TRAFFIC IMPACT STATEMENT

For

Santa Barbara Blvd & Golden Gate Pkwy Commercial Sub-District

(Collier County, Florida)

February 21, 2018
Revised June 4, 2018

County TIS Review Fees
TIS Methodology Review Fee = $500.00
TIS (Major Study) Review Fee = $1,500.00

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CERTIFICATE OF AUTHORIZATION NO. 27830

(PROJECT NO. 180219)

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6-4-2018

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Conclusions

Based upon the findings of this report, it was determined that the proposed rezoning and future development of Santa Barbara Boulevard & Golden Gate Parkway Commercial Sub-District will not have a negative impact upon the surrounding road network. It was verified that all roads, within the project's area of influence, currently have a surplus of capacity and can accommodate the traffic associated with the proposed mixed-use development that may consist of a K thru 12 charter school, a gas-n-convenience store, a fast food restaurant, and a miscellaneous commercial retail land use. As determined, the road network will continue to operate at acceptable levels of service for 2021 project build-out conditions and will not create any off-site transportation deficiencies that need to be mitigated.

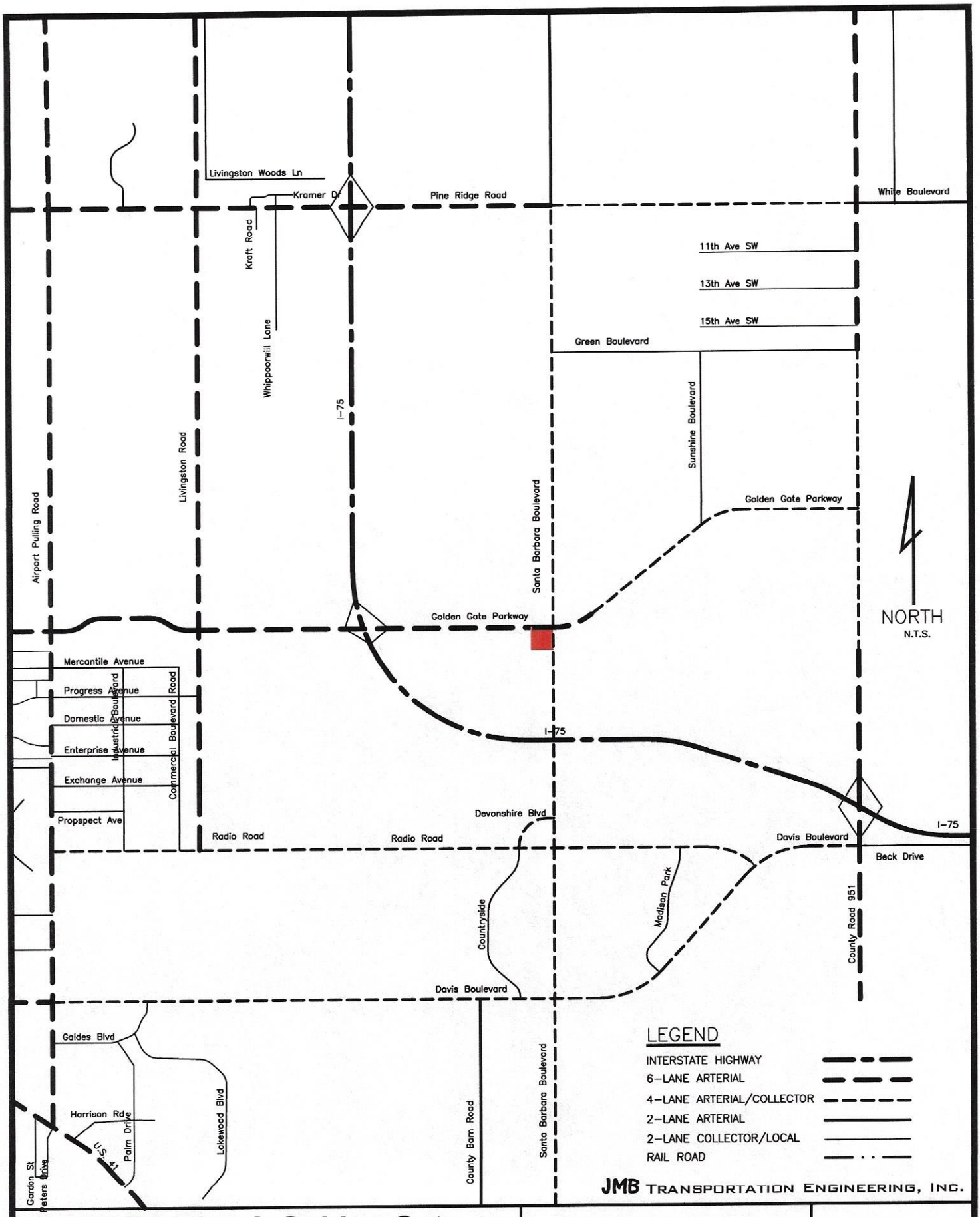
Note, site access conditions and off-site intersection impacts/mitigation will be evaluated at the time of acquiring SDP approval.

