

**TRAFFIC IMPACT ANALYSIS
LATTE LOVE COMSTOCK DEVELOPMENT
CRANSTON, RHODE ISLAND**

**SUBMITTED TO:
LATTE LOVE COFFEE HOUSE L.L.C.
117 FRANKLIN ROAD
FOSTER, RI 02825**

**SUBMITTED BY:
PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865**

FEBRUARY 2022



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INTRODUCTION

The following report represents the traffic study completed for the proposal of a mixed-use development along the eastern side of Comstock Parkway, approximately 200 feet south of the intersection of Comstock Parkway at Plainfield Pike (Route 14), located in Cranston, Rhode Island. The proposed uses for the lot include a 6,720 square foot self-storage facility, a 7,000 square foot retail store, and an 84-seat coffee shop with a drive-thru. As part of the study, Pare has reviewed and analyzed the surrounding roadways and intersections for traffic capacity and safety.

Presented within are existing conditions in the vicinity of the project site, a safety analysis of the study area, and an analysis of the traffic based on existing, future (2027) no-build and future (2027) build conditions. A locus map of the study area is provided in Figure 1 and the proposed site layout is shown in Figure 2.

DATA COLLECTION

On February 2, 2022 manual turning movement counts (MTMCs) were conducted at the study area intersections between the hours of 7:00 A.M. and 9:00 A.M. and 4:00 P.M. and 6:00 P.M. The study intersections are as follows:

- Plainfield Pike (Route 14) at Comstock Parkway
- Scituate Avenue (Route 12) at Comstock Parkway

Crash data for the roadway network in the vicinity of the project site was requested from the Cranston Police Department for the period of January 2017 through December 2019. A crash review is included in this report to identify any potential trends that may require mitigation.

A field review of the study area was conducted on Saturday, February 5, 2022, with geometric measurements and other field observations recorded at the significant intersections in the vicinity of the project site. The information obtained was used in the analysis of the study area intersections.

The Planning Department for the City of Cranston was contacted to determine if there are currently any developments proposed whose trip generation information should be included in the study, to which only one was noted: the Comstock Industrial Warehouse Study. The anticipated traffic volumes included in the impact analysis report were included for the completion of this study.

To determine the impact that COVID-19 has had on the study area, a request was made to the Rhode Island Department of Transportation (RIDOT) for the nearest count station from 2019. Volumes retrieved from the count station were then projected forward to 2022, while also adjusting for seasonal variations through the use of RIDOT adjustment factors.





