TRAFFIC IMPACT STUDY

FOR

DRI# 2513: SKYLINE II COBB COUNTY, GA

Prepared For:

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EXECUTIVE SUMMARY

This traffic impact study has been conducted to determine the traffic impacts expected from the proposed Skyline II development near the City of Austell, GA. The development is planned to be completed in 2017. The development is located south of Interstate 20 in Cobb County, GA on Hartman Road between the intersections at Factory Shoals Road and Riverside Parkway and adjacent to Hartman Industrial Drive. The development will be accessed via one new full access driveway on Hartman Road.

Capacity analyses and level of service (LOS) evaluations of the two intersections in the vicinity of the development were conducted for the existing condition; future condition without the development; and future condition with the proposed development. Analysis of the new driveway was conducted for the future condition with the proposed development. The evaluations were used to determine any potential mitigation that might be recommended to resolve traffic issues resulting from the proposed development.

Two of the studied intersections are expected to continue to operate at an acceptable level of service with the full build out of the development, while one intersection will require minor modifications. The intersection of Factory Shoals Road at Hartman Road should be improved to provide a separate left-turn lane for northbound vehicles turning left. This will require a modification to the existing striping. After this change is made all of the studied intersections will operate at acceptable levels of service. In addition the development will utilize the existing center left turn lane and construct a right-turn deceleration lane on Hartman Road for the new driveway.

PROJECT DESCRIPTION

A traffic impact study has been conducted for the proposed Skyline II development that is planned on Hartman Road between Factory Shoals Road and Riverside Parkway near the City of Austell, GA in Cobb County. The proposed development will have approximately 823,600 SF of general warehouse space and is planned to be completed in 2017. The development will create a new driveway on Hartman Road, which will serve as the sole access point for the development. The conceptual site plan of the development is included in the appendix.

The traffic impacts with the development as proposed will be compared to the traffic impacts on the surrounding roadway network in the future without the development. The development is in an urban area. The traffic impact study includes capacity analyses and level of service evaluations of two major intersections in the vicinity of the development and the new driveway. The study intersections for the development are:

- Factory Shoals Road at Hartman Road
- Riverside Parkway at Hartman Road
- Hartman Road at the Skyline II driveway

The study intersections were analyzed for the existing condition, future background condition without the development, and future condition with the proposed development.

All analyses conducted as part of this study have been based on the data collected for the existing condition and an assumed growth rate for this area estimated based on historical traffic counts and future growth potential of the area. Any variations to the existing database and the assumptions made may affect the results of the study.

Skyline II Distribution Center in unincorporated Cobb County, GA

Figure 1 is a map of the vicinity of the proposed development.



Figure 1: Location Map

EXISTING CONDITIONS-2014

The study area consists of the intersections of Hartman Road at Factory Shoals Road and Hartman Road at Riverside Parkway. No pedestrian facilities are present at the intersection of Factory Shoals Road at Hartman Road, however sidewalk is located along Riverside Parkway, continuing across Hartman Road with a crosswalk. Hartman Road connects to I-20 northeast of the proposed development site via both Factory Shoals Road and Riverside Parkway. Adjacent to the site are industrial facilities.

Traffic Volumes

Turning Movement Counts (TMC) were collected at the intersections of Hartman Road at Factory Shoals Road and Hartman Road at Riverside Parkway. The counts were collected on Tuesday January 21, 2014 during the AM & PM peak hour periods from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The morning peak hour for the intersection of Hartman at Factory Shoals Road occurred from 7:15 AM to 8:15 AM and the afternoon peak hour from 5:00 PM to 6:00 PM. The morning peak hour for the intersection of Hartman Road at Riverside Parkway occurred from 7:00 AM to 8:00 AM and the afternoon peak hour from 5:00 PM to 6:00 PM. The morning peak hour for the intersection of Hartman Road at Riverside Parkway occurred from 7:00 AM to 8:00 AM and the afternoon peak hour from 5:00 PM to 6:00 PM. Figure 2 shows the existing peak hour traffic volumes at the study intersections.





Roadway Conditions

Also collected were 24-hour bi-directional volume counts on Factory Shoals Road north of I-20 and on Riverside Parkway south of Twin Hill Road. Georgia DOT (GDOT) daily, monthly, and axle traffic factors were used to adjust the short-term traffic counts. The full count data is included in the appendix.

Factory Shoals Road

Factory Shoals Road is currently a two-lane roadway in the vicinity of Hartman Road. According to GDOT, Factory Shoals Road is functionally classified as an Urban Local Road. Factory Shoals Road travels generally in the northeast-southwest direction with a posted speed limit of 40 miles per hour (mph). The average annual daily traffic volume (AADT) was 5,570 vehicles per day (vpd) on Factory Shoals Road north of I-20. The truck percentage on the road was 4%.

Riverside Parkway

Riverside Parkway is currently a four-lane roadway. According to GDOT, Riverside Parkway is functionally classified as an Urban Minor Arterial. Riverside Parkway travels generally in the northeast-southwest direction, with a posted speed limit of 45 mph. The AADT was 13,815 vpd. The truck percentage on the road was 19%.

Hartman Road

Hartman Road is currently a two-lane roadway with a center two-way left-turn lane. According to GDOT, Hartman Road is functionally classified as an Urban Local Road. Hartman Road travels generally in the northwest-southeast direction, with a posted speed limit of 40 mph.

Intersection Geometry

Factory Shoals Road at Hartman Road

This is a three-legged intersection and is side street stop controlled with Factory Shoals Road being the main street. All approaches have a single through-lane, however there is a westbound left-turn lane on Factory Shoals Road. The northbound approach is the northern terminus for Hartman Road and has a single approach lane with a hatched center lane. No pedestrian facilities are present at this intersection.

Riverside Parkway at Hartman Road

This is a three-legged intersection and is side street stop controlled with Riverside Parkway being the main street. Both approaches on Riverside Parkway have two through-lanes and include a two-way left-turn lane. The southbound approach has exlcusive left- and right-turn lanes and is the southern terminus for Hartman Road. There is 5-foot sidewalk along the north side of Riverside Parkway and a pedestrian crosswalk across the southbound approach.

Level of Service

Intersection capacity analyses were performed at two intersections to determine the existing traffic conditions within the study area. Intersection capacity analyses were performed using the methodology outlined in the 2010 Highway Capacity Manual (HCM). This methodology is the industry standard for the evaluation of intersection capacity and delay. In order to facilitate the analysis, a computer software HCS 2010 was used. This software conforms to the methodology of the HCM. The vehicular delay value that results from the HCS 2010 analysis is used to determine the level of service of an intersection. Level of service (LOS) is a letter designation used to describe traffic operating conditions, on a declining scale from A to F. LOS "A" represents free-flow traffic conditions and LOS "F" represents extreme delays with stopped traffic conditions. Tables 1 & 2 below indicate the relationship between delay and level of service for unsignalized & signalized intersections.

Table 1 : Level of Service for Un-Signalized Intersections											
Level of Service	Control Delay Per Vehicle (sec)										
A	≤10										
В	>10 and ≤15										
С	>15 and ≤25										
D	>25 and ≤35										
ш	>35 and ≤50										
F	>50										

Table 2 : Level of Service for Signalized Intersections											
Level of Service	Control Delay Per Vehicle (sec)										
A	≤10										
В	>10 and ≤20										
С	>20 and ≤35										
D	>35 and ≤55										
E	>55 and ≤80										
F	>80										

The results of the existing intersection capacity analyses are summarized in Table 3 below. Side Street Stop Control has been reported for both intersections. For Side Street Stop Control intersections, delay and LOS are given for the minor street only. The intersection capacity analyses worksheets are included in the appendix.

Table 3: Existing Year-2014 Level of Service													
Intersection	Type of Control*	Existing-2014											
intersection	Type of Control	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)										
Factory Shoals Road at Hartman Road	Side Street Stop	14.1 (B)	20.9 (C)										
Riverside Parkway at Hartman Road	Side Street Stop	16.7 (C)	21.0 (C)										

*For Side Street Stop Control intersections, delay and LOS are given for minor street only

Under existing conditions, all system intersections are operating at an acceptable level of service during AM and PM peak hours, well above the minimum LOS D.

FUTURE BACKGROUND CONDITIONS-(2017) Without Development

Future Traffic Volumes

To estimate the volumes that will exist in the vicinity of the proposed development during the anticipated full build out year of 2017, current traffic trends were evaluated. Based on GDOT's STARS information Factory Shoals Road and Riverside Parkway have shown some negative growth. For the purpose of this study and to provide the most conservative analysis an assumed growth rate of 1% is used to estimate future traffic volumes in the project area. The future background traffic volumes are shown in Figure 3.

Future Background Level of Service

The level of service for the future background condition was determined using the same method as discussed previously in the Existing Conditions – Level of Service section. Intersection capacity analyses were performed on the future background traffic volumes. The LOS for all the intersections was similar to the existing conditions.

The results of the intersection capacity analysis for the 2017 future background year are summarized in Table 4. The study worksheets are included in the appendix.

Table 4: Future Background Level of Service w/o Proposed Development													
		Future Y Without De	ear-2017 evelopment										
Intersection	Type of Control*	AM-Peak Delay (LOS)	PM-Peak Delay (LOS)										
Factory Shoals Road at Hartman Road	Side Street Stop	14.2 (B)	22.5 (C)										
Riverside Parkway at Hartman Road	Side Street Stop	16.4 (C)	22.2 (C)										

*For Side Street Stop Control intersections, delay and LOS are given for minor street only

Under future background conditions, all intersections are operating at an acceptable level of service during AM and PM peak hours, well above the minimum LOS D.





PROPOSED DEVELOPMENT

The proposed Skyline II Distribution Center development will have approximately 823,600 SF of General Warehouse Space. The development is planned to be completed in 2017. One full access driveway will be built on Hartman Road for the Distribution Center.

The proposed development was analyzed with the intersections of Factory Shoals Road at Hartman Road, Riverside Parkway at Hartman Road, and the new Skyline Driveway on Hartman Road as the development's access points. The site development plan is attached in the appendix.

Trip Generation

It is anticipated that the proposed development will reach full build-out in 2017. The expected number of gross trips for this land use was determined using Trafficware's Trip Generation software. This software estimates trips generated by the proposed land use in accordance with the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition, 2012. Full build-out and occupancy of the development was assumed when applying the trip generation rates and equations. The net new trips for the proposed warehouse development are provided in Table 5. The trip generation worksheet and future volume data worksheet are attached in the appendix.