Scope of Project

Santa Barbara Boulevard & Golden Gate Parkway Commercial Sub-District is a proposed multi-use project that may consist of a K thru 12 charter school (1400 students), a gas-n-convenience (9,000 s.f. store & 16 fueling positions), a fast food restaurant w/ drive thru (6,000 s.f.), and 6,500 s.f. of retail/office. The site is located on the southwest corner of Santa Barbara Boulevard & Golden Gate Parkway, within Collier County, Florida. It is proposed to have two (2) points of access on Santa Barbara Boulevard and one (1) access on Golden Gate Parkway. The northern access on Santa Barbara is intended to serve the commercial uses and will be restricted to right-in/out access and the southern access will primarily serve the charter school and will be a directional left-in median opening. It is expected that commercial trips from south will also use this access. The access on Golden Gate Parkway will be a left-in median opening and will be shared by the school and commercial land uses.

Table A
Proposed Land Uses

Proposed Land Uses	Number of Units or Size
Charter School (K thru 12)	**1,400 Students**
Retail/Office	**5,000 s.f.**
Fast Food w/ Drive-Thru	**5,000 s.f.**
Gas n Convenience Store	**7,000 s.f. & 16 Fuel Positions**



Santa Barbara & Golden Gate Commercial Sub-District

February 20, 2018

Project Location & Roadway Classification

FIGURE 1

Project Generated Traffic

Traffic that can be expected to be generated by the project was estimated based upon the guidelines established by the Institute of Transportation Engineers, Trip Generation Manual, 10th Edition. That is, historical traffic data collected at similar land uses was relied upon in estimating the project's traffic. It was determined that land use code "Charter School K-12" (LUC 537), Variety Store" (LUC 814), "Fast Food w/ Drive-Thru" (LUC 934), and "Super Convenience/Gas station" (LUC 960) were most representative of the most intense land uses that could be developed.

As agreed to with staff, the school's PM peak hour trips were estimated based upon the "highest peak hour generator", which mostly occur before 4:00 PM. Therefore, the trips were reduced by 50% to reflect trips on the network between the hours of 4-6 PM. Also, the site currently has an existing private school of 150 students. Therefore, trip estimates were performed for the existing, proposed and net new trips associated with the school land use.

The total estimated commercial trips were adjusted for pass-by trips and also it was estimated that 15% of the "new" commercial trips would be captured trips that will be generated by the charter school.

Table 1 provides a detail of the total estimated trips and adjustments discussed above.

As determined, the project could generate 6,043 daily trips and 1,856 vph and 699 vph new trips during the AM and PM peak hours, respectively.

Table B
New Site-Generated Trips
(Summation of Table 1)

Daily New Weekday Trips Generated (ADT)	New AM Peak Hour Trips Generated (vph)	New PM Peak Hour Trips Generated (vph)
6,043	1,856	699

TABLE 1

(Page 1 of 3)

TRIP GENERATION COMPUTATIONS

Santa Barbara Boulevard & Golden Gate Parkway Commerical Sub-District

Land Use Code	Land Use Description		Existing Land Use
537	**Charter Elementary School**	*(150 existing students)*	150 Existing Students
537	**Charter Elementary School**	*(150 existing + 1250 proposed students)*	1,400 Total Students
814	**Variety Store**		5,000 s.f.
934	**Fast Food Restaurant w/ Drive Thru Window**		5,000 s.f.
960	**Super Convenience/Gas Station**		7,000 s.f.
960	*Super Convenience/Gas Station*		*16 Fuel Positions*