 = STUDY INTERSECTION

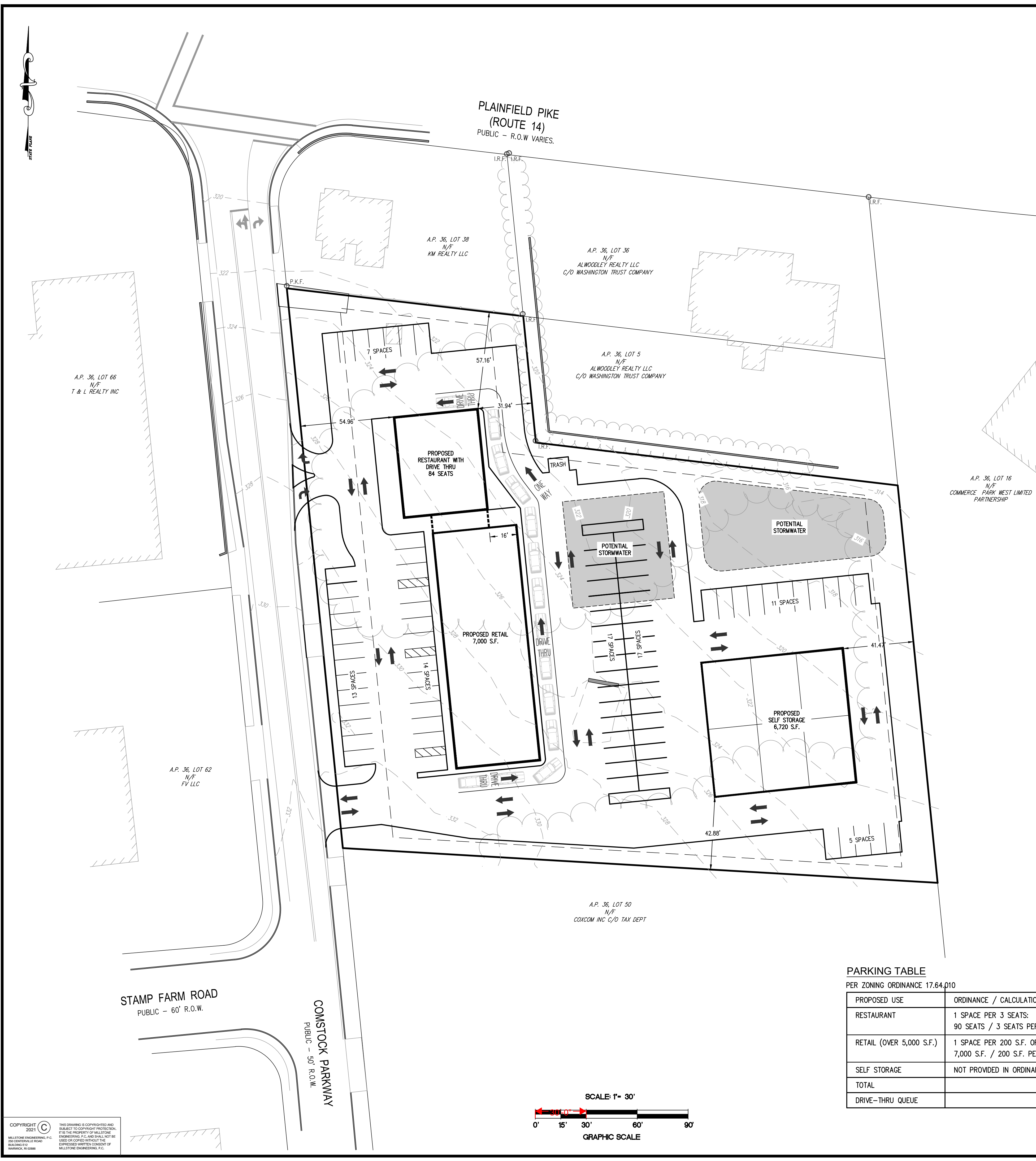


PROJECT NO. 22028.00

DATE: FEBRUARY 2022

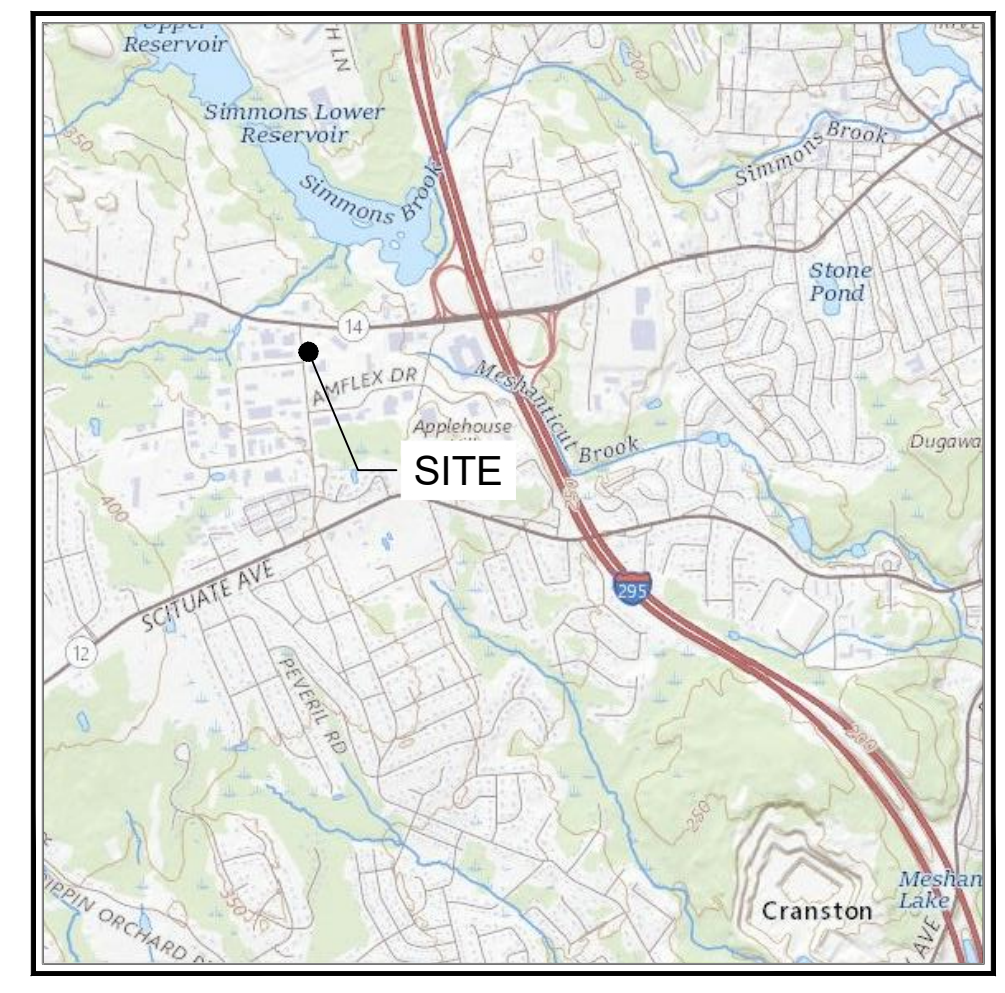
FIGURE 1
LOCUS MAP

LATTE LOVE COMSTOCK DEVELOPMENT
CRANSTON, RHODE ISLAND



ZONING INFORMATION:
PROPOSED ZONE C-5 PER ZONING ORDINANCE 17.20.120

	REQUIRED	PROVIDED
MINIMUM LOT AREA	10,000 S.F.	95,440 S.F.
MINIMUM LOT FRONTAGE	80 FT.	331.38 FT.
MINIMUM FRONT YARD	30 FT.	54.96 FT.
MINIMUM SIDE YARD	20 FT.	34.00 FT.
MINIMUM REAR YARD	8 FT.	31.94 FT.
MAXIMUM LOT COVERAGE	60 %	23 %



