ALPHA CONSULTING ENGINEERS, INC.

PLANNING ♦ ENGINEERING ♦ SURVEYING

October 6, 2022

Jennifer M. Boyer
Community Development Director/Planner
Upper Allen Township
100 Gettysburg Pike
Mechanicsburg, PA 17055

RE: Chick-fil-A
P/F Land Development Plan
Upper Allen Township

Dear Ms. Boyer:

Please find the following responses **(in bold text)** to Township traffic related review comments *(in italics)* received August 24, 2022 for the above referenced project.

Traffic (starts at number 20)

20. *While the use of a 5,000sf fast food restaurant is the best fit for the proposed Chick-fil-A using ITE Trip Generation, Chick-fil-A generally generates more traffic than a typical fast-food restaurant. If the trip generation is increased for the proposed Chick-fil-A, will there be a significant impact at the Gettysburg Pike / proposed driveway 3 or the Gettysburg Pike / Market Street intersections?* **The analysis indicates there will be no significant impacts. The Township's level of service requirement for new intersections is a LOS 'D'. Site Driveway 3 is estimated to operate significantly better at a LOS 'A' for all design scenarios demonstrating that there is sufficient capacity for possible additional traffic.**

21. *The study assumes that no northbound right turn traffic will use proposed site driveway 3. Since driveway 3 is located closest to the proposed restaurants, some northbound right traffic will likely use this driveway. Please justify the traffic assignment of driveway 3.* **As discussed with PennDOT and the Township during the scoping application process and as submitted prior to submission of the traffic impact study, the distribution and assignment was based on a worst-case-scenario of all right turning traffic entering the first driveway. An additional scenario is included within the appendix at the end of the HCM section assigning all entering right turning vehicles to site driveway 3. The difference is less than 1 second of delay.**

Note: Based on the level of service analysis, the proposed Chick-fil-A will not significantly impact the level of service at the study intersections with the previously proposed improvements. The level of service at the Gettysburg Pike / Market Street, Gettysburg Pike / Proposed Site Driveway 3, and Gettysburg Pike / Proposed Site Driveway 4 intersection will be acceptable with minimal increase in delay. **Acknowledged.**

22. *A queue summary table comparing the queues at the study intersections from the approved TIS to the updated Traffic Assessment was not included in the submission.* **A queueing summary table has been added to the analysis.** *However, based on the queue analysis provided, the northbound right turn queue will be 250' at the Gettysburg Pike / Market Street intersection in the year 2027 at full buildout. The proposed right turn lane is proposed to be 200' in length. Additionally, the northbound left turn queue will increase to 180' during the AM peak hour. The Applicant shall verify if timing modifications will result in shorter queues for the northbound approach or if the northbound right turn lane should be extended to accommodate vehicle queues.* **The queueing analysis estimates that for the northbound left movement the 95th percentile length is approximately 153 feet, and approximately 123 feet for the northbound right movement. Queue length calculations are provided within the appendix for HCM 6 methodology, synchro methodology, and simulation modeling for the AM peak hour.**

23. *The revised site plan shall be updated to show the recommended roadway improvements on Gettysburg Pike.* **A revised site plan has been added consistent with the current Land Development Plan and recommended improvements.**

24. *A traffic analysis must be completed for the first internal intersection with driveway 3. Considering the traffic exiting Chick-Fil-A, eastbound traffic on driveway 3 entering either Chick-Fil-A or Burger King may be blocked resulting in cars queuing onto Gettysburg Pike. A plan for internal traffic control should be included.* **Traffic analysis has been added for the first internal intersection with Site Driveway 3. Analysis indicates that this intersection will also operate at a LOS 'A'. Per discussions with the Township and the Township Traffic Engineer, the Chick-fil-A driveway opposite the Burger King driveway has been removed to eliminate the turn movement conflict at the Burger King driveway. Additionally, the west, north, and southbound movements at the first internal intersection will be stop controlled with the eastbound movement being free, minimizing the possibility of any backup or queuing onto the Gettysburg Pike.**

Please contact our office with any questions or comments.

Sincerely,

Mark E. Allen

Mark E. Allen, P.L.S., P.E.

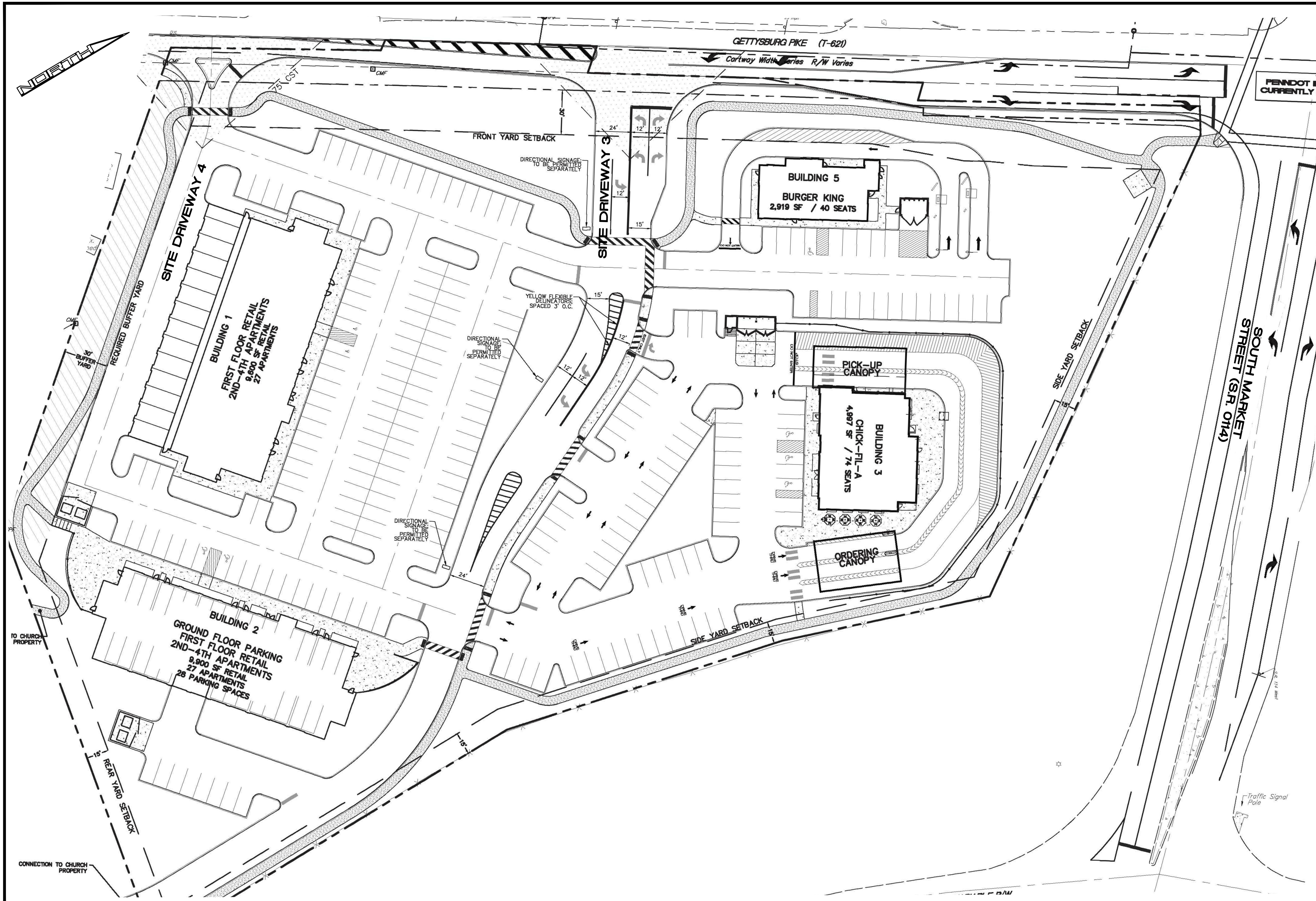
Appendix / Attachments

Traffic Analysis Summary for Chick-fil-A at
151-237 Gettysburg Pike

Attachments:

- Exhibit A – Updated Site Plan
- Table 3a ITE Trip Generation Equations
- Table 3b Trip Generation – Summary Table
- Table 3c Proposed Development Pass-by and Primary Trips
- Trip Generation Worksheets
- Internal Capture Worksheets
- Figure 4 Distribution and assignment of trips
- Figure 6 2027 Horizon Year estimated traffic volumes
- HCM Worksheets
- HCM Summary Table
- Queue Analysis
- SimTraffic Model – Internal Intersections
- Turn Lane Analysis Worksheets

Exhibit A



DESIGN :	MEA
DRAWN :	MEA
CHECKED :	X.X.
DATE :	10-06-2022
REV:	

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TRAFFIC ANALYSIS SUMMARY FOR CHICK-FIL-A

SITE PLAN – EXHIBIT A

151 – 225 GETTYSBURG PIKE

UPPER ALLEN TOWNSHIP, CUMBERLAND COUNTY, PENNSYLVANIA

PROJECT NO.	319590
SURVEY BOOK :	Z:\Surveyor\Year\Project.txt
SCALE:	NTS
DWG FILE :	Y:\16\317508.aph\317508\Dwg\Plans\HOP\TIS\00_TIS_LOC.dwg
SHEET	A

Tables 3a, 3b, 3c

TABLE 3a
ITE TRIP GENERATION EQUATIONS FOR UPDATED LAND USES

Land Use Description	ITE #	Time Period	Equations	Independent Variable (X)	Entering %	Exiting %
Shopping Center	820	Weekday	AR: T=37.75(X) Ln(T) = 0.68 Ln(X) + 5.57	(19.5) (For Average Rate Scenario) (27.4) (For Regression Equation Scenario) 1,000 SF	50%	50%
		AM Peak Hour of Adj Street	AR: T=0.94(X) T = 0.50(X)+151.78		62%	38%
		PM Peak Hour of Adj Street	AR: T=3.81(X) Ln(T) = 0.74 Ln(X) + 2.89		48%	52%
		AM Peak Hour of Generator	AR: T=3.00(X) T = 2.76(X)+77.28		54%	46%
		PM Peak Hour of Generator	AR: T=4.21(X) Ln(T) = 0.72 Ln(X) + 3.02		50%	50%
		Saturday	AR: T = 46.12(X) Ln(T) = 0.62 Ln(X) + 6.24		50%	50%
		Saturday Peak	AR: T=6.57(X) Ln(T) = 0.79 Ln(X) + 2.79		52%	48%

Land Use Description	ITE #	Time Period	Equations	Independent Variable (X)	Entering %	Exiting %
Fast-Food Restaurant with Drive-Through Window	934	Weekday	AR: T=467.48(X)	(2.9) (5.0) For Separate Facilities on South Lot 1,000 SF	50%	50%
		AM Peak Hour of Adj Street	AR: T=44.61(X)		51%	49%
		PM Peak Hour of Adj Street	AR: T=33.03(X)		52%	48%
		AM Peak Hour of Generator	AR: T=50.57(X)		52%	48%
		PM Peak Hour of Generator	AR: T=50.94(X)		51%	49%
		Saturday	AR: T=616.12(X)		50%	50%
		Saturday Peak	AR: T=55.25(X)		51%	49%

ITE TRIP GENERATION EQUATIONS FOR FACILITIES UNCHANGED

Land Use Description	ITE #	Time Period	Equations	Independent Variable (X)	Entering %	Exiting %
Multi-Family Housing (Mid-Rise)	221	Weekday	AR: T = 5.44(X) T = 5.45(X)-1.75	(54) Dwelling Units	50%	50%
		AM Peak Hour of Adj Street	AR: T = 0.36(X) Ln(T) = 0.98 Ln(X)-0.98		26%	74%
		PM Peak Hour of Adj Street	AR: T = 0.44X) Ln(T) = 0.96 Ln(X)-0.63		61%	39%
		AM Peak Hour of Generator	AR: T = 0.32(X) Ln(T) = 0.83Ln(X)-0.27		27%	73%
		PM Peak Hour of Generator	AR: T = 0.41(X) Ln(T) = 0.83Ln(X)-0.05		60%	40%
		Saturday	AR: T = 4.91(X) T = 3.04(X)+417.11		50%	50%
		Saturday Peak	AR: T = 0.44 (X) T = 0.42(X)+6.73		49%	51%

Land Use Description	ITE #	Time Period	Equations	Independent Variable (X)	Entering %	Exiting %
Fast-Food Restaurant with Drive-Through Window	934	Weekday	AR: T = 470.95(X)	(3) For Single Facility on North Lot 1,000 SF	50%	50%
		AM Peak Hour of Adj Street	AR: T = 40.19(X)		51%	49%
		PM Peak Hour of Adj Street	AR: T = 32.67(X)		52%	48%
		AM Peak Hour of Generator	AR: T = 50.97(X)		52%	48%
		PM Peak Hour of Generator	AR: T = 51.36(X)		51%	49%
		Saturday	AR: T = 616.12(X)		50%	50%
		Saturday Peak	AR: T = 54.86(X)		51%	49%

Land Use Description	ITE #	Time Period	Equations	Independent Variable (X)	Entering %	Exiting %
Super Convenience Market/Gas Station	960	Weekday	T = 837.58(X)	(5.0) 1,000 SF	50%	50%
		AM Peak Hour of Adj Street	AR: T = 83.14(X) T = 137.38(X) – 264.53		50%	50%
		PM Peak Hour of Adj Street	T = 69.28(X)		50%	50%
		AM Peak Hour of Generator	AR: T = 70.01(X) T = 99.90(X) – 130.36		50%	50%
		PM Peak Hour of Generator	AR: T = 67.53(X) T = 77.96(X) – 46.12		50%	50%
		Saturday	T = 700.00(X)		50%	50%
		Saturday Peak	AR: T = 63.80(X) T = 104.71(X) – 204.23		50%	50%

Land Use Description	ITE #	Time Period	Equations	Independent Variable (X)	Entering %	Exiting %
Super Convenience Market/Gas Station	960	Weekday	T = 230.52(X)	(16) Fueling Positions	50%	50%
		AM Peak Hour of Adj Street	T = 28.08(X)		50%	50%
		PM Peak Hour of Adj Street	T = 22.96(X)``		50%	50%
		AM Peak Hour of Generator	T = 21.30(X)		50%	50%
		PM Peak Hour of Generator	T = 20.25(X)		50%	50%
		Saturday	T = 291.67(X)		50%	50%
		Saturday Peak	T = 23.26(X)		50%	50%

Table 3b – Trip Generation – Proposed Development – Build Out

Land Use	Trips																		
	Total						Enter						Exit						
	South Lot				North Lot		South Lot				North Lot		South Lot				North Lot		
	Multi-Family Housing 54 Dwelling Units	Shopping Center 19.5 TSF, 27.4 TSF	Fast-Food Restaurant with Drive-Through Window 2.9 TSF	Fast-Food Restaurant with Drive-Thru Window 5.0 TSF	Fast-Food Restaurant with Drive-Through Window 3.0 TSF	Super Convenience Market/Gas Station 5 TSF, 16 FP	Multi-Family Housing 54 Dwelling Units	Shopping Center 19.5 TSF, 27.4 TSF	Fast-Food Restaurant with Drive-Through Window 2.9 TSF	Fast-Food Restaurant with Drive-Thru Window 5.0 TSF	Fast-Food Restaurant with Drive-Through Window 3.0 TSF	Super Convenience Market/Gas Station 5 TSF, 16 FP	Multi-Family Housing 54 Dwelling Units	Shopping Center 19.5 TSF, 27.4 TSF	Fast-Food Restaurant with Drive-Through Window 2.9 TSF	Fast-Food Restaurant with Drive-Thru Window 5.0 TSF	Fast-Food Restaurant with Drive-Through Window 3.0 TSF	Super Convenience Market/Gas Station 5 TSF, 16 FP	
ITE#	**221**	**820**	**934**	**934**	**934**	**960**	**221**	**820**	**934**	**934**	**934**	**960**	**221**	**820**	**934**	**934**	**934**	**960**	
Time Period																			
Weekday	294	736	1356	2337	1412	4188	147	368	678	1168	706	2094	147	368	678	1169	706	2094	A
	293		2493		*	*	146		1246		*	*	147		1247		*	*	B
	*	*	*	*	*	3688	*	*	*	*	*	1844	*	*	*	*	*	1844	C
		10323(ar)		8386(fc)	9823(fp)			**5161(ar)**		4192(fc)	4911(fp)			**5162(ar)**		4194(fc)	4912(fp)		
Weekday AM Adj.	19	18	129	223	121	416	5	11	66	114	61	208	14	7	63	109	60	208	A
	19		165		*	422	5		102		*	211	14		63		*	211	B
	*	*	*	*	*	449	*	*	*	*	*	224	*	*	*	*	*	225	C
		926(ar)		727(fc)	**959(fp)**			465(ar)		379(fc)	**481(fp)**			461(ar)		348(fc)	**478(fp)**		
Weekday PM Adj.	24	74	96	165	98	346	14	36	50	86	51	173	10	38	46	79	47	173	A
	25		208		*	*	15		100		*	*	10		108		*	*	B
	*	*	*	*	*	367	*	*	*	*	*	183	*	*	*	*	*	184	C
		803(ar)		677(fc)	**824(fp)**			410(ar)		339(fc)	**420(fp)**			393(ar)		338(fc)	**404(fp)**		
Weekday AM Gen.	17	59	147	253	153	350	4	32	76	132	80	175	13	27	71	121	73	175	A
	21		153		*	369	6		83		*	184	15		70		*	185	B
	*	*	*	*	*	341	*	*	*	*	*	170	*	*	*	*	*	171	C
		979(ar)		696(fc)	970(fp)			**423(ar)**		353(fc)	494(fp)			**480(ar)**		343(fc)	476(fp)		
Weekday PM Gen.	22	82	148	255	154	338	13	41	75	130	79	169	9	41	73	125	75	169	A
	26		222		*	344	16		111		*	172	10		111		*	172	B
	*	*	*	*	*	324	*	*	*	*	*	162	*	*	*	*	*	162	C
		999(ar)		746(fc)	985(fp)			**507(ar)**		378(fc)	500(fp)			**492(ar)**		368(fc)	485(fp)		
Saturday	265	899	1787	3081	1848	3500	132	449	893	1540	924	1750	133	450	894	1541	924	1750	A
	581		3994		*	*	290		1997		*	*	291		1997		*	*	B
	*	*	*	*	*	4667	*	*	*	*	*	2333	*	*	*	*	*	2334	C
		11380(ar)		9923(fc)	**12547(fp)**			5688(ar)		4961(fc)	**6271(fp)**			5692(ar)		4962(fc)	**6276(fp)**		
Saturday Peak	24	88	160	276	165	319	12	46	82	141	84	159	12	42	78	135	81	160	A
	29		223		*	319	14		116		*	159	15		107		*	160	B
	*	*	*	*	*	372	*	*	*	*	*	186	*	*	*	*	*	186	C
		1032(ar)		736(fc)	**1085(fp)**			524(ar)		373(fc)	**551(fp)**			508(ar)		363(fc)	**534(fp)**		

A- Average rate (ar) B- Fitted curve (fc) C- Average rate based on fuel pumps - These land uses have not been revised
*equation not provided, use average rate TSF - Thousand Square Feet

TABLE 3c
PROPOSED DEVELOPMENT – BUILD OUT – PASS-BY AND PRIMARY TRIPS

		Trips											
		Total				Enter				Exit			
Land Use		Uses without Pass-by Rate	Shopping Center	Fast-Food Restaurant	Super Convenience Market	Uses without Pass-by Rate	Shopping Center	Fast-Food Restaurant	Super Convenience Market	Uses without Pass-by Rate	Shopping Center	Fast-Food Restaurant	Super Convenience Market
ITE#			**820**	**934**	**960**		**820**	**934**	**960**		**820**	**934**	**960**
Period	**Type**												
Weekday AM Adj.	Total	19	18	473	449	5	11	241	224	14	7	232	225
		959				481				478			
	Capture	3	2	5		0	1	4		3	1	1	
	Capture Total	10				5				5			
	External	16	16	468	449	5	10	237	224	11	6	231	225
	Pass-by Rate		0	0.49	0.76		0	0.49	0.76		0	0.49	0.76
	Pass-by		0	229	341		0	116	170		0	113	171
	Pass-by Total		(488) 570				(244) 286				(244) 284		
	Primary	16	16	239	108	5	10	121	54	11	6	118	54
	Primary Total	(308) 379				(155) 190				(153) 189			
Weekday PM Adj.	Total	24	74	359	367	14	36	187	183	10	38	172	184
		824				420				404			
	Capture	14	39	33		8	22	13		6	17	20	
	Capture Total	86				43				43			
	External	10	35	326	367	6	14	174	183	4	21	152	184
	Pass-by Rate		0.34	0.50	0.76		0.34	0.50	0.76		0.34	0.50	0.76
	Pass-by		12	163	279		5	87	139		7	76	140
	Pass-by Total		(404) 454				(204) 231				(200) 223		
	Primary	10	23	163	88	6	9	87	44	4	14	76	44
	Primary Total	(251) 284				(127) 146				(124) 138			
Saturday Peak	Total	24	88	601	372	12	46	307	186	12	42	294	186
		1085				551				534			
	Capture	8	21	19		3	12	9		5	9	10	
	Capture Total	48				24				24			
	External	16	67	582	372	9	34	298	186	7	33	284	186
	Pass-by Rate		0.26	0	0.66		0.26	0	0.66		0.26	0	0.66
	Pass-by		18	0	246		9	0	123		9	0	123
	Pass-by Total		(279) 264				(140) 132				(139) 132		
	Primary	16	49	582	126	9	25	298	63	7	24	284	63
	Primary Total	(603) 773				(309) 395				(294) 378			

Trip Generation Worksheets for Updated Land Uses

Land Use: 820
Shopping Center

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands. Factory outlet center (Land Use 823) is a related use.

Additional Data

Shopping centers, including neighborhood centers, community centers, regional centers, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities (for example, ice skating rinks or indoor miniature golf courses).

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.

The vehicle trips generated at a shopping center are based upon the total GLA of the center. In cases of smaller centers without an enclosed mall or peripheral buildings, the GLA could be the same as the gross floor area of the building.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:45 a.m. and 12:45 p.m. and 12:15 and 1:15 p.m., respectively.

The average numbers of person trips per vehicle trip at the 27 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.31 during Weekday, AM Peak Hour of Generator
- 1.43 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.46 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Source Numbers

105, 110, 154, 156, 159, 186, 190, 198, 199, 202, 204, 211, 213, 239, 251, 259, 260, 269, 294, 295, 299, 300, 301, 304, 305, 307, 308, 309, 310, 311, 314, 315, 316, 317, 319, 358, 365, 376, 385, 390, 400, 404, 414, 420, 423, 428, 437, 440, 442, 444, 446, 507, 562, 580, 598, 629, 658, 702, 715, 728, 868, 870, 871, 880, 899, 908, 912, 915, 926, 936, 944, 946, 960, 961, 962, 973, 974, 978

Shopping Center
(820)

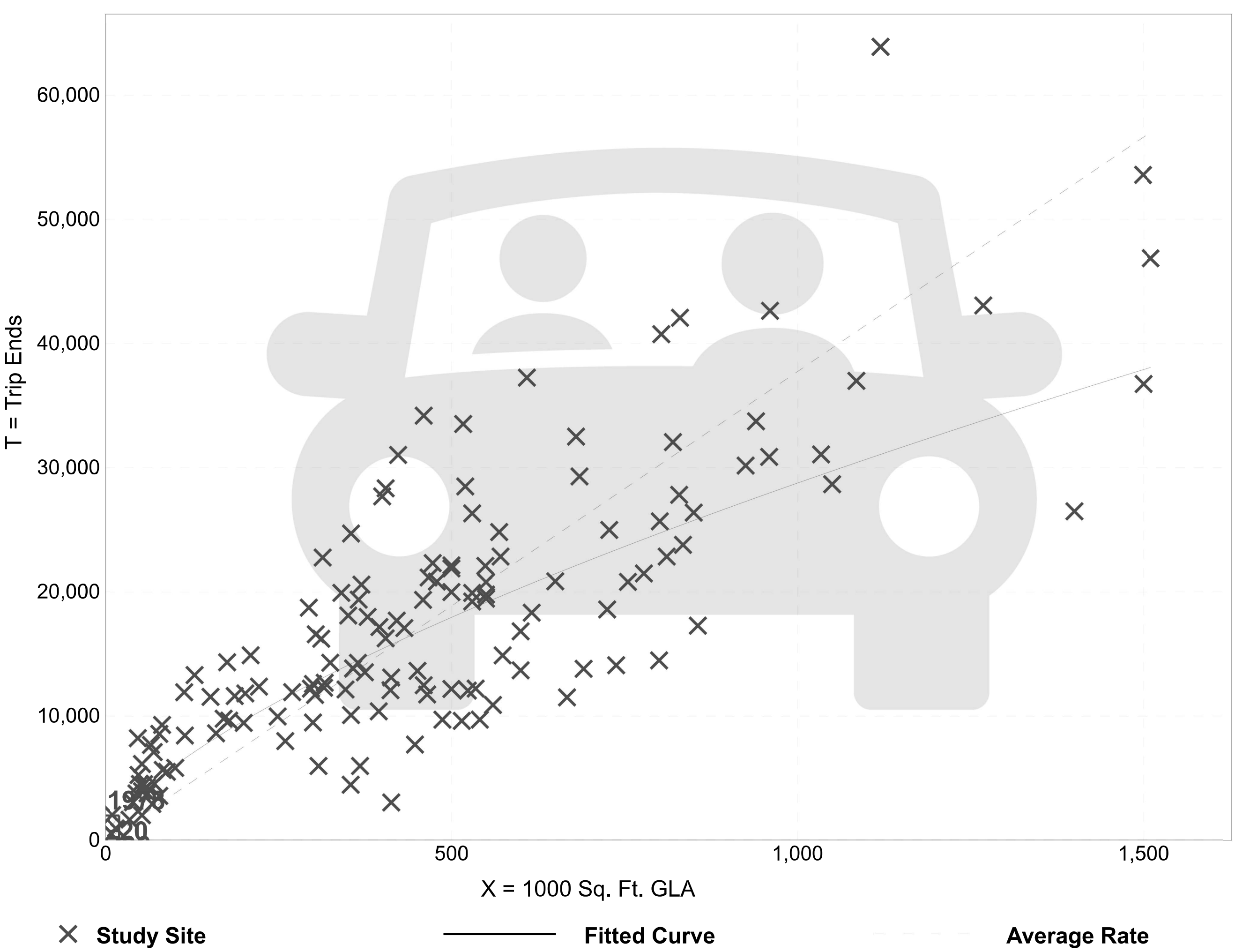
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 147
Avg. 1000 Sq. Ft. GLA: 453
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.68 Ln(X) + 5.57

R^2= 0.76

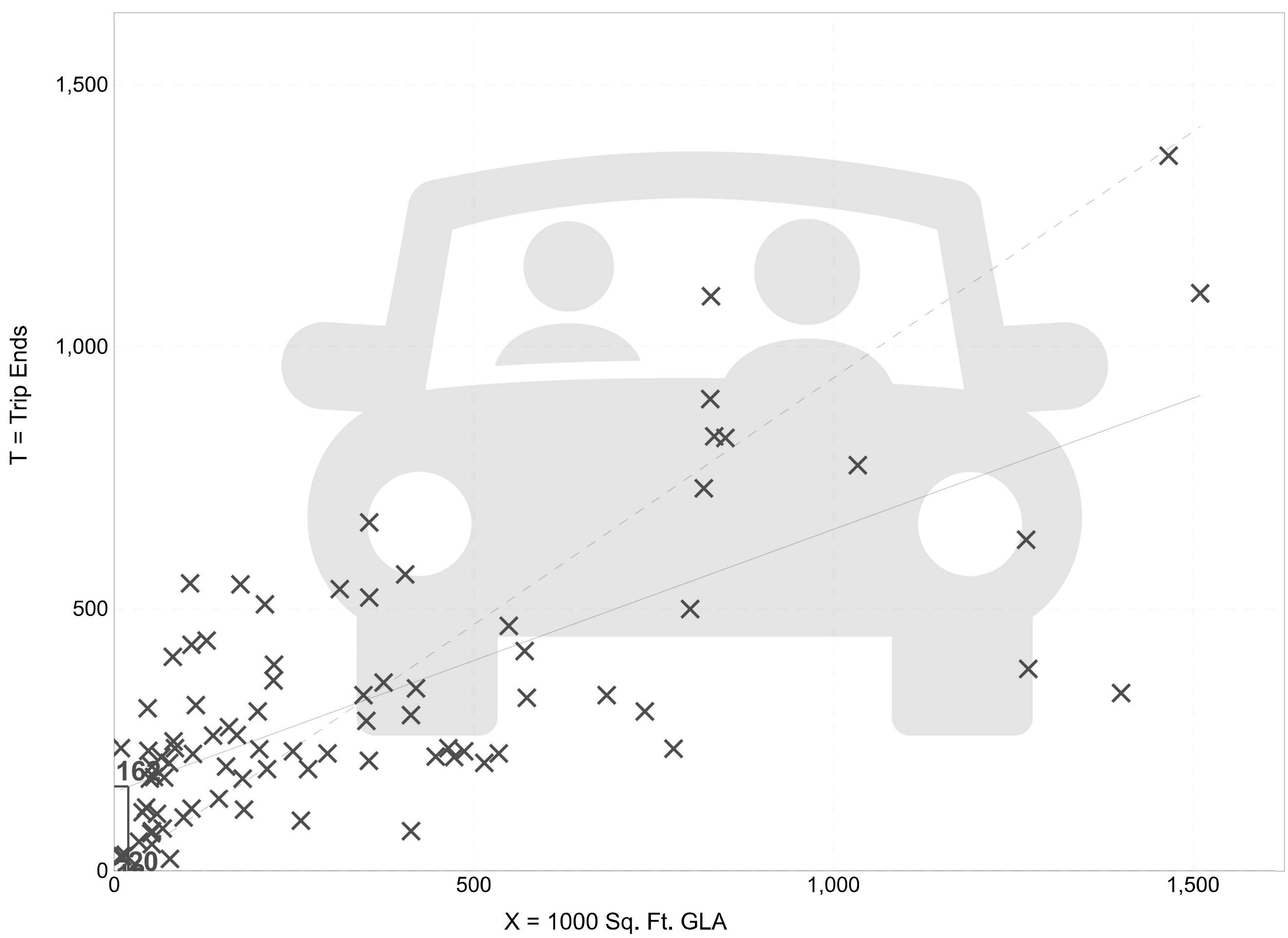
Shopping Center
(820)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	84
Avg. 1000 Sq. Ft. GLA:	351
Directional Distribution:	62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



Study Site **Fitted Curve** **Average Rate**

Fitted Curve Equation: T = 0.50(X) + 151.78 **R^2= 0.50**

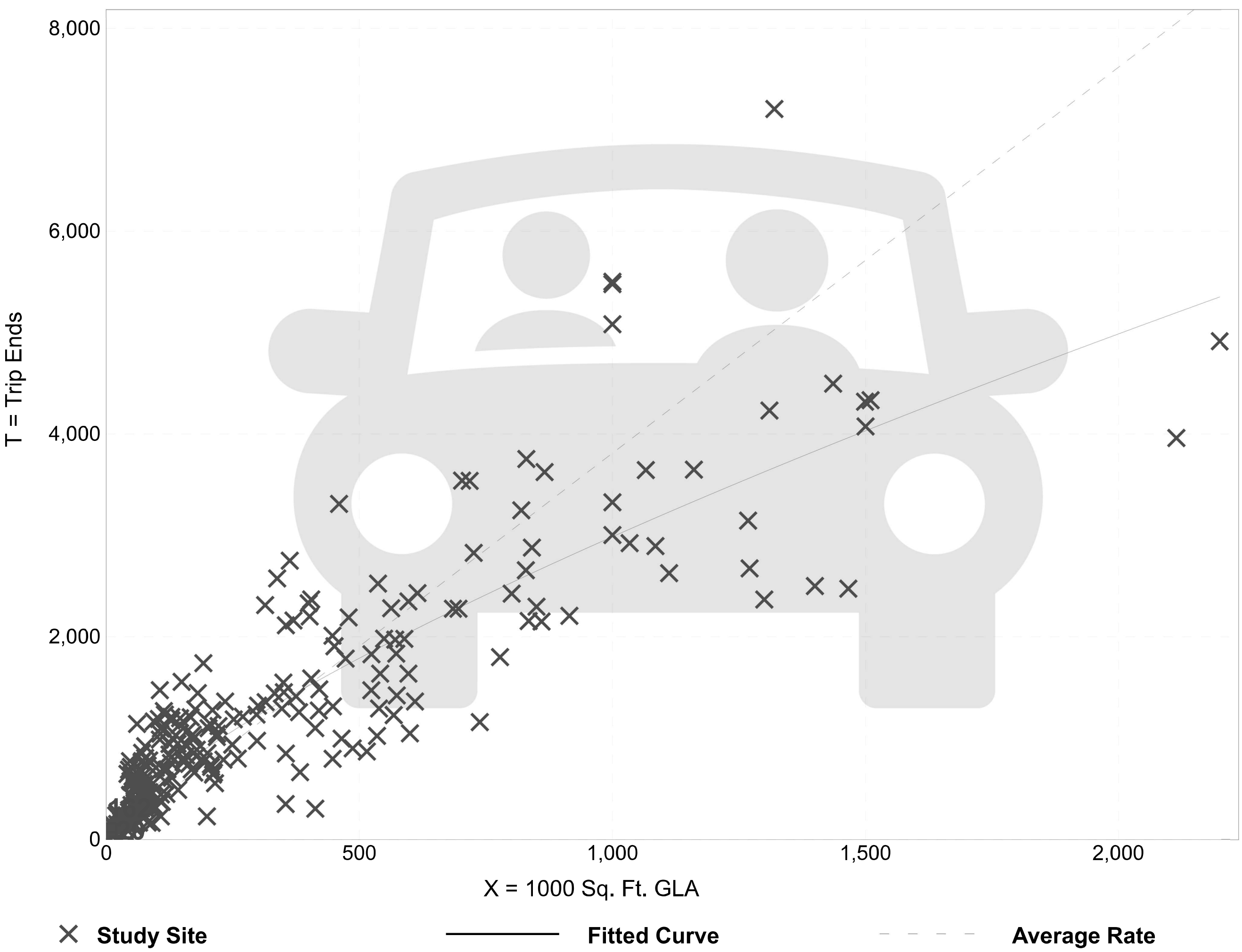
Shopping Center
(820)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	261
Avg. 1000 Sq. Ft. GLA:	327
Directional Distribution:	48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.74 Ln(X) + 2.89 **R^2= 0.82**

Shopping Center
(820)

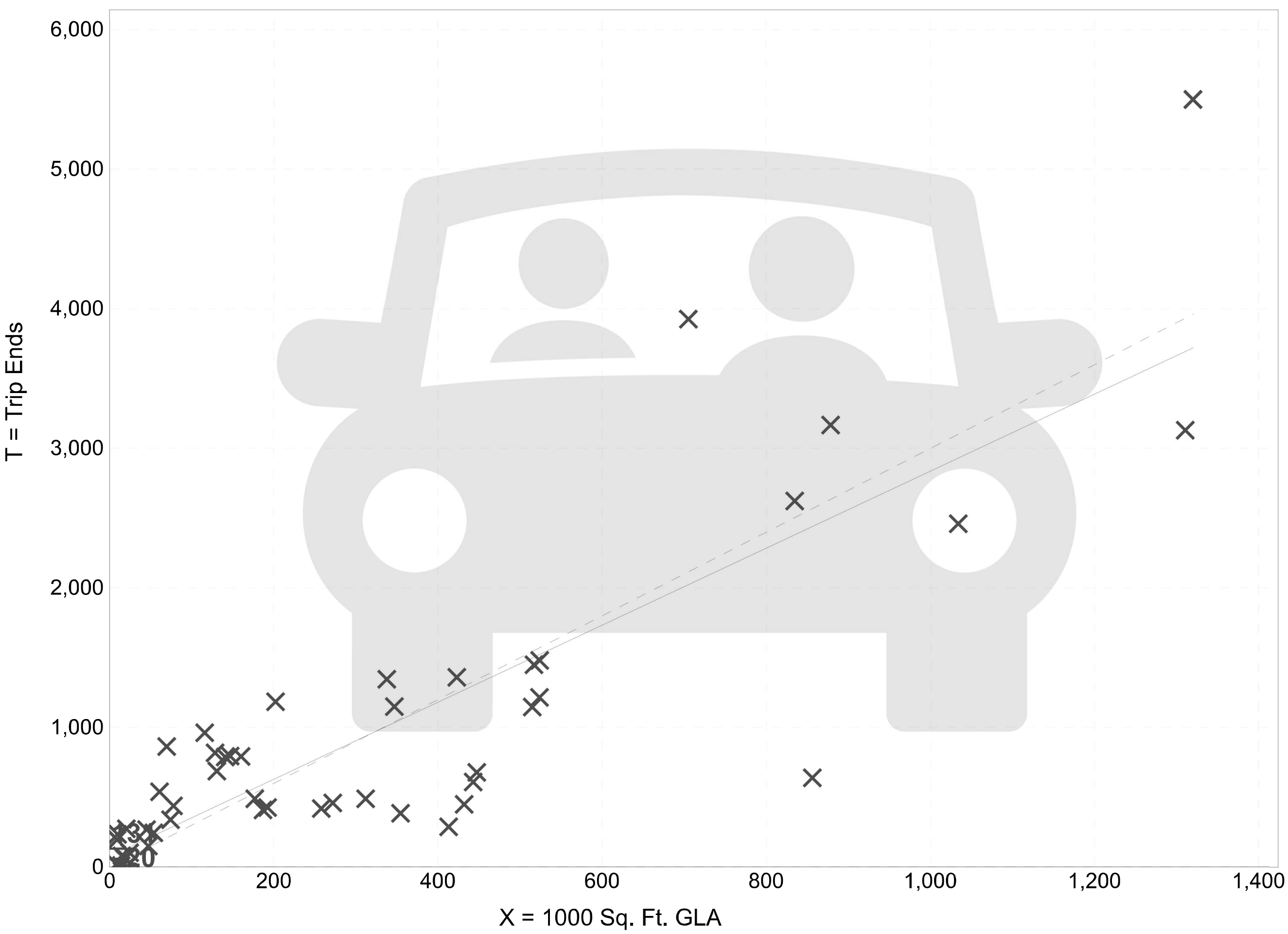
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 47
Avg. 1000 Sq. Ft. GLA: 323
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.00	0.70 - 23.74	1.85

Data Plot and Equation



× **Study Site** —— **Fitted Curve** - - - **Average Rate**

Fitted Curve Equation: T = 2.76(X) + 77.28 **R^2= 0.71**

Shopping Center
(820)

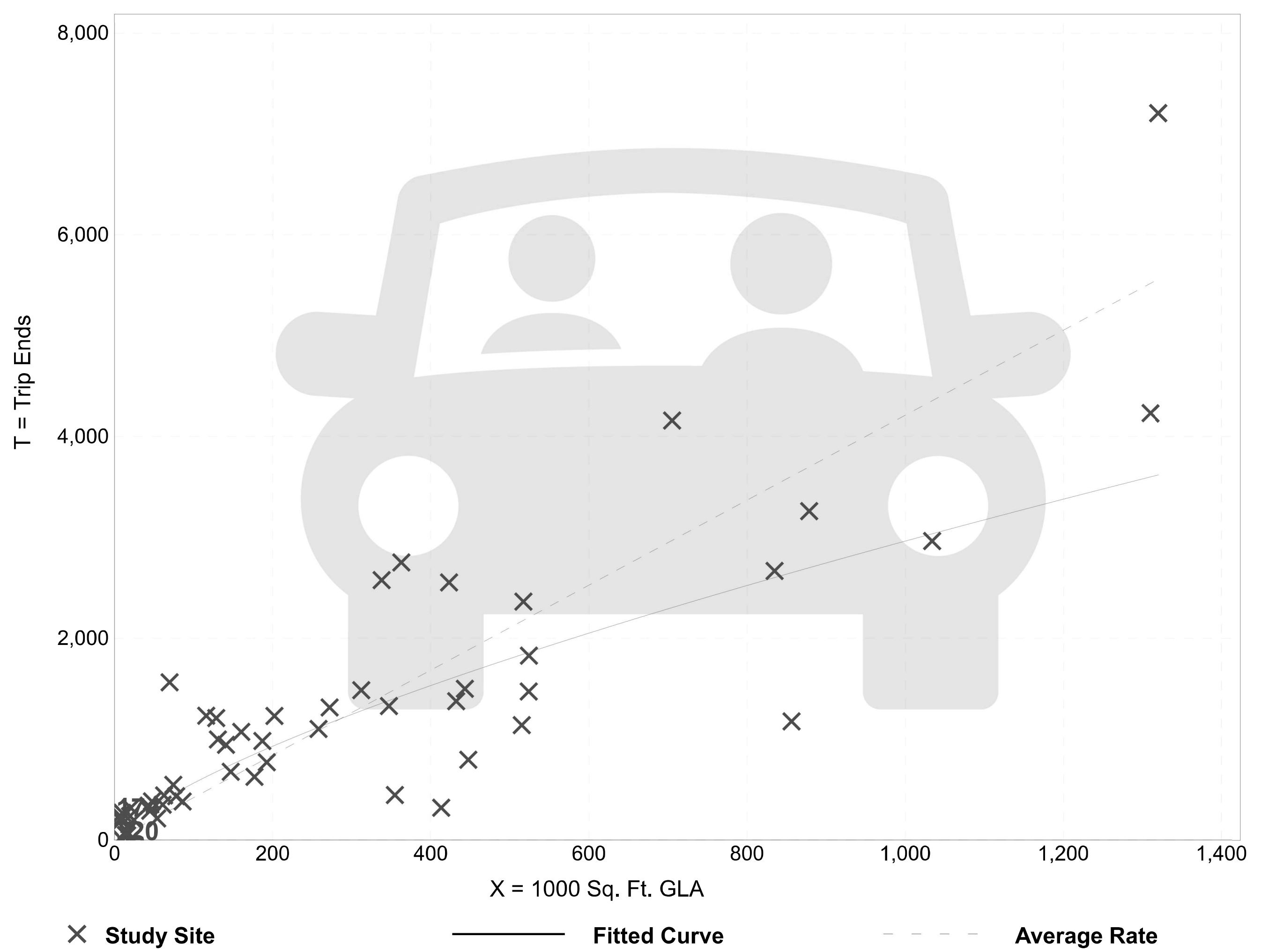
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 53
Avg. 1000 Sq. Ft. GLA: 298
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.21	0.78 - 27.27	2.47

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.72\ Ln(X) + 3.02$ **$R^2 = 0.76$**

Shopping Center
(820)

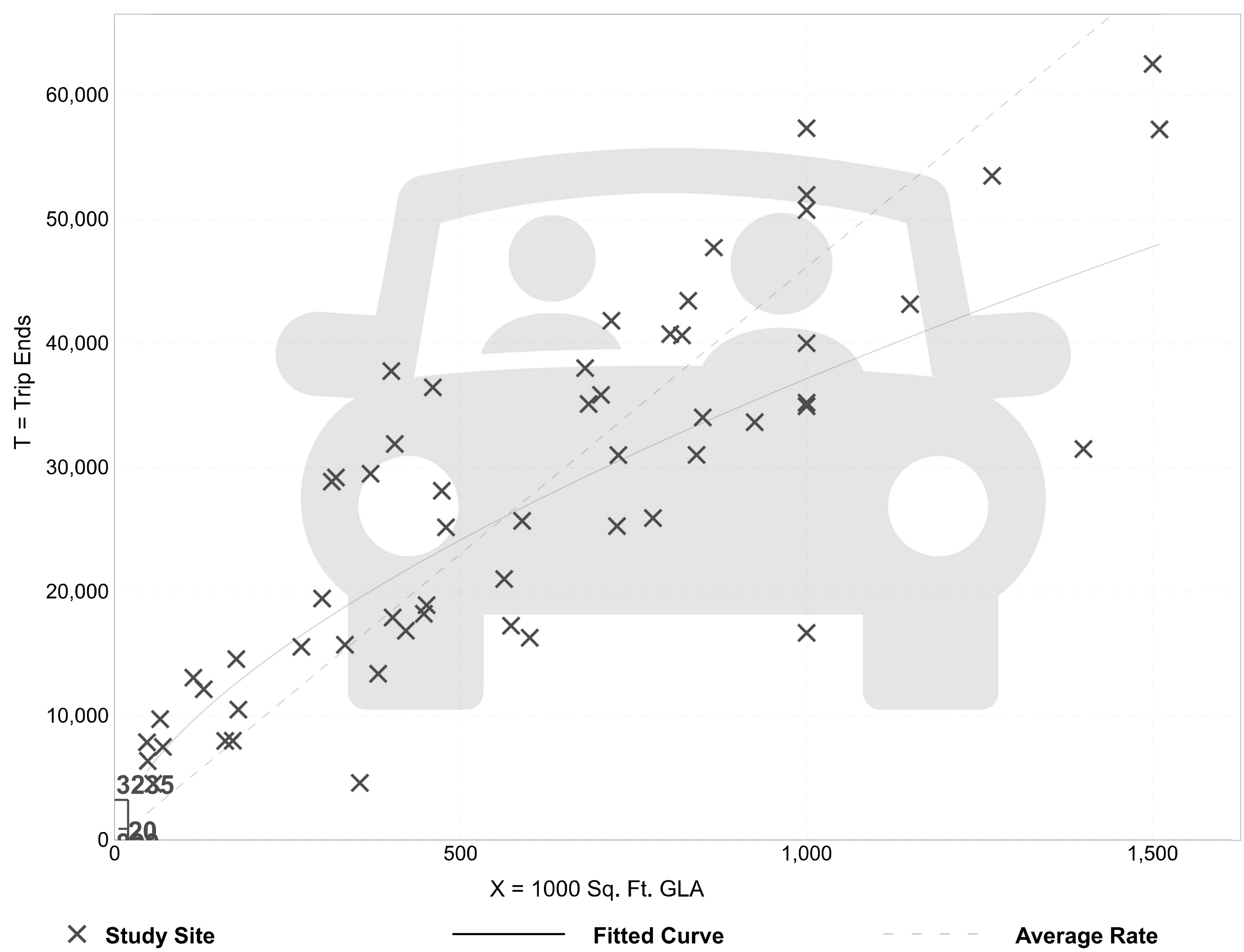
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 58
Avg. 1000 Sq. Ft. GLA: 602
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
46.12	13.01 - 167.89	17.91

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.62 Ln(X) + 6.24 **R^2= 0.71**

Shopping Center
(820)

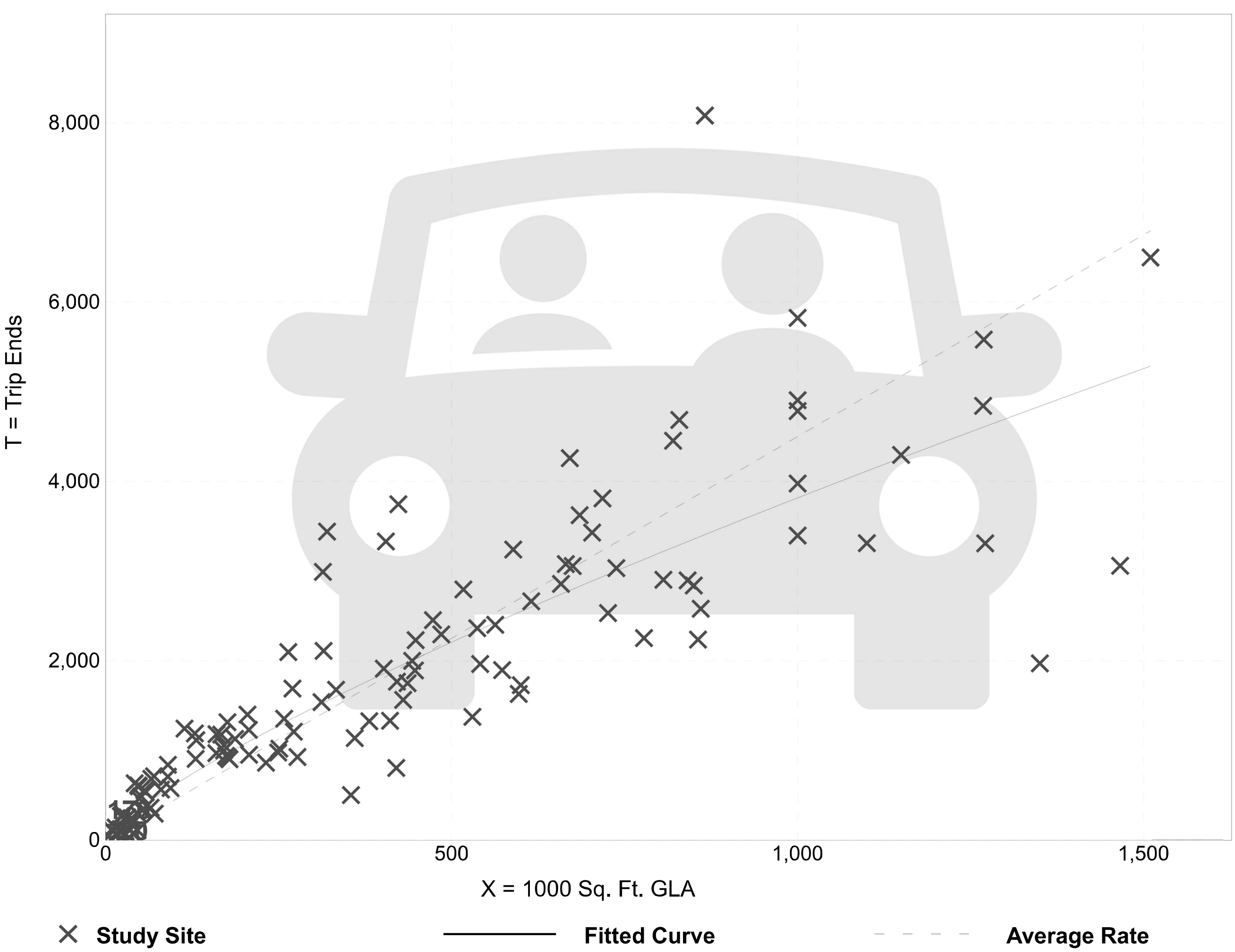
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 119
Avg. 1000 Sq. Ft. GLA: 416
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.50	1.42 - 15.10	1.88

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.79 Ln(X) + 2.79 **R^2= 0.87**

Shopping Center
(820)

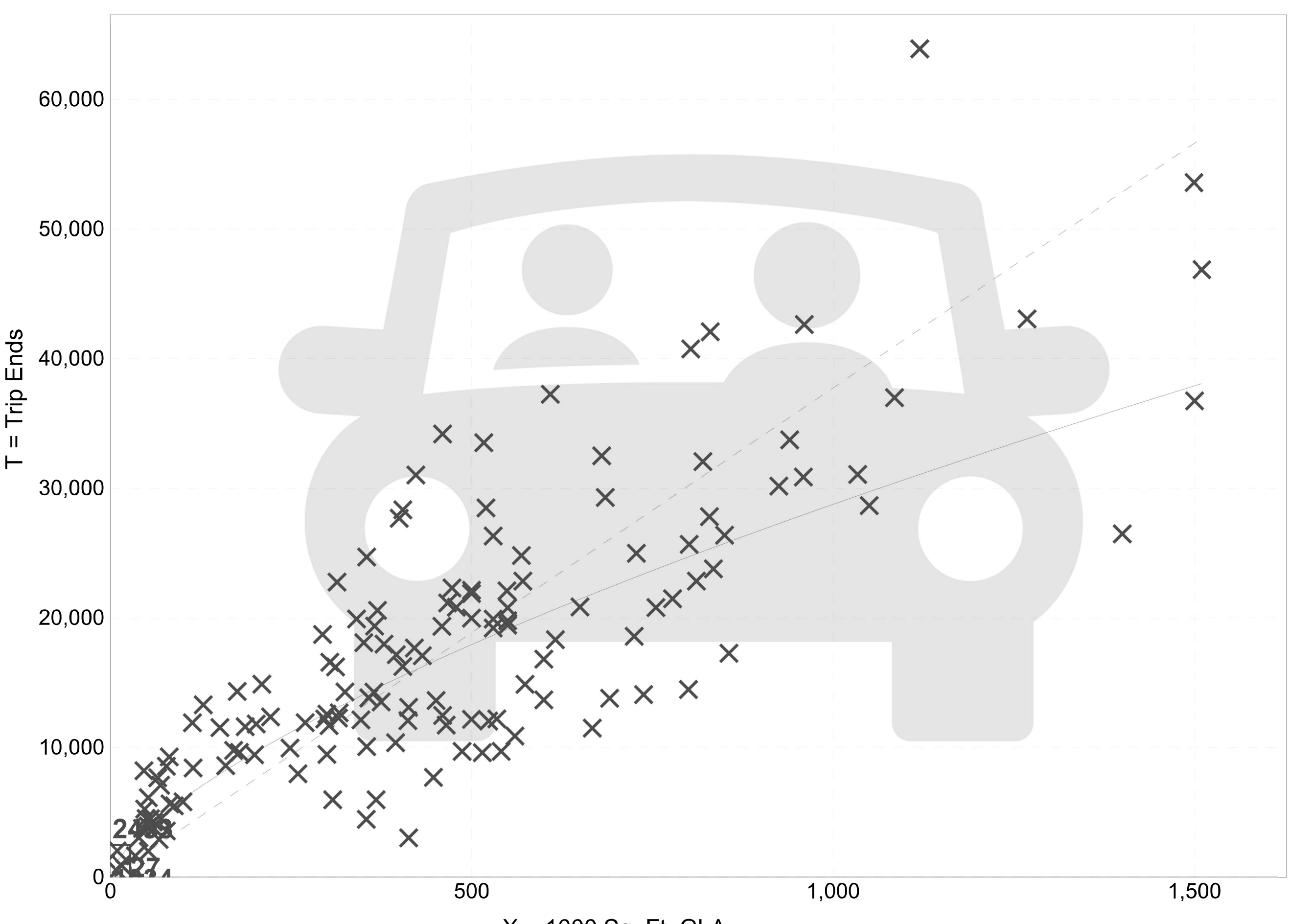
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 147
Avg. 1000 Sq. Ft. GLA: 453
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

Data Plot and Equation



Study Site   Fitted Curve   Average Rate

Fitted Curve Equation: Ln(T) = 0.68 Ln(X) + 5.57   **R^2= 0.76**

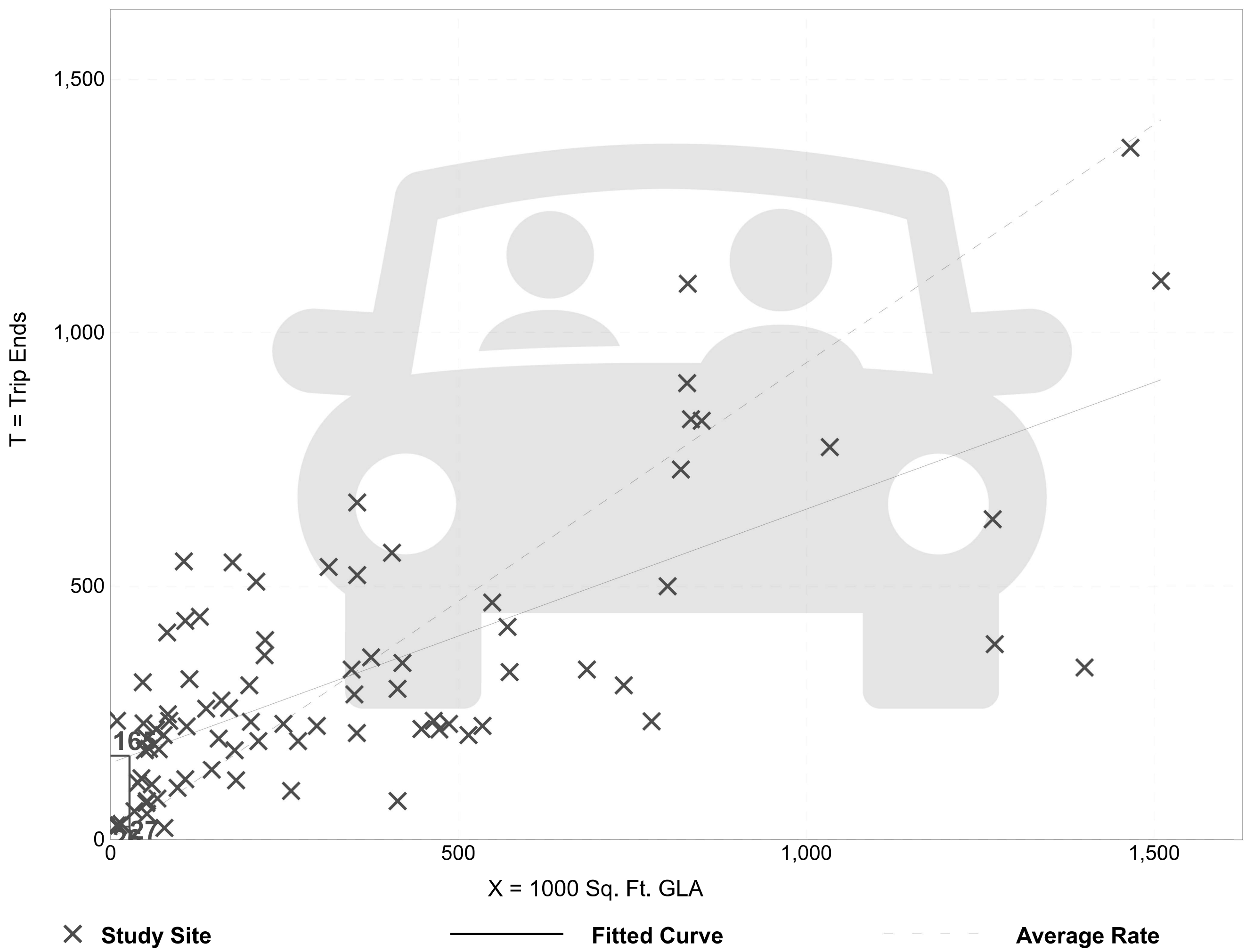
Shopping Center
(820)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 84
Avg. 1000 Sq. Ft. GLA: 351
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



Fitted Curve Equation: T = 0.50(X) + 151.78 **R^2= 0.50**

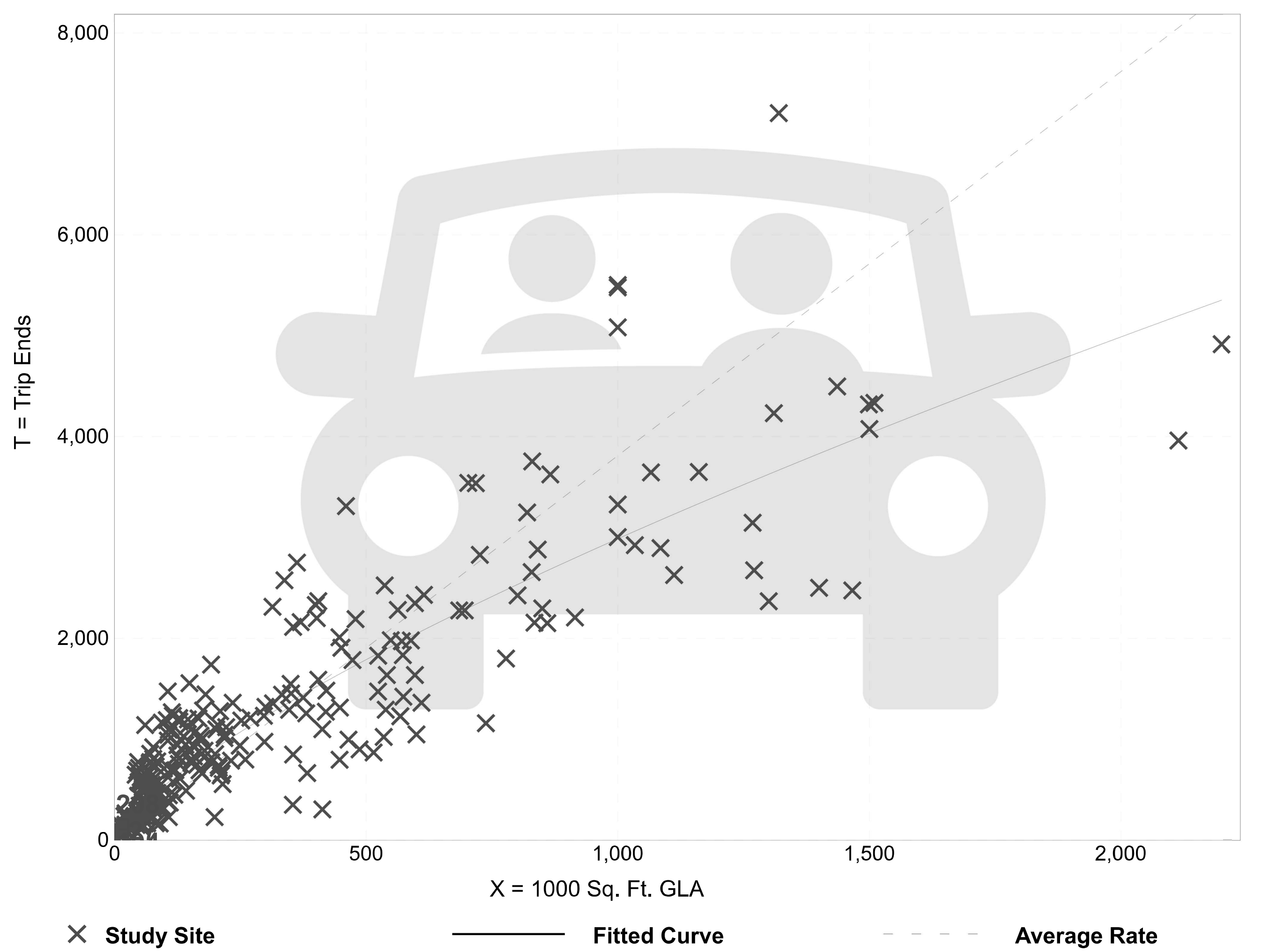
Shopping Center
(820)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	261
Avg. 1000 Sq. Ft. GLA:	327
Directional Distribution:	48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.74\ Ln(X) + 2.89$

R^2= 0.82

Shopping Center
(820)