Code	Trip Period	Trip Generation Equation	Total Trips	Trips Enter/Exit
LUC 537	*Daily Traffic (ADT) =*	*T= 1.85(X) =*	*278 ADT*	
	AM Peak Hour (vph) =	*T= 1.17(X) -34.68 =*	*141 vph*	*75 / 66 vph*
		53% Enter/ 47% Exit =		
	PM Peak Hour (vph) =	*[Ln(T) = 0.98Ln(X)-0.30] x 50% =*	*50 vph*	*23 / 27 vph*
		46% Enter/ 54% Exit =		
LUC 537	Daily Traffic (ADT) =	T= 1.85(X) =	2,590 ADT	
	AM Peak Hour (vph) =	T= 1.17(X) -34.68 =	1,603 vph	850 / 753 vph
		53% Enter/ 47% Exit =		
	PM Peak Hour (vph) =	[Ln(T) = 0.98Ln(X)-0.30] x 50% =	449 vph	207 / 242 vph
		46% Enter/ 54% Exit =		
	Net New School Trips =	Daily Traffic (ADT) =	**2,313 ADT**	
		AM Peak Hour (vph) =	**1,462 vph**	775 / 687 vph
		PM Peak Hour (vph) =	**398 vph**	184 / 214 vph
**********				
LUC 814	Daily Traffic (ADT) =	T= 63.47(X) =	317 ADT	
	AM Peak Hour (vph) =	T= 3.18(X) =	16 vph	9 / 7 vph
		57% Enter/ 43% Exit =		
	PM Peak Hour (vph) =	T= 6.84(X) =	34 vph	18 / 16 vph
		52% Enter/ 48% Exit =		
Pass-by Trips per Collier County= 25%			**25% Pass-by Rate**	
	New Daily Traffic (ADT) =	(ADT) x (% of New Trips)	**238 ADT**	
	New AM Peak Hour (vph) =	(AM) x (% of New Trips)	**12 vph**	7 / 5 vph
		62% Enter/ 38% Exit =		
	New PM Peak Hour (vph) =	(PM) x (% of New Trips)	**26 vph**	13 / 13 vph
		48% Enter/ 52% Exit =		

TABLE 1

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TRIP GENERATION COMPUTATIONS

Santa Barbara Boulevard & Golden Gate Parkway Commerical Sub-District

Code	Trip Period	Trip Generation Equation	Total Trips	Trips Enter/Exit
LUC 934	Daily Traffic (ADT) =	T= 470.95(X) =	2,355 ADT	
	AM Peak Hour (vph) =	T= 40.19(X) = 51% Enter/ 49% Exit =	201 vph	103 / 98 vph
	PM Peak Hour (vph) =	T= 32.67(X) = 52% Enter/ 48% Exit =	163 vph	85 / 78 vph
Pass-by Trips per ITE= 50%			**50% Pass-by Rate**	
	New Daily Traffic (ADT) =	(ADT) x (% of New Trips)	1,177 ADT	
	New AM Peak Hour (vph) =	(AM) x (% of New Trips) 51% Enter/ 49% Exit =	100 vph	51 / 49 vph
	New PM Peak Hour (vph) =	(PM) x (% of New Trips) 52% Enter/ 48% Exit =	82 vph	43 / 39 vph
Shared Trip Adjustment = 15%			**15% Shared Trip Adjustment**	
	New Daily Traffic (ADT) =	(ADT) x (% of New Trips)	**1,001 ADT**	
	New AM Peak Hour (vph) =	(AM) x (% of New Trips) 51% Enter/ 49% Exit =	**85 vph**	43 / 42 vph
	New PM Peak Hour (vph) =	(PM) x (% of New Trips) 52% Enter/ 48% Exit =	**69 vph**	36 / 33 vph

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Land Use Code	Trip Period	Trip Generation Equation (Based upon Square Feet)	Total Trips	Trips Enter/Exit
LUC 960	Daily Traffic (ADT) =		5,863 ADT	
	AM Peak Hour (vph) =	T=837.58(X) = T=137.38(X) - 264.53 = 50% Enter/ 50% Exit =	697 vph	348 / 349 vph
	PM Peak Hour (vph) =	T=69.28(X) = 50% Enter/ 50% Exit =	485 vph	242 / 243 vph
Pass-by Trips per Colier County = 50%			**50% Pass-by Rate**	
	New Daily Traffic (ADT) =		2,932 ADT	
	New AM Peak Hour (vph) =	(ADT) x (% of New Trips) (AM) x (% of New Trips) 50% Enter/ 50% Exit =	349 vph	174 / 175 vph
	New PM Peak Hour (vph) =	(PM) x (% of New Trips) 50% Enter/ 50% Exit =	242 vph	121 / 121 vph
Shared Trip Adjustment = 15%			**15% Shared Trip Adjustment**	
	New Daily Traffic (ADT) =	(ADT) x (% of New Trips)	**2,492 ADT**	
	New AM Peak Hour (vph) =	(AM) x (% of New Trips) 51% Enter/ 49% Exit =	**296 vph**	151 / 145 vph
	New PM Peak Hour (vph) =	(PM) x (% of New Trips) 52% Enter/ 48% Exit =	**206 vph**	107 / 99 vph