- OWNERS:**
- A.P. 36, LOT 51 JULIAN DEMARCO JR TRUSTEE & DENNIS DEMARCO
164 ROCKWOOD AVENUE
CRANSTON, RI 02920
 - A.P. 36, LOT 52 JULIAN & REGINA DEMARCO (JT) & JULIAN REGINA
164 ROCKWOOD AVENUE
CRANSTON, RI 02920
 - A.P. 36, LOT 53 JULIAN J. & DENNIS R. DEMARCO
164 ROCKWOOD AVENUE
CRANSTON, RI 02920

- REFERENCES:**
- SURVEY FOR C.G. INC. BY BOYER ASSOCIATES DATED MAY 15, 1995.
 - RHODE ISLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY PLAT NO. 1269.
 - RHODE ISLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY PLAT NO. 2161.
 - RECORD PLAN, CITY OF CRANSTON, RHODE ISLAND PUBLIC WORKS DEPARTMENT, SEWER DIVISION, POCASSET VALLEY SEWER SYSTEM 10, SEWERS, COMSTOCK PARKWAY FROM PLAINFIELD PIKE SO. POC. 10, SHEET 47.
 - STATE OF RHODE ISLAND AND CITY OF CRANSTON ON-LINE GIS INFORMATION.
 - LOCUS MAP OBTAINED FROM USGS MAPPING.

FLOOD NOTE:
THIS SITE LIES ENTIRELY WITHIN ZONE "X" - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE NATIONAL FLOOD INSURANCE RATE MAPS (FIRM), MAP NUMBER 44007C0292H, EFFECTIVE DATE OCTOBER 2, 2015.

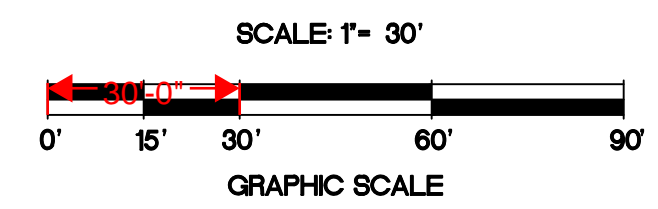
UTILITY NOTE:
LOCATION AND DEPTH OF EXISTING UTILITIES ARE APPROXIMATE AND HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CHECK AND VERIFY LOCATIONS OF ALL EXISTING UTILITIES BOTH UNDERGROUND AND OVERHEAD. ANY DAMAGE TO EXISTING UTILITIES AS SHOWN OR NOT SHOWN ON THE PLANS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. COSTS OF SUCH DAMAGE SHALL BE BORNE BY THE CONTRACTOR. NO EXCAVATION SHALL BE DONE UNTIL ALL INVOLVED UTILITY COMPANIES ARE NOTIFIED 72-HOURS IN ADVANCE. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 WORKING HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO THE START OF ANY EXCAVATION AND/OR BLASTING WORK. THE NAME OF THE COMPANY PERFORMING THE EXCAVATION AND/OR BLASTING WORK MUST BE SUPPLIED TO DIG-SAFE, IF IT IS DIFFERENT FROM THE CALLER.

- SITE NOTES:**
- THERE ARE NO KNOWN WETLANDS ON THE SITE.
 - THE EXISTING GROUND COVER CONSISTS OF GRASS, BRUSH, WOODS, AND LANDSCAPE STOCKPILES.
 - THE TOPOGRAPHY SHOWN ON THIS PLAN EXCLUDES MATERIAL STOCKPILES.

- LEGEND:**
- SUBJECT LOT LINE
 - ASSESSOR'S LOT LINE
 - A.P. 36, LOT 5 ASSESSOR'S PLAT AND LOT
 - BUILDING SETBACK LINE
 - I.R.F. IRON ROD FOUND
 - EXISTING BUILDING
 - EXISTING FENCE
 - EXISTING CURB
 - EXISTING WALL
 - EXISTING CONCRETE SIDEWALK / PAD
 - EXISTING CONTOUR
 - EDGE OF VEGETATION
 - PROPOSED BUILDING
 - PROPOSED CURB / EDGE OF PAVEMENT
 - PROPOSED PARKING LOT STRIPING
 - PROPOSED STORMWATER FACILITY

PARKING TABLE
PER ZONING ORDINANCE 17.64.010

PROPOSED USE	ORDINANCE / CALCULATION	REQUIRED	PROVIDED
RESTAURANT	1 SPACE PER 3 SEATS: 90 SEATS / 3 SEATS PER SPACE	30 SPACES	32 SPACES
RETAIL (OVER 5,000 S.F.)	1 SPACE PER 200 S.F. OF G.F.A. 7,000 S.F. / 200 S.F. PER SPACE	35 SPACES	36 SPACES
SELF STORAGE	NOT PROVIDED IN ORDINANCE	N/A	16 SPACES
TOTAL		65 SPACES	84 SPACES
DRIVE-THRU QUEUE			14 CARS