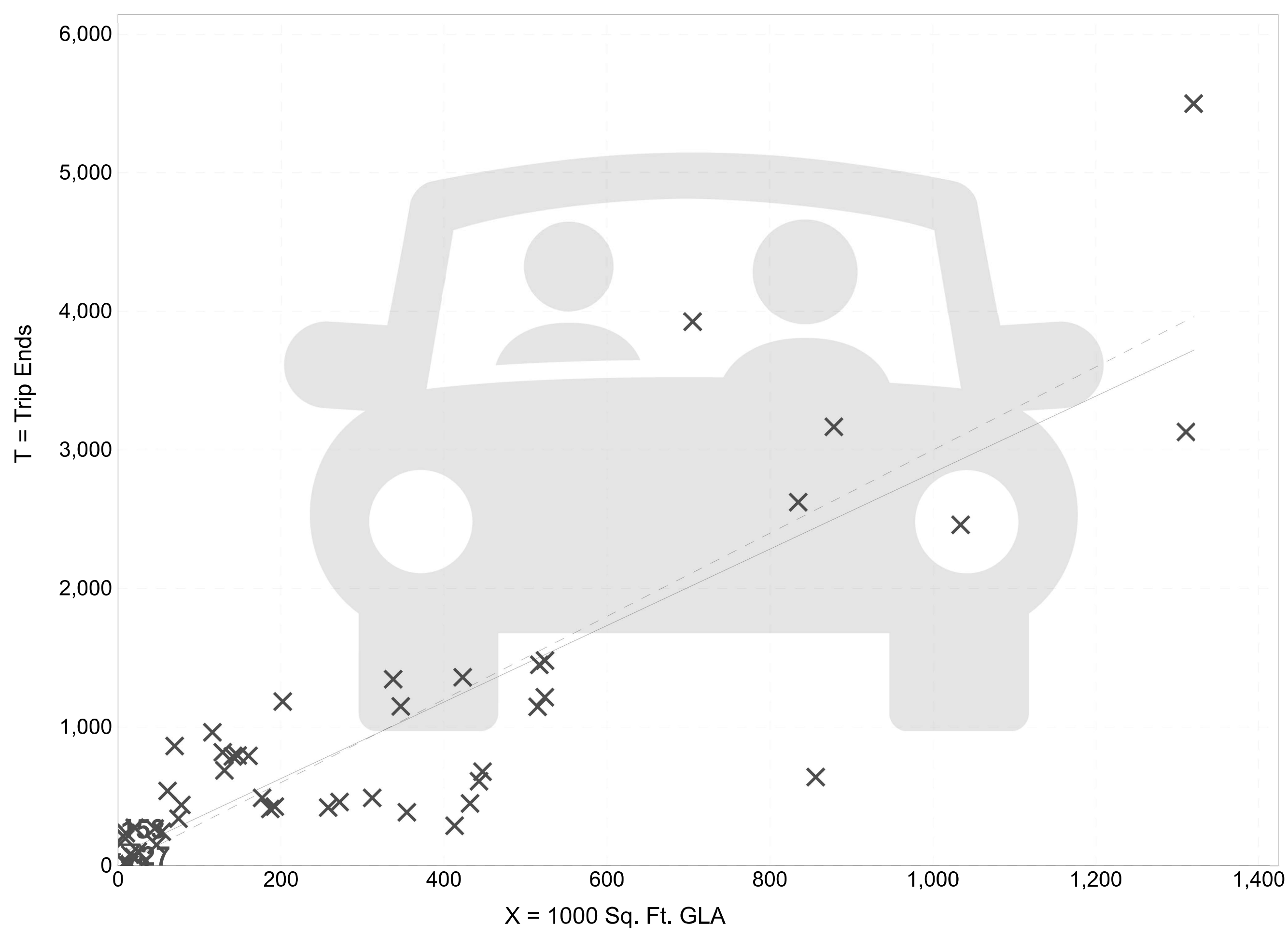
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 47
Avg. 1000 Sq. Ft. GLA: 323
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
3.00	0.70 - 23.74	1.85

Data Plot and Equation



Fitted Curve Equation: T = 2.76(X) + 77.28 **R^2= 0.71**

Shopping Center
(820)

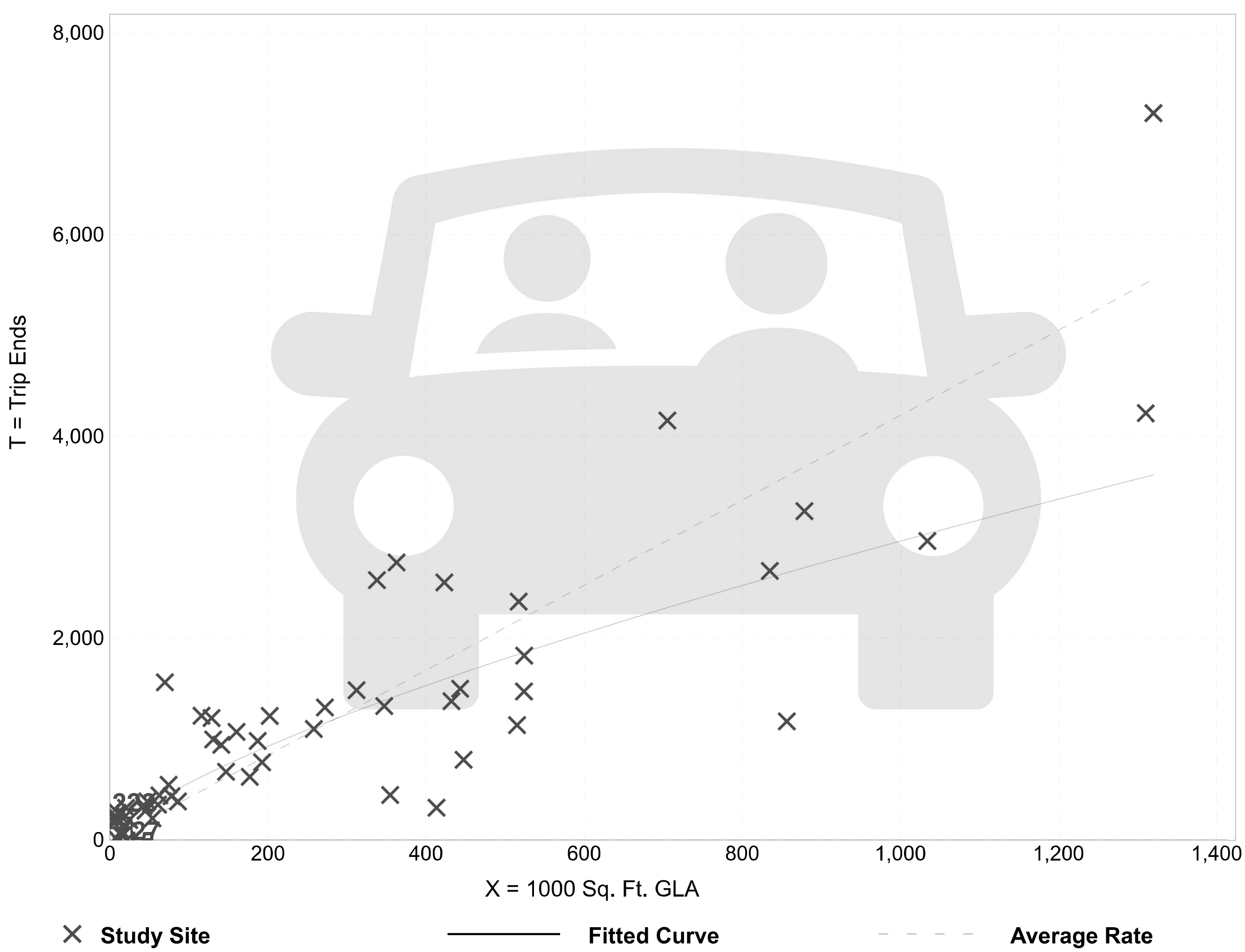
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 53
Avg. 1000 Sq. Ft. GLA: 298
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.21	0.78 - 27.27	2.47

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.72\ Ln(X) + 3.02$ **$R^2 = 0.76$**

Shopping Center
(820)

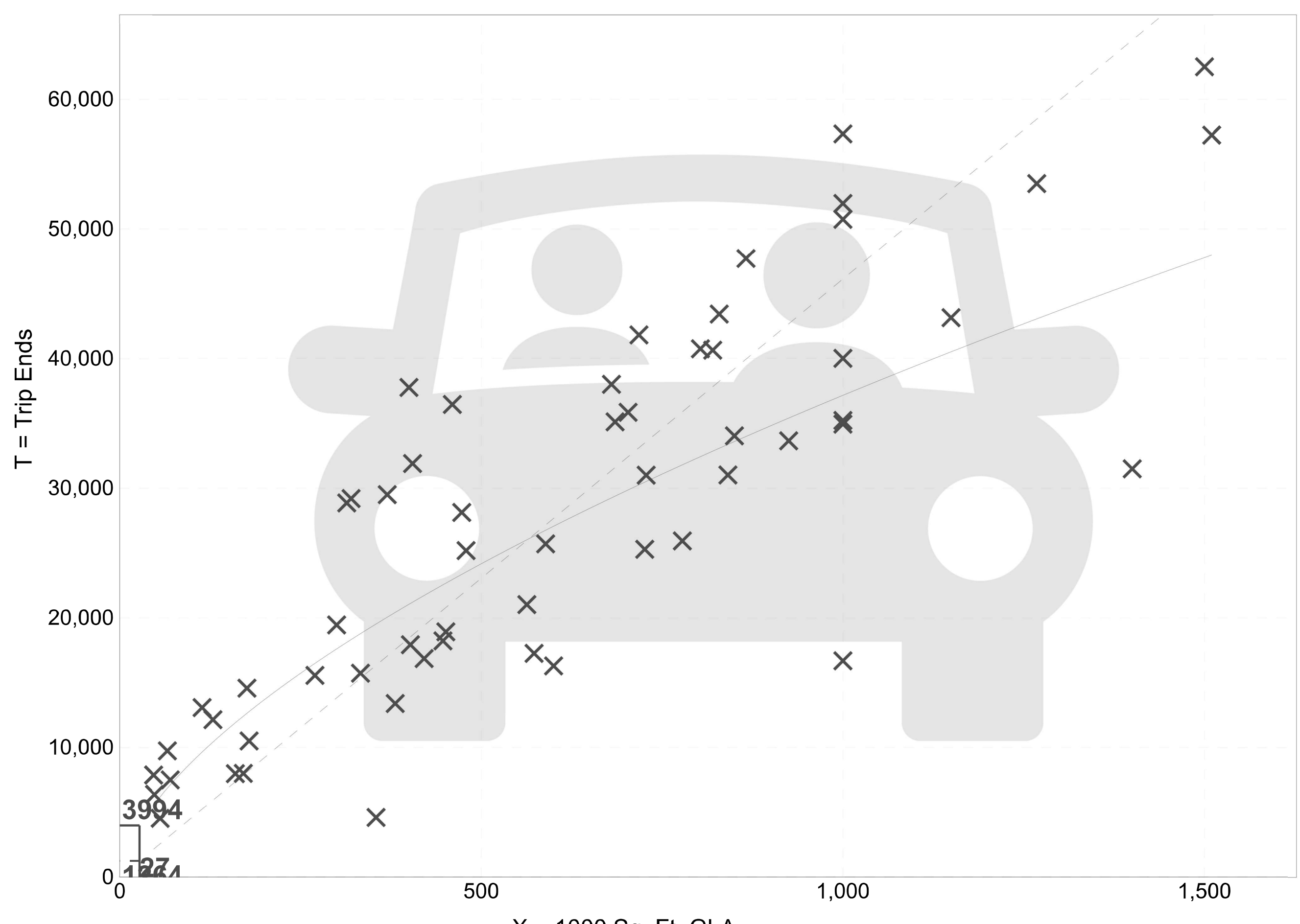
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Saturday

Setting/Location: General Urban/Suburban
Number of Studies: 58
Avg. 1000 Sq. Ft. GLA: 602
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
46.12	13.01 - 167.89	17.91

Data Plot and Equation



× **Study Site** — **Fitted Curve** - - - **Average Rate**

Fitted Curve Equation: $Ln(T) = 0.62\ Ln(X) + 6.24$ **R^2= 0.71**

Shopping Center
(820)

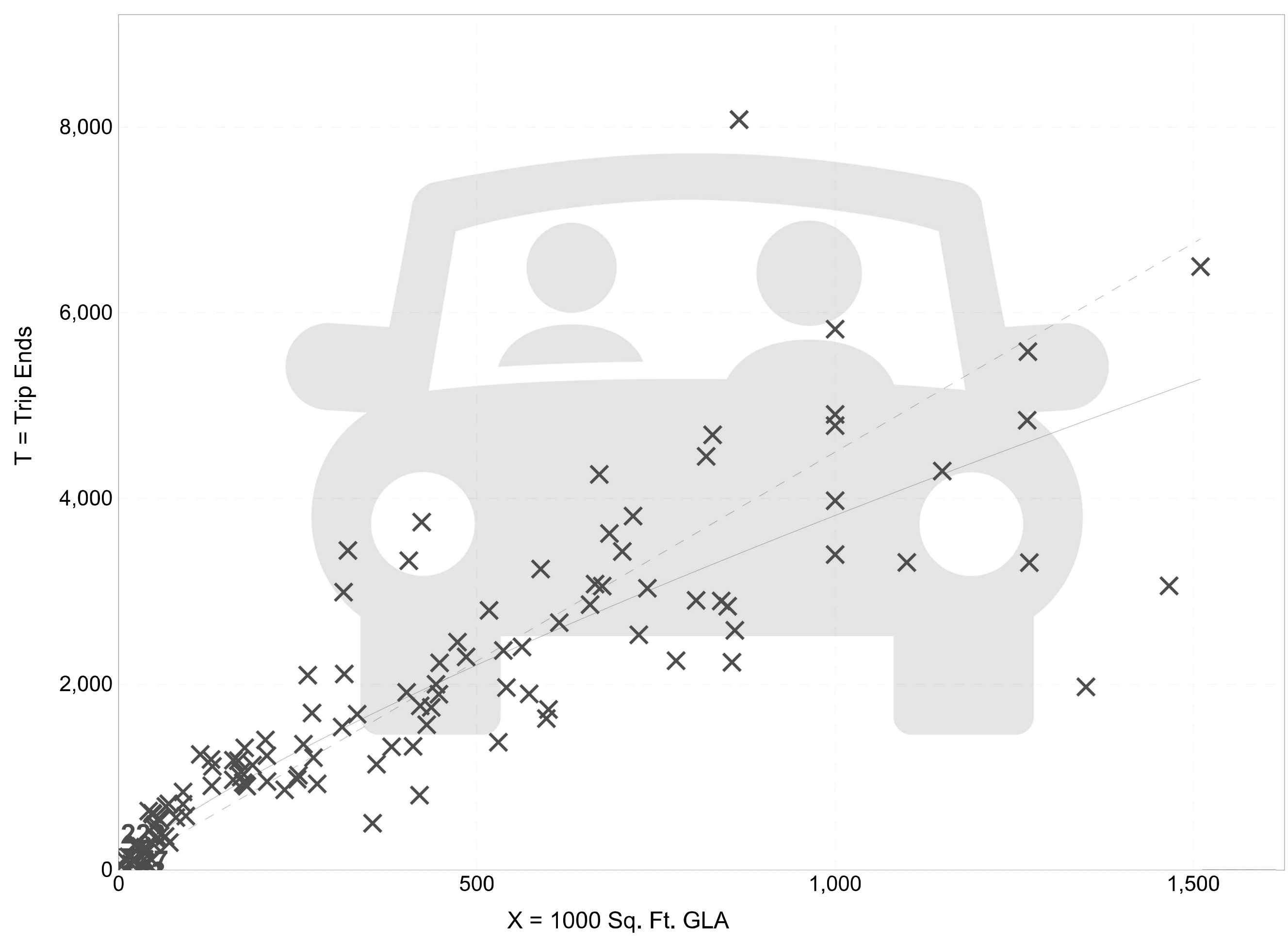
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 119
Avg. 1000 Sq. Ft. GLA: 416
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.50	1.42 - 15.10	1.88

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.79\ Ln(X) + 2.79$ **R^2= 0.87**

Land Use: 934
Fast-Food Restaurant with Drive-Through Window

Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054

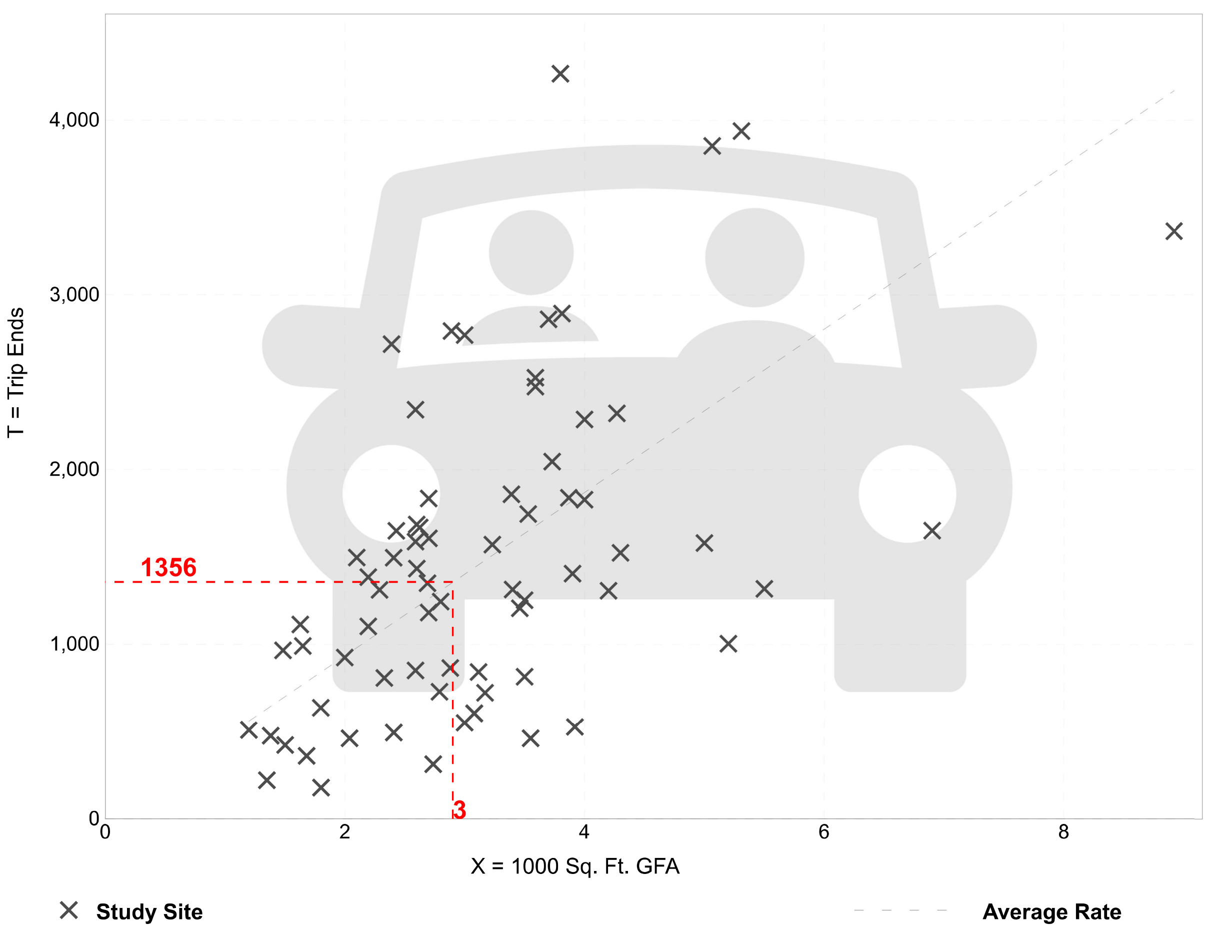
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	71
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

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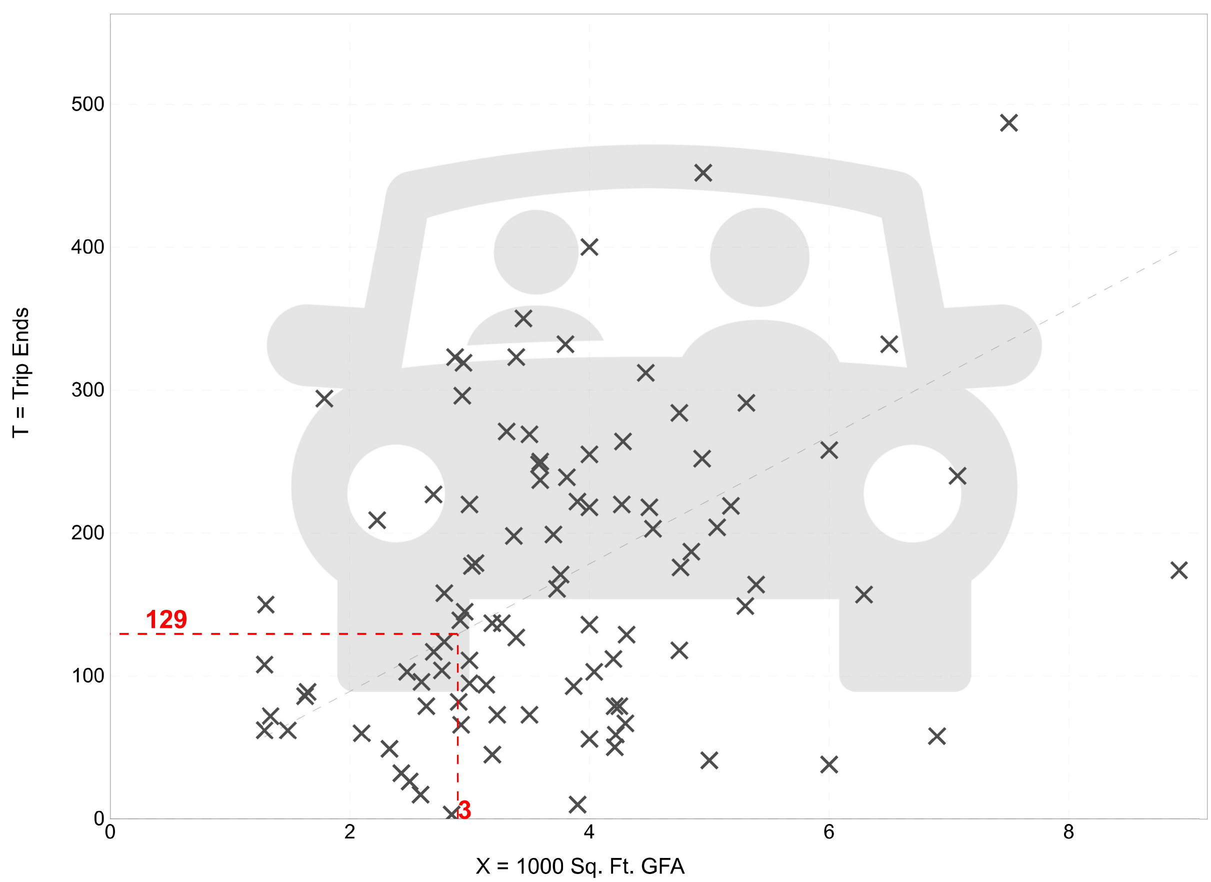
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	96
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



Study Site **Average Rate**

Fitted Curve Equation: Not Given **R^2= ******

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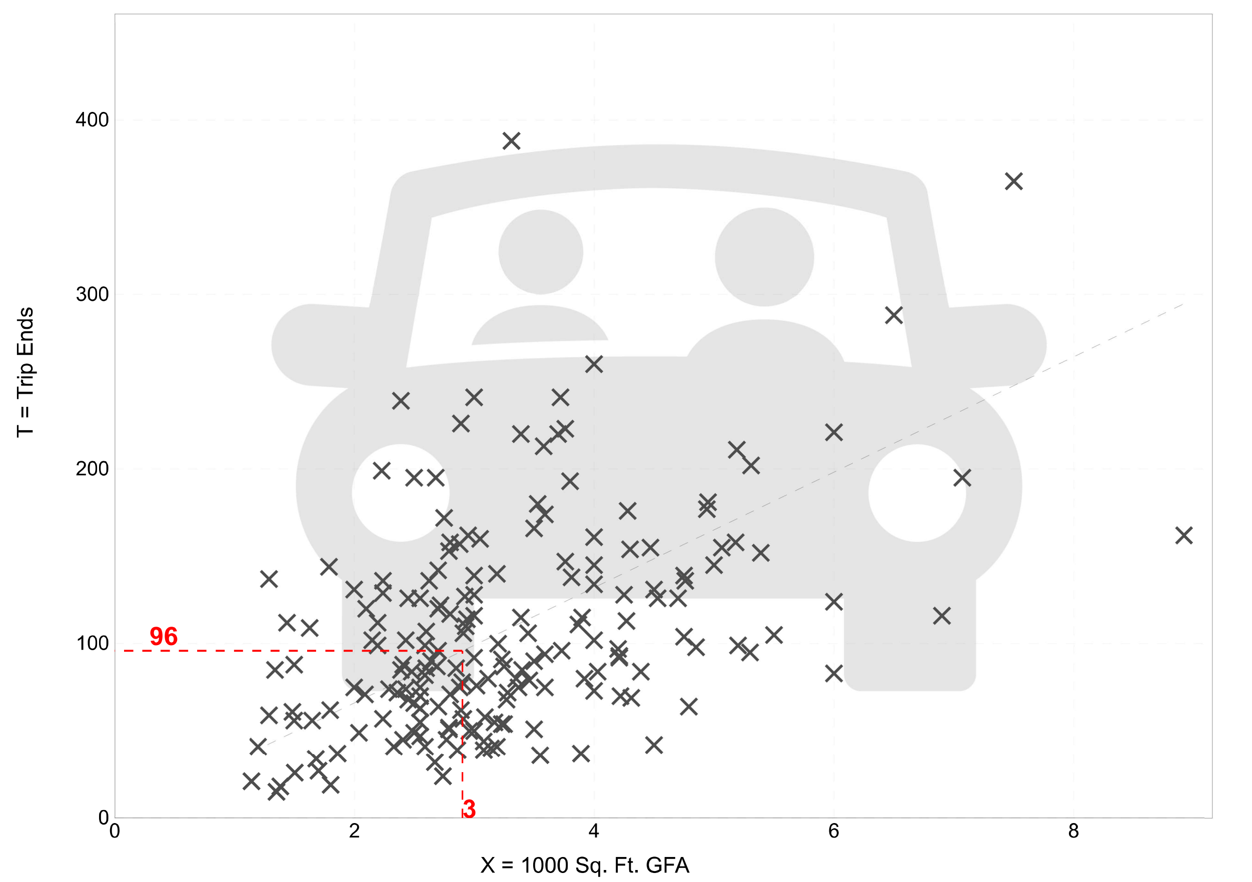
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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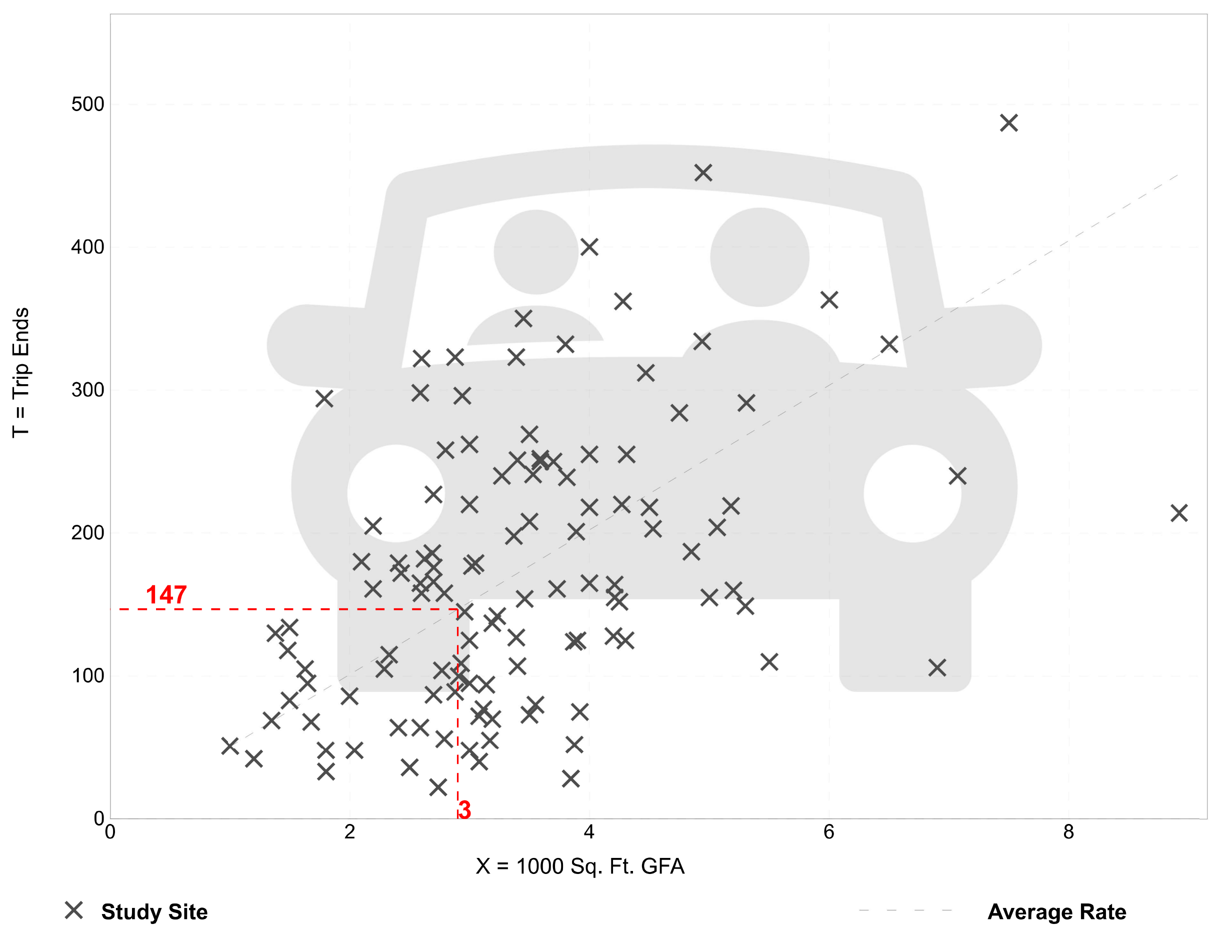
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, AM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	118
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.57	7.28 - 164.25	25.99

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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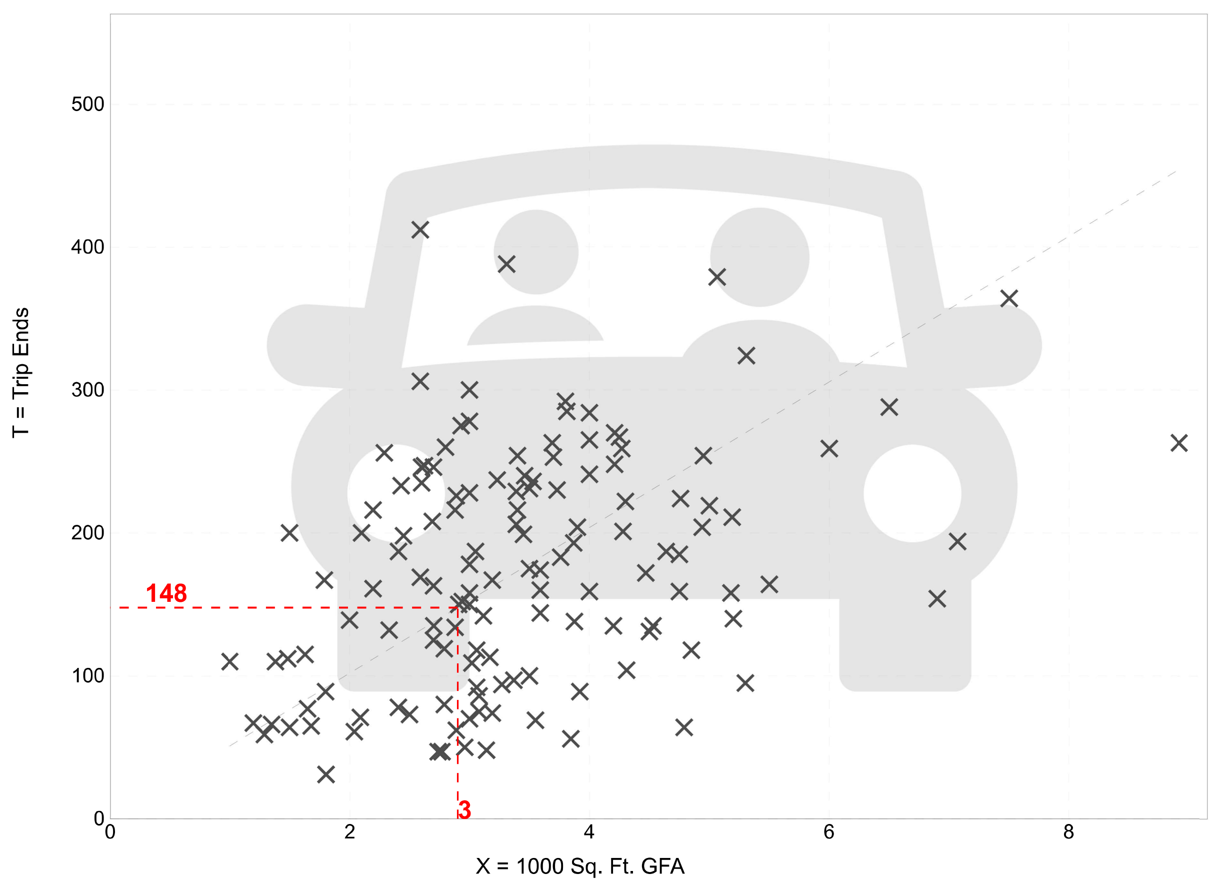
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, PM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	135
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.94	13.36 - 159.07	24.91

Data Plot and Equation



× **Study Site** **Average Rate**

Fitted Curve Equation: Not Given **R^2= ******

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Fast-Food Restaurant with Drive-Through Window
(934)

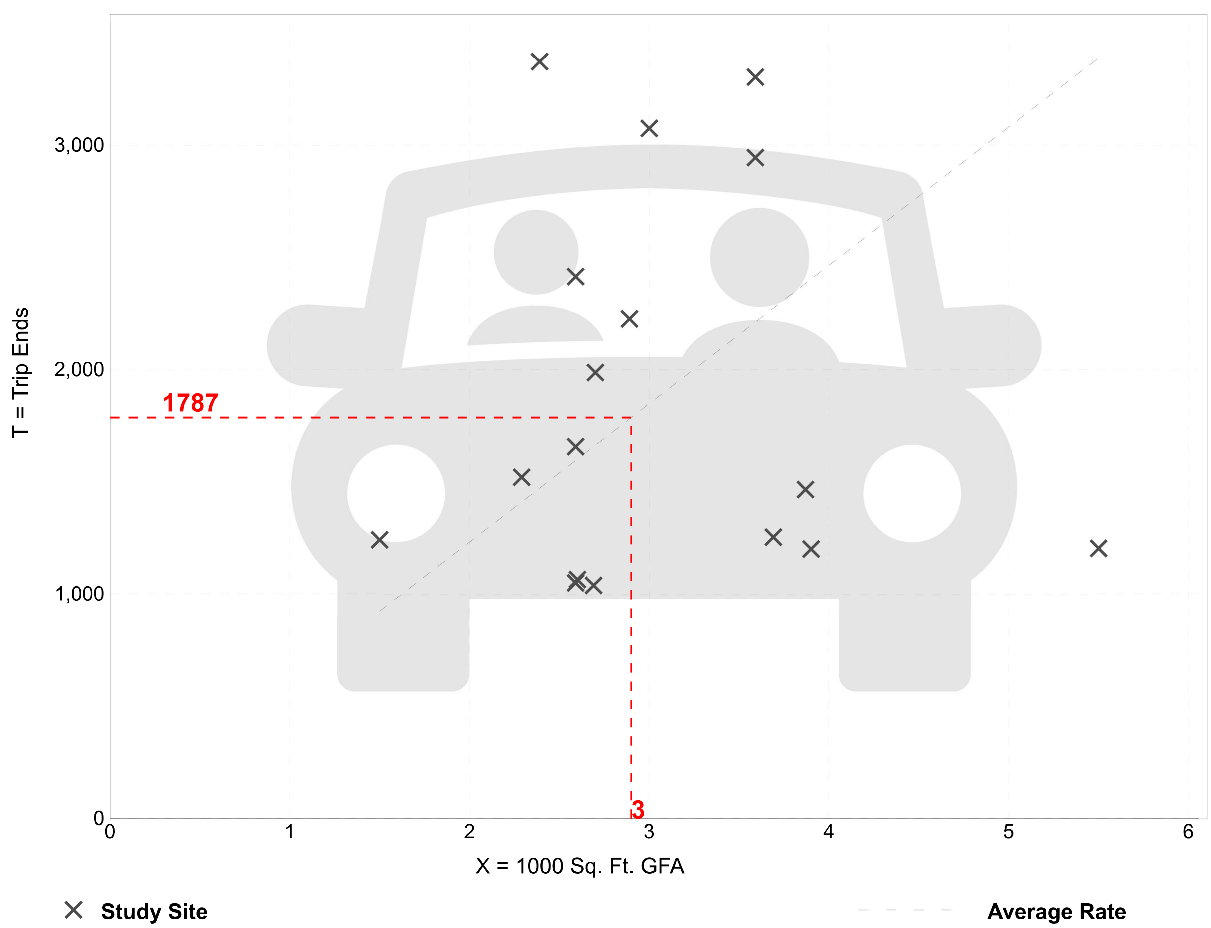
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 17
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
616.12	218.91 - 1410.88	320.90

Data Plot and Equation



Fitted Curve Equation: Not Given R^2= ****

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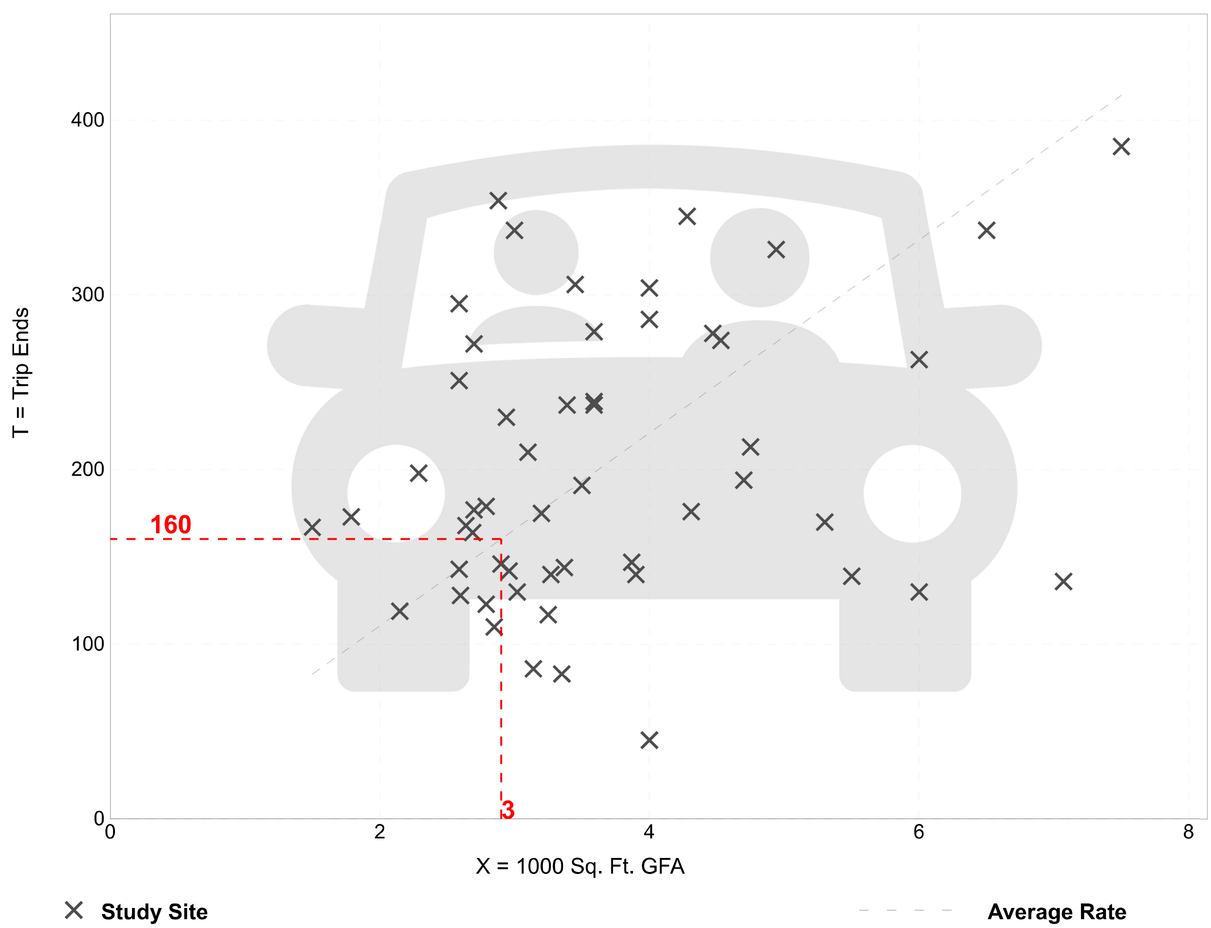
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Saturday, Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	53
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
55.25	11.25 - 122.92	24.62

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

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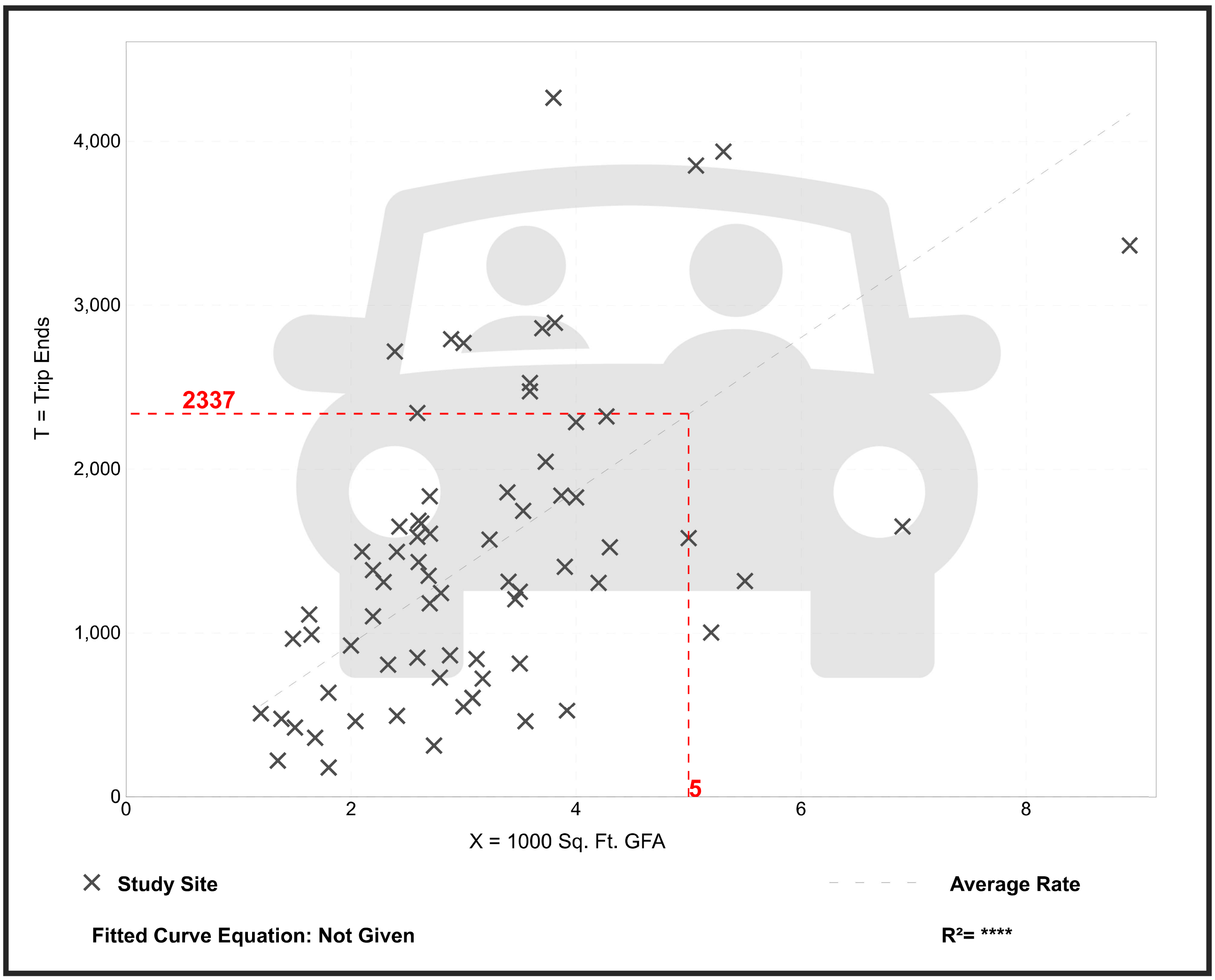
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	71
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
467.48	98.89 - 1137.66	238.62

Data Plot and Equation



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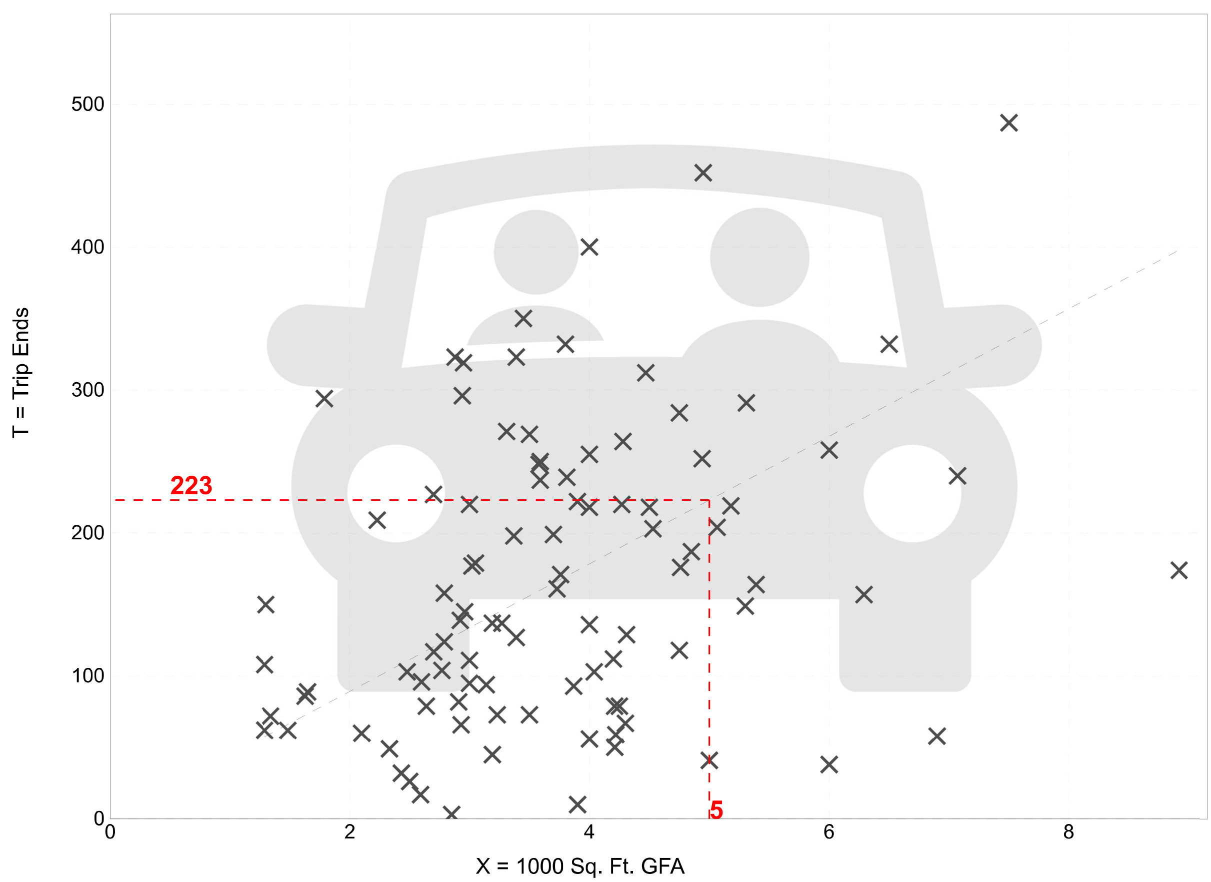
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	96
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
44.61	1.05 - 164.25	27.14

Data Plot and Equation



× **Study Site** - - - - **Average Rate**

Fitted Curve Equation: Not Given R^2= ****

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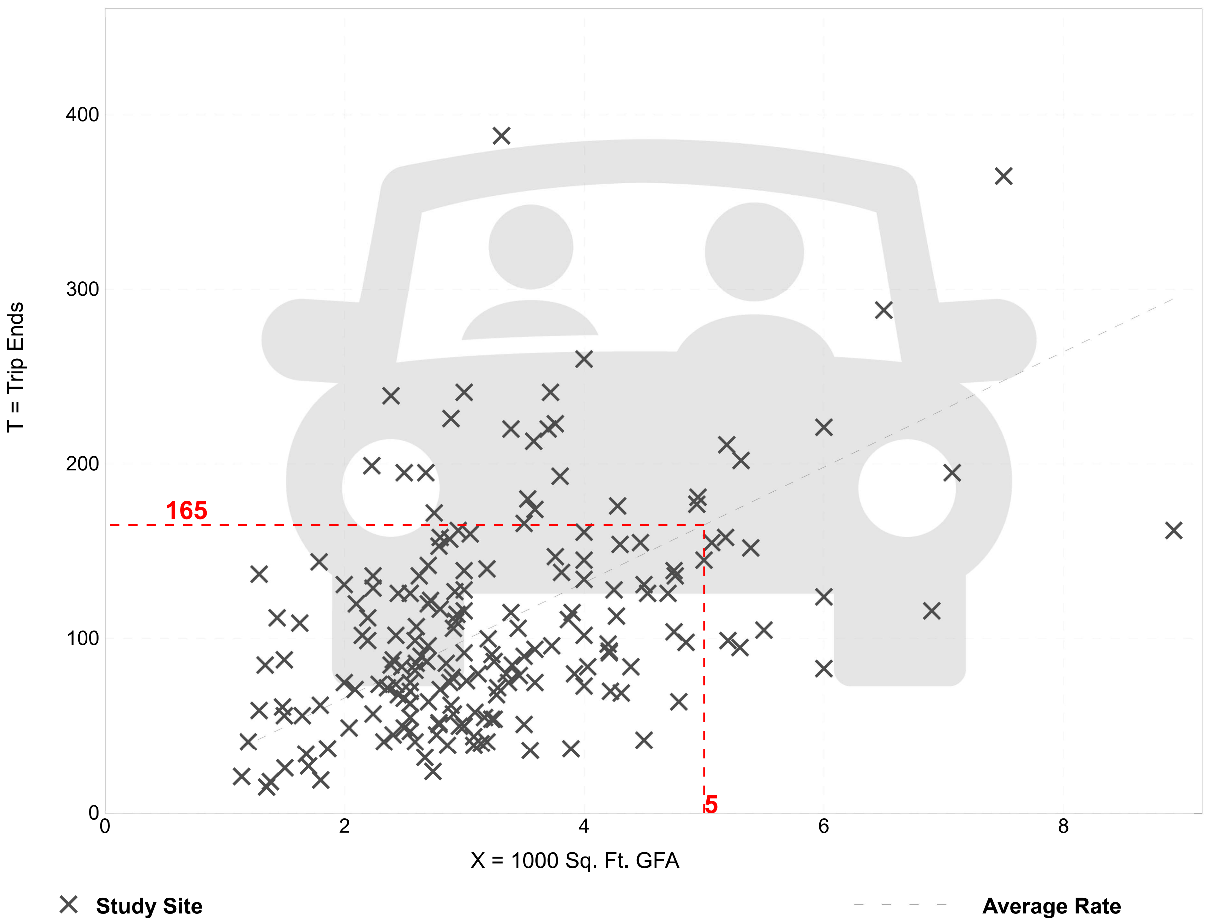
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	190
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
33.03	8.77 - 117.22	17.59

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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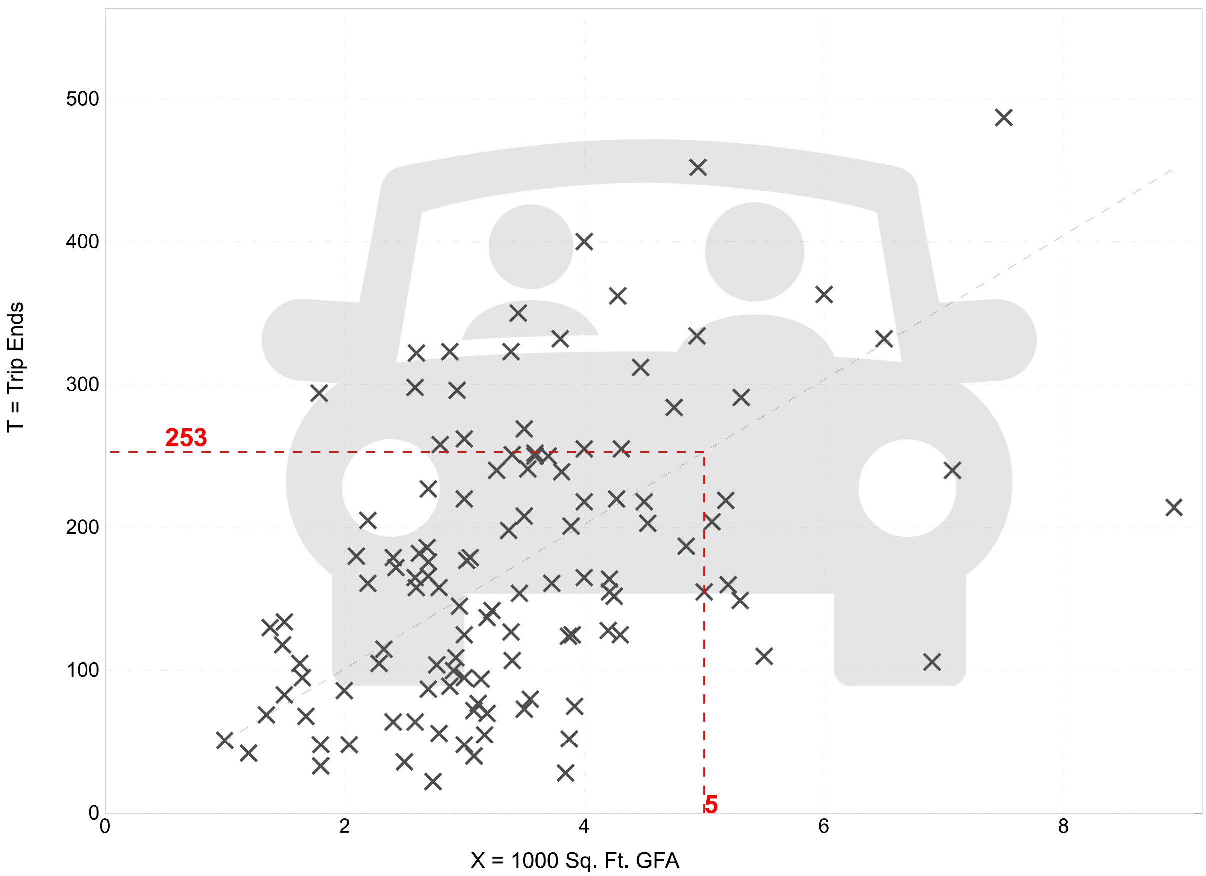
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,** **AM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	118
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.57	7.28 - 164.25	25.99

Data Plot and Equation



× **Study Site**

Average Rate

Fitted Curve Equation: Not Given

R^2= ****

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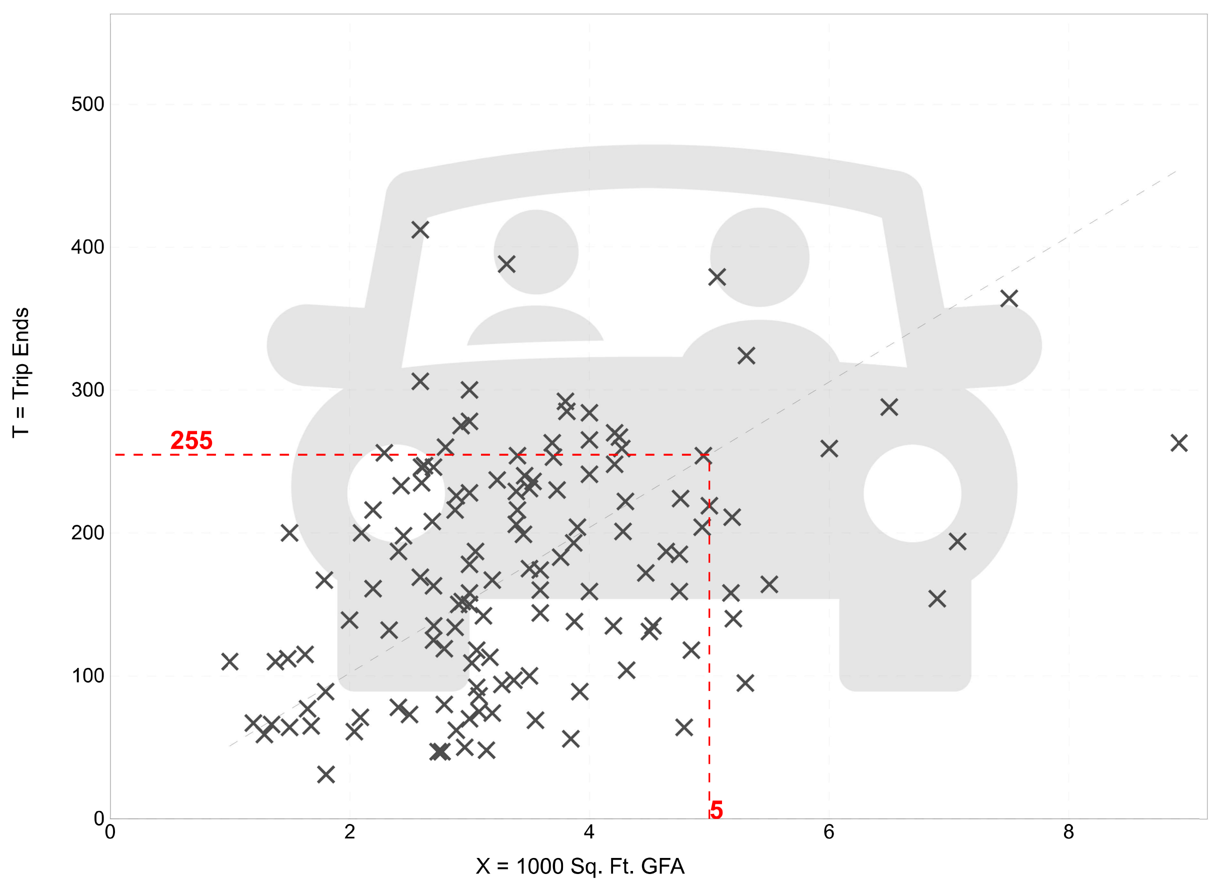
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	PM Peak Hour of Generator
Setting/Location:	**General Urban/Suburban**
Number of Studies:	135
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.94	13.36 - 159.07	24.91

Data Plot and Equation



Study Site **Average Rate**

Fitted Curve Equation: Not Given **R^2= ******

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Fast-Food Restaurant with Drive-Through Window
(934)

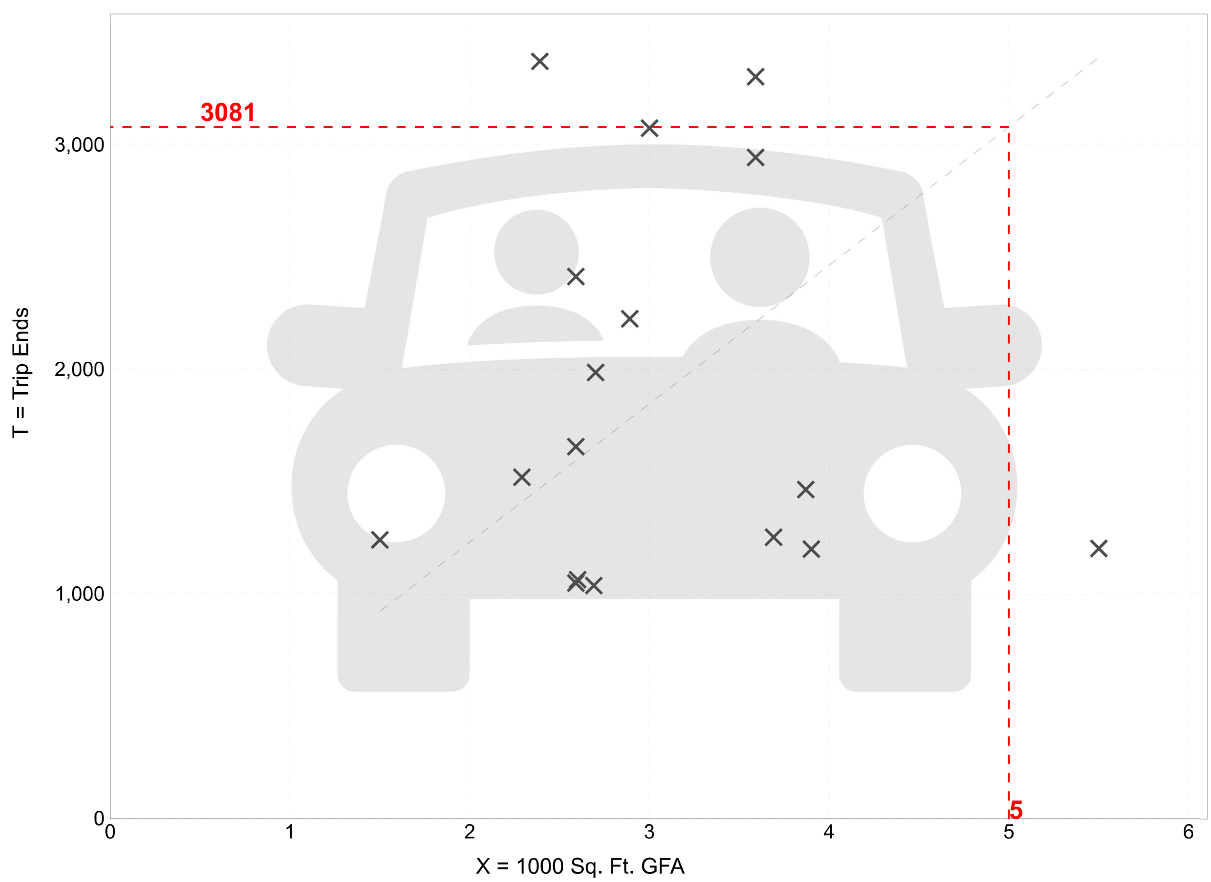
Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Saturday**

Setting/Location:	**General Urban/Suburban**
Number of Studies:	17
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
616.12	218.91 - 1410.88	320.90

Data Plot and Equation



× **Study Site** — — — **Average Rate**

Fitted Curve Equation: Not Given **R^2= ******

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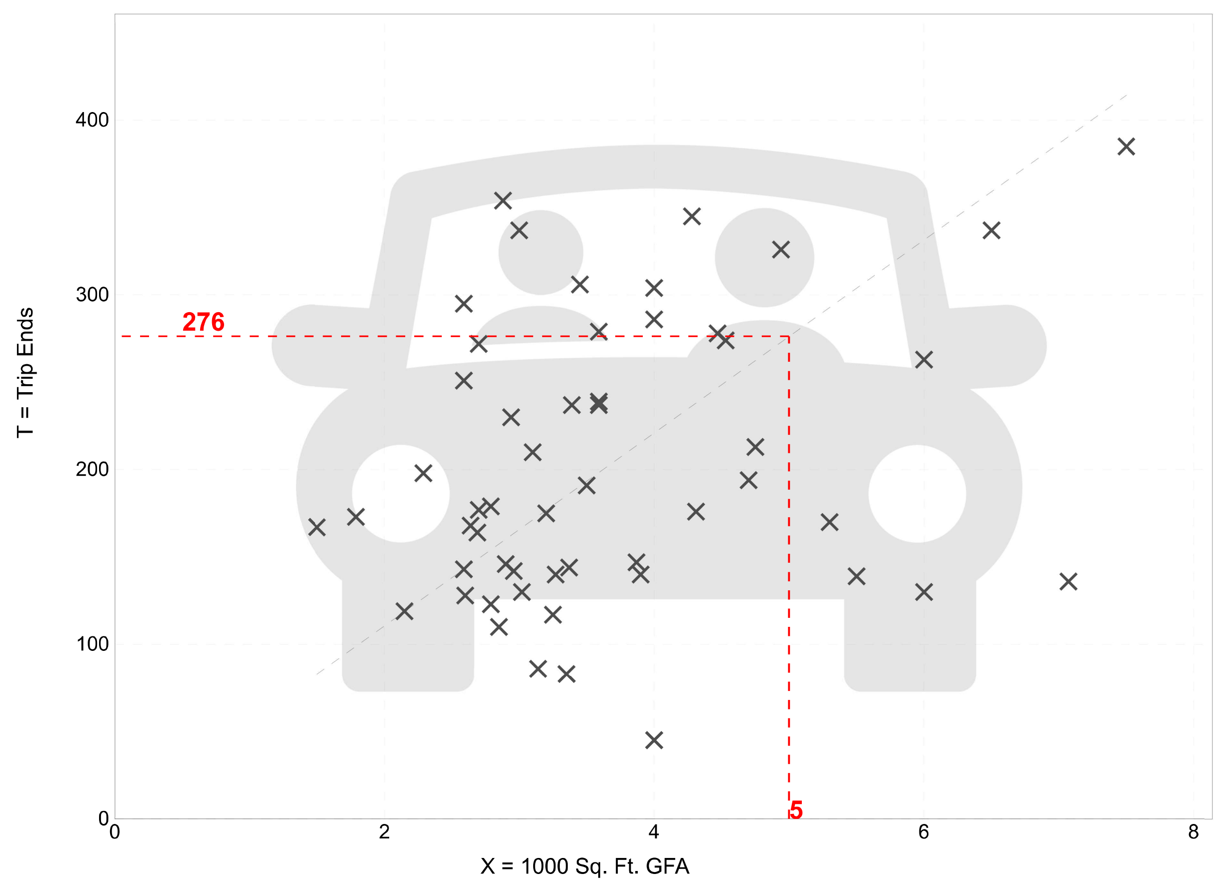
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Saturday, Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	53
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
55.25	11.25 - 122.92	24.62

Data Plot and Equation



× **Study Site** — — **Average Rate**

Fitted Curve Equation: Not Given **R^2= ******

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Trip Generation Worksheets for Facilities Unchanged

Land Use: 221
Multifamily Housing (Mid-Rise)

Description

Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have between three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing (high-rise) (Land Use 222), off-campus student apartment (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the mid-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the six sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.46 residents per occupied dwelling unit.