TABLE 1

(Page 3 of 3)

TRIP GENERATION COMPUTATIONS

Santa Barbara Boulevard & Golden Gate Parkway Commerical Sub-District

Land Use Code	*Trip Period*	*Trip Generation Equation (Based upon Fuel Positions)*	*Total Trips*	*Trips Enter/Exit*
LUC 960	*Daily Traffic (ADT) =*		*3,688 ADT*	
	AM Peak Hour (vph) =	*T=230.52(X) =*	*449 vph*	*225 / 225 vph*
	PM Peak Hour (vph) =	*T=28.08(X) = 50% Enter/ 50% Exit =*	*367 vph*	*184 / 184 vph*
		T=22.96(X) = 50% Enter/ 50% Exit =		
Pass-by Trips per Colier County = 50%			50% Pass-by Rate	
	New Daily Traffic (ADT) =		*1,844 ADT*	
	New AM Peak Hour (vph) =	*(ADT) x (% of New Trips)*	*225 vph*	*112 / 112 vph*
	New PM Peak Hour (vph) =	*(AM) x (% of New Trips) 50% Enter/ 50% Exit = (PM) x (% of New Trips)*	*184 vph*	*92 / 92 vph*

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Total CommericalTrips	Pass-by Daily Traffic (ADT) =	**7,919 ADT**	
	Pass-by AM Peak Hour (vph) =	**846 vph**	429 / 417 vph
	Pass-by PM Peak Hour (vph) =	**634 vph**	324 / 310 vph
Total Commerical Pass-by Trips	Pass-by Daily Traffic (ADT) =	**4,188 ADT**	
	Pass-by AM Peak Hour (vph) =	**453 vph**	227 / 225 vph
	Pass-by PM Peak Hour (vph) =	**333 vph**	168 / 165 vph
Total Commerical New Trips	New Daily Traffic (ADT) =	**3,731 ADT**	
	New AM Peak Hour (vph) =	**393 vph**	201 / 192 vph
	New PM Peak Hour (vph) =	**301 vph**	156 / 145 vph

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TOTALS	New Daily Traffic (ADT) =	**6,043 ADT**	
	New AM Peak Hour (vph) =	**1,856 vph**	977 / 879 vph
	New PM Peak Hour (vph) =	**699 vph**	340 / 359 vph

Existing + Committed Road Network
Figure 1 and Table 2A provide a detail of the surrounding E + C road network. Table 2A also shows the roads' respective minimum level of service performance standards and capacity. As shown, there are no significant 5-year committed roadway improvements within the project's area of impact. However, the .