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CONCEPTUAL SITE PLAN
PROPOSED DEVELOPMENT
ASSESSOR'S PLAT 36
LOTS 51, 52 & 53
COMSTOCK PKWY.
CRANSTON, RI
PREPARED FOR:
TONY PHOUAYKOUNMPHA
SCALE: 1" = 30'
DECEMBER 2021

Drawn By: JCH
Checked By: JCH
Sheet
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of 1
FILE NO.: 21.448.668

EXISTING CONDITIONS

The study area is defined as the significant roadways and intersections in the vicinity of the site that may be impacted by the construction of the mixed-use development. Listed below are the roadways and intersections included in the study area.

Study Area Roadways:

- Comstock Parkway between the intersection of Plainfield Pike and Scituate Avenue

Study Area Intersections:

- Plainfield Pike at Comstock Parkway and the CVS Driveway
- Scituate Avenue at Comstock Parkway

Study Area Roadways

Comstock Parkway

Comstock Parkway is a roadway that runs in the general north/south direction from Plainfield Pike southward until it runs into Olney Arnold Road. Between Plainfield Pike and Scituate Avenue, Comstock Parkway is classified as a minor arterial. The Rhode Island Department of Transportation (RIDOT) defines minor arterials as streets that “connect and support the system of principal arterials, serving trips of moderate length at lower speeds.”

The curb-to-curb width varies slightly along this section of roadway, ranging from 26 to 31 feet. Near the proposed development site, Comstock Parkway consists of an 11-foot travel lane in each direction, a three-foot shoulder on its eastern side and a two-foot-wide shoulder on its western side. There is a 4.5-foot-wide sidewalk only on its western side. In addition, there is an existing bus stop served by RIPTA’s Route 19 along the site frontage, which is anticipated to remain in a slightly revised location approximately 50 feet south of its current location. The posted speed limit is 25 miles per hour along Comstock Parkway.

Study Area Intersections

Plainfield Pike at Comstock Parkway

The intersection of Plainfield Pike at Comstock Parkway and the CVS Driveway forms a four-legged, signalized intersection. Plainfield Pike makes up the eastern and western legs, the CVS driveway makes up the northern leg, and Comstock Parkway makes up the southern leg. Land uses around the intersection are predominantly retail and commercial. The Comstock Parkway northbound approach contains two travel lanes as it approaches the intersection, with lane designations for a left/thru lane and a right turn only lane, with lane widths of approximately 10.5 feet, each. The CVS driveway approach consists of one travel lane for all traffic exiting. Each approach of Plainfield Pike consists of two lanes,



Photo 1: Plainfield Pike (Route 14) at Comstock Parkway southern and western crosswalks



one for left turn movements and one for right/thru movements, with each lane being 11-feet-wide. The eastbound left turn bay is approximately 70 feet long and the westbound left turn bay is approximately 360 feet long. All four corners of the intersection have sidewalks and curb ramps, but none of the curb ramps are fully ADA-compliant. There are striped crosswalks and pedestrian push buttons across the western and southern legs of the intersection.

The signalized intersection consists of three phases. The first phase is dedicated to left turns for the Plainfield Pike approaches and right turns for the Comstock Parkway approach. The second phase permits all Plainfield Pike movements, and pedestrians to cross Comstock Parkway. The final phase is for all movements in the northbound and southbound directions, while also allowing for pedestrians to cross Plainfield Pike.

Scituate Avenue at Comstock Parkway



Photo 2: Scituate Avenue (Route 12) at Comstock Parkway

The intersection of Scituate Avenue at Comstock Parkway forms a four-legged, signalized intersection. Scituate Avenue makes up the eastern and western legs, while Comstock Parkway makes up the northern and southern legs. The northbound approach consists of one lane for all movements, with a lane width of ten feet. Its southbound approach consists of two lanes, with one lane for right turns only and one lane dedicated to thru and left movements, measuring 10 and 11 feet, respectively. The two Scituate Avenue approaches consist of one lane for left turns and one thru/right lane. The eastbound left turn bay is approximately 10.5 feet wide and approximately 250 feet long, while the westbound left turn bay is approximately 10 feet wide and 40 feet long. The through lanes in both directions

are approximately 11 feet wide. Sidewalks are only present along the west side of the northern leg, ending approximately 50 feet west of the intersection. Crosswalks are painted across both Comstock Parkway legs of the intersection, but there are no pushbuttons or pedestrian signal heads.

The signalized intersection consists of three phases. The first phase is dedicated to all movements for the Scituate Avenue eastbound approach. The second phase is for all Scituate Avenue movements, permitting left turns for each approach. The final phase is for all Comstock Parkway movements.

EXISTING TRAFFIC VOLUMES

Manual turning movement counts (MTMCs) were conducted on February 5, 2022 during the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. for each of the aforementioned study area intersections.

