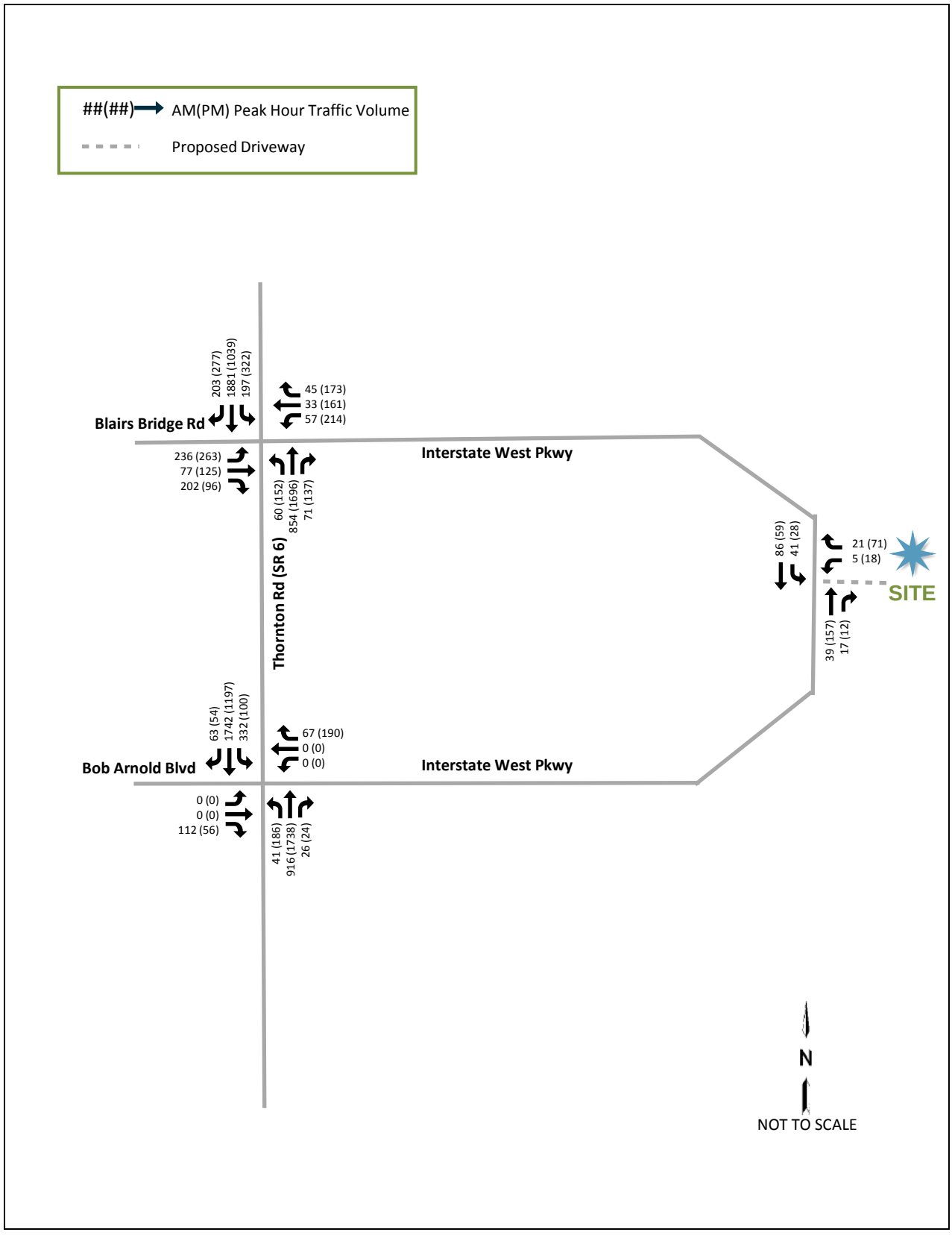


Figure 8 Future with Project (Build) Traffic Volumes



4.3. Future Build Conditions Capacity Analysis

The results of the capacity analysis are shown by lane group movement in Table 3 for 2016 build-out volumes. Average vehicular delays are reported in seconds, and LOS is level-of service, as defined by the Highway Capacity Manual (HCM). Full Synchro output reports are included in the Appendix.

Table 6 Future Build Levels of Service

Intersection	Control	Approach Movement	AM LOS	PM LOS
Interstate West Pkwy/Blairs Bridge Rd at Thornton Rd	Signal	Overall	C	D
Interstate West Pkwy/ Bob Arnold Blvd at Thornton Rd	Side Street Stop Control	Northbound Left	C	C
		Southbound Left	C	D
		Eastbound	D	C
		Westbound	A	A
Interstate West Pkwy at Site Driveway	Side Street Stop Control	Northbound	A	A
		Southbound Left	A	A
		Southbound Thru	A	A
		Westbound	A	A

Both study intersections in both AM and PM peak hours are expected to operate adequately with the new project traffic and the background traffic, with the reassignment of the side street left turn and through movement volumes to the signalized intersection at Blairs Bridge Rd/Interstate West Pkwy and Thornton Rd, and the signal phasing and timing optimized.

No improvements are needed or identified to accommodate the new project trips.

5. Conclusions and Recommendations

The new 781,438 square foot high-cube warehouse distribution center development on Interstate West Parkway in southern Cobb County, Georgia expected to be completed in 2016 is not expected to have significant impact on the traffic at the study intersections on Thornton Road (State Route 6). The development is expected to generate 1,314 new daily trips (812 passenger vehicles and 502 trucks) including 58 morning with 40 evening new entering trips and 26 morning with 89 evening new exiting trips during the peak hours. The existing two-way left turn lane on Interstate West Parkway will provide for storage of left-turning vehicles into the site from the signalized intersection on Thornton Road. A right turn deceleration lane on northbound Interstate West Parkway is not expected to be needed based on the intersection capacity analyses because of the low entering and through volumes.

No improvements are needed to provide adequate Levels of Service at the study intersections, assuming all side-street left turning and through movement vehicles across Thornton Road use the signalized intersection at Blairs Bridge Road/Interstate West Parkway during peak hours.

Appendix

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Interstate W Pkwy Bet. Mitsubishi Motors & Vision Center Dwys

Day: Wednesday
Date: 11/4/2015

City: Lithia Springs
Project #: GA15_9388_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	438	552	990

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00	0	0	0		2		2		12:00	0	0	11		13		24	
00:15	0	0	0		1		1		12:15	0	0	8		11		19	
00:30	0	0	1		2		3		12:30	0	0	5		12		17	
00:45	0	0	0	1	2	7	2	8	12:45	0	0	7	31	10	46	17	77
01:00	0	0	1		0		1		13:00	0	0	11		8		19	
01:15	0	0	1		1		2		13:15	0	0	15		17		32	
01:30	0	0	1		0		1		13:30	0	0	10		8		18	
01:45	0	0	1	4	0	1	1	5	13:45	0	0	11	47	7	40	18	87
02:00	0	0	0		1		1		14:00	0	0	9		18		27	
02:15	0	0	1		0		1		14:15	0	0	13		7		20	
02:30	0	0	0		0				14:30	0	0	11		13		24	
02:45	0	0	0	1	0	1		2	14:45	0	0	8	41	8	46	16	87
03:00	0	0	0		0				15:00	0	0	2		11		13	
03:15	0	0	0		1		1		15:15	0	0	3		11		14	
03:30	0	0	0		0				15:30	0	0	4		13		17	
03:45	0	0	0		0	1		1	15:45	0	0	4	13	10	45	14	58
04:00	0	0	0		0				16:00	0	0	7		24		31	
04:15	0	0	0		0				16:15	0	0	7		11		18	
04:30	0	0	0		0				16:30	0	0	9		10		19	
04:45	0	0	0		1	1	1	1	16:45	0	0	3	26	20	65	23	91
05:00	0	0	3		2		5		17:00	0	0	5		21		26	
05:15	0	0	0		2		2		17:15	0	0	8		27		35	
05:30	0	0	1		1		2		17:30	0	0	12		6		18	
05:45	0	0	5	9	0	5	5	14	17:45	0	0	4	29	14	68	18	97
06:00	0	0	3		0		3		18:00	0	0	8		14		22	
06:15	0	0	7		5		12		18:15	0	0	8		3		11	
06:30	0	0	6		2		8		18:30	0	0	3		4		7	
06:45	0	0	6	22	5	12	11	34	18:45	0	0	3	22	4	25	7	47
07:00	0	0	11		2		13		19:00	0	0	4		9		13	
07:15	0	0	7		1		8		19:15	0	0	5		4		9	
07:30	0	0	8		7		15		19:30	0	0	3		7		10	
07:45	0	0	11	37	6	16	17	53	19:45	0	0	7	19	3	23	10	42
08:00	0	0	2		5		7		20:00	0	0	7		4		11	
08:15	0	0	5		3		8		20:15	0	0	0		2		2	
08:30	0	0	5		3		8		20:30	0	0	2		2		4	
08:45	0	0	7	19	6	17	13	36	20:45	0	0	3	12	3	11	6	23
09:00	0	0	7		10		17		21:00	0	0	2		3		5	
09:15	0	0	5		5		10		21:15	0	0	3		2		5	
09:30	0	0	5		5		10		21:30	0	0	4		2		6	
09:45	0	0	4	21	4	24	8	45	21:45	0	0	1	10	3	10	4	20
10:00	0	0	2		6		8		22:00	0	0	1		1		2	
10:15	0	0	6		6		12		22:15	0	0	1		1		2	
10:30	0	0	7		6		13		22:30	0	0	2		2		4	
10:45	0	0	4	19	9	27	13	46	22:45	0	0	1	5	1	5	2	10
11:00	0	0	8		10		18		23:00	0	0	1		9		10	
11:15	0	0	13		12		25		23:15	0	0	1		0		1	
11:30	0	0	10		14		24		23:30	0	0	0		2		2	
11:45	0	0	17	48	9	45	26	93	23:45	0	0	0	2	0	11		13
TOTALS				181		157		338	TOTALS				257		395		652
SPLIT %				53.6%		46.4%		34.1%	SPLIT %				39.4%		60.6%		65.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	438	552	990