Table 5: Trip Generation - Proposed Development														
		Average I	Daily Trips	AM-Pea	ak (7-9)	PM-Peak (4-6)								
Land Use	ITE Code	Enter	Exit	Enter	Exit	Enter	Exit							
823,600 SF General Warehouse	150	1466	1466	195	52	66	195							

Source: ITE Trip Generation, 9th Edition, 2012

Trip Distribution and Assignment

The trip distribution for the proposed development has been determined based on the existing traffic flow patterns experienced in the area and the type of adjacent development. The site-generated traffic was assigned to the study intersections according to the expected trip distributions. The volume of truck traffic entering and exiting the site was assumed to be 35% of the total site-generated traffic for each respective turn direction. The site-generated traffic for the proposed development at the study intersections are shown in Figure 4. The lane geometry of the study intersections and the proposed site access are shown in Figure 5. The trip distribution percentages are attached in the appendix.



10/14/15 NTS

Scale:



FUTURE CONDITONS-(2017) WITH PROPOSED DEVELOPMENT

Future Traffic Volumes

The future traffic volumes were determined by adding the site-generated traffic estimated for the Skyline II Distribution Center development to the future background traffic volumes. To provide a conservative analysis no pass-by reductions or internal trip captures were used in determining the future volume assignments. The future traffic volumes for the proposed development are shown in Figure 6.

Future Level of Service

The level of service for the future condition with the proposed development was determined using the same methods as discussed previously in the Existing Condition-Level of Service section. Intersection capacity analyses were performed on calculated future traffic volumes with the proposed development.

The intersections were first analyzed using their existing geometry and Side Street Stop Control. The intersections of Riverside Parkway at Hartman Road and Hartman Road at the Skyline II driveway continue to operate at acceptable levels of service, well above the minimum LOS D, in the future with the development as proposed. The intersection of Factory Shoals Road at Hartman Road does not continue to operate at an acceptable level of service, as it achieves LOS F at the peak hour. This substantial increase in delay is due to site-generated traffic queuing on the northbound approach and can be alleviated by creating a separate left-turn lane achieved by restriping the existing pavement. The addition of this lane would allow the intersection to achieve an acceptable level of service, LOS C.

Additionally a right-turn deceleration lane will be constructed for the southbound approach on Hartman Road at the driveway due to the high volume of right-turning vehicles.

After the appropriate street and intersection modifications have been made, all intersections will operate at an acceptable level of service in the future with the development as proposed. All intersections would remain as Side Street Stop Controlled. The results of the intersection capacity analysis for the 2017 future year with the development are summarized in Table 6. The intersection capacity analyses worksheets are included in the appendix.

Table 6: Future Back	Table 6: Future Background Level of Service with Proposed Development														
		Future Y With Dev	′ear-2017 velopment	Future Year-2017 Development & Restriping											
Intersection	Type of Control"	AM-Peak	PM-Peak	AM-Peak	PM-Peak										
		Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)										
Factory Shoals Road at Hartman Road	Side Street Stop	22.7 (C)	159.0 (F)	20.1 (C)	22.8 (C)										
Riverside Parkway at Hartman Road	Side Street Stop	20.5 (C)	32.5 (D)	20.5 (C)	32.5 (D)										
Skyline II Distribution Center	Side Street Stop	12.7 (B)	14.1 (B)	12.7 (B)	14.1 (B)										

*For Side Street Stop Control intersections, delay and LOS are given for minor street only

Skyline II Distribution Center in unincorporated Cobb County, GA



CONCLUSIONS AND RECOMMENDATIONS

The study intersections currently operate at acceptable levels of service. When the intersections were analyzed for the future year 2017 background peak hour volumes without the proposed development, they continue to operate at an acceptable level of service, at or above the minimum LOS D.

With the proposed development two of the three intersections of study continue to operate at acceptable levels of service with the site-generated traffic and one intersection fails. After recommended modifications have been made, the failed intersection can return to an accepted level of service. Based on the analyses conducted in the study the traffic impacts of the proposed development on the surrounding roadway network were determined to be negligible after all modifications had been carried out.

Intersection 1: Factory Shoals Road and Hartman Road

The Factory Shoals Road and Hartman Road intersection is expected to operate at an acceptable level of service, LOS C, in the future with the development after road modifications are complete. Without modification, the northbound approach of Hartman Road fails with LOS F. The addition of a separate left-turn lane would alleviate the delay enough to return the level of service to an acceptable status, LOS C. The intersection should continue to operate as Side Street Stop Controlled.

Intersection 2: Riverside Drive and Hartman Road

The Riverside Drive and Hartman Road intersection is expected to operate at an acceptable level of service, LOS D, in the future with the development. The intersection should continue to operate as Side Street Stop Controlled.

Intersection 3: Hartman Road and Driveway A

The Hartman Road and Driveway A intersection for the Skyline II Distribution Center is expected to operate at an acceptable level of service, LOS B, in the future with the development as proposed. The proposal involves modifying Hartman Road to include a right-turn lane on the eastbound approach of the Skyline Driveway. This will be constructed to accommodate the high volume of right-turning vehicles into the new driveway. A full-access driveway will serve as the sole driveway for the development. The intersection should operate as Side Street Stop Controlled.

Skyline Distribution Center, City of Atlanta, Cobb County, GA Traffic Study Appendix

Appendix A: Site Development Plan

- Appendix B: Traffic Count Summary Sheets
- Appendix C: Trip Generation and Distribution
- Appendix D: Existing Year-2014 Intersection Capacity Analyses Sheets (ICAS)
- Appendix E: Year-2017 Background ICAS without the Development
- Appendix F: Year-2017 ICAS with the Development

Appendix A: Site Development Plan



Appendix B: Traffic Count Summary Sheets

Project ID: 14-9014-002 Location: Hartman Rd & Factory Shoals Rd City: Austell

Peak S	Peak Start Times											
AM	AM 7:00 AM											
MD	12:00 AM											
PM	4:00 PM											

	Groups Printed - Cars, PU, Vans - Heavy Trucks																				
		н	artma	artman Rd Hartman Rd Factor								Factory Shoals Rd Factory Shoals Rd									
		N	orthb	ound			Sc	outhbo	und			Ea	astbou	Ind			Wes	tboun	d		
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds /	App. Total	Left	Thru	Rgt	Peds	App. Total	Int. Total
7:00 AM	4	0	11	0	15	0	0	0	0	0	0	81	13	0	94	19	36	0	0	55	164
7:15 AM	0	0	4	0	4	0	0	0	0	0	0	80	9	0	89	9	34	0	0	43	136
7:30 AM	3	0	4	0	7	0	0	0	0	0	0	84	18	0	102	27	69	0	0	96	205
7:45 AM	1	0	7	0	8	0	0	0	0	0	0	61	43	0	104	51	60	0	0	111	223
Total	8	0	26	0	34	0	0	0	0	0	0	306	83	0	389	106	199	0	0	305	728
8.00 AM	1	0	2	٥	6	0	0	0	0	0	0	70	24	0	04	17	47	0	0	64	164
9:15 AM	4	0	2	0	7	0	0	0	0	0	0	10	15	0	59	16	40	0	0	56	104
0.15 AM	4	0	5	0	/ 0	0	0	0	0	0	0	43	15	0	00 46	10	40	0	0	30	121
8:45 AM	0	0	7	0	7	0	0	0	0	0	0	28	11	0	30	10	29	0	0	30	90 85
Total	11	0	17	0	28	0	0	0	0	0	0	182	55	0	237	67	136	0	0	203	468
Total		0	17	0	20	0	0	0	0	0	0	102	55	0	257	07	150	0	0	200	400
BREAK																					
4:00 PM	10	0	16	0	26	0	0	0	0	0	0	43	3	0	46	8	35	0	0	43	115
4:15 PM	5	0	9	0	14	0	0	0	0	0	0	48	7	0	55	7	31	0	0	38	107
4:30 PM	9	0	16	0	25	0	0	0	0	0	0	57	2	0	59	7	54	0	0	61	145
4:45 PM	7	0	15	0	22	0	0	0	0	0	0	49	4	0	53	7	55	0	0	62	137
Total	31	0	56	0	87	0	0	0	0	0	0	197	16	0	213	29	175	0	0	204	504
5:00 PM	37	0	54	0	91	0	0	0	0	0	0	56	2	0	58	6	51	0	0	57	206
5:15 PM	18	0	16	0	34	0	0	0	0	0	0	74	3	0	77	7	60	0	0	67	178
5:30 PM	18	0	28	0	46	0	0	0	0	0	0	58	2	0	60	5	64	0	0	69	175
5:45 PM	11	0	12	0	23	0	0	0	0	0	0	49	1	0	50	4	64	0	0	68	141
Total	84	0	110	0	194	0	0	0	0	0	0	237	8	0	245	22	239	0	0	261	700
Grand Total	134	0	209	0	343	0	0	0	0	0	0	922	162	0	1084	224	749	0	0	973	2400
Apprch %	39.1	0.0	60.9	00	0.0	0.0	0.0	0.0	0.0		0.0	85.1	14.9	00		23.0	77.0	0.0	0.0	0.0	2.00
Total %	5.6	0.0	8.7	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	38.4	6.8	0.0	45.2	9.3	31.2	0.0	0.0	40.5	
Cars, PU, Vans	129	0	203	0	332	0	0	0	0	0	0	917	157	0	1074	217	746	0	0	963	2369
% Cars, PU, Vans	96.3	0.0	97.1	0.0	96.8	0.0	0.0	0.0	0.0	0.0	0.0	99.5	96.9	0.0	99.1	96.9	99.6	0.0	0.0	99.0	98.7
Heavy Trucks	5	0	6		11	0	0	0		0	0	5	5		10	7	3	0	-	10	31
%Heavy Trucks	3.7	0.0	2.9	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.1	0.0	0.9	3.1	0.4	0.0	0.0	1.0	1.3