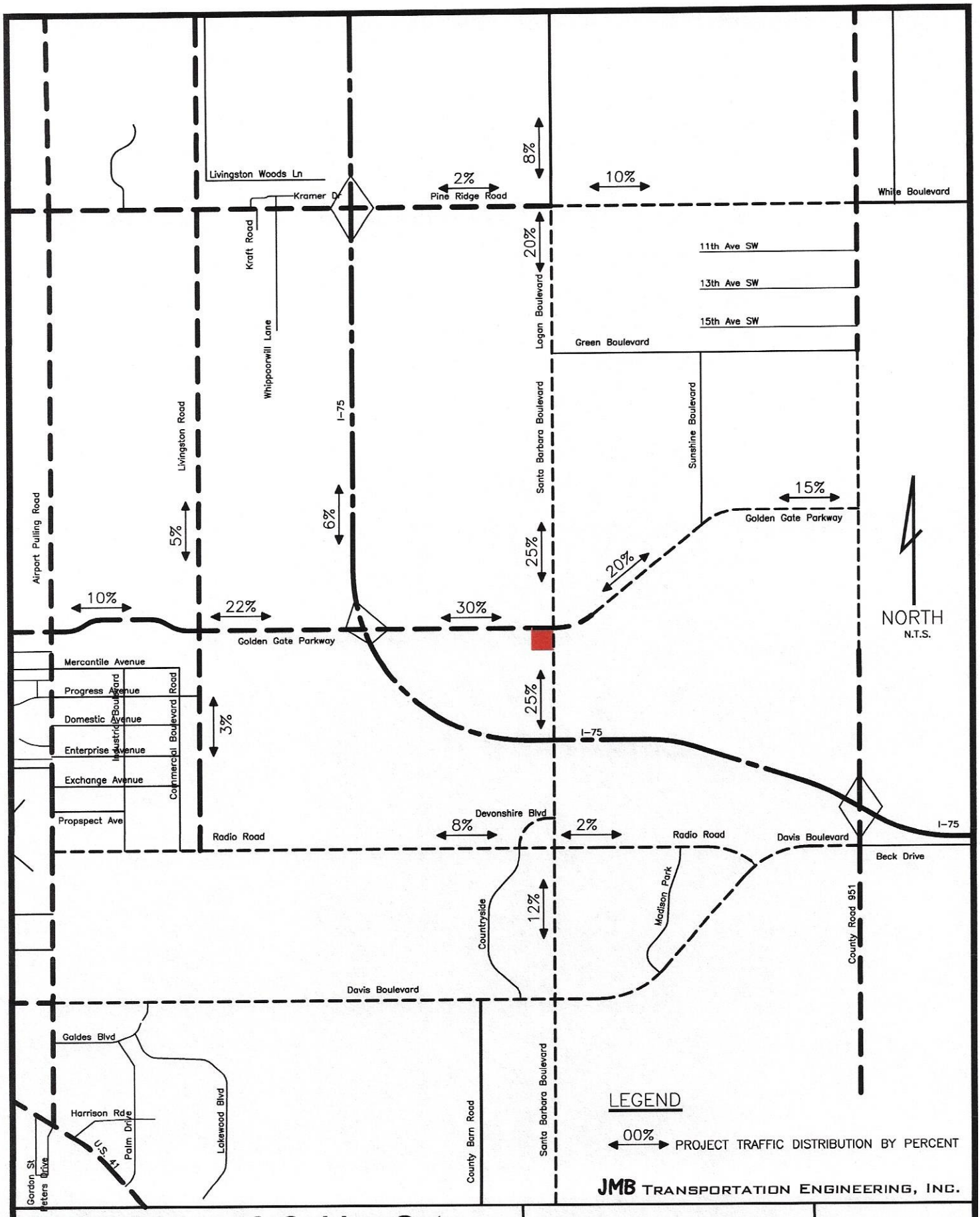
Santa Barbra Boulevard varies from a four-lane to a six-lane major arterial that has a north/south orientation between its southern terminus at its intersection with Rattlesnake Hammock Road and its northern terminus at its intersection with Green Boulevard where the roadway continues north to Immokalee Road and is known as Logan Boulevard. Between Green Boulevard and Golden Gate Parkway, Santa Barbara Boulevard is classified as a four-lane divided arterial having a maximum service capacity of 2,100 vphpd. Between Golden Gate Boulevard and Rattlesnake Hammock Road, Santa Barbara Boulevard is classified as a six-lane divided arterial having a maximum service capacity of 3,100 vphpd. Within proximity of the site, the posted speed limit of Santa Barbara Boulevard is 45 MPH.

Golden Gate Parkway varies from a four-lane to a six-lane major arterial that has an east/west orientation between its western terminus at its intersection with U.S. 41 and its eastern terminus at its intersection with Collier Boulevard. Golden Gate Parkway (west of Santa Barbara Boulevard), is classified as a six-lane divided arterial having a maximum service capacity of 3,300 vphpd. Golden Gate Parkway (east of Santa Barbara Boulevard) is classified as a four-lane divided arterial having a maximum service capacity of 1,800 vphpd. Within proximity of the site, the posted speed limit of Golden Gate Parkway is 45 MPH.

Project Traffic Distribution
The project's traffic was distributed to the surrounding road network based upon logical means of ingress/egress, current and future traffic patterns in the area, and the location of surrounding residential areas as well as other schools was considered. Figure 2A and Table 2A provide a detail of the traffic distributions based on a percentage basis. Figure 2B and Table 2A depict the trip assignments to the site access and nearby intersections.

As shown on Table 2A, the report estimates that the trips associated with the fast food (LUC 934) and the gas-n-convenience store (LUC 960) will have a 50% absorption of their trips within the a 2-mile radius of the site.