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Thornton Rd and Interstate W Pkwy_Blairs Bridge Rd , Lithia Springs

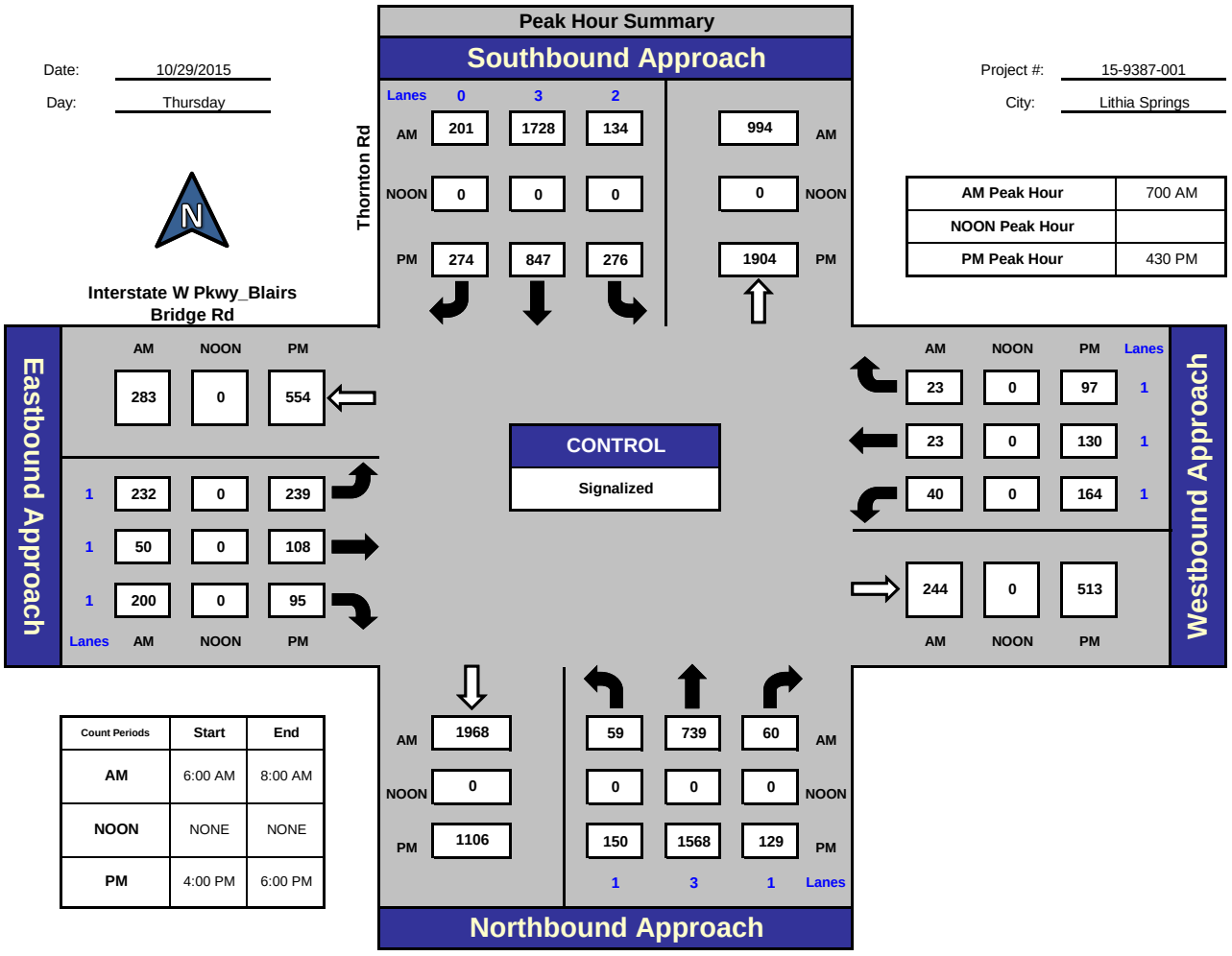
Date: 10/29/2015

Day: Thursday

Project #: 15-9387-001

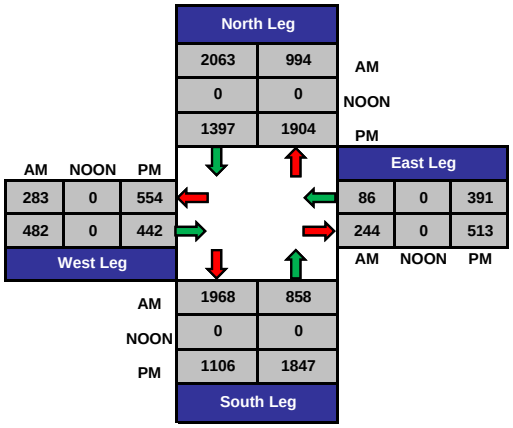
City: Lithia Springs

AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	430 PM

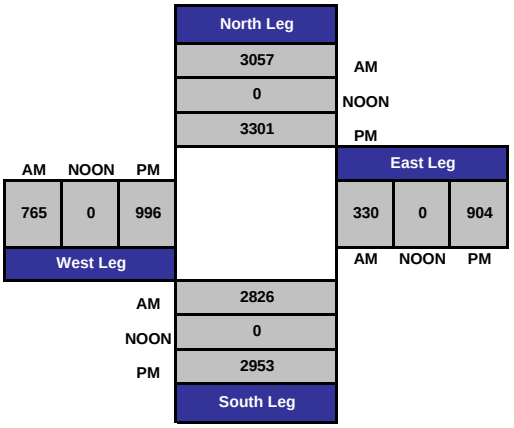


Count Periods	Start	End
AM	6:00 AM	8:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