For the five sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 95.7 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:00 and 8:00 a.m. and 4:45 and 5:45 p.m., respectively.

For the four dense multi-use urban sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:15 and 5:15 p.m., respectively. For the three center city core sites with 24-hour count data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 6:45 and 7:45 a.m. and 5:00 and 6:00 p.m., respectively.

For the six sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.46 residents per occupied dwelling unit.

For the five sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 95.7 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the five center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 1.84 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.94 during Weekday, AM Peak Hour of Generator
- 2.07 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.59 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 32 dense multi-use urban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.90 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.90 during Weekday, AM Peak Hour of Generator
- 2.00 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.08 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 13 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.56 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.88 during Weekday, AM Peak Hour of Generator
- 1.70 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.07 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Delaware, District of Columbia, Florida, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ontario, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Virginia, and Wisconsin.

Source Numbers

168, 188, 204, 305, 306, 321, 357, 390, 436, 525, 530, 579, 638, 818, 857, 866, 901, 904, 910, 912, 918, 934, 936, 939, 944, 947, 948, 949, 959, 963, 964, 966, 967, 969, 970

Multifamily Housing (Mid-Rise)
(221)

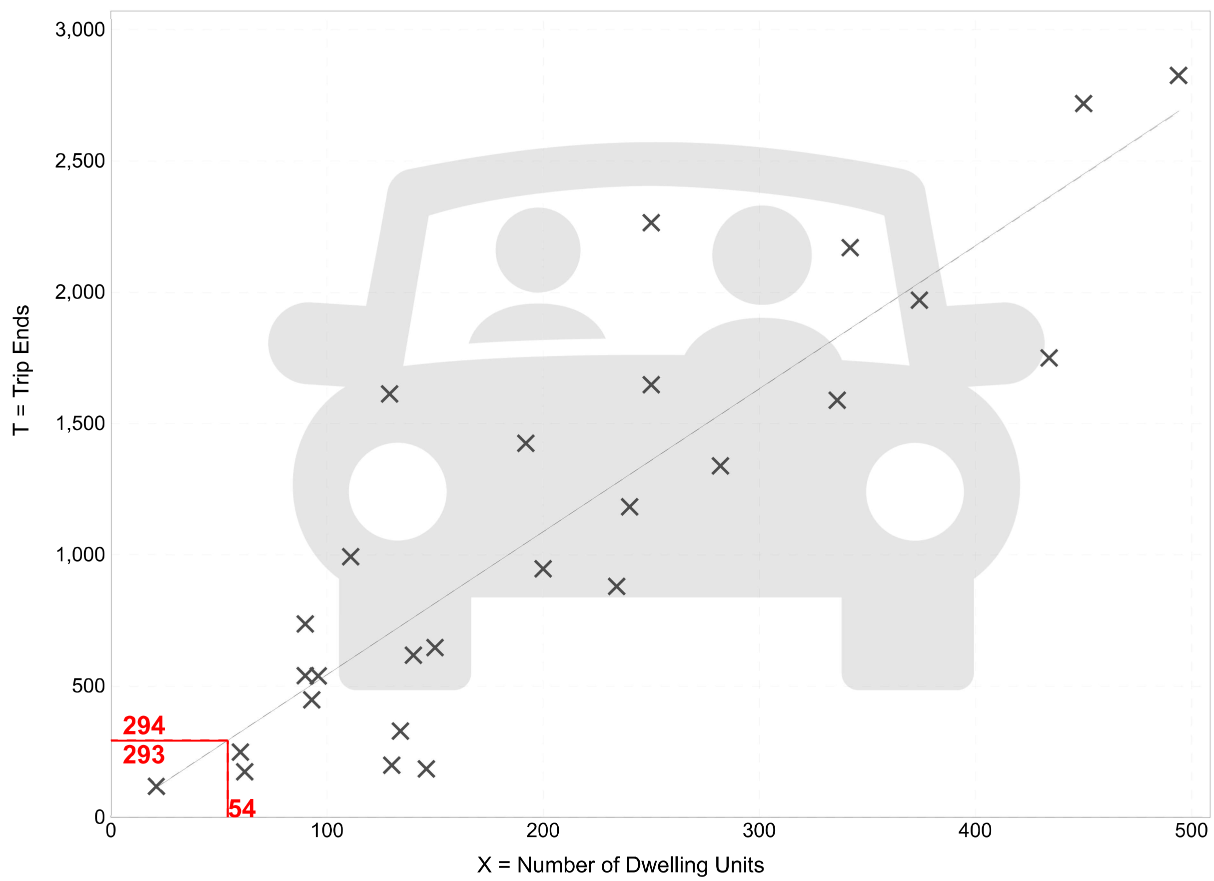
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 27
Avg. Num. of Dwelling Units: 205
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
5.44	1.27 - 12.50	2.03

Data Plot and Equation



× **Study Site** — **Fitted Curve** - - - **Average Rate**

Fitted Curve Equation: T = 5.45(X) - 1.75 **R^2= 0.77**

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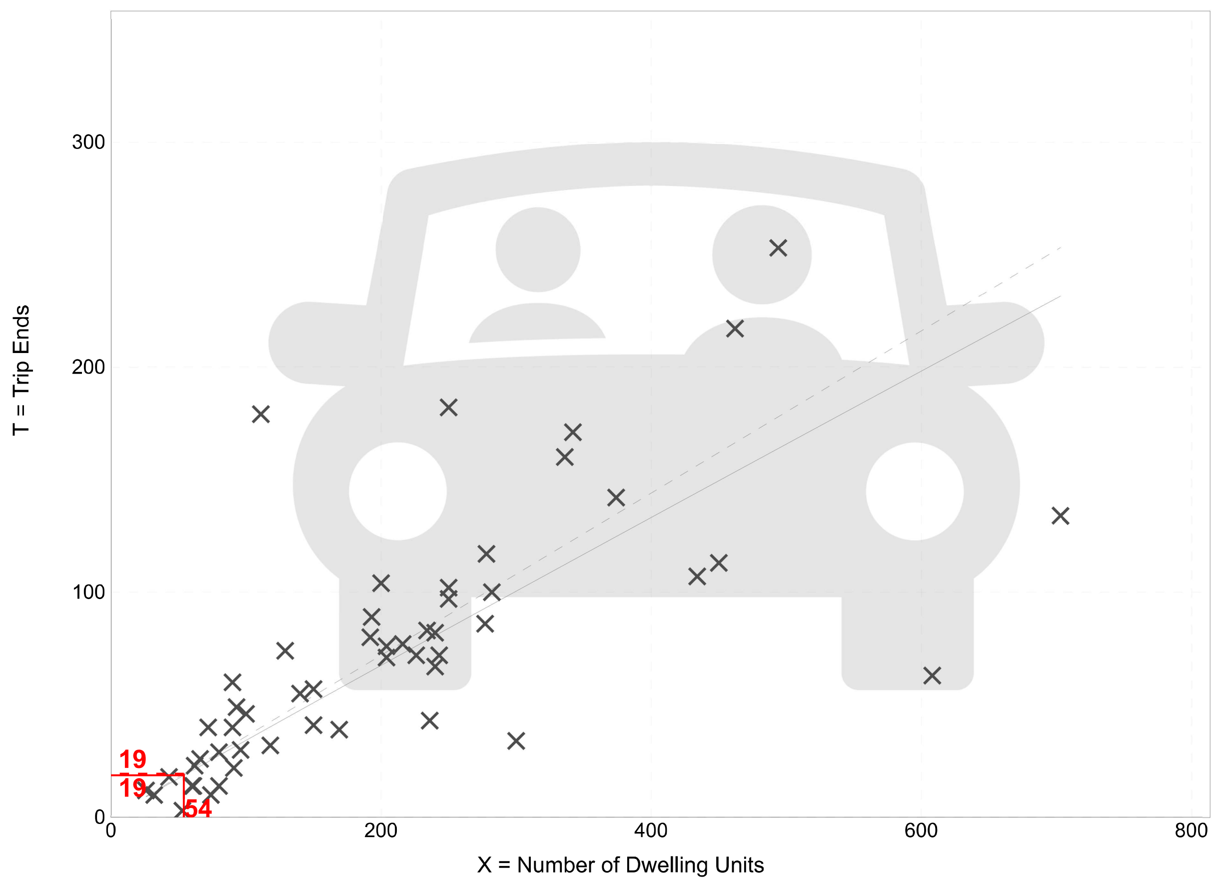
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	53
Avg. Num. of Dwelling Units:	207
Directional Distribution:	26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.06 - 1.61	0.19

Data Plot and Equation



× **Study Site** — **Fitted Curve** - - - **Average Rate**

Fitted Curve Equation: Ln(T) = 0.98 Ln(X) - 0.98 **R^2= 0.67**

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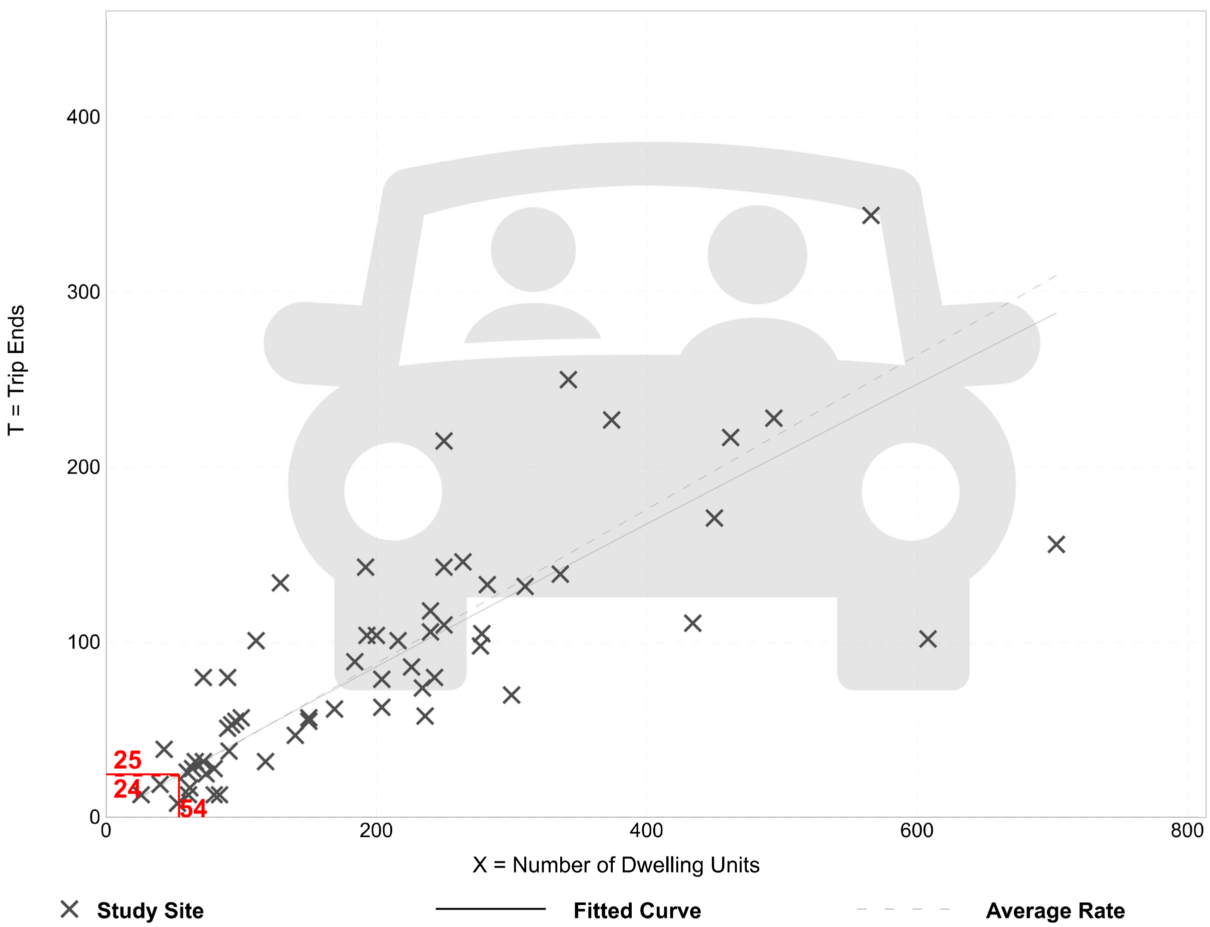
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	60
Avg. Num. of Dwelling Units:	208
Directional Distribution:	61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.15 - 1.11	0.19

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.96 Ln(X) - 0.63$

R^2= 0.72

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Multifamily Housing (Mid-Rise)
(221)

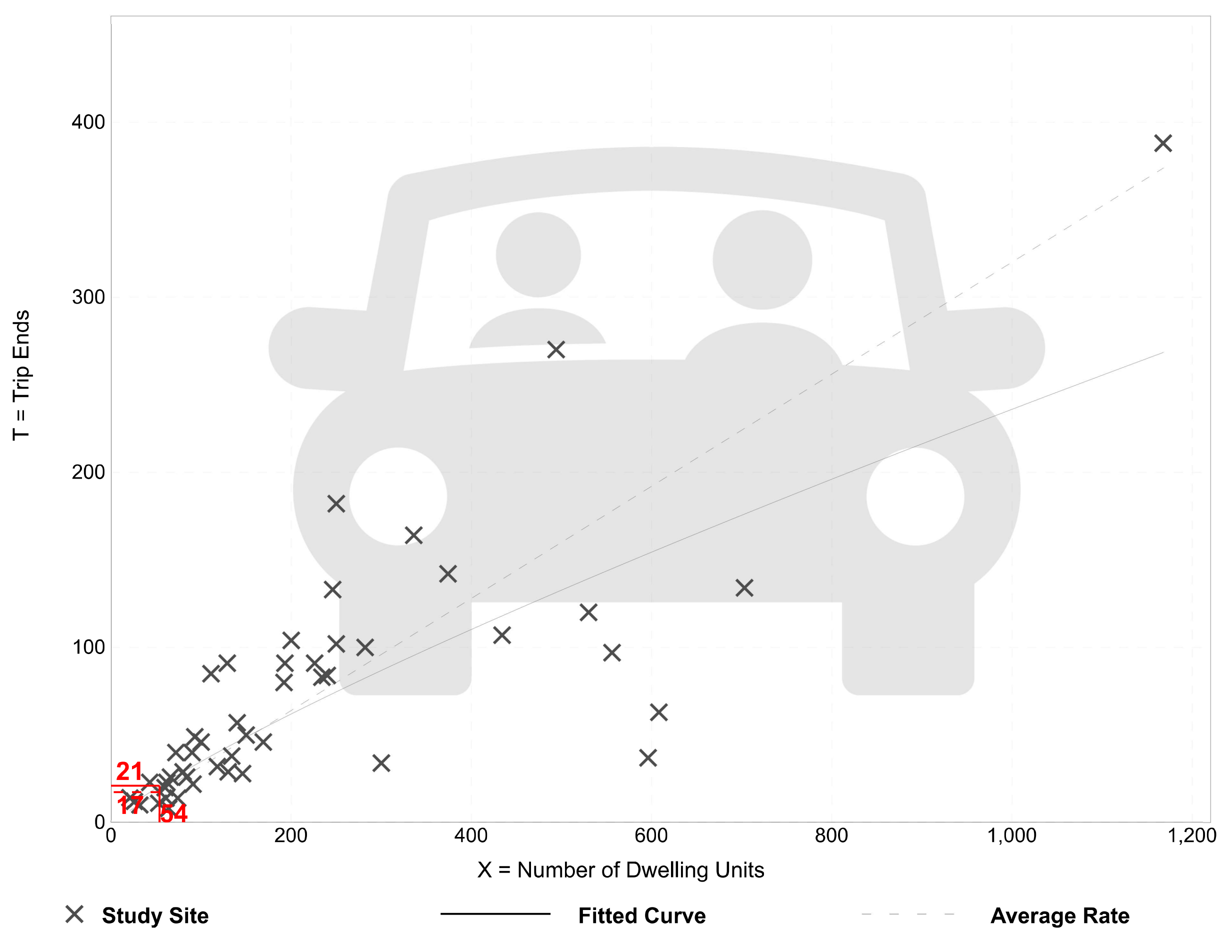
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 48
Avg. Num. of Dwelling Units: 225
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.06 - 0.77	0.17

Data Plot and Equation



Fitted Curve Equation: $Ln(T) = 0.83\ Ln(X) - 0.27$ **$R^2 = 0.69$**

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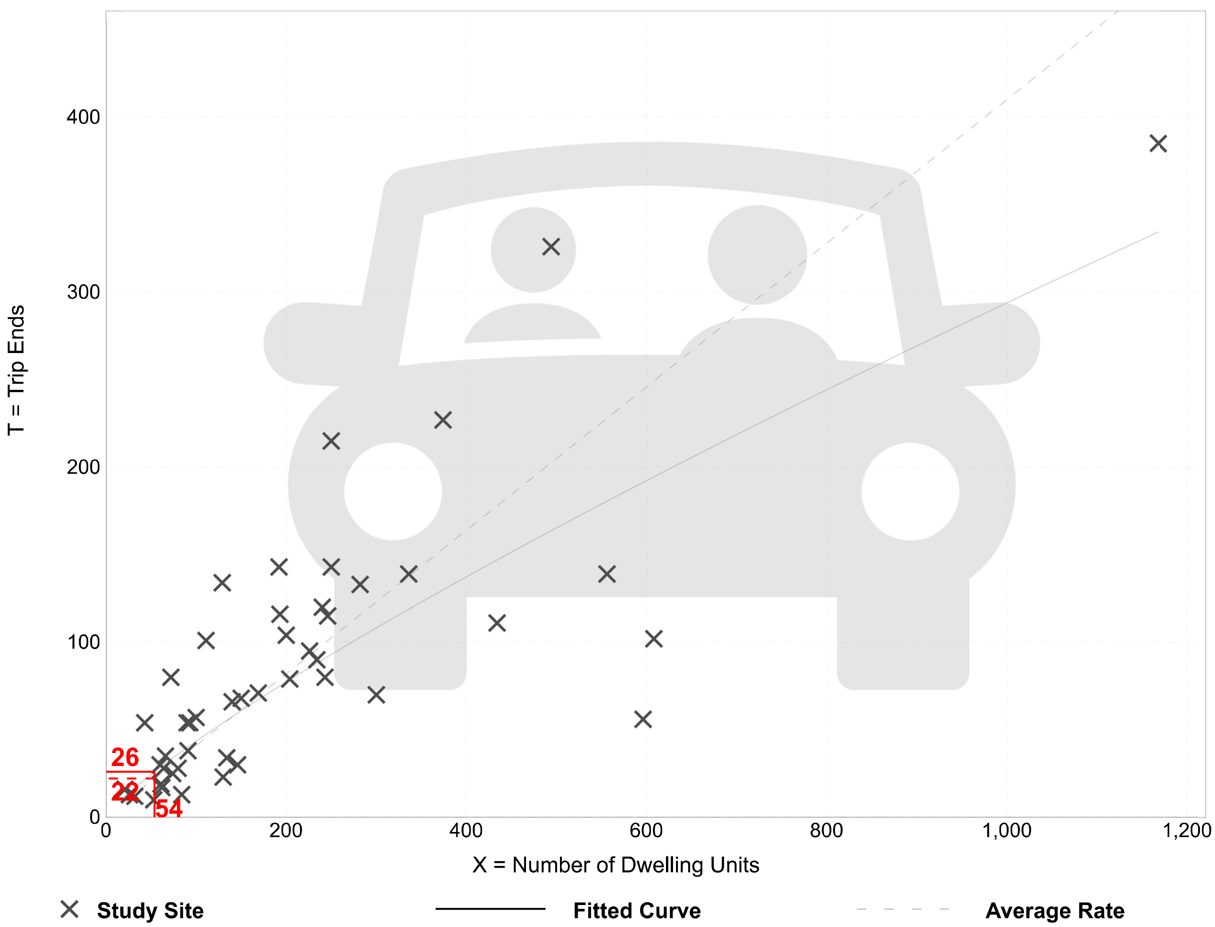
Multifamily Housing (Mid-Rise)
(221)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday, PM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	47
Avg. Num. of Dwelling Units:	211
Directional Distribution:	60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.09 - 1.26	0.22

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.83 Ln(X) - 0.05 **R^2= 0.66**

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Multifamily Housing (Mid-Rise)
(221)

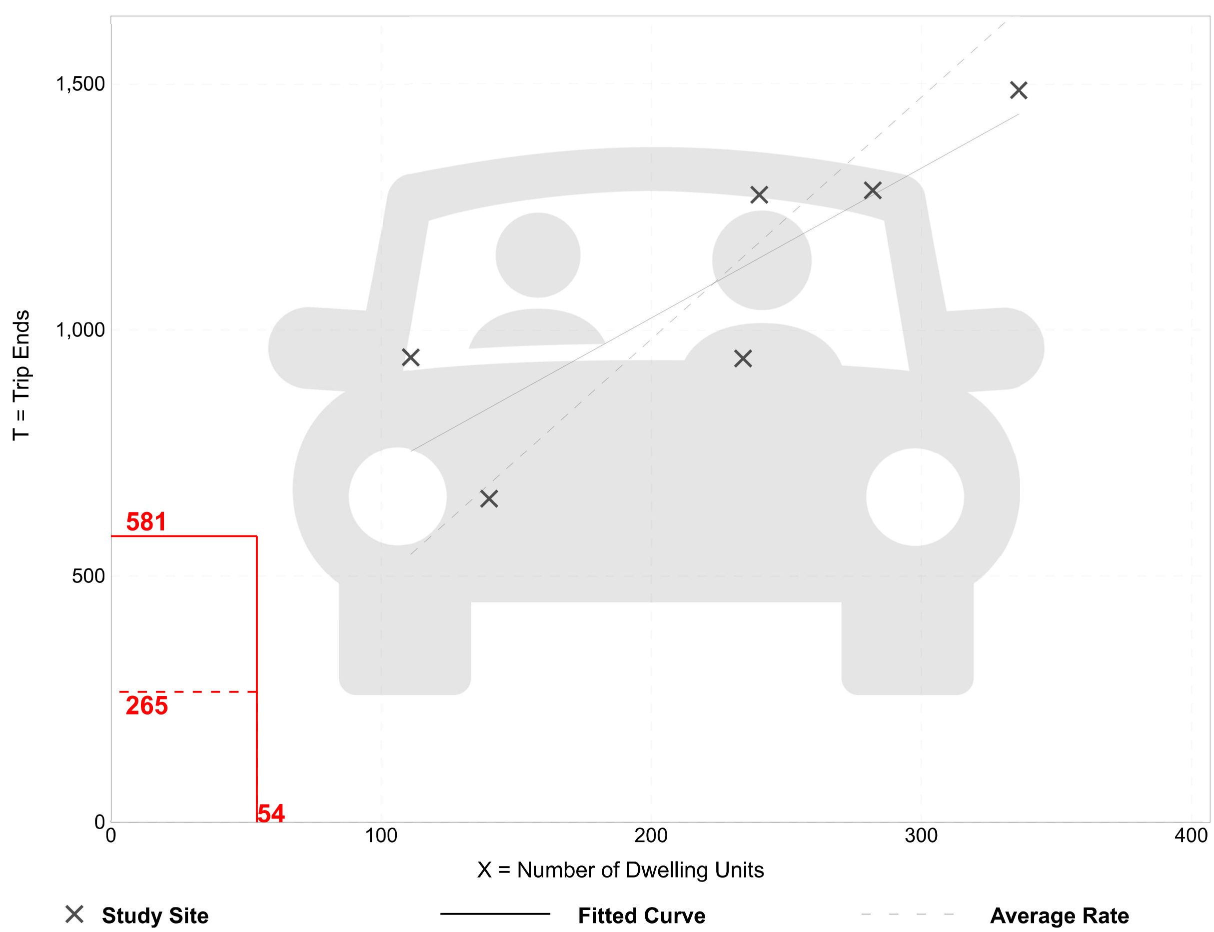
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Dwelling Units: 224
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.91	4.03 - 8.51	1.26

Data Plot and Equation



Fitted Curve Equation: $T = 3.04(X) + 417.11$

$R^2 = 0.73$

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Multifamily Housing (Mid-Rise)
(221)

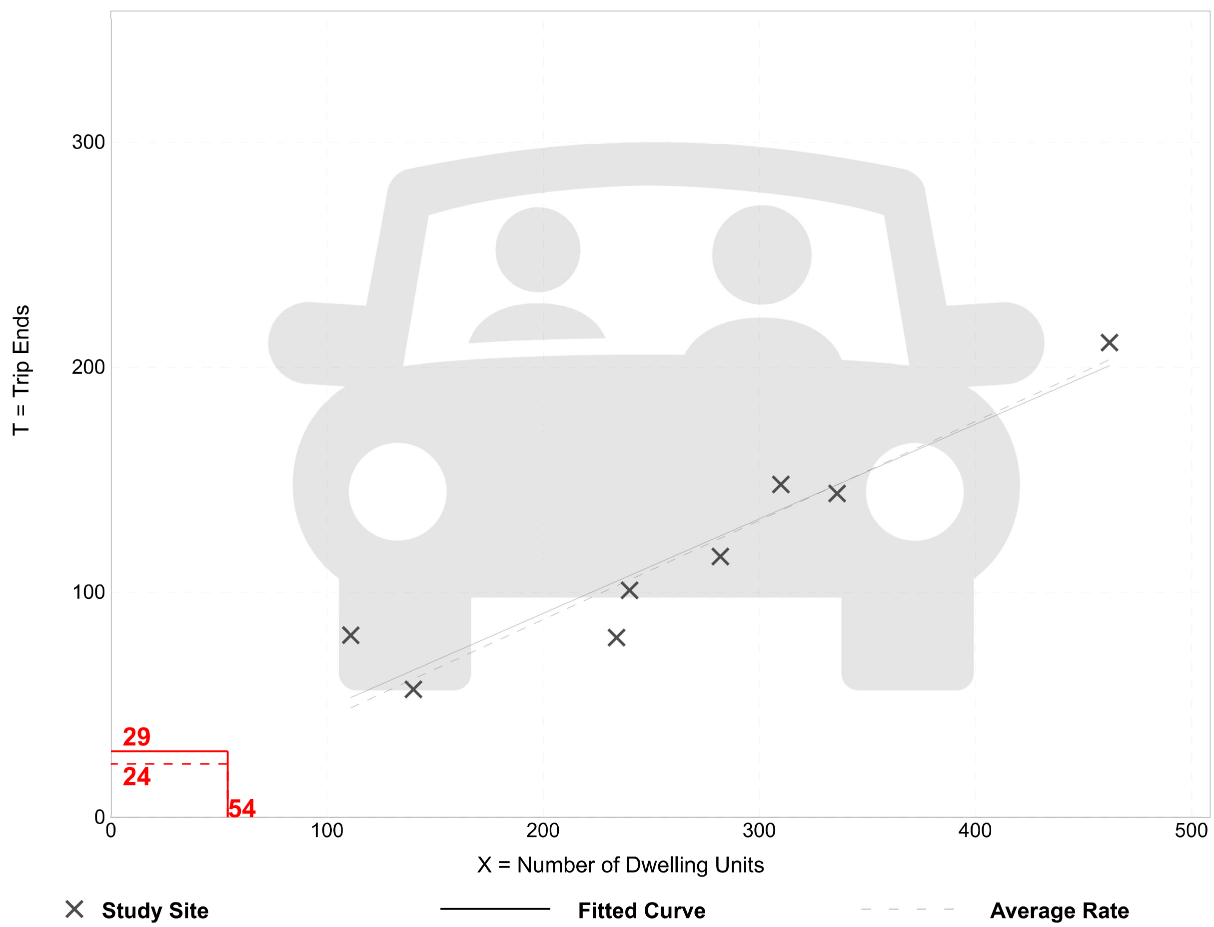
Vehicle Trip Ends vs: Dwelling Units
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 8
Avg. Num. of Dwelling Units: 264
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.34 - 0.73	0.08

Data Plot and Equation



Fitted Curve Equation: T = 0.42(X) + 6.73 **R^2= 0.89**

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Land Use: 934
Fast-Food Restaurant with Drive-Through Window

Description

This land use includes any fast-food restaurant with a drive-through window. This type of restaurant is characterized by a large drive-through and large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. The restaurant does not provide table service. A patron generally orders from a menu board and pays before receiving the meal. A typical duration of stay for an eat-in patron is less than 30 minutes. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

Additional Data

Users should exercise caution when applying statistics during the AM peak periods, as the sites contained in the database for this land use may or may not be open for breakfast. In cases where it was confirmed that the sites were not open for breakfast, data for the AM peak hour of the adjacent street traffic were removed from the database.

If the restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alaska, Alberta (CAN), California, Colorado, Florida, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Texas, Vermont, Virginia, Washington, and Wisconsin.

Source Numbers

163, 164, 168, 180, 181, 241, 245, 278, 294, 300, 301, 319, 338, 340, 342, 358, 389, 438, 502, 552, 577, 583, 584, 617, 640, 641, 704, 715, 728, 810, 866, 867, 869, 885, 886, 927, 935, 962, 977, 1050, 1053, 1054

Fast-Food Restaurant with Drive-Through Window
(934)

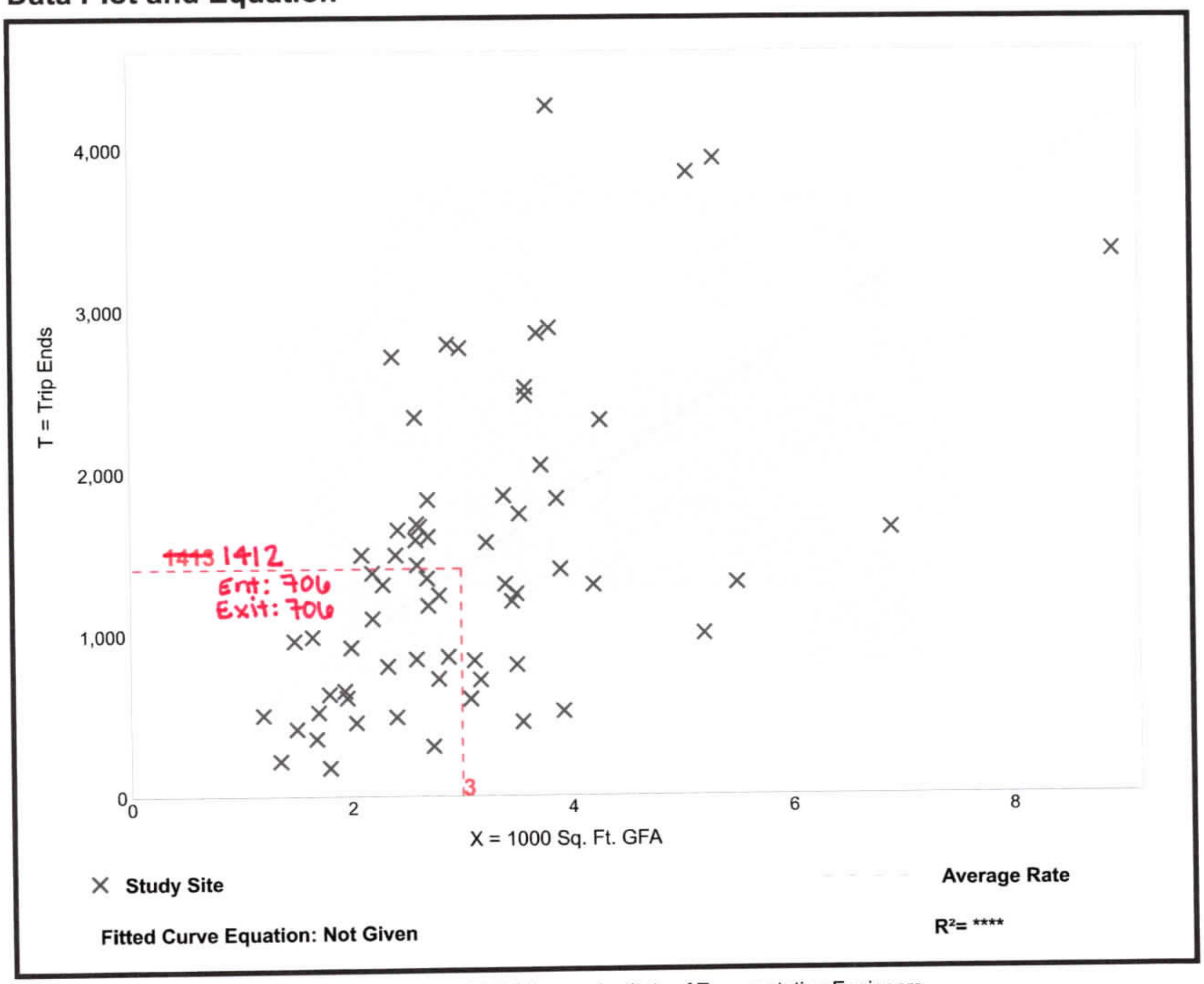
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 67
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
470.95	98.89 - 1137.66	244.44

Data Plot and Equation



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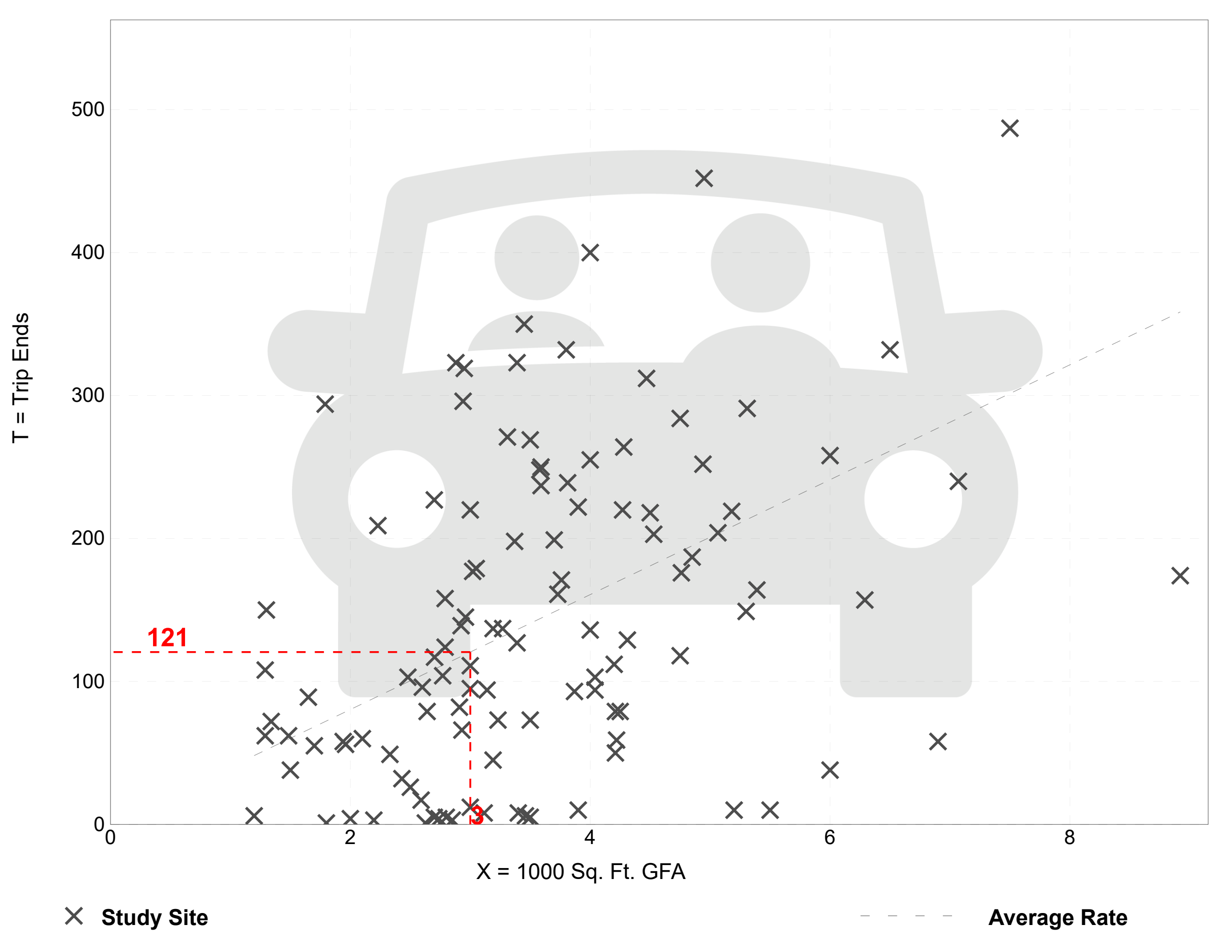
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	111
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
40.19	0.38 - 164.25	28.78

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

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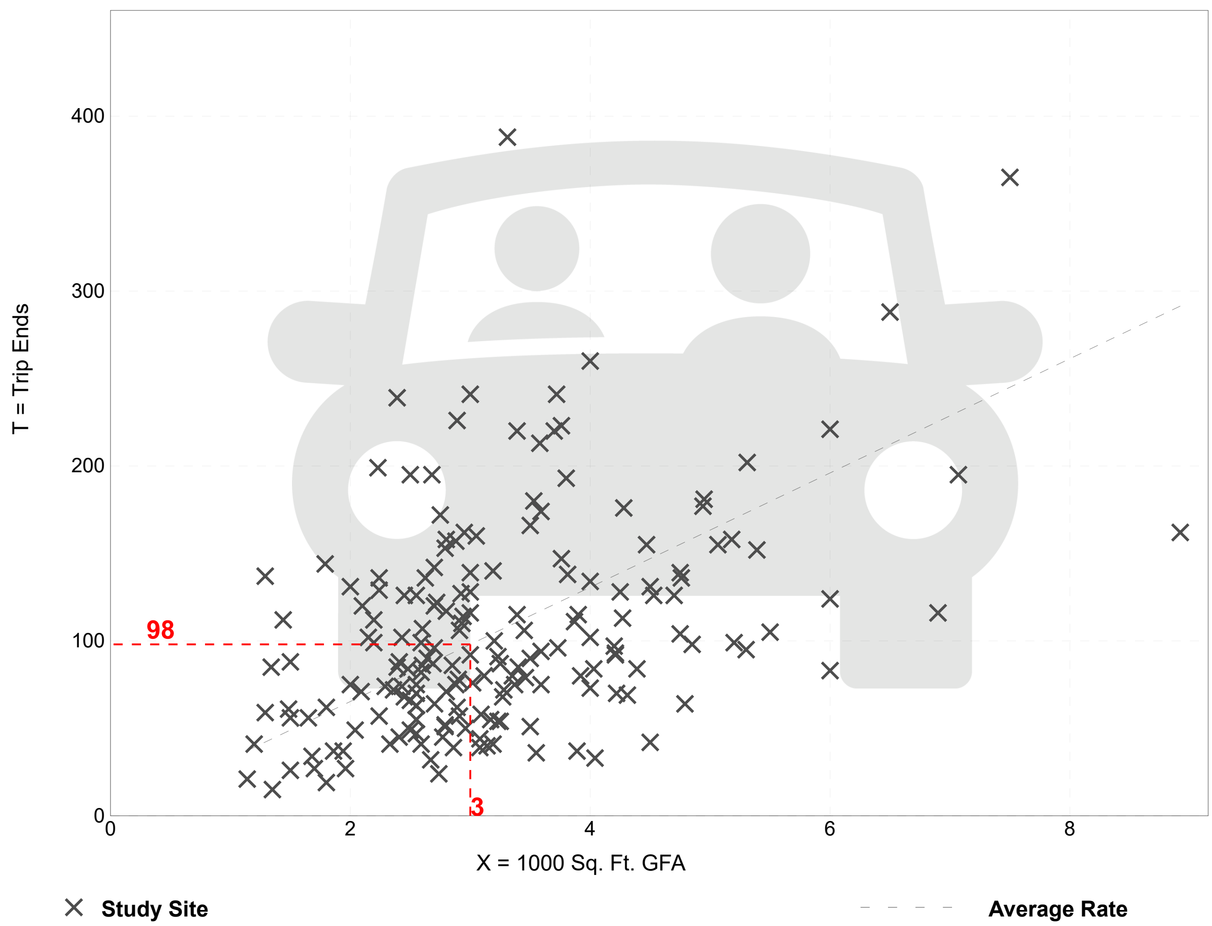
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	185
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
32.67	8.17 - 117.22	17.87

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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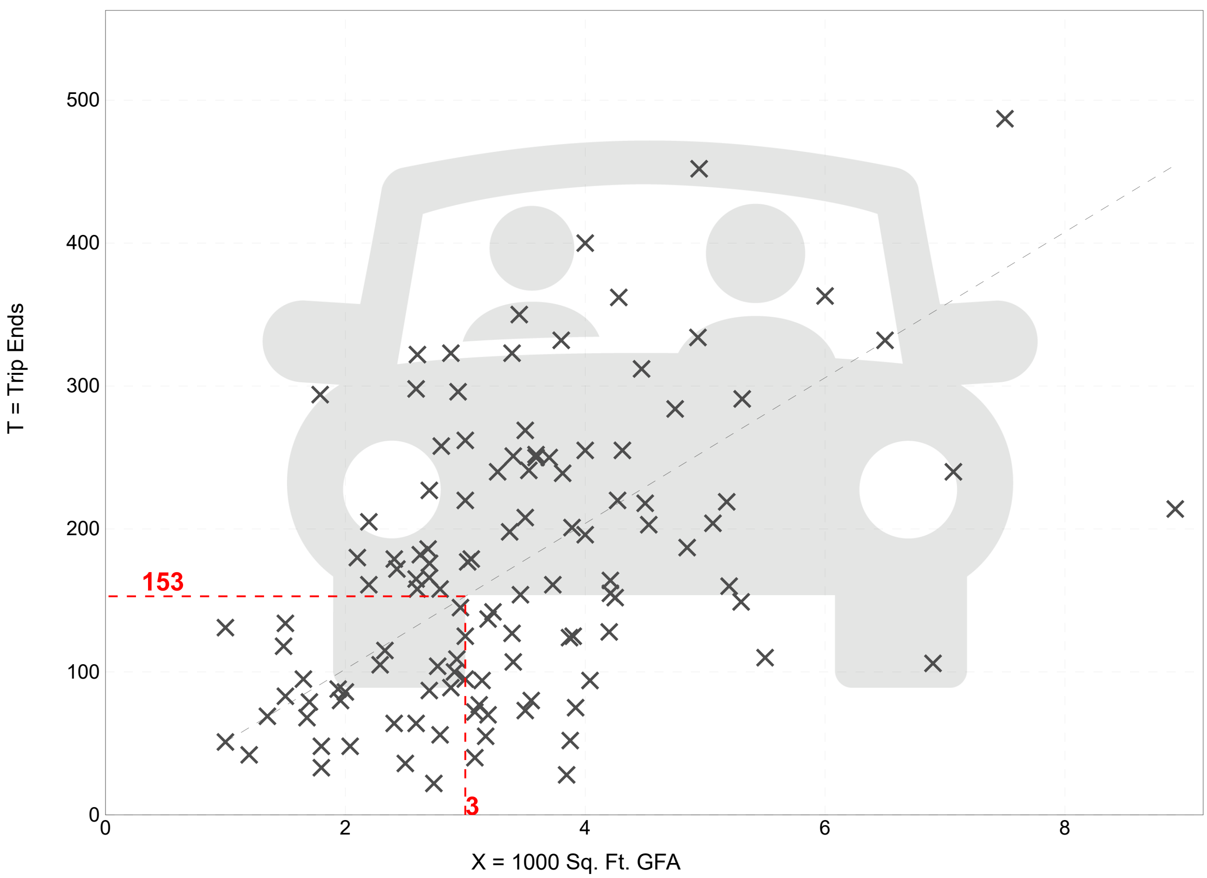
Fast-Food Restaurant with Drive-Through Window
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, AM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	117
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
50.97	7.28 - 164.25	26.22

Data Plot and Equation



× **Study Site**   - - - - **Average Rate**

Fitted Curve Equation: Not Given   **R^2= ******

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Fast-Food Restaurant with Drive-Through Window

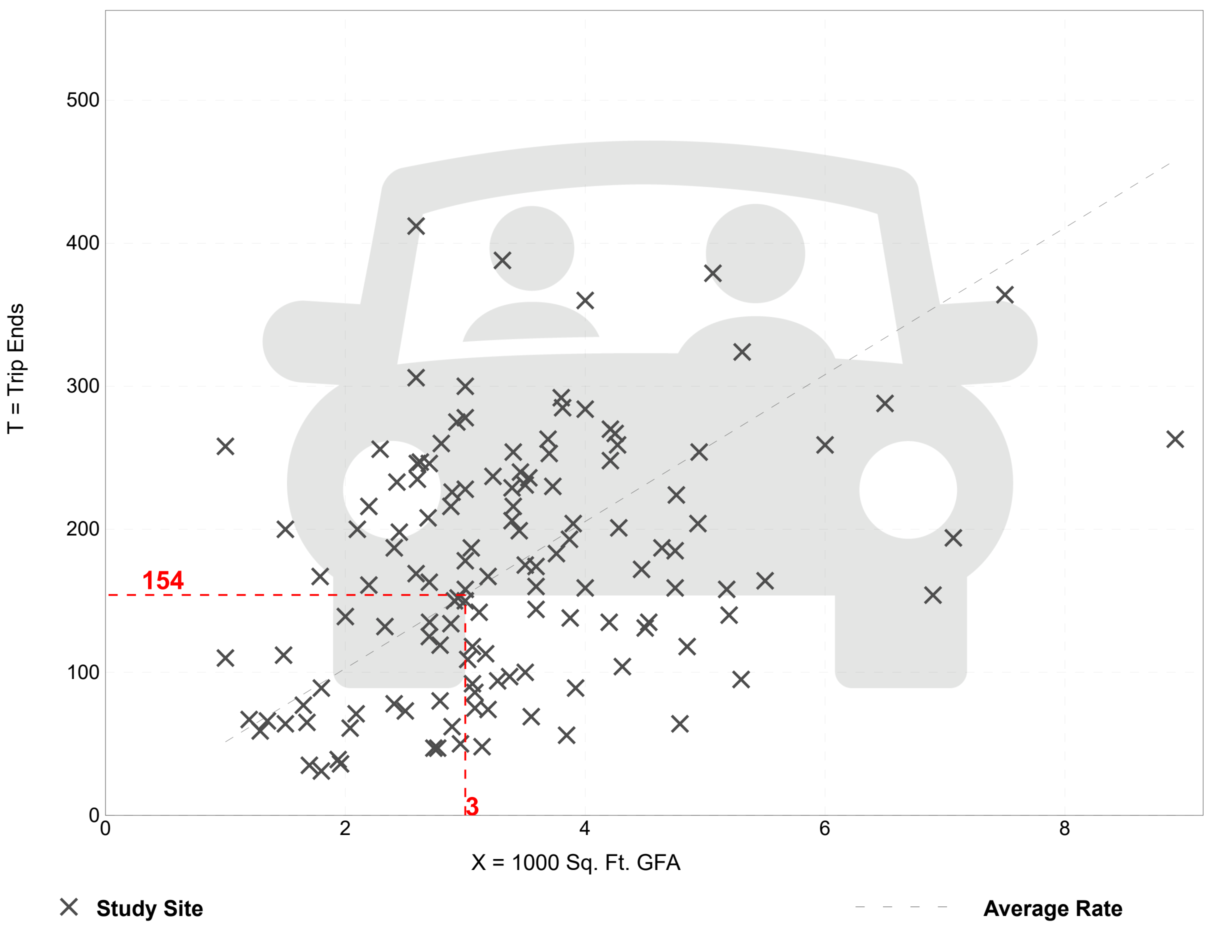
(934)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, PM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	132
Avg. 1000 Sq. Ft. GFA:	3
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
51.36	13.36 - 258.00	27.47

Data Plot and Equation



Fitted Curve Equation: Not Given **R² = ****

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Fast-Food Restaurant with Drive-Through Window

(934)

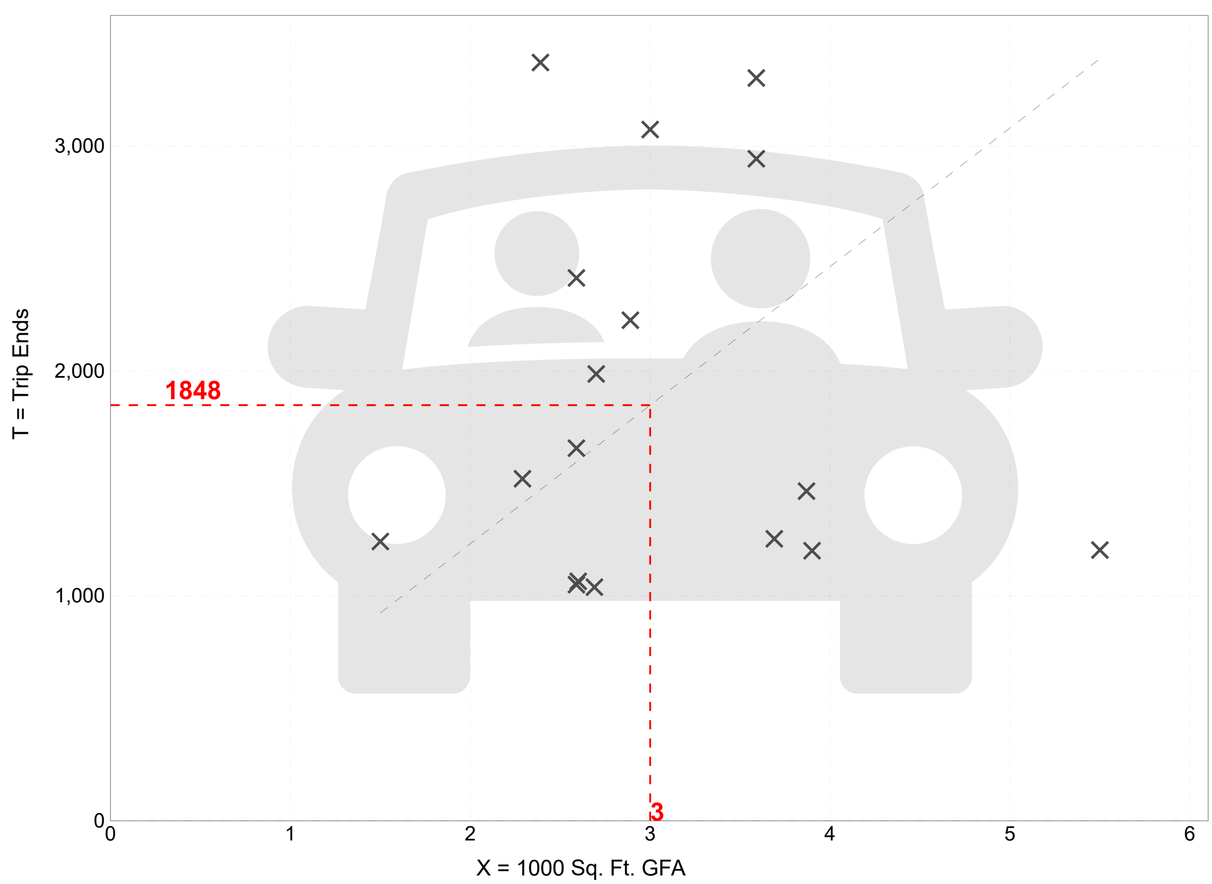
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 17
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
616.12	218.91 - 1410.88	320.90

Data Plot and Equation



× **Study Site** **Average Rate**

Fitted Curve Equation: Not Given **R^2= ****

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Fast-Food Restaurant with Drive-Through Window
(934)

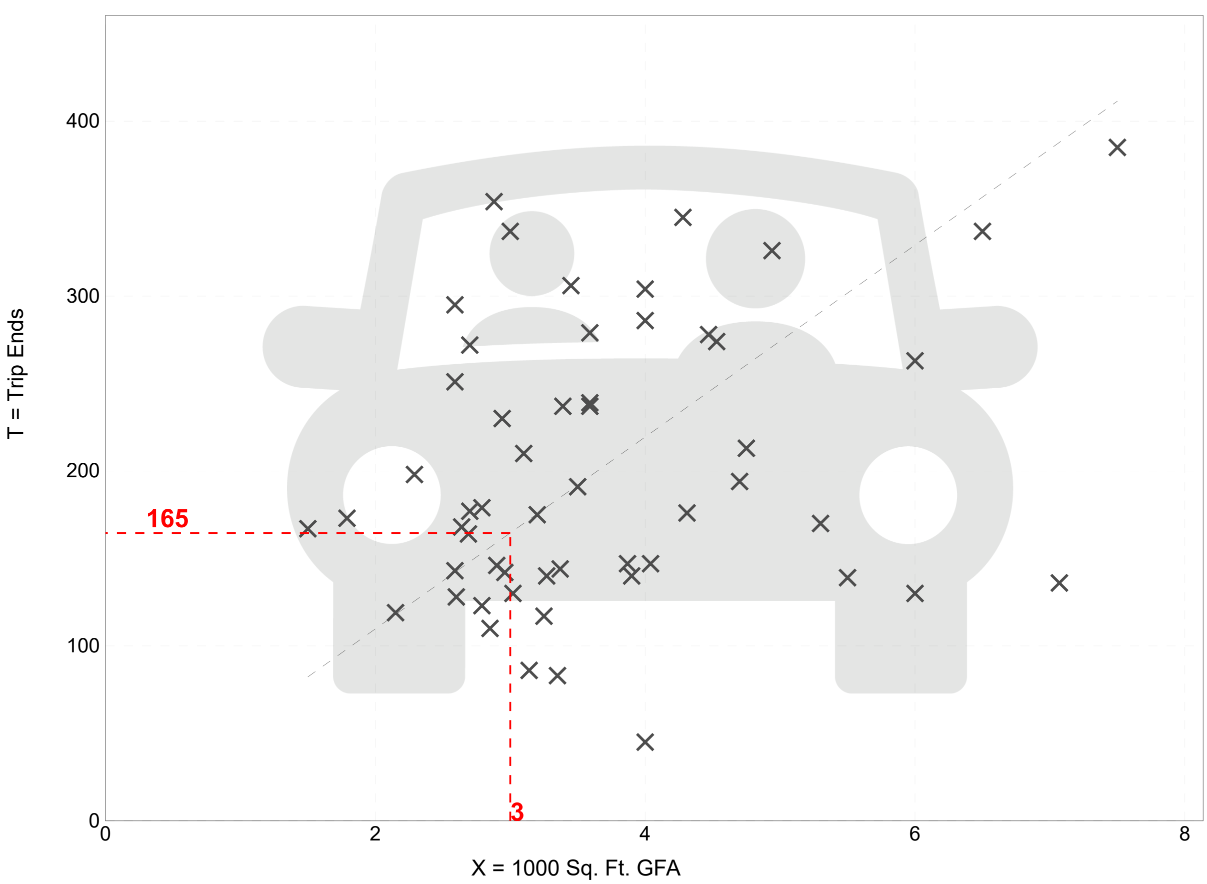
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 54
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
54.86	11.25 - 122.92	24.51

Data Plot and Equation



Study Site **Average Rate**

Fitted Curve Equation: Not Given **R^2= ******

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Land Use: 960
Super Convenience Market/Gas Station

Description

This land use includes gasoline/service stations with convenience markets where there is significant business related to the sale of convenience items and the fueling of motor vehicles. Some commonly sold convenience items include newspapers, freshly brewed coffee, daily-made donuts, bakery items, hot and cold beverages, breakfast items, dairy items, fresh fruits, soups, light meals, ready-to-go and freshly made sandwiches and wraps, and ready-to-go salads. Stores typically also had automated teller machines (ATMs), and public restrooms. The sites included in this land use category have the following two specific characteristics:

- The gross floor area of the convenience market is at least 3,000 gross square feet
- The number of vehicle fueling positions is at least 10

Convenience market with gasoline pumps (Land Use 853) and gasoline/service station with convenience market (Land Use 945) are related uses.

Additional Data

To reflect changing characteristics of the convenience market component of this land use, only data from the past two decades have been included in this land use.

The independent variable, vehicle fueling positions, is defined as the maximum number of vehicles that can be fueled simultaneously. Gasoline/service stations in this land use include “pay-at-the-pump” and traditional fueling stations.

A multi-variable regression analysis based on both the convenience market gross floor area (GFA) and the number of vehicle fueling positions (VFP) produced a series of fitted curve equations. The equations are in the form of:

Vehicle Trips = [(VFP Factor) x (Number of VFP)] + [(GFA Factor) x (GFA)] + (Constant)

The values for the VFP factor, GFA factor, and constant are presented in the following table for each time period for which a fitted curve equation could produce an R^2 value of at least 0.50.

Time Period	VFP Factor	GFA Factor	Constant	R^2
Weekday, AM Peak Hour of Generator	10.3	105	-290	0.62
Weekday, PM Peak Hour of Generator	6.91	76.0	-133	0.68
Weekday, AM Peak Hour of Adjacent Street	16.1	135	-483	0.66
Weekday, PM Peak Hour of Adjacent Street	11.5	82.9	-226	0.51

The sites were surveyed in the late 1990’s, 2000s and the 2010s in Florida, Iowa, Maryland, Minnesota, New Hampshire, New Jersey, Pennsylvania, Texas, Utah, and Wisconsin.