Area of Significant Impact
The area of significant impact was determined based upon Collier County's 2%, 2% and 3% criteria (i.e., if the project's traffic is 2% or more of a roadway's adopted level of service capacity, then the project has a significant impact upon that link). Table 2A describes the project traffic distributions and the level of impact on the surrounding roadways. Roads that were identified as being within the projects area impact are identified in Table 2A.



Santa Barbara & Golden Gate Commercial Sub-District

May 31, 2018

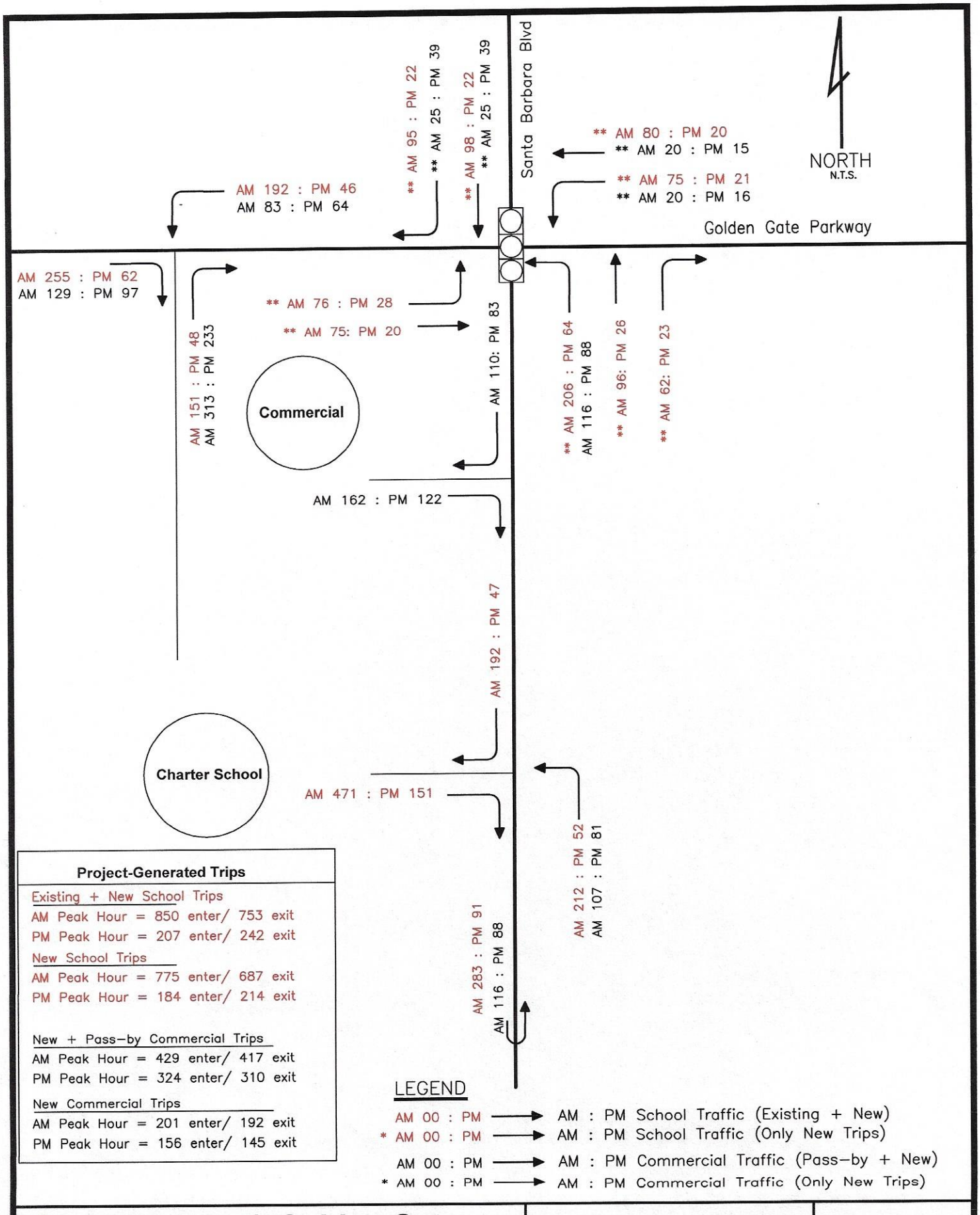
PROJECT-GENERATED TRAFFIC DISTRIBUTION

FIGURE 2A

TABLE 2A
PROJECT'S AREA OF IMPACT

Project Traffic Peak Direction (vphpd) =	**359**	**Exiting**	*All new trips within a 2-mile radius*
Project Traffic Non-Peak Direction (vph) =	**340**	**Entering**	*All new trips within a 2-mile radius*
Project Traffic Peak Direction (vphpd) =	**287**	**Exiting**	*Trips remaining outside a 2-mile radius - 50% absorption for LUC 934 & 960*
Project Traffic Non-Peak Direction (vph) =	**262**	**Entering**	*Trips remaining outside a 2-mile radius - 50% absorption for LUC 934 & 960*

			Road Class	PK Dir. Serv. Vol. LOS	LOS Service PK Direction Volume (vphpd)	Project Traffic % Dist.	Project Pk Hr PK Dir (vphpd)	Project Pk Hr Pk Dir	Project Pk Hr Non-PK Dir (vph)	Project Non-Pk DiR	Impact Standard	Percent Impact	Significant Impact
19.0	**Golden Gate Pkwy**	Goodlette-Frank to Airport	6D	E	4350	5.0%	14	W	13	E	3%	0.33%	NO
20.1		Airport Road to Livingston	6D	E	3300	10.0%	29	W	26	E	3%	0.87%	NO
20.2		Livingston to I 75	6D	E	3300	22.0%	79	W	75	E	2%	2.39%	YES
21.0		I-75 to Santa Barbara	6D	E	3300	30.0%	108	W	102	E	2%	3.26%	YES
22.0		Santa Barbara to Collier Blvd	4D	D	1800	20.0%	72	E	68	W	2%	3.99%	YES
32.1	**County Road 951**	Green Blvd to Golden Gate Pkwy	4D	D	2300	10.0%	29	N	26	S	3%	1.25%	NO