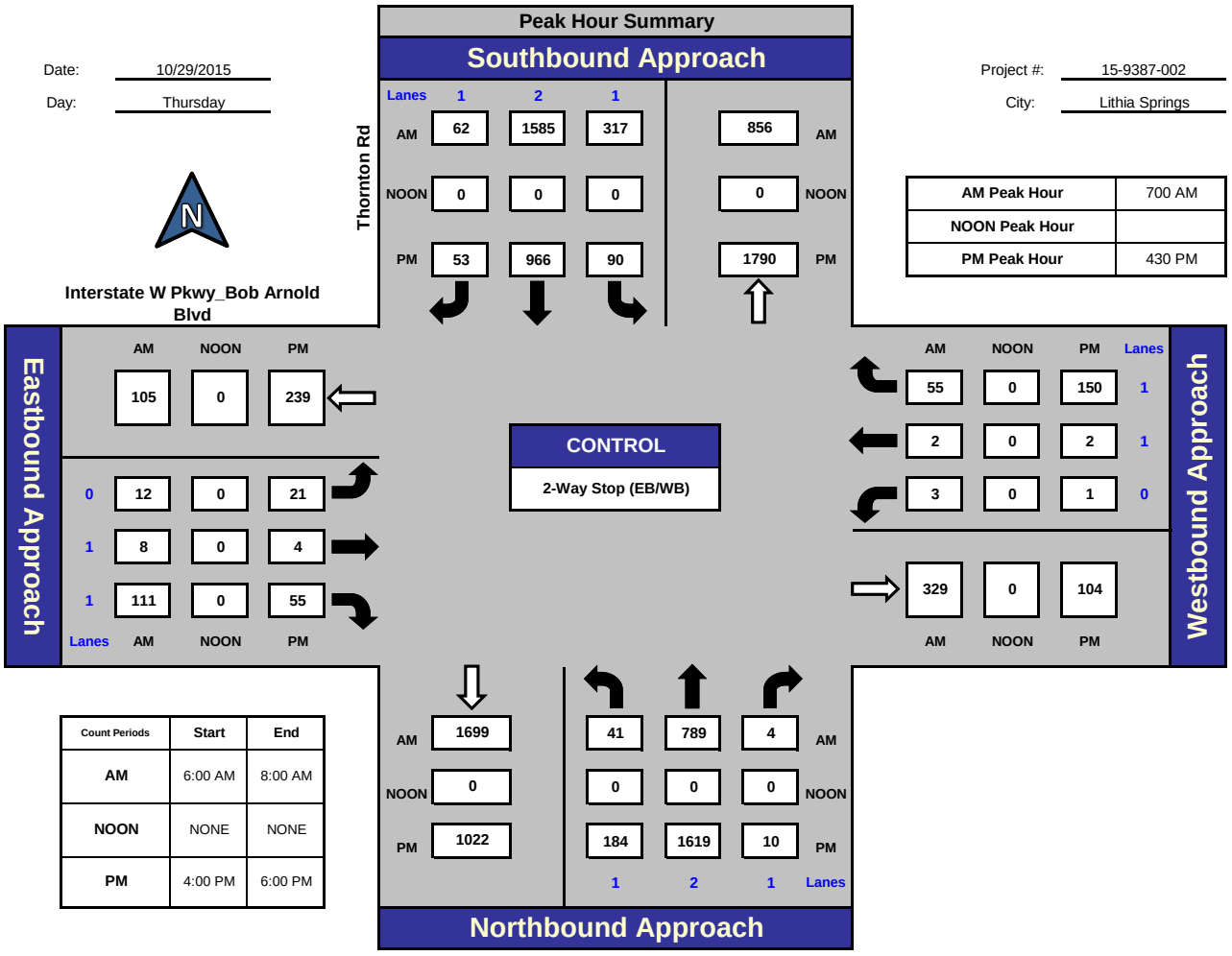
Thornton Rd and Interstate W Pkwy_Bob Arnold Blvd , Lithia Springs

Date: 10/29/2015

Day: Thursday

Project #: 15-9387-002

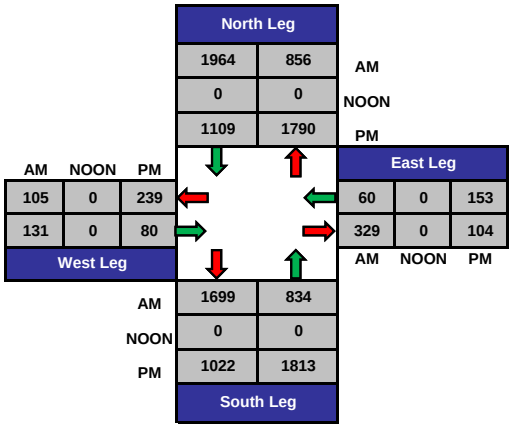
City: Lithia Springs



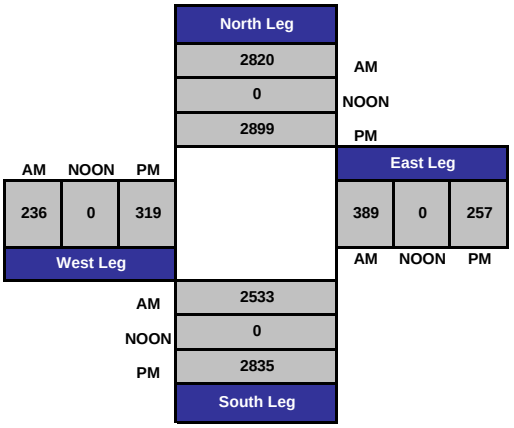
AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	430 PM

Count Periods	Start	End
AM	6:00 AM	8:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Project ID: 15-9387-001
Location: Thornton Rd & Interstate W Pkwy_Blairs Bridge Rd
City: Lithia Springs

Day: Thursday
Date: 10/29/2015

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Thornton Rd Southbound					terstate W Pkwy_Blairs Bridge F Westbound					Thornton Rd Northbound					Interstate W Pkwy_Blairs Bridge Rd Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:00 AM	22	404	27	0	453	8	1	12	0	21	9	104	9	0	122	38	8	53	0	99	695
6:15 AM	24	497	30	0	551	7	6	13	0	26	10	122	8	0	140	56	10	55	0	121	838
6:30 AM	37	538	25	0	600	5	5	5	0	15	7	141	14	0	162	58	12	57	0	127	904
6:45 AM	27	366	27	0	420	5	8	7	0	20	8	163	7	0	178	61	3	52	0	116	734
Total	110	1805	109	0	2024	25	20	37	0	82	34	530	38	0	602	213	33	217	0	463	3171
7:00 AM	38	394	30	0	462	7	11	12	0	30	11	169	16	0	196	55	11	67	0	133	821
7:15 AM	56	472	33	0	561	5	5	9	0	19	13	181	12	0	206	46	15	45	0	106	892
7:30 AM	49	446	33	0	528	2	2	6	0	10	14	195	16	0	225	59	12	59	0	130	893
7:45 AM	58	416	38	0	512	9	5	13	0	27	22	194	15	0	231	40	12	61	0	113	883
Total	201	1728	134	0	2063	23	23	40	0	86	60	739	59	0	858	200	50	232	0	482	3489
BREAK																					
4:00 PM	50	190	90	0	330	19	17	29	0	65	23	324	26	0	373	20	13	44	0	77	845
4:15 PM	36	207	71	0	314	37	22	43	0	102	31	333	36	0	400	17	17	58	0	92	908
4:30 PM	55	202	84	0	341	24	29	42	0	95	29	377	38	0	444	23	24	49	0	96	976
4:45 PM	70	220	56	0	346	26	29	42	0	97	38	372	29	0	439	25	23	67	0	115	997
Total	211	819	301	0	1331	106	97	156	0	359	121	1406	129	0	1656	85	77	218	0	380	3726
5:00 PM	78	230	46	0	354	23	42	34	0	99	29	449	49	0	527	22	35	55	0	112	1092
5:15 PM	71	195	90	0	356	24	30	46	0	100	33	370	34	0	437	25	26	68	0	119	1012
5:30 PM	84	212	72	0	368	25	44	40	0	109	41	311	34	0	386	21	18	52	0	91	954
5:45 PM	72	195	67	0	334	22	28	29	0	79	49	315	32	0	396	14	23	55	0	92	901
Total	305	832	275	0	1412	94	144	149	0	387	152	1445	149	0	1746	82	102	230	0	414	3959
Grand Total	827	5184	819	0	6830	248	284	382	0	914	367	4120	375	0	4862	580	262	897	0	1739	14345
Apprch %	12.1	75.9	12.0	0.0		27.1	31.1	41.8	0.0		7.5	84.7	7.7	0.0		33.4	15.1	51.6	0.0		
Total %	5.8	36.1	5.7	0.0	47.6	1.7	2.0	2.7	0.0	6.4	2.6	28.7	2.6	0.0	33.9	4.0	1.8	6.3	0.0	12.1	
Cars, PU, Vans	781	4788	798	0	6367	233	275	369	0	877	355	3822	353	0	4530	540	256	818	0	1614	13388
% Cars, PU, Vans	94.4	92.4	97.4	0.0	93.2	94.0	96.8	96.6	0.0	96.0	96.7	92.8	94.1	0.0	93.2	93.1	97.7	91.2	0.0	92.8	93.3
Heavy Trucks	46	396	21		463	15	9	13		37	12	298	22		332	40	6	79		125	957
%Heavy Trucks	5.6	7.6	2.6	0.0	6.8	6.0	3.2	3.4	0.0	4.0	3.3	7.2	5.9	0.0	6.8	6.9	2.3	8.8	0.0	7.2	6.7