Source Numbers

617, 813, 844, 850, 864, 865, 867, 869, 882, 888, 904, 938, 954, 960, 962

Super Convenience Market/Gas Station
(960)

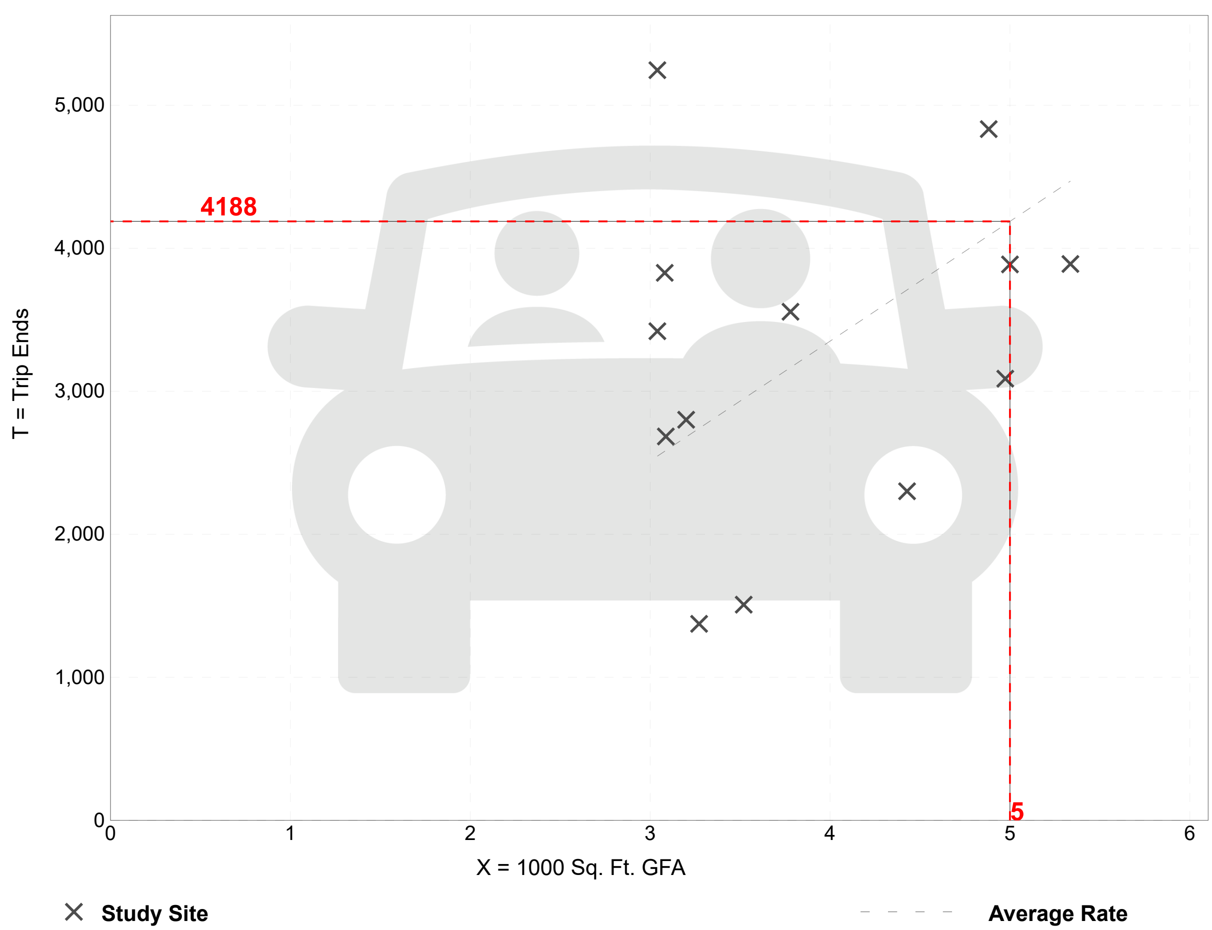
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
837.58	419.93 - 1725.33	334.67

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

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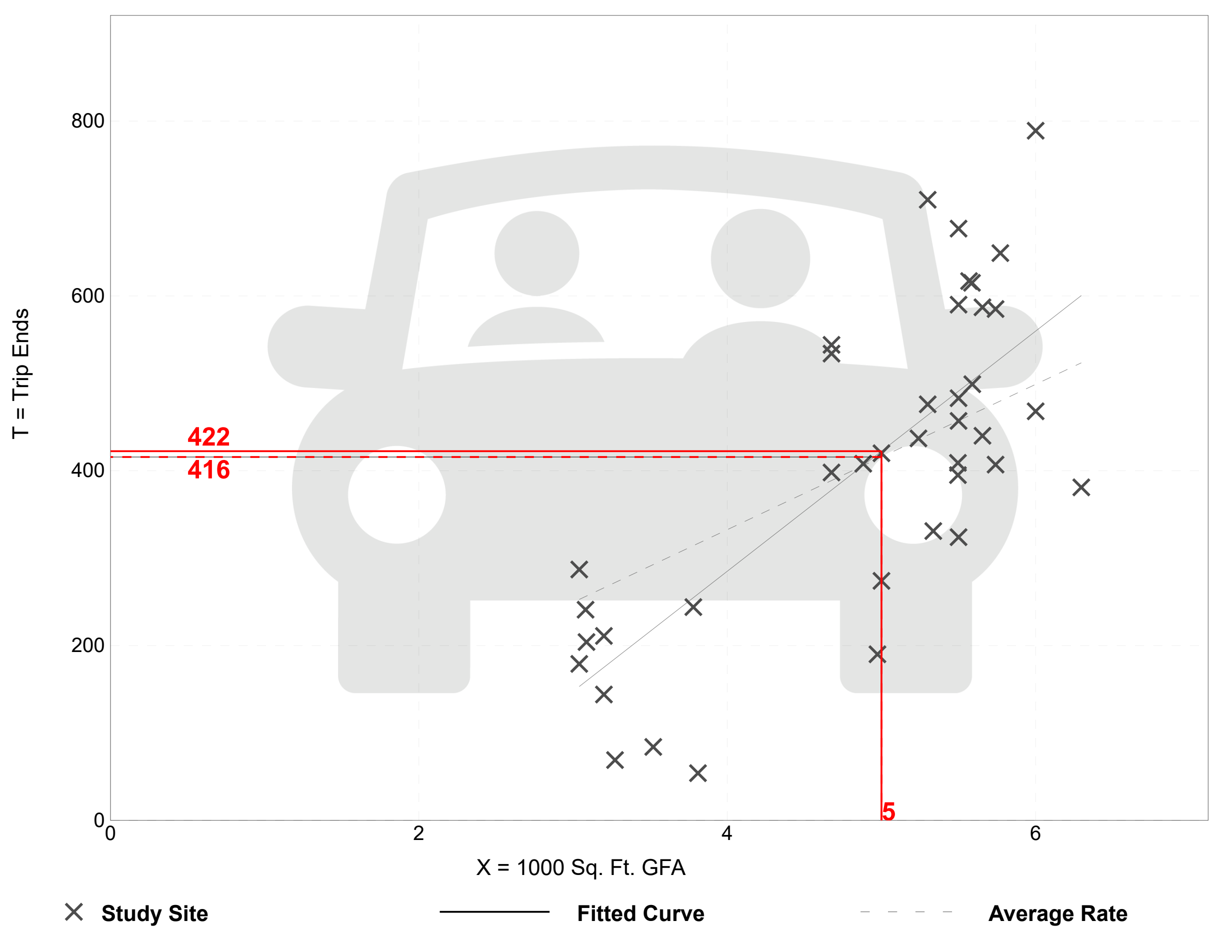
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	39
Avg. 1000 Sq. Ft. GFA:	5
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
83.14	14.17 - 133.96	28.07

Data Plot and Equation



Fitted Curve Equation: $T = 137.38(X) - 264.53$ **$R^2 = 0.56$**

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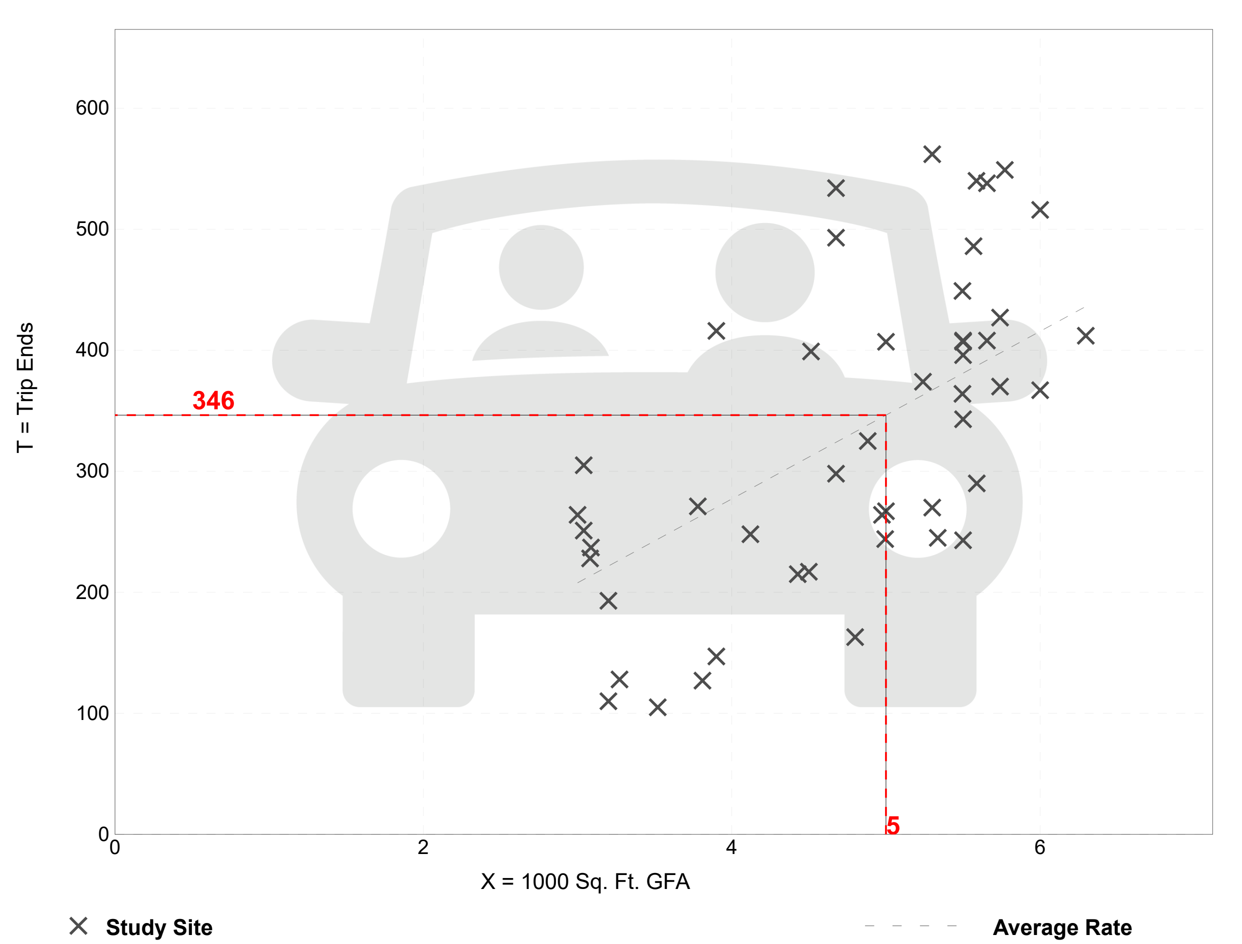
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	48
Avg. 1000 Sq. Ft. GFA:	5
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
69.28	29.83 - 114.20	21.07

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

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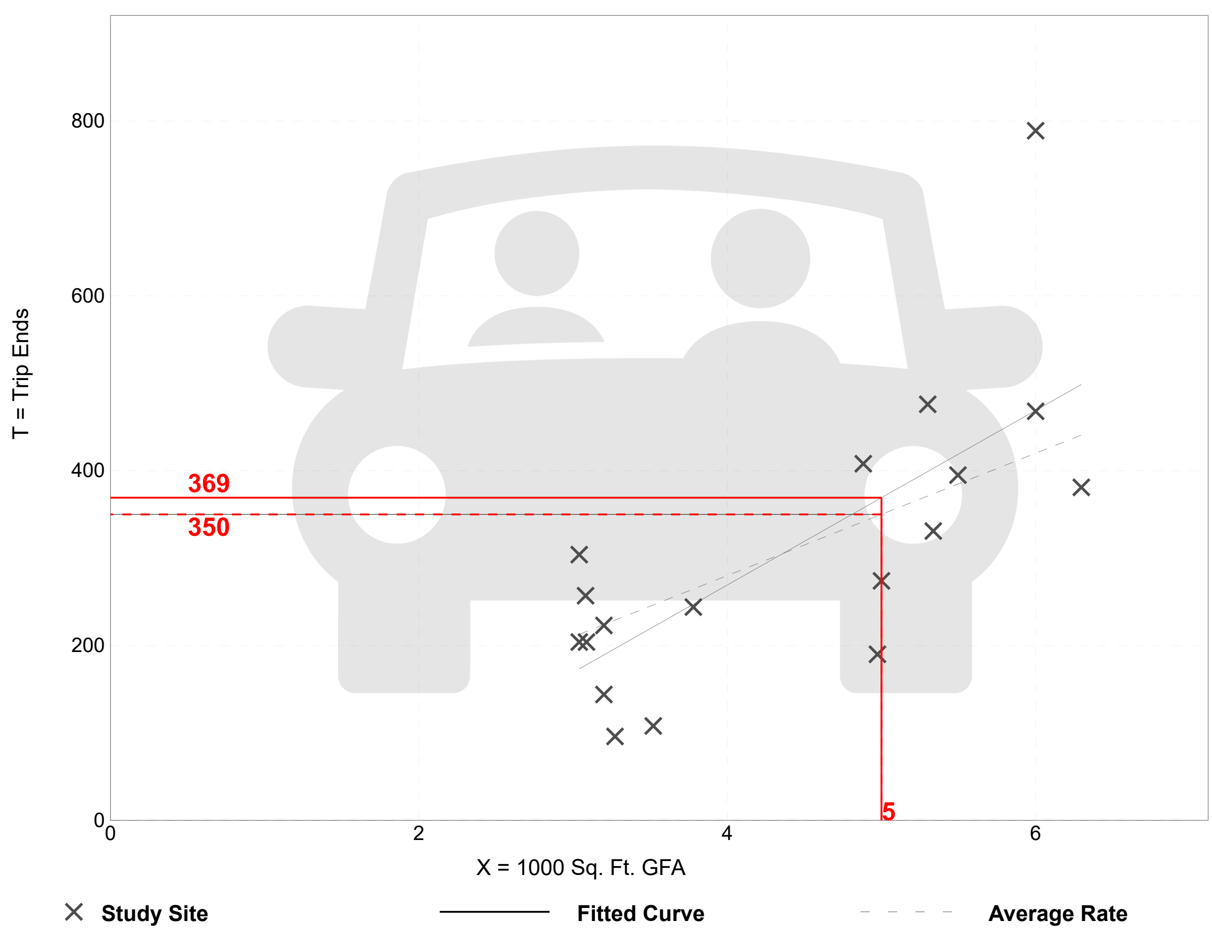
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	AM Peak Hour of Generator
Setting/Location:	**General Urban/Suburban**
Number of Studies:	18
Avg. 1000 Sq. Ft. GFA:	4
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
70.01	29.34 - 131.50	25.84

Data Plot and Equation



Fitted Curve Equation: T = 99.90(X) - 130.36 **R^2= 0.53**

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Super Convenience Market/Gas Station
(960)

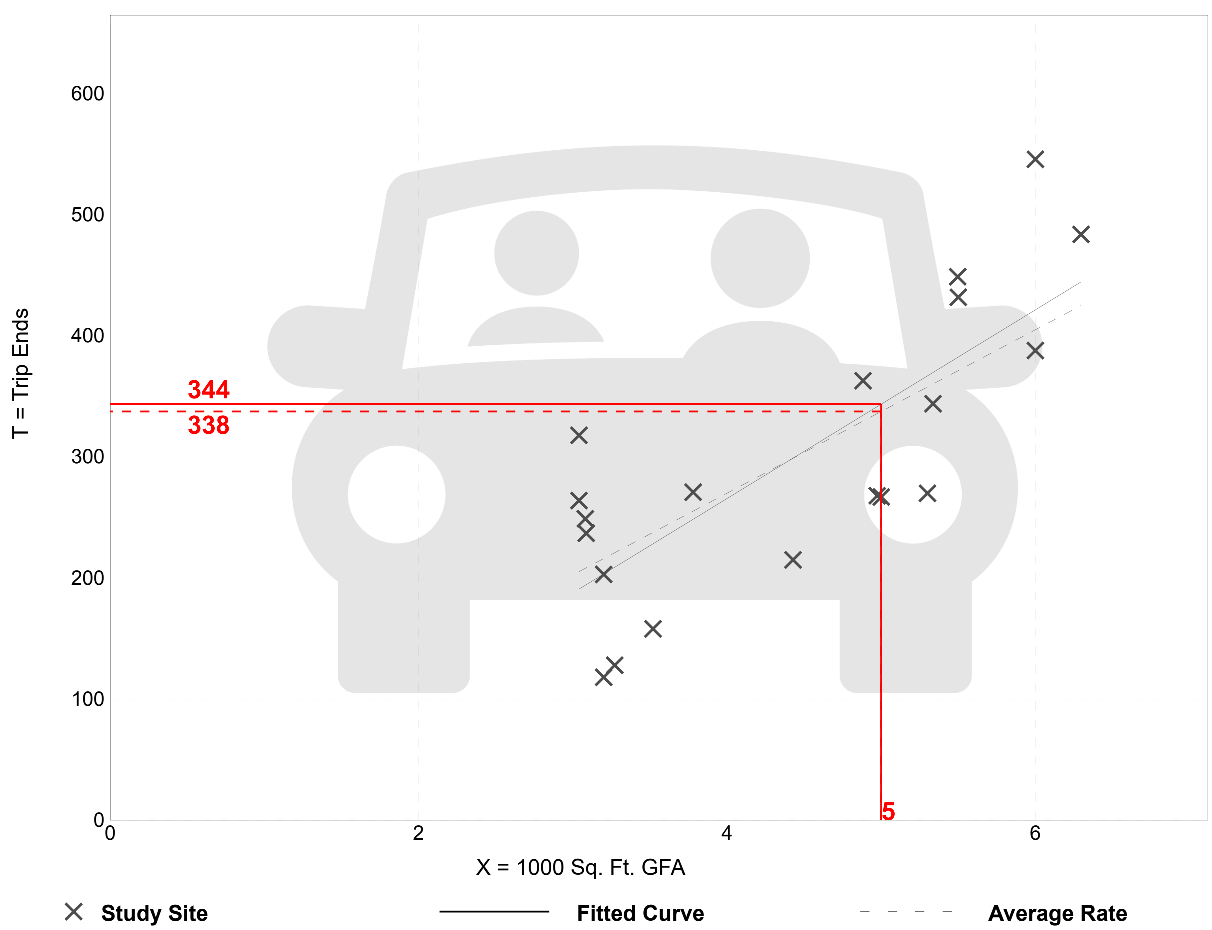
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 20
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
67.53	36.88 - 104.61	17.12

Data Plot and Equation



Fitted Curve Equation: $T = 77.96(X) - 46.12$ **$R^2 = 0.61$**

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Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday**

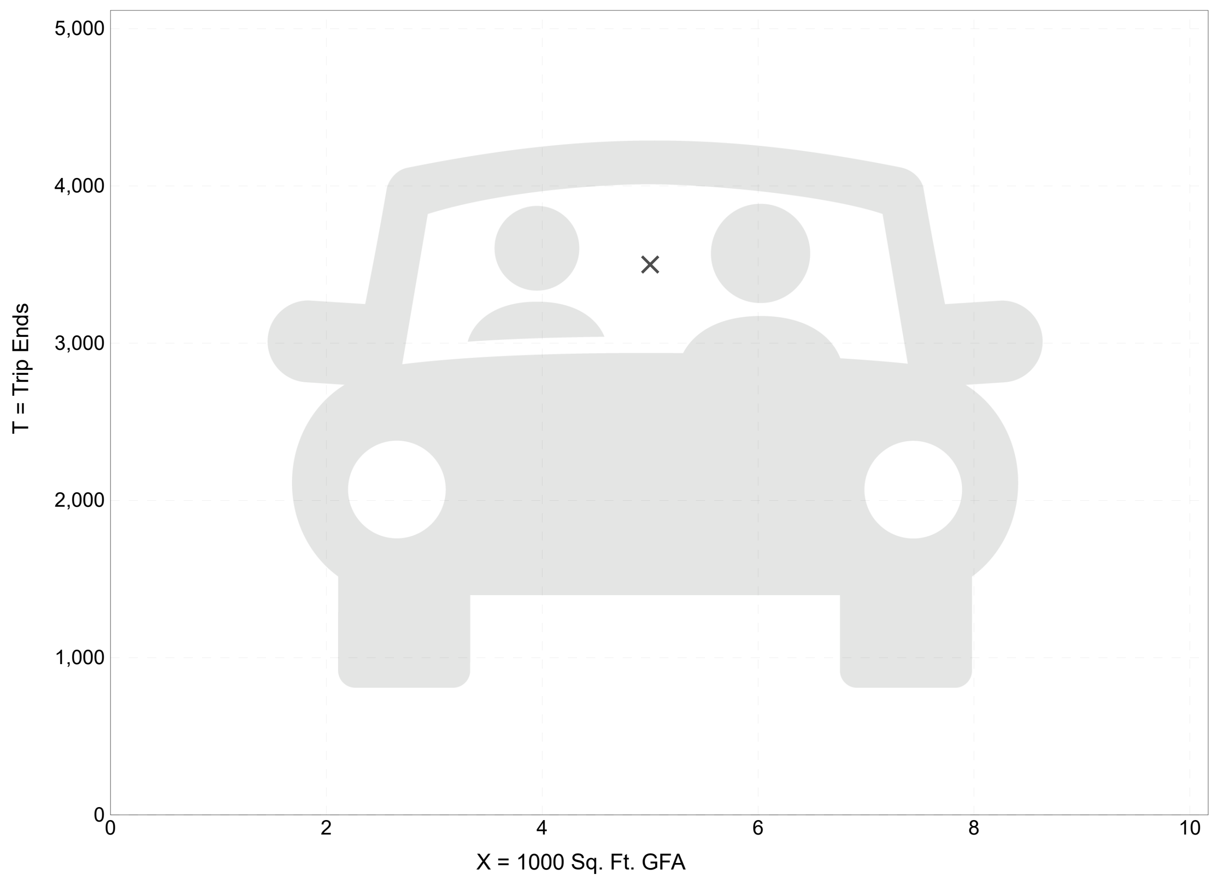
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
700.00	700.00 - 700.00	*

Data Plot and Equation

Caution – Small Sample Size



× **Study Site**   - - - - **Average Rate**

Fitted Curve Equation: Not Given   **R^2= ******

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Super Convenience Market/Gas Station
(960)

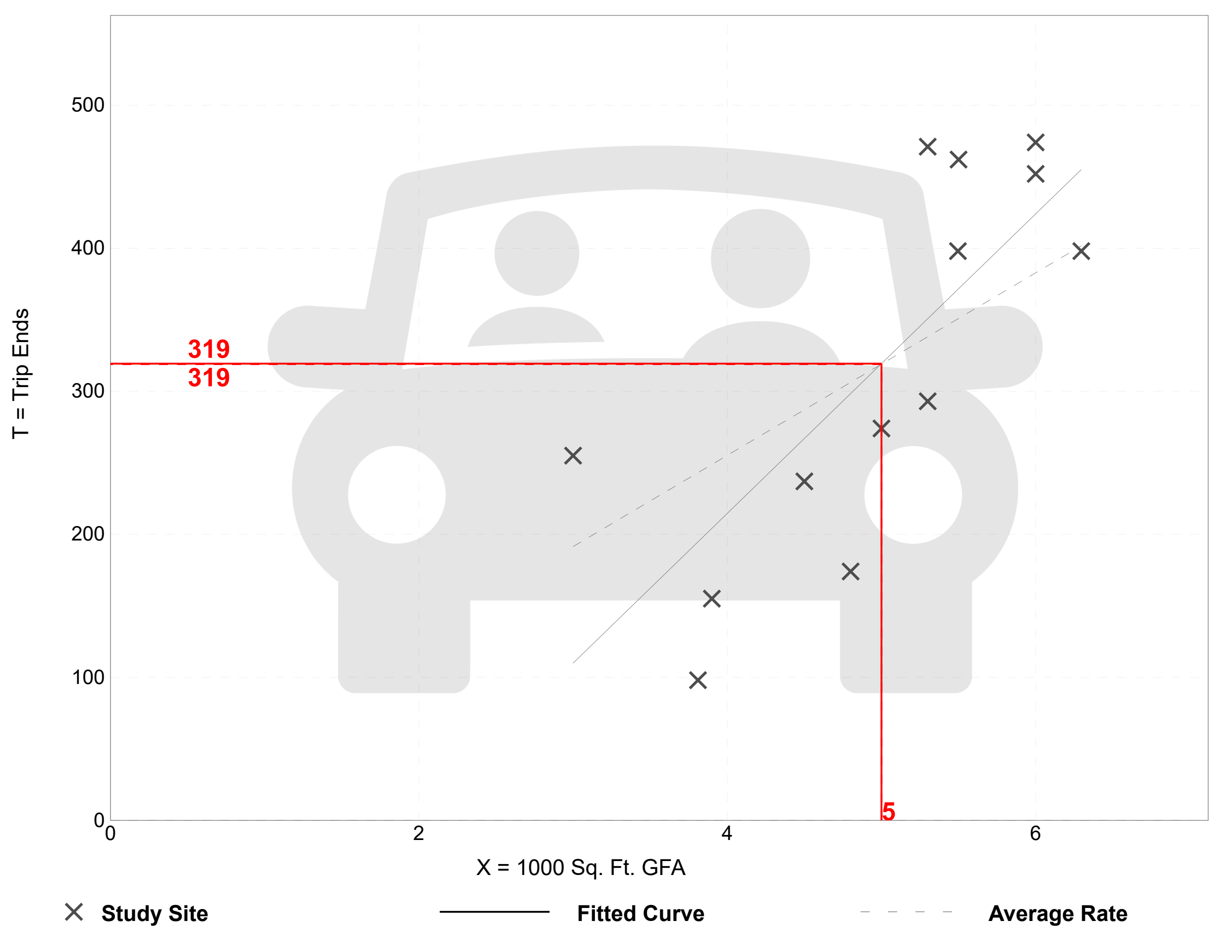
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 13
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
63.80	25.72 - 88.87	19.29

Data Plot and Equation



Fitted Curve Equation: $T = 104.71(X) - 204.23$ **$R^2 = 0.59$**

Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

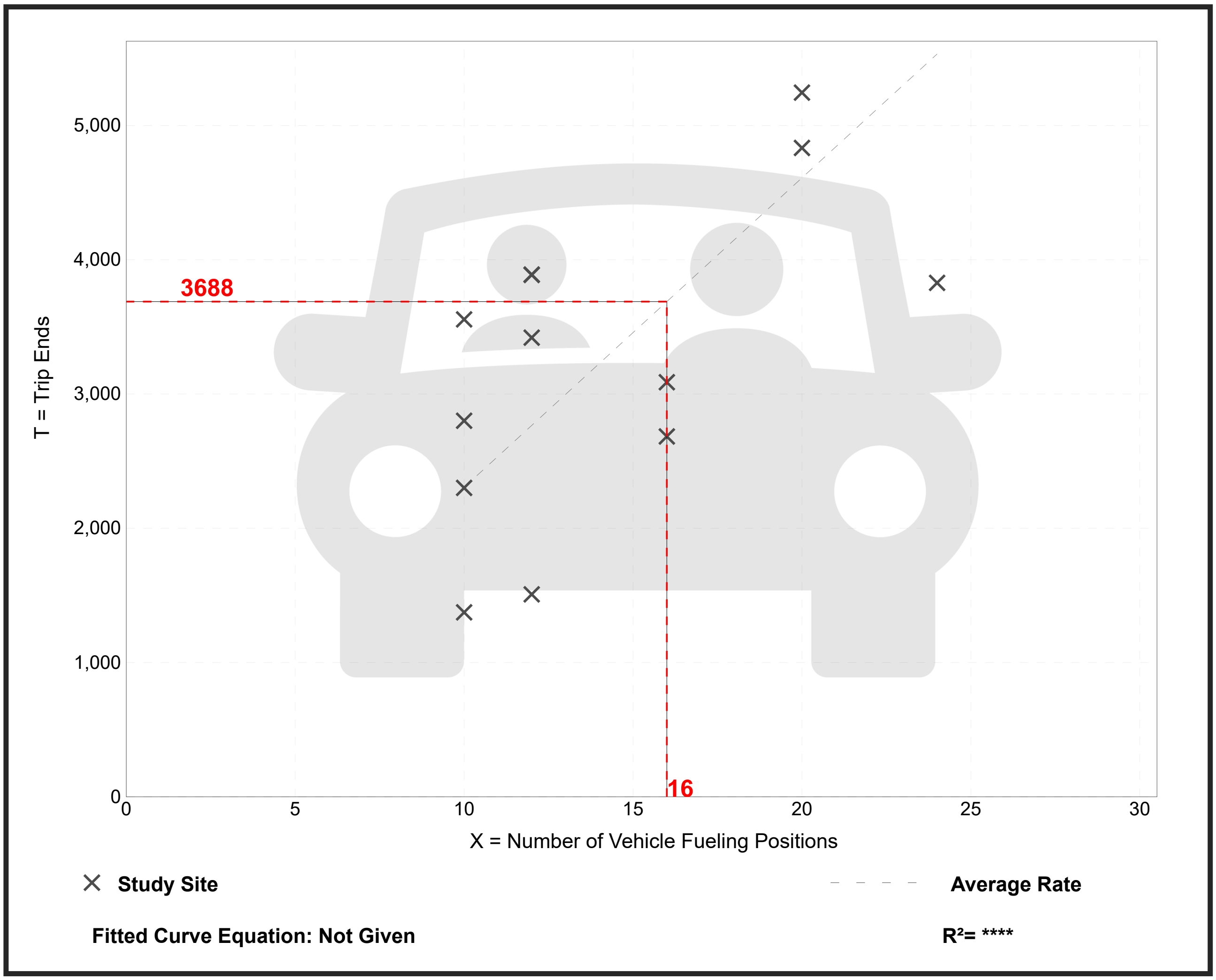
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	13
Avg. Num. of Vehicle Fueling Positions:	14
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
230.52	125.67 - 355.60	71.75

Data Plot and Equation



Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

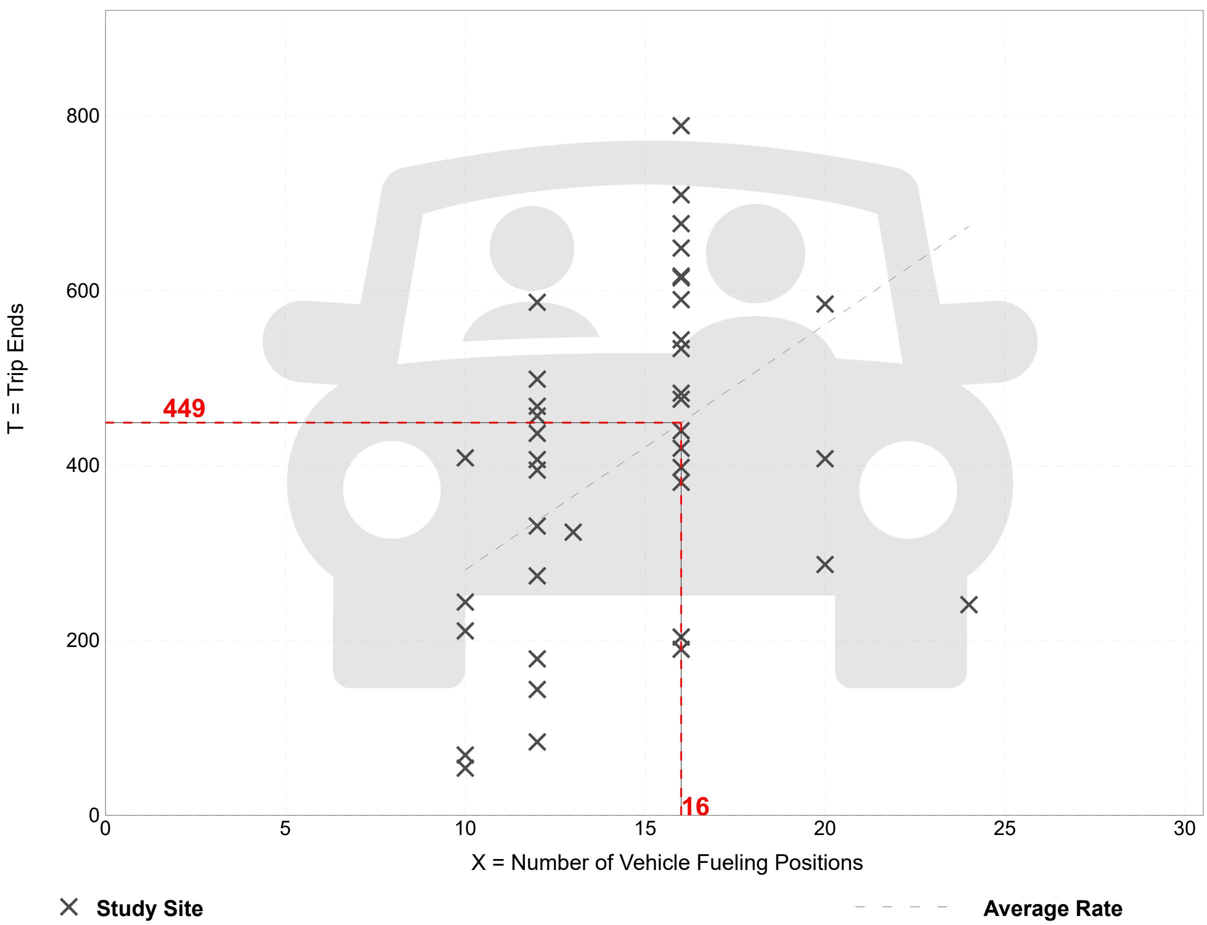
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	39
Avg. Num. of Vehicle Fueling Positions:	14
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
28.08	5.40 - 49.31	11.98

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

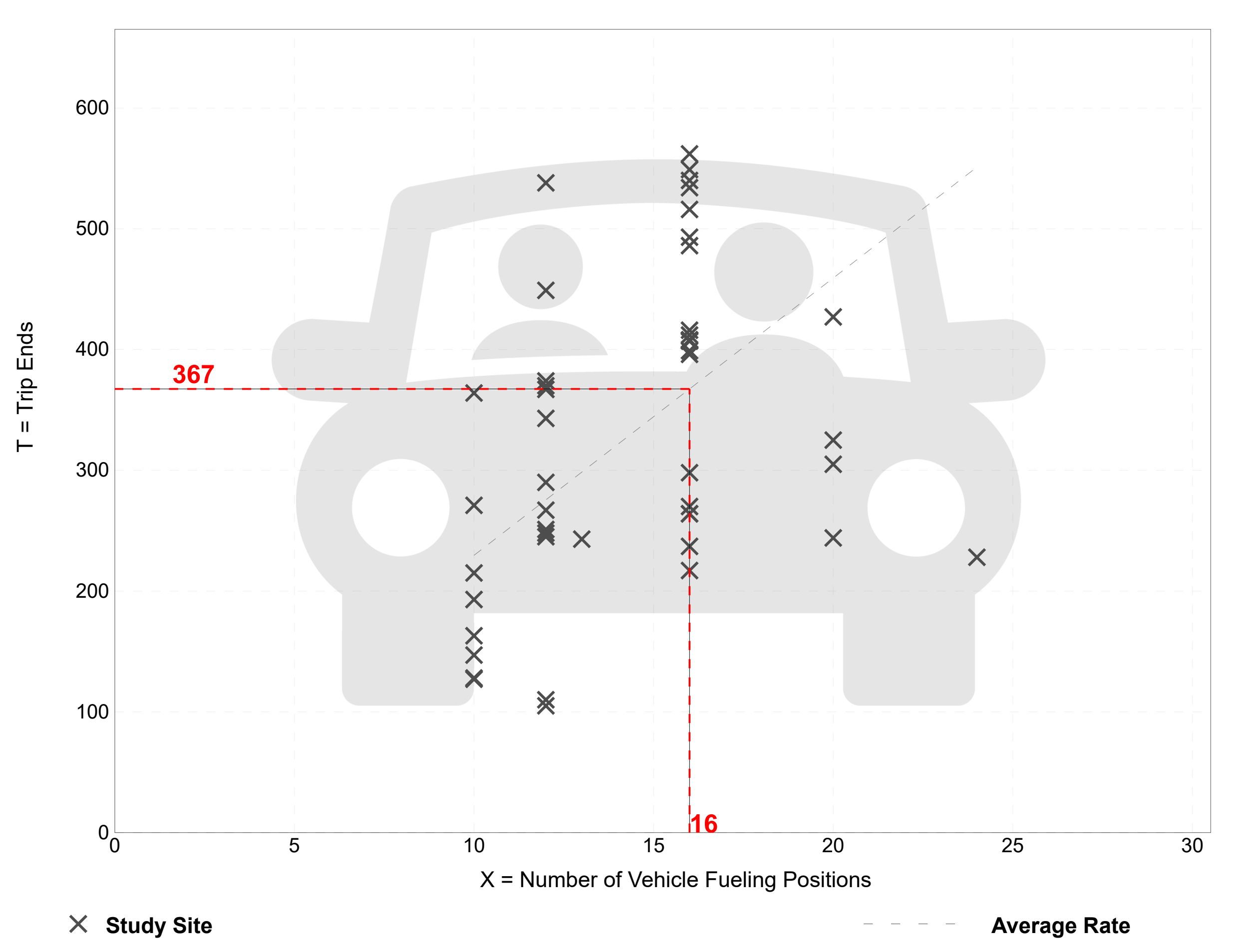
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	48
Avg. Num. of Vehicle Fueling Positions:	14
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
22.96	8.75 - 44.83	8.34

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

Trip Gen Manual, 10th Edition • Institute of Transportation Engineers

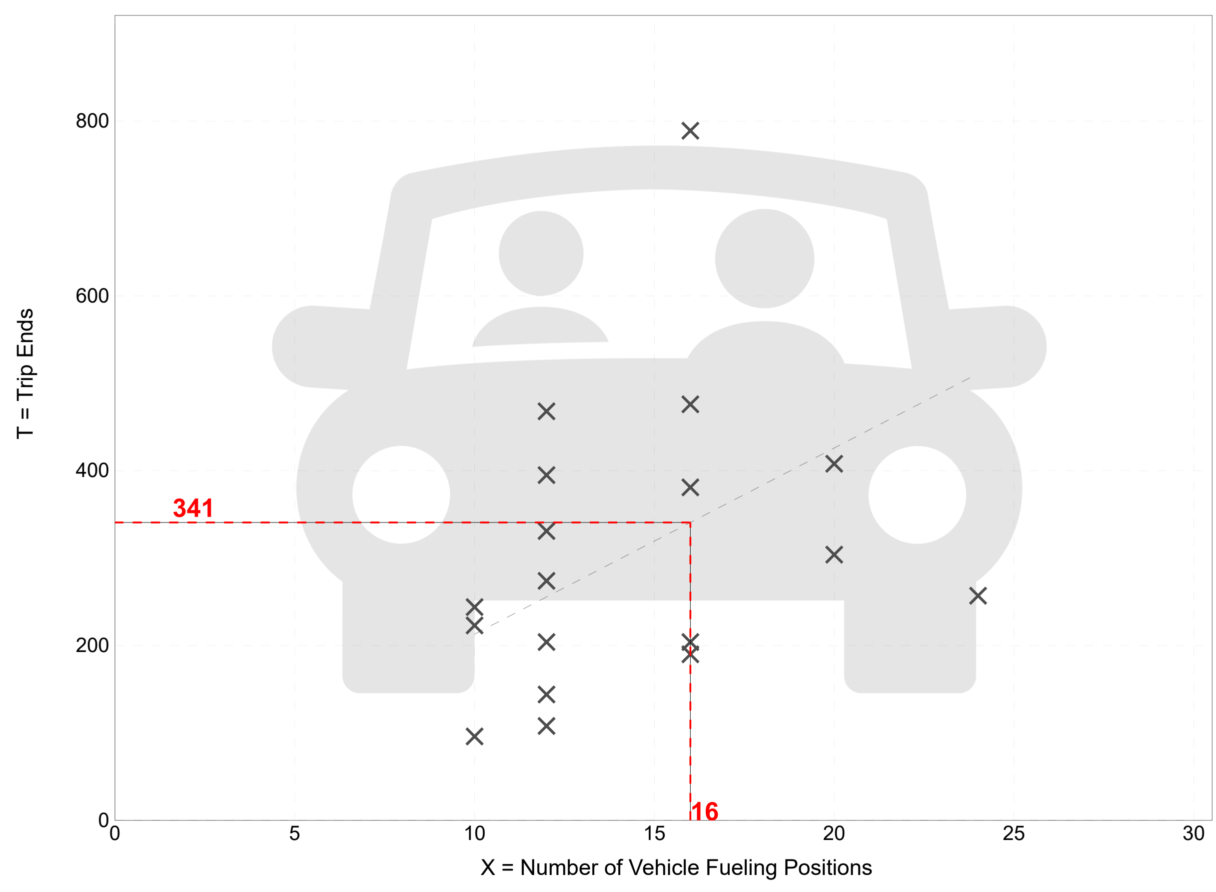
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday, AM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	18
Avg. Num. of Vehicle Fueling Positions:	14
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
21.30	9.00 - 49.31	11.15

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

Trip Gen Manual, 10th Edition • Institute of Transportation Engineers

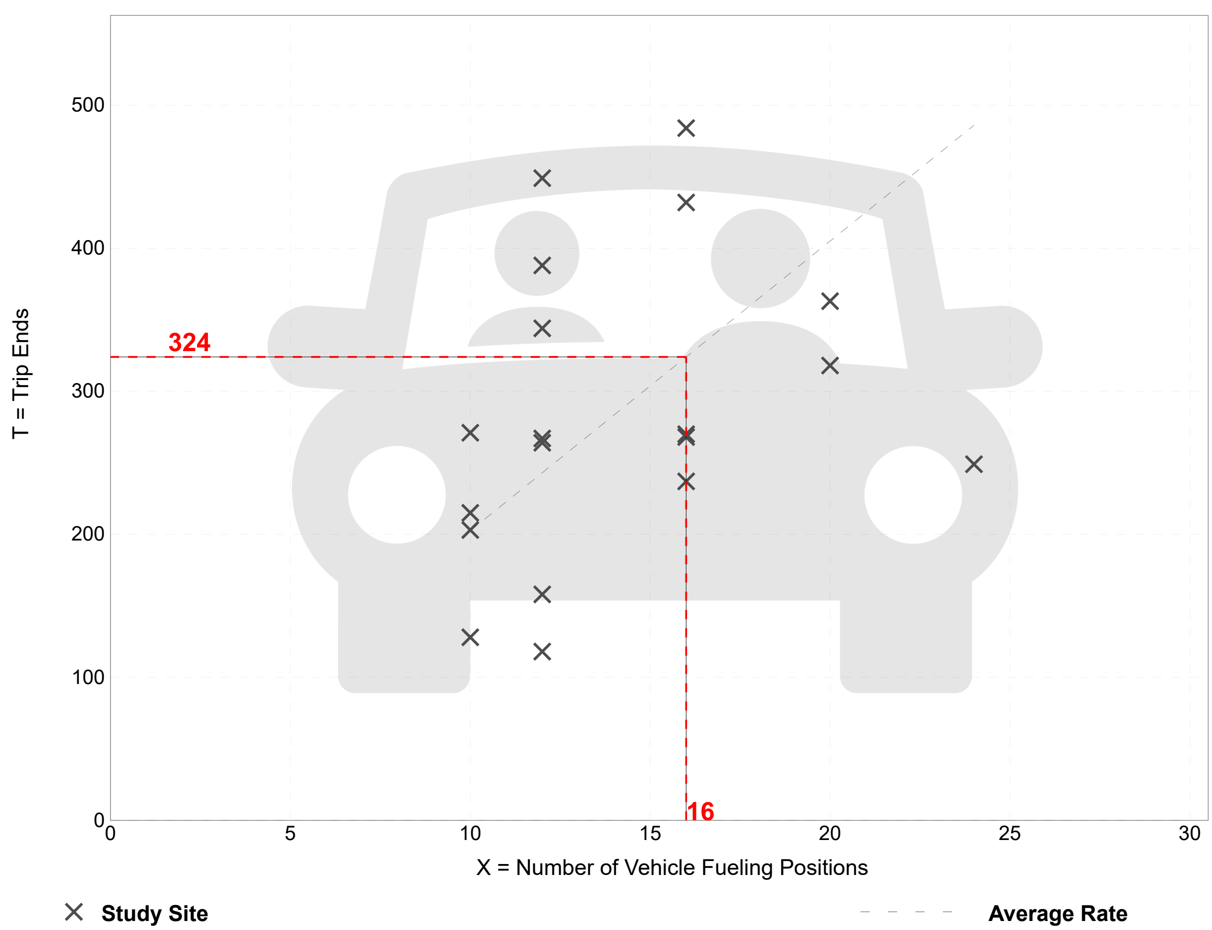
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Weekday, PM Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	19
Avg. Num. of Vehicle Fueling Positions:	14
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
20.25	9.83 - 37.42	7.73

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ****

Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

Super Convenience Market/Gas Station
(960)

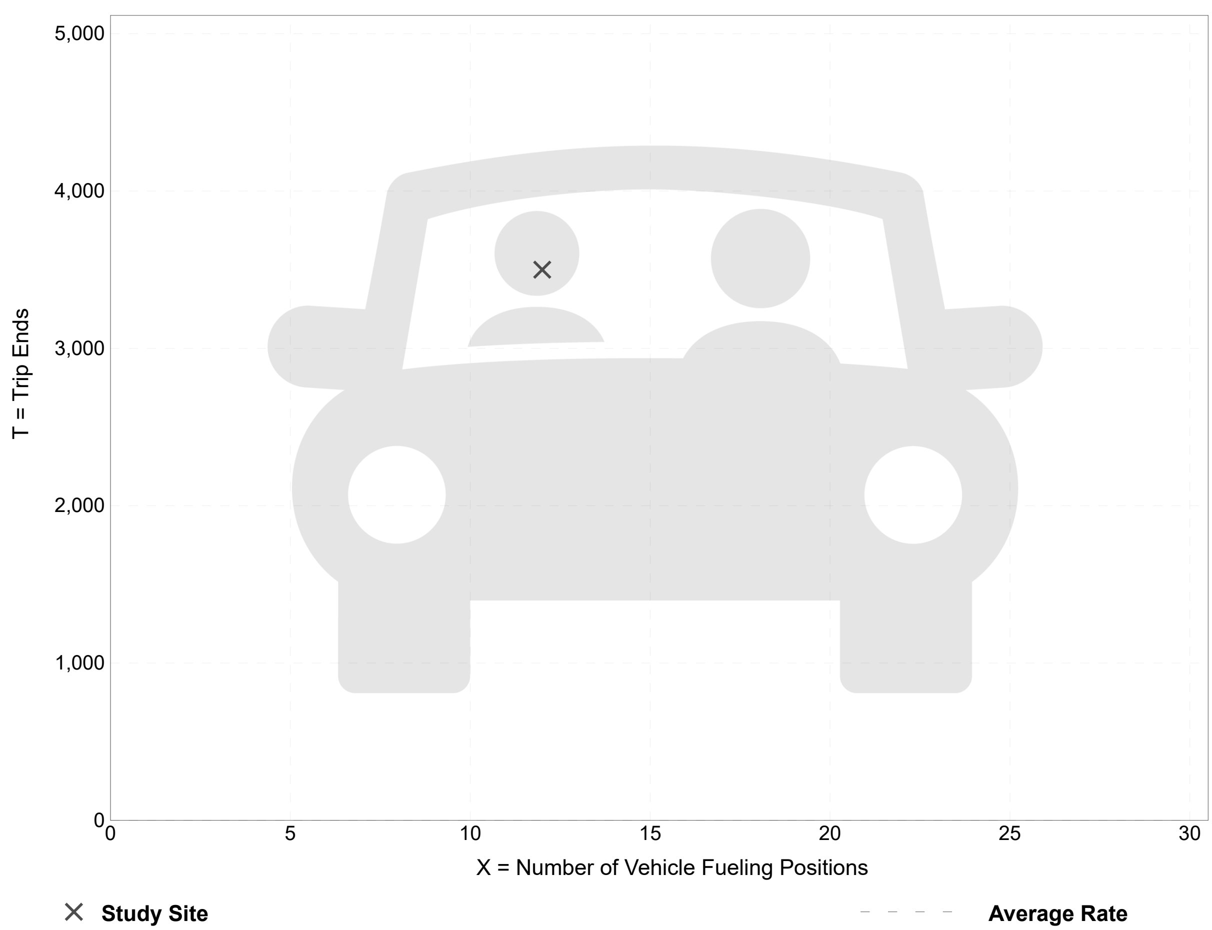
Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Saturday**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	1
Avg. Num. of Vehicle Fueling Positions:	12
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
291.67	291.67 - 291.67	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

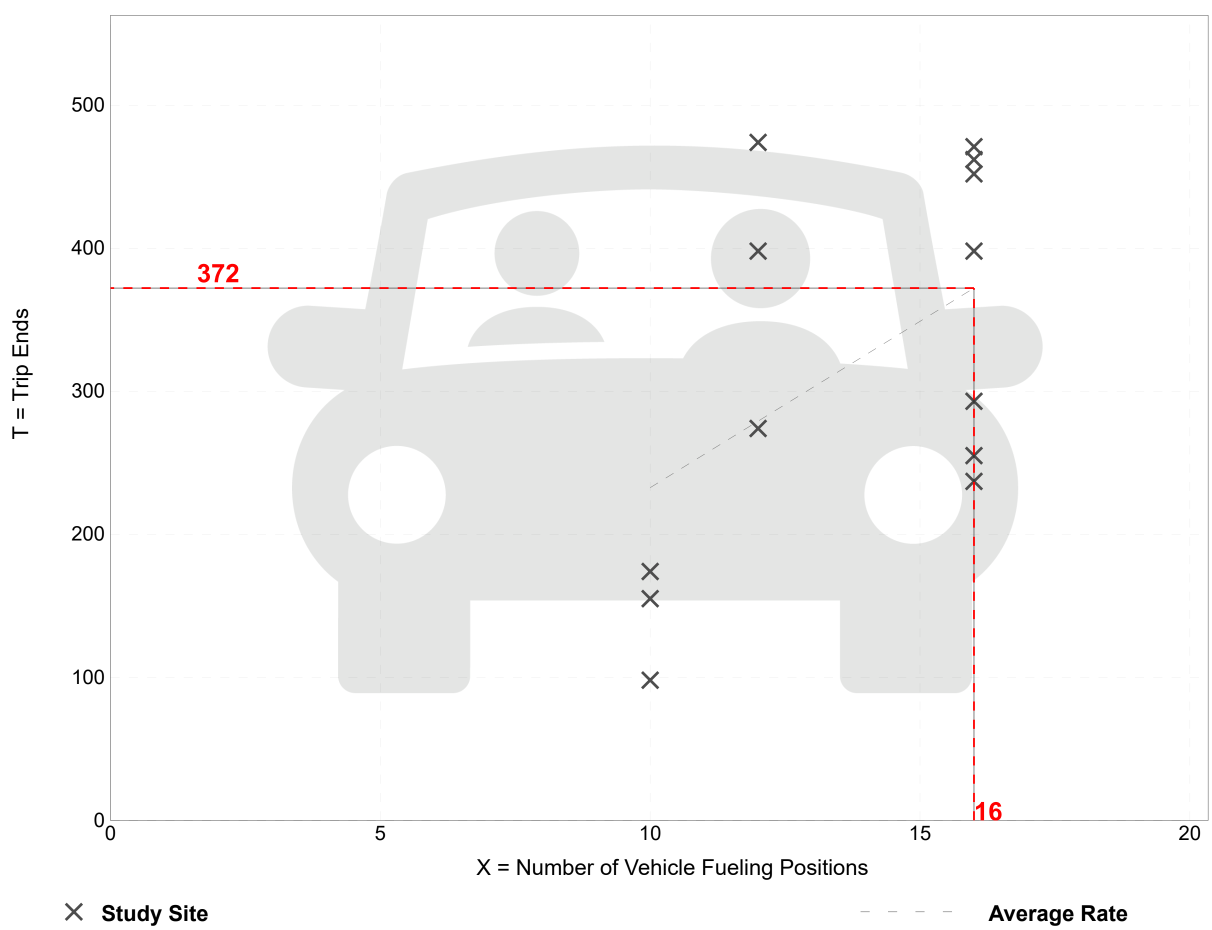
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**Vehicle Fueling Positions**
On a:	**Saturday, Peak Hour of Generator**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	13
Avg. Num. of Vehicle Fueling Positions:	14
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

Average Rate	Range of Rates	Standard Deviation
23.26	9.80 - 39.50	8.20

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ******

Trip Gen Manual, 10th Edition ● Institute of Transportation Engineers

Internal Capture

NCHRP 684 Internal Trip Capture Estimation Tool				
Project Name:	151-237 Gettysburg Pike		**Organization:**	ALPHA
Project Location:	Upper Allen Township		**Performed By:**	
Scenario Description:	South Lot Mixed Use		**Date:**	7/29/2022
Analysis Year:	2022 Opening Year		**Checked By:**	
Analysis Period:	**AM Street Peak Hour**		**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)				Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units		Total	Entering	Exiting
Office					0		
Retail	820	19,500	SF		18	11	7
Restaurant	934	7,900	SF		250	180	70
Cinema/Entertainment					0		
Residential	221	54	Units		19	5	14
Hotel					0		
All Other Land Uses[2]					0		
					287	196	91

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips				Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized		Veh. Occ.[4]	% Transit	% Non-Motorized
Office							
Retail	1.00				1.00		
Restaurant	1.00				1.00		
Cinema/Entertainment							
Residential	1.00				1.00		
Hotel							
All Other Land Uses[2]							

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	0	0
Restaurant	0	1		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	3	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	287	196	91
Internal Capture Percentage	3%	3%	5%
External Vehicle-Trips[5]	277	191	86
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	9%	14%
Restaurant	2%	1%
Cinema/Entertainment	N/A	N/A
Residential	0%	21%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
[6]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	151-237 Gettysburg Pike
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips				Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0		1.00	0	0
Retail	1.00	11	11		1.00	7	7
Restaurant	1.00	180	180		1.00	70	70
Cinema/Entertainment	1.00	0	0		1.00	0	0
Residential	1.00	5	5		1.00	14	14
Hotel	1.00	0	0		1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	2		1	0	1	0
Restaurant	22	10		0	3	2
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	3	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	41	0	0	0
Retail	0		90	0	0	0
Restaurant	0	1		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	36	0		0
Hotel	0	0	11	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	1	10	11		10	0	0
Restaurant	4	176	180		176	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	0	5	5		5	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses[3]	0	0	0		0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	1	6	7		6	0	0
Restaurant	1	69	70		69	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	3	11	14		11	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses[3]	0	0	0		0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
[2]Person-Trips
[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	151-237 Gettysburg Pike	**Organization:**	ALPHA
Project Location:	Upper Allen Township	**Performed By:**	
Scenario Description:	South Lot Mixed Use	**Date:**	7/29/2022
Analysis Year:	2022 Opening Year	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	19,500	SF	74	36	38
Restaurant	934	7,900	SF	261	136	125
Cinema/Entertainment				0		
Residential	221	54	Units	24	14	10
Hotel				0		
All Other Land Uses[2]				0		
				359	186	173

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail	1.00			1.00		
Restaurant	1.00			1.00		
Cinema/Entertainment						
Residential	1.00			1.00		
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail					50	
Restaurant					350	
Cinema/Entertainment						
Residential		50	350			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		11	0	6	0
Restaurant	0	18		0	2	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	2	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	359	186	173
Internal Capture Percentage	24%	23%	25%
External Vehicle-Trips[5]	273	143	130
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	61%	45%
Restaurant	10%	16%
Cinema/Entertainment	N/A	N/A
Residential	57%	60%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	151-237 Gettysburg Pike
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips				Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*		Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0		1.00	0	0
Retail	1.00	36	36		1.00	38	38
Restaurant	1.00	136	136		1.00	125	125
Cinema/Entertainment	1.00	0	0		1.00	0	0
Residential	1.00	14	14		1.00	10	10
Hotel	1.00	0	0		1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	1		11	2	10	2
Restaurant	4	51		10	23	9
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	2	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	3	0	1	0
Retail	0		39	0	6	0
Restaurant	0	18		0	2	0
Cinema/Entertainment	0	1	4		1	0
Residential	0	4	18	0		0
Hotel	0	1	7	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	22	14	36		14	0	0
Restaurant	13	123	136		123	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	8	6	14		6	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses[3]	0	0	0		0	0	0

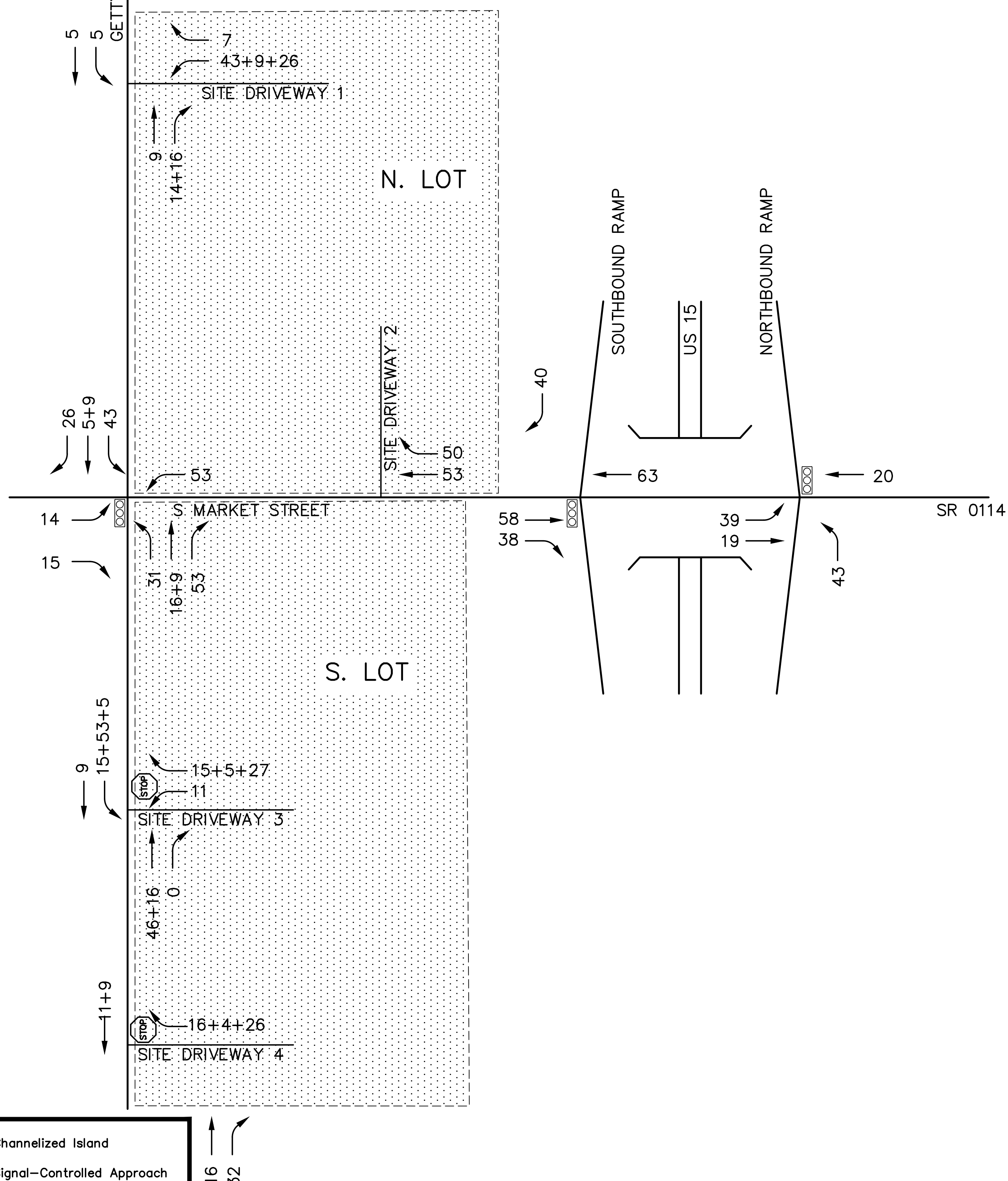
Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates				External Trips by Mode*		
	Internal	External	Total		Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0		0	0	0
Retail	17	21	38		21	0	0
Restaurant	20	105	125		105	0	0
Cinema/Entertainment	0	0	0		0	0	0
Residential	6	4	10		4	0	0
Hotel	0	0	0		0	0	0
All Other Land Uses[3]	0	0	0		0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
[2]Person-Trips
[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

Figure 4

PRIMARY TRIPS		N.LOT	S.LOT
TOTAL ENTER	190	85	105
TOTAL EXIT	189	85	104
TOTAL	379	170	209



= Channelized Island
= Signal–Controlled Approach
= Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