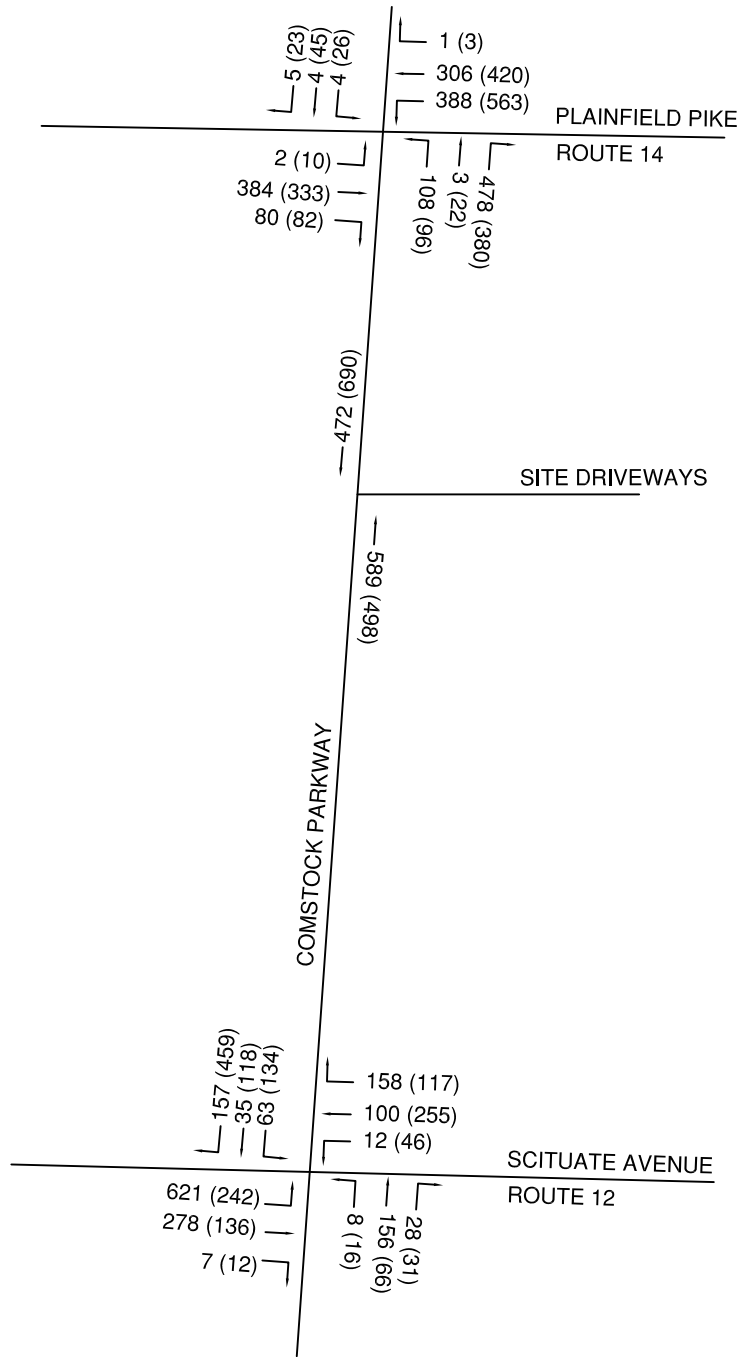
To determine the impact that COVID-19 has had on the study area, the Rhode Island Department of Transportation (RIDOT) provided data from July of 2019 for a count station located on Comstock Parkway near the proposed site (Location ID 070065). These volumes retrieved from the count station were then projected forward to February 2022, to match the date that the data was recorded from the



MTMCs conducted by Transportation Data Corporation based on the City's census data, while also adjusting for seasonal variations. Through this process, it was determined that the volumes from the MTMCs were higher than those that would be anticipated from the count station, therefore it is assumed that COVID-19 has had a negligible impact on the area at the time the counts were taken and the MTMC data was used without COVID-19 adjustment.

Copies of all count data, including the count station are provided in Appendix A. Existing traffic volumes for the morning peak hour and afternoon peak hour are shown in Figure 3.





WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
(WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES)

Project No. 22028.00

Date: February 2022



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Figure 3
Existing (2022) Peak Hour Traffic Volumes

Latte Love Comstock Parkway
Cranston, Rhode Island

SAFETY ANALYSIS

Crash Data

Crash data was requested from the Cranston Police Department for the most recent 3-year period prior to COVID, from January 1, 2017 through December 31, 2019 for the study area, including:

- Comstock Parkway between the intersection of Plainfield Pike (Route 14) at Comstock Parkway and the intersection of Scituate Avenue (Route 12) at Comstock Parkway
- Plainfield Pike (Route 14) at Comstock Parkway
- Scituate Avenue (Route 12) at Comstock Parkway

The table below provides a breakdown of the accidents based on type and severity. The complete crash data summary is provided in Appendix B.