Project ID: 15-9387-001
Location: Thornton Rd & Interstat
City: Lithia Springs

PEAK HOURS

Day: Thursday
Date: 10/29/2015

AM

	Thornton Rd Southbound				state W Pkwy_Blairs Bridg Westbound				Thornton Rd Northbound				state W Pkwy_Blairs Bridg Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM to 08:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	38	394	30	462	7	11	12	30	11	169	16	196	55	11	67	133	821
7:15 AM	56	472	33	561	5	5	9	19	13	181	12	206	46	15	45	106	892
7:30 AM	49	446	33	528	2	2	6	10	14	195	16	225	59	12	59	130	893
7:45 AM	58	416	38	512	9	5	13	27	22	194	15	231	40	12	61	113	883
Total Volume	201	1728	134	2063	23	23	40	86	60	739	59	858	200	50	232	482	3489
% App. Total	9.7	83.8	6.5	100	26.7	26.7	46.5	100	7.0	86.1	6.9	100	41.5	10.4	48.1	100	
PHF				0.919				0.717				0.929				0.906	
Cars, PU, Vans	188	1601	128	1917	21	21	36	78	58	670	53	781	192	50	215	457	3233
% Cars, PU, Vans	93.5	92.7	95.5	92.9	91.3	91.3	90.0	90.7	96.7	90.7	89.8	91.0	96.0	####	92.7	94.8	92.7
Heavy Trucks	13	127	6	146	2	2	4	8	2	69	6	77	8	0	17	25	256
%Heavy Trucks	6.5	7.3	4.5	7.1	8.7	8.7	10.0	9.3	3.3	9.3	10.2	9.0	4.0	0.0	7.3	5.2	7.3

PM

	Thornton Rd Southbound				state W Pkwy_Blairs Bridg Westbound				Thornton Rd Northbound				state W Pkwy_Blairs Bridg Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
4:30 PM	55	202	84	341	24	29	42	95	29	377	38	444	23	24	49	96	976
4:45 PM	70	220	56	346	26	29	42	97	38	372	29	439	25	23	67	115	997
5:00 PM	78	230	46	354	23	42	34	99	29	449	49	527	22	35	55	112	1092
5:15 PM	71	195	90	356	24	30	46	100	33	370	34	437	25	26	68	119	1012
Total Volume	274	847	276	1397	97	130	164	391	129	1568	150	1847	95	108	239	442	4077
% App. Total	19.6	60.6	19.8	100	24.8	33.2	41.9	100	7.0	84.9	8.1	100	21.5	24.4	54.1	100	
PHF				0.981				0.978				0.876				0.929	
Cars, PU, Vans	258	764	270	1292	91	127	161	379	126	1483	143	1752	84	107	219	410	3833
% Cars, PU, Vans	94.2	90.2	97.8	92.5	93.8	97.7	98.2	96.9	97.7	94.6	95.3	94.9	88.4	99.1	91.6	92.8	94.0
Heavy Trucks	16	83	6	105	6	3	3	12	3	85	7	95	11	1	20	32	244
%Heavy Trucks	5.8	9.8	2.2	7.5	6.2	2.3	1.8	3.1	2.3	5.4	4.7	5.1	11.6	0.9	8.4	7.2	6.0

Project ID: 15-9387-002
Location: Thornton Rd & Interstate W Pkwy_Bob Arnold Blvd
City: Lithia Springs

Day: Thursday
Date: 10/29/2015

Groups Printed - Cars, PU, Vans - Heavy Trucks

	Thornton Rd Southbound					terstate W Pkwy_Bob Arnold Blv Westbound					Thornton Rd Northbound					Interstate W Pkwy_Bob Arnold Blvd Eastbound					
Start Time	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Int. Total
6:00 AM	7	376	50	0	433	14	0	1	0	15	0	114	8	0	122	13	1	1	0	15	585
6:15 AM	7	482	89	0	578	11	0	2	0	13	0	107	15	0	122	22	2	2	0	26	739
6:30 AM	16	472	98	0	586	10	1	0	0	11	0	153	11	0	164	37	1	5	0	43	804
6:45 AM	12	347	93	0	452	15	0	2	0	17	1	147	10	0	158	28	3	0	0	31	658
Total	42	1677	330	0	2049	50	1	5	0	56	1	521	44	0	566	100	7	8	0	115	2786
7:00 AM	19	372	55	0	446	10	0	0	0	10	0	194	6	0	200	24	3	3	0	30	686
7:15 AM	8	438	86	0	532	13	0	2	0	15	0	186	15	0	201	21	1	2	0	24	772
7:30 AM	11	400	82	0	493	21	1	1	0	23	3	191	8	0	202	32	1	2	0	35	753
7:45 AM	24	375	94	0	493	11	1	0	0	12	1	218	12	0	231	34	3	5	0	42	778
Total	62	1585	317	0	1964	55	2	3	0	60	4	789	41	0	834	111	8	12	0	131	2989
BREAK																					
4:00 PM	13	206	20	0	239	36	2	1	0	39	2	305	21	0	328	16	2	8	0	26	632
4:15 PM	19	216	18	0	253	30	0	0	0	30	2	372	29	0	403	14	0	10	0	24	710
4:30 PM	9	243	23	0	275	35	1	0	0	36	1	406	46	0	453	6	1	5	0	12	776
4:45 PM	17	215	24	0	256	29	0	0	0	29	3	364	40	0	407	11	1	6	0	18	710
Total	58	880	85	0	1023	130	3	1	0	134	8	1447	136	0	1591	47	4	29	0	80	2828
5:00 PM	17	256	30	0	303	56	1	0	0	57	4	462	53	0	519	21	1	6	0	28	907
5:15 PM	10	252	13	0	275	30	0	1	0	31	2	387	45	0	434	17	1	4	0	22	762
5:30 PM	7	246	15	0	268	21	0	0	0	21	4	372	39	0	415	16	0	7	0	23	727
5:45 PM	13	221	18	0	252	33	2	1	0	36	5	344	27	0	376	13	2	3	0	18	682
Total	47	975	76	0	1098	140	3	2	0	145	15	1565	164	0	1744	67	4	20	0	91	3078
Grand Total	209	5117	808	0	6134	375	9	11	0	395	28	4322	385	0	4735	325	23	69	0	417	11681
Apprch %	3.4	83.4	13.2	0.0		94.9	2.3	2.8	0.0		0.6	91.3	8.1	0.0		77.9	5.5	16.5	0.0		
Total %	1.8	43.8	6.9	0.0	52.5	3.2	0.1	0.1	0.0	3.4	0.2	37.0	3.3	0.0	40.5	2.8	0.2	0.6	0.0	3.6	
Cars, PU, Vans	196	4701	790	0	5687	353	8	11	0	372	28	4016	366	0	4410	304	22	68	0	394	10863
% Cars, PU, Vans	93.8	91.9	97.8	0.0	92.7	94.1	88.9	100.0	0.0	94.2	####	92.9	95.1	0.0	93.1	93.5	95.7	98.6	0.0	94.5	93.0
Heavy Trucks	13	416	18		447	22	1	0		23	0	306	19		325	21	1	1		23	818
%Heavy Trucks	6.2	8.1	2.2	0.0	7.3	5.9	11.1	0.0	0.0	5.8	0.0	7.1	4.9	0.0	6.9	6.5	4.3	1.4	0.0	5.5	7.0