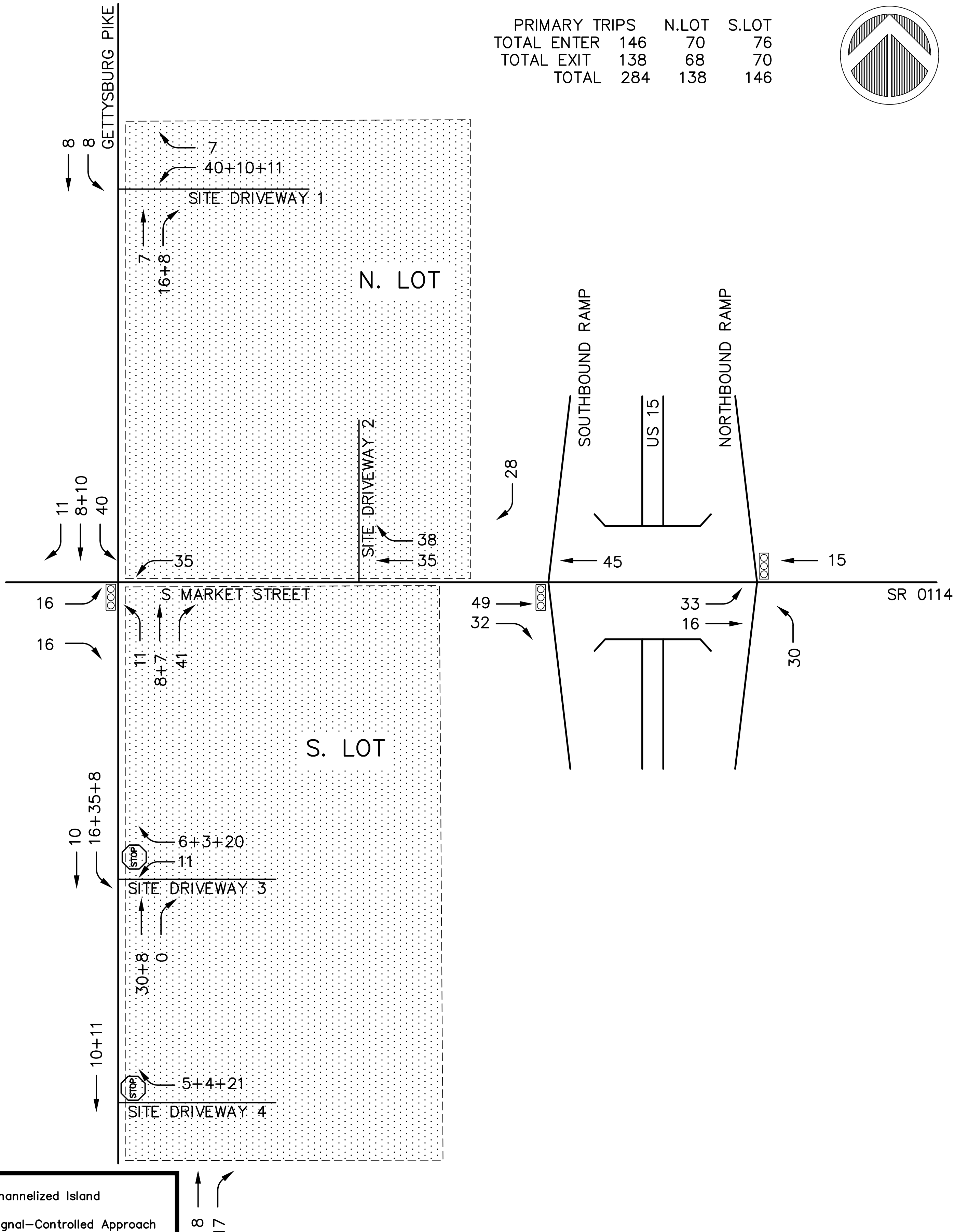
151 – 237 GETTYSBURG PIKE

ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 4 OF 18

2022 AND 2027 BUILD
DISTRIBUTION/ASSIGN. AM PRIMARY TRIPS

PRIMARY TRIPS		N.LOT	S.LOT
TOTAL ENTER	146	70	76
TOTAL EXIT	138	68	70
TOTAL	284	138	146



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

151 – 237 GETTYSBURG PIKE

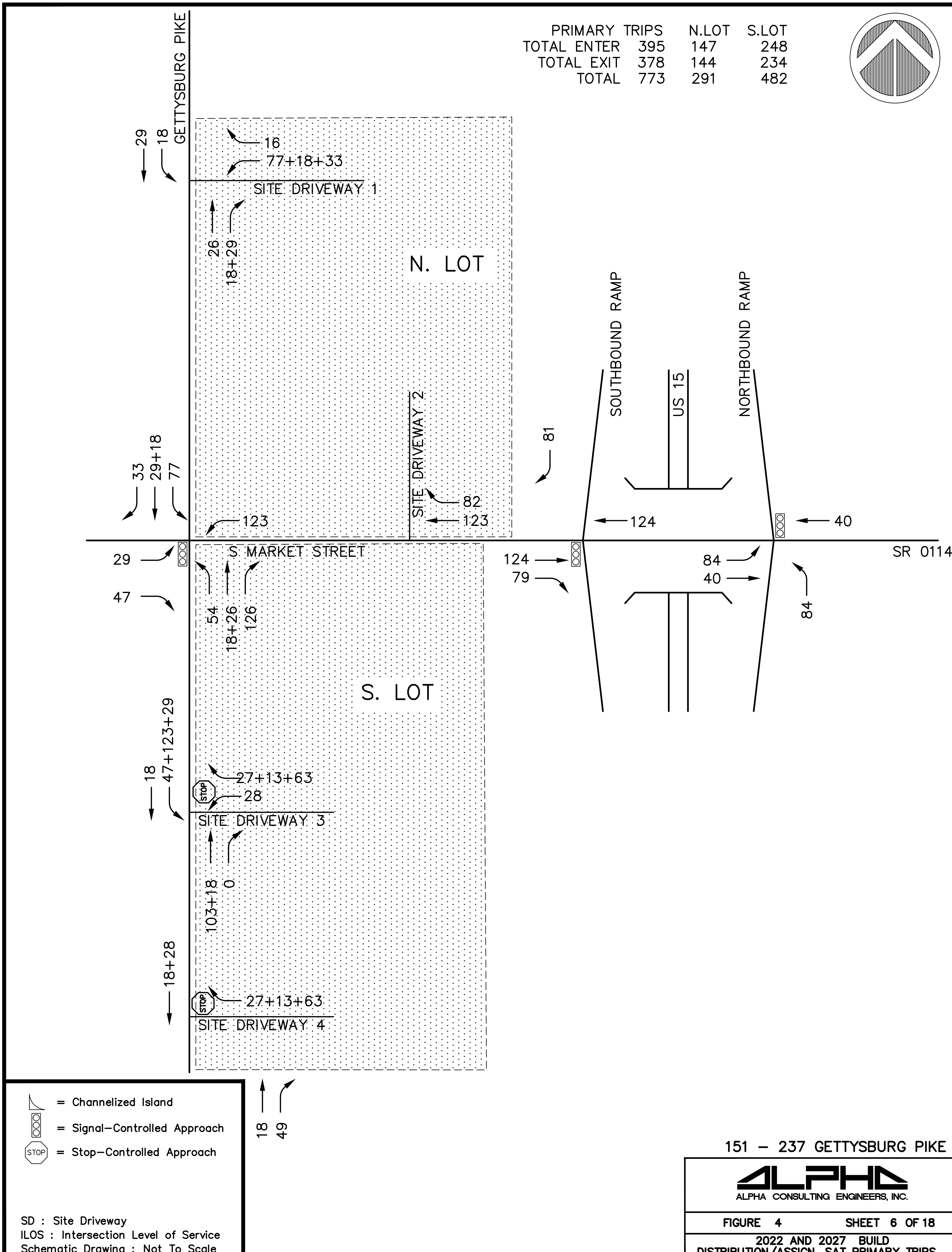
ALPHA

ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 5 OF 18

2022 AND 2027 BUILD
DISTRIBUTION/ASSIGN. PM PRIMARY TRIPS

PRIMARY TRIPS		N.LOT	S.LOT
TOTAL ENTER	395	147	248
TOTAL EXIT	378	144	234
TOTAL	773	291	482

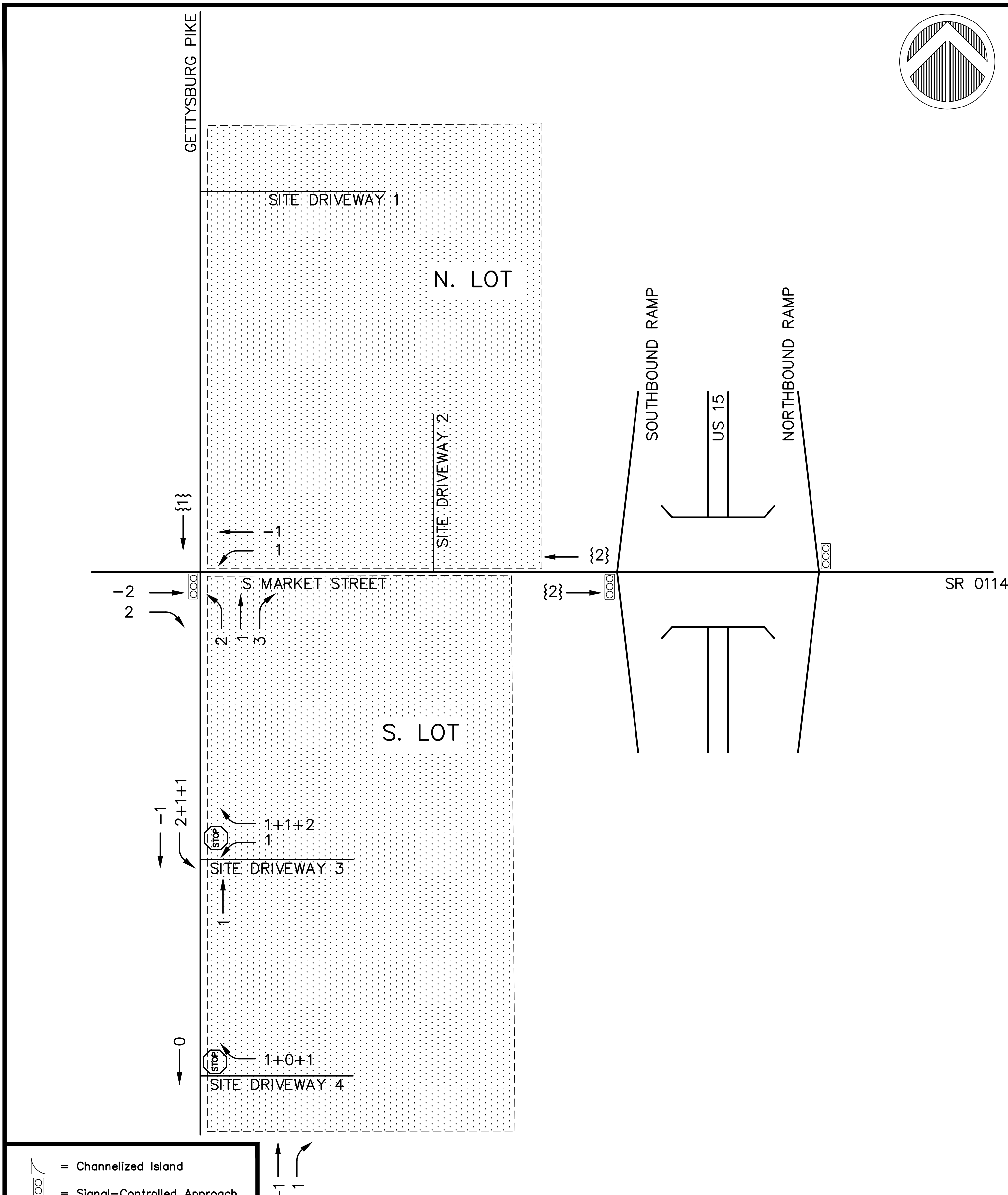


151 – 237 GETTYSBURG PIKE

ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 6 OF 18

2022 AND 2027 BUILD DISTRIBUTION/ASSIGN. SAT PRIMARY TRIPS



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

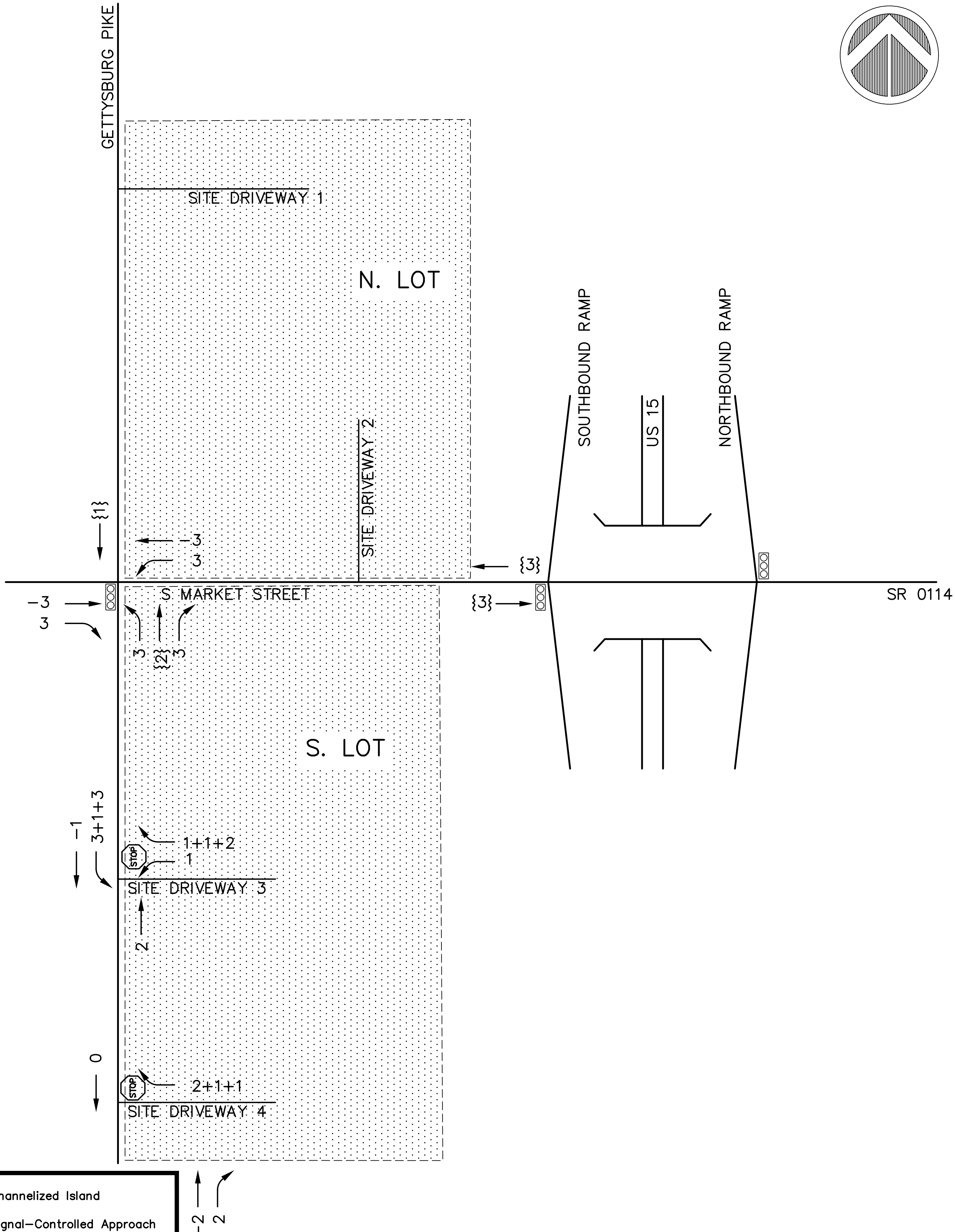
Estimated Entering Trips 5 PM
Estimated Exiting Trips 7 PM
Bypass trips per. ITE Trip Generation Handbook, 3rd Edition
PM 34% (Table E. 9), Saturday 26% (Table E. 10)

151 – 237 GETTYSBURG PIKE

ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 7 OF 18

PM PASS BY TRIPS
LUC 820 SHOPPING CENTER



= Channelized Island

= Signal–Controlled Approach

= Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

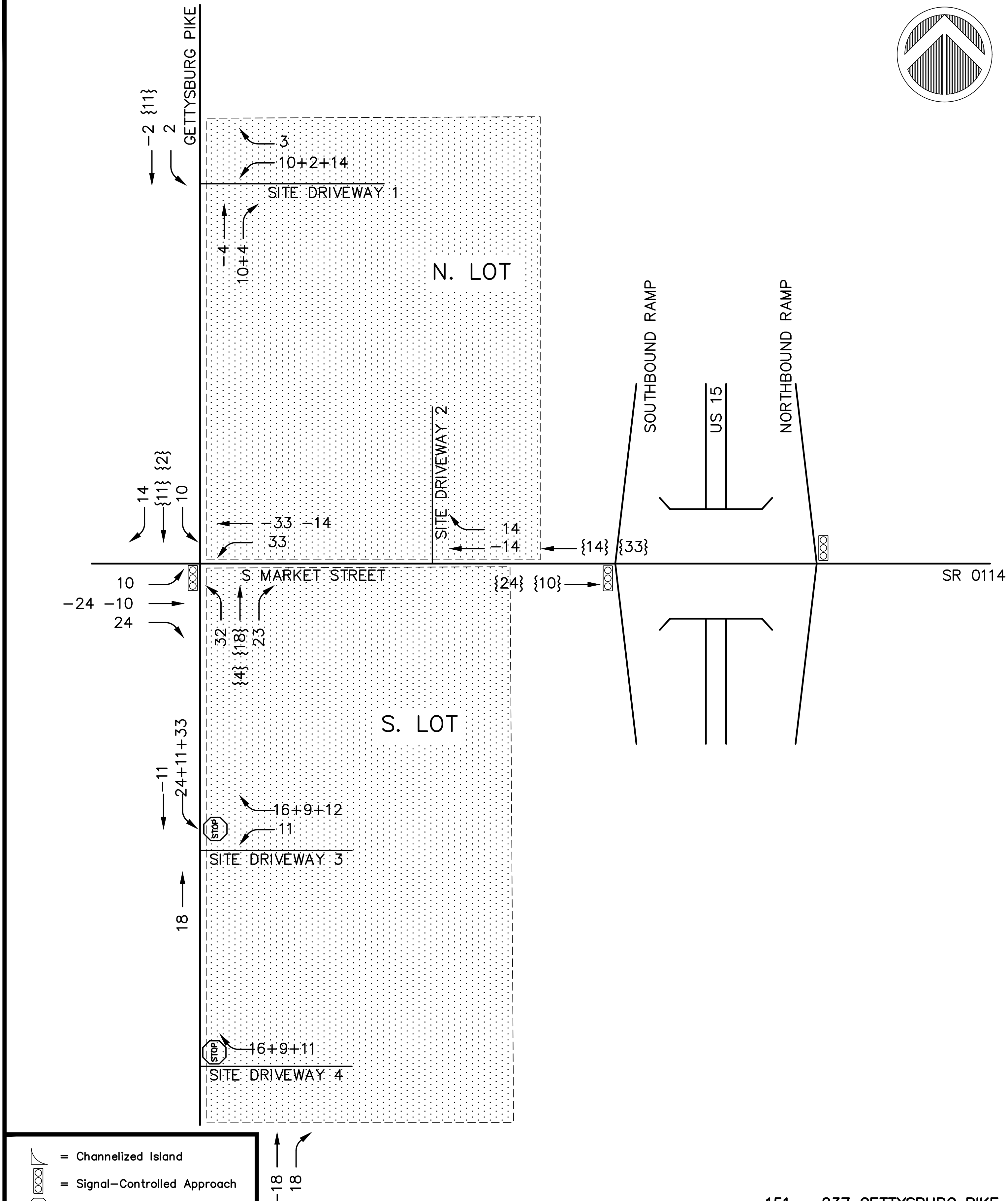
Estimated Entering Trips 9 Saturday
Estimated Exiting Trips 9 Saturday
Bypass trips per. ITE Trip Generation Handbook, 3rd Edition
PM 34% (Table E. 9), Saturday 26% (Table E. 10)

151 – 237 GETTYSBURG PIKE

ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 8 OF 18

SAT PASS BY TRIPS
LUC 820 SHOPPING CENTER



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

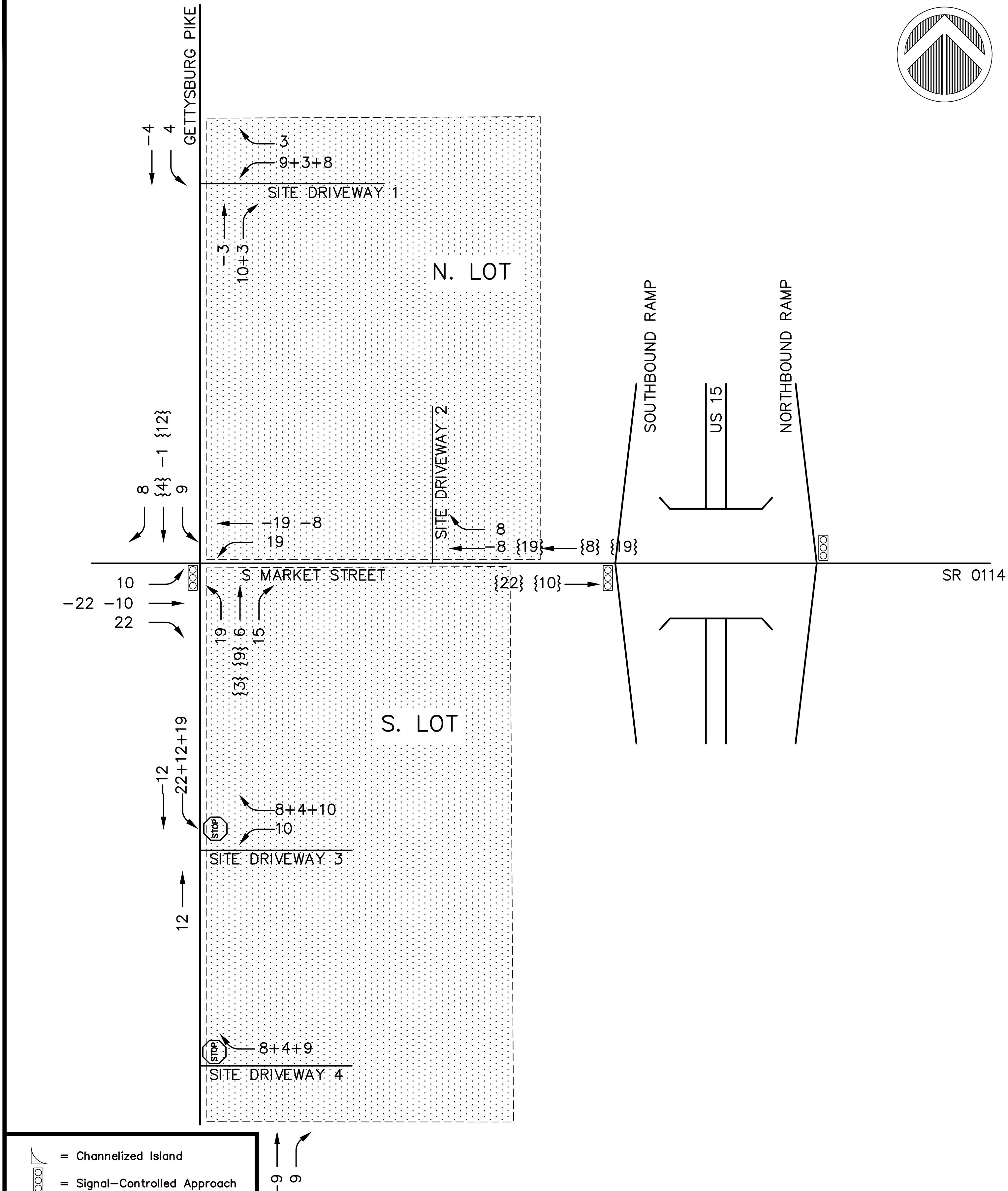
Estimated Entering Trips 116 AM
Estimated Exiting Trips 113 AM
Bypass trips per. ITE Trip Generation Handbook, 3rd Edition
AM 49% (Table E. 31), PM 50% (Table E. 32)

151 – 237 GETTYSBURG PIKE

ALPHA
ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 9 OF 18

AM PASS BY TRIPS
LUC 934 RESTAURANT



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

Estimated Entering Trips 87 PM
Estimated Exiting Trips 76 PM
Bypass trips per. ITE Trip Generation Handbook, 3rd Edition
AM 49% (Table E. 31), PM 50% (Table E. 32)

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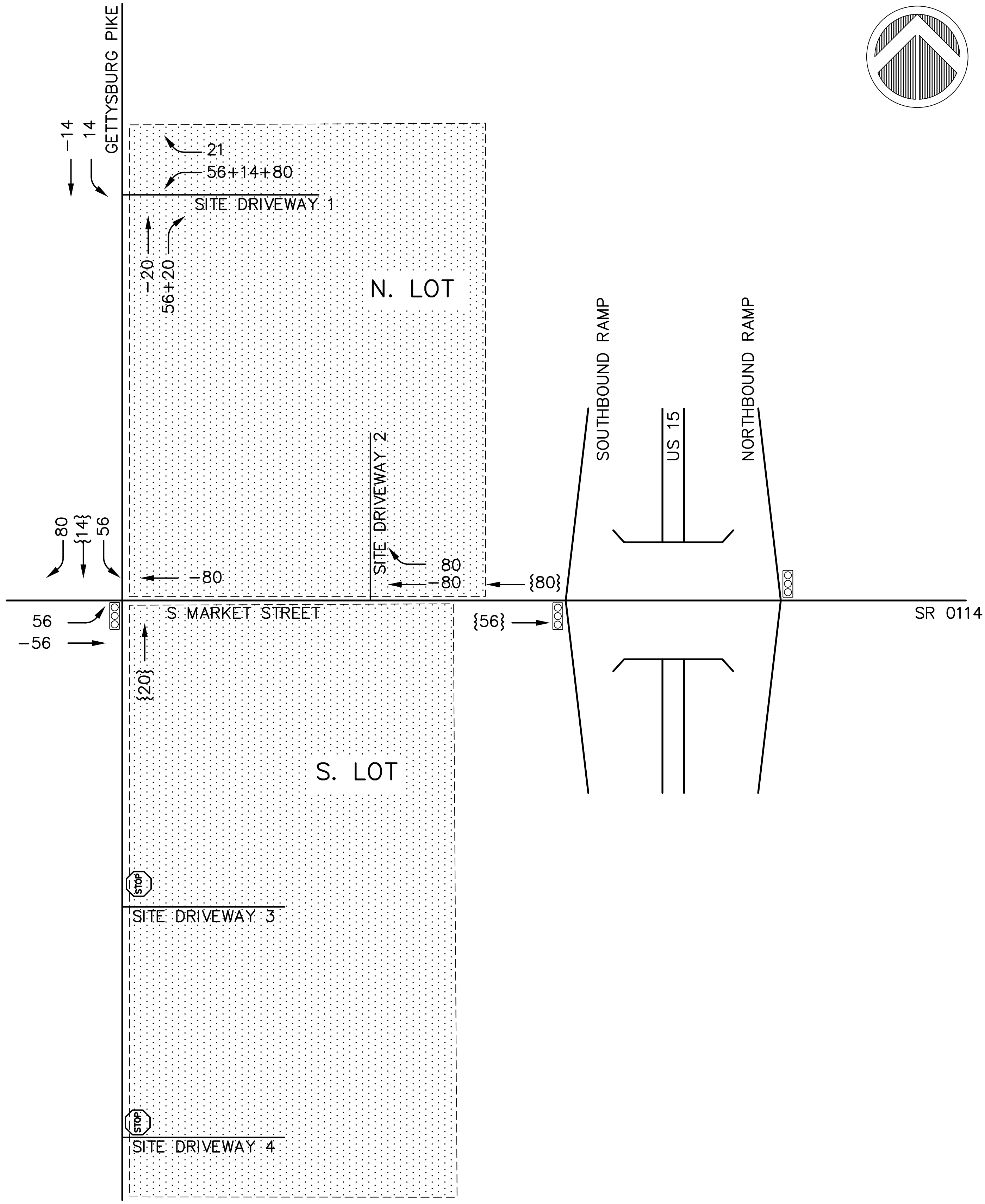
FIGURE 4 SHEET 10 OF 18

PM PASS BY TRIPS
LUC 934 RESTAURANT



= Channelized Island
= Signal–Controlled Approach
STOP = Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

Estimated Entering Trips 170 AM
Estimated Exiting Trips 171 AM
Bypass trips per. ITE 2017 Trip Generation Vol. 3 Handbook
Application E RP–028D Errata
AM 76% (Table E. 39), PM 76% (Table E. 40)

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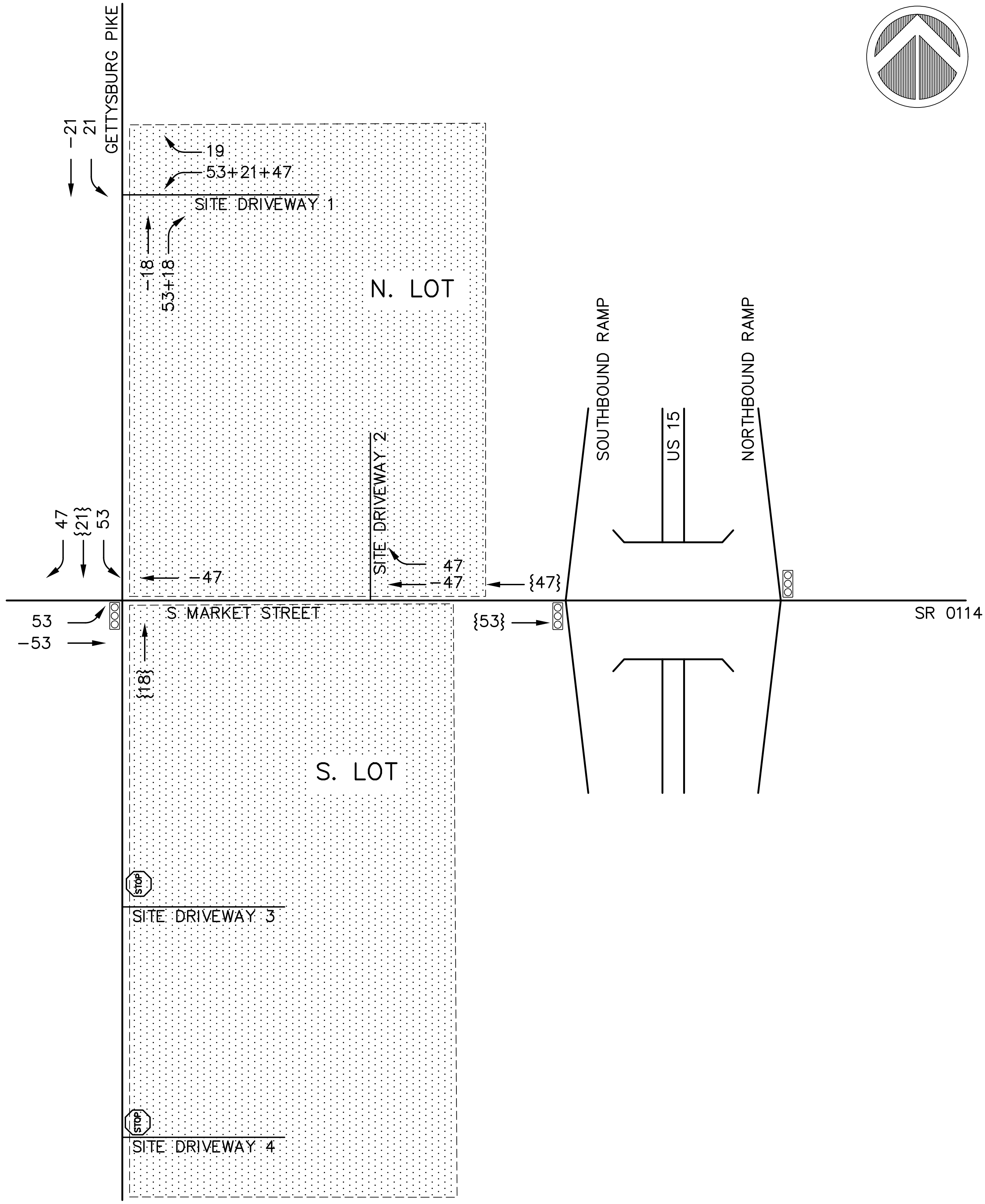
FIGURE 4 SHEET 11 OF 18

AM PASS BY TRIPS
LUC 960 SUPER CONVENIENCE MARKET



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

Estimated Entering Trips 139 PM
Estimated Exiting Trips 140 PM
Bypass trips per. ITE 2017 Trip Generation Vol. 3 Handbook
Application E RP–028D Errata
AM 76% (Table E. 39), PM 76% (Table E. 40)

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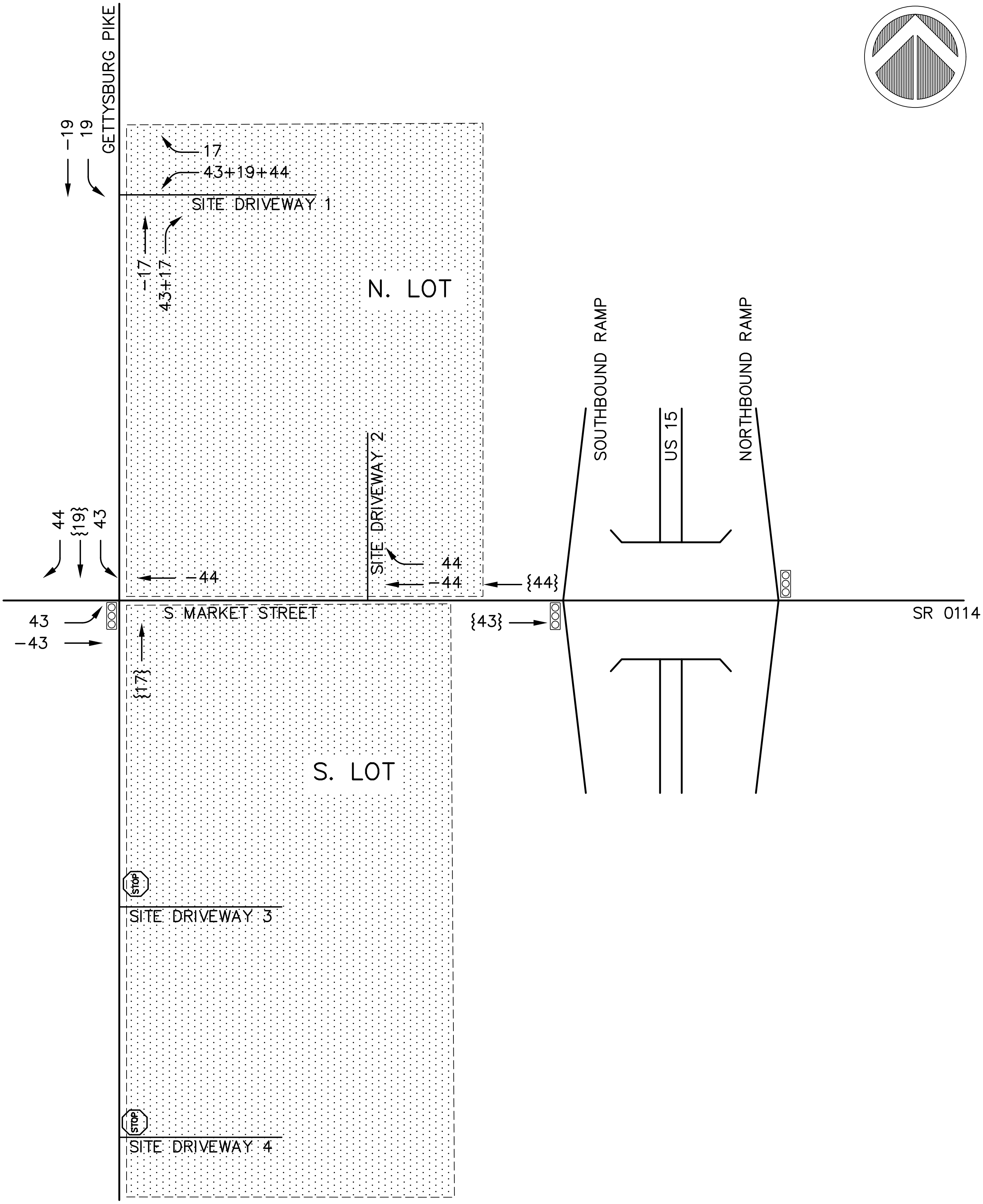
ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4 SHEET 12 OF 18

PM PASS BY TRIPS
LUC 960 SUPER CONVENIENCE MARKET



= Channelized Island
= Signal–Controlled Approach
STOP = Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

Estimated Entering Trips 123 SAT
Estimated Exiting Trips 123 SAT
Bypass trips per. PennDOT, 10% less than PM Peak Hour or 66%, PM 76% (Table E. 40)

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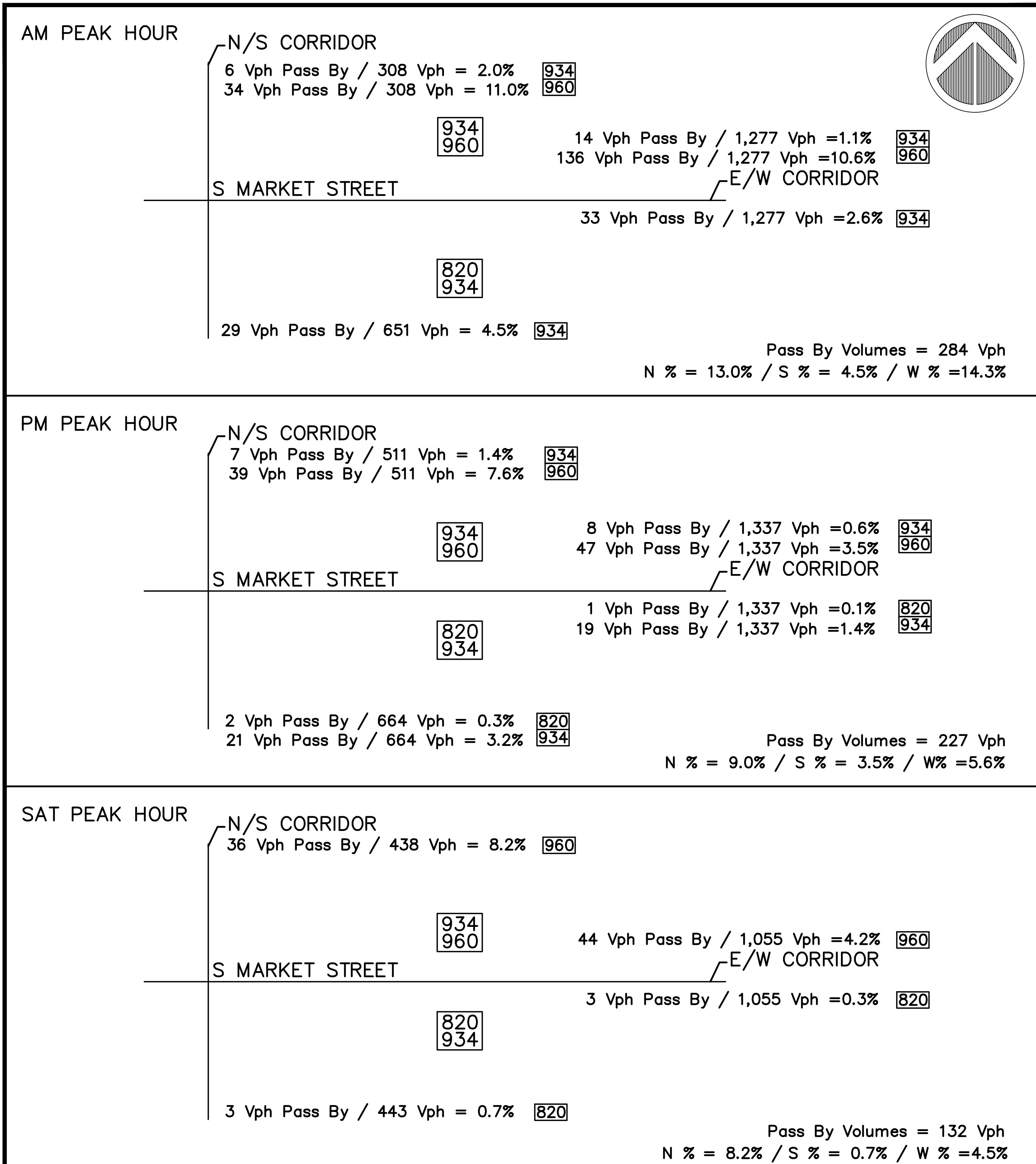
FIGURE 4 SHEET 13 OF 18

SAT PASS BY TRIPS
LUC 960 SUPER CONVENIENCE MARKET



= Channelized Island
= Signal–Controlled Approach
= Stop–Controlled Approach

{#} = Within Existing Traffic Stream
SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

Land Use Code

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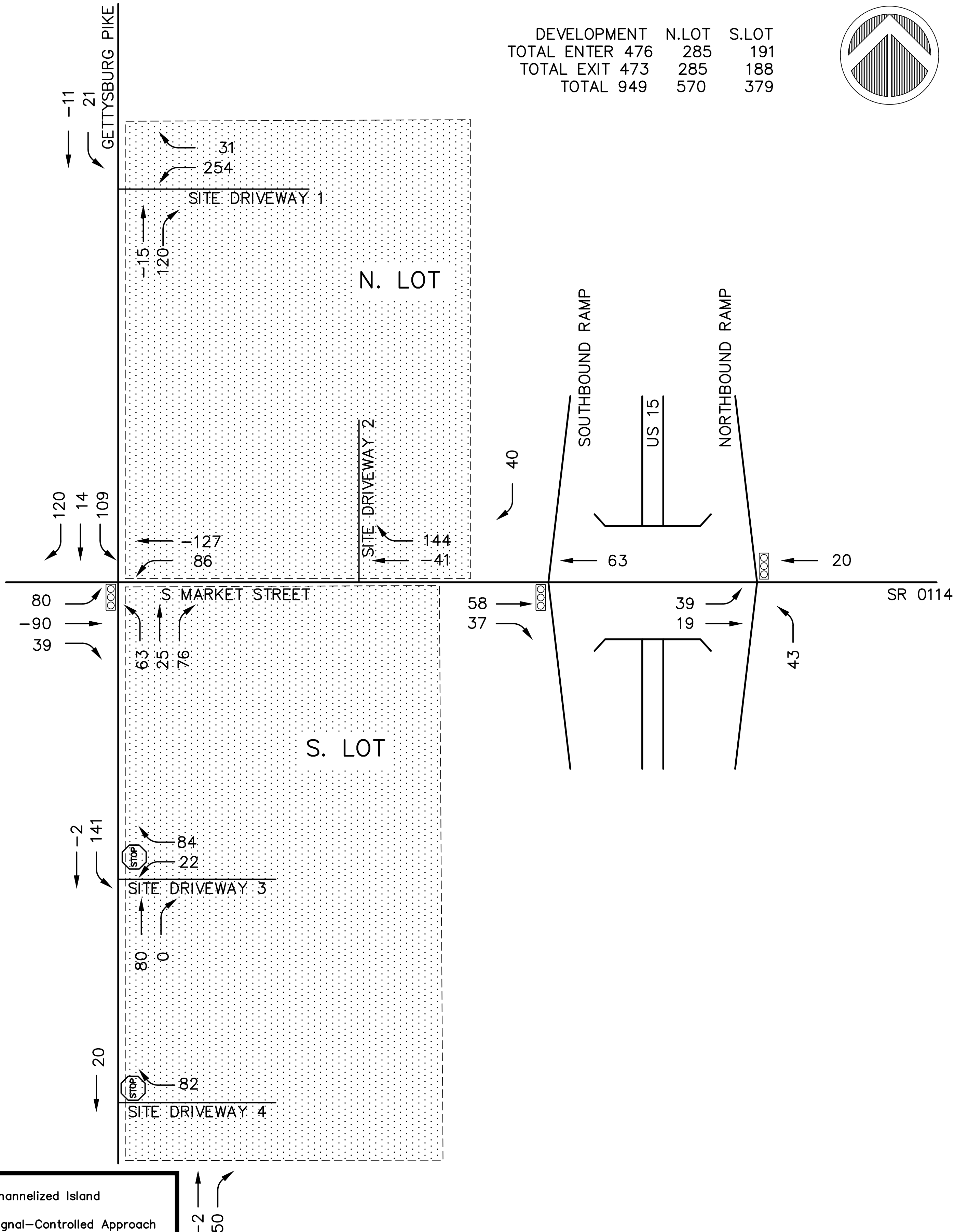
FIGURE 4 SHEET 14 OF 18

PASS BY VOLUMES AS A PERCENTAGE OF EXISTING CORRIDOR VOLUMES



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

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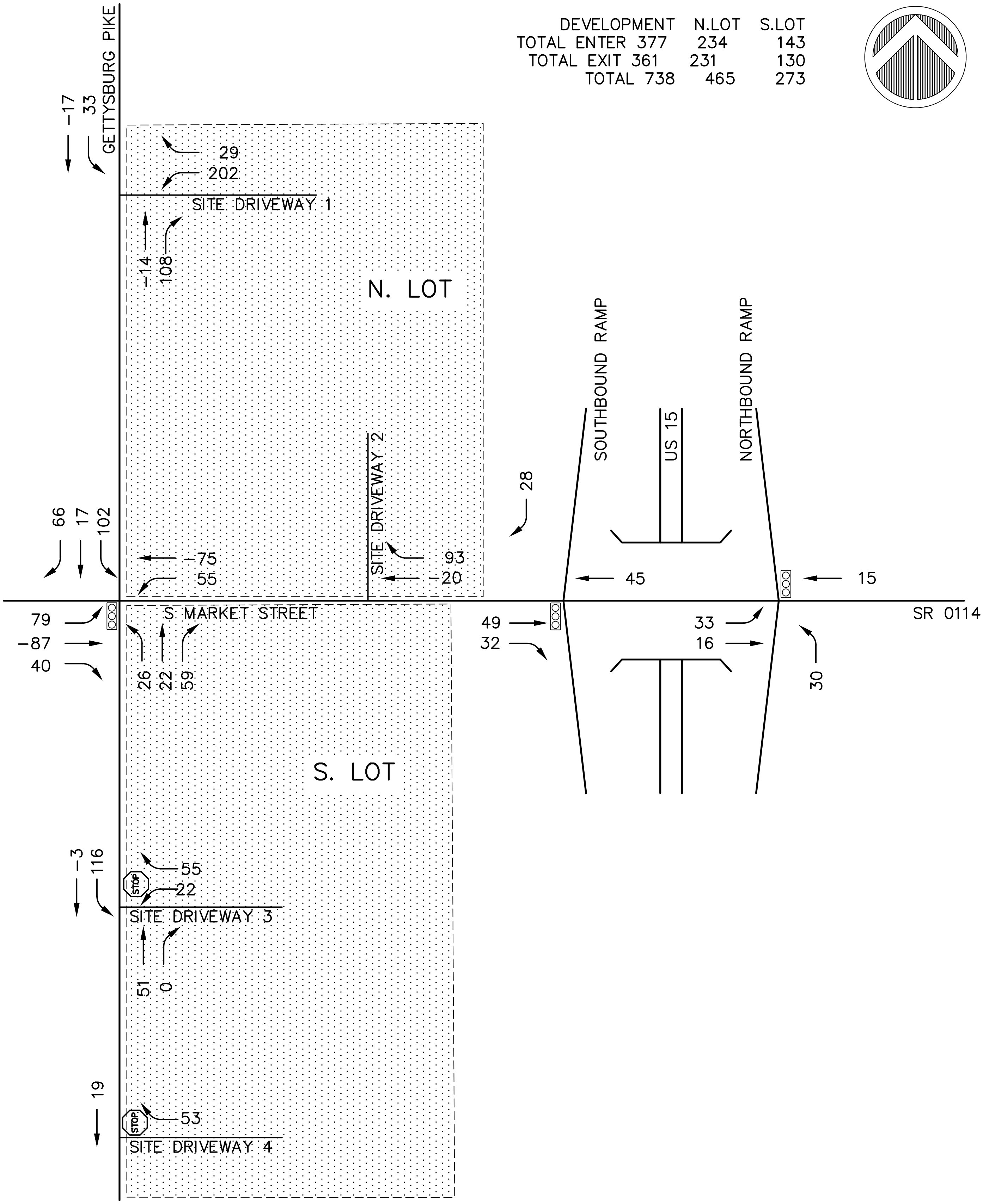
FIGURE 4 SHEET 15 OF 18

2022 AND 2027 BUILD AM PEAK HOUR
DISTRIBUTION/ASSIGN. TOTAL DEV. TRIPS

DEVELOPMENT		N.LOT	S.LOT
TOTAL ENTER	377	234	143
TOTAL EXIT	361	231	130
TOTAL	738	465	273



= Channelized Island
= Signal–Controlled Approach
= Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

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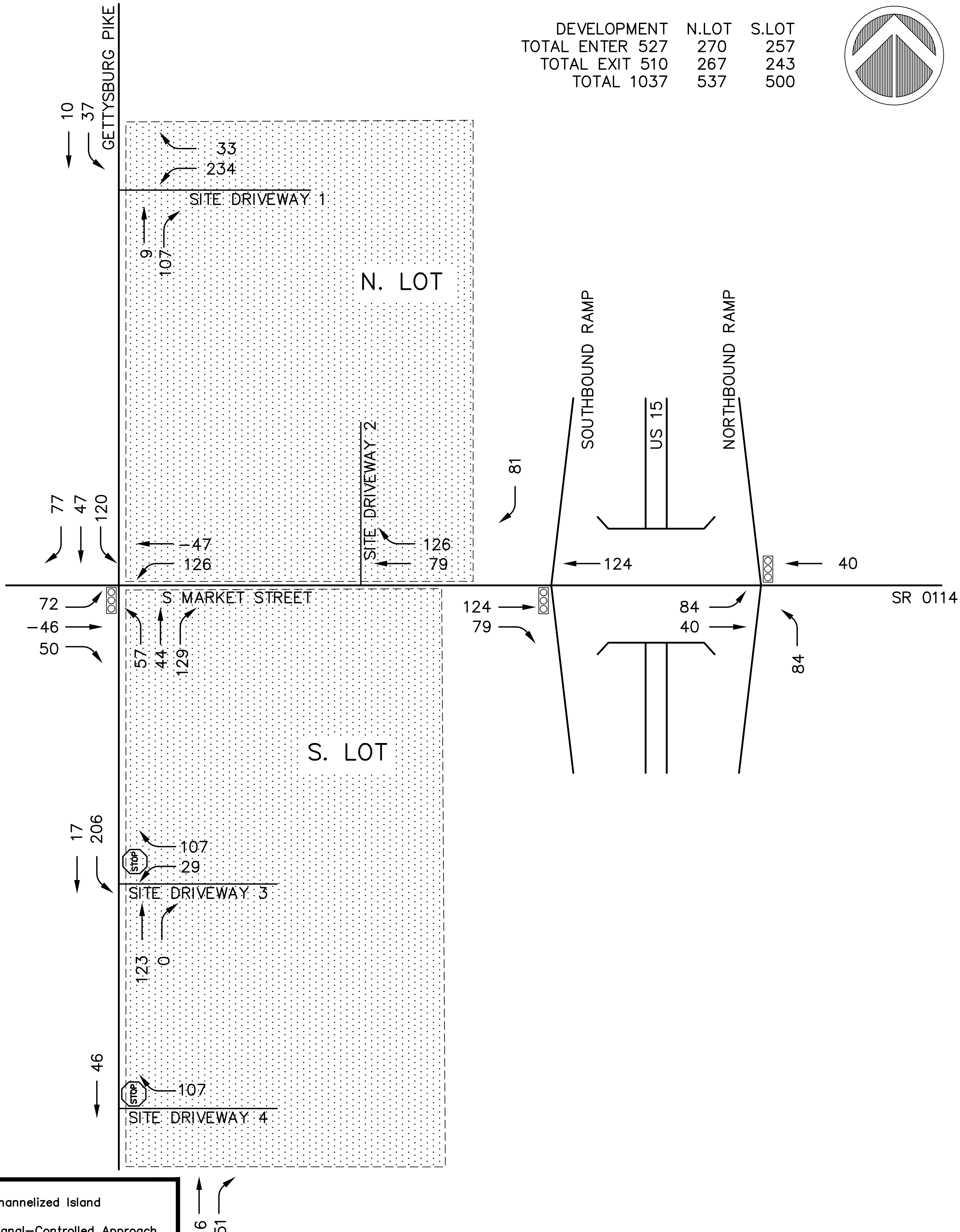
FIGURE 4 SHEET 16 OF 18

2022 AND 2027 BUILD PM PEAK HOUR DISTRIBUTION/ASSIGN. TOTAL DEV. TRIPS

DEVELOPMENT	N.LOT	S.LOT
TOTAL ENTER 527	270	257
TOTAL EXIT 510	267	243
TOTAL 1037	537	500



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

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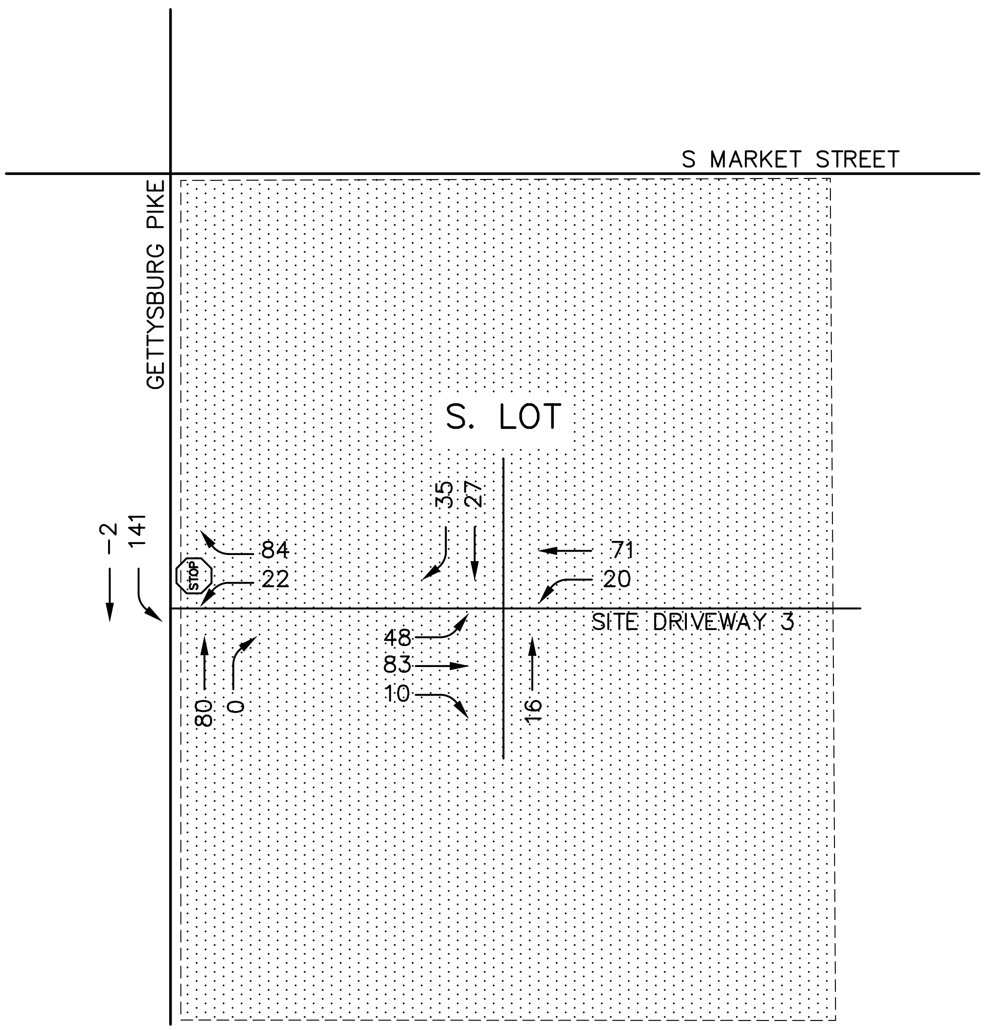
FIGURE 4 SHEET 17 OF 18

2022 AND 2027 BUILD SAT PEAK HOUR DISTRIBUTION/ASSIGN. TOTAL DEV. TRIPS

Figure 4A



= Channelized Island
= Signal–Controlled Approach
STOP = Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

151 – 237 GETTYSBURG PIKE

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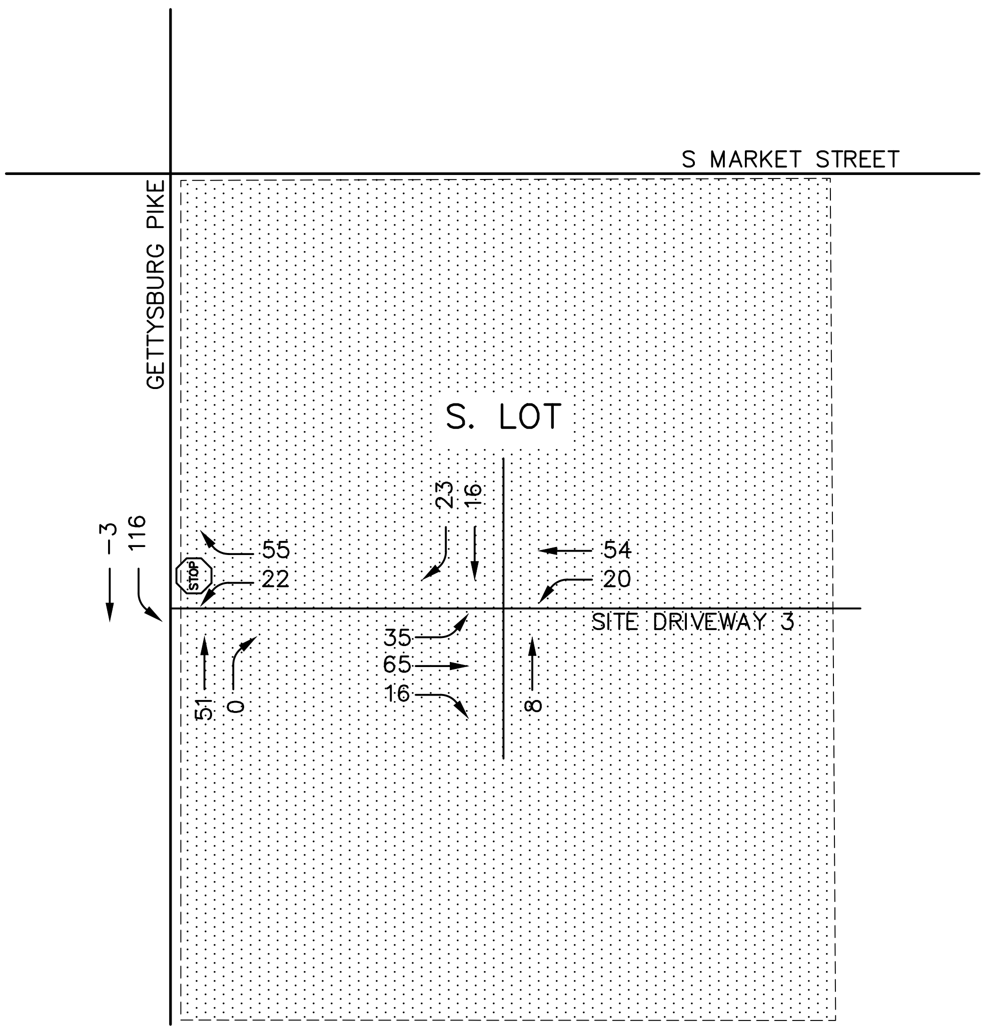
FIGURE 4A SHEET 1 OF 3

2022 AND 2027 BUILD AM PEAK HOUR
INTERNAL INTERSECTION TRIPS



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

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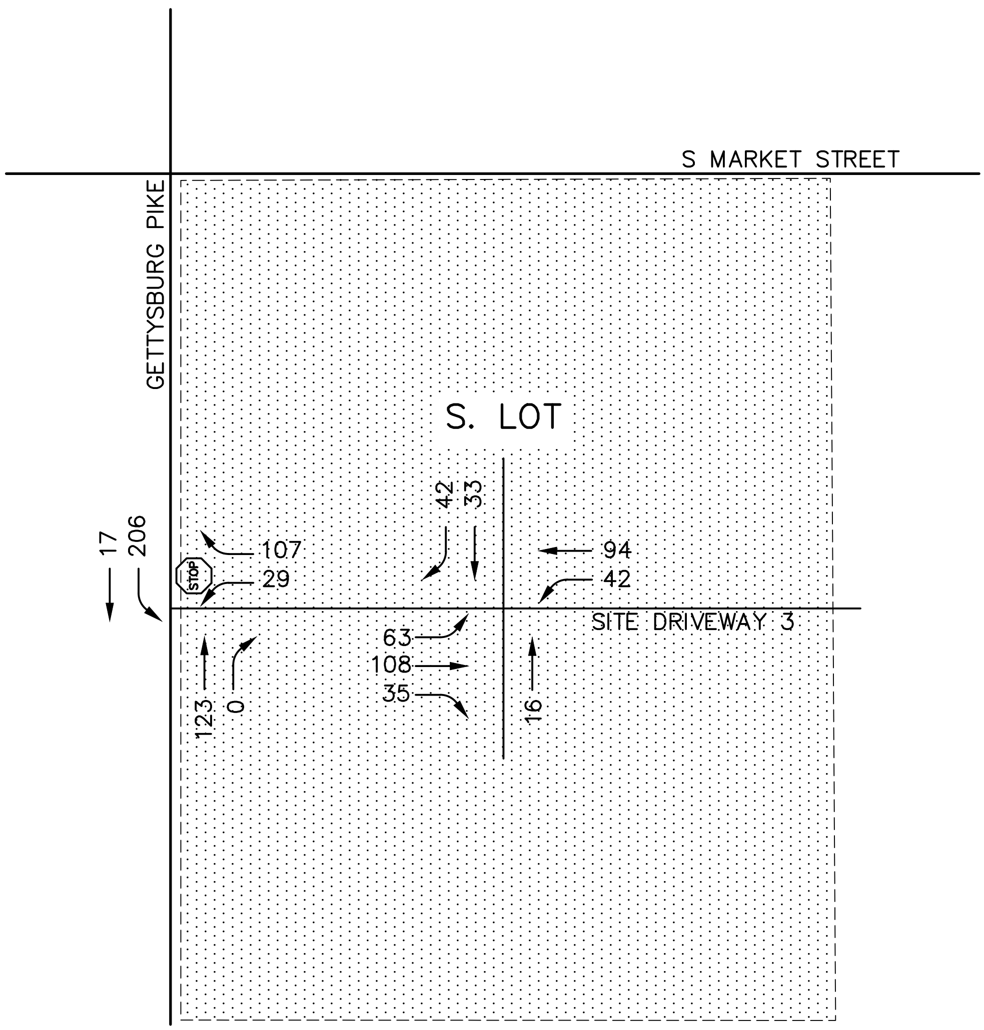
FIGURE 4A SHEET 2 OF 3

2022 AND 2027 BUILD PM PEAK HOUR INTERNAL INTERSECTION TRIPS



= Channelized Island

= Signal–Controlled Approach

STOP = Stop–Controlled Approach

SD : Site Driveway
ILOS : Intersection Level of Service
Schematic Drawing : Not To Scale

151 – 237 GETTYSBURG PIKE

ALPHA CONSULTING ENGINEERS, INC.