Table 1: Crash Data Summary

Roadway/ Intersection	Total Crashes	Non-Fatal Injuries	Fatalities	Rear End	Sideswipe	Head On	Single Vehicle	Angle
Comstock Parkway	14	3	0	8	0	1	2	3
Plainfield Pike at Comstock Parkway	25	6	0	16	2	2	0	5
Scituate Avenue at Comstock Parkway	15	5	0	8	2	0	2	3

A total of 25 crashes occurred at the intersection of Plainfield Pike at Comstock Parkway. These crashes included 16 rear end collisions, two sideswipe collisions, two head on crashes and five angled collisions. Six of these incidents resulted in injuries, while none resulted in fatalities.

A total of 15 crashes occurred at the intersection of Scituate Avenue at Comstock Parkway. These crashes consisted of eight rear end collisions, two sideswipe collisions, two single vehicle collisions, and three angled collisions. Five of these incidents resulted in non-fatal injuries, while none resulted in fatalities.

A total of 14 crashes occurred along Comstock Parkway within the study area, between the two study area intersections. These crashes included eight rear end collisions, one head on collision, two single vehicle crashes, and three angled collisions. Three of these incidents resulted in non-fatal injuries, while none resulted in fatalities.

In total, 32 of the 54 crashes (59 percent) are rear-end crashes. It is typical at signalized intersections and two-lane roadways with active side streets and driveways for rear-end crashes to be the most common collision type. Of the 54 crashes, 14 resulted in person injuries (26 percent), which is typical of lower-speed arterials such as Comstock Parkway.

Sight Distance

Vehicle speeds along Comstock Parkway near the existing site were captured on Saturday, February 5, 2022. A summary of the speed data results is shown in Table 2 below. The complete



data log can be found in Appendix C. The most notable metric presented in the table is the 85th percentile speed, which will be considered for all forms of sight distance analysis. The 85th percentile speed of 32 miles per hour is rounded up to a design speed of 35 miles per hour to provide a more conservative analysis.

Table 2: Plainfield Pike Speed Study Summary

	Posted Speed	Average Speed	True Median (50 th Percentile)	85 th Percentile	10 MPH Pace	% over Posted
Northbound	25	28	28	32	24-33	86%
Southbound	25	29	29	32	24-33	88%

In conjunction with the spot speed study conducted, the available sight distance for the proposed site driveways were assessed. Both driveways will allow for vehicles entering and exiting, with the only difference between the two being that the northernmost driveway is intended to allow only right turns into and out of the site. The two driveways are within 200 feet of each other and will have similar site lines due to their close proximity to each other and the straight alignment of the street. The slope of Comstock Parkway steepens downhill toward the intersection with Plainfield Pike, with the road being nearly flat at the southern edge of the site, approximately two percent at the southern driveway, three percent at the northern driveway and approximately four percent at the northern edge of the site. The vertical curvature of the roadway along the site frontage does not restrict sight distance, but this road grade was considered when determining the stopping sight distance at the northern driveway. The existing sight distance at both driveways is slightly limited by some overgrown vegetation and signage, but it is anticipated these physical obstructions will be removed during construction.

According to the latest edition of the American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on the Geometric Design of Highways and Streets*, the minimum safe stopping sight distances (SSD) for 35 miles per hour is 250 feet for a nearly level roadway and 260 feet with a downgrade of 3%. The required intersection sight distance to avoid a collision is equal to the stopping sight distance. In addition, AASHTO gives guidance for a more desirable intersection sight distance (ISD) for this speed, which will not only avoid collisions, but maintain vehicular flow of at least 70 percent of the original operating speed. Meeting the desirable criteria for sight distance is more applicable to heavily traveled, higher-speed facilities such as arterial streets, where maintaining steady traffic flow is important. A summary of the sight distance available for the driveway can be seen in Table 3 below.

Table 3: Sight Distance Summary

		Required SSD (ft)	Desirable ISD (ft)	Measured ISD (ft)
Northern Right-In Right-Out Access	To the South (Left)	260	390	>500
	To the North (Right)	250	335	>500
Southern Full Access	To the South (Left)	250	390	>500

SSD = Stopping Sight Distance; ISD = Intersection Sight Distance



As indicated above, the sight distance from the site driveways exceeds the minimum criteria to avoid collisions, as well as exceeding the desirable ISD requirements, assisting in functional efficiency for Comstock Parkway. Therefore, based on the sight distance analysis, there are no safety concerns anticipated at the site access points.

NO-BUILD CONDITIONS

Future no-build traffic volumes are determined by projecting the existing traffic volumes based on a determined annual growth rate and including known potential developments within the study area. The Cranston Planning Department was contacted to determine if there are currently any developments proposed within the vicinity of the site whose trip generation information should be included in this study. The only notable development in the area was the Comstock Industrial Warehouse. The traffic impact analysis report was provided by the City planner, and the study intersection of Plainfield Pike at Comstock Parkway was included in the study area. The trips from the site were replicated in the no-build scenario exactly for this intersection, while remaining trips from the site were distributed to the intersection of Scituate Avenue at Comstock Avenue based on existing traffic distributions.