Project ID: 14-9014-002 Location: Hartman Rd & Factory S City: Austell

PEAK HOURS

Day: Tuesday Date: 1/21/2014

AM	AM																	
		Hartm	nan Ro	k		lartma	an Rd		Fa	actory S	hoals	Rd	F					
		North	bound	k	5	Southb	ound			Eastb	ound			Wes	tbound			
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int.	Total
Peak Hour Analys	sis fror	n 07:0	0 AM 1	to 09:00	AM													
Peak Hour for En	tire Int	ersecti	on Be	gins at	07:15 AN	1												
	_							-									_	
7:15 AM	0	0	4	4	0	0	0	0	0	80	9	89	9	34	0	43		136
7:30 AM	3	0	4	7	0	0	0	0	0	84	18	102	27	69	0	96		205
7:45 AM	1	0	7	8	0	0	0	0	0	61	43	104	51	60	0	111		223
8:00 AM	4	0	2	6	0	0	0	0	0	70	24	94	17	47	0	64		164
Total Volume	8	0	17	25	0	0	0	0	0	295	94	389	104	210	0	314		728
% App. Total	32.0	0.0	68.0	100	0.0	0.0	0.0	0	0.0	75.8	24.2	100	33.1	66.9	0.0	100		
PHF				0.781				0.000				0.935				0.707		
Cars, PU, Vans	7	0	16	23	0	0	0	0	0	292	94	386	100	210	0	310		719
% Cars, PU, Vans	87.5	0.0	94.1	92.0	0.0	0.0	0.0	0.0	0.0	99.0	####	99.2	96.2	####	0.0	98.7		98.8
Heavy Trucks	1	0	1	2	0	0	0	0	0	3	0	3	4	0	0	4		9
%Heavy Trucks	12.5	0.0	5.9	8.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.8	3.8	0.0	0.0	1.3		1.2

PM

			Hartn	nan Ro	t t	I	Hartma	an Rd		Fa	ctory S	hoals	Rd	F	actory	Shoals	Rd		
			North	bound	k	5	Southb	ound			Eastb	ound			West	bound			
S	tart Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int.	Total
Ρ	eak Hour Analys	sis fror	n 04:0	0 PM t	to 06:00	PM													
Ρ	eak Hour for En	tire Int	ersecti	on Be	gins at	05:00 PN	Λ												
	5:00 PM	37	0	54	91	0	0	0	0	0	56	2	58	6	51	0	57		206
	5:15 PM	18	0	16	34	0	0	0	0	0	74	3	77	7	60	0	67		178
	5:30 PM	18	0	28	46	0	0	0	0	0	58	2	60	5	64	0	69		175
	5:45 PM	11	0	12	23	0	0	0	0	0	49	1	50	4	64	0	68		141
	Total Volume	84	0	110	194	0	0	0	0	0	237	8	245	22	239	0	261		700
_	% App. Total	43.3	0.0	56.7	100	0.0	0.0	0.0	0	0.0	96.7	3.3	100	8.4	91.6	0.0	100		
	PHF				0.533				0.000				0.795				0.946		
	Cars, PU, Vans	82	0	109	191	0	0	0	0	0	237	8	245	21	239	0	260		696
	% Cars, PU, Vans	97.6	0.0	99.1	98.5	0.0	0.0	0.0	0.0	0.0	100.0	####	100.0	95.5	####	0.0	99.6		99.4
	Heavy Trucks	2	0	1	3	0	0	0	0	0	0	0	0	1	0	0	1		4
	%Heavy Trucks	2.4	0.0	0.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	0.4		0.6

Project ID: 14-9014-003 Location: Hartman Rd & Riverside Pkwy City: Austell

Peak S	tart Times
AM	7:00 AM
MD	12:00 AM
PM	4:00 PM

							Gi	roups F	Printed	- Cars	, PU, V	′ans - H	leavy ⁻	Trucks							
		H	artma	n Rd			Ha	artman	Rd			Rive	rside l	Pkwy			Rivers	ide Pk	wy		
		N	orthbo	ound			So	uthbou	und			Ea	stbou	nd			Wes	tboun	d		
Start Time	Left	Thru	Rgt	Peds	App. Total	Left	Thru	Rgt	Peds A	pp. Total	Left	Thru	Rgt	Peds A	App. Total	Left	Thru	Rgt	Peds /	App. Total	Int. Total
7:00 AM	0	0	0	0	0	13	0	8	0	21	4	156	0	0	160	0	75	6	0	81	262
7:15 AM	0	0	0	0	0	7	0	6	0	13	4	172	0	0	176	0	101	11	0	112	301
7:30 AM	0	0	0	0	0	8	0	5	0	13	7	145	0	0	152	0	85	13	0	98	263
7:45 AM	0	0	0	0	0	9	0	8	0	17	1	149	0	0	150	0	112	10	0	122	289
Total	0	0	0	0	0	37	0	27	0	64	16	622	0	0	638	0	373	40	0	413	1115
8:00 AM	0	0	0	0	0	6	0	7	0	13	0	115	0	0	115	0	89	7	0	96	224
8:15 AM	0	0	0	0	0	7	0	3	0	10	2	112	0	0	114	0	86	11	0	97	221
8:30 AM	0	0	0	0	0	2	0	6	0	8	3	80	0	0	83	0	97	7	0	104	195
8:45 AM	0	0	0	0	0	5	0	4	0	9	6	86	0	0	92	0	77	9	0	86	187
Total	0	0	0	0	0	20	0	20	0	40	11	393	0	0	404	0	349	34	0	383	827
BREAK																					
4:00 PM	0	0	0	0	0	11	0	6	0	17	7	106	0	0	113	0	96	3	0	99	229
4:15 PM	0	0	0	0	0	16	0	6	0	22	5	80	0	0	85	0	89	3	0	92	199
4:30 PM	0	0	0	0	0	20	0	5	0	25	7	87	0	0	94	0	108	5	0	113	232
4:45 PM	0	0	0	0	0	14	0	2	0	16	3	115	0	0	118	0	84	6	0	90	224
Total	0	0	0	0	0	61	0	19	0	80	22	388	0	0	410	0	377	17	0	394	884
5:00 PM	0	0	0	0	0	19	0	1	0	20	7	129	0	0	136	0	115	8	0	123	279
5:15 PM	0	0	0	0	0	22	0	5	0	27	5	116	0	0	121	0	117	4	0	121	269
5:30 PM	0	0	0	0	0	20	0	3	0	23	5	110	0	0	115	0	131	0	0	131	269
5:45 PM	0	0	0	0	0	9	0	3	0	12	1	107	0	0	108	0	124	1	0	125	245
Total	0	0	0	0	0	70	0	12	0	82	18	462	0	0	480	0	487	13	0	500	1062
I															1						
Grand Total	0	0	0	0	0	188	0	78	0	266	67	1865	0	0	1932	0	1586	104	0	1690	3888
Apprch %	0.0	0.0	0.0	0.0		70.7	0.0	29.3	0.0		3.5	96.5	0.0	0.0		0.0	93.8	6.2	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	4.8	0.0	2.0	0.0	6.8	1.7	48.0	0.0	0.0	49.7	0.0	40.8	2.7	0.0	43.5	
Cars, PU, Vans	0	0	0	0	0	158	0	68	0	226	59	1715	0	0	1774	0	1455	85	0	1540	3540
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	84.0	0.0	87.2	0.0	85.0	88.1	92.0	0.0	0.0	91.8	0.0	91.7	81.7	0.0	91.1	91.0
Heavy Trucks	0	0	0		0	30	0	10		40	8	150	0		158	0	131	19		150	348
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	16.0	0.0	12.8	0.0	15.0	11.9	8.0	0.0	0.0	8.2	0.0	8.3	18.3	0.0	8.9	9.0

Project ID: 14-9014-003 Location: Hartman Rd & Riverside City: Austell

PEAK HOURS

Day: Tuesday Date: 1/21/2014

AM																		
		Hartn	nan R	d	ł	lartma	an Rd			Riversid	e Pkv	'y		Rivers	ide Pkv	/y	1	
		North	boun	d	w,	Southb	ound			Eastb	ound			Wes	tbound			
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Int	. Total
Peak Hour Analys	sis fron	n 07:0	0 AM	to 12:00	AM				-			-					-	
Peak Hour for En	tire Int	ersecti	on Be	gins at	07:00 AN	1												
7:00 AM	0	0	0	0	13	0	8	21	4	156	0	160	0	75	6	81		262
7:15 AM	0	0	0	0	7	0	6	13	4	172	0	176	0	101	11	112		301
7:30 AM	0	0	0	0	8	0	5	13	7	145	0	152	0	85	13	98		263
7:45 AM	0	0	0	0	9	0	8	17	1	149	0	150	0	112	10	122		289
Total Volume	0	0	0	0	37	0	27	64	16	622	0	638	0	373	40	413		1115
% App. Total	0.0	0.0	0.0	0	57.8	0.0	42.2	100	2.5	97.5	0.0	100	0.0	90.3	9.7	100		
PHF				0.000				0.762				0.906				0.846		
Cars, PU, Vans	0	0	0	0	29	0	25	54	14	576	0	590	0	344	36	380		1024
% Cars, PU, Vans	0.0	0.0	0.0	0.0	78.4	0.0	92.6	84.4	87.5	92.6	0.0	92.5	0.0	92.2	90.0	92.0		91.8
Heavy Trucks	0	0	0	0	8	0	2	10	2	46	0	48	0	29	4	33		91
%Heavy Trucks	0.0	0.0	0.0	0.0	21.6	0.0	7.4	15.6	12.5	7.4	0.0	7.5	0.0	7.8	10.0	8.0		8.2

PM

		Hartm	ian Re	d	ŀ	lartma	an Rd		I	Riversid	e Pkwy	/		Rivers	ide Pkw	/y	
		North	bound	d	S	outhb	ound			Eastb	ound			Wes	tbound		
Start Time	Left	Thru	Rgt	App. Total	Left	Thru	Rgt	App. Total	Left	Thru	Rgt ∌	App. Total	Left	Thru	Rgt	App. Total	Int. Total
Peak Hour Analy	sis fron	n 04:0	D PM	to 12:00	AM												
Peak Hour for En	tire Inte	ersecti	on Be	gins at (05:00 PN	1											
5:00 PM	0	0	0	0	19	0	1	20	7	129	0	136	0	115	8	123	279
5:15 PM	0	0	0	0	22	0	5	27	5	116	0	121	0	117	4	121	269
5:30 PM	0	0	0	0	20	0	3	23	5	110	0	115	0	131	0	131	269
5:45 PM	0	0	0	0	9	0	3	12	1	107	0	108	0	124	1	125	245
Total Volume	0	0	0	0	70	0	12	82	18	462	0	480	0	487	13	500	1062
% App. Total	0.0	0.0	0.0	0	85.4	0.0	14.6	100	3.8	96.3	0.0	100	0.0	97.4	2.6	100	
PHF				0.000				0.759				0.882				0.954	
Cars, PU, Vans	0	0	0	0	64	0	10	74	15	430	0	445	0	449	9	458	977
% Cars, PU, Vans	0.0	0.0	0.0	0.0	91.4	0.0	83.3	90.2	83.3	93.1	0.0	92.7	0.0	92.2	69.2	91.6	92.0
Heavy Trucks	0	0	0	0	6	0	2	8	3	32	0	35	0	38	4	42	85
%Heavy Trucks	0.0	0.0	0.0	0.0	8.6	0.0	16.7	9.8	16.7	6.9	0.0	7.3	0.0	7.8	30.8	8.4	8.0