	Green Boulevard	C.R. 951 to Santa Barbara	2U	D	900	2%	6	E	5	W	2%	0.64%	NO
48.0	**Logan Blvd**	Vanderbilt to Pine Rdige Rd	2U	D	1000	8%	23	N	21	S	3%	2.30%	NO
49.0		Pine Rdige Rd to Green Blvd	4D	D	1900	20%	72	N	68	S	2%	3.78%	YES
50.0		Immokalee Rd to Vanderbilt	2U	D	1000	3%	9	N	8	S	3%	0.86%	NO
68.0	**Pine Ridge Road**	I-75 to Logan Blvd	6D	E	2800	2%	6	E	5	E	3%	0.21%	NO
125.0		Logan Blvd to Collier Blvd	4D	D	2400	10%	29	E	26	E	3%	1.20%	NO
70.0	**Radio Road**	Livingston to Santa Barabara	4D	D	1800	8.0%	23	W	21	E	3%	1.28%	NO
71.0		Santa Barbara to Davis Blvd	4D	D	1800	2.0%	6	E	5	W	3%	0.32%	NO
76.0	**Santa Barbara Blvd**	Green to Golden Gate Pkwy	4D	D	2100	25%	90	N	85	S	3%	4.27%	YES
77.0		Golden Gate Pkwy to Radio Rd	6D	E	3100	25%	90	S	85	N	2%	2.90%	YES
78.0		Radio Rd to Davis Blvd	6D	E	3100	12.0%	43	S	41	N	2%	1.39%	NO
79.0		Davis to Rattlesnake	6D	E	3100	8.0%	23	S	21	N	2%	0.74%	NO



Santa Barbara & Golden Gate Commercial Sub-District
May 31, 2018

PROJECT-GENERATED TRAFFIC ASSIGNMENT

FIGURE 2B

2017 thru 2021 Project Build-out Traffic Conditions

In order to establish 2017 thru 2021 project build-out traffic conditions, two forecasting methods were used.

The first traffic forecasting method was the County's traffic count data was adjusted for peak season conditions, peak hour conditions, peak direction, and an annual growth rate was then applied. The peak season/peak hour/peak direction factor as shown on Table 2B was derived from the 2017 Collier County AUIR Reports. The annual growth rate was also obtained from the 2017 AUIR Report. Using the annual growth rate, the 2021 background traffic conditions were determined, which are depicted in Table 2B.

The second traffic forecasting method was to add the vested trips (trip bank) identified in the 2017 AUIR report to the adjusted peak season, peak hour and peak direction traffic counts. The 2021 vested trips "+" background traffic volumes are depicted in Table 2B.