To account for background growth along the roadways within the vicinity of the project site, the existing traffic volumes were projected over a five-year horizon from 2022 to 2027. Recent census data was reviewed to determine the appropriate growth rate. The census data showed a population increase of approximately 0.31% per year from 2010 to 2020 for the city of Cranston. To provide a conservative analysis of the project area, a growth rate of 0.5 % per year was used for the five-year projection.

A copy of the available census data is provided in Appendix D. Figure 4 provides the 2027 no-build volumes for the morning and afternoon peak hours.

BUILD CONDITIONS

The future 2027 build condition represents the future 2027 no-build condition plus the anticipated trips due to the construction of the mixed-use development.

Trip Generation

The expected trips for the proposed site addition were determined through the use of the 11th edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE). Land Use Code (LUC) 937 for a Coffee/Donut Shop with Drive Through Window with 2,800 SF GFA, LUC 822 for a Strip Retail Plaza of 7,000 square feet, and LUC 151 for a Mini-Warehouse with a square footage of 6,700 square feet was considered as the most appropriate codes for the multiple uses at the development.

It should be noted that not all trips made to a coffee shop are new trips to the area. Some are an intermediate stop on the way to another primary destination, such as stopping to get some food on the way to a workplace or other event. These trips are commonly referred to as pass-by trips. The *Trip Generation Handbook, 3rd Edition*, published by the Institute of Transportation Engineers defines pass-by trips as trips that “do not add new traffic to the adjacent street system and may be



reduced from the total external trips generated by a study site.” These trips still get considered at the entrances to the site but are not projected to impact the rest of the traffic network. Based on data published in *Trip Generation*, it is estimated that approximately 50% of the coffee shop trips will be pass-by trips. Table 4 below shows the expected trips that would be generated for this facility. It should also be noted that some trips for retail establishments are also pass-by trips, but to present a conservative analysis, pass-by trips were not considered for the retail land use.