Project ID: 15-9387-002
Location: Thornton Rd & Interstat
City: Lithia Springs

PEAK HOURS

Day: Thursday
Date: 10/29/2015

AM

	Thornton Rd Southbound				state W Pkwy_Bob Arnold Westbound				Thornton Rd Northbound				state W Pkwy_Bob Arnold Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 06:00 AM to 08:00 AM																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
7:00 AM	19	372	55	446	10	0	0	10	0	194	6	200	24	3	3	30	686
7:15 AM	8	438	86	532	13	0	2	15	0	186	15	201	21	1	2	24	772
7:30 AM	11	400	82	493	21	1	1	23	3	191	8	202	32	1	2	35	753
7:45 AM	24	375	94	493	11	1	0	12	1	218	12	231	34	3	5	42	778
Total Volume	62	1585	317	1964	55	2	3	60	4	789	41	834	111	8	12	131	2989
% App. Total	3.2	80.7	16.1	100	91.7	3.3	5.0	100	0.5	94.6	4.9	100	84.7	6.1	9.2	100	
PHF				0.923				0.652				0.903				0.780	
Cars, PU, Vans	59	1457	311	1827	49	2	3	54	4	712	40	756	100	8	12	120	2757
% Cars, PU, Vans	95.2	91.9	98.1	93.0	89.1	####	####	90.0	####	90.2	97.6	90.6	90.1	####	100.0	91.6	92.2
Heavy Trucks	3	128	6	137	6	0	0	6	0	77	1	78	11	0	0	11	232
%Heavy Trucks	4.8	8.1	1.9	7.0	10.9	0.0	0.0	10.0	0.0	9.8	2.4	9.4	9.9	0.0	0.0	8.4	7.8

PM

	Thornton Rd Southbound				state W Pkwy_Bob Arnold Westbound				Thornton Rd Northbound				state W Pkwy_Bob Arnold Eastbound				
Start Time	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Rgt	Thru	Left	App. Total	Int. Total
Peak Hour Analysis from 04:00 PM to 06:00 PM																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
4:30 PM	9	243	23	275	35	1	0	36	1	406	46	453	6	1	5	12	776
4:45 PM	17	215	24	256	29	0	0	29	3	364	40	407	11	1	6	18	710
5:00 PM	17	256	30	303	56	1	0	57	4	462	53	519	21	1	6	28	907
5:15 PM	10	252	13	275	30	0	1	31	2	387	45	434	17	1	4	22	762
Total Volume	53	966	90	1109	150	2	1	153	10	1619	184	1813	55	4	21	80	3155
% App. Total	4.8	87.1	8.1	100	98.0	1.3	0.7	100	0.6	89.3	10.1	100	68.8	5.0	26.3	100	
PHF				0.915				0.671				0.873				0.714	
Cars, PU, Vans	49	875	86	1010	144	2	1	147	10	1529	174	1713	53	4	20	77	2947
% Cars, PU, Vans	92.5	90.6	95.6	91.1	96.0	####	####	96.1	####	94.4	94.6	94.5	96.4	####	95.2	96.3	93.4
Heavy Trucks	4	91	4	99	6	0	0	6	0	90	10	100	2	0	1	3	208
%Heavy Trucks	7.5	9.4	4.4	8.9	4.0	0.0	0.0	3.9	0.0	5.6	5.4	5.5	3.6	0.0	4.8	3.8	6.6

HCM 2010 Signalized Intersection Summary
1: Thornton Rd SR 6 & Blairs Bridge Road/Interstate West Pkwy

12/16/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	232	50	200	40	23	23	59	739	60	134	1728	201
Future Volume (veh/h)	232	50	200	40	23	23	59	739	60	134	1728	201
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	255	55	0	53	31	0	63	795	0	146	1878	218
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	361	238	202	245	94	80	87	2179	678	226	2060	237
Arrive On Green	0.12	0.13	0.00	0.05	0.05	0.00	0.05	0.43	0.00	0.07	0.45	0.45
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	4581	528
Grp Volume(v), veh/h	255	55	0	53	31	0	63	795	0	146	1373	723
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1751
Q Serve(g_s), s	9.0	2.0	0.0	2.1	1.2	0.0	2.6	7.8	0.0	3.1	27.9	28.4
Cycle Q Clear(g_c), s	9.0	2.0	0.0	2.1	1.2	0.0	2.6	7.8	0.0	3.1	27.9	28.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	361	238	202	245	94	80	87	2179	678	226	1510	788
V/C Ratio(X)	0.71	0.23	0.00	0.22	0.33	0.00	0.73	0.36	0.00	0.64	0.91	0.92
Avail Cap(c_a), veh/h	361	238	202	286	101	85	120	2179	678	325	1510	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	28.7	0.0	30.9	33.6	0.0	34.4	14.0	0.0	33.4	18.8	18.9
Incr Delay (d2), s/veh	6.2	0.5	0.0	0.4	2.0	0.0	12.9	0.5	0.0	3.1	9.6	17.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.0	0.0	1.0	0.7	0.0	1.6	3.7	0.0	1.5	14.8	17.5
LnGrp Delay(d),s/veh	34.2	29.2	0.0	31.3	35.6	0.0	47.3	14.5	0.0	36.5	28.4	36.3
LnGrp LOS	C	C		C	D		D	B		D	C	D
Approach Vol, veh/h		310			84			858			2242	
Approach Delay, s/veh		33.3			32.9			16.9			31.5	
Approach LOS		C			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	37.7	9.3	15.4	9.6	39.0	15.0	9.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	31.0	5.0	8.0	5.0	33.0	9.0	4.0
Max Q Clear Time (g_c+I1), s	5.1	9.8	4.1	4.0	4.6	30.4	11.0	3.2
Green Ext Time (p_c), s	0.1	17.5	0.0	0.1	0.0	2.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	456

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	12	8	111	3	2	55	41	789	4	317	1585	62
Future Vol, veh/h	12	8	111	3	2	55	41	789	4	317	1585	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	75	75	75	90	90	90	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	15	10	142	4	3	73	46	877	4	345	1723	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2943	3380	861	2524	3380	-	1723	0	0	877	0	0
Stage 1	2412	2412	-	968	968	-	-	-	-	-	-	-
Stage 2	531	968	-	1556	2412	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	~ 6	~ 7	297	14	7	0	359	-	-	759	-	-
Stage 1	33	62	-	271	328	0	-	-	-	-	-	-
Stage 2	497	328	-	117	62	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 1	~ 3	297	-	3	-	359	-	-	759	-	-
Mov Cap-2 Maneuver	~ 1	~ 3	-	-	3	-	-	-	-	-	-	-
Stage 1	29	34	-	236	286	-	-	-	-	-	-	-
Stage 2	429	286	-	23	34	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 8754.7		0.8	2.2
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	359	-	-	9	-	759	-	-
HCM Lane V/C Ratio	0.127	-	-	18.661	-	0.454	-	-
HCM Control Delay (s)	16.5	-	-	$ 8754.7	-	13.6	-	-
HCM Lane LOS	C	-	-	F	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	22.6	-	2.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 2010 Signalized Intersection Summary
1: Thornton Rd SR 6 & Blairs Bridge Road/Interstate West Pkwy