Prepared by National Data & Surveying Services CLASSIFICATION Riverside Pkwy s/o Twin Hill Rd/S Service Rd

Day: Tuesday Date: 1/21/2014 City: Austell Project #: GA14_9015_001

Summary														
Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	2	69	12	1	3	2	0	6	22	0	2	0	0	119
01:00	0	46	8	1	4	4	0	7	15	0	2	0	0	87
02:00	1	33	7	0	0	1	1	2	15	0	1	0	0	61
03:00	0	63	10	0	7	1	0	3	18	0	0	0	0	102
04:00	0	98	19	0	8	3	0	5	23	0	3	0	0	159
05:00	2	312	57	2	25	7	0	10	38	0	1	0	0	454
06:00	3	519	115	7	36	10	0	9	47	0	3	0	0	749
07:00	7	756	108	10	50	14	0	16	64	0	2	0	0	1027
08:00	2	619	94	9	46	17	0	12	57	0	0	0	0	856
09:00	6	416	93	9	34	16	1	24	78	1	2	0	0	680
10:00	5	356	102	7	33	12	0	21	73	2	0	0	0	611
11:00	4	370	100	6	46	19	2	18	81	1	0	0	0	647
12:00 PM	4	464	128	9	33	15	0	17	84	1	1	0	0	756
13:00	4	408	101	9	30	27	1	13	67	1	0	0	0	661
14:00	8	445	115	9	38	21	1	17	63	1	0	0	0	718
15:00	8	538	91	4	35	19	0	10	52	0	0	0	0	757
16:00	5	654	123	6	45	11	2	12	55	1	1	0	0	915
17:00	9	829	96	2	36	14	1	13	52	1	1	0	0	1054
18:00	3	575	82	5	22	9	0	22	46	1	1	0	0	766
19:00	4	333	43	5	19	8	0	17	33	0	3	0	0	465
20:00	0	255	30	1	11	3	0	13	30	0	4	0	0	347
21:00	0	187	26	1	6	2	0	5	22	0	2	0	0	251
22:00	1	152	10	1	5	5	1	6	28	0	3	0	0	212
23:00	1	174	12	0	7	1	0	4	29	0	3	0	0	231
lotals	/9	86/1	1582	104	5/9	241	10	282	1092	10	35			12685
% of Totals	1%	68%	12%	1%	5%	2%	0%	2%	9%	0%	0%			100%
	2.0	0/57	705	50	000	10/		100	504			0		
AIVI Volumes	32	3657	725	52	292	106	4	133	531	4	16	0	0	5552
% AIVI	0%	29%	6%	0%	2%	11 00	0%	1%	4%	0%	0%			44%
AIVI Peak Hour	07:00	07:00	06:00	07:00	07:00	11:00	11:00	09:00	11:00	10:00	04:00			07:00
Volume	/	/56	115	10	50	19	2	24	81	2	3	0		1027
	47	5014	857	52	287	135	6	149	561	6	19	0	0	/133
% PIVI	0% 17.00	40%	12.00	12.00	2%	12.00	0%	10.00	4%	12.00	0%			50%
PIVI Peak Hour	17:00	17:00	12:00	12:00	10:00	13:00	10:00	18:00	12:00	12:00	20:00			17:00
volume	9 actional Day	829 al (Dariada	128	9	45	27		22	84		4	044	De als Maleur	1054
DI	ectional Pea			AIVI 7-9			NOON 12-2			PIVI 4-6		UIT	Peak volum	ies
		All classes	Volume		% 1 F 0/	Volume	$ \longrightarrow $	%	Volume		%	Volume		% F 00/
			1883		15%	1417		11%	1969		16%	/416		58%
						Classifica	tion Dofiniti	ons						
1 Motore	voles		4	Buses		7		le Units	10	>=6-Axle Sinala	Trailers	12	>=7-Axle Mult	i-Trailers
2 Passen	per Cars		5	2-Axle, 6-Tire	Single Units	, 8	<=4-Axle Sing	e Trailers	11	<=5-Axle Multi	-Trailers	13		i irunora
3 2-Axle.	4-Tire Single L	Inits	6	3-Axle Single	Units	9	5-Axle Single 1	railers	12	6-Axle Multi-Ti	railers			

Prepared by NDS/ATD Prepared by National Data & Surveying Services VOLUME Riverside Pkwy s/o Twin Hill Rd/S Service Rd

Day: Tuesday Date: 1/21/2014

City:	Austel	1	
Project #:	GA14_	_9015_	_001

	D	AILY 1	ΓΟΤΑ	ALS		NB 6,699	SB 5,986		EB 0		WB 0					То 12	otal ,685
AM Period	NB		SB		EB	WB	TO	TAL	PM Period	NB		SB		EB	WB	TC	TAL
00:00	19		7		0	0	26		12:00	126		91		0	0	217	
00:15	15		21		0	0	36		12:15	92		79		0	0	171	
00:30	9		16	50	0	0	25	440	12:30	75	000	86	074	0	0	161	75 (
00:45	18	61	14	58	0	0	32	119	12:45	89	382	118	374	0	0	207	/56
01:00	10		0 12		0	0	21		13:00	93 92		99 67		0	0	192	
01:30	10		19		0	0	29		13:30	86		75		0	0	161	
01:45	7	44	5	43	Õ	Ő	12	87	13:45	77	338	82	323	Ő	Ő	159	661
02:00	6		10		0	0	16		14:00	104		78		0	0	182	
02:15	9		10		0	0	19		14:15	78		91		0	0	169	
02:30	8	07	5		0	0	13		14:30	107	0/0	96		0	0	203	71.0
02:45	4	27	9	34	0	0	13	61	14:45	80	369	84	349	0	0	164	/18
03:00	3 11		6		0	0	9		15.00	103		75 01		0	0	202 10/	
03:30	9		25		0	0	34		15:30	128		57		0	0	185	
03:45	4	27	38	75	Õ	Ő	42	102	15:45	90	448	86	309	Õ	Ő	176	757
04:00	14		16		0	0	30		16:00	137		83		0	0	220	
04:15	12		21		0	0	33		16:15	120		94		0	0	214	
04:30	18		34	00	0	0	52	450	16:30	175	574	91		0	0	266	015
04:45	1/	61	27	98	0	0	44	159	16:45	139	571	/6	344	0	0	215	915
05:00	31		37 59		0	0	90		17.00	190		09 103		0	0	264	
05:30	33		91		0	0	124		17:30	149		116		0	0	265	
05:45	68	159	108	295	Õ	Ő	176	454	17:45	132	638	108	416	Õ	Ő	240	1054
06:00	75		74		0	0	149		18:00	138		89		0	0	227	
06:15	107		62		0	0	169		18:15	113		83		0	0	196	
06:30	98	204	96	255	0	0	194	740	18:30	90	420	78	247	0	0	168	7//
06:45	114	394	123	355	0	0	237	749	18:45	<u>/9</u> 61	420	90 70	346	0	0	1/5	/66
07.00	170		90 117		0	0	209		19.00	67		57		0	0	124	
07:30	129		112		0	0	241		19:30	80		38		0	0	118	
07:45	151	569	139	458	Ō	0	290	1027	19:45	45	253	45	212	Ō	0	90	465
08:00	113		108		0	0	221		20:00	48		40		0	0	88	
08:15	99		131		0	0	230		20:15	46		40		0	0	86	
08:30	85	207	121	470	0	0	206	057	20:30	63	202	28	145	0	0	91	247
08:45	89	380	100	470	0	0	199	856	20:45	45	202	3/	145	0	0	82	347
09.00	83		87		0	0	170		21.00	42		24 18		0	0	60	
09:30	71		97		Õ	Ő	168		21:30	31		13		Õ	Õ	44	
09:45	63	289	99	391	0	0	162	680	21:45	29	167	29	84	0	0	58	251
10:00	74		93		0	0	167		22:00	40		18		0	0	58	
10:15	87		69		0	0	156		22:15	36		17		0	0	53	
10:30	78	204	70	207	0	0	148	(11	22:30	27	100	18	0.4	0	0	45	010
10:45	65	304	/5	307	0	0	140	611	22:45	<u>25</u>	128	31 10	84	0	0	50	212
11.00	67		79		0	0	146		23.00	34		23		0	0	57	
11:30	90		91		Ő	0	181		23:30	39		12		Ő	Õ	51	
11:45	80	307	85	340	0	0	165	647	23:45	26	155	23	76	0	0	49	231
TOTALS		2628		2924				5552	TOTALS		4071		3062				7133
SPLIT %		47.3%		52.7%				43.8%	SPLIT %		57.1%		42.9%				56.2%
		A 11 - X - 3				NB	SB_		FB		WB_					Tc	otal
	D	AILY	OTA	ALS		6 699	5 986		0		0					.12	685
						-0,077-			0							- 12	-000-
AM Peak Hour		07:00		07:45				07:15	PM Peak Hour		16:30		17:00				17:00
AM Pk Volume		569		499				1039	PIVI PK Volume		6/1		416				1054

AM Peak Hour	07:00	07:45			07:15	PM Peak Hour	16:30	17:00			17:00
AM Pk Volume	569	499			1039	PM Pk Volume	671	416			1054
Pk Hr Factor	0.837	0.897			0.896	Pk Hr Factor	0.818	0.853			0.928
7 - 9 Volume	955	928	0	0	1883	4 - 6 Volume	1209	760	0	0	1969
7 - 9 Peak Hour	07:00	07:45			07:15	4 - 6 Peak Hour	16:30	17:00			17:00
7 - 9 Pk Volume	569	499			1039	4 - 6 Pk	671	416			1054
Pk Hr Factor	0.837	0.897			0.896	Pk Hr Factor	0.860	0.897			0 928

Prepared by National Data & Surveying Services CLASSIFICATION Factory Shoals Rd n/o I-20/GA-402 Ramps