The greater of the two values produced by the two forecasting procedures was then considered to reflect the 2021 background traffic. The net new project generated traffic was then added to the background traffic. Table 2C provides a summary of the 2017 thru 2021 traffic conditions and the roadways' level of service and remaining available capacity. As shown, all project impacted roadways will continue to operate at the County's adopted minimum level of service thresholds at project build-out.

TABLE 2B
2017 & 2021 ROADWAY LINK VOLUMES

						Per Growth Rate Method		*Per Vested Trips Metho*
			2017 AUIR Traffic (vphpd)	AUIR Pk DiR	Growth Rate per AUIR	2021 Peak Hour PK Direction Background (vphpd)	Trip Bank (vphpd)	2021 Peak Hour PK Direction Background Per Vested Trips (vphpd)
20.1	**Golden Gate Pkwy**	Airport Road to Livingston	2200	E	2.00%	**2381**	0	2200
20.2		Livingston to I 75	2770	E	2.00%	**2998**	1	2771
21.0		I-75 to Santa Barbara	1960	E	2.00%	**2122**	14	1974
22.0		Santa Barbara to Collier Blvd	1550	E	2.00%	**1678**	67	1617
48.0	**Logan Blvd**	Vanderbilt to Pine Rdige Rd	710	N	2.45%	**782**	35	745
49.0		Pine Rdige Rd to Green Blvd	1570	S	3.61%	**1809**	0	1570
50.0		Immokalee Rd to Vanderbilt	560	N	4.00%	**655**	30	590
76.0	**Santa Barbara Blvd**	Green to Golden Gate Pkwy	1270	N	2.00%	**1375**	0	1270
77.0		Golden Gate Pkwy to Radio Rd	1810	N	2.34%	**1985**	54	1864
78.0		Radio Rd to Davis Blvd	1350	N	3.98%	**1578**	213	1563
79.0		Davis to Rattlesnake	890	S	4.00%	**1041**	112	1002

5.1

TABLE 2C
2021 ROADWAY LINK VOLUME/CAPACITY ANALYSIS

			2017 Peak Hour PK Direction (vphpd)	LOS	2021 Peak Hour PK Direction Background (vphpd)	Bkgd Pk Dir	2021 Peak Hour PK Direction Background LOS	Project Pk Hr PK Dir (vphpd)	Prjct Pk Dir	Project Pk Hr Non-PK Dir (vph)	Prjct Non-Pk Dir	2021 Build-Out Peak Hour PK Dir (vphpd)	Serv. Vol. Pk Hr PK Dir (vphpd)	2021 Build-Out Peak Hour PK Direction v/c Ratio	2021 Build-Out Peak Hour PK Direction LOS
20.1	**Golden Gate Pkwy**	Airport Road to Livingston	2200	**D**	2381	E	**D**	29	W	26	E	2408	3300	0.73	**D**
20.2		Livingston to I 75	2770	**D**	2998	E	**E**	79	W	75	E	3073	3300	0.93	**E**
21.0		I-75 to Santa Barbara	1960	**C**	2122	E	**C**	108	W	102	E	2224	3300	0.67	**C**
22.0		Santa Barbara to Collier Blvd	1550	**D**	1678	E	**E**	72	E	68	W	1750	1800	0.97	**E**
48.0	**Logan Blvd**	Vanderbilt to Pine Rdige Rd	710	**D**	782	N	**D**	23	N	21	S	805	1000	0.81	**D**
49.0		Pine Rdige Rd to Green Blvd	1570	**D**	1809	S	**D**	72	N	68	S	1877	1900	0.99	**D**
50.0		Immokalee Rd to Vanderbilt	560	**D**	655	N	**D**	9	N	8	S	664	1000	0.66	**D**
76.0	**Santa Barbara Blvd**	Green to Golden Gate Pkwy	1270	**A**	1375	N	**B**	90	N	85	S	1464	2100	0.70	**B**
77.0		Golden Gate Pkwy to Radio R	1810	**A**	1985	N	**B**	90	S	85	N	2070	3100	0.67	**B**
78.0		Radio Rd to Davis Blvd	1350	**A**	1578	N	**A**	43	S	41	N	1619	3100	0.52	**A**
79.0		Davis to Rattlesnake	890	**A**	1041	S	**A**	23	S	21	N	1064	3100	0.34	**A**