12/16/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	108	95	164	130	97	150	1568	129	276	847	274
Future Volume (veh/h)	239	108	95	164	130	97	150	1568	129	276	847	274
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	257	116	0	167	133	0	170	1782	0	282	864	280
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.88	0.88	0.88	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	271	172	146	277	148	125	208	2082	648	318	1465	473
Arrive On Green	0.09	0.09	0.00	0.08	0.08	0.00	0.12	0.41	0.00	0.09	0.39	0.39
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	3771	1216
Grp Volume(v), veh/h	257	116	0	167	133	0	170	1782	0	282	769	375
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1630
Q Serve(g_s), s	7.0	4.6	0.0	6.0	5.4	0.0	7.1	24.1	0.0	6.1	13.6	13.7
Cycle Q Clear(g_c), s	7.0	4.6	0.0	6.0	5.4	0.0	7.1	24.1	0.0	6.1	13.6	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.75
Lane Grp Cap(c), veh/h	271	172	146	277	148	125	208	2082	648	318	1304	633
V/C Ratio(X)	0.95	0.67	0.00	0.60	0.90	0.00	0.82	0.86	0.00	0.89	0.59	0.59
Avail Cap(c_a), veh/h	271	172	146	277	148	125	234	2082	648	318	1304	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	32.9	0.0	29.7	34.2	0.0	32.3	20.0	0.0	33.6	18.2	18.2
Incr Delay (d2), s/veh	41.2	9.9	0.0	3.6	46.2	0.0	18.3	4.8	0.0	24.5	2.0	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	5.0	0.0	1.3	8.2	0.0	8.0	17.7	0.0	7.2	10.9	11.2
LnGrp Delay(d),s/veh	72.6	42.8	0.0	33.3	80.4	0.0	50.6	24.8	0.0	58.1	20.1	22.3
LnGrp LOS	E	D		C	F		D	C		E	C	C
Approach Vol, veh/h		373			300			1952			1426	
Approach Delay, s/veh		63.3			54.2			27.0			28.2	
Approach LOS		E			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	37.0	12.0	13.0	14.9	35.1	13.0	12.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	31.0	6.0	7.0	10.0	28.0	7.0	6.0
Max Q Clear Time (g_c+I1), s	8.1	26.1	8.0	6.6	9.1	15.7	9.0	7.4
Green Ext Time (p_c), s	0.0	4.6	0.0	0.1	0.0	10.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.8
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	234.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	21	4	55	1	2	150	184	1619	10	90	966	53
Future Vol, veh/h	21	4	55	1	2	150	184	1619	10	90	966	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	87	87	87	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	28	5	73	1	3	200	211	1861	11	98	1050	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2601	3530	525	3007	3530	-	1050	0	0	1861	0	0
Stage 1	1246	1246	-	2284	2284	-	-	-	-	-	-	-
Stage 2	1355	2284	-	723	1246	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	~ 12	6	495	6	6	0	653	-	-	317	-	-
Stage 1	182	242	-	40	73	0	-	-	-	-	-	-
Stage 2	156	73	-	381	242	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 2	~ 3	495	-	3	-	653	-	-	317	-	-
Mov Cap-2 Maneuver	~ 2	~ 3	-	-	3	-	-	-	-	-	-	-
Stage 1	123	167	-	27	49	-	-	-	-	-	-	-
Stage 2	100	49	-	217	167	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 7436.3		1.3	1.7
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	7	-	317	-	-
HCM Lane V/C Ratio	0.324	-	-	15.238	-	0.309	-	-
HCM Control Delay (s)	13.1	-	-	$ 7436.3	-	21.3	-	-
HCM Lane LOS	B	-	-	F	-	C	-	-
HCM 95th %tile Q(veh)	1.4	-	-	15.1	-	1.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 2010 Signalized Intersection Summary
1: Thornton Rd SR 6 & Blairs Bridge Road/Interstate West Pkwy

12/16/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	58	200	43	25	23	59	727	60	134	1728	201
Future Volume (veh/h)	244	58	200	43	25	23	59	727	60	134	1728	201
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	268	64	0	57	33	0	63	782	0	146	1878	218
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	360	236	200	249	96	81	87	2177	678	226	2059	237
Arrive On Green	0.12	0.13	0.00	0.05	0.05	0.00	0.05	0.43	0.00	0.07	0.45	0.45
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	4581	528
Grp Volume(v), veh/h	268	64	0	57	33	0	63	782	0	146	1373	723
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1751
Q Serve(g_s), s	9.0	2.3	0.0	2.2	1.3	0.0	2.6	7.7	0.0	3.1	28.0	28.4
Cycle Q Clear(g_c), s	9.0	2.3	0.0	2.2	1.3	0.0	2.6	7.7	0.0	3.1	28.0	28.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	360	236	200	249	96	81	87	2177	678	226	1509	787
V/C Ratio(X)	0.74	0.27	0.00	0.23	0.34	0.00	0.73	0.36	0.00	0.64	0.91	0.92
Avail Cap(c_a), veh/h	360	236	200	286	100	85	120	2177	678	325	1509	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	28.9	0.0	30.8	33.6	0.0	34.4	14.0	0.0	33.4	18.8	19.0
Incr Delay (d2), s/veh	8.1	0.6	0.0	0.5	2.1	0.0	13.0	0.5	0.0	3.1	9.7	17.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	2.2	0.0	2.0	1.3	0.0	2.8	6.6	0.0	2.8	21.1	24.3
LnGrp Delay(d),s/veh	36.7	29.6	0.0	31.3	35.7	0.0	47.4	14.5	0.0	36.5	28.5	36.4
LnGrp LOS	D	C		C	D		D	B		D	C	D
Approach Vol, veh/h		332			90			845			2242	
Approach Delay, s/veh		35.3			32.9			16.9			31.6	
Approach LOS		D			C			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	37.7	9.4	15.4	9.6	39.0	15.0	9.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	31.0	5.0	8.0	5.0	33.0	9.0	4.0
Max Q Clear Time (g_c+I1), s	5.1	9.7	4.2	4.3	4.6	30.4	11.0	3.3
Green Ext Time (p_c), s	0.1	17.5	0.0	0.1	0.0	2.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.5
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	111	0	0	55	41	789	4	317	1588	62
Future Vol, veh/h	0	0	111	0	0	55	41	789	4	317	1588	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	75	75	75	90	90	90	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	142	0	0	73	46	877	4	345	1726	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2944	3383	863	2520	3383	-	1726	0	0	877	0	0
Stage 1	2415	2415	-	968	968	-	-	-	-	-	-	-
Stage 2	529	968	-	1552	2415	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	6	7	296	14	7	0	358	-	-	759	-	-
Stage 1	33	62	-	271	328	0	-	-	-	-	-	-
Stage 2	499	328	-	117	62	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	4	3	296	4	3	-	358	-	-	759	-	-
Mov Cap-2 Maneuver	4	3	-	4	3	-	-	-	-	-	-	-
Stage 1	29	34	-	236	286	-	-	-	-	-	-	-
Stage 2	435	286	-	33	34	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.9	0	0.8	2.2
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	358	-	-	296	-	759	-	-
HCM Lane V/C Ratio	0.127	-	-	0.481	-	0.454	-	-
HCM Control Delay (s)	16.5	-	-	27.9	0	13.6	-	-
HCM Lane LOS	C	-	-	D	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	2.5	-	2.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	112	95	165	132	97	150	1547	129	276	848	274
Future Volume (veh/h)	260	112	95	165	132	97	150	1547	129	276	848	274
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	280	120	0	168	135	0	170	1758	0	282	865	280
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.88	0.88	0.88	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	329	231	196	324	161	137	207	2014	627	298	1394	449
Arrive On Green	0.13	0.13	0.00	0.09	0.09	0.00	0.12	0.40	0.00	0.09	0.37	0.37
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	3772	1215
Grp Volume(v), veh/h	280	120	0	168	135	0	170	1758	0	282	769	376
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1630
Q Serve(g_s), s	10.0	4.9	0.0	7.0	5.8	0.0	7.6	25.7	0.0	6.6	15.0	15.1
Cycle Q Clear(g_c), s	10.0	4.9	0.0	7.0	5.8	0.0	7.6	25.7	0.0	6.6	15.0	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.75
Lane Grp Cap(c), veh/h	329	231	196	324	161	137	207	2014	627	298	1241	603
V/C Ratio(X)	0.85	0.52	0.00	0.52	0.84	0.00	0.82	0.87	0.00	0.95	0.62	0.62
Avail Cap(c_a), veh/h	329	231	196	324	161	137	264	2014	627	298	1241	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	32.8	0.0	30.1	35.9	0.0	34.5	22.1	0.0	36.3	20.6	20.7
Incr Delay (d2), s/veh	18.8	2.1	0.0	1.5	30.1	0.0	14.9	5.6	0.0	37.8	2.3	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.5	4.7	0.0	6.2	7.7	0.0	8.0	18.8	0.0	8.2	11.8	12.1
LnGrp Delay(d),s/veh	49.4	34.8	0.0	31.6	66.0	0.0	49.3	27.7	0.0	74.1	23.0	25.5
LnGrp LOS	D	C		C	E		D	C		E	C	C
Approach Vol, veh/h		400			303			1928			1427	
Approach Delay, s/veh		45.0			46.9			29.6			33.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	38.0	13.0	16.0	15.4	35.6	16.0	13.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	7.0	32.0	7.0	10.0	12.0	27.0	10.0	7.0
Max Q Clear Time (g_c+I1), s	8.6	27.7	9.0	6.9	9.6	17.1	12.0	7.8
Green Ext Time (p_c), s	0.0	4.0	0.0	0.4	0.1	8.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.9
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	55	0	0	150	184	1619	10	90	966	53
Future Vol, veh/h	0	0	55	0	0	150	184	1619	10	90	966	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	87	87	87	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	73	0	0	200	211	1861	11	98	1050	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2599	3530	525	3005	3530	-	1050	0	0	1861	0	0
Stage 1	1246	1246	-	2284	2284	-	-	-	-	-	-	-
Stage 2	1353	2284	-	721	1246	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	12	6	495	6	6	0	653	-	-	317	-	-
Stage 1	182	242	-	40	73	0	-	-	-	-	-	-
Stage 2	156	73	-	382	242	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	7	3	495	3	3	-	653	-	-	317	-	-
Mov Cap-2 Maneuver	7	3	-	3	3	-	-	-	-	-	-	-
Stage 1	123	167	-	27	49	-	-	-	-	-	-	-
Stage 2	106	49	-	225	167	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	0	1.3	1.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	495	-	317	-	-
HCM Lane V/C Ratio	0.324	-	-	0.148	-	0.309	-	-
HCM Control Delay (s)	13.1	-	-	13.5	0	21.3	-	-
HCM Lane LOS	B	-	-	B	A	C	-	-
HCM 95th %tile Q(veh)	1.4	-	-	0.5	-	1.3	-	-