Day: Tuesday Date: 1/21/2014 City: Austell Project #: GA14_9015_004

Summary														
Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	42	1	0	0	0	0	0	2	0	0	0	0	45
01:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
02:00	0	14	2	0	0	0	0	1	1	0	0	0	0	18
03:00	0	21	1	0	0	0	0	0	0	0	0	0	0	22
04:00	0	43	1	1	1	0	0	0	1	0	0	0	0	47
05:00	0	131	7	4	2	1	0	0	0	0	0	0	0	145
06:00	0	328	14	5	10	1	0	0	2	0	0	0	0	360
07:00	0	573	33	4	17	5	0	4	3	0	0	0	0	639
08:00	2	357	25	1	14	1	0	0	3	0	0	0	0	403
09:00	0	196	21	2	7	0	0	1	4	0	0	0	0	231
10:00	0	129	13	1	7	1	1	1	4	0	0	0	0	157
11:00	0	200	21	3	11	4	0	3	8	0	0	0	0	250
12:00 PM	0	248	20	3	5	1	0	4	5	0	0	0	0	286
13:00	0	242	20	0	16	3	0	2	4	0	0	0	0	287
14:00	0	278	30	1	20	3	0	1	8	0	0	0	0	341
15:00	0	382	28	0	20	0	0	1	5	0	0	0	0	436
16:00	1	410	26	1	16	2	0	1	1	0	0	0	0	458
17:00	1	568	34	0	9	0	0	0	2	0	0	0	0	614
18:00	1	309	14	0	4	0	0	0	0	0	0	0	0	328
19:00	0	185	16	0	3	0	0	0	1	0	0	0	0	205
20:00	0	143	4	0	1	0	0	0	0	0	0	0	0	148
21:00	0	82	2	0	2	0	0	0	2	0	0	0	0	88
22:00	0	68	5	0	0	0	0	0	3	0	0	0	0	76
23:00	1	71	3	0	1	0	0	0	1	0	0	0	0	77
Totals	6	5036	342	26	166	22	1	19	60					5678
% of Totals	0%	89%	6%	0%	3%	0%	0%	0%	1%			_		100%
							r			-				
AM Volumes	2	2050	140	21	69	13	1	10	28	0	0	0	0	2334
% AM	0%	36%	2%	0%	1%	0%	0%	0%	0%					41%
AM Peak Hour	08:00	07:00	07:00	06:00	07:00	07:00	10:00	07:00	11:00					07:00
Volume	2	573	33	5	17	5	1	4	8					639
PM Volumes	4	2986	202	5	97	9	0	9	32	0	0	0	0	3344
% PIVI	0%	53%	4%	0%	2%	0%		0%	1%					59%
PM Peak Hour	16:00	17:00	17:00	12:00	14:00	13:00		12:00	14:00					17:00
Volume	1	568	34	3	20	3		4	8			I		614
Dir	ectional Pea	k Periods		AM 7-9			NOON 12-2			PM 4-6		Off	Peak Volum	ies
	А	Il Classes	Volume		%	Volume		%	Volume		%	Volume		%
			1042	\leftrightarrow	18%	573	\leftrightarrow	10%	1072	\leftrightarrow	19%	2991	\leftrightarrow	53%
1 Motorc 2 Passenc 3 2-Axle.	:ycles ger Cars 4-Tire Single U	nits	4 E 5 2	Buses 2-Axle, 6-Tire 3-Axle Sinale	Single Units	Classifica 7 8 9	tion Definiti > =4-Axle Singl <=4-Axle Singl 5-Axle Single 1	ONS le Units e Trailers Trailers	10 11 12	>=6-Axle Singl <=5-Axle Mult 6-Axle Multi-T	e Trailers i-Trailers Trailers	13	>=7-Axle Mult	i-Trailers

Prepared by NDS/ATD Prepared by National Data & Surveying Services VOLUME Factory Shoals Rd n/o I-20/GA-402 Ramps

Day: Tuesday Date: 1/21/2014 City: Austell Project #: GA14_9015_004

	D	AII Y ⁻	τοτα	ALS.		NB	SB		EB		WB					To	otal
						2,827	2,851		0		0					5,	678
AM Period	NB		SB		EB	WB	TO	TAL	PM Period	NB		SB		EB	WB	TC	TAL
00:00	10		4		0	0	14		12:00	42		31		0	0	73	
00:15	10		2		0	0	12		12:15	33		32		0	0	65	
00:30	4	26	6 7	10	0	0	10	45	12:30	47	157	34 32	120	0	0	81 67	286
01.43	2	20	0	17	0	0	2	45	13:00	39	137	43	127	0	0	82	200
01:15	3		Ő		Õ	Ő	3		13:15	26		36		Õ	Ő	62	
01:30	5		2		0	0	7		13:30	35		37		0	0	72	
01:45	3	13	2	4	0	0	5	17	13:45	34	134	37	153	0	0	71	287
02:00	4		0		0	0	4		14:00	39		28		0	0	67	
02:15	2		5 1		0	0	2		14:15	38 17		37 68		0	0	/5	
02:45	3	10	2	8	0	0	5	18	14:45	38	162	46	179	0	0	84	341
03:00	3		1		0	0	4		15:00	81		53		0	0	134	
03:15	0		1		0	0	1		15:15	51		46		0	0	97	
03:30	5	0	6	4.0	0	0	11	00	15:30	68		47	100	0	0	115	10/
03:45	1	9	2	13	0	0	6	22	15:45	46	246	44	190	0	0	90	436
04:00	4		5		0	0	9		16.00	56		44 30		0	0	95	
04:30	7		10		Ő	0	17		16:30	74		62		Õ	Õ	136	
04:45	6	18	11	29	0	0	17	47	16:45	65	252	61	206	0	0	126	458
05:00	7		13		0	0	20		17:00	109		58		0	0	167	
05:15	2		23		0	0	25		17:15	90		66		0	0	156	
05:30	0	25	52 32	120	0	0	59	145	17:30	90 61	320	12	264	0	0	102	614
06:00	21	23	30	120	0	0	51	145	18:00	53	330	62	204	0	0	115	014
06:15	22		36		Õ	Ö	58		18:15	38		53		Õ	Ő	91	
06:30	42		63		0	0	105		18:30	34		37		0	0	71	
06:45	59	144	87	216	0	0	146	360	18:45	32	157	19	171	0	0	51	328
07:00	92		55		0	0	147		19:00	28		28		0	0	56	
07:15	82		44 07		0	0	120		19:15 19:30	1/ 52		23 13		0	0	40	
07:45	68	331	112	308	0	0	180	639	19:45	20	118	23	87	0	0	43	205
08:00	74		63		0	0	137		20:00	26		26		0	0	52	
08:15	49		55		0	0	104		20:15	13		28		0	0	41	
08:30	46		45		0	0	91		20:30	13		15	~ .	0	0	28	
08:45	32	201	39	202	0	0	/1	403	20:45	12	64	15	84	0	0	27	148
09:00	20		40 30		0	0	53		21.00	10		13		0	0	20	
09:30	30		31		Ő	Ö	61		21:30	7		14		Õ	Õ	21	
09:45	23	96	34	135	0	0	57	231	21:45	4	34	16	54	0	0	20	88
10:00	9		20		0	0	29		22:00	9		10		0	0	19	
10:15	11		20		0	0	31		22:15	10		8		0	0	18	
10:30	27	60	23	00	0	0	50	157	22:30	9	24	14	10	0	0	23	76
10:45	21	00	20	07	0	0	47	137	22.45	21	34	6	42	0	0	27	70
11:15	30		30		ŏ	õ	60		23:15	12		9		õ	Õ	21	
11:30	41		32		0	0	73		23:30	13		4		0	0	17	
11:45	33	125	39	125	0	0	72	250	23:45	7	53	5	24	0	0	12	77
TOTALS		1066		1268				2334	TOTALS		1761		1583				3344
SPLIT %		45.7%)	54.3%				41.1%	SPLIT %		52.7%		47.3%				58.9%
		A 11-3/-	TOTA			NB	SB_		EB		WB_					T	otal
	- D.	AILY	TOTA	ILS		2 827	2 851		0		0					5	678

			∠,<	027	2,001	0	0				5,070
AM Peak Hour	07:00	07:30			07:00	PM Peak Hour	16:45	17:15			17:00
AM Pk Volume	331	327			639	PM Pk Volume	354	268			614
Pk Hr Factor	0.899	0.730			0.859	Pk Hr Factor	0.817	0.809			0.919
7 - 9 Volume	532	510	0	0	1042	4 - 6 Volume	602	470	0	0	1072
7 - 9 Peak Hour	07:00	07:30			07:00	4 - 6 Peak Hour	16:45	17:00			17:00
7 - 9 Pk Volume	331	327			639	4 - 6 Pk	354	264			614
Pk Hr Factor	0.899	0.730			0.859	Pk Hr Factor	0.812	0.917			0.919

Appendix C: Trip Generation and Distribution

Trip Generation Summary - Alternative 1

Project: New Project Alternative: Alternative 1						Ope Analys	n Date: is Date:	10/7/20 10/7/20	015 015
	Avera	ige Daily	Trips	AM Adjace	Peak Ho nt Street	ur of Traffic	PM Adjace	Peak Ho ent Street	ur of Traffic
ITE Land Use	Enter		_Total	Enter	Exit	Total	Enter		Total
150 WAREHOUSE 1 823.6 Gross Floor Area 1000 SF	1466	1466	2932	195	52	247	66	198	264
Unadjusted Volume	0	0	0	0	0	0	0	0	0
Internal Capture Trips	0	0	0	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0
Volume Added to Adjacent Streets	0	0	0	0	0	0	0	0	0

Appendix D: Existing Year-2014 Intersection Capacity Analyses Sheets (ICAS)

Analyst: Agency/Co.: Date Performed: Analysis Time Period: Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: Skyline East/West Street: North/South Street: Intersection Orientat	BAH SEI 10/14/ AM Pea Hartma Cobb C 2014 - II Factor Hartma ion: EW	2015 k n@Fa ounty Exist y Shoa n Road	ctory S ing ls Road	hoals Stu	udy peri	od (hrs)	: 0.2	5
Major Street: Approa Moveme	_Vehicl ch nt	e Volu Eas 1 L	mes and tbound 2 T	Adjust 3 R	wents W 4 L	estbound 5 T	6 R	
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage RT Channelized?	5	Undivi	295 0.94 313 ded	94 0.94 100 	104 0.71 146 4 /	210 0.71 295 		
Lanes Configuration Upstream Signal?			1 0 TR No		1	1 L T No		
Minor Street: Approa Moveme	ch nt	Nor 7 L	thbound 8 T	9 R	S 10 L	outhboun 11 T	d 12 R	
Volume Peak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Flared Approach: Exis Lanes Configuration	s sts?/St	8 0.78 10 12 orage 0	0 D LR	17 0.78 21 6 No	/	0		/
Dela Approach Ei Movement 1 Lane Config	ay, Que 3 W 4 L	ue Len B 	gth, an Nort 7	d Level hbound 8 LR	of Ser 9 	vice Sout 10	hbound 11	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	1 1 0 0 8	46 135 .13 .44 .6 A		31 426 0.07 0.23 14.1 B 14.1 B				