FIGURE 4A SHEET 3 OF 3

2022 AND 2027 BUILD SAT PEAK HOUR
INTERNAL INTERSECTION TRIPS

Figure 6

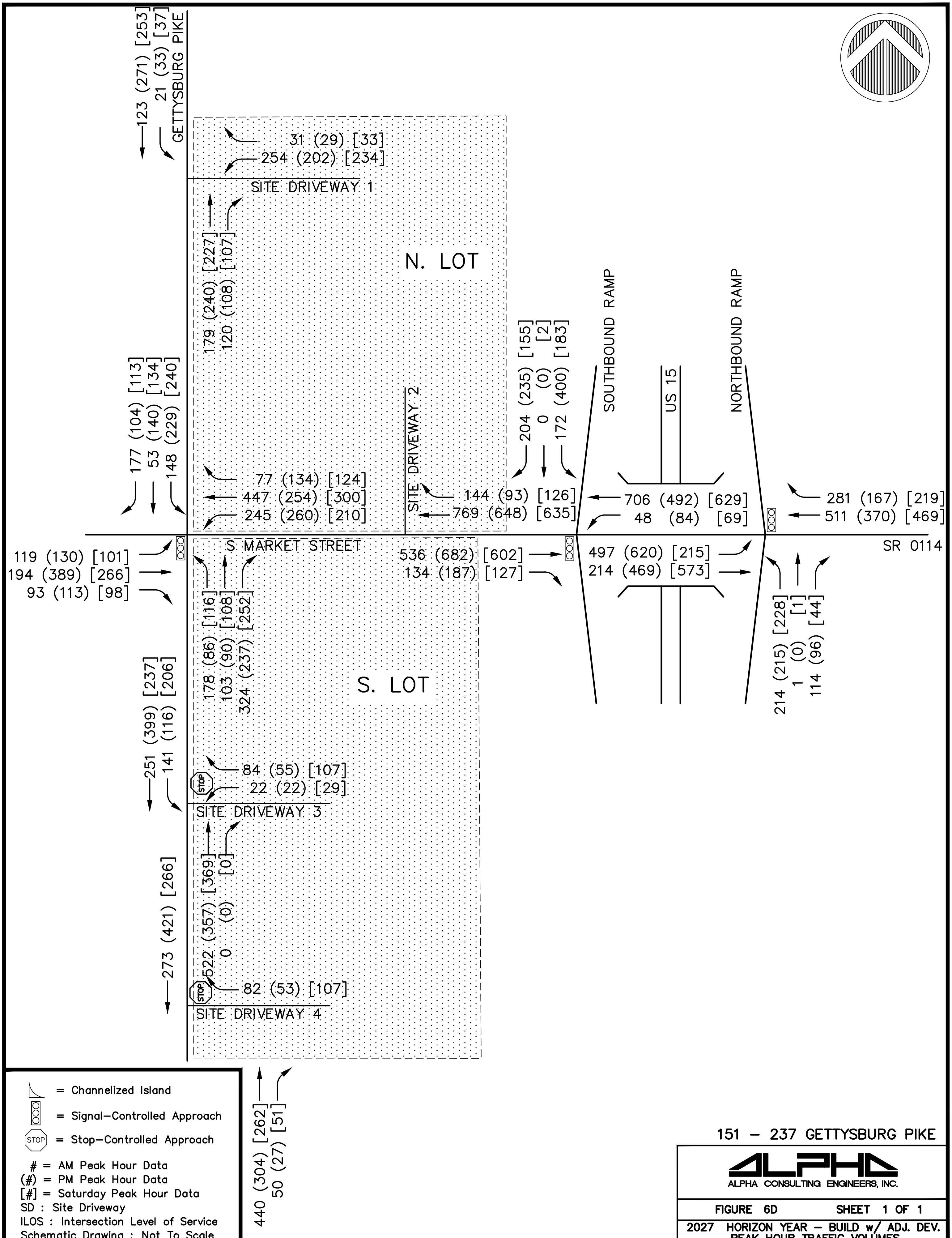


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FIGURE 6D SHEET 1 OF 1

2027 HORIZON YEAR – BUILD w/ ADJ. DEV. PEAK HOUR TRAFFIC VOLUMES

HCM Worksheets

2027 Horizon Year Build Scenario
With Adjacent Development
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	194	93	245	447	77	178	103	324	148	53	177
Future Volume (vph)	119	194	93	245	447	77	178	103	324	148	53	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12	10	12	12	11	13	12
Grade (%)		-4%			4%			-1%			1%	
Storage Length (ft)	175		225	200		185	175		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	50			75			100			45		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.886			0.884	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1653	1674	1451	1604	1696	1456	1557	1603	0	1645	1611	0
Flt Permitted	0.206			0.559			0.360			0.190		
Satd. Flow (perm)	358	1674	1451	944	1696	1456	590	1603	0	329	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			101		165			175	
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		827			370			464			336	
Travel Time (s)		14.1			6.3			12.7			6.5	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	6%	4%	1%	4%	3%	3%	0%	0%	0%	0%	2%
Adj. Flow (vph)	142	231	111	292	532	92	212	123	386	176	63	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	231	111	292	532	92	212	509	0	176	274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.15	1.10	1.10	1.16	1.07	1.07	1.13	1.03	1.08
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)	34	34	34	34	34	34	39	39		34	34	
Trailing Detector (ft)	-6	-6	-6	-6	-6	-6	-6	-6		-6	-6	
Detector 1 Position(ft)	-6	-6	-6	-6	-6	-6	-6	-6		-6	-6	
Detector 1 Size(ft)	40	40	40	40	40	40	45	45		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												

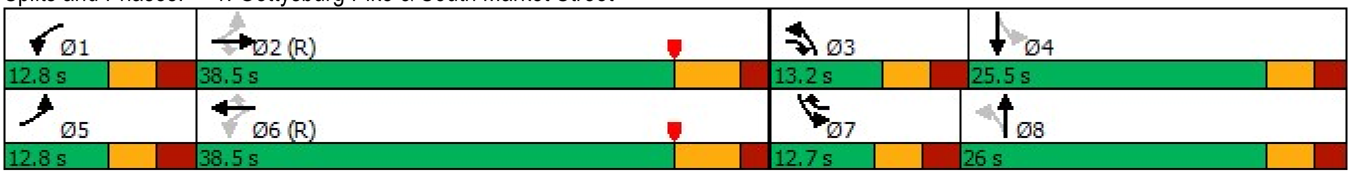
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	10.0	3.0	3.0	10.0	3.0	3.0	3.0		3.0	3.0	
Minimum Split (s)	10.6	39.6	10.5	9.6	16.6	9.5	10.5	9.5		9.5	9.5	
Total Split (s)	12.8	38.5	13.2	12.8	38.5	12.7	13.2	26.0		12.7	25.5	
Total Split (%)	14.2%	42.8%	14.7%	14.2%	42.8%	14.1%	14.7%	28.9%		14.1%	28.3%	
Maximum Green (s)	7.0	32.1	7.5	7.0	32.1	7.0	7.5	20.5		7.0	20.0	
Yellow Time (s)	3.2	4.4	3.2	3.2	4.4	3.2	3.2	3.2		3.2	3.2	
All-Red Time (s)	2.6	2.0	2.5	2.6	2.0	2.5	2.5	2.3		2.5	2.3	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	4.8	5.4	4.7	4.8	5.4	4.7	4.7	4.5		4.7	4.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	13.0	0.0	0.0	13.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	None	None	C-Max	None	None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			26.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	41.7	33.1	47.0	41.7	33.1	46.5	29.8	21.5		28.8	21.0	
Actuated g/C Ratio	0.46	0.37	0.52	0.46	0.37	0.52	0.33	0.24		0.32	0.23	
v/c Ratio	0.51	0.38	0.14	0.59	0.85	0.11	0.74	1.00		0.79	0.54	
Control Delay	18.5	23.1	2.7	12.0	31.9	1.7	39.3	65.6		47.9	15.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	18.5	23.1	2.7	12.0	31.9	1.7	39.3	65.6		47.9	15.6	
LOS	B	C	A	B	C	A	D	E		D	B	
Approach Delay		17.1			22.5			57.9			28.2	
Approach LOS		B			C			E			C	
Queue Length 50th (ft)	32	76	0	45	208	5	68	~168		55	37	
Queue Length 95th (ft)	54	115	16	m62	#321	m6	#116	#294		#108	84	
Internal Link Dist (ft)		747			290			384			256	
Turn Bay Length (ft)	175		225	200		185	175			150		
Base Capacity (vph)	280	615	810	496	624	802	286	508		222	510	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.51	0.38	0.14	0.59	0.85	0.11	0.74	1.00		0.79	0.54	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 72 (80%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 32.4 Intersection LOS: C
Intersection Capacity Utilization 83.4% ICU Level of Service E
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gettysburg Pike & South Market Street



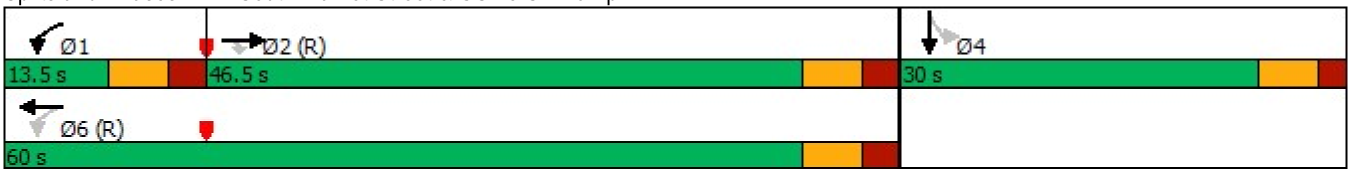
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	536	134	48	706	0	0	0	0	172	0	204
Future Volume (vph)	0	536	134	48	706	0	0	0	0	172	0	204
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	12	12	12	12	12	12	14	12
Grade (%)		0%			0%			1%			-2%	
Storage Length (ft)	0		125	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.927	
Flt Protected				0.950							0.978	
Satd. Flow (prot)	0	1731	1485	1621	1748	0	0	0	0	0	1707	0
Flt Permitted				0.243							0.978	
Satd. Flow (perm)	0	1731	1485	415	1748	0	0	0	0	0	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133								121	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		199			608			453			537	
Travel Time (s)		3.4			10.4			10.3			12.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	3%	2%	3%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	0	609	152	55	802	0	0	0	0	195	0	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	609	152	55	802	0	0	0	0	0	427	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.12	1.07	1.07	1.08	1.08	1.08	1.06	0.97	1.06
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	1	
Detector Template										Left		
Leading Detector (ft)		44	44	44	44					20	44	
Trailing Detector (ft)		-6	-6	-6	-6					0	-6	
Detector 1 Position(ft)		-6	-6	-6	-6					0	-6	
Detector 1 Size(ft)		50	50	50	50					20	50	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)		4.0	4.0	4.0	15.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.5	21.5					10.0	10.0	
Total Split (s)		46.5	46.5	13.5	60.0					30.0	30.0	
Total Split (%)		51.7%	51.7%	15.0%	66.7%					33.3%	33.3%	
Maximum Green (s)		40.0	40.0	7.0	53.5					24.0	24.0	
Yellow Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
All-Red Time (s)		2.5	2.5	2.5	2.5					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						-1.0	
Total Lost Time (s)		5.5	5.5	5.5	5.5						5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		1.0	1.0	3.0	1.0					3.0	3.0	
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Walk Time (s)		8.0	8.0		8.0					7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		17.0					16.0	16.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effct Green (s)		47.2	47.2	57.7	57.7						21.8	
Actuated g/C Ratio		0.52	0.52	0.64	0.64						0.24	
v/c Ratio		0.67	0.18	0.15	0.72						0.85	
Control Delay		18.0	3.2	1.7	5.1						39.2	
Queue Delay		0.0	0.0	0.0	0.2						0.0	
Total Delay		18.0	3.2	1.7	5.3						39.2	
LOS		B	A	A	A						D	
Approach Delay		15.1			5.0						39.2	
Approach LOS		B			A						D	
Queue Length 50th (ft)		220	10	1	12						131	
Queue Length 95th (ft)		m252	m17	m1	m13						#214	
Internal Link Dist (ft)		119			528			373			457	
Turn Bay Length (ft)			125	100								
Base Capacity (vph)		907	841	373	1121						561	
Starvation Cap Reductn		0	0	0	32						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.67	0.18	0.15	0.74						0.76	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 26 (29%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 89.9%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: South Market Street & US 15 SB Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	497	214	0	0	511	281	214	1	114	0	0	0
Future Volume (vph)	497	214	0	0	511	281	214	1	114	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	11	12	12	12	11	12	14	12	12	12	12
Grade (%)		0%			0%			-1%			0%	
Storage Length (ft)	125		0	0		260	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.953				
Flt Protected	0.950							0.968				
Satd. Flow (prot)	1676	1642	0	0	1765	1479	0	1707	0	0	0	0
Flt Permitted	0.131							0.968				
Satd. Flow (perm)	231	1642	0	0	1765	1479	0	1707	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						309		27				
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		608			326			414			668	
Travel Time (s)		10.4			5.6			9.4			15.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	6%	0%	0%	2%	0%	6%	0%	1%	0%	0%	0%
Adj. Flow (vph)	546	235	0	0	562	309	235	1	125	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	546	235	0	0	562	309	0	361	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.12	1.07	1.07	1.07	1.12	1.07	0.98	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1	1	1	1				
Detector Template							Left					
Leading Detector (ft)	40	40			40	40	20	40				
Trailing Detector (ft)	-10	-10			-10	-10	0	-10				
Detector 1 Position(ft)	-10	-10			-10	-10	0	-10				
Detector 1 Size(ft)	50	50			50	50	20	50				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2					6	4					
Detector Phase	5	2			6	6	4	4				
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	15.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	10.0	31.0			21.0	21.0	16.0	16.0				
Total Split (s)	29.0	66.0			37.0	37.0	24.0	24.0				
Total Split (%)	32.2%	73.3%			41.1%	41.1%	26.7%	26.7%				
Maximum Green (s)	23.0	60.0			31.0	31.0	18.0	18.0				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	1.0			1.0	1.0	3.0	3.0				
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Walk Time (s)		8.0			8.0	8.0	7.0	7.0				
Flash Dont Walk (s)		17.0			17.0	17.0	16.0	16.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	61.0	61.0			32.0	32.0		19.0				
Actuated g/C Ratio	0.68	0.68			0.36	0.36		0.21				
v/c Ratio	1.01	0.21			0.90	0.43		0.95				
Control Delay	61.4	3.8			46.9	4.5		69.0				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	61.4	3.8			46.9	4.5		69.0				
LOS	E	A			D	A		E				
Approach Delay		44.1			31.9			69.0				
Approach LOS		D			C			E				
Queue Length 50th (ft)	268	29			238	0		152				
Queue Length 95th (ft)	#366	m30			#396	43		#291				
Internal Link Dist (ft)		528			246			334			588	
Turn Bay Length (ft)	125					260						
Base Capacity (vph)	541	1112			627	725		381				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	1.01	0.21			0.90	0.43		0.95				

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 88 (98%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 43.3 Intersection LOS: D

Intersection Capacity Utilization 89.9% ICU Level of Service E

Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15 NB Ramp & South Market Street

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	84	522	0	141	251
Future Volume (vph)	22	84	522	0	141	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		-4%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					0.982
Satd. Flow (prot)	1778	1591	1919	0	0	1793
Flt Permitted	0.950					0.982
Satd. Flow (perm)	1778	1591	1919	0	0	1793
Link Speed (mph)	25		25			25
Link Distance (ft)	240		376			464
Travel Time (s)	6.5		10.3			12.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	2%	2%	2%
Adj. Flow (vph)	24	93	580	0	157	279
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	93	580	0	0	436
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.97	0.97	1.03	1.03
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 61.8%	ICU Level of Service B
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	82	440	50	0	273
Future Volume (vph)	0	82	440	50	0	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.986			
Flt Protected						
Satd. Flow (prot)	0	1603	1844	0	0	1872
Flt Permitted						
Satd. Flow (perm)	0	1603	1844	0	0	1872
Link Speed (mph)	25		25			25
Link Distance (ft)	254		129			376
Travel Time (s)	6.9		3.5			10.3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	1%	2%	0%	1%
Adj. Flow (vph)	0	91	489	56	0	303
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	91	545	0	0	303
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	83	10	20	71	0	0	16	0	0	27	35
Future Volume (vph)	48	83	10	20	71	0	0	16	0	0	27	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984									0.924	
Flt Protected	0.950				0.989							
Satd. Flow (prot)	1717	1778	0	0	1898	0	0	1909	0	0	1695	0
Flt Permitted	0.950				0.989							
Satd. Flow (perm)	1717	1778	0	0	1898	0	0	1909	0	0	1695	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		240			194			192			180	
Travel Time (s)		6.5			5.3			5.2			4.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	53	92	11	22	79	0	0	18	0	0	30	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	103	0	0	101	0	0	18	0	0	69	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.97	0.97	0.97	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 21.7%	ICU Level of Service A
Analysis Period (min) 15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	194	93	245	447	77	178	103	324	148	53	177
Future Volume (veh/h)	119	194	93	245	447	77	178	103	324	148	53	177
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1921	1864	1892	1697	1655	1669	1795	1837	1837	1794	1866	1766
Adj Flow Rate, veh/h	142	231	96	292	532	24	212	123	330	176	63	194
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	6	4	1	4	3	3	0	0	0	0	2
Cap, veh/h	297	685	741	489	626	661	340	105	283	232	94	289
Arrive On Green	0.08	0.37	0.37	0.09	0.38	0.38	0.09	0.24	0.24	0.09	0.23	0.23
Sat Flow, veh/h	1829	1864	1604	1616	1655	1414	1709	441	1183	1709	403	1240
Grp Volume(v), veh/h	142	231	96	292	532	24	212	0	453	176	0	257
Grp Sat Flow(s),veh/h/ln	1829	1864	1604	1616	1655	1414	1709	0	1624	1709	0	1643
Q Serve(g_s), s	4.2	8.1	3.1	8.0	26.5	0.8	8.5	0.0	21.5	7.0	0.0	12.8
Cycle Q Clear(g_c), s	4.2	8.1	3.1	8.0	26.5	0.8	8.5	0.0	21.5	7.0	0.0	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.73	1.00		0.75
Lane Grp Cap(c), veh/h	297	685	741	489	626	661	340	0	388	232	0	383
V/C Ratio(X)	0.48	0.34	0.13	0.60	0.85	0.04	0.62	0.00	1.17	0.76	0.00	0.67
Avail Cap(c_a), veh/h	316	685	741	489	626	661	340	0	388	232	0	383
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	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.3	20.5	13.8	18.6	25.6	13.0	24.4	0.0	34.3	25.5	0.0	31.4
Incr Delay (d2), s/veh	1.2	1.3	0.4	2.0	13.5	0.1	3.5	0.0	99.8	13.5	0.0	4.5
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	3.1	6.4	2.1	2.3	17.6	0.5	6.7	0.0	28.5	6.4	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	21.9	14.2	20.5	39.2	13.1	28.0	0.0	134.0	39.0	0.0	35.8
LnGrp LOS	C	C	B	C	D	B	C	A	F	D	A	D
Approach Vol, veh/h		469			848			665			433	
Approach Delay, s/veh		19.9			32.0			100.2			37.1	
Approach LOS		B			C			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	38.5	13.2	25.5	11.8	39.5	12.7	26.0
Change Period (Y+Rc), s	* 5.8	6.4	* 5.7	5.5	* 5.8	6.4	* 5.7	5.5
Max Green Setting (Gmax), s	* 7	32.1	* 7.5	20.0	* 7	32.1	* 7	20.5
Max Q Clear Time (g_c+I1), s	10.0	10.1	10.5	14.8	6.2	28.5	9.0	23.5
Green Ext Time (p_c), s	0.0	3.2	0.0	0.4	0.0	1.7	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay			49.4
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	536	134	48	706	0	0	0	0	172	0	204
Future Volume (veh/h)	0	536	134	48	706	0	0	0	0	172	0	204
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1744	1758	1772	1758	0				1832	1950	1832
Adj Flow Rate, veh/h	0	609	0	55	802	0				195	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	4	3	2	3	0				3	0	3
Cap, veh/h	0	1114		497	1308	0				258	0	
Arrive On Green	0.00	0.64	0.00	0.03	0.50	0.00				0.14	0.00	0.00
Sat Flow, veh/h	0	1744	1490	1688	1758	0				1857	0	0
Grp Volume(v), veh/h	0	609	0	55	802	0				195	0	0
Grp Sat Flow(s),veh/h/ln	0	1744	1490	1688	1758	0				1857	0	0
Q Serve(g_s), s	0.0	17.4	0.0	0.9	29.6	0.0				9.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	17.4	0.0	0.9	29.6	0.0				9.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1114		497	1308	0				258	0	
V/C Ratio(X)	0.00	0.55		0.11	0.61	0.00				0.76	0.00	
Avail Cap(c_a), veh/h	0	1114		572	1308	0				516	0	
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.32	0.32	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.0	0.0	6.4	13.2	0.0				37.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.7	0.0				4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	9.9	0.0	0.4	15.4	0.0				7.8	0.0	0.0
Unsig. Movement Delay, s/veh												6.00
LnGrp Delay(d),s/veh	0.0	10.9	0.0	6.4	13.9	0.0				41.7	0.0	6.0
LnGrp LOS	A	B		A	B	A				D	A	A
Approach Vol, veh/h		609	A		857						427	A
Approach Delay, s/veh		10.9			13.4						22.3	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.5	63.0		17.5		72.5
Change Period (Y+Rc), s	6.5	6.5		6.0		6.5
Max Green Setting (Gmax), s	7.0	40.0		24.0		53.5
Max Q Clear Time (g_c+I1), s	2.9	19.4		11.1		31.6
Green Ext Time (p_c), s	0.0	0.4		0.5		0.5

Intersection Summary			
HCM 6th Ctrl Delay			14.6
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [SBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	497	214	0	0	511	281	214	1	114	0	0	0
Future Volume (veh/h)	497	214	0	0	511	281	214	1	114	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1716	0	0	1772	1800	1752	1911	1823			
Adj Flow Rate, veh/h	546	235	0	0	562	0	235	1	0			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	2	6	0	0	2	0	6	0	1			
Cap, veh/h	612	1248	0	0	791		293	1				
Arrive On Green	0.07	0.24	0.00	0.00	0.45	0.00	0.16	0.16	0.00			
Sat Flow, veh/h	1688	1716	0	0	1772	1525	1812	8	0			
Grp Volume(v), veh/h	546	235	0	0	562	0	236	0	0			
Grp Sat Flow(s),veh/h/ln	1688	1716	0	0	1772	1525	1820	0	0			
Q Serve(g_s), s	16.3	9.8	0.0	0.0	23.1	0.0	11.2	0.0	0.0			
Cycle Q Clear(g_c), s	16.3	9.8	0.0	0.0	23.1	0.0	11.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	612	1248	0	0	791		294	0				
V/C Ratio(X)	0.89	0.19	0.00	0.00	0.71		0.80	0.00				
Avail Cap(c_a), veh/h	682	1248	0	0	791		384	0				
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	22.3	13.1	0.0	0.0	20.2	0.0	36.4	0.0	0.0			
Incr Delay (d2), s/veh	9.6	0.2	0.0	0.0	5.4	0.0	9.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	12.6	6.4	0.0	0.0	15.0	0.0	9.5	0.0	0.0			
Unsig. Movement Delay, s/veh									6.00			
LnGrp Delay(d),s/veh	31.9	13.3	0.0	0.0	25.6	0.0	45.3	0.0	6.0			
LnGrp LOS	C	B	A	A	C		D	A	A			
Approach Vol, veh/h		781			562	A		361	A			
Approach Delay, s/veh		26.3			25.6			31.7				
Approach LOS		C			C			C				

Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.5		19.5	25.3	45.2						
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s		60.0		18.0	23.0	31.0						
Max Q Clear Time (g_c+I1), s		11.8		13.2	18.3	25.1						
Green Ext Time (p_c), s		0.1		0.3	1.0	0.2						

Intersection Summary			
HCM 6th Ctrl Delay			27.2
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	3.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	84	522	0	141	251
Future Vol, veh/h	22	84	522	0	141	251
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, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	24	93	580	0	157	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1173	580	0	0	580	0
Stage 1	580	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	248	550	-	-	757	-
Stage 1	557	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	550	-	-	757	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	187	550	757	-
HCM Lane V/C Ratio	-	-	0.131	0.17	0.207	-
HCM Control Delay (s)	-	-	27.1	12.9	11	0
HCM Lane LOS	-	-	D	B	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection						
Int Delay, s/veh	1.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	82	440	50	0	273
Future Vol, veh/h	0	82	440	50	0	273
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	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	1	-	-	1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	2	1	2	0	1
Mvmt Flow	0	91	489	56	0	303

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	517	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.1	-	-	-	-
Pot Cap-1 Maneuver	0	581	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	581	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	581	-
HCM Lane V/C Ratio	-	-	0.157	-
HCM Control Delay (s)	-	-	12.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	83	10	20	71	0	0	16	0	0	27	35
Future Vol, veh/h	48	83	10	20	71	0	0	16	0	0	27	35
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	92	11	22	79	0	0	18	0	0	30	39
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.3	8.1	7.7	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	22%	0%
Vol Thru, %	100%	0%	89%	78%	44%
Vol Right, %	0%	0%	11%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	48	93	91	62
LT Vol	0	48	0	20	0
Through Vol	16	0	83	71	27
RT Vol	0	0	10	0	35
Lane Flow Rate	18	53	103	101	69
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.023	0.078	0.134	0.125	0.081
Departure Headway (Hd)	4.622	5.24	4.663	4.447	4.226
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	778	678	762	809	851
Service Time	2.631	3.016	2.439	2.457	2.233
HCM Lane V/C Ratio	0.023	0.078	0.135	0.125	0.081
HCM Control Delay	7.7	8.5	8.2	8.1	7.6
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.5	0.4	0.3

2027 Horizon Year Mitigation Scenario
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	194	93	245	447	77	178	103	324	148	53	177
Future Volume (vph)	119	194	93	245	447	77	178	103	324	148	53	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12	10	12	12	11	13	12
Grade (%)		-4%			4%			-1%			1%	
Storage Length (ft)	175		225	200		185	175		200	260		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	50			75			100			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951				0.850			0.850		0.884	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1653	3044	0	1604	1696	1456	1557	1809	1538	1645	1611	0
Flt Permitted	0.328			0.470			0.288			0.678		
Satd. Flow (perm)	571	3044	0	794	1696	1456	472	1809	1538	1174	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		94				98			386		165	
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		827			370			464			336	
Travel Time (s)		14.1			6.3			12.7			6.5	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	2%	6%	4%	1%	4%	3%	3%	0%	0%	0%	0%	2%
Adj. Flow (vph)	142	231	111	292	532	92	212	123	386	176	63	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	342	0	292	532	92	212	123	386	176	274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.15	1.10	1.10	1.16	1.07	1.07	1.13	1.03	1.08
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template									Right			
Leading Detector (ft)	34	34		34	34	34	39	39	39	34	34	
Trailing Detector (ft)	-6	-6		-6	-6	-6	-6	-6	-6	-6	-6	
Detector 1 Position(ft)	-6	-6		-6	-6	-6	-6	-6	-6	-6	-6	
Detector 1 Size(ft)	40	40		40	40	40	45	45	45	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.8	22.4		9.8	26.5	9.7	9.8	21.5	9.8	9.7	21.5	
Total Split (s)	12.7	34.1		19.4	40.8	13.8	15.0	22.7	19.4	13.8	21.5	
Total Split (%)	14.1%	37.9%		21.6%	45.3%	15.3%	16.7%	25.2%	21.6%	15.3%	23.9%	
Maximum Green (s)	7.0	27.7		13.7	34.4	8.2	9.4	17.3	13.7	8.2	16.1	
Yellow Time (s)	3.1	4.4		3.1	4.4	3.1	3.1	3.1	3.1	3.1	3.1	
All-Red Time (s)	2.6	2.0		2.6	2.0	2.5	2.5	2.3	2.6	2.5	2.3	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.7	5.4		4.7	5.4	4.6	4.6	4.4	4.7	4.6	4.4	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		3.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	25.0		0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	13.0		0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			26.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	43.2	34.6		52.7	40.0	54.6	24.1	13.9	31.5	21.7	12.7	
Actuated g/C Ratio	0.48	0.38		0.59	0.44	0.61	0.27	0.15	0.35	0.24	0.14	
v/c Ratio	0.39	0.28		0.50	0.71	0.10	0.84	0.44	0.49	0.53	0.74	
Control Delay	13.4	15.6		7.1	20.0	1.2	54.8	38.5	4.2	30.3	27.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	13.4	15.6		7.1	20.0	1.2	54.8	38.5	4.2	30.3	27.5	
LOS	B	B		A	C	A	D	D	A	C	C	
Approach Delay		14.9			14.0			24.9			28.6	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	27	40		29	201	3	77	51	0	61	46	
Queue Length 95th (ft)	51	65		m50	259	m5	#113	82	31	91	95	
Internal Link Dist (ft)		747			290			384			256	
Turn Bay Length (ft)	175			200		185	175		200	260		
Base Capacity (vph)	370	1227		602	753	921	251	367	807	330	439	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.38	0.28		0.49	0.71	0.10	0.84	0.34	0.48	0.53	0.62	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 82 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 19.8 Intersection LOS: B
Intersection Capacity Utilization 72.4% ICU Level of Service C
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gettysburg Pike & South Market Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	536	134	48	706	0	0	0	0	172	0	204
Future Volume (vph)	0	536	134	48	706	0	0	0	0	172	0	204
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	12	12	12	12	12	12	14	12
Grade (%)		0%			0%			1%			-2%	
Storage Length (ft)	0		125	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			100			25			25		
Lane Util. Factor	1.00	*0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.927	
Flt Protected				0.950							0.978	
Satd. Flow (prot)	0	2458	1485	1621	1748	0	0	0	0	0	1707	0
Flt Permitted				0.251							0.978	
Satd. Flow (perm)	0	2458	1485	428	1748	0	0	0	0	0	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152								121	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		199			608			453			537	
Travel Time (s)		3.4			10.4			10.3			12.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	3%	2%	3%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	0	609	152	55	802	0	0	0	0	195	0	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	609	152	55	802	0	0	0	0	0	427	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.12	1.07	1.07	1.08	1.08	1.08	1.06	0.97	1.06
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	1	
Detector Template										Left		
Leading Detector (ft)		44	44	44	44					20	44	
Trailing Detector (ft)		-6	-6	-6	-6					0	-6	
Detector 1 Position(ft)		-6	-6	-6	-6					0	-6	
Detector 1 Size(ft)		50	50	50	50					20	50	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)		4.0	4.0	4.0	15.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.5	21.5					10.0	10.0	
Total Split (s)		46.5	46.5	13.5	60.0					30.0	30.0	
Total Split (%)		51.7%	51.7%	15.0%	66.7%					33.3%	33.3%	
Maximum Green (s)		40.0	40.0	7.0	53.5					24.0	24.0	
Yellow Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
All-Red Time (s)		2.5	2.5	2.5	2.5					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						-1.0	
Total Lost Time (s)		5.5	5.5	5.5	5.5						5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		1.0	1.0	3.0	1.0					3.0	3.0	
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Walk Time (s)		8.0	8.0		8.0					7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		17.0					16.0	16.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effct Green (s)		47.2	47.2	57.7	57.7						21.8	
Actuated g/C Ratio		0.52	0.52	0.64	0.64						0.24	
v/c Ratio		0.47	0.18	0.15	0.72						0.85	
Control Delay		16.1	3.3	2.0	6.2						39.2	
Queue Delay		0.0	0.0	0.0	0.2						0.0	
Total Delay		16.1	3.3	2.0	6.4						39.2	
LOS		B	A	A	A						D	
Approach Delay		13.6			6.1						39.2	
Approach LOS		B			A						D	
Queue Length 50th (ft)		131	2	1	37						131	
Queue Length 95th (ft)		178	29	m1	m83						#214	
Internal Link Dist (ft)		119			528			373			457	
Turn Bay Length (ft)			125	100								
Base Capacity (vph)		1287	850	380	1121						561	
Starvation Cap Reductn		0	0	0	32						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.47	0.18	0.14	0.74						0.76	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 36 (40%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 15.8 Intersection LOS: B
Intersection Capacity Utilization 87.0% ICU Level of Service E
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: South Market Street & US 15 SB Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	497	214	0	0	511	281	214	1	114	0	0	0
Future Volume (vph)	497	214	0	0	511	281	214	1	114	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	11	12	12	12	11	12	14	12	12	12	12
Grade (%)		0%			0%			-1%			0%	
Storage Length (ft)	0		0	0		260	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.953				
Flt Protected	0.950							0.968				
Satd. Flow (prot)	1676	1642	0	0	1765	1479	0	1707	0	0	0	0
Flt Permitted	0.131							0.968				
Satd. Flow (perm)	231	1642	0	0	1765	1479	0	1707	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						309		27				
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		608			326			414			668	
Travel Time (s)		10.4			5.6			9.4			15.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	2%	6%	0%	0%	2%	0%	6%	0%	1%	0%	0%	0%
Adj. Flow (vph)	546	235	0	0	562	309	235	1	125	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	546	235	0	0	562	309	0	361	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		23			23			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.12	1.07	1.07	1.07	1.12	1.07	0.98	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1	1	1	1				
Detector Template							Left					
Leading Detector (ft)	40	40			40	40	20	40				
Trailing Detector (ft)	-10	-10			-10	-10	0	-10				
Detector 1 Position(ft)	-10	-10			-10	-10	0	-10				
Detector 1 Size(ft)	50	50			50	50	20	50				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2					6	4					
Detector Phase	5	2			6	6	4	4				
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	15.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	10.0	31.0			21.0	21.0	16.0	16.0				
Total Split (s)	29.0	66.0			37.0	37.0	24.0	24.0				
Total Split (%)	32.2%	73.3%			41.1%	41.1%	26.7%	26.7%				
Maximum Green (s)	23.0	60.0			31.0	31.0	18.0	18.0				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	1.0			1.0	1.0	3.0	3.0				
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Walk Time (s)		8.0			8.0	8.0	7.0	7.0				
Flash Dont Walk (s)		17.0			17.0	17.0	16.0	16.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	61.0	61.0			32.0	32.0		19.0				
Actuated g/C Ratio	0.68	0.68			0.36	0.36		0.21				
v/c Ratio	1.01	0.21			0.90	0.43		0.95				
Control Delay	65.4	4.1			46.9	4.5		69.0				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	65.4	4.1			46.9	4.5		69.0				
LOS	E	A			D	A		E				
Approach Delay		46.9			31.9			69.0				
Approach LOS		D			C			E				
Queue Length 50th (ft)	268	30			238	0		152				
Queue Length 95th (ft)	#365	m38			#396	43		#291				
Internal Link Dist (ft)		528			246			334			588	
Turn Bay Length (ft)						260						
Base Capacity (vph)	541	1112			627	725		381				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	1.01	0.21			0.90	0.43		0.95				

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 6 (7%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 44.4 Intersection LOS: D
Intersection Capacity Utilization 87.0% ICU Level of Service E
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15 NB Ramp & South Market Street

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	84	522	0	141	251
Future Volume (vph)	22	84	522	0	141	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		-4%			4%
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1778	1591	1919	0	1734	1825
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1778	1591	1919	0	1734	1825
Link Speed (mph)	25		25			25
Link Distance (ft)	240		376			464
Travel Time (s)	6.5		10.3			12.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	2%	2%	2%
Adj. Flow (vph)	24	93	580	0	157	279
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	93	580	0	157	279
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.97	0.97	1.03	1.03
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 48.6%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	82	440	50	0	273
Future Volume (vph)	0	82	440	50	0	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.986			
Flt Protected						
Satd. Flow (prot)	0	1603	1844	0	0	1872
Flt Permitted						
Satd. Flow (perm)	0	1603	1844	0	0	1872
Link Speed (mph)	25		25			25
Link Distance (ft)	254		129			376
Travel Time (s)	6.9		3.5			10.3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	1%	2%	0%	1%
Adj. Flow (vph)	0	91	489	56	0	303
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	91	545	0	0	303
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 37.9%		ICU Level of Service A
Analysis Period (min) 15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	194	93	245	447	77	178	103	324	148	53	177
Future Volume (veh/h)	119	194	93	245	447	77	178	103	324	148	53	177
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1921	1864	1892	1697	1655	1669	1795	1837	1837	1794	1866	1766
Adj Flow Rate, veh/h	142	231	96	292	532	24	212	123	330	176	63	194
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	6	4	1	4	3	3	0	0	0	0	2
Cap, veh/h	331	832	335	568	665	713	320	374	542	386	77	236
Arrive On Green	0.08	0.34	0.34	0.14	0.40	0.40	0.12	0.20	0.20	0.10	0.19	0.19
Sat Flow, veh/h	1829	2463	993	1616	1655	1414	1709	1837	1557	1709	403	1240
Grp Volume(v), veh/h	142	164	163	292	532	24	212	123	330	176	0	257
Grp Sat Flow(s),veh/h/ln	1829	1771	1685	1616	1655	1414	1709	1837	1557	1709	0	1643
Q Serve(g_s), s	4.4	6.1	6.4	9.8	25.5	0.8	8.9	5.1	15.8	7.3	0.0	13.5
Cycle Q Clear(g_c), s	4.4	6.1	6.4	9.8	25.5	0.8	8.9	5.1	15.8	7.3	0.0	13.5
Prop In Lane	1.00		0.59	1.00		1.00	1.00		1.00	1.00		0.75
Lane Grp Cap(c), veh/h	331	598	569	568	665	713	320	374	542	386	0	312
V/C Ratio(X)	0.43	0.27	0.29	0.51	0.80	0.03	0.66	0.33	0.61	0.46	0.00	0.82
Avail Cap(c_a), veh/h	346	598	569	599	665	713	320	374	542	386	0	312
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.1	21.8	21.9	14.1	23.7	11.3	26.0	30.6	24.3	25.2	0.0	35.0
Incr Delay (d2), s/veh	0.9	1.1	1.3	0.7	9.8	0.1	5.0	0.5	2.0	0.8	0.0	16.1
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	4.6	4.7	6.0	16.3	0.5	7.2	4.2	10.0	5.3	0.0	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	22.9	23.1	14.8	33.5	11.4	31.0	31.1	26.3	26.1	0.0	51.1
LnGrp LOS	B	C	C	B	C	B	C	C	C	C	A	D
Approach Vol, veh/h		469			848			665			433	
Approach Delay, s/veh		22.1			26.4			28.7			41.0	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	35.8	15.0	21.5	11.9	41.6	13.8	22.7
Change Period (Y+Rc), s	5.7	6.4	5.6	* 5.4	5.7	6.4	5.6	* 5.4
Max Green Setting (Gmax), s	13.7	27.7	9.4	* 16	7.0	34.4	8.2	* 17
Max Q Clear Time (g_c+I1), s	11.8	8.4	10.9	15.5	6.4	27.5	9.3	17.8
Green Ext Time (p_c), s	0.2	3.0	0.0	0.1	0.0	2.9	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	536	134	48	706	0	0	0	0	172	0	204
Future Volume (veh/h)	0	536	134	48	706	0	0	0	0	172	0	204
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1744	1758	1772	1758	0				1832	1950	1832
Adj Flow Rate, veh/h	0	609	0	55	802	0				195	0	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88				0.88	0.88	0.88
Percent Heavy Veh, %	0	4	3	2	3	0				3	0	3
Cap, veh/h	0	1582		556	1308	0				258	0	
Arrive On Green	0.00	0.64	0.00	0.04	0.74	0.00				0.14	0.00	0.00
Sat Flow, veh/h	0	2982	1490	1688	1758	0				1857	0	0
Grp Volume(v), veh/h	0	609	0	55	802	0				195	0	0
Grp Sat Flow(s),veh/h/ln	0	1238	1490	1688	1758	0				1857	0	0
Q Serve(g_s), s	0.0	10.6	0.0	0.9	19.3	0.0				9.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.6	0.0	0.9	19.3	0.0				9.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1582		556	1308	0				258	0	
V/C Ratio(X)	0.00	0.38		0.10	0.61	0.00				0.76	0.00	
Avail Cap(c_a), veh/h	0	1582		631	1308	0				516	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.32	0.32	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	7.8	0.0	5.0	5.4	0.0				37.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.7	0.0				4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	4.4	0.0	0.4	6.8	0.0				7.8	0.0	0.0
Unsig. Movement Delay, s/veh												6.00
LnGrp Delay(d),s/veh	0.0	8.5	0.0	5.0	6.1	0.0				41.7	0.0	6.0
LnGrp LOS	A	A		A	A	A				D	A	A
Approach Vol, veh/h		609	A		857						427	A
Approach Delay, s/veh		8.5			6.0						22.3	
Approach LOS		A			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.5	63.0		17.5		72.5
Change Period (Y+Rc), s	6.5	6.5		6.0		6.5
Max Green Setting (Gmax), s	7.0	40.0		24.0		53.5
Max Q Clear Time (g_c+I1), s	2.9	12.6		11.1		21.3
Green Ext Time (p_c), s	0.0	0.5		0.5		0.5

Intersection Summary	
HCM 6th Ctrl Delay	10.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [SBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	497	214	0	0	511	281	214	1	114	0	0	0
Future Volume (veh/h)	497	214	0	0	511	281	214	1	114	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1716	0	0	1772	1800	1752	1911	1823			
Adj Flow Rate, veh/h	546	235	0	0	562	0	235	1	0			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	2	6	0	0	2	0	6	0	1			
Cap, veh/h	612	1248	0	0	791		293	1				
Arrive On Green	0.07	0.24	0.00	0.00	0.45	0.00	0.16	0.16	0.00			
Sat Flow, veh/h	1688	1716	0	0	1772	1525	1812	8	0			
Grp Volume(v), veh/h	546	235	0	0	562	0	236	0	0			
Grp Sat Flow(s),veh/h/ln	1688	1716	0	0	1772	1525	1820	0	0			
Q Serve(g_s), s	16.3	9.8	0.0	0.0	23.1	0.0	11.2	0.0	0.0			
Cycle Q Clear(g_c), s	16.3	9.8	0.0	0.0	23.1	0.0	11.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	612	1248	0	0	791		294	0				
V/C Ratio(X)	0.89	0.19	0.00	0.00	0.71		0.80	0.00				
Avail Cap(c_a), veh/h	682	1248	0	0	791		384	0				
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.88	0.88	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	22.3	13.1	0.0	0.0	20.2	0.0	36.4	0.0	0.0			
Incr Delay (d2), s/veh	11.8	0.3	0.0	0.0	5.4	0.0	9.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	13.6	6.8	0.0	0.0	15.0	0.0	9.5	0.0	0.0			
Unsig. Movement Delay, s/veh									6.00			
LnGrp Delay(d),s/veh	34.1	13.3	0.0	0.0	25.6	0.0	45.3	0.0	6.0			
LnGrp LOS	C	B	A	A	C		D	A	A			
Approach Vol, veh/h		781			562	A		361	A			
Approach Delay, s/veh		27.8			25.6			31.7				
Approach LOS		C			C			C				
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.5		19.5	25.3	45.2						
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s		60.0		18.0	23.0	31.0						
Max Q Clear Time (g_c+I1), s		11.8		13.2	18.3	25.1						
Green Ext Time (p_c), s		0.1		0.3	1.0	0.2						

Intersection Summary			
HCM 6th Ctrl Delay			27.9
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	84	522	0	141	251
Future Vol, veh/h	22	84	522	0	141	251
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	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	24	93	580	0	157	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1173	580	0	0	580	0
Stage 1	580	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	248	550	-	-	757	-
Stage 1	557	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	197	550	-	-	757	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.6	0	4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	197	550	757	-
HCM Lane V/C Ratio	-	-	0.124	0.17	0.207	-
HCM Control Delay (s)	-	-	25.8	12.9	11	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	82	440	50	0	273
Future Vol, veh/h	0	82	440	50	0	273
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	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	1	-	-	1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	2	1	2	0	1
Mvmt Flow	0	91	489	56	0	303

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	517	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.1	-	-	-	-
Pot Cap-1 Maneuver	0	581	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	581	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	581	-
HCM Lane V/C Ratio	-	-	0.157	-
HCM Control Delay (s)	-	-	12.3	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

2027 Horizon Year Build Scenario
With Adjacent Development
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	389	113	260	254	134	86	90	237	229	140	104
Future Volume (vph)	130	389	113	260	254	134	86	90	237	229	140	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12	10	12	12	11	13	12
Grade (%)		-4%			4%			-1%			1%	
Storage Length (ft)	175		225	200		185	175		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	50			75			100			45		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.891			0.936	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1686	1757	1465	1620	1747	1485	1604	1589	0	1645	1732	0
Flt Permitted	0.527			0.364			0.441			0.213		
Satd. Flow (perm)	935	1757	1465	621	1747	1485	745	1589	0	369	1732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120			143		127			38	
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		827			370			459			336	
Travel Time (s)		14.1			6.3			12.5			6.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	3%	0%	1%	1%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	138	414	120	277	270	143	91	96	252	244	149	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	414	120	277	270	143	91	348	0	244	260	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.15	1.10	1.10	1.16	1.07	1.07	1.13	1.03	1.08
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template			Right									
Leading Detector (ft)	34	34	34	34	34	34	39	39		34	34	
Trailing Detector (ft)	-6	-6	-6	-6	-6	-6	-6	-6		-6	-6	
Detector 1 Position(ft)	-6	-6	-6	-6	-6	-6	-6	-6		-6	-6	
Detector 1 Size(ft)	40	40	40	40	40	40	45	45		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	10.0	3.0	3.0	10.0	3.0	3.0	3.0		3.0	3.0	
Minimum Split (s)	10.6	39.6	10.5	9.6	16.6	9.5	10.5	9.5		9.5	9.5	
Total Split (s)	12.8	41.2	12.7	12.8	41.2	16.0	12.7	20.0		16.0	23.3	
Total Split (%)	14.2%	45.8%	14.1%	14.2%	45.8%	17.8%	14.1%	22.2%		17.8%	25.9%	
Maximum Green (s)	7.0	34.8	7.0	7.0	34.8	10.3	7.0	14.5		10.3	17.8	
Yellow Time (s)	3.2	4.4	3.2	3.2	4.4	3.2	3.2	3.2		3.2	3.2	
All-Red Time (s)	2.6	2.0	2.5	2.6	2.0	2.5	2.5	2.3		2.5	2.3	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	4.8	5.4	4.7	4.8	5.4	4.7	4.7	4.5		4.7	4.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	13.0	0.0	0.0	13.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	None	None	C-Max	None	None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			26.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	44.5	36.0	49.2	44.7	36.1	52.8	22.9	15.3		29.9	18.8	
Actuated g/C Ratio	0.49	0.40	0.55	0.50	0.40	0.59	0.25	0.17		0.33	0.21	
v/c Ratio	0.26	0.59	0.14	0.70	0.39	0.15	0.34	0.93		0.87	0.66	
Control Delay	11.6	25.5	2.4	15.8	11.6	1.2	24.7	56.6		54.0	37.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	11.6	25.5	2.4	15.8	11.6	1.2	24.7	56.6		54.0	37.1	
LOS	B	C	A	B	B	A	C	E		D	D	
Approach Delay		18.5			11.1			50.0			45.3	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	29	145	0	36	59	0	28	102		84	93	
Queue Length 95th (ft)	53	222	19	m48	m76	m5	56	#235		#176	160	
Internal Link Dist (ft)		747			290			379			256	
Turn Bay Length (ft)	175		225	200		185	175			150		
Base Capacity (vph)	530	702	858	397	700	929	267	378		282	391	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.26	0.59	0.14	0.70	0.39	0.15	0.34	0.92		0.87	0.66	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 68 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 28.2 Intersection LOS: C
Intersection Capacity Utilization 86.8% ICU Level of Service E
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gettysburg Pike & South Market Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	682	187	84	492	0	0	0	0	400	0	235
Future Volume (vph)	0	682	187	84	492	0	0	0	0	400	0	235
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	12	12	12	12	12	12	14	12
Grade (%)		0%			0%			1%			-2%	
Storage Length (ft)	0		125	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.950	
Flt Protected				0.950							0.969	
Satd. Flow (prot)	0	1782	1515	1637	1765	0	0	0	0	0	1767	0
Flt Permitted				0.091							0.969	
Satd. Flow (perm)	0	1782	1515	157	1765	0	0	0	0	0	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			135								121	
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		199			608			453			537	
Travel Time (s)		4.5			10.4			10.3			12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	1%	1%	2%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	0	758	208	93	547	0	0	0	0	444	0	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	758	208	93	547	0	0	0	0	0	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.12	1.07	1.07	1.08	1.08	1.08	1.06	0.97	1.06
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	1	
Detector Template										Left		
Leading Detector (ft)		44	44	44	44					20	44	
Trailing Detector (ft)		-6	-6	-6	-6					0	-6	
Detector 1 Position(ft)		-6	-6	-6	-6					0	-6	
Detector 1 Size(ft)		50	50	50	50					20	50	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												

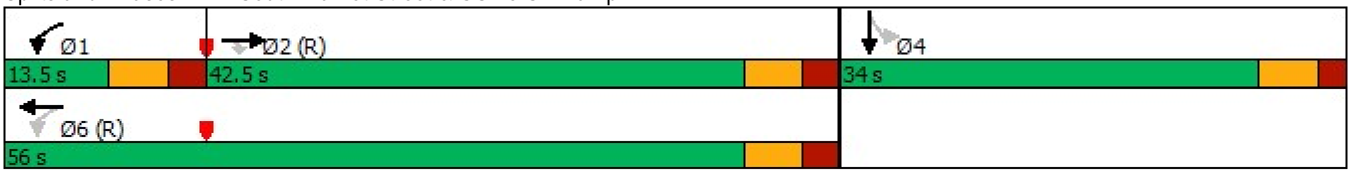
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)		4.0	4.0	4.0	15.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.5	21.5					10.0	10.0	
Total Split (s)		42.5	42.5	13.5	56.0					34.0	34.0	
Total Split (%)		47.2%	47.2%	15.0%	62.2%					37.8%	37.8%	
Maximum Green (s)		36.0	36.0	7.0	49.5					28.0	28.0	
Yellow Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
All-Red Time (s)		2.5	2.5	2.5	2.5					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						-1.0	
Total Lost Time (s)		5.5	5.5	5.5	5.5						5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		1.0	1.0	3.0	1.0					3.0	3.0	
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Walk Time (s)		8.0	8.0		8.0					7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		17.0					16.0	16.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effct Green (s)		39.7	39.7	50.5	50.5						29.0	
Actuated g/C Ratio		0.44	0.44	0.56	0.56						0.32	
v/c Ratio		0.97	0.28	0.43	0.55						1.08	
Control Delay		44.4	7.2	8.3	6.8						86.3	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay		44.4	7.2	8.3	6.8						86.3	
LOS		D	A	A	A						F	
Approach Delay		36.4			7.0						86.3	
Approach LOS		D			A						F	
Queue Length 50th (ft)		~383	19	6	125						~323	
Queue Length 95th (ft)		m#502	m45	m6	m121						#497	
Internal Link Dist (ft)		119			528			373			457	
Turn Bay Length (ft)			125	100								
Base Capacity (vph)		785	743	219	990						651	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.97	0.28	0.42	0.55						1.08	

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 32 (36%), Referenced to phase 2:EBT and 6:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 43.5	Intersection LOS: D
Intersection Capacity Utilization 94.7%	ICU Level of Service F
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: South Market Street & US 15 SB Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	469	0	0	370	167	215	0	96	0	0	0
Future Volume (vph)	620	469	0	0	370	167	215	0	96	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	11	12	12	12	11	12	14	12	12	12	12
Grade (%)		0%			0%			-1%			0%	
Storage Length (ft)	125		0	0		260	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.958				
Flt Protected	0.950							0.967				
Satd. Flow (prot)	1693	1723	0	0	1765	1464	0	1759	0	0	0	0
Flt Permitted	0.185							0.967				
Satd. Flow (perm)	330	1723	0	0	1765	1464	0	1759	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						194		109				
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		608			326			414			668	
Travel Time (s)		10.4			5.6			9.4			15.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	1%	0%	0%	2%	1%	1%	0%	3%	0%	0%	0%
Adj. Flow (vph)	721	545	0	0	430	194	250	0	112	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	721	545	0	0	430	194	0	362	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.12	1.07	1.07	1.07	1.12	1.07	0.98	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1	1	1	1				
Detector Template							Left					
Leading Detector (ft)	40	40			40	40	20	40				
Trailing Detector (ft)	-10	-10			-10	-10	0	-10				
Detector 1 Position(ft)	-10	-10			-10	-10	0	-10				
Detector 1 Size(ft)	50	50			50	50	20	50				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2					6	4					
Detector Phase	5	2			6	6	4	4				
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	15.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	10.0	31.0			21.0	21.0	16.0	16.0				
Total Split (s)	38.0	69.0			31.0	31.0	21.0	21.0				
Total Split (%)	42.2%	76.7%			34.4%	34.4%	23.3%	23.3%				
Maximum Green (s)	32.0	63.0			25.0	25.0	15.0	15.0				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	1.0			1.0	1.0	3.0	3.0				
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Walk Time (s)		8.0			8.0	8.0	7.0	7.0				
Flash Dont Walk (s)		17.0			17.0	17.0	16.0	16.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	64.3	64.3			26.3	26.3		15.7				
Actuated g/C Ratio	0.71	0.71			0.29	0.29		0.17				
v/c Ratio	0.98	0.44			0.83	0.34		0.91				
Control Delay	33.2	1.4			46.1	5.7		54.9				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	33.2	1.4			46.1	5.7		54.9				
LOS	C	A			D	A		D				
Approach Delay		19.5			33.5			54.9				
Approach LOS		B			C			D				
Queue Length 50th (ft)	315	19			183	0		116				
Queue Length 95th (ft)	m222	m19			#288	34		#225				
Internal Link Dist (ft)		528			246			334			588	
Turn Bay Length (ft)	125					260						
Base Capacity (vph)	735	1231			515	564		402				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.98	0.44			0.83	0.34		0.90				

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 29.1 — Intersection LOS: C

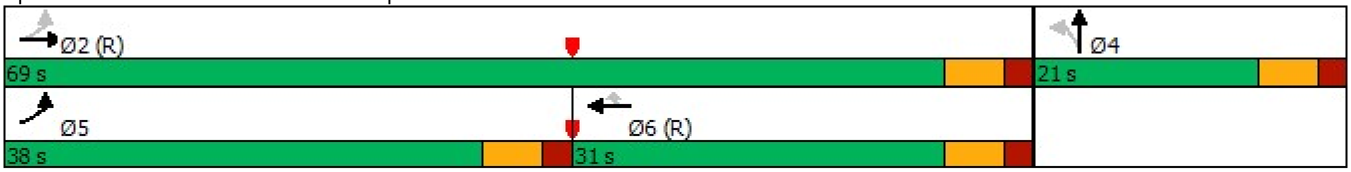
Intersection Capacity Utilization 94.7% — ICU Level of Service F

Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15 NB Ramp & South Market Street



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	55	357	0	116	399
Future Volume (vph)	22	55	357	0	116	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	10	10
Grade (%)	-1%		-4%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					0.989
Satd. Flow (prot)	1778	1591	1773	0	0	1672
Flt Permitted	0.950					0.989
Satd. Flow (perm)	1778	1591	1773	0	0	1672
Link Speed (mph)	25		25			25
Link Distance (ft)	306		420			459
Travel Time (s)	8.3		11.5			12.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	24	61	397	0	129	443
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	61	397	0	0	572
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.07	1.07	1.12	1.12
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 59.5%		ICU Level of Service B
Analysis Period (min) 15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	53	304	27	0	421
Future Volume (vph)	0	53	304	27	0	421
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.989			
Flt Protected						
Satd. Flow (prot)	0	1603	1833	0	0	1835
Flt Permitted						
Satd. Flow (perm)	0	1603	1833	0	0	1835
Link Speed (mph)	25		25			25
Link Distance (ft)	315		365			420
Travel Time (s)	8.6		10.0			11.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	2%	2%	0%	3%
Adj. Flow (vph)	0	59	338	30	0	468
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	59	368	0	0	468
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 27.6%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	65	16	20	54	0	0	8	0	0	16	23
Future Volume (vph)	35	65	16	20	54	0	0	8	0	0	16	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970									0.920	
Flt Protected	0.950				0.987							
Satd. Flow (prot)	1717	1753	0	0	1894	0	0	1909	0	0	1688	0
Flt Permitted	0.950				0.987							
Satd. Flow (perm)	1717	1753	0	0	1894	0	0	1909	0	0	1688	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		240			194			192			180	
Travel Time (s)		6.5			5.3			5.2			4.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	72	18	22	60	0	0	9	0	0	18	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	90	0	0	82	0	0	9	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.97	0.97	0.97	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 20.6%		ICU Level of Service A
Analysis Period (min) 15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	389	113	260	254	134	86	90	237	229	140	104
Future Volume (veh/h)	130	389	113	260	254	134	86	90	237	229	140	104
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1949	1935	1906	1711	1697	1697	1837	1837	1809	1794	1866	1794
Adj Flow Rate, veh/h	138	414	106	277	270	82	91	96	202	244	149	96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	3	0	1	1	0	0	2	0	0	0
Cap, veh/h	541	770	754	413	700	774	315	91	191	295	243	157
Arrive On Green	0.07	0.40	0.40	0.09	0.41	0.41	0.07	0.17	0.17	0.13	0.23	0.23
Sat Flow, veh/h	1856	1935	1616	1629	1697	1438	1750	528	1110	1709	1060	683
Grp Volume(v), veh/h	138	414	106	277	270	82	91	0	298	244	0	245
Grp Sat Flow(s),veh/h/ln	1856	1935	1616	1629	1697	1438	1750	0	1637	1709	0	1743
Q Serve(g_s), s	3.8	14.8	3.4	8.0	10.0	2.5	3.7	0.0	15.5	10.2	0.0	11.3
Cycle Q Clear(g_c), s	3.8	14.8	3.4	8.0	10.0	2.5	3.7	0.0	15.5	10.2	0.0	11.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.39
Lane Grp Cap(c), veh/h	541	770	754	413	700	774	315	0	282	295	0	399
V/C Ratio(X)	0.26	0.54	0.14	0.67	0.39	0.11	0.29	0.00	1.06	0.83	0.00	0.61
Avail Cap(c_a), veh/h	568	770	754	413	700	774	350	0	282	295	0	399
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	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.0	20.8	13.7	18.0	18.5	10.2	27.6	0.0	37.3	26.0	0.0	31.1
Incr Delay (d2), s/veh	0.2	2.7	0.4	4.2	1.6	0.3	0.5	0.0	69.3	17.6	0.0	2.8
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	2.7	11.0	2.3	6.5	7.1	1.5	2.9	0.0	17.6	9.2	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	23.5	14.1	22.2	20.1	10.5	28.1	0.0	106.6	43.5	0.0	33.9
LnGrp LOS	B	C	B	C	C	B	C	A	F	D	A	C
Approach Vol, veh/h		658			629			389			489	
Approach Delay, s/veh		20.0			19.7			88.2			38.7	
Approach LOS		C			B			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	41.2	10.9	25.1	11.5	42.5	16.0	20.0
Change Period (Y+Rc), s	* 5.8	6.4	* 5.7	5.5	* 5.8	6.4	* 5.7	5.5
Max Green Setting (Gmax), s	* 7	34.8	* 7	17.8	* 7	34.8	* 10	14.5
Max Q Clear Time (g_c+I1), s	10.0	16.8	5.7	13.3	5.8	12.0	12.2	17.5
Green Ext Time (p_c), s	0.0	4.9	0.0	0.3	0.0	3.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	682	187	84	492	0	0	0	0	400	0	235
Future Volume (veh/h)	0	682	187	84	492	0	0	0	0	400	0	235
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1786	1786	1786	1772	0				1860	1950	1860
Adj Flow Rate, veh/h	0	758	0	93	547	0				444	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	1	1	1	2	0				1	0	1
Cap, veh/h	0	886		256	1083	0				505	0	
Arrive On Green	0.00	0.50	0.00	0.07	0.81	0.00				0.27	0.00	0.00
Sat Flow, veh/h	0	1786	1514	1701	1772	0				1857	0	0
Grp Volume(v), veh/h	0	758	0	93	547	0				444	0	0
Grp Sat Flow(s),veh/h/ln	0	1786	1514	1701	1772	0				1857	0	0
Q Serve(g_s), s	0.0	33.4	0.0	2.2	8.8	0.0				20.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	33.4	0.0	2.2	8.8	0.0				20.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	886		256	1083	0				505	0	
V/C Ratio(X)	0.00	0.86		0.36	0.50	0.00				0.88	0.00	
Avail Cap(c_a), veh/h	0	886		315	1083	0				598	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.44	0.44	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.8	0.0	16.4	4.1	0.0				31.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	10.3	0.0	0.4	0.7	0.0				12.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	21.8	0.0	1.3	3.8	0.0				16.1	0.0	0.0
Unsig. Movement Delay, s/veh												6.00
LnGrp Delay(d),s/veh	0.0	30.2	0.0	16.8	4.8	0.0				43.9	0.0	6.0
LnGrp LOS	A	C		B	A	A				D	A	A
Approach Vol, veh/h		758	A		640						599	A
Approach Delay, s/veh		30.2			6.6						34.1	
Approach LOS		C			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	50.2		29.5		60.5
Change Period (Y+Rc), s	6.5	6.5		6.0		6.5
Max Green Setting (Gmax), s	7.0	36.0		28.0		49.5
Max Q Clear Time (g_c+I1), s	4.2	35.4		22.6		10.8
Green Ext Time (p_c), s	0.1	0.1		0.9		0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [SBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	469	0	0	370	167	215	0	96	0	0	0
Future Volume (veh/h)	620	469	0	0	370	167	215	0	96	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1786	1786	0	0	1772	1786	1823	1911	1795			
Adj Flow Rate, veh/h	721	545	0	0	430	0	250	0	0			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86			
Percent Heavy Veh, %	1	1	0	0	2	1	1	0	3			
Cap, veh/h	768	1290	0	0	548		304	0				
Arrive On Green	0.24	0.48	0.00	0.00	0.31	0.00	0.17	0.00	0.00			
Sat Flow, veh/h	1701	1786	0	0	1772	1514	1820	0	0			
Grp Volume(v), veh/h	721	545	0	0	430	0	250	0	0			
Grp Sat Flow(s),veh/h/ln	1701	1786	0	0	1772	1514	1820	0	0			
Q Serve(g_s), s	28.7	17.8	0.0	0.0	19.9	0.0	11.9	0.0	0.0			
Cycle Q Clear(g_c), s	28.7	17.8	0.0	0.0	19.9	0.0	11.9	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	768	1290	0	0	548		304	0				
V/C Ratio(X)	0.94	0.42	0.00	0.00	0.78		0.82	0.00				
Avail Cap(c_a), veh/h	784	1290	0	0	548		324	0				
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.17	0.17	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	23.0	11.1	0.0	0.0	28.3	0.0	36.2	0.0	0.0			
Incr Delay (d2), s/veh	4.6	0.2	0.0	0.0	10.7	0.0	15.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	19.0	9.2	0.0	0.0	14.6	0.0	10.6	0.0	0.0			
Unsig. Movement Delay, s/veh									6.00			
LnGrp Delay(d),s/veh	27.6	11.2	0.0	0.0	39.1	0.0	51.2	0.0	6.0			
LnGrp LOS	C	B	A	A	D		D	A	A			
Approach Vol, veh/h		1266			430	A		362	A			
Approach Delay, s/veh		20.6			39.1			37.2				
Approach LOS		C			D			D				
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		70.0		20.0	37.1	32.8						
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s		63.0		15.0	32.0	25.0						
Max Q Clear Time (g_c+I1), s		19.8		13.9	30.7	21.9						
Green Ext Time (p_c), s		0.3		0.1	0.5	0.1						
Intersection Summary												
HCM 6th Ctrl Delay			27.4									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	2.4					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	55	357	0	116	399
Future Vol, veh/h	22	55	357	0	116	399
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, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	24	61	397	0	129	443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1098	397	0	0	397	0
Stage 1	397	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	275	698	-	-	877	-
Stage 1	711	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	221	698	-	-	877	-
Mov Cap-2 Maneuver	221	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	461	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	221	698	877	-
HCM Lane V/C Ratio	-	-	0.111	0.088	0.147	-
HCM Control Delay (s)	-	-	23.3	10.7	9.8	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.5	-

Intersection						
Int Delay, s/veh	0.7					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	53	304	27	0	421
Future Vol, veh/h	0	53	304	27	0	421
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	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	1	-	-	1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	2	2	2	0	3
Mvmt Flow	0	59	338	30	0	468

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	353	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.1	-	-	-	-
Pot Cap-1 Maneuver	0	725	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	725	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	725	-
HCM Lane V/C Ratio	-	-	0.081	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱			✣			✣			✣	
Traffic Vol, veh/h	35	65	16	20	54	0	0	8	0	0	16	23
Future Vol, veh/h	35	65	16	20	54	0	0	8	0	0	16	23
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	72	18	22	60	0	0	9	0	0	18	26
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8	7.8	7.5	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	27%	0%
Vol Thru, %	100%	0%	80%	73%	41%
Vol Right, %	0%	0%	20%	0%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	8	35	81	74	39
LT Vol	0	35	0	20	0
Through Vol	8	0	65	54	16
RT Vol	0	0	16	0	23
Lane Flow Rate	9	39	90	82	43
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.011	0.056	0.113	0.098	0.049
Departure Headway (Hd)	4.474	5.169	4.53	4.275	4.084
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	804	691	789	830	882
Service Time	2.476	2.91	2.27	2.344	2.084
HCM Lane V/C Ratio	0.011	0.056	0.114	0.099	0.049
HCM Control Delay	7.5	8.2	7.9	7.8	7.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0	0.2	0.4	0.3	0.2

2027 Horizon Year Mitigation Scenario
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	389	113	260	254	134	86	90	237	229	140	104
Future Volume (vph)	130	389	113	260	254	134	86	90	237	229	140	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12	10	12	12	11	13	12
Grade (%)		-4%			4%			-1%			1%	
Storage Length (ft)	175		225	200		185	175		200	260		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	50			75			100			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966				0.850			0.850		0.936	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1686	3211	0	1620	1747	1485	1604	1809	1507	1645	1732	0
Flt Permitted	0.593			0.319			0.420			0.600		
Satd. Flow (perm)	1052	3211	0	544	1747	1485	709	1809	1507	1039	1732	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48				143			181		47	
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		827			370			459			336	
Travel Time (s)		14.1			6.3			12.5			6.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	3%	0%	1%	1%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	138	414	120	277	270	143	91	96	252	244	149	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	534	0	277	270	143	91	96	252	244	260	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.15	1.10	1.10	1.16	1.07	1.07	1.13	1.03	1.08
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	34	34		34	34	34	39	39	39	34	34	
Trailing Detector (ft)	-6	-6		-6	-6	-6	-6	-6	-6	-6	-6	
Detector 1 Position(ft)	-6	-6		-6	-6	-6	-6	-6	-6	-6	-6	
Detector 1 Size(ft)	40	40		40	40	40	45	45	45	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												