HCM 2010 Signalized Intersection Summary
1: Thornton Rd SR 6 & Blairs Bridge Road/Interstate West Pkwy

12/16/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	69	202	50	29	35	60	849	61	174	1869	203
Future Volume (veh/h)	246	69	202	50	29	35	60	849	61	174	1869	203
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	270	76	0	67	39	0	65	913	0	189	2032	221
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	349	243	206	222	82	69	83	2391	744	263	2330	251
Arrive On Green	0.13	0.13	0.00	0.05	0.04	0.00	0.05	0.47	0.00	0.08	0.50	0.50
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	4617	497
Grp Volume(v), veh/h	270	76	0	67	39	0	65	913	0	189	1472	781
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1757
Q Serve(g_s), s	12.0	3.3	0.0	3.2	1.8	0.0	3.3	10.4	0.0	4.8	34.5	35.4
Cycle Q Clear(g_c), s	12.0	3.3	0.0	3.2	1.8	0.0	3.3	10.4	0.0	4.8	34.5	35.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	349	243	206	222	82	69	83	2391	744	263	1694	887
V/C Ratio(X)	0.77	0.31	0.00	0.30	0.48	0.00	0.78	0.38	0.00	0.72	0.87	0.88
Avail Cap(c_a), veh/h	349	243	206	237	83	70	99	2391	744	344	1694	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	35.1	0.0	38.2	41.6	0.0	42.0	15.0	0.0	40.2	19.5	19.7
Incr Delay (d2), s/veh	10.3	0.7	0.0	0.8	4.3	0.0	28.3	0.5	0.0	4.9	6.3	12.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	3.1	0.0	2.9	1.9	0.0	4.0	8.6	0.0	4.4	24.0	27.3
LnGrp Delay(d),s/veh	44.3	35.8	0.0	39.0	45.9	0.0	70.4	15.5	0.0	45.1	25.8	31.9
LnGrp LOS	D	D		D	D		E	B		D	C	C
Approach Vol, veh/h		346			106			978			2442	
Approach Delay, s/veh		42.4			41.5			19.1			29.3	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	48.3	10.2	17.7	10.2	51.0	18.0	10.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	9.0	41.0	5.0	11.0	5.0	45.0	12.0	4.0
Max Q Clear Time (g_c+I1), s	6.8	12.4	5.2	5.3	5.3	37.4	14.0	3.8
Green Ext Time (p_c), s	0.1	24.0	0.0	0.2	0.0	7.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.2
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	112	0	0	62	41	906	21	320	1735	63
Future Vol, veh/h	0	0	112	0	0	62	41	906	21	320	1735	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	75	75	75	90	90	90	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	144	0	0	83	46	1007	23	348	1886	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3176	3680	943	2737	3680	-	1886	0	0	1007	0	0
Stage 1	2582	2582	-	1098	1098	-	-	-	-	-	-	-
Stage 2	594	1098	-	1639	2582	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	4	5	262	9	5	0	310	-	-	678	-	-
Stage 1	25	51	-	225	285	0	-	-	-	-	-	-
Stage 2	456	285	-	103	51	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	2	2	262	2	2	-	310	-	-	678	-	-
Mov Cap-2 Maneuver	2	2	-	2	2	-	-	-	-	-	-	-
Stage 1	21	25	-	192	243	-	-	-	-	-	-	-
Stage 2	388	243	-	23	25	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.2	0	0.8	2.4
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	310	-	-	262	-	678	-	-
HCM Lane V/C Ratio	0.147	-	-	0.548	-	0.513	-	-
HCM Control Delay (s)	18.6	-	-	34.2	0	15.8	-	-
HCM Lane LOS	C	-	-	D	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	3	-	3	-	-

HCM 2010 Signalized Intersection Summary
1: Thornton Rd SR 6 & Blairs Bridge Road/Interstate West Pkwy

12/16/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	120	96	192	148	137	152	1678	130	306	1030	277
Future Volume (veh/h)	263	120	96	192	148	137	152	1678	130	306	1030	277
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	283	129	0	196	151	0	173	1907	0	312	1051	283
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.88	0.88	0.88	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	332	216	183	344	195	166	209	1941	604	382	1497	403
Arrive On Green	0.12	0.12	0.00	0.11	0.11	0.00	0.12	0.39	0.00	0.11	0.38	0.38
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	3951	1063
Grp Volume(v), veh/h	283	129	0	196	151	0	173	1907	0	312	893	441
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1657
Q Serve(g_s), s	11.0	5.9	0.0	8.7	7.0	0.0	8.5	33.0	0.0	7.9	19.9	19.9
Cycle Q Clear(g_c), s	11.0	5.9	0.0	8.7	7.0	0.0	8.5	33.0	0.0	7.9	19.9	19.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	332	216	183	344	195	166	209	1941	604	382	1272	628
V/C Ratio(X)	0.85	0.60	0.00	0.57	0.78	0.00	0.83	0.98	0.00	0.82	0.70	0.70
Avail Cap(c_a), veh/h	332	251	213	344	230	196	279	1941	604	386	1272	628
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	37.0	0.0	30.4	38.4	0.0	38.0	26.8	0.0	38.3	23.2	23.2
Incr Delay (d2), s/veh	18.7	2.9	0.0	2.2	13.0	0.0	14.3	16.7	0.0	12.6	3.3	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	5.7	0.0	7.8	7.7	0.0	8.6	25.2	0.0	7.8	14.9	15.4
LnGrp Delay(d),s/veh	51.2	39.9	0.0	32.7	51.5	0.0	52.3	43.5	0.0	50.9	26.4	29.6
LnGrp LOS	D	D		C	D		D	D		D	C	C
Approach Vol, veh/h		412			347			2080			1646	
Approach Delay, s/veh		47.7			40.9			44.2			31.9	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	40.0	16.0	16.3	16.5	39.4	17.0	15.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	34.0	10.0	12.0	14.0	30.0	11.0	11.0
Max Q Clear Time (g_c+I1), s	9.9	35.0	10.7	7.9	10.5	21.9	13.0	9.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.1	7.6	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	39.8
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	56	0	0	172	186	1731	21	91	1175	54
Future Vol, veh/h	0	0	56	0	0	172	186	1731	21	91	1175	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	87	87	87	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	75	0	0	229	214	1990	24	99	1277	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2897	3892	639	3253	3892	-	1277	0	0	1990	0	0
Stage 1	1475	1475	-	2417	2417	-	-	-	-	-	-	-
Stage 2	1422	2417	-	836	1475	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	7	3	416	4	3	0	534	-	-	282	-	-
Stage 1	131	187	-	33	62	0	-	-	-	-	-	-
Stage 2	142	62	-	326	187	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	4	1	416	2	1	-	534	-	-	282	-	-
Mov Cap-2 Maneuver	4	1	-	2	1	-	-	-	-	-	-	-
Stage 1	79	121	-	20	37	-	-	-	-	-	-	-
Stage 2	85	37	-	174	121	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	0	1.6	1.7
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	534	-	-	416	-	282	-	-
HCM Lane V/C Ratio	0.4	-	-	0.179	-	0.351	-	-
HCM Control Delay (s)	16.2	-	-	15.5	0	24.5	-	-
HCM Lane LOS	C	-	-	C	A	C	-	-
HCM 95th %tile Q(veh)	1.9	-	-	0.6	-	1.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	77	202	57	33	45	60	854	71	197	1881	203
Future Volume (veh/h)	246	77	202	57	33	45	60	854	71	197	1881	203
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	270	85	0	76	44	0	65	918	0	214	2045	221
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.91	0.91	0.91	0.75	0.75	0.75	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	346	232	197	233	83	70	83	2350	732	290	2331	249
Arrive On Green	0.13	0.13	0.00	0.05	0.04	0.00	0.05	0.47	0.00	0.09	0.50	0.50
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	4621	494
Grp Volume(v), veh/h	270	85	0	76	44	0	65	918	0	214	1480	786
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1757
Q Serve(g_s), s	12.0	3.8	0.0	3.6	2.1	0.0	3.3	10.6	0.0	5.5	34.9	35.8
Cycle Q Clear(g_c), s	12.0	3.8	0.0	3.6	2.1	0.0	3.3	10.6	0.0	5.5	34.9	35.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	346	232	197	233	83	70	83	2350	732	290	1693	886
V/C Ratio(X)	0.78	0.37	0.00	0.33	0.53	0.00	0.78	0.39	0.00	0.74	0.87	0.89
Avail Cap(c_a), veh/h	346	232	197	237	83	70	98	2350	732	382	1693	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	35.7	0.0	37.9	41.7	0.0	42.0	15.5	0.0	39.8	19.6	19.8
Incr Delay (d2), s/veh	10.9	1.0	0.0	0.8	6.4	0.0	28.4	0.5	0.0	5.2	6.6	12.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.4	3.6	0.0	3.2	2.2	0.0	4.0	8.6	0.0	5.0	24.5	27.8
LnGrp Delay(d),s/veh	44.9	36.7	0.0	38.7	48.1	0.0	70.4	16.0	0.0	45.0	26.2	32.5
LnGrp LOS	D	D		D	D		E	B		D	C	C
Approach Vol, veh/h		355			120			983			2480	
Approach Delay, s/veh		43.0			42.1			19.6			29.8	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	47.6	10.8	17.2	10.2	51.0	18.0	10.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	40.0	5.0	11.0	5.0	45.0	12.0	4.0
Max Q Clear Time (g_c+I1), s	7.5	12.6	5.6	5.8	5.3	37.8	14.0	4.1
Green Ext Time (p_c), s	0.2	23.2	0.0	0.2	0.0	6.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	112	0	0	67	41	916	26	332	1742	63
Future Vol, veh/h	0	0	112	0	0	67	41	916	26	332	1742	63
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	75	75	75	90	90	90	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	144	0	0	89	46	1018	29	361	1893	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3215	3724	947	2777	3724	-	1893	0	0	1018	0	0
Stage 1	2615	2615	-	1109	1109	-	-	-	-	-	-	-
Stage 2	600	1109	-	1668	2615	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	4	4	260	9	4	0	308	-	-	671	-	-
Stage 1	24	49	-	222	281	0	-	-	-	-	-	-
Stage 2	452	281	-	99	49	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	2	2	260	2	2	-	308	-	-	671	-	-
Mov Cap-2 Maneuver	2	2	-	2	2	-	-	-	-	-	-	-
Stage 1	20	23	-	189	239	-	-	-	-	-	-	-
Stage 2	384	239	-	20	23	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.7	0	0.8	2.6
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	308	-	-	260	-	671	-	-
HCM Lane V/C Ratio	0.148	-	-	0.552	-	0.538	-	-
HCM Control Delay (s)	18.7	-	-	34.7	0	16.4	-	-
HCM Lane LOS	C	-	-	D	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	3.1	-	3.2	-	-