Analyst:BAgency/Co.:SDate Performed:1Analysis Time Period:AIntersection:HJurisdiction:CUnits:U. S. CustomaryAnalysis Year:2Project ID:Skyline IIEast/West Street:RNorth/South Street:HIntersection Orientation	AH EI 0/14/20: M Peak artman (obb Cour 014 - E: iverside artman 1 n: EW	15 @ Rivers nty xisting e Parkwa Road	side Ny S	tudy per	iod (hrs):	0.25
V	ehicle Y	Volumes	and Adju	stments_		
Major Street: Approach		Eastbou	und		Westbound	C
Movement	1	2	3		5	6
	Ц	Л.	R	Ι L	.Т.	R
Volume	16	622	 }		373	40
Peak-Hour Factor, PHF	0.9	91 0.9	91		0.85	0.85
Hourly Flow Rate, HFR	17	683	3		438	47
Percent Heavy Vehicles	12					
Median Type/Storage	Uno	divided		/		
RT Channelized?						
Lanes		1 2			2 0	
Configuration		L T			T TR	
Upstream Signal?		No			No	
Minor Street: Approach		Northbo	ound		Southbound	1.0
Movement	7	8	9			12
	Ц	1	ĸ		T	ĸ
Volume				37		27
Peak Hour Factor, PHF				0.7	б	0.76
Hourly Flow Rate, HFR				48		35
Percent Heavy Vehicles				22		7
Percent Grade (%)		0			0	
Flared Approach: Exist	s?/Stora	age		/		/
Lanes					1 1	
Configuration					L R	
	0110110	Ionath	and Iou	ol of So	ruido	
Approach	, Queue	Lengen,	and Lev Iorthhour	d of se	South	hound
Movement 1	WВ 4		8		10 1	1 12
Lane Config L	Т	,	0		т. Т.	R IZ
		I		I		IC IC
v (vph) 17					48	35
C(m) (vph) 100	7				264	780
v/c 0.0	2				0.18	0.04
95% queue length 0.0	5				0.65	0.14
Control Delay 8.6					21.6	9.8
LOS A					С	A
Approach Delay					1	6.7
Approach LOS						С

Analyst: Agency/Co.: Date Performed: Analysis Time Period: Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: Skyline : East/West Street: North/South Street: Intersection Orientat:	BAH SEI 10/14/2015 PM Peak Hartman @ F Cobb County 2014 - Exis II Factory Sho Hartman Roa ion: EW	actory Sr ting als Road	loals Study	period (hrs): 0.25
Major Street: Approad Movemen	_Vehicle Vol ch Ea nt 1 L	umes and stbound 2 T	Adjustmer 3 R	uts Westboun 4 5 L T	d 6 R
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage RT Channelized? Lanes	5 Undiv	237 0.80 296 rided 1 0	8 0.80 9 	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
Configuration Upstream Signal?		TR No		L T No	
Minor Street: Approad Movemen	ch No nt 7 L	orthbound 8 T	9 R	Southbou 10 11 L T	nd 12 R
Volume Peak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Flared Approach: Exis Lanes Configuration	84 0.53 158 5 2 sts?/Storage 0	0 0 LR	110 0.53 207 1 No /	0	/
Dela Approach El Movement 1 Lane Config	ay, Queue Le 3 WB 4 L	ength, and North 7 & I	l Level of bound B 9 LR	Service Sou 10 	thbound 11 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	23 1244 0.02 0.06 7.9 A	3 5 0 4 2 2	865 884 9.63 9.32 20.9 C 20.9 C		

Analyst:BAHAgency/Co.:SEIDate Performed:10/1Analysis Time Period:PM FIntersection:HartJurisdiction:CobbUnits:U. S. CustomaryAnalysis Year:2014Project ID:Skyline IIEast/West Street:RiveNorth/South Street:HartIntersection Orientation:	4/2015 Peak man @ Ri D County 4 - Exist erside Pa man Road EW	verside ing rkway	Stu	dy peri	od (hrs):	0.25	
Vehi	cle Volu	mes and	Adjust	ments			
Major Street: Approach	Eas	tbound		W	estbound		
Movement	1	2	3	4	5	6	
	L	Т	R	L	Т	R	
Volume	18	462			487	13	
Peak-Hour Factor, PHF	0.88	0.88			0.95	0.95	
Hourly Flow Rate, HFR	20	525			512	13	
Percent Heavy Vehicles	17						
Median Type/Storage	Undivi	ded		/			
RT Channelized?							
Lanes	1	2			2 0		
Configuration	L	Т			T TR		
Upstream Signal?		No			No		
Minor Street: Approach	Nor	thbound		S	outhbound		
Movement	7	8	9	10	11	12	
	L	Т	R	L	Т	R	
Volume				70		12	
Peak Hour Factor, PHF				0.76		0.76	
Hourly Flow Rate, HFR				92		15	
Percent Heavy Vehicles				9		17	
Percent Grade (%)		0			0		
Flared Approach: Exists?	Storage			/		/	
Lanes	-			1	1		
Configuration					L R		
		ath	J T ~ J	of Car			
Delay, (WP	gun, and North	l Level bound	or ser	VICE		
Movement 1				o 1	10 1		
Lane Config I	- 1	/ 0		9	10 I.		
	I			I	Ш	IX.	
v (vph) 20					92	15	
C(m) (vph) 940					293	729	
v/c 0.02					0.31	0.02	
95% queue length 0.07					1.31	0.06	
Control Delay 8.9					22.8	10.0+	
LOS A					С	В	
Approach Delay					22	L.O	
Approach LOS					(2	

Appendix E: Year-2017 Background ICAS without the Development

_TWO-WAY STOP CONTROL SUMMARY__

	1.00		010								
Analyst:	BAH										
Agency/Co.:	SEI										
Date Performed:											
Analysis Time Period	d: AM P	eak									
Intersection:	Hart	man (⊇ Fa	actory	Shoals						
Jurisdiction:	Cobb	Cour	nty	-							
Units: U. S. Customa	ary		-								
Analysis Year:	2017	– Ba	acko	round							
Project ID: Skyline	e II		-								
East/West Street:	Fact	ory S	Shoa	als Roa	ad						
North/South Street:	Hart	man H	Road	1							
Intersection Orienta	ation:	ΕW			St	udy	peri	od (hrs	s): O.	25	
	Vehi	cle V	Volu	umes ar	nd Adjus	tmen	ts				
Major Street: Appro	bach		Eas	stbound	1		W	estbour	nd		
Mover	nent	1		2	3		4	5	б		
		L		Т	R		L	Т	R		
Volume				304	97		107	216			
Peak-Hour Factor, Pl	HF			0.94	0.94		0.71	0.71	L		
Hourly Flow Rate, HI	FR			323	103		150	304			
Percent Heavy Vehic	les						4				
Median Type/Storage		Uno	livi	ded		/					
RT Channelized?											
Lanes				1	0		1	1			
Configuration				Г	R			L T			
Upstream Signal?				No				No			
Minor Street: Appr							C				
MINOI Screet: Appro	nont	7	NOT	. cribour. g	a	I	10	1 1	110		
MOVE	lienc	, т.		о т	P		т.	т Т	I Z P		
		Ц		T	IX.	I	ш	T	IC IC		
Volume		8			18						
Peak Hour Factor, PI	HF	0.7	78		0.78						
Hourly Flow Rate, HI	FR	10			23						
Percent Heavy Vehic	les	12			6						
Percent Grade (%)				0				0			
Flared Approach: Ex	kists?/	Stora	age		No	/				/	
Lanes			0		0						
Configuration				LR							
De	elay, Q	ueue	Ler	ngth, a	and Leve	el of	Ser	vice			
Approach	EB	WB		Nor	thbound	L		Sou	ıthboun	d	
Movement	1	4		7	8	9		10	11	12	
Lane Config		L			LR						
		1 - 0			~ ~ ~						
v (vph)		150	`		101						
v (vph) C(m) (vph)		150 1123	3		424						
v (vph) C(m) (vph) v/c		150 1123 0.13	3		424						
v (vph) C(m) (vph) v/c 95% queue length		150 1123 0.13 0.40	3 3 5		424 0.08 0.25						
v (vph) C(m) (vph) v/c 95% queue length Control Delay		150 1122 0.12 0.40 8.7	3 3 5		424 0.08 0.25 14.2						
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS		150 1123 0.13 0.40 8.7 A	3 3 5		424 0.08 0.25 14.2 B						
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay		150 1123 0.13 0.40 8.7 A	3 3 5		424 0.08 0.25 14.2 B 14.2						

Analyst: BAH Agency/Co.: SEI Date Performed: 10/27 Analysis Time Period: AM Pe Intersection: Hartm Jurisdiction: Cobb Units: U. S. Customary Analysis Year: 2017 Project ID: Skyline II East/West Street: River North/South Street: Hartm Intersection Orientation: E	/2015 ak an @ Ri County - Devel side Pa an Road W	verside oped urkway	Sti	udy pe	riod (hrs):	0.25
Vehic	le Volu	mes and	Adjus	tments_		
Major Street: Approach	Eas	stbound			Westbound	
Movement	1	2	3	4	5	6
	L	Т	R	L	Т	R
Volume	16	641			384	<u></u>
Peak-Hour Factor PHF	0 91	0 91			0 85	0 85
Hourly Flow Rate, HFR	17	704			451	48
Percent Heavy Vehicles	17					
Median Type/Storage	Undivi	ded		/		
RT Channelized?						
Lanes	1	2			2 0)
Configuration	\mathbf{L}	Т			T TR	L
Upstream Signal?		No			No	
Minor Street: Approach	Nor	thbound			Southbound	L
Movement	7	8	9	10	11	12
	L	Т	R	L	Т	R
Volume Dook Hour Fostor DHE				30 0 '	76	20 0 76
Peak Hour Factor, Phr Hourly Flow Pate HFP				U. 50	70	36
Dergent Weavy Vehigles				9		17
Percent Grade (%)		0			0	1 /
Flared Approach: Exists?/S	torage	0		/	0	/
Lanes	corage			/	1 1	,
Configuration					L R	
Delay, Qu	eue Len	igth, and	d Leve	l of Se	ervice	
Approach EB	WB	_ Nort	hbound	•	South	bound
Movement 1	4	./	8	9		.1 12
Lane Config L	I				ЦЬ	R
v (vph) 17					50	36
C(m) (wph) 963					276	741
V/C 0.02					0.18	0.05
95% queue length 0.05					0.65	0.15
Control Delay 8.8					20.9	10.1
LOS A					C	 B
Approach Delav					- 1	
Approach LOS					-	С