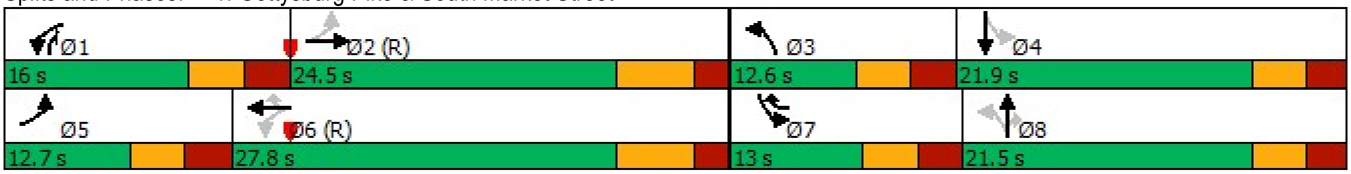
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.8	22.4		9.8	26.5	9.7	9.8	21.5	9.8	9.7	21.5	
Total Split (s)	12.7	24.5		16.0	27.8	13.0	12.6	21.5	16.0	13.0	21.9	
Total Split (%)	16.9%	32.7%		21.3%	37.1%	17.3%	16.8%	28.7%	21.3%	17.3%	29.2%	
Maximum Green (s)	7.0	18.1		10.3	21.4	7.4	7.0	16.1	10.3	7.4	16.5	
Yellow Time (s)	3.1	4.4		3.1	4.4	3.1	3.1	3.1	3.1	3.1	3.1	
All-Red Time (s)	2.6	2.0		2.6	2.0	2.5	2.5	2.3	2.6	2.5	2.3	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.7	5.4		4.7	5.4	4.6	4.6	4.4	4.7	4.6	4.4	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		3.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	25.0		0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	13.0		0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			26.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	33.4	25.0		40.0	30.3	45.2	20.1	13.8	26.7	21.2	14.7	
Actuated g/C Ratio	0.45	0.33		0.53	0.40	0.60	0.27	0.18	0.36	0.28	0.20	
v/c Ratio	0.26	0.49		0.62	0.38	0.15	0.32	0.29	0.39	0.67	0.69	
Control Delay	12.2	21.9		14.8	12.8	0.8	18.8	27.2	6.4	29.1	32.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	12.2	21.9		14.8	12.8	0.8	18.8	27.2	6.4	29.1	32.4	
LOS	B	C		B	B	A	B	C	A	C	C	
Approach Delay		19.9			11.1			13.5			30.8	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	26	81		30	40	0	22	30	16	65	72	
Queue Length 95th (ft)	53	124		m78	m92	m1	44	60	49	108	129	
Internal Link Dist (ft)		747			290			379			256	
Turn Bay Length (ft)	175			200		185	175		200	260		
Base Capacity (vph)	539	1100		452	704	951	287	412	663	363	440	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.49		0.61	0.38	0.15	0.32	0.23	0.38	0.67	0.59	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 38 (51%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 18.4 Intersection LOS: B
Intersection Capacity Utilization 65.6% ICU Level of Service C
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gettysburg Pike & South Market Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	682	187	84	492	0	0	0	0	400	0	235
Future Volume (vph)	0	682	187	84	492	0	0	0	0	400	0	235
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	12	12	12	12	12	12	14	12
Grade (%)		0%			0%			1%			-2%	
Storage Length (ft)	0		125	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			100			25			25		
Lane Util. Factor	1.00	*0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.950	
Flt Protected				0.950							0.969	
Satd. Flow (prot)	0	3137	1530	1653	1765	0	0	0	0	0	1767	0
Flt Permitted				0.160							0.969	
Satd. Flow (perm)	0	3137	1530	278	1765	0	0	0	0	0	1767	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			208								145	
Link Speed (mph)		30			40			30			30	
Link Distance (ft)		199			608			453			537	
Travel Time (s)		4.5			10.4			10.3			12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	0	758	208	93	547	0	0	0	0	444	0	261
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	758	208	93	547	0	0	0	0	0	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.12	1.07	1.07	1.08	1.08	1.08	1.06	0.97	1.06
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	1	
Detector Template										Left		
Leading Detector (ft)		44	44	44	44					20	44	
Trailing Detector (ft)		-6	-6	-6	-6					0	-6	
Detector 1 Position(ft)		-6	-6	-6	-6					0	-6	
Detector 1 Size(ft)		50	50	50	50					20	50	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												

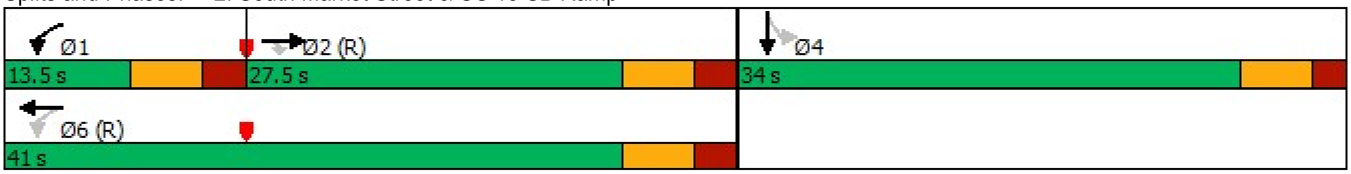
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)		4.0	4.0	4.0	15.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.5	21.5					10.0	10.0	
Total Split (s)		27.5	27.5	13.5	41.0					34.0	34.0	
Total Split (%)		36.7%	36.7%	18.0%	54.7%					45.3%	45.3%	
Maximum Green (s)		21.0	21.0	7.0	34.5					28.0	28.0	
Yellow Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
All-Red Time (s)		2.5	2.5	2.5	2.5					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						-1.0	
Total Lost Time (s)		5.5	5.5	5.5	5.5						5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		1.0	1.0	3.0	1.0					3.0	3.0	
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Walk Time (s)		8.0	8.0		8.0					7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		17.0					16.0	16.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effct Green (s)		25.6	25.6	36.4	36.4						28.1	
Actuated g/C Ratio		0.34	0.34	0.49	0.49						0.37	
v/c Ratio		0.71	0.32	0.34	0.64						0.94	
Control Delay		29.2	8.5	5.5	9.5						40.3	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay		29.2	8.5	5.5	9.5						40.3	
LOS		C	A	A	A						D	
Approach Delay		24.8			8.9						40.3	
Approach LOS		C			A						D	
Queue Length 50th (ft)		126	3	11	150						199	
Queue Length 95th (ft)		#206	m49	m11	m178						#377	
Internal Link Dist (ft)		119			528			373			457	
Turn Bay Length (ft)			125	100								
Base Capacity (vph)		1072	659	281	857						772	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.71	0.32	0.33	0.64						0.91	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 34 (45%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 25.1 Intersection LOS: C
Intersection Capacity Utilization 88.1% ICU Level of Service E
Analysis Period (min) 15
* User Entered Value
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: South Market Street & US 15 SB Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	469	0	0	370	167	215	0	96	0	0	0
Future Volume (vph)	620	469	0	0	370	167	215	0	96	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	11	12	12	12	11	12	14	12	12	12	12
Grade (%)		0%			0%			-1%			0%	
Storage Length (ft)	0		0	0		260	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			25			25			25		
Lane Util. Factor	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.958				
Flt Protected	0.950							0.967				
Satd. Flow (prot)	1693	1723	0	0	1765	1464	0	1759	0	0	0	0
Flt Permitted	0.197							0.967				
Satd. Flow (perm)	351	1723	0	0	1765	1464	0	1759	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						194		131				
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		608			326			414			668	
Travel Time (s)		10.4			5.6			9.4			15.2	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	1%	1%	0%	0%	2%	1%	1%	0%	3%	0%	0%	0%
Adj. Flow (vph)	721	545	0	0	430	194	250	0	112	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	721	545	0	0	430	194	0	362	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		23			23			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.12	1.07	1.07	1.07	1.12	1.07	0.98	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1	1	1	1				
Detector Template							Left					
Leading Detector (ft)	40	40			40	40	20	40				
Trailing Detector (ft)	-10	-10			-10	-10	0	-10				
Detector 1 Position(ft)	-10	-10			-10	-10	0	-10				
Detector 1 Size(ft)	50	50			50	50	20	50				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2					6	4					
Detector Phase	5	2			6	6	4	4				
Switch Phase												

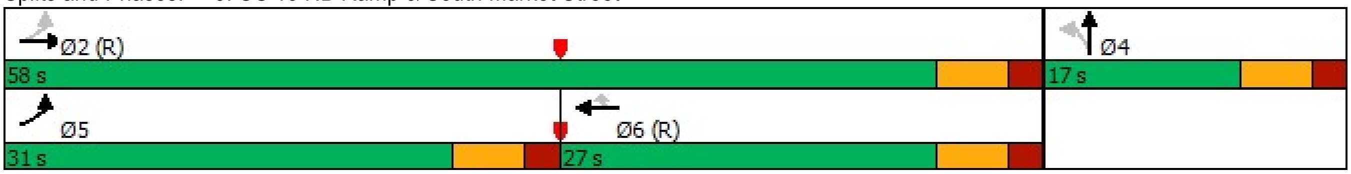
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	15.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	10.0	31.0			21.0	21.0	16.0	16.0				
Total Split (s)	31.0	58.0			27.0	27.0	17.0	17.0				
Total Split (%)	41.3%	77.3%			36.0%	36.0%	22.7%	22.7%				
Maximum Green (s)	25.0	52.0			21.0	21.0	11.0	11.0				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	1.0			1.0	1.0	3.0	3.0				
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Walk Time (s)		8.0			8.0	8.0	7.0	7.0				
Flash Dont Walk (s)		17.0			17.0	17.0	16.0	16.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	53.0	53.0			22.0	22.0		12.0				
Actuated g/C Ratio	0.71	0.71			0.29	0.29		0.16				
v/c Ratio	1.01	0.45			0.83	0.34		0.93				
Control Delay	42.6	2.8			41.0	5.3		52.7				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	42.6	2.8			41.0	5.3		52.7				
LOS	D	A			D	A		D				
Approach Delay		25.4			29.9			52.7				
Approach LOS		C			C			D				
Queue Length 50th (ft)	195	17			148	0		87				
Queue Length 95th (ft)	#296	m34			#248	31		#195				
Internal Link Dist (ft)		528			246			334			588	
Turn Bay Length (ft)						260						
Base Capacity (vph)	713	1217			517	566		391				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	1.01	0.45			0.83	0.34		0.93				

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 31.1 Intersection LOS: C
Intersection Capacity Utilization 88.1% ICU Level of Service E
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15 NB Ramp & South Market Street



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	55	357	0	116	399
Future Volume (vph)	22	55	357	0	116	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	10	10
Grade (%)	-1%		-4%			4%
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1778	1591	1773	0	1619	1687
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1778	1591	1773	0	1619	1687
Link Speed (mph)	25		25			25
Link Distance (ft)	306		420			459
Travel Time (s)	8.3		11.5			12.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	24	61	397	0	129	443
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	61	397	0	129	443
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.99	0.99	1.07	1.07	1.12	1.12
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.5% ICU Level of Service A

Analysis Period (min) 15

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	53	304	27	0	421
Future Volume (vph)	0	53	304	27	0	421
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.989			
Flt Protected						
Satd. Flow (prot)	0	1603	1833	0	0	1835
Flt Permitted						
Satd. Flow (perm)	0	1603	1833	0	0	1835
Link Speed (mph)	25		25			25
Link Distance (ft)	315		365			420
Travel Time (s)	8.6		10.0			11.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	2%	2%	0%	3%
Adj. Flow (vph)	0	59	338	30	0	468
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	59	368	0	0	468
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 27.6%	ICU Level of Service A
Analysis Period (min) 15	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	389	113	260	254	134	86	90	237	229	140	104
Future Volume (veh/h)	130	389	113	260	254	134	86	90	237	229	140	104
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1949	1935	1906	1711	1697	1697	1837	1837	1809	1794	1866	1794
Adj Flow Rate, veh/h	138	414	106	277	270	82	91	96	202	244	149	96
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	3	0	1	1	0	0	2	0	0	0
Cap, veh/h	552	977	248	509	672	730	292	284	455	399	206	132
Arrive On Green	0.08	0.34	0.34	0.14	0.40	0.40	0.07	0.15	0.15	0.11	0.19	0.19
Sat Flow, veh/h	1856	2904	737	1629	1697	1438	1750	1837	1533	1709	1060	683
Grp Volume(v), veh/h	138	261	259	277	270	82	91	96	202	244	0	245
Grp Sat Flow(s),veh/h/ln	1856	1838	1802	1629	1697	1438	1750	1837	1533	1709	0	1743
Q Serve(g_s), s	3.5	8.2	8.4	7.6	8.6	2.2	3.2	3.5	8.0	8.4	0.0	9.9
Cycle Q Clear(g_c), s	3.5	8.2	8.4	7.6	8.6	2.2	3.2	3.5	8.0	8.4	0.0	9.9
Prop In Lane	1.00		0.41	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	552	619	607	509	672	730	292	284	455	399	0	338
V/C Ratio(X)	0.25	0.42	0.43	0.54	0.40	0.11	0.31	0.34	0.44	0.61	0.00	0.72
Avail Cap(c_a), veh/h	596	619	607	523	672	730	352	419	568	399	0	407
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.8	19.2	19.3	12.2	16.3	9.6	24.0	28.3	21.4	23.7	0.0	28.3
Incr Delay (d2), s/veh	0.2	2.1	2.2	1.1	1.8	0.3	0.6	0.7	0.7	2.7	0.0	5.1
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	2.4	6.4	6.4	4.5	6.0	1.3	2.4	2.8	5.2	6.7	0.0	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	21.3	21.5	13.3	18.1	9.9	24.6	29.0	22.0	26.4	0.0	33.4
LnGrp LOS	B	C	C	B	B	A	C	C	C	C	A	C
Approach Vol, veh/h		658			629			389			489	
Approach Delay, s/veh		19.9			14.9			24.4			29.9	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	30.6	10.0	18.9	10.9	35.1	13.0	16.0
Change Period (Y+Rc), s	5.7	6.4	5.6	* 5.4	5.7	6.4	5.6	* 5.4
Max Green Setting (Gmax), s	10.3	18.1	7.0	* 17	7.0	21.4	7.4	* 16
Max Q Clear Time (g_c+I1), s	9.6	10.4	5.2	11.9	5.5	10.6	10.4	10.0
Green Ext Time (p_c), s	0.1	2.8	0.0	0.3	0.0	2.4	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	682	187	84	492	0	0	0	0	400	0	235
Future Volume (veh/h)	0	682	187	84	492	0	0	0	0	400	0	235
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1786	1800	1800	1772	0				1860	1950	1860
Adj Flow Rate, veh/h	0	758	0	93	547	0				444	0	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90				0.90	0.90	0.90
Percent Heavy Veh, %	0	1	0	0	2	0				1	0	1
Cap, veh/h	0	1399		381	1024	0				523	0	
Arrive On Green	0.00	0.44	0.00	0.06	0.58	0.00				0.28	0.00	0.00
Sat Flow, veh/h	0	3358	1525	1714	1772	0				1857	0	0
Grp Volume(v), veh/h	0	758	0	93	547	0				444	0	0
Grp Sat Flow(s),veh/h/ln	0	1572	1525	1714	1772	0				1857	0	0
Q Serve(g_s), s	0.0	13.2	0.0	2.0	14.1	0.0				16.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.2	0.0	2.0	14.1	0.0				16.9	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1399		381	1024	0				523	0	
V/C Ratio(X)	0.00	0.54		0.24	0.53	0.00				0.85	0.00	
Avail Cap(c_a), veh/h	0	1399		462	1024	0				718	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.44	0.44	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	15.2	0.0	10.5	9.7	0.0				25.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.1	0.9	0.0				7.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.2	0.0	1.2	6.9	0.0				12.7	0.0	0.0
Unsig. Movement Delay, s/veh												6.00
LnGrp Delay(d),s/veh	0.0	16.7	0.0	10.6	10.5	0.0				32.4	0.0	6.0
LnGrp LOS	A	B		B	B	A				C	A	A
Approach Vol, veh/h		758	A		640						599	A
Approach Delay, s/veh		16.7			10.6						25.6	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.0	38.9		26.1		48.9						
Change Period (Y+Rc), s	6.5	6.5		6.0		6.5						
Max Green Setting (Gmax), s	7.0	21.0		28.0		34.5						
Max Q Clear Time (g_c+I1), s	4.0	15.2		18.9		16.1						
Green Ext Time (p_c), s	0.1	0.6		1.2		0.3						

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [SBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	620	469	0	0	370	167	215	0	96	0	0	0
Future Volume (veh/h)	620	469	0	0	370	167	215	0	96	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1786	1786	0	0	1772	1786	1823	1911	1795			
Adj Flow Rate, veh/h	721	545	0	0	430	0	250	0	0			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86			
Percent Heavy Veh, %	1	1	0	0	2	1	1	0	3			
Cap, veh/h	747	1262	0	0	520		291	0				
Arrive On Green	0.46	0.94	0.00	0.00	0.29	0.00	0.16	0.00	0.00			
Sat Flow, veh/h	1701	1786	0	0	1772	1514	1820	0	0			
Grp Volume(v), veh/h	721	545	0	0	430	0	250	0	0			
Grp Sat Flow(s),veh/h/ln	1701	1786	0	0	1772	1514	1820	0	0			
Q Serve(g_s), s	23.4	2.3	0.0	0.0	17.0	0.0	10.0	0.0	0.0			
Cycle Q Clear(g_c), s	23.4	2.3	0.0	0.0	17.0	0.0	10.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	747	1262	0	0	520		291	0				
V/C Ratio(X)	0.97	0.43	0.00	0.00	0.83		0.86	0.00				
Avail Cap(c_a), veh/h	747	1262	0	0	520		291	0				
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.64	0.64	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	11.3	0.7	0.0	0.0	24.7	0.0	30.7	0.0	0.0			
Incr Delay (d2), s/veh	18.6	0.7	0.0	0.0	14.0	0.0	21.8	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	12.0	1.0	0.0	0.0	13.3	0.0	10.0	0.0	0.0			
Unsig. Movement Delay, s/veh									6.00			
LnGrp Delay(d),s/veh	29.9	1.4	0.0	0.0	38.8	0.0	52.4	0.0	6.0			
LnGrp LOS	C	A	A	A	D		D	A	A			
Approach Vol, veh/h		1266			430	A		362	A			
Approach Delay, s/veh		17.6			38.8			38.1				
Approach LOS		B			D			D				
Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		58.0		17.0	31.0	27.0						
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s		52.0		11.0	25.0	21.0						
Max Q Clear Time (g_c+I1), s		4.3		12.0	25.4	19.0						
Green Ext Time (p_c), s		0.3		0.0	0.0	0.1						
Intersection Summary												
HCM 6th Ctrl Delay			25.6									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	55	357	0	116	399
Future Vol, veh/h	22	55	357	0	116	399
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	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	24	61	397	0	129	443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1098	397	0	0	397	0
Stage 1	397	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	275	698	-	-	877	-
Stage 1	711	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	235	698	-	-	877	-
Mov Cap-2 Maneuver	235	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	489	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	235	698	877	-
HCM Lane V/C Ratio	-	-	0.104	0.088	0.147	-
HCM Control Delay (s)	-	-	22.1	10.7	9.8	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.5	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	53	304	27	0	421
Future Vol, veh/h	0	53	304	27	0	421
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	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	1	-	-	1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	2	2	2	0	3
Mvmt Flow	0	59	338	30	0	468

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	353	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.1	-	-	-	-
Pot Cap-1 Maneuver	0	725	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	725	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	725	-
HCM Lane V/C Ratio	-	-	0.081	-
HCM Control Delay (s)	-	-	10.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.3	-

2027 Horizon Year Build Scenario With Adjacent Development Saturday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	266	98	210	300	124	116	108	252	240	134	113
Future Volume (vph)	101	266	98	210	300	124	116	108	252	240	134	113
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12	10	12	12	11	13	12
Grade (%)		-4%			4%			-1%			1%	
Storage Length (ft)	175		225	200		185	175		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	50			75			100			45		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.895			0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1686	1775	1509	1620	1764	1499	1604	1619	0	1645	1725	0
Flt Permitted	0.473			0.468			0.506			0.179		
Satd. Flow (perm)	839	1775	1509	798	1764	1499	854	1619	0	310	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			132		118			45	
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		827			370			468			336	
Travel Time (s)		14.1			6.3			12.8			6.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	107	283	104	223	319	132	123	115	268	255	143	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	283	104	223	319	132	123	383	0	255	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.15	1.10	1.10	1.16	1.07	1.07	1.13	1.03	1.08
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	
Detector Template			Right									
Leading Detector (ft)	34	34	20	34	34	34	39	39		34	34	
Trailing Detector (ft)	-6	-6	0	-6	-6	-6	-6	-6		-6	-6	
Detector 1 Position(ft)	-6	-6	0	-6	-6	-6	-6	-6		-6	-6	
Detector 1 Size(ft)	40	40	20	40	40	40	45	45		40	40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA		pm+pt	NA	
Protected Phases	5	2	3	1	6	7	3	8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	3	1	6	7	3	8		7	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.0	10.0	3.0	3.0	10.0	3.0	3.0	3.0		3.0	3.0	
Minimum Split (s)	10.6	39.6	10.5	9.6	16.6	9.5	10.5	9.5		9.5	9.5	
Total Split (s)	12.8	37.0	12.7	12.8	37.0	17.0	12.7	23.2		17.0	27.5	
Total Split (%)	14.2%	41.1%	14.1%	14.2%	41.1%	18.9%	14.1%	25.8%		18.9%	30.6%	
Maximum Green (s)	7.0	30.6	7.0	7.0	30.6	11.3	7.0	17.7		11.3	22.0	
Yellow Time (s)	3.2	4.4	3.2	3.2	4.4	3.2	3.2	3.2		3.2	3.2	
All-Red Time (s)	2.6	2.0	2.5	2.6	2.0	2.5	2.5	2.3		2.5	2.3	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	4.8	5.4	4.7	4.8	5.4	4.7	4.7	4.5		4.7	4.5	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0	3.0	3.0	6.0	3.0	3.0	3.0		3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	25.0	0.0	0.0	25.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	0.0	13.0	0.0	0.0	13.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	None	C-Max	None	None	C-Max	None	None	None		None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			26.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	40.7	32.3	45.6	41.8	34.8	52.5	25.8	18.0		34.5	22.4	
Actuated g/C Ratio	0.45	0.36	0.51	0.46	0.39	0.58	0.29	0.20		0.38	0.25	
v/c Ratio	0.24	0.44	0.13	0.50	0.47	0.14	0.40	0.92		0.85	0.57	
Control Delay	13.6	25.1	3.0	12.3	18.8	3.1	22.8	53.1		47.1	29.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	13.6	25.1	3.0	12.3	18.8	3.1	22.8	53.1		47.1	29.6	
LOS	B	C	A	B	B	A	C	D		D	C	
Approach Delay		17.9			13.6			45.7			38.2	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	25	98	0	45	93	9	36	121		81	85	
Queue Length 95th (ft)	48	156	20	m67	m148	m22	67	#255		#180	149	
Internal Link Dist (ft)		747			290			388			256	
Turn Bay Length (ft)	175		225	200		185	175			150		
Base Capacity (vph)	456	636	817	444	682	929	311	429		301	474	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.23	0.44	0.13	0.50	0.47	0.14	0.40	0.89		0.85	0.55	

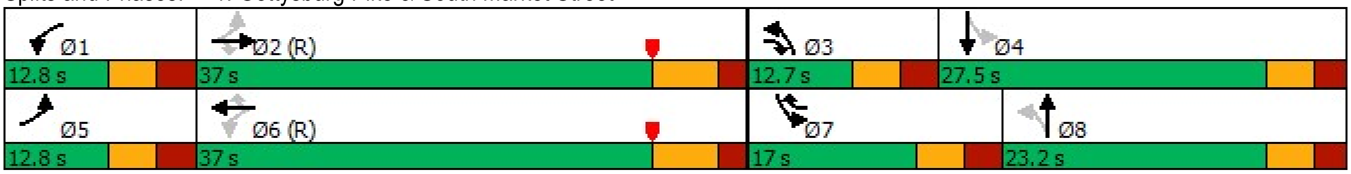
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 8 (9%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 27.8 Intersection LOS: C
Intersection Capacity Utilization 79.6% ICU Level of Service D
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gettysburg Pike & South Market Street



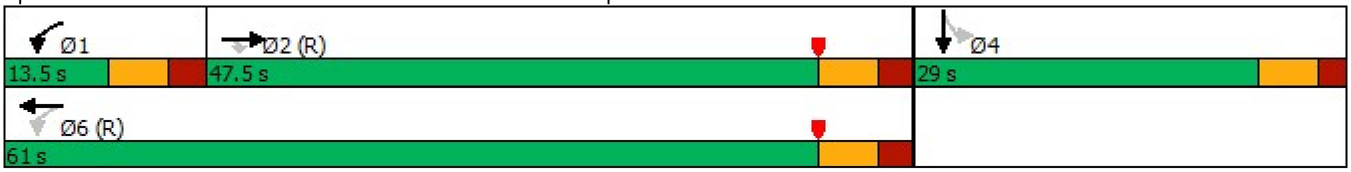
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	602	127	69	629	0	0	0	0	183	2	155
Future Volume (vph)	0	602	127	69	629	0	0	0	0	183	2	155
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	12	12	12	12	12	12	14	12
Grade (%)		0%			0%			1%			-2%	
Storage Length (ft)	0		125	100		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			100			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.938	
Flt Protected				0.950							0.974	
Satd. Flow (prot)	0	1782	1530	1653	1800	0	0	0	0	0	1754	0
Flt Permitted				0.208							0.974	
Satd. Flow (perm)	0	1782	1530	362	1800	0	0	0	0	0	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115								46	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		199			608			453			537	
Travel Time (s)		3.4			10.4			10.3			12.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	0	662	140	76	691	0	0	0	0	201	2	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	662	140	76	691	0	0	0	0	0	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.12	1.07	1.07	1.08	1.08	1.08	1.06	0.97	1.06
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	1	
Detector Template										Left		
Leading Detector (ft)		44	44	44	44					20	44	
Trailing Detector (ft)		-6	-6	-6	-6					0	-6	
Detector 1 Position(ft)		-6	-6	-6	-6					0	-6	
Detector 1 Size(ft)		50	50	50	50					20	50	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)		4.0	4.0	4.0	15.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.5	21.5					10.0	10.0	
Total Split (s)		47.5	47.5	13.5	61.0					29.0	29.0	
Total Split (%)		52.8%	52.8%	15.0%	67.8%					32.2%	32.2%	
Maximum Green (s)		41.0	41.0	7.0	54.5					23.0	23.0	
Yellow Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
All-Red Time (s)		2.5	2.5	2.5	2.5					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						-1.0	
Total Lost Time (s)		5.5	5.5	5.5	5.5						5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		1.0	1.0	3.0	1.0					3.0	3.0	
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Walk Time (s)		8.0	8.0		8.0					7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		17.0					16.0	16.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effct Green (s)		47.3	47.3	58.0	58.0						21.5	
Actuated g/C Ratio		0.53	0.53	0.64	0.64						0.24	
v/c Ratio		0.71	0.16	0.22	0.60						0.82	
Control Delay		19.8	4.0	6.3	10.5						43.7	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay		19.8	4.0	6.3	10.5						43.7	
LOS		B	A	A	B						D	
Approach Delay		17.0			10.1						43.7	
Approach LOS		B			B						D	
Queue Length 50th (ft)		232	5	6	154						138	
Queue Length 95th (ft)		m312	m10	m13	196						#238	
Internal Link Dist (ft)		119			528			373			457	
Turn Bay Length (ft)			125	100								
Base Capacity (vph)		935	858	347	1159						501	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.71	0.16	0.22	0.60						0.74	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: South Market Street & US 15 SB Ramp



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	573	0	0	469	219	228	1	44	0	0	0
Future Volume (vph)	215	573	0	0	469	219	228	1	44	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	11	12	12	12	11	12	14	12	12	12	12
Grade (%)		0%			0%			-1%			0%	
Storage Length (ft)	125		0	0		260	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	100			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.978				
Flt Protected	0.950							0.960				
Satd. Flow (prot)	1693	1740	0	0	1800	1479	0	1812	0	0	0	0
Flt Permitted	0.321							0.960				
Satd. Flow (perm)	572	1740	0	0	1800	1479	0	1812	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						233		10				
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		608			326			414			668	
Travel Time (s)		10.4			5.6			9.4			15.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	229	610	0	0	499	233	243	1	47	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	610	0	0	499	233	0	291	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.12	1.07	1.07	1.07	1.12	1.07	0.98	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1	1	1	1				
Detector Template							Left					
Leading Detector (ft)	40	40			40	40	20	40				
Trailing Detector (ft)	-10	-10			-10	-10	0	-10				
Detector 1 Position(ft)	-10	-10			-10	-10	0	-10				
Detector 1 Size(ft)	50	50			50	50	20	50				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2					6	4					
Detector Phase	5	2			6	6	4	4				
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	15.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	10.0	31.0			21.0	21.0	16.0	16.0				
Total Split (s)	15.0	62.0			47.0	47.0	28.0	28.0				
Total Split (%)	16.7%	68.9%			52.2%	52.2%	31.1%	31.1%				
Maximum Green (s)	9.0	56.0			41.0	41.0	22.0	22.0				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	1.0			1.0	1.0	3.0	3.0				
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Walk Time (s)		8.0			8.0	8.0	7.0	7.0				
Flash Dont Walk (s)		17.0			17.0	17.0	16.0	16.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	60.5	60.5			45.9	45.9		19.5				
Actuated g/C Ratio	0.67	0.67			0.51	0.51		0.22				
v/c Ratio	0.45	0.52			0.54	0.27		0.73				
Control Delay	10.3	8.8			18.8	2.9		42.3				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	10.3	8.8			18.8	2.9		42.3				
LOS	B	A			B	A		D				
Approach Delay		9.2			13.7			42.3				
Approach LOS		A			B			D				
Queue Length 50th (ft)	17	120			151	0		118				
Queue Length 95th (ft)	m46	159			242	30		181				
Internal Link Dist (ft)		528			246			334			588	
Turn Bay Length (ft)	125					260						
Base Capacity (vph)	509	1170			918	868		470				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.45	0.52			0.54	0.27		0.62				

Intersection Summary	
Area Type: Other	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 4 (4%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 16.1	Intersection LOS: B
Intersection Capacity Utilization 71.6%	ICU Level of Service C
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 15 NB Ramp & South Market Street

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	107	369	0	206	237
Future Volume (vph)	29	107	369	0	206	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		-4%			4%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					0.977
Satd. Flow (prot)	1778	1591	1900	0	0	1774
Flt Permitted	0.950					0.977
Satd. Flow (perm)	1778	1591	1900	0	0	1774
Link Speed (mph)	25		25			25
Link Distance (ft)	288		455			468
Travel Time (s)	7.9		12.4			12.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	32	119	410	0	229	263
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	119	410	0	0	492
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.97	0.97	1.03	1.03
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 56.6%		ICU Level of Service B
Analysis Period (min) 15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	107	262	51	0	266
Future Volume (vph)	0	107	262	51	0	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.978			
Flt Protected						
Satd. Flow (prot)	0	1603	1813	0	0	1835
Flt Permitted						
Satd. Flow (perm)	0	1603	1813	0	0	1835
Link Speed (mph)	25		25			25
Link Distance (ft)	296		186			455
Travel Time (s)	8.1		5.1			12.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	2%	2%	0%	3%
Adj. Flow (vph)	0	119	291	57	0	296
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	119	348	0	0	296
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type: Other	
Control Type: Unsignalized	
Intersection Capacity Utilization 30.2%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	108	35	42	94	0	0	16	0	0	33	42
Future Volume (vph)	63	108	35	42	94	0	0	16	0	0	33	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		6%			-6%			-5%			3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963									0.924	
Flt Protected	0.950				0.985							
Satd. Flow (prot)	1717	1740	0	0	1890	0	0	1909	0	0	1695	0
Flt Permitted	0.950				0.985							
Satd. Flow (perm)	1717	1740	0	0	1890	0	0	1909	0	0	1695	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		240			194			192			180	
Travel Time (s)		6.5			5.3			5.2			4.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	70	120	39	47	104	0	0	18	0	0	37	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	159	0	0	151	0	0	18	0	0	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.04	1.04	1.04	0.96	0.96	0.96	0.97	0.97	0.97	1.02	1.02	1.02
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 29.4%		ICU Level of Service A
Analysis Period (min) 15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	266	98	210	300	124	116	108	252	240	134	113
Future Volume (veh/h)	101	266	98	210	300	124	116	108	252	240	134	113
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1949	1949	1949	1711	1711	1711	1837	1837	1837	1794	1866	1794
Adj Flow Rate, veh/h	107	283	78	223	319	68	123	115	179	255	143	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	445	689	722	452	645	745	406	133	207	349	306	150
Arrive On Green	0.07	0.35	0.35	0.09	0.38	0.38	0.08	0.21	0.21	0.14	0.26	0.26
Sat Flow, veh/h	1856	1949	1652	1629	1711	1450	1750	648	1008	1709	1183	579
Grp Volume(v), veh/h	107	283	78	223	319	68	123	0	294	255	0	213
Grp Sat Flow(s),veh/h/ln	1856	1949	1652	1629	1711	1450	1750	0	1656	1709	0	1762
Q Serve(g_s), s	3.2	9.9	2.5	8.0	12.8	2.2	4.8	0.0	15.4	10.0	0.0	9.2
Cycle Q Clear(g_c), s	3.2	9.9	2.5	8.0	12.8	2.2	4.8	0.0	15.4	10.0	0.0	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.61	1.00		0.33
Lane Grp Cap(c), veh/h	445	689	722	452	645	745	406	0	340	349	0	455
V/C Ratio(X)	0.24	0.41	0.11	0.49	0.49	0.09	0.30	0.00	0.86	0.73	0.00	0.47
Avail Cap(c_a), veh/h	488	689	722	452	645	745	415	0	344	349	0	455
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	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.8	22.0	15.0	16.9	21.5	11.2	24.6	0.0	34.6	23.5	0.0	28.2
Incr Delay (d2), s/veh	0.3	1.8	0.3	0.8	2.7	0.2	0.4	0.0	19.8	7.7	0.0	0.7
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	2.3	8.1	1.8	5.1	9.0	1.3	3.7	0.0	12.7	8.1	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.1	23.8	15.3	17.7	24.2	11.4	25.0	0.0	54.3	31.2	0.0	28.9
LnGrp LOS	B	C	B	B	C	B	C	A	D	C	A	C
Approach Vol, veh/h		468			610			417			468	
Approach Delay, s/veh		20.8			20.4			45.7			30.1	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	37.2	12.2	27.7	10.7	39.3	17.0	23.0
Change Period (Y+Rc), s	* 5.8	6.4	* 5.7	5.5	* 5.8	6.4	* 5.7	5.5
Max Green Setting (Gmax), s	* 7	30.6	* 7	22.0	* 7	30.6	* 11	17.7
Max Q Clear Time (g_c+I1), s	10.0	11.9	6.8	11.2	5.2	14.8	12.0	17.4
Green Ext Time (p_c), s	0.0	3.3	0.0	0.5	0.0	3.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	602	127	69	629	0	0	0	0	183	2	155
Future Volume (veh/h)	0	602	127	69	629	0	0	0	0	183	2	155
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1786	1800	1800	1800	0				1860	1950	1860
Adj Flow Rate, veh/h	0	662	0	76	691	0				201	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0	0	0	0				1	0	1
Cap, veh/h	0	1125		470	1332	0				263	3	
Arrive On Green	0.00	0.63	0.00	0.10	1.00	0.00				0.14	0.14	0.00
Sat Flow, veh/h	0	1786	1525	1714	1800	0				1839	18	0
Grp Volume(v), veh/h	0	662	0	76	691	0				203	0	0
Grp Sat Flow(s),veh/h/ln	0	1786	1525	1714	1800	0				1858	0	0
Q Serve(g_s), s	0.0	19.6	0.0	1.2	0.0	0.0				9.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	19.6	0.0	1.2	0.0	0.0				9.5	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		0.00
Lane Grp Cap(c), veh/h	0	1125		470	1332	0				266	0	
V/C Ratio(X)	0.00	0.59		0.16	0.52	0.00				0.76	0.00	
Avail Cap(c_a), veh/h	0	1125		539	1332	0				495	0	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.82	0.82	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.8	0.0	6.7	0.0	0.0				37.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.1	1.2	0.0				4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.2	0.0	0.6	0.8	0.0				8.1	0.0	0.0
Unsig. Movement Delay, s/veh												6.00
LnGrp Delay(d),s/veh	0.0	12.0	0.0	6.8	1.2	0.0				41.6	0.0	6.0
LnGrp LOS	A	B		A	A	A				D	A	A
Approach Vol, veh/h		662	A		767						373	A
Approach Delay, s/veh		12.0			1.7						25.4	
Approach LOS		B			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.9	62.2		17.9		72.1
Change Period (Y+Rc), s	6.5	6.5		6.0		6.5
Max Green Setting (Gmax), s	7.0	41.0		23.0		54.5
Max Q Clear Time (g_c+I1), s	3.2	21.6		11.5		2.0
Green Ext Time (p_c), s	0.0	0.4		0.5		0.4

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [SBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	573	0	0	469	219	228	1	44	0	0	0
Future Volume (veh/h)	215	573	0	0	469	219	228	1	44	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1786	1800	0	0	1800	1800	1837	1911	1837			
Adj Flow Rate, veh/h	229	610	0	0	499	0	243	1	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0			
Cap, veh/h	586	1298	0	0	1042		304	1				
Arrive On Green	0.17	1.00	0.00	0.00	0.58	0.00	0.17	0.17	0.00			
Sat Flow, veh/h	1701	1800	0	0	1800	1525	1813	7	0			
Grp Volume(v), veh/h	229	610	0	0	499	0	244	0	0			
Grp Sat Flow(s),veh/h/ln	1701	1800	0	0	1800	1525	1820	0	0			
Q Serve(g_s), s	4.7	0.0	0.0	0.0	14.5	0.0	11.6	0.0	0.0			
Cycle Q Clear(g_c), s	4.7	0.0	0.0	0.0	14.5	0.0	11.6	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	586	1298	0	0	1042		305	0				
V/C Ratio(X)	0.39	0.47	0.00	0.00	0.48		0.80	0.00				
Avail Cap(c_a), veh/h	627	1298	0	0	1042		465	0				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.64	0.64	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	6.4	0.0	0.0	0.0	11.0	0.0	36.0	0.0	0.0			
Incr Delay (d2), s/veh	0.3	0.8	0.0	0.0	1.6	0.0	5.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	2.0	0.5	0.0	0.0	9.2	0.0	9.4	0.0	0.0			
Unsig. Movement Delay, s/veh									6.00			
LnGrp Delay(d),s/veh	6.7	0.8	0.0	0.0	12.6	0.0	41.7	0.0	6.0			
LnGrp LOS	A	A	A	A	B		D	A	A			
Approach Vol, veh/h		839			499	A		291	A			
Approach Delay, s/veh		2.4			12.6			35.9				
Approach LOS		A			B			D				

Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		69.9		20.1	12.8	57.1						
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s		56.0		22.0	9.0	41.0						
Max Q Clear Time (g_c+I1), s		2.0		13.6	6.7	16.5						
Green Ext Time (p_c), s		0.3		0.5	0.2	0.2						

Intersection Summary			
HCM 6th Ctrl Delay			11.5
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection						
Int Delay, s/veh	4.5					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	107	369	0	206	237
Future Vol, veh/h	29	107	369	0	206	237
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, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	32	119	410	0	229	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1131	410	0	0	410	0
Stage 1	410	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	263	687	-	-	868	-
Stage 1	699	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	182	687	-	-	868	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	388	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	4.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	182	687	868	-
HCM Lane V/C Ratio	-	-	0.177	0.173	0.264	-
HCM Control Delay (s)	-	-	29	11.3	10.6	0
HCM Lane LOS	-	-	D	B	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.6	1.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	107	262	51	0	266
Future Vol, veh/h	0	107	262	51	0	266
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	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	1	-	-	1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	2	2	2	0	3
Mvmt Flow	0	119	291	57	0	296

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	320	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.1	-	-	-	-
Pot Cap-1 Maneuver	0	758	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	758	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	758	-
HCM Lane V/C Ratio	-	-	0.157	-
HCM Control Delay (s)	-	-	10.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	108	35	42	94	0	0	16	0	0	33	42
Future Vol, veh/h	63	108	35	42	94	0	0	16	0	0	33	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	120	39	47	104	0	0	18	0	0	37	47
Number of Lanes	1	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.7	8.7	8.1	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	0%	100%	0%	31%	0%
Vol Thru, %	100%	0%	76%	69%	44%
Vol Right, %	0%	0%	24%	0%	56%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	63	143	136	75
LT Vol	0	63	0	42	0
Through Vol	16	0	108	94	33
RT Vol	0	0	35	0	42
Lane Flow Rate	18	70	159	151	83
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.024	0.105	0.209	0.192	0.104
Departure Headway (Hd)	4.921	5.408	4.734	4.584	4.5
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	727	666	763	784	798
Service Time	2.95	3.108	2.434	2.604	2.523
HCM Lane V/C Ratio	0.025	0.105	0.208	0.193	0.104
HCM Control Delay	8.1	8.7	8.7	8.7	8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.8	0.7	0.3

2027 Horizon Year Mitigation Scenario
Saturday Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	266	98	210	300	124	116	108	252	240	134	113
Future Volume (vph)	101	266	98	210	300	124	116	108	252	240	134	113
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	11	11	11	12	12	10	12	12	11	13	12
Grade (%)		-4%			4%			-1%			1%	
Storage Length (ft)	175		225	200		185	175		200	260		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	50			75			100			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960				0.850			0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1686	3237	0	1620	1764	1499	1604	1809	1538	1645	1725	0
Flt Permitted	0.488			0.481			0.412			0.608		
Satd. Flow (perm)	866	3237	0	820	1764	1499	696	1809	1538	1053	1725	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73				132			268		56	
Link Speed (mph)		40			40			25			35	
Link Distance (ft)		827			370			468			336	
Travel Time (s)		14.1			6.3			12.8			6.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	107	283	104	223	319	132	123	115	268	255	143	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	387	0	223	319	132	123	115	268	255	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.15	1.10	1.10	1.16	1.07	1.07	1.13	1.03	1.08
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	
Detector Template												
Leading Detector (ft)	34	34		34	34	34	39	39	39	34	34	
Trailing Detector (ft)	-6	-6		-6	-6	-6	-6	-6	-6	-6	-6	
Detector 1 Position(ft)	-6	-6		-6	-6	-6	-6	-6	-6	-6	-6	
Detector 1 Size(ft)	40	40		40	40	40	45	45	45	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6	8		8	4		
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												

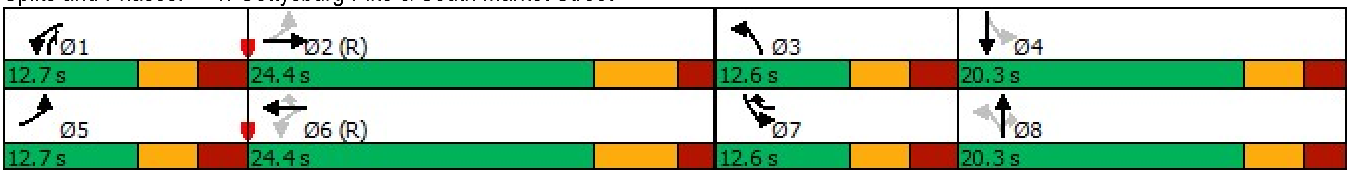
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	3.5	4.0		3.5	4.0	4.0	4.0	4.0	3.5	4.0	4.0	
Minimum Split (s)	10.0	22.4		10.0	26.5	9.7	9.8	21.5	10.0	9.7	21.5	
Total Split (s)	12.7	24.4		12.7	24.4	12.6	12.6	20.3	12.7	12.6	20.3	
Total Split (%)	18.1%	34.9%		18.1%	34.9%	18.0%	18.0%	29.0%	18.1%	18.0%	29.0%	
Maximum Green (s)	7.0	18.0		7.0	18.0	7.0	7.0	14.9	7.0	7.0	14.9	
Yellow Time (s)	3.1	4.4		3.1	4.4	3.1	3.1	3.1	3.1	3.1	3.1	
All-Red Time (s)	2.6	2.0		2.6	2.0	2.5	2.5	2.3	2.6	2.5	2.3	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)	4.7	5.4		4.7	5.4	4.6	4.6	4.4	4.7	4.6	4.4	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	6.0		3.0	6.0	3.0	3.0	3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	25.0		0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	13.0		0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	
Recall Mode	None	C-Max		None	C-Max	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		26.0			26.0			22.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	32.3	23.9		33.5	26.4	40.8	19.5	13.2	23.3	19.8	13.6	
Actuated g/C Ratio	0.46	0.34		0.48	0.38	0.58	0.28	0.19	0.33	0.28	0.19	
v/c Ratio	0.22	0.34		0.46	0.48	0.14	0.42	0.34	0.39	0.70	0.69	
Control Delay	11.8	16.5		8.4	14.8	1.2	19.2	26.3	3.8	28.6	30.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	11.8	16.5		8.4	14.8	1.2	19.2	26.3	3.8	28.6	30.2	
LOS	B	B		A	B	A	B	C	A	C	C	
Approach Delay		15.5			10.0			12.7			29.4	
Approach LOS		B			A			B			C	
Queue Length 50th (ft)	19	44		18	67	3	27	34	0	62	64	
Queue Length 95th (ft)	41	75		m42	m137	m5	53	66	32	105	121	
Internal Link Dist (ft)		747			290			388			256	
Turn Bay Length (ft)	175			200		185	175		200	260		
Base Capacity (vph)	496	1153		483	664	929	299	410	691	366	435	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.34		0.46	0.48	0.14	0.41	0.28	0.39	0.70	0.60	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 50 (71%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 16.4 — Intersection LOS: B
Intersection Capacity Utilization 60.6% — ICU Level of Service B
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Gettysburg Pike & South Market Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	602	127	69	629	0	0	0	0	183	2	155
Future Volume (vph)	0	602	127	69	629	0	0	0	0	183	2	155
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	12	12	12	12	12	12	14	12
Grade (%)		0%			0%			1%			-2%	
Storage Length (ft)	0		125	90		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			100			25			25		
Lane Util. Factor	1.00	*0.68	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850								0.938	
Flt Protected				0.950							0.974	
Satd. Flow (prot)	0	2424	1530	1653	1800	0	0	0	0	0	1754	0
Flt Permitted				0.182							0.974	
Satd. Flow (perm)	0	2424	1530	317	1800	0	0	0	0	0	1754	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148								59	
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		199			608			453			537	
Travel Time (s)		3.4			10.4			10.3			12.2	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%
Adj. Flow (vph)	0	662	140	76	691	0	0	0	0	201	2	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	662	140	76	691	0	0	0	0	0	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.07	1.12	1.07	1.07	1.08	1.08	1.08	1.06	0.97	1.06
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1	1	1					1	1	
Detector Template										Left		
Leading Detector (ft)		44	44	44	44					20	44	
Trailing Detector (ft)		-6	-6	-6	-6					0	-6	
Detector 1 Position(ft)		-6	-6	-6	-6					0	-6	
Detector 1 Size(ft)		50	50	50	50					20	50	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		2		1	6						4	
Permitted Phases			2	6						4		
Detector Phase		2	2	1	6					4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)		4.0	4.0	4.0	15.0					4.0	4.0	
Minimum Split (s)		21.5	21.5	10.5	21.5					10.0	10.0	
Total Split (s)		32.5	32.5	13.5	46.0					24.0	24.0	
Total Split (%)		46.4%	46.4%	19.3%	65.7%					34.3%	34.3%	
Maximum Green (s)		26.0	26.0	7.0	39.5					18.0	18.0	
Yellow Time (s)		4.0	4.0	4.0	4.0					4.0	4.0	
All-Red Time (s)		2.5	2.5	2.5	2.5					2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0						-1.0	
Total Lost Time (s)		5.5	5.5	5.5	5.5						5.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)		1.0	1.0	3.0	1.0					3.0	3.0	
Recall Mode		C-Max	C-Max	None	C-Max					None	None	
Walk Time (s)		8.0	8.0		8.0					7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		17.0					16.0	16.0	
Pedestrian Calls (#/hr)		0	0		0					0	0	
Act Effct Green (s)		31.7	31.7	42.3	42.3						17.2	
Actuated g/C Ratio		0.45	0.45	0.60	0.60						0.25	
v/c Ratio		0.60	0.18	0.23	0.64						0.79	
Control Delay		17.4	3.8	7.5	10.4						33.5	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay		17.4	3.8	7.5	10.4						33.5	
LOS		B	A	A	B						C	
Approach Delay		15.0			10.1						33.5	
Approach LOS		B			B						C	
Queue Length 50th (ft)		120	2	16	156						97	
Queue Length 95th (ft)		169	m23	m18	212						#190	
Internal Link Dist (ft)		119			528			373			457	
Turn Bay Length (ft)			125	90								
Base Capacity (vph)		1096	773	344	1088						519	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.60	0.18	0.22	0.64						0.72	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Yellow, Master Intersection
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 16.6 Intersection LOS: B
Intersection Capacity Utilization 67.3% ICU Level of Service C
Analysis Period (min) 15
* User Entered Value
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: South Market Street & US 15 SB Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	215	573	0	0	469	219	228	1	44	0	0	0
Future Volume (vph)	215	573	0	0	469	219	228	1	44	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	11	12	12	12	11	12	14	12	12	12	12
Grade (%)		0%			0%			-1%			0%	
Storage Length (ft)	0		0	0		260	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	0			25			25			25		
Lane Util. Factor	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.978				
Flt Protected	0.950							0.960				
Satd. Flow (prot)	1693	1740	0	0	1800	1479	0	1812	0	0	0	0
Flt Permitted	0.287							0.960				
Satd. Flow (perm)	511	1740	0	0	1800	1479	0	1812	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						233		13				
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		608			326			414			668	
Travel Time (s)		10.4			5.6			9.4			15.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	229	610	0	0	499	233	243	1	47	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	610	0	0	499	233	0	291	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		23			23			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.12	1.07	1.07	1.07	1.12	1.07	0.98	1.07	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1	1	1	1				
Detector Template							Left					
Leading Detector (ft)	40	40			40	40	20	40				
Trailing Detector (ft)	-10	-10			-10	-10	0	-10				
Detector 1 Position(ft)	-10	-10			-10	-10	0	-10				
Detector 1 Size(ft)	50	50			50	50	20	50				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0	0.0	0.0	0.0				
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	5	2			6			4				
Permitted Phases	2					6	4					
Detector Phase	5	2			6	6	4	4				
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	15.0			4.0	4.0	4.0	4.0				
Minimum Split (s)	10.0	31.0			21.0	21.0	16.0	16.0				
Total Split (s)	13.0	48.0			35.0	35.0	22.0	22.0				
Total Split (%)	18.6%	68.6%			50.0%	50.0%	31.4%	31.4%				
Maximum Green (s)	7.0	42.0			29.0	29.0	16.0	16.0				
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0				
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0				
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	1.0			1.0	1.0	3.0	3.0				
Recall Mode	None	C-Max			C-Max	C-Max	None	None				
Walk Time (s)		8.0			8.0	8.0	7.0	7.0				
Flash Dont Walk (s)		17.0			17.0	17.0	16.0	16.0				
Pedestrian Calls (#/hr)		0			0	0	0	0				
Act Effct Green (s)	44.6	44.6			31.7	31.7		15.4				
Actuated g/C Ratio	0.64	0.64			0.45	0.45		0.22				
v/c Ratio	0.50	0.55			0.61	0.29		0.71				
Control Delay	7.9	6.8			19.2	3.1		34.4				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay	7.9	6.8			19.2	3.1		34.4				
LOS	A	A			B	A		C				
Approach Delay		7.1			14.0			34.4				
Approach LOS		A			B			C				
Queue Length 50th (ft)	15	117			130	0		86				
Queue Length 95th (ft)	28	174			210	29		148				
Internal Link Dist (ft)		528			246			334			588	
Turn Bay Length (ft)						260						
Base Capacity (vph)	460	1109			814	797		449				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.50	0.55			0.61	0.29		0.65				

Intersection Summary	
Area Type: Other	
Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 34 (49%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 67.3%	ICU Level of Service C
Analysis Period (min) 15	

* User Entered Value

Splits and Phases: 3: US 15 NB Ramp & South Market Street

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	107	369	0	206	237
Future Volume (vph)	29	107	369	0	206	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		-4%			4%
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				75	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1778	1591	1900	0	1734	1808
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1778	1591	1900	0	1734	1808
Link Speed (mph)	25		25			25
Link Distance (ft)	288		455			468
Travel Time (s)	7.9		12.4			12.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	32	119	410	0	229	263
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	119	410	0	229	263
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.97	0.97	1.03	1.03
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	
Intersection Capacity Utilization 44.2%	ICU Level of Service A
Analysis Period (min) 15	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	107	262	51	0	266
Future Volume (vph)	0	107	262	51	0	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.978			
Flt Protected						
Satd. Flow (prot)	0	1603	1813	0	0	1835
Flt Permitted						
Satd. Flow (perm)	0	1603	1813	0	0	1835
Link Speed (mph)	25		25			25
Link Distance (ft)	296		186			455
Travel Time (s)	8.1		5.1			12.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	2%	2%	0%	3%
Adj. Flow (vph)	0	119	291	57	0	296
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	119	348	0	0	296
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary		
Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utilization 30.2%		ICU Level of Service A
Analysis Period (min) 15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	266	98	210	300	124	116	108	252	240	134	113
Future Volume (veh/h)	101	266	98	210	300	124	116	108	252	240	134	113
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1949	1949	1949	1711	1711	1711	1837	1837	1837	1794	1866	1794
Adj Flow Rate, veh/h	107	283	78	223	319	68	123	115	179	255	143	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	501	1013	274	550	676	739	327	270	407	392	199	97
Arrive On Green	0.07	0.35	0.35	0.11	0.40	0.40	0.09	0.15	0.15	0.11	0.17	0.17
Sat Flow, veh/h	1856	2881	779	1629	1711	1450	1750	1837	1557	1709	1183	579
Grp Volume(v), veh/h	107	180	181	223	319	68	123	115	179	255	0	213
Grp Sat Flow(s),veh/h/ln	1856	1852	1809	1629	1711	1450	1750	1837	1557	1709	0	1762
Q Serve(g_s), s	2.5	4.9	5.0	5.9	9.7	1.7	4.0	4.0	6.7	8.0	0.0	8.0
Cycle Q Clear(g_c), s	2.5	4.9	5.0	5.9	9.7	1.7	4.0	4.0	6.7	8.0	0.0	8.0
Prop In Lane	1.00		0.43	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	501	651	636	550	676	739	327	270	407	392	0	296
V/C Ratio(X)	0.21	0.28	0.28	0.41	0.47	0.09	0.38	0.43	0.44	0.65	0.00	0.72
Avail Cap(c_a), veh/h	581	651	636	550	676	739	365	417	532	392	0	400
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	16.3	16.3	11.6	15.7	8.8	22.1	27.2	21.6	23.1	0.0	27.5
Incr Delay (d2), s/veh	0.2	1.1	1.1	0.5	2.4	0.2	0.7	1.1	0.8	3.8	0.0	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	1.7	3.7	3.7	3.3	6.7	1.0	3.0	3.2	4.4	6.8	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	17.3	17.5	12.1	18.1	9.1	22.8	28.2	22.3	26.9	0.0	31.5
LnGrp LOS	B	B	B	B	B	A	C	C	C	C	A	C
Approach Vol, veh/h		468			610			417			468	
Approach Delay, s/veh		16.4			14.9			24.1			29.0	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	30.0	11.1	16.2	9.7	33.1	12.6	14.7
Change Period (Y+Rc), s	5.7	6.4	5.6	* 5.4	5.7	6.4	5.6	* 5.4
Max Green Setting (Gmax), s	7.0	18.0	7.0	* 15	7.0	18.0	7.0	* 15
Max Q Clear Time (g_c+I1), s	7.9	7.0	6.0	10.0	4.5	11.7	10.0	8.7
Green Ext Time (p_c), s	0.0	2.4	0.0	0.3	0.1	1.8	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	602	127	69	629	0	0	0	0	183	2	155
Future Volume (veh/h)	0	602	127	69	629	0	0	0	0	183	2	155
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1786	1800	1800	1800	0				1860	1950	1860
Adj Flow Rate, veh/h	0	662	0	76	691	0				201	2	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91				0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0	0	0	0				1	0	1
Cap, veh/h	0	1366		500	1259	0				277	3	
Arrive On Green	0.00	0.56	0.00	0.04	0.47	0.00				0.15	0.15	0.00
Sat Flow, veh/h	0	3000	1525	1714	1800	0				1839	18	0
Grp Volume(v), veh/h	0	662	0	76	691	0				203	0	0
Grp Sat Flow(s),veh/h/ln	0	1214	1525	1714	1800	0				1858	0	0
Q Serve(g_s), s	0.0	11.5	0.0	1.1	19.2	0.0				7.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.5	0.0	1.1	19.2	0.0				7.3	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.99		0.00
Lane Grp Cap(c), veh/h	0	1366		500	1259	0				280	0	
V/C Ratio(X)	0.00	0.48		0.15	0.55	0.00				0.73	0.00	
Avail Cap(c_a), veh/h	0	1366		595	1259	0				504	0	
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.75	0.75	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.2	0.0	6.1	10.7	0.0				28.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.1	1.3	0.0				3.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	4.7	0.0	0.5	12.0	0.0				6.1	0.0	0.0
Unsig. Movement Delay, s/veh												6.00
LnGrp Delay(d),s/veh	0.0	10.4	0.0	6.2	12.0	0.0				31.9	0.0	6.0
LnGrp LOS	A	B		A	B	A				C	A	A
Approach Vol, veh/h		662	A		767						373	A
Approach Delay, s/veh		10.4			11.4						20.1	
Approach LOS		B			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	44.9		15.5		54.5
Change Period (Y+Rc), s	6.5	6.5		6.0		6.5
Max Green Setting (Gmax), s	7.0	26.0		18.0		39.5
Max Q Clear Time (g_c+I1), s	3.1	13.5		9.3		21.2
Green Ext Time (p_c), s	0.0	0.6		0.4		0.4

Intersection Summary			
HCM 6th Ctrl Delay			12.9
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [SBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	573	0	0	469	219	228	1	44	0	0	0
Future Volume (veh/h)	215	573	0	0	469	219	228	1	44	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1786	1800	0	0	1800	1800	1837	1911	1837			
Adj Flow Rate, veh/h	229	610	0	0	499	0	243	1	0			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	1	0	0	0	0	0	0	0	0			
Cap, veh/h	550	1229	0	0	923		316	1				
Arrive On Green	0.07	0.46	0.00	0.00	0.51	0.00	0.17	0.17	0.00			
Sat Flow, veh/h	1701	1800	0	0	1800	1525	1813	7	0			
Grp Volume(v), veh/h	229	610	0	0	499	0	244	0	0			
Grp Sat Flow(s),veh/h/ln	1701	1800	0	0	1800	1525	1820	0	0			
Q Serve(g_s), s	3.9	16.7	0.0	0.0	13.1	0.0	8.9	0.0	0.0			
Cycle Q Clear(g_c), s	3.9	16.7	0.0	0.0	13.1	0.0	8.9	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	550	1229	0	0	923		317	0				
V/C Ratio(X)	0.42	0.50	0.00	0.00	0.54		0.77	0.00				
Avail Cap(c_a), veh/h	577	1229	0	0	923		442	0				
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.76	0.76	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	7.7	10.5	0.0	0.0	11.5	0.0	27.5	0.0	0.0			
Incr Delay (d2), s/veh	0.4	1.1	0.0	0.0	2.3	0.0	5.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.9	10.7	0.0	0.0	8.4	0.0	7.5	0.0	0.0			
Unsig. Movement Delay, s/veh									6.00			
LnGrp Delay(d),s/veh	8.1	11.6	0.0	0.0	13.8	0.0	32.9	0.0	6.0			
LnGrp LOS	A	B	A	A	B		C	A	A			
Approach Vol, veh/h		839			499	A		291	A			
Approach Delay, s/veh		10.7			13.8			28.5				
Approach LOS		B			B			C				

Timer - Assigned Phs		2		4	5	6						
Phs Duration (G+Y+Rc), s		52.8		17.2	11.9	40.9						
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s		42.0		16.0	7.0	29.0						
Max Q Clear Time (g_c+I1), s		18.7		10.9	5.9	15.1						
Green Ext Time (p_c), s		0.3		0.4	0.1	0.2						

Intersection Summary			
HCM 6th Ctrl Delay			14.8
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [NBR] is included in calculations of the approach delay and intersection delay.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	107	369	0	206	237
Future Vol, veh/h	29	107	369	0	206	237
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	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	32	119	410	0	229	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1131	410	0	0	410	0
Stage 1	410	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	263	687	-	-	868	-
Stage 1	699	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	687	-	-	868	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	4.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	194	687	868	-
HCM Lane V/C Ratio	-	-	0.166	0.173	0.264	-
HCM Control Delay (s)	-	-	27.2	11.3	10.6	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.6	1.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	107	262	51	0	266
Future Vol, veh/h	0	107	262	51	0	266
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	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	1	-	1	-	-	1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	2	2	2	0	3
Mvmt Flow	0	119	291	57	0	296

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	320	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.32	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.1	-	-	-	-
Pot Cap-1 Maneuver	0	758	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	758	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	758	-
HCM Lane V/C Ratio	-	-	0.157	-
HCM Control Delay (s)	-	-	10.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

2027 Horizon Year Build Scenario
With Adjacent Development
Alternate right turn volume scenario at
Site Driveway 3

Intersection						
Int Delay, s/veh	3.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	84	522	50	141	251
Future Vol, veh/h	22	84	522	50	141	251
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	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	1	2	2	2
Mvmt Flow	24	93	580	56	157	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1201	608	0	0	636	0
Stage 1	608	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	238	531	-	-	723	-
Stage 1	537	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	531	-	-	723	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	4.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	186	531	723	-
HCM Lane V/C Ratio	-	-	0.131	0.176	0.217	-
HCM Control Delay (s)	-	-	27.3	13.2	11.4	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	55	357	27	116	399
Future Vol, veh/h	22	55	357	27	116	399
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	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	24	61	397	30	129	443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1113	412	0	0	427	0
Stage 1	412	-	-	-	-	-
Stage 2	701	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	269	685	-	-	856	-
Stage 1	697	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	228	685	-	-	856	-
Mov Cap-2 Maneuver	228	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	486	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	228	685	856	-
HCM Lane V/C Ratio	-	-	0.107	0.089	0.151	-
HCM Control Delay (s)	-	-	22.7	10.8	9.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.5	-

Intersection						
Int Delay, s/veh	4.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	107	369	51	206	237
Future Vol, veh/h	29	107	369	51	206	237
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	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	-4	-	-	4
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	3
Mvmt Flow	32	119	410	57	229	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1160	439	0	0	467	0
Stage 1	439	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Critical Hdwy	6.22	6.12	-	-	4.3	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	5.22	-	-	-	-	-
Follow-up Hdwy	3	3.1	-	-	3	-
Pot Cap-1 Maneuver	252	661	-	-	829	-
Stage 1	673	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	182	661	-	-	829	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	406	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.3	0	5.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	182	661	829	-
HCM Lane V/C Ratio	-	-	0.177	0.18	0.276	-
HCM Control Delay (s)	-	-	29	11.6	11	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.6	0.7	1.1	-