HCM 2010 Signalized Intersection Summary
1: Thornton Rd SR 6 & Blairs Bridge Road/Interstate West Pkwy

12/16/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	125	96	214	161	173	152	1696	137	322	1039	277
Future Volume (veh/h)	263	125	96	214	161	173	152	1696	137	322	1039	277
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1845	1900
Adj Flow Rate, veh/h	283	134	0	218	164	0	173	1927	0	329	1060	283
Adj No. of Lanes	1	1	1	1	1	1	1	3	1	2	3	0
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.88	0.88	0.88	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	323	202	172	344	202	172	208	1962	611	379	1514	404
Arrive On Green	0.12	0.11	0.00	0.12	0.11	0.00	0.12	0.39	0.00	0.11	0.38	0.38
Sat Flow, veh/h	1757	1845	1568	1757	1845	1568	1757	5036	1568	3408	3959	1056
Grp Volume(v), veh/h	283	134	0	218	164	0	173	1927	0	329	899	444
Grp Sat Flow(s),veh/h/ln	1757	1845	1568	1757	1845	1568	1757	1679	1568	1704	1679	1658
Q Serve(g_s), s	11.0	6.3	0.0	9.8	7.8	0.0	8.7	34.0	0.0	8.5	20.3	20.3
Cycle Q Clear(g_c), s	11.0	6.3	0.0	9.8	7.8	0.0	8.7	34.0	0.0	8.5	20.3	20.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	323	202	172	344	202	172	208	1962	611	379	1284	634
V/C Ratio(X)	0.88	0.66	0.00	0.63	0.81	0.00	0.83	0.98	0.00	0.87	0.70	0.70
Avail Cap(c_a), veh/h	323	205	175	344	205	175	274	1962	611	379	1284	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	38.4	0.0	30.5	39.1	0.0	38.7	27.1	0.0	39.3	23.4	23.4
Incr Delay (d2), s/veh	22.8	7.6	0.0	3.7	21.1	0.0	15.1	16.5	0.0	18.7	3.2	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.0	6.5	0.0	8.8	8.9	0.0	8.7	25.8	0.0	8.7	15.1	15.7
LnGrp Delay(d),s/veh	56.0	46.0	0.0	34.3	60.2	0.0	53.8	43.6	0.0	58.0	26.6	29.7
LnGrp LOS	E	D		C	E		D	D		E	C	C
Approach Vol, veh/h		417			382			2100			1672	
Approach Delay, s/veh		52.8			45.4			44.5			33.6	
Approach LOS		D			D			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	41.0	17.0	15.8	16.6	40.4	17.0	15.8
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	10.0	35.0	11.0	10.0	14.0	31.0	11.0	10.0
Max Q Clear Time (g_c+I1), s	10.5	36.0	11.8	8.3	10.7	22.3	13.0	9.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.3	0.1	8.2	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	41.3
HCM 2010 LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	0	0	56	0	0	190	186	1738	24	100	1197	54
Future Vol, veh/h	0	0	56	0	0	190	186	1738	24	100	1197	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Free	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	260	-	175	285	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	87	87	87	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	75	0	0	253	214	1998	28	109	1301	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2944	3943	651	3293	3943	-	1301	0	0	1998	0	0
Stage 1	1518	1518	-	2425	2425	-	-	-	-	-	-	-
Stage 2	1426	2425	-	868	1518	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	-	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	-	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	6	3	409	3	3	0	523	-	-	280	-	-
Stage 1	123	178	-	32	61	0	-	-	-	-	-	-
Stage 2	141	61	-	311	178	0	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	3	1	409	1	1	-	523	-	-	280	-	-
Mov Cap-2 Maneuver	3	1	-	1	1	-	-	-	-	-	-	-
Stage 1	73	109	-	19	36	-	-	-	-	-	-	-
Stage 2	83	36	-	155	109	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.8	0	1.6	1.9
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	523	-	-	409	-	280	-	-
HCM Lane V/C Ratio	0.409	-	-	0.183	-	0.388	-	-
HCM Control Delay (s)	16.6	-	-	15.8	0	25.8	-	-
HCM Lane LOS	C	-	-	C	A	D	-	-
HCM 95th %tile Q(veh)	2	-	-	0.7	-	1.8	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	5	21	39	17	41	86
Future Vol, veh/h	5	21	39	17	41	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	23	42	18	45	93

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	235	52	0	0	61	0
Stage 1	52	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	751	1013	-	-	1536	-
Stage 1	968	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	729	1013	-	-	1536	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	2.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	941	1536	-
HCM Lane V/C Ratio	-	-	0.03	0.029	-
HCM Control Delay (s)	-	-	8.9	7.4	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	18	71	157	12	28	59
Future Vol, veh/h	18	71	157	12	28	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	20	77	171	13	30	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	302	177	0	0	184	0
Stage 1	177	-	-	-	-	-
Stage 2	125	-	-	-	-	-
Critical Hdwy	6.43	6.23	-	-	4.13	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	-	-	2.227	-
Pot Cap-1 Maneuver	688	863	-	-	1385	-
Stage 1	851	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	673	863	-	-	1385	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	879	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	824	1385	-
HCM Lane V/C Ratio	-	-	0.117	0.022	-
HCM Control Delay (s)	-	-	9.9	7.7	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-