Analyst: Agency/Co.: Date Performed: Analysis Time Period Intersection: Jurisdiction: Units: U. S. Customa: Analysis Year: Project ID: Skyline East/West Street: North/South Street: Intersection Orienta;	BAH SEI 10/27 PM Pea Hartma Cobb ry 2017 II Facto: Hartma tion: E	/2015 ak an @ Fa County - Backg ry Shoa an Road W	nctory S ground als Road l	Shoals I Stu	udy perio	d (hrs)	: 0.2	5
Major Street: Approa Movema	Vehic ach ent	le Volu Eas 1 L	umes and stbound 2 T	l Adjust 3 R	ments We 4 L	stbound 5 T	6 R	
Volume Peak-Hour Factor, PHI Hourly Flow Rate, HFI Percent Heavy Vehicle Median Type/Storage RT Channelized? Lanes	 ? 28	Undivi	244 0.80 304 .ded 1 0	8 0.80 9 	23 0.95 24 4 /	246 0.95 258 		
Configuration Upstream Signal?			TR No	<u>.</u>	L	T No		
Minor Street: Approa Movema	ach ent	Nor 7 L	T T T	l 9 R	So [.] 10 L	uthboun 11 T	.d 12 R	
Volume Peak Hour Factor, PHI Hourly Flow Rate, HFI Percent Heavy Vehicle Percent Grade (%) Flared Approach: Exi Lanes Configuration	F R es ists?/S	87 0.53 164 2 torage 0	0 LR	113 0.53 213 1 No	/	0		/
De Approach De Movement E Lane Config	lay, Qu EB 1	eue Ler WB 4 L	ngth, an Nort 7	nd Level hbound 8 LR	. of Serv 9 	ice Sout 10	hbound 11	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS		24 1236 0.02 0.06 8.0 A		377 573 0.66 4.82 22.5 C 22.5 C				

Analyst: Agency/Co.: Date Performed: Analysis Time Period: Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: Skyline : East/West Street: North/South Street: Intersection Orientat:	BAH SEI 10/27/ PM Pea Hartma Cobb C 2017 - II Rivers Hartma ion: EW	2015 .k n @ Riv County Backgr ide Par n Road	verside round rkway	Stu	dy per:	iod (hrs):	0.25
	Vehicl	e Volur	mes and	Adjust	ments		
Major Street: Approa	ch	East	bound	2		Westbound	<i>c</i>
Movemen	nt	1 -	2	3	4	5	6
		Ь	Л.	R	L	.T.	R
		10	176			<u> </u>	1 2
Volume Dook Hour Fostor DHE		19	4/0			50Z	10 05
Hourly Flow Pato UFP		21	540			529	12
Dorgont Hoory Vobialo	-	41 17	540			520	13
Modian Turne (Storage	5	⊥/ Undiri	 3d		/		
Median Type/Storage			leu		/		
Ki channelized:		1	2			2 0	
			2				
Ungtwoom Gignol2		Ц	1 No			I IK	
opscream Signar?			NO			NО	
Minor Street: Approa		Nort					
Milloi Scieet: Appioa	-11 	7	g	٩	1 10	11	10
MOVELLEI	.10	7 Т	0 T	כ		11 T	D D
		Ш	T	IX.		T	K
Volume					72		12
Peak Hour Factor, PHF					0.76	5	0.76
Hourly Flow Rate, HFR					94	-	15
Percent Heavy Vehicles	3				9		17
Percent Grade (%)	-		0		-	0	
Flared Approach: Exis	sts?/St	orage	0		/	Ũ	/
Lanes		01030			, .	1 1	,
Configuration					-		
configuración							
Dela	ay, Que	ue Leng	gth, and	l Level	of Ser	rvice	
Approach El	з W	B	North	nbound		South	bound
Movement 1	4	. '	7 8	3	9	10 11	1 12
Lane Config L		İ			İ	L	R
		·			·		
v (vph) 21	1					94	15
C(m) (vph) 92	26					281	722
v/c 0	.02					0.33	0.02
95% queue length 0	.07					1.42	0.06
Control Delav 9	.0					24.1	10.1
LOS	Ą					C	B
Approach Delav						2.1	2.2
Approach LOS						(2
± ±							

Appendix F: Year-2017 ICAS with the Development

Analyst: Agency/Co.: Date Performed: Analysis Time Period Intersection: Jurisdiction: Units: U. S. Customa Analysis Year: Project ID: Skyline East/West Street: North/South Street: Intersection Orienta	BAH SEI 10/27 A: AM Pe Hartm Cobb ary 2017 E II Facto Hartm Ation: F	7/2015 eak nan @ Fa County - Deve ory Shoa nan Road	actory S loped als Road d	Shoals 1 Stu	udy perio	od (hrs)	0: 0.2	5
Major Street: Appro Moven	Vehic bach ment	cle Volu Ea: 1 L	umes and stbound 2 T	d Adjus 3 R	tments We 4 L	estbound 5 T	6 R	
Volume Peak-Hour Factor, PH Hourly Flow Rate, HH Percent Heavy Vehicl Median Type/Storage RT Channelized?	IF 'R .es	Undiv	304 0.94 323 ided	103 0.94 109 	238 0.71 335 22 /	216 0.71 304 		
Lanes Configuration Upstream Signal?			1 (TF No) R	1	1 T No		
Minor Street: Appro Moven	oach nent	No: 7 L	rthbound 8 T	1 9 R	So 10 L	outhbour 11 T	nd 12 R	
Volume Peak Hour Factor, PH Hourly Flow Rate, HH Percent Heavy Vehicl Percent Grade (%) Flared Approach: Ex Lanes Configuration	IF TR Les xists?/S	16 0.78 20 6 Storage 0	0 LR	47 0.78 60 30 No	/	0		/
De Approach Movement Lane Config	elay, Qu EB 1	ueue Lei WB 4 L	ngth, ar Nort 7	nd Leve chbound 8 LR	1 of Ser 9	vice Sout 10	hbound 11	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS		335 1029 0.33 1.42 10.2 B		80 282 0.28 1.14 22.7 C 22.7 C				

Vehicle Volumes and Adjustments	
Major Street:Approach MovementEastboundWestboundMovement123456LTRLTRVolume304103238216Peak-Hour Factor, PHF0.940.940.710.71Hourly Flow Rate, HFR323109335304Percent Heavy Vehicles22Median Type/StorageUndivided//RT Channelized?1011Lanes1011Upstream Signal?NoNoNo	
Movement123456LTRLTRVolume 304 103 238 216 Peak-Hour Factor, PHF 0.94 0.94 0.71 0.71 Hourly Flow Rate, HFR 323 109 335 304 Percent Heavy Vehicles $$ $$ 22 $$ Median Type/StorageUndivided/ $/$ RT Channelized?Lanes101Lanes1011ConfigurationTRLTUpstream Signal?NoNoNo	
LTRITRVolume304103238216Peak-Hour Factor, PHF0.940.940.710.71Hourly Flow Rate, HFR323109335304Percent Heavy Vehicles22Median Type/StorageUndivided//RT Channelized?1011Lanes1011ConfigurationTRLTUpstream Signal?NoNoNo	
Volume304103238216Peak-Hour Factor, PHF0.940.940.710.71Hourly Flow Rate, HFR323109335304Percent Heavy Vehicles22Median Type/StorageUndivided//RT Channelized?1011Lanes1011ConfigurationTRLTUpstream Signal?NoNoNo	
Peak-Hour Factor, PHF0.940.940.710.71Hourly Flow Rate, HFR323109335304Percent Heavy Vehicles22Median Type/StorageUndivided//RT Channelized?1011Lanes1011ConfigurationTRLTUpstream Signal?NoNoNo	
Hourly Flow Rate, HFR323109335304Percent Heavy Vehicles22Median Type/StorageUndivided///RT Channelized?I011Lanes1011ConfigurationTRLTUpstream Signal?NoNoNo	
Percent Heavy Vehicles 22 Median Type/Storage Undivided / / RT Channelized? 1 0 1 1 1 Lanes 1 0 1 1 1 Configuration TR L T Upstream Signal? No No No	
Median Type/Storage Undivided / RT Channelized? 1 0 1 1 Lanes 1 0 1 1 Configuration TR L T Upstream Signal? No No No	
RT Channelized? Lanes 1 0 1 1 Configuration TR L T Upstream Signal? No No No	
Lanes 1 0 1 1 Configuration TR L T Upstream Signal? No No	
Configuration TR L T Upstream Signal? No No	
Upstream Signal? No No	
Minon Ctroot: Approach Northbourd Couthbourd	
MULTOR SURPEU ADDROACT NORTHDOUND SOULDOUND	
Movement 7 8 9 10 11 12	
L T R L T R	
·	
Volume 16 47	
Peak Hour Factor, PHF 0.78 0.78	
Hourly Flow Rate, HFR 20 60	
Percent Heavy Venicles 6 30	
Flared Approach: Evicto2/Storage	
Lanes 1 1	
Configuration L R	
Delay, Queue Length, and Level of Service	
Approach EB WB Northbound Southbound	
Movement 1 4 7 8 9 10 11 12	
Lane Config L L R	
C(m) (vph) 1029 108 611	
v/c 0.33 0.19 0.10	
95% queue length 1.42 0.64 0.33	
Control Delay 10.2 45.8 11.5	
LOS B E B	
Approach Delay 20.1	