HCM Summary Table

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Movement	AM PEAK HOUR STREET			
		2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
S Market Street SR 0114 - Gettysburg Pike SIGNALIZED	ILOS	D [42.6]	D [49.4]	C [29.0]	C [28.8] Meets Mitigation
S Market Street - Southbound Ramp US 15 SIGNALIZED	ILOS	B [14.6]	B [14.6]	B [13.8]	B [10.5]
S Market Street - Northbound Ramp US 15 SIGNALIZED	ILOS	C [24.9]	C [27.2]	C [25.5]	C [27.9]
Gettysburg Pike - Site Driveway 3 UN-SIGNALIZED TWSC	ILOS	A [2.0]	A [3.2]	A [2.0]	A [3.2]
Gettysburg Pike - Site Driveway 4 UN-SIGNALIZED TWSC	ILOS	A [0.7]	A [1.2]	A [0.7]	A [1.2]
Site Driveway 3 - Access Drive UN-SIGNALIZED AWSC	ILOS	-	A [8.1]	-	-

ILOS = Overall Intersection Level of Service

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Movement	PM PEAK HOUR STREET			
		2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
S Market Street SR 0114 - Gettysburg Pike SIGNALIZED	ILOS	C [32.3]	D [36.4]	C [21.2]	C [21.5] Meets Mitigation
S Market Street - Southbound Ramp US 15 SIGNALIZED	ILOS	C [23.6]	C [23.8]	B [17.4]	B [17.4]
S Market Street - Northbound Ramp US 15 SIGNALIZED	ILOS	C [27.3]	C [27.4]	C [25.6]	C [25.6]
Gettysburg Pike - Site Driveway 3 UN-SIGNALIZED TWSC	ILOS	A [1.7]	A [2.4]	A [1.7]	A [2.3]
Gettysburg Pike - Site Driveway 4 UN-SIGNALIZED TWSC	ILOS	A [0.5]	A [0.7]	A [0.5]	A [0.7]
Site Driveway 3 - Access Drive UN-SIGNALIZED AWSC	ILOS	-	A [7.8]	-	-

ILOS = Overall Intersection Level of Service

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Movement	SAT PEAK HOUR STREET			
		2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
S Market Street SR 0114 - Gettysburg Pike SIGNALIZED	ILOS	C [26.0]	C [28.2]	C [20.4]	C [20.6] Meets Mitigation
S Market Street - Southbound Ramp US 15 SIGNALIZED	ILOS	B [10.3]	B [10.4]	B [12.8]	B [12.9]
S Market Street - Northbound Ramp US 15 SIGNALIZED	ILOS	B [10.9]	B [11.5]	B [14.1]	B [14.8]
Gettysburg Pike - Site Driveway 3 UN-SIGNALIZED TWSC	ILOS	A [3.4]	A [4.5]	A [3.4]	A [4.4]
Gettysburg Pike - Site Driveway 4 UN-SIGNALIZED TWSC	ILOS	A [1.2]	A [1.7]	A [1.2]	A [1.7]
Site Driveway 3 - Access Drive UN-SIGNALIZED AWSC	ILOS	-	A [8.6]	-	-

ILOS = Overall Intersection Level of Service

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

<table>
<tr><th rowspan="2">Intersection</th><th rowspan="2" colspan="2">Approach / Movement</th><th colspan="4">AM PEAK HOUR STREET</th></tr>
<tr><th>2027 Build Under Approved TIS</th><th>2027 Build Prelim with Chick-fil-A</th><th>2027 Build With Improv. Under Approved TIS</th><th>2027 Build With Improv. Prelim with Chick-fil-A</th></tr>
<tr><td rowspan="15">South Market Street SR 0114 - Gettysburg Pike

SIGNALIZED</td><td rowspan="4">EB</td><td>Approach</td><td>C [20.5]</td><td>B [19.9]</td><td>C [20.8]</td><td>C [22.1]</td></tr>
<tr><td>EBL</td><td>C [21.2]</td><td>C [20.5]</td><td>B [19.6]</td><td>B [20.0]</td></tr>
<tr><td>EBT</td><td>C [22.2]</td><td>C [21.9]</td><td>C [21.3]</td><td>C [22.9]</td></tr>
<tr><td>EBR</td><td>B [14.0]</td><td>B [14.2]</td><td>C [21.5]</td><td>C [23.1]</td></tr>
<tr><td rowspan="4">WB</td><td>Approach</td><td>C [34.1]</td><td>C [32.0]</td><td>C [27.0]</td><td>C [26.4]</td></tr>
<tr><td>WBL</td><td>B [18.6]</td><td>C [20.5]</td><td>B [13.9]</td><td>B [14.8]</td></tr>
<tr><td>WBT</td><td>D [42.3]</td><td>D [39.2]</td><td>C [33.8]</td><td>C [33.5]</td></tr>
<tr><td>WBR</td><td>B [13.1]</td><td>B [13.1]</td><td>B [11.0]</td><td>B [11.4]</td></tr>
<tr><td rowspan="4">NB</td><td>Approach</td><td>E [75.9]</td><td>F [100.2]</td><td>C [28.2]</td><td>C [28.7]</td></tr>
<tr><td>NBL</td><td>C [25.4]</td><td>C [28.0]</td><td>C [28.5]</td><td>C [31.0]</td></tr>
<tr><td>NBT</td><td rowspan="2">F [98.0]</td><td rowspan="2">F [134.0]</td><td>C [31.6]</td><td>C [31.1]</td></tr>
<tr><td>NBR</td><td>C [26.7]</td><td>C [26.3]</td></tr>
<tr><td rowspan="3">SB</td><td>Approach</td><td>D [37.0]</td><td>D [37.1]</td><td>D [42.6]</td><td>D [41.0]</td></tr>
<tr><td>SBL</td><td>D [39.0]</td><td>D [39.0]</td><td>C [26.5]</td><td>C [26.1]</td></tr>
<tr><td>SBT/R</td><td>D [35.6]</td><td>D [35.8]</td><td>D [53.8]</td><td>D [51.1]</td></tr>
</table>

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		AM PEAK HOUR STREET			
			2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
Market Street SR 0114 - US 15 Southbound Ramp SIGNALIZED	EB	Approach	B [10.8]	B [10.9]	A [8.4]	A [8.5]
		EBT	B [10.8]	B [10.9]	A [8.4]	A [8.5]
		EBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]
	WB	Approach	B [13.3]	B [13.4]	B [13.2]	A [6.0]
		WBL	A [6.3]	A [6.4]	A [5.1]	A [5.0]
		WBT	B [13.8]	B [13.9]	B [13.8]	A [6.1]
	SB	Approach	C [22.5]	C [22.3]	C [22.5]	C [22.3]
		SBLTR	D [41.7]	D [41.7]	D [41.7]	D [41.7]
South Market Street SR 0114 - US 15 Northbound Ramp SIGNALIZED	EB	Approach	C [23.5]	C [26.3]	C [24.8]	C [27.8]
		EBL	C [28.1]	C [31.9]	C [29.9]	C [34.1]
		EBT	B [13.2]	B [13.3]	B [13.2]	B [13.3]
	WB	Approach	C [22.8]	C [25.6]	C [22.8]	C [25.6]
		WBT	C [22.8]	C [25.6]	C [22.8]	C [25.6]
		WBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]
	NB	Approach	C [31.3]	C [31.7]	C [31.3]	C [31.7]
		NBLTR	D [44.9]	D [45.3]	D [44.9]	D [45.3]

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		AM PEAK HOUR STREET			
			2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
Gettysburg Pike - Site DW 3 UN-SIGNALIZED	WB	Approach	B [13.7]	C [15.8]	B [13.6]	C [15.6]
		WBL	C [20.2]	D [27.1]	C [19.7]	D [25.8]
		WBR	B [12.0]	B [12.9]	B [12.0]	B [12.9]
	NB	Approach	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		NBT/R	-	-	-	-
	SB	Approach	A [2.7]	A [4.0]	A [2.7]	A [4.0]
		SBL	B [10.3]	B [11.0]	B [10.3]	B [11.0]
		SBT			-	-
Gettysburg Pike - Site DW 4 UN-SIGNALIZED	WB	Approach	B [11.8]	B [12.3]	B [11.8]	B [12.3]
		WBR	B [11.8]	B [12.3]	B [11.8]	B [12.3]
	NB	Approach	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		NBT/R	-	-	-	-
	SB	Approach	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		SBT	-	-	-	-
Site DW 3 - Access Drive UN-SIGNALIZED	EB	Approach	-	A [8.3]	-	-
		EBL	-	A [8.5]	-	-
		EBT/R	-	A [8.2]	-	-
	WB	Approach	-	A [8.1]	-	-
		WBLTR	-	A [8.1]	-	-
	NB	Approach	-	A [7.7]	-	-
		NBLTR	-	A [7.7]	-	-
	SB	Approach	-	A [7.6]	-	-
		SBLTR	-	A [7.6]	-	-

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		PM PEAK HOUR STREET 2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
South Market Street SR 0114 - Gettysburg Pike SIGNALIZED	EB	Approach	C [20.4]	C [20.0]	B [18.9]	B [19.9]
		EBL	B [14.3]	B [14.3]	B [13.5]	B [14.0]
		EBT	C [23.7]	C [23.5]	C [20.3]	C [21.3]
		EBR	B [14.1]	B [14.1]	C [20.4]	C [21.5]
	WB	Approach	B [19.2]	B [19.7]	B [14.5]	B [14.9]
		WBL	C [20.9]	C [22.2]	B [12.7]	B [13.3]
		WBT	C [20.3]	C [20.1]	B [17.7]	B [18.1]
		WBR	B [10.5]	B [10.5]	A [9.6]	A [9.9]
	NB	Approach	E [70.1]	F [88.2]	C [24.8]	C [24.4]
		NBL	C [28.2]	C [28.1]	C [25.1]	C [24.6]
		NBT	F [83.1]	F [106.6]	C [29.3]	C [29.0]
		NBR			C [22.6]	C [22.0]
	SB	Approach	D [37.4]	D [38.7]	C [30.3]	C [29.9]
		SBL	D [41.4]	D [43.5]	C [26.6]	C [26.4]
		SBT/R	C [33.3]	C [33.9]	C [34.0]	C [33.4]

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		PM PEAK HOUR STREET			
			2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
Market Street SR 0114 - US 15 Southbound Ramp SIGNALIZED	EB	Approach	C [29.6]	C [30.2]	B [16.7]	B [16.7]
		EBT	C [29.6]	C [30.2]	B [16.7]	B [16.7]
		EBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]
	WB	Approach	A [6.5]	A [6.6]	B [10.5]	B [10.6]
		WBL	B [16.6]	B [16.8]	B [10.6]	B [10.6]
		WBT	A [4.8]	A [4.8]	B [10.5]	B [10.5]
	SB	Approach	C [34.3]	C [34.1]	C [25.7]	C [25.6]
		SBLTR	D [43.9]	D [43.9]	C [32.4]	C [32.4]
South Market Street SR 0114 - US 15 Northbound Ramp SIGNALIZED	EB	Approach	C [20.7]	C [20.6]	B [17.6]	B [17.6]
		EBL	C [27.8]	C [27.6]	C [29.8]	C [29.9]
		EBT	B [11.2]	B [11.2]	A [1.4]	A [1.4]
	WB	Approach	D [38.6]	D [39.1]	D [38.8]	D [38.8]
		WBT	D [38.6]	D [39.1]	D [38.8]	D [38.8]
		WBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]
	NB	Approach	D [37.1]	D [37.2]	D [37.7]	D [38.1]
		NBLTR	D [51.1]	D [51.2]	D [51.9]	D [52.4]

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		PM PEAK HOUR STREET			
			2027 Build Under Approved TIS	2027 Build Prelim with Chick-fil-A	2027 Build With Improv. Under Approved TIS	2027 Build With Improv. Prelim with Chick-fil-A
Gettysburg Pike - Site DW 3 UN-SIGNALIZED	WB	Approach	B [13.2]	B [14.3]	B [13.0]	B [14.0]
		WBL	C [19.7]	B [10.7]	C [19.1]	C [22.1]
		WBR	B [10.4]	B [10.7]	B [10.4]	B [10.7]
	NB	Approach	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		NBT/R	-	-	-	-
	SB	Approach	A [1.6]	A [2.2]	A [1.6]	A [2.2]
		SBL	A [9.5]	A [9.8]	A [9.5]	A [9.8]
		SBT			-	-
Gettysburg Pike - Site DW 4 UN-SIGNALIZED	WB	Approach	B [10.3]	B [10.4]	B [10.3]	B [10.4]
		WBR	B [10.3]	B [10.4]	B [10.3]	B [10.4]
	NB	Approach	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		NBT/R	-	-	-	-
	SB	Approach	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		SBT	-	-	-	-
Site DW 3 - Access Drive UN-SIGNALIZED	EB	Approach	-	A [8.0]	-	-
		EBL	-	A [8.2]	-	-
		EBT/R	-	A [7.9]	-	-
	WB	Approach	-	A [7.8]	-	-
		WBLTR	-	A [7.8]	-	-
	NB	Approach	-	A [7.5]	-	-
		NBLTR	-	A [7.5]	-	-
	SB	Approach	-	A [7.3]	-	-
		SBLTR	-	A [7.3]	-	-

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		SAT PEAK HOUR STREET 2027 Build Under Approved TIS	SAT PEAK HOUR STREET 2027 Build Prelim with Chick-fil-A	SAT PEAK HOUR STREET 2027 Build With Improv. Under Approved TIS	SAT PEAK HOUR STREET 2027 Build With Improv. Prelim with Chick-fil-A
South Market Street SR 0114 - Gettysburg Pike SIGNALIZED	EB	Approach	B [18.8]	C [20.8]	B [14.9]	B [16.4]
		EBL	B [15.3]	B [17.1]	B [11.9]	B [12.9]
		EBT	C [21.3]	C [23.8]	B [15.7]	B [17.3]
		EBR	B [13.8]	B [15.3]	B [15.8]	B [17.5]
	WB	Approach	B [17.9]	C [20.4]	B [13.7]	B [14.9]
		WBL	B [15.2]	B [17.7]	B [10.9]	B [12.1]
		WBT	C [21.3]	C [24.2]	B [16.6]	B [18.1]
		WBR	A [9.9]	B [11.4]	A [8.3]	A [9.1]
	NB	Approach	D [41.9]	D [45.7]	C [25.4]	C [24.1]
		NBL	C [27.4]	C [25.0]	C [24.2]	C [22.8]
		NBT	D [48.3]	D [54.3]	C [29.7]	C [28.2]
		NBR			C [23.0]	C [22.3]
	SB	Approach	C [31.5]	C [30.1]	C [30.5]	C [29.0]
		SBL	C [32.1]	C [31.2]	C [29.1]	C [26.9]
		SBT/R	C [30.8]	C [28.9]	C [32.2]	C [31.5]

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

Intersection	Approach / Movement		SAT PEAK HOUR STREET 2027 Build Under Approved TIS	SAT PEAK HOUR STREET 2027 Build Prelim with Chick-fil-A	SAT PEAK HOUR STREET 2027 Build With Improv. Under Approved TIS	SAT PEAK HOUR STREET 2027 Build With Improv. Prelim with Chick-fil-A
Market Street SR 0114 - US 15 Southbound Ramp SIGNALIZED	EB	Approach	B [11.5]	B [12.0]	B [10.2]	B [10.4]
		EBT	B [11.5]	B [12.0]	B [10.2]	B [10.4]
		EBR	A [0.0]	A [0.0]	A [0.0]	B [11.4]
	WB	Approach	A [1.7]	A [1.7]	B [11.1]	B [11.4]
		WBL	A [6.5]	A [6.8]	A [6.0]	A [6.2]
		WBT	A [1.1]	A [1.2]	A [11.7]	B [12.0]
	SB	Approach	C [26.2]	C [25.4]	C [20.7]	C [20.1]
		SBLTR	D [41.6]	D [41.6]	C [31.9]	C [31.9]
South Market Street SR 0114 - US 15 Northbound Ramp SIGNALIZED	EB	Approach	A [2.2]	A [2.4]	B [10.3]	B [10.7]
		EBL	A [6.2]	A [6.7]	A [7.5]	A [8.1]
		EBT	A [0.8]	A [0.8]	B [11.2]	B [11.6]
	WB	Approach	B [11.7]	B [12.6]	B [12.8]	B [13.8]
		WBT	B [11.7]	B [12.6]	B [12.8]	B [13.8]
		WBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]
	NB	Approach	D [35.2]	D [35.9]	C [27.8]	C [28.5]
		NBLTR	D [41.1]	D [41.7]	C [32.2]	C [32.9]

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Revised TABLE 1
LEVELS OF SERVICE [DELAY] SUMMARY

<table>
<tr><th rowspan="2">Intersection</th><th rowspan="2" colspan="2">Approach / Movement</th><th colspan="4">SAT PEAK HOUR STREET</th></tr>
<tr><th>2027 Build Under Approved TIS</th><th>2027 Build Prelim with Chick-fil-A</th><th>2027 Build With Improv. Under Approved TIS</th><th>2027 Build With Improv. Prelim with Chick-fil-A</th></tr>
<tr><td rowspan="8">Gettysburg Pike
-
Site DW 3

UN-SIGNALIZED</td><td rowspan="3">WB</td><td>Approach</td><td>B [12.9]</td><td>C [15.1]</td><td>B [12.7]</td><td>B [14.7]</td></tr>
<tr><td>WBL</td><td>C [20.9]</td><td>D [29.0]</td><td>C [20.1]</td><td>D [27.2]</td></tr>
<tr><td>WBR</td><td>B [10.6]</td><td>B [11.3]</td><td>B [10.6]</td><td>B [11.3]</td></tr>
<tr><td rowspan="2">NB</td><td>Approach</td><td>A [0.0]</td><td>A [0.0]</td><td>A [0.0]</td><td>A [0.0]</td></tr>
<tr><td>NBT/R</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td rowspan="3">SB</td><td>Approach</td><td>A [4.0]</td><td>A [4.9]</td><td>A [4.0]</td><td>A [4.9]</td></tr>
<tr><td>SBL</td><td rowspan="2">A [10.0]</td><td rowspan="2">B [10.6]</td><td>A [10.0]</td><td>B [10.6]</td></tr>
<tr><td>SBT</td><td>-</td><td>-</td></tr>
<tr><td rowspan="6">Gettysburg Pike
-
Site DW 4

UN-SIGNALIZED</td><td rowspan="2">WB</td><td>Approach</td><td>B [10.2]</td><td>B [10.6]</td><td>B [10.2]</td><td>B [10.6]</td></tr>
<tr><td>WBR</td><td>B [10.2]</td><td>B [10.6]</td><td>B [10.2]</td><td>B [10.6]</td></tr>
<tr><td rowspan="2">NB</td><td>Approach</td><td>A [0.0]</td><td>A [0.0]</td><td>A [0.0]</td><td>A [0.0]</td></tr>
<tr><td>NBT/R</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td rowspan="2">SB</td><td>Approach</td><td>A [0.0]</td><td>A [0.0]</td><td>A [0.0]</td><td>A [0.0]</td></tr>
<tr><td>SBT</td><td>-</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td rowspan="9">Site DW 3
-
Access Drive

UN-SIGNALIZED</td><td rowspan="3">EB</td><td>Approach</td><td>-</td><td>A [8.7]</td><td>-</td><td>-</td></tr>
<tr><td>EBL</td><td>-</td><td>A [8.7]</td><td>-</td><td>-</td></tr>
<tr><td>EBT/R</td><td>-</td><td>A [8.7]</td><td>-</td><td>-</td></tr>
<tr><td rowspan="2">WB</td><td>Approach</td><td>-</td><td>A [8.7]</td><td>-</td><td>-</td></tr>
<tr><td>WBLTR</td><td>-</td><td>A [8.7]</td><td>-</td><td>-</td></tr>
<tr><td rowspan="2">NB</td><td>Approach</td><td>-</td><td>A [8.1]</td><td>-</td><td>-</td></tr>
<tr><td>NBLTR</td><td>-</td><td>A [8.1]</td><td>-</td><td>-</td></tr>
<tr><td rowspan="2">SB</td><td>Approach</td><td>-</td><td>A [8.0]</td><td>-</td><td>-</td></tr>
<tr><td>SBLTR</td><td>-</td><td>A [8.0]</td><td>-</td><td>-</td></tr>
</table>

Values shown as provided on the HCM 6 Worksheet. - indicates estimated operation with no delay

Queue Analysis

DRAFT REVISED TABLE 6a
HCM 6 CALCULATED 95TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	AM Peak Hour			
			2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	78	78	78	80
	EBT	1000+	170	160	108	115
	EBR	225	43	53	110	118
	WBL	200	150	58	128	150
	WBT	480	470	440	423	408
	WBR	185	13	13	10	13
	NBL	175	135	168	145	180
	NBT	1000+	560	713	103	105
	NBR	200*			230	250
	SBL	150 260*	160	160	133	133
	SBT/R	1000+	228	230	275	270
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	243	248	108	110
	EBR	125	0	0	0	0
	WBL	100	10	10	10	10
	WBT	500	383	385	383	170
	SBLTR	1000+	195	195	195	195
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	278	315	300	340
	EBT	500	160	160	168	170
	WBT	580	350	375	350	375
	WBR	260	0	0	0	0
	NBLTR	1000+	223	238	233	238
S Market Street SR 0114 - Site Driveway 3	WBL	50	5	10	5	10
	WBR	50	8	15	8	15
	NBT/R	1000+	0	0	0	0
	SBL	150	10	20	10	20
	SBT	500			0	0
S Market Street SR 0114 - Site Driveway 4	WBR	100	8	15	8	15
	NBT/R	80	0	0	0	0
	SBT	300	0	0	0	0
Site Driveway 3 - Access Drive	EBL	85	-	8	-	-
	EBT/R	85	-	13	-	-
	WBLTR	1000+	-	10	-	-
	NBLTR	260	-	3	-	-
	SBLTR	230	-	8	-	-

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6a (CONT'D)
HCM 6 CALCULATED 95TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	PM Peak Hour			
			2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	68	68	58	60
	EBT	1000+	283	275	153	160
	EBR	225	50	58	153	160
	WBL	200	153	163	105	113
	WBT	480	185	178	153	150
	WBR	185	38	38	33	33
	NBL	175	68	73	58	60
	NBT	1000+	365	440	63	70
	NBR	200*			123	130
	SBL	150 260*	225	230	170	168
	SBT/R	1000+	213	215	195	195
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	535	545	203	205
	EBR	125	0	0	0	0
	WBL	100	33	33	30	30
	WBT	500	95	95	173	173
	SBLTR	1000+	403	403	318	318
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	480	475	300	300
	EBT	500	230	230	25	25
	WBT	580	363	365	333	333
	WBR	260	0	0	0	0
	NBLTR	1000+	265	265	248	250
S Market Street SR 0114 - Site Driveway 3	WBL	50	5	10	5	8
	WBR	50	5	8	5	8
	NBT/R	1000+	0	0	0	0
	SBL	150	10	13	10	13
	SBT	500			0	0
S Market Street SR 0114 - Site Driveway 4	WBR	100	5	8	5	8
	NBT/R	80	0	0	0	0
	SBT	300	0	0	0	0
Site Driveway 3 - Access Drive	EBL	85	-	5	-	-
	EBT/R	85	-	10	-	-
	WBLTR	1000+	-	8	-	-
	NBLTR	260	-	0	-	-
	SBLTR	230	-	5	-	-

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6a (CONT'D)
HCM 6 CALCULATED 95TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	SAT Peak Hour 2027 Build Approved TIS	SAT Peak Hour 2027 Build Prelim Rev Restaurant	SAT Peak Hour 2027 Build With Improv. Approved TIS	SAT Peak Hour 2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	55	58	40	43
	EBT	1000+	190	203	83	93
	EBR	225	35	45	83	93
	WBL	200	98	128	68	83
	WBT	480	210	225	158	168
	WBR	185	30	33	23	25
	NBL	175	83	93	65	75
	NBT	1000+	250	318	75	80
	NBR	200*			83	110
	SBL	150 260*	208	203	178	170
	SBT/R	1000+	170	173	153	158
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	263	280	108	118
	EBR	125	0	0	0	0
	WBL	100	15	15	13	13
	WBT	500	20	20	293	300
	SBLTR	1000+	203	203	153	153
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	43	50	40	48
	EBT	500	13	13	263	268
	WBT	580	218	230	200	210
	WBR	260	0	0	0	0
	NBLTR	1000+	223	235	175	188
S Market Street SR 0114 - Site Driveway 3	WBL	50	8	15	8	15
	WBR	50	10	15	10	15
	NBT/R	1000+	0	0	0	0
	SBL	150	18	28	18	28
	SBT	500			0	0
S Market Street SR 0114 - Site Driveway 4	WBR	100	8	15	8	15
	NBT/R	80	0	0	0	0
	SBT	300	0	0	0	0
Site Driveway 3 - Access Drive	EBL	85	-	10	-	-
	EBT/R	85	-	20	-	-
	WBLTR	1000+	-	18	-	-
	NBLTR	260	-	3	-	-
	SBLTR	230	-	8	-	-

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6b
HCM 6 CALCULATED 50TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	AM Peak Hour			
			2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	43	43	43	45
	EBT	1000+	95	88	60	65
	EBR	225	23	30	60	65
	WBL	200	83	33	70	83
	WBT	480	323	298	285	273
	WBR	185	8	8	5	8
	NBL	175	75	93	80	100
	NBT	1000+	380	478	58	58
	NBR	200*			135	150
	SBL	150 260*	90	90	75	73
	SBT/R	1000+	133	135	170	165
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	145	148	60	63
	EBR	125	0	0	0	0
	WBL	100	5	5	5	5
	WBT	500	300	305	300	120
	SBLTR	1000+	110	110	110	110
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	185	215	193	225
	EBT	500	93	95	93	95
	WBT	580	228	245	228	245
	WBR	260	0	0	0	0
	NBLTR	1000+	138	140	138	140

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6b (CONT'D)
HCM 6 CALCULATED 50TH % QUEUE LENGTHS

Intersection	Movement	Storage Length	PM Peak Hour 2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	38	38	33	33
	EBT	1000+	175	168	85	88
	EBR	225	28	33	85	88
	WBL	200	85	90	58	63
	WBT	480	103	100	85	83
	WBR	185	20	20	18	18
	NBL	175	38	40	33	33
	NBT	1000+	238	290	35	40
	NBR	200*			68	73
	SBL	150 260*	130	135	95	93
	SBT/R	1000+	120	123	110	110
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	378	383	115	115
	EBR	125	0	18	0	0
	WBL	100	18	55	15	15
	WBT	500	55	268	113	115
	SBLTR	1000+	268	383	203	203
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	408	408	205	205
	EBT	500	183	185	15	15
	WBT	580	238	238	213	213
	WBR	260	0	0	0	0
	NBLTR	1000+	160	163	148	150

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6b (CONT'D)
HCM 6 CALCULATED 50TH % QUEUE LENGTHS

Intersection	Movement	Storage Length	SAT Peak Hour			
			2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	30	58	23	23
	EBT	1000+	105	203	45	50
	EBR	225	20	45	45	53
	WBL	200	55	128	38	48
	WBT	480	120	225	88	93
	WBR	185	18	33	13	13
	NBL	175	45	93	38	43
	NBT	1000+	150	318	43	45
	NBR	200*			45	60
	SBL	150 260*	118	203	100	95
	SBT/R	1000+	95	173	85	88
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	160	280	60	65
	EBR	125	0	0	0	0
	WBL	100	8	15	8	8
	WBT	500	10	20	193	200
	SBLTR	1000+	115	203	85	85
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	23	50	23	28
	EBT	500	8	13	168	175
	WBT	580	128	230	113	120
	WBR	260	0	0	0	0
	NBLTR	1000+	130	235	98	105

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6c
SYNCHRO CALCULATED 95TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	AM Peak Hour			
			2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	54	54	51	51
	EBT	1000+	122	115	70	65
	EBR	225	13	16	0	0
	WBL	200	53	62	42	50
	WBT	480	339	321	279	259
	WBR	185	6	6	5	5
	NBL	175	91	116	95	113
	NBT	1000+	262	294	80	82
	NBR	200*			30	31
	SBL	150 260*	106	108	91	91
	SBT/R	1000+	80	84	90	95
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	255	252	169	178
	EBR	125	17	17	28	29
	WBL	100	1	1	1	1
	WBT	500	13	13	83	83
	SBLTR	1000+	208	214	208	214
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	353	366	352	365
	EBT	500	30	30	38	38
	WBT	580	393	396	393	396
	WBR	260	43	43	43	43
	NBLTR	1000+	284	291	284	291

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6c
SYNCHRO CALCULATED 95TH % QUEUE LENGTHS

Intersection	Movement	Storage Length	PM Peak Hour: 2027 Build Approved TIS	PM Peak Hour: 2027 Build Prelim Rev Restaurant	PM Peak Hour: 2027 Build With Improv. Approved TIS	PM Peak Hour: 2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	53	53	53	53
	EBT	1000+	228	222	125	124
	EBR	225	18	19	0	0
	WBL	200	46	48	70	78
	WBT	480	79	76	96	92
	WBR	185	5	5	1	1
	NBL	175	53	56	42	44
	NBT	1000+	202	235	55	60
	NBR	200*			45	49
	SBL	150 260*	173	176	108	108
	SBT/R	1000+	159	160	128	129
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	512	502	202	206
	EBR	125	45	45	49	49
	WBL	100	6	6	11	11
	WBT	500	123	121	178	178
	SBLTR	1000+	494	497	375	377
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	220	222	290	296
	EBT	500	19	19	34	34
	WBT	580	288	288	248	248
	WBR	260	34	34	31	31
	NBLTR	1000+	225	225	194	195

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

TABLE 6c (CONT'D)
SYNCHRO CALCULATED 95TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	SAT Peak Hour			
			2027 Build Approved TIS	2027 Build Prelim Rev Restaurant	2027 Build With Improv. Approved TIS	2027 Build With Improv. Prelim Rev Restaurant
S Market Street SR 0114 - Gettysburg Pike	EBL	175	48	48	41	41
	EBT	1000+	155	156	73	75
	EBR	225	16	20	0	0
	WBL	200	57	67	35	42
	WBT	480	144	148	133	137
	WBR	185	23	22	6	5
	NBL	175	58	67	46	53
	NBT	1000+	200	255	61	66
	NBR	200*			30	32
	SBL	150 260*	175	180	105	105
	SBT/R	1000+	140	149	114	121
S Market Street SR 0114 - Southbound Ramp US 15	EBT	480	306	312	158	169
	EBR	125	8	10	16	23
	WBL	100	12	13	19	18
	WBT	500	185	196	210	212
	SBLTR	1000+	211	238	168	190
S Market Street SR 0114 - Northbound Ramp US 15	EBL	125 450*	36	46	19	28
	EBT	500	159	159	160	174
	WBT	580	239	242	206	210
	WBR	260	30	30	29	29
	NBLTR	1000+	172	181	140	148

Lengths are in feet. ☐ = Length greater than storage length. * Indicates mitigation lane length.

SIMTRAFFIC CALCULATED 95TH % QUEUE LENGTHS

Intersection	Move ment	Storage Length	2027 Build		
			AM Peak Hour	PM Peak Hour	SAT Peak Hour
Site Driveway 3 - Access Drive	EBLTR	85	0	0	0
	WBLTR	1000+	45	47	54
	NBLTR	260	35	33	35
	SBLTR	230	64	43	67

SimTraffic Model – Internal Intersection

Summary of All Intervals

Start Time	6:57
End Time	8:00
Total Time (min)	63
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	3241
Vehs Exited	3183
Starting Vehs	64
Ending Vehs	122
Travel Distance (mi)	1014
Travel Time (hr)	108.5
Total Delay (hr)	70.5
Total Stops	4238
Fuel Used (gal)	58.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3241
Vehs Exited	3183
Starting Vehs	64
Ending Vehs	122
Travel Distance (mi)	1014
Travel Time (hr)	108.5
Total Delay (hr)	70.5
Total Stops	4238
Fuel Used (gal)	58.3

Intersection: 8: Access Drive & SD 3

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	52	31	97
Average Queue (ft)	29	11	31
95th Queue (ft)	45	35	64
Link Distance (ft)	163	155	145
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Summary of All Intervals

Start Time	4:12
End Time	5:15
Total Time (min)	63
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	3031
Vehs Exited	3013
Starting Vehs	77
Ending Vehs	95
Travel Distance (mi)	1025
Travel Time (hr)	222.3
Total Delay (hr)	184.3
Total Stops	3798
Fuel Used (gal)	83.6

Interval #0 Information Seeding

Start Time	4:12
End Time	4:15
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:15
End Time	5:15
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3031
Vehs Exited	3013
Starting Vehs	77
Ending Vehs	95
Travel Distance (mi)	1025
Travel Time (hr)	222.3
Total Delay (hr)	184.3
Total Stops	3798
Fuel Used (gal)	83.6

Intersection: 8: Access Drive & SD 3

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	56	31	53
Average Queue (ft)	30	10	21
95th Queue (ft)	47	33	43
Link Distance (ft)	165	157	132
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Summary of All Intervals

Start Time	11:27
End Time	12:30
Total Time (min)	63
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	2967
Vehs Exited	2971
Starting Vehs	69
Ending Vehs	65
Travel Distance (mi)	947
Travel Time (hr)	77.0
Total Delay (hr)	42.0
Total Stops	4027
Fuel Used (gal)	48.9

Interval #0 Information Seeding

Start Time	11:27
End Time	11:30
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	11:30
End Time	12:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	2967
Vehs Exited	2971
Starting Vehs	69
Ending Vehs	65
Travel Distance (mi)	947
Travel Time (hr)	77.0
Total Delay (hr)	42.0
Total Stops	4027
Fuel Used (gal)	48.9

Intersection: 8: Access Drive & SD 3

Movement	WB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	56	31	129
Average Queue (ft)	36	11	33
95th Queue (ft)	54	35	67
Link Distance (ft)	165	157	132
Upstream Blk Time (%)			0
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

SimTraffic Model – AM Queues for Gettysburg Pike / S. Market St.

Summary of All Intervals

Start Time	6:57
End Time	8:00
Total Time (min)	63
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	3110
Vehs Exited	3079
Starting Vehs	79
Ending Vehs	110
Travel Distance (mi)	987
Travel Time (hr)	129.0
Total Delay (hr)	92.1
Total Stops	3367
Fuel Used (gal)	62.3

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	3110
Vehs Exited	3079
Starting Vehs	79
Ending Vehs	110
Travel Distance (mi)	987
Travel Time (hr)	129.0
Total Delay (hr)	92.1
Total Stops	3367
Fuel Used (gal)	62.3

Intersection: 1: Gettysburg Pike & South Market Street

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	190	110	122	130	215	44	177	135	95	180	260
Average Queue (ft)	54	55	33	61	101	14	106	66	61	84	112
95th Queue (ft)	112	105	72	110	186	33	167	117	88	145	212
Link Distance (ft)		784	784		297			378			254
Upstream Blk Time (%)											1
Queuing Penalty (veh)											4
Storage Bay Dist (ft)	175			200		185	175		200	260	
Storage Blk Time (%)	0				1		1				1
Queuing Penalty (veh)	0				4		3				2

Turn Lane Warrant Worksheets

Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Allen Township	Analysis Date:	7/29/2022
County:	Cumberland County	Conducted By:	MEA
PennDOT Engineering District:	8	Checked By:	
		Agency/Company Name:	ALPHA CEI

Intersection & Approach Description: Gettysburg Pike / Proposed Site Driveway 3 Southbound Advancing

Analysis Period:	2027 Build CFA	Number of Approach Lanes:	1
Design Hour:	AM Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		Type of Analysis
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	141	1.0%	142
	Through	-	251	2.0%	254
	Right	Yes	0	0.0%	0
Opposing	Left	Yes	0	0.0%	0
	Through	-	522	1.0%	525
	Right	Yes	0	2.0%	0

Advancing Volume:	396
Opposing Volume:	525
Left Turn Volume:	142
% Left Turns in Advancing Volume:	35.86%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	141	1.0%	N/A
	Through	-	251	2.0%	N/A
	Right	-	0	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings		Right Turn Lane Warrant Findings	
Applicable Warrant Figure:	**Figure 1**	Applicable Warrant Figure:	**N/A**
Warrant Met?:	**Yes**	Warrant Met?:	**N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	142
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	0

Average # of Vehicles/Cycle: 2.0

PennDOT Publication 46, Exhibit 11-6

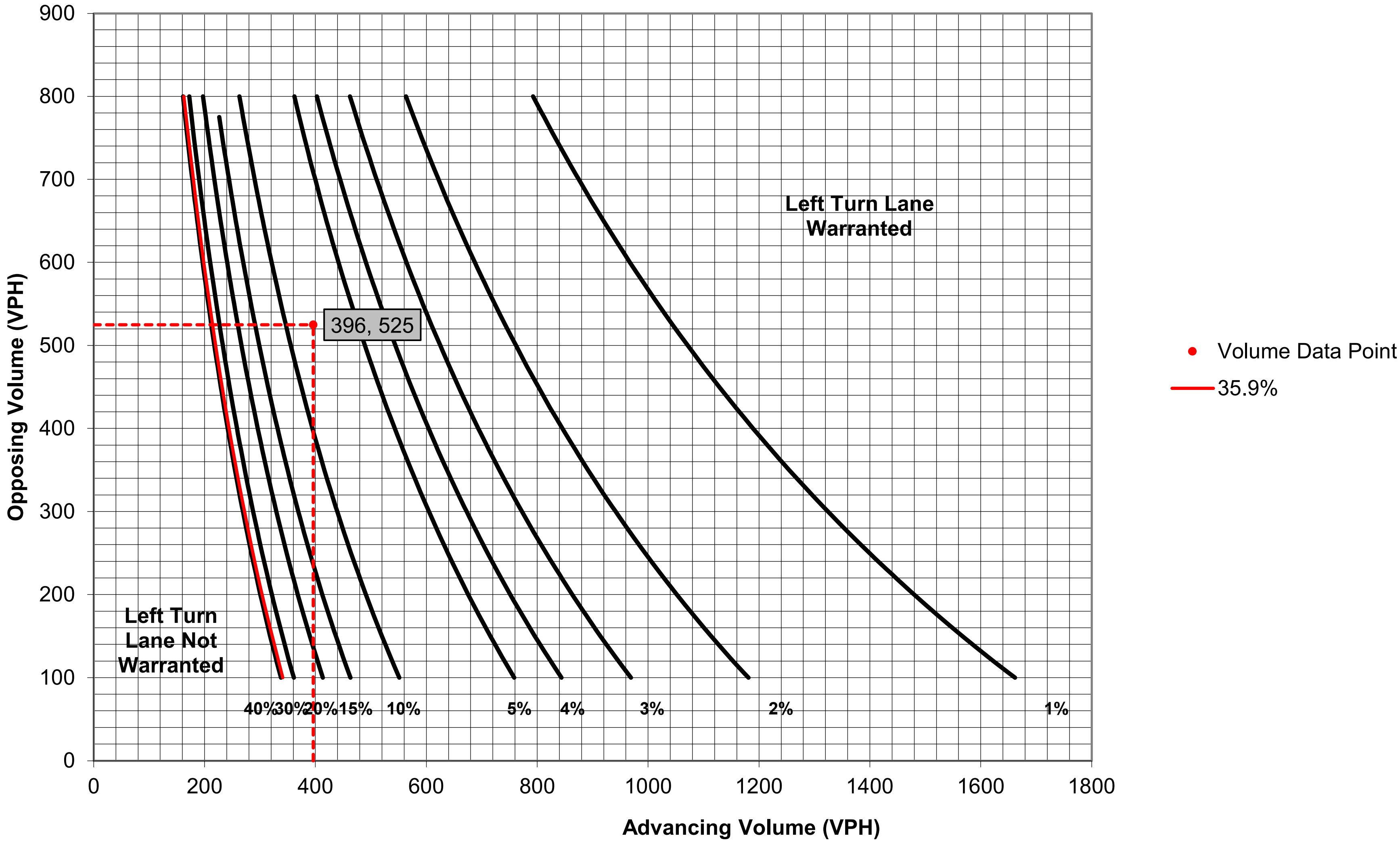
Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A:	**100**	Feet
Condition B:	**N/A**	Feet
Condition C:	**N/A**	Feet
Required Left Turn Lane Storage Length:	**100**	Feet

Additional Findings: N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways
(speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Allen Township	Analysis Date:	7/29/2022
County:	Cumberland County	Conducted By:	MEA
PennDOT Engineering District:	8	Checked By:	
		Agency/Company Name:	ALPHA CEI

Intersection & Approach Description: Gettysburg Pike / Proposed Site Driveway 4 Northbound Advancing

Analysis Period:	2027 Build CFA	Number of Approach Lanes:	1
Design Hour:	AM Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		Type of Analysis
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	440	1.0%	N/A
	Right	Yes	50	2.0%	N/A
Opposing	Left	Yes	0	0.0%	N/A
	Through	-	273	1.0%	N/A
	Right	Yes	0	0.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	0
	Through	-	440	1.0%	443
	Right	-	50	2.0%	51

Advancing Volume:	494
Right Turn Volume:	51

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 9**

Warrant Met?: **No**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	51
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	0

Average # of Vehicles/Cycle: N/A

PennDOT Publication 46, Exhibit 11-6

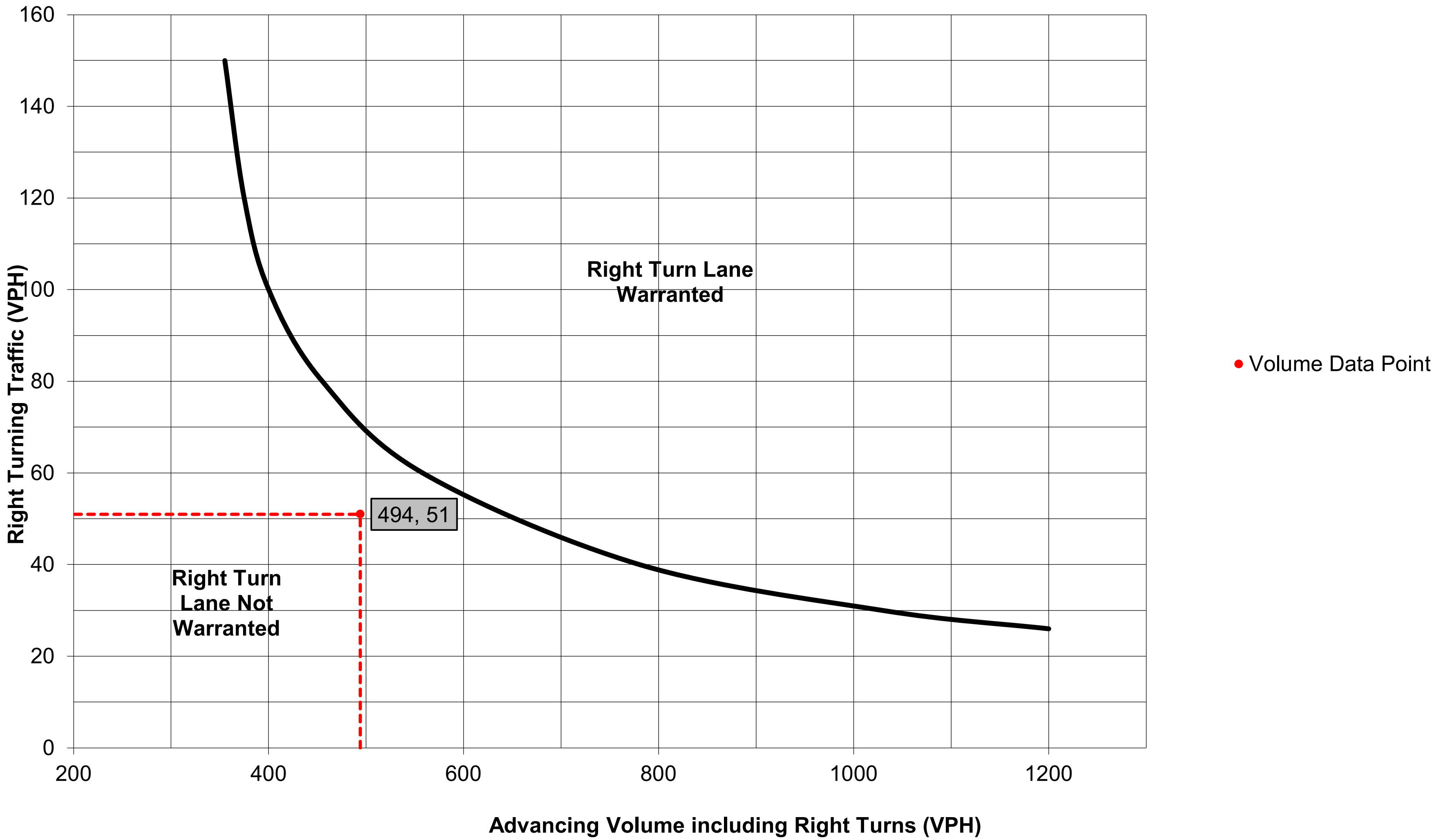
Type of Traffic Control	Speed (MPH) 25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A:	**N/A**	Feet
Condition B:	**N/A**	Feet
Condition C:	**N/A**	Feet
Required Right Turn Lane Storage Length:	**N/A**	Feet

Additional Findings:
N/A

Additional Comments / Justifications:

Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Allen Township	Analysis Date:	7/29/2022
County:	Cumberland County	Conducted By:	MEA
PennDOT Engineering District:	8	Checked By:	
		Agency/Company Name:	ALPHA CEI

Intersection & Approach Description: Gettysburg Pike / Proposed Site Driveway 3 Southbound Advancing

Analysis Period:	2027 Build CFA	Number of Approach Lanes:	1
Design Hour:	PM Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		Type of Analysis
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	116	1.0%	117
	Through	-	399	2.0%	403
	Right	Yes	0	0.0%	0
Opposing	Left	Yes	0	0.0%	0
	Through	-	357	2.0%	361
	Right	Yes	0	2.0%	0

Advancing Volume:	520
Opposing Volume:	361
Left Turn Volume:	117
% Left Turns in Advancing Volume:	22.50%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	116	1.0%	N/A
	Through	-	399	2.0%	N/A
	Right	-	0	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure:	Figure 1
Warrant Met?:	Yes

Right Turn Lane Warrant Findings

Applicable Warrant Figure:	N/A
Warrant Met?:	N/A

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	117
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	0
Average # of Vehicles/Cycle:	2.0

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A:	100	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Left Turn Lane Storage Length:	100	Feet

Additional Findings: N/A

Additional Comments / Justifications:

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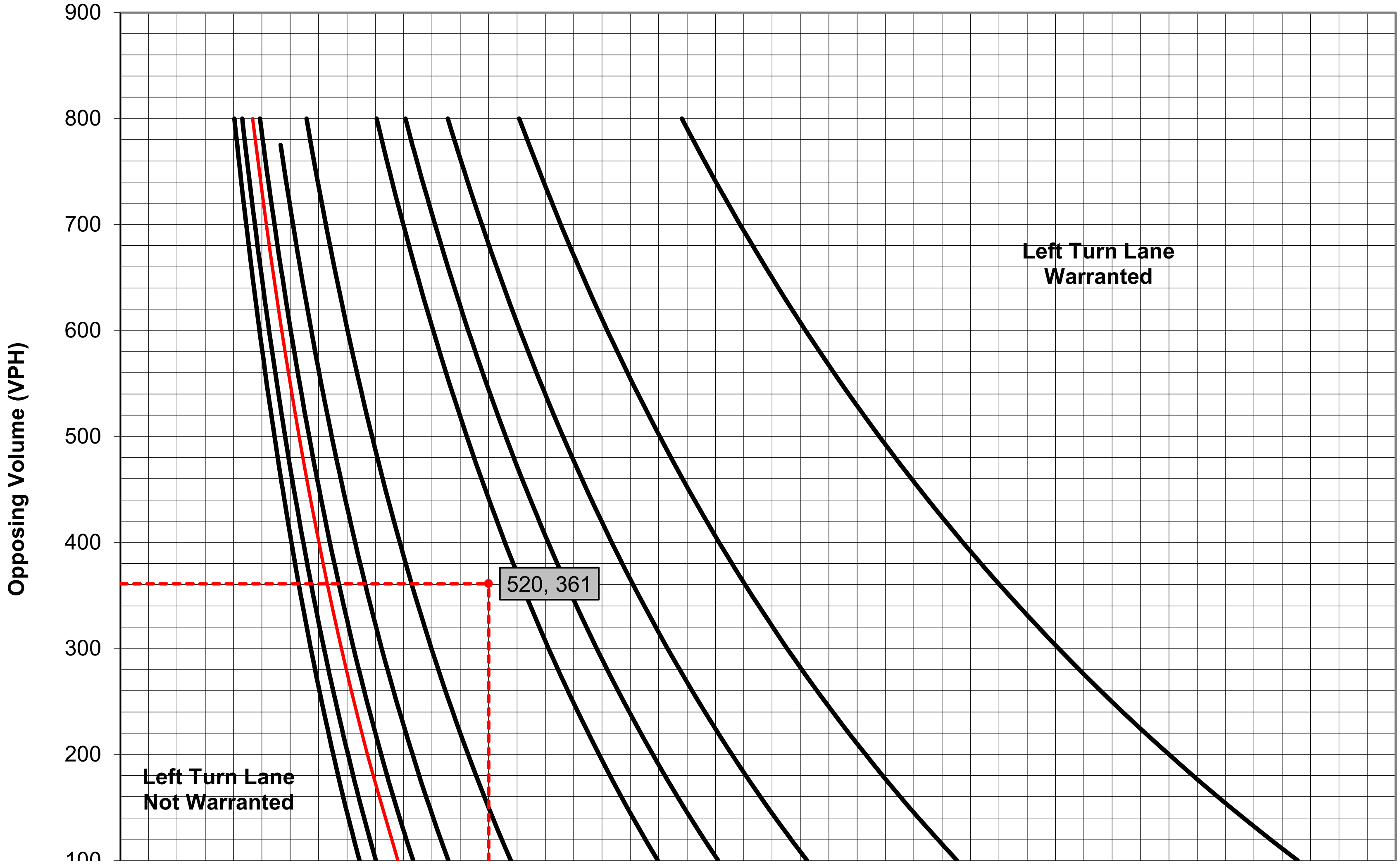
Figure 1. Warrant for left turn lanes on two-lane roadways
(speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis
Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Allen Township	Analysis Date:	0/29/2022
County:	Cumberland County	Conducted By:	MEA
PennDOT Engineering District:	8	Checked By:	
		Agency/Company Name:	ALPHA CEI

Intersection & Approach Description: Gettysburg Pike / Proposed Site Driveway 4 Northbound Advancing

Analysis Period:	2027 Build CFA	Number of Approach Lanes:	1
Design Hour:	PM Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		Type of Analysis
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	304	2.0%	N/A
	Right	Yes	27	2.0%	N/A
Opposing	Left	Yes	0	0.0%	N/A
	Through	-	421	3.0%	N/A
	Right	Yes	0	0.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	0
	Through	-	304	2.0%	308
	Right	-	27	2.0%	28

Advancing Volume:	336
Right Turn Volume:	28

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure:	N/A
Warrant Met?:	N/A

Right Turn Lane Warrant Findings

Applicable Warrant Figure:	Figure 9
Warrant Met?:	No

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	28
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	0
Average # of Vehicles/Cycle:	N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

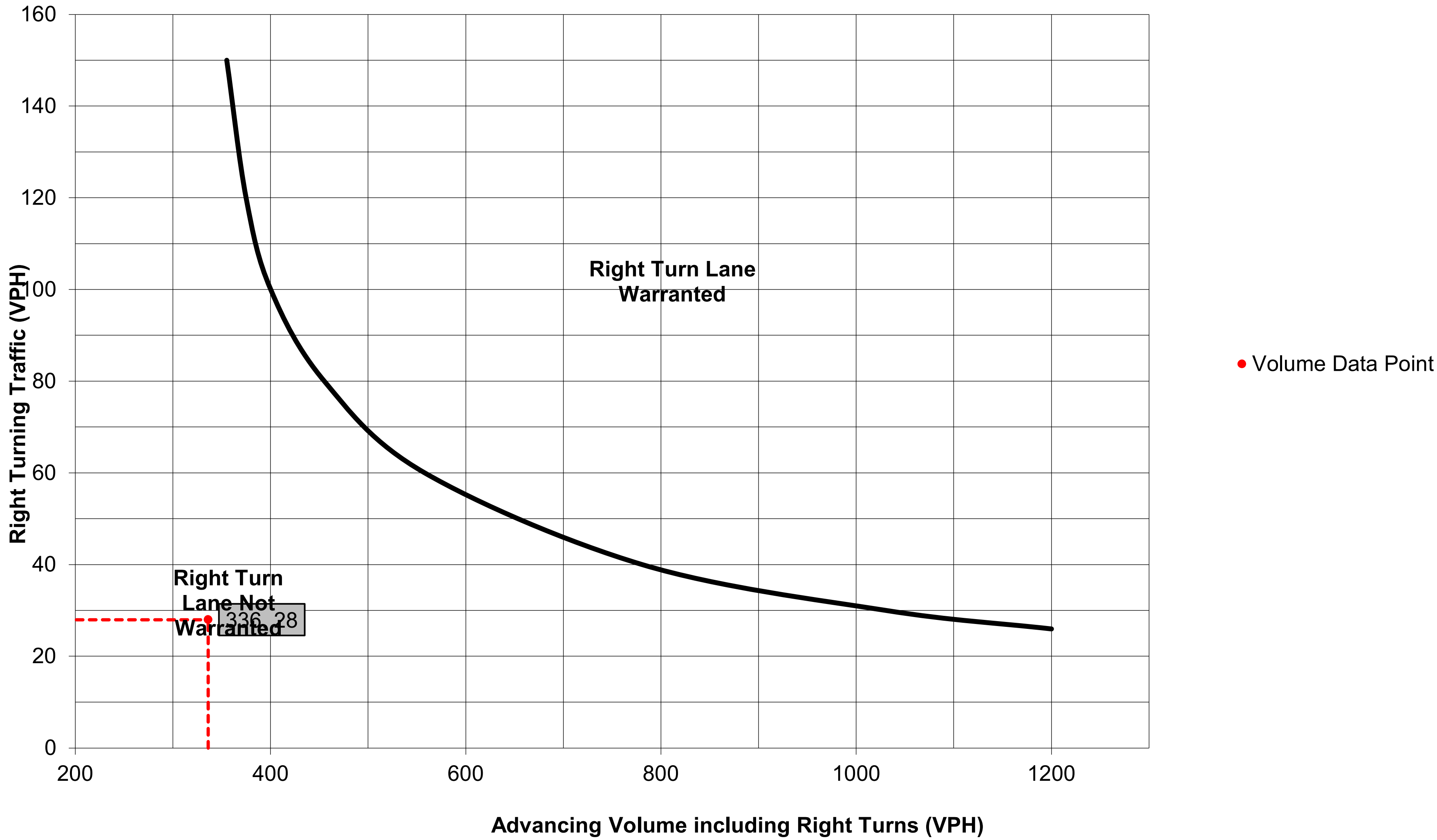
Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	N/A	Feet

Additional Findings:

N/A

Additional Comments / Justifications:

Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Allen Township	Analysis Date:	7/29/2022
County:	Cumberland County	Conducted By:	MEA
PennDOT Engineering District:	8	Checked By:	
		Agency/Company Name:	ALPHA CEI

Intersection & Approach Description: Gettysburg Pike / Proposed Site Driveway 3 Southbound Advancing

Analysis Period:	2027 Build CFA	Number of Approach Lanes:	1
Design Hour:	Saturday Peak Hour	Undivided or Divided Highway:	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		Type of Analysis
Type of Terrain:	Level	Left or Right-Turn Lane Analysis?:	Left Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	206	1.0%	208
	Through	-	237	2.0%	240
	Right	Yes	0	0.0%	0
Opposing	Left	Yes	0	0.0%	0
	Through	-	369	0.0%	369
	Right	Yes	0	0.0%	0

Advancing Volume:	448
Opposing Volume:	369
Left Turn Volume:	208
% Left Turns in Advancing Volume:	46.43%

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	206	1.0%	N/A
	Through	-	237	2.0%	N/A
	Right	-	0	0.0%	N/A

Advancing Volume:	N/A
Right Turn Volume:	N/A

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: **Figure 1**

Warrant Met?: **Yes**

Right Turn Lane Warrant Findings

Applicable Warrant Figure: **N/A**

Warrant Met?: **N/A**

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	208
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	0

Average # of Vehicles/Cycle: 3.0

PennDOT Publication 46, Exhibit 11-6

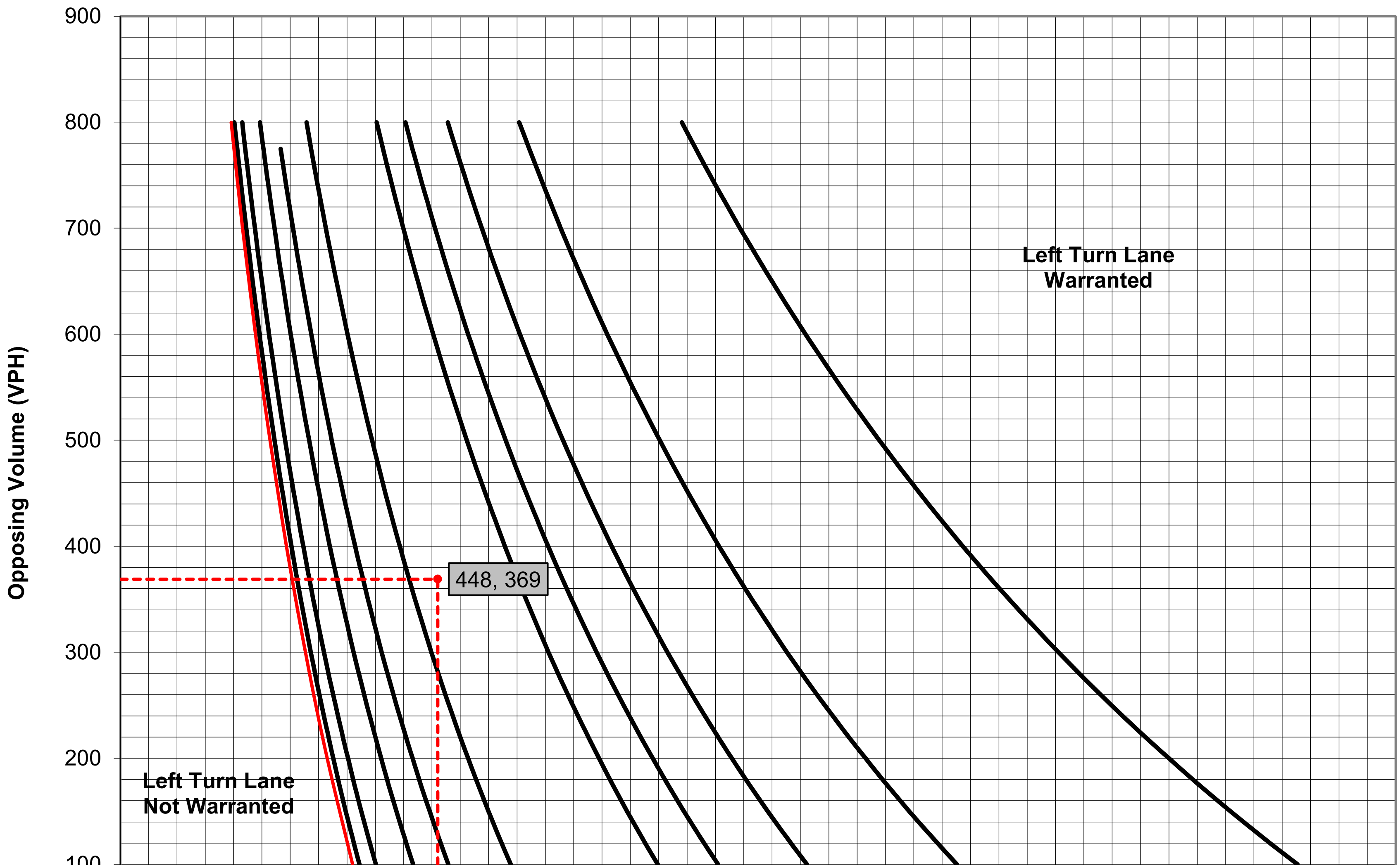
Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Left Turn Lane Storage Length, Condition A:	**150**	Feet
Condition B:	**N/A**	Feet
Condition C:	**N/A**	Feet
Required Left Turn Lane Storage Length:	**150**	Feet

Additional Findings:
N/A

Additional Comments / Justifications:

Figure 1. Warrant for left turn lanes on two-lane roadways (speeds to 35 mph, unsignalized and signalized intersections)
(L = % Left Turns in Advancing Volume)



Turn Lane Warrant and Length Analysis Workbook

STUDY LOCATION AND ANALYSIS INFORMATION

Municipality:	Upper Allen Township	**Analysis Date:**	7/29/2022
County:	Cumberland County	**Conducted By:**	MEA
PennDOT Engineering District:	8	**Checked By:**	
		Agency/Company Name:	ALPHA CEI

Intersection & Approach Description: Gettysburg Pike / Proposed Site Driveway 4 Northbound Advancing

Analysis Period:	2027 Build CFA	**Number of Approach Lanes:**	1
Design Hour:	Saturday Peak Hour	**Undivided or Divided Highway:**	Undivided
Intersection Control:	Unsignalized		
Posted Speed Limit (MPH):	25		**Type of Analysis**
Type of Terrain:	Level	**Left or Right-Turn Lane Analysis?:**	Right Turn Lane

VOLUME CALCULATIONS

Left Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	N/A
	Through	-	262	2.0%	N/A
	Right	Yes	51	2.0%	N/A
Opposing	Left	Yes	0	0.0%	N/A
	Through	-	266	3.0%	N/A
	Right	Yes	0	0.0%	N/A

Advancing Volume:	N/A
Opposing Volume:	N/A
Left Turn Volume:	N/A
% Left Turns in Advancing Volume:	N/A

Right Turn Lane Volume Calculations

Movement		Include?	Volume	% Trucks	PCEV
Advancing	Left	Yes	0	0.0%	0
	Through	-	262	2.0%	265
	Right	-	51	2.0%	52

Advancing Volume:	317
Right Turn Volume:	52

TURN LANE WARRANT FINDINGS

Left Turn Lane Warrant Findings

Applicable Warrant Figure: N/A

Warrant Met?: N/A

Right Turn Lane Warrant Findings

Applicable Warrant Figure: Figure 9

Warrant Met?: No

TURN LANE LENGTH CALCULATIONS

Intersection Control:	Unsignalized
Design Hour Volume of Turning Lane:	52
Cycles Per Hour (Assumed):	60
Cycles Per Hour (If Known):	0

Average # of Vehicles/Cycle: N/A

PennDOT Publication 46, Exhibit 11-6

Type of Traffic Control	Speed (MPH)					
	25-35		40-45		50-60	
	Turn Demand Volume					
	High	Low	High	Low	High	Low
Signalized	A	A	B or C	B or C	B or C	B or C
Unsignalized	A	A	C	B	B or C	B

Right Turn Lane Storage Length, Condition A:	N/A	Feet
Condition B:	N/A	Feet
Condition C:	N/A	Feet
Required Right Turn Lane Storage Length:	N/A	Feet

Additional Findings:
N/A

Additional Comments / Justifications:

pennsylvania
DEPARTMENT OF TRANSPORTATION

Figure 9. Warrant for right turn lanes on two-lane roadways
(40 mph or lower speeds, unsignalized and signalized intersections)