Analyst: BAH Agency/Co.: SEI Date Performed: 10/27 Analysis Time Period: AM Per Intersection: Hartm Jurisdiction: Cobb Units: U. S. Customary Analysis Year: 2017 Project ID: Skyline II East/West Street: River North/South Street: Hartm Intersection Orientation: F	7/2015 eak County - Deve rside P ean Roa	iverside loped arkway d	St	udy peri	od (hrs):	0.25
Vehic	le Vol	umes and	Adjus	tments		
Major Street: Approach	Ea	stbound		W	estbound	
Movement	1	2	3	4	5	6
	L	Т	R	L	Т	R
Volume	2.7	641			384	88
Peak-Hour Factor, PHF	0.91	0.91			0.85	0.85
Hourly Flow Rate, HFR	29	704			451	103
Percent Heavy Vehicles	7					
Median Type/Storage	Undiv	ided		/		
RT Channelized?						
Lanes	1	2			2 0	
Configuration	L	Т			T TR	
Upstream Signal?		No			No	
Minor Street: Approach	No	rthbound		S	outhbound	
Movement	7	8	9	10	11	12
	L	Т	R	L	Т	R
 Volume				<u>4</u> Q		30
Peak Hour Factor PHF				0 76		0 76
Hourly Flow Rate HFR				64		42
Percent Heavy Vehicles				27		0
Percent Grade (%)		0		27	0	0
Flared Approach: Exists?/S	torage	0		/	Ū	/
Lanes	corage			, 1	1	,
Configuration				-	L R	
Delay, Qu	leue Le	ngth, an	d Leve	l of Ser	vice	
Approach EB	WB	Nort	hbound		Southl	bound
Movement 1	4	7	8	9	10 11	1 12
Lane Config L					L	R
					64	
C(m) (wph) 978					224	767
V/C 0.03					0 29	0 05
95% gueue length 0.09					1 14	0 17
Control Delay 8 8					27 4	10 0-
					D	±0.0 A
Approach Delay					- 21	0.5
Approach LOS					2.	2
					· · · · · · · · · · · · · · · · · · ·	-

Analyst: Agency/Co.: Date Performed: Analysis Time Period: Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: Skyline : East/West Street: North/South Street: Intersection Orientat:	BAH SEI 10/27/2015 AM Peak Hartman @ S Cobb County 2017 - Deve II Hartman Roa Skyline II ion: EW	kyline I loped d driveway	I	y period	(hrs):	0.25
Major Street: Approad Movemen	_Vehicle Vol ch Ea nt 1 L	umes and stbound 2 T	Adjustme 3 R	ents West 4 L	bound 5 T	6 R
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage RT Channelized? Lanes Configuration Upstream Signal?	Jundiv	201 0.76 264 rided 1 1 T R No	137 0.76 180 	59 0.76 77 35 / 1 L	26 0.76 34 1 T No	
Minor Street: Approac Movemen	ch No nt 7 L	rthbound 8 T	9 R	Sout 10 L	hbound 11 T	12 R
Volume Peak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Flared Approach: Exis Lanes Configuration	36 0.76 47 s 35 sts?/Storage 0	0 0 LR	16 0.76 21 35 No	/	0	/
Dela Approach EH Movement 1 Lane Config	ay, Queue Le 3 WB 4 L	ngth, an Nort 7	d Level d hbound 8 9 LR	of Servic 10 	ce Southb) 11	ound 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	77 962 0.08 0.26 9.1 A		68 534 0.13 0.43 12.7 B 12.7 B			

Analyst: Agency/Co.: Date Performed: Analysis Time Period Intersection: Jurisdiction: Units: U. S. Customa Analysis Year: Project ID: Skyline East/West Street: North/South Street: Intersection Orienta	BAH SEI 10/27 H: PM Pe Hartm Cobb ary 2017 E II Facto Hartm ation: E	7/2015 eak County - Devel ory Shoa nan Roac	actory S Loped als Road 1	hoals Stu	ıdy peri	iod (hrs)	: 0.2	25
Major Street: Appro Mover	Vehic bach ment	le Volu Eas 1 L	umes and stbound 2 T	Adjust 3 R	tments 4 L	Vestbound 5 T	6 R	
Volume Peak-Hour Factor, PH Hourly Flow Rate, HH Percent Heavy Vehic Median Type/Storage RT Channelized? Lanes	IF FR Les	Undivi	244 0.80 304 ided 1 0	36 0.80 44 	47 0.95 49 41 /	246 5 0.95 258 		
Configuration Upstream Signal?			TR No			L T No		
Minor Street: Appro Mover	nent	Nor 7 L	thbound 8 T	9 R	5 10 L	Southboun 11 T	.d 12 R	
Volume Peak Hour Factor, PH Hourly Flow Rate, HH Percent Heavy Vehic Percent Grade (%) Flared Approach: Ex Lanes Configuration	IF FR Les cists?/S	131 0.53 247 2 Storage 0	0 D LR	227 0.53 428 25 No	1	0		/
De Approach Movement Lane Config	elay, Qu EB 1	aeue Ler WB 4 L	ngth, an Nort 7	d Leve] hbound 8 LR	l of Ser 9 	rvice Sout 10	hbound 11	1 12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS		49 1023 0.05 0.15 8.7 A		675 532 1.27 27.19 159.0 F 159.0 F				

Analyst: Agency/Co.: Date Performed: Analysis Time Period: Intersection: Jurisdiction: Units: U. S. Customar Analysis Year: Project ID: Skyline East/West Street: North/South Street: Intersection Orientat	BAH SEI 10/27/3 PM Peal Hartman Cobb Co 2017 - II Factory Hartman ion: EW	2015 k ounty Dev'd y Shoa n Road	ctory Sh w/ impn ls Road	loals covemer Stu	nts 1dy pe	riod	(hrs):	0.25	
	_Vehicle	e Volu	mes and	Adjust	ments				
Major Street: Approa	ch nt	Eas	tbound 2	2	1 1	West	bound 5	6	
Moveme.	.10	L	Z T	R	4 L		5 T	R	
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage RT Channelized?	3	Undivi	244 0.80 304 ded	36 0.80 44 	47 0. 49 41 /	95	246 0.95 258 		
Lanes			1 0			1	1		
Configuration Upstream Signal?			TR No			L	T No		
Minor Street: Approa	ch nt	Nor 7 L	thbound 8 T	9 R	10 L	Sout	hbound 11 T	12 R	
Volume	 	131		227					
Peak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%)	5	0.53 247 2	0	0.53 428 25			0		
Flared Approach: Exis	sts?/St	orage			/				/
Lanes Configuration		1 L	1 R						
Dela	ay, Que	ue Len	gth, and	d Level	L of S	ervic	e		
Approach E	B WI	в.	North	nbound			South	oound	
Movement 1 Lane Config	4 L		7 8 L	3	9 R	10 	11	1	12
v (vph) C(m) (vph) v/c 95% queue length Control Delay LOS Approach Delay Approach LOS	4 1 0 0 8	9 023 .05 .15 .7 A	247 395 0.63 4.10 28.2 D	22.8 C	428 665 0.64 4.68 19.7 C				

Analyst: Agency/Co.: Date Performed: Analysis Time Period: Intersection: Jurisdiction: Units: U. S. Customary Analysis Year: Project ID: Skyline : East/West Street: North/South Street: Intersection Orientat:	BAH SEI 10/27/2 PM Peak Hartman Cobb Co ⁹ 2017 - 3 II Riversio Hartman ion: EW	015 @ Riv unty Develo de Par Road	verside oped rkway	Stu	udy j	period	(hrs):	0.25	
Major Street: Approad Movemen	_Vehicle ch nt 1 L	Volur East	nes and tbound 2 T	Adjust 3 R	tmen; -	ts West 4 L	zbound 5 T	6 R	
Volume Peak-Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Median Type/Storage RT Channelized? Lanes Configuration Upstream Signal?	2 0 2 5 1 U	4 .88 7 3 ndivid 1 L	476 0.88 540 ded 2 T No		/		502 0.95 528 20 T TR No	22 0.95 23 	
Minor Street: Approad Movemen	ch nt 7 L	Nort	thbound 8 T	9 R		Sout 10 L	hbound 11 T	12 R	
Volume Peak Hour Factor, PHF Hourly Flow Rate, HFR Percent Heavy Vehicles Percent Grade (%) Flared Approach: Exis Lanes Configuration	s sts?/Sto:	rage	0		/	108 0.76 142 19 1 L	0 1 R	16 0.76 21 13	/
Dela Approach El Movement 1 Lane Config L	ay, Queu 3 WB 4	e Leng '	gth, an Nort 7	d Leve hbound 8	l of 9	Servic 10 L	ce South) 13	oound 1	12 R
v (vph) 2' C(m) (vph) 9' v/c 0 95% queue length 0 Control Delay 8 LOS 2 Approach Delay Approach LOS	7 42 .03 .09 .9 A					14 25 0. 3. 35 1	42 54 .56 .11 5.8 2 32	2.5	21 727 0.03 0.09 10.1 B

_TWO-WAY STOP CONTROL SUMMARY__

Analyst: BAH Agency/Co.: SEI Date Performed: Analysis Time Period: PM Peak Intersection: Hartman @ Skyline II Jurisdiction: Cobb County Units: U. S. Customary Analysis Year: 2017 - Developed Project ID: Skyline II East/West Street: Hartman Road North/South Street: Skyline II driveway Intersection Orientation: EW Study period (hrs): 0.25									
	Vehic	le Volu	imes and	l Adjust	tmen	ts			
Major Street: Approa	ach	Eas	tbound	2	I	Wes	tbound	l	
Moveme	ent	1 -	2	3		4	5	6	
		Ц	Л.	R		Ь	.L.	R	
			20	<u> </u>		12	107		
Deak-Hour Factor DH	7		29 076	0 76		13 0 76	197 0 76		
Hourly Flow Pato HE	D		20	69		17	250		
Decorpt Hoory Vehicle			20	09		エ / フ ⊑	239		
Modian Type (Storage	5	Undivi	 dod		/	55			
PT Channelized?		UNULVI	ueu	No	/				
Lanag			1 1	NO		1	1		
Configuration							 		
Unatroam Gignal 2			I K			Ц	1 No		
opscieam signal:			NO				NO		
Minor Street: Approx		Nor	thbound			Sou	thboun	 1d	
Moveme	nt	7	8	9	I	10	11	12	
FIOVELIC		, Т.	U T	R		т.	т Т	R	
		-	1	10	I	-	-	10	
Volume		158		40					
Peak Hour Factor, PHE	7	0.76		0.76					
Hourly Flow Rate, HFF	ξ	207		52					
Percent Heavy Vehicle	es	35		35					
Percent Grade (%)			0				0		
Flared Approach: Exi	sts?/S	torage		No	/				/
Lanes		0	C						
Configuration			LR						
Del	.ay, Qu	eue Len	igth, an	d Level	l of	Servi	ce		
Approach H	ΞB	WB	Nort	hbound			Sout	hbound	
Movement	_	4	7	8	9	1	.0	11	12
Lane Config		ь		LR					
v (vpn)		⊥/ 1200		259					
C(m) (vpn)		1302		654					
V/C		U.UL		0.40					
95% queue length		0.04		1.89					
Control Delay		7.8		14.1					
LOS		A		В					
Approach Delay				14.1					
Approach LOS				В					