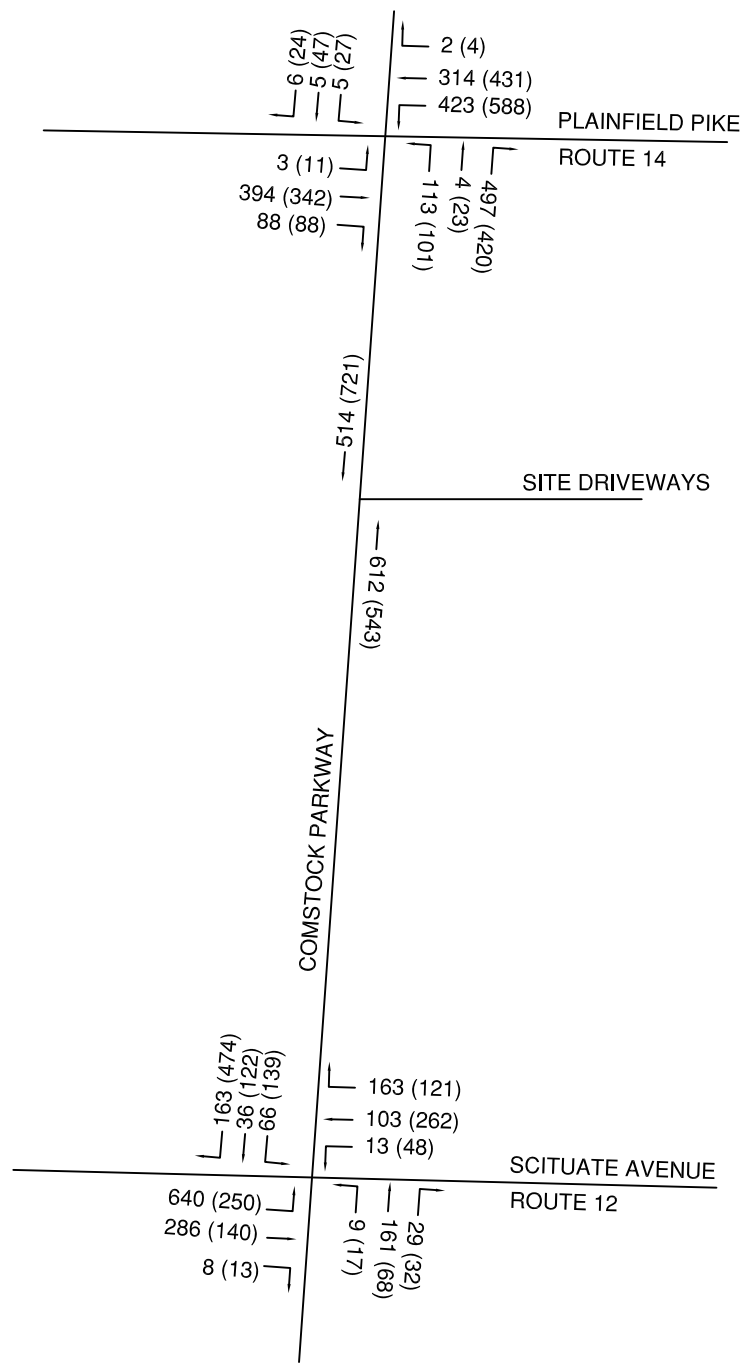
Table 4: Trip Generation Summary

		Number of New Trips (Number of Pass-By Trips)	
		AM Peak	PM Peak
LUC 937: Coffee/Donut Shop with Drive-Through Window (2,800 GFA, 84 Seats)	Entering	62 (60)	28 (27)
	Exiting	58 (60)	27 (27)
	Total	120 (120)	55 (54)
LUC 822: Strip Retail Plaza (7,000 GFA)	Entering	27 (0)	50 (0)
	Exiting	26 (0)	43 (0)
	Total	53 (0)	93 (0)
LUC: Mini-Warehouse (6,720 GFA)	Entering	0 (0)	0 (0)
	Exiting	1 (0)	1 (0)
	Total	1 (0)	1 (0)
TOTAL SITE	Entering	89 (60)	78 (27)
	Exiting	85 (60)	71 (27)
	Total	174 (120)	149 (54)

Trip Distribution

It is anticipated that trip distribution for traffic associated with the mixed-use development will be consistent with the existing traffic patterns within the study area network. Complete trip distribution calculations are provided in Appendix E. Site generated traffic volumes are shown in Figures 5 and 6 for pass-by trips and new trips to site, respectively, while Figure 7 displays the future (2027) build volumes.





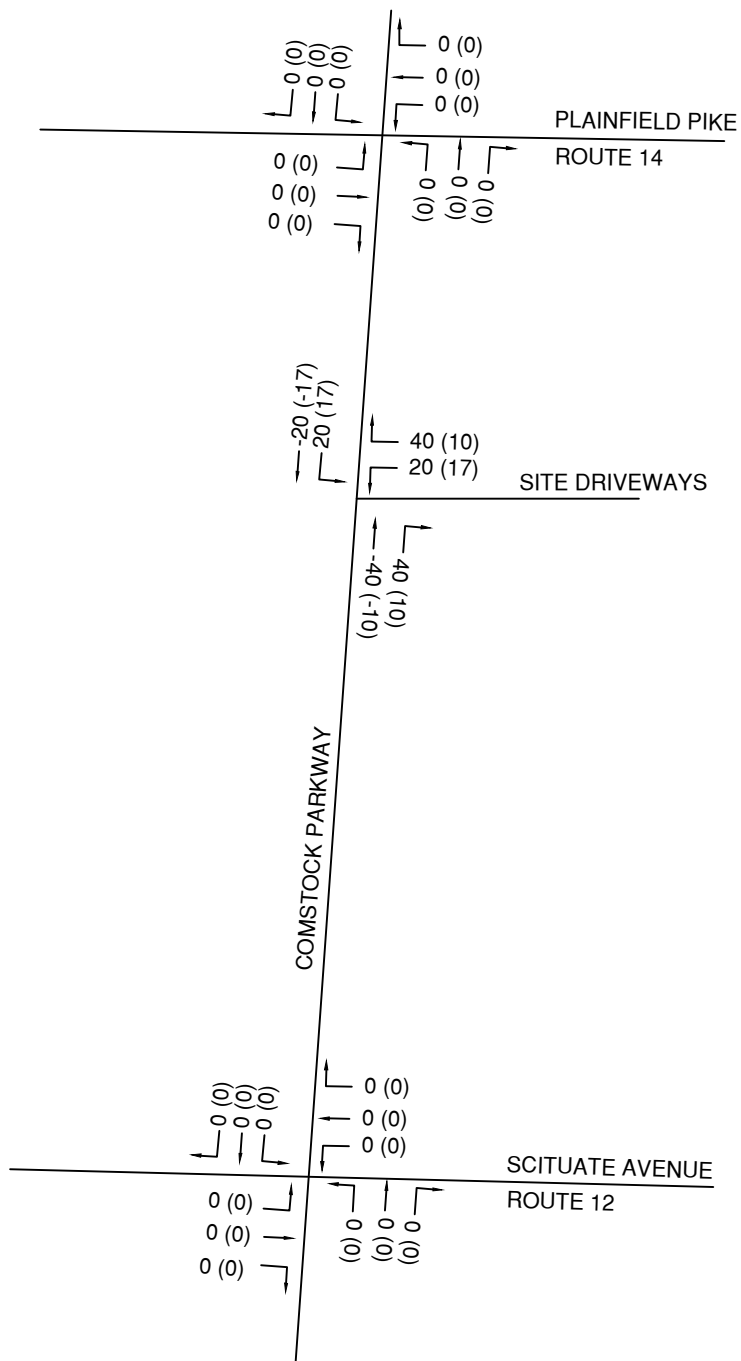
WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
 (WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES)



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Project No. 22028.00 Date: February 2022

Figure 4
Future (2027) No-Build Peak Hour Traffic Volumes
 Latte Love Comstock Development
 Cranston, Rhode Island



WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
(WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES)

Project No. 22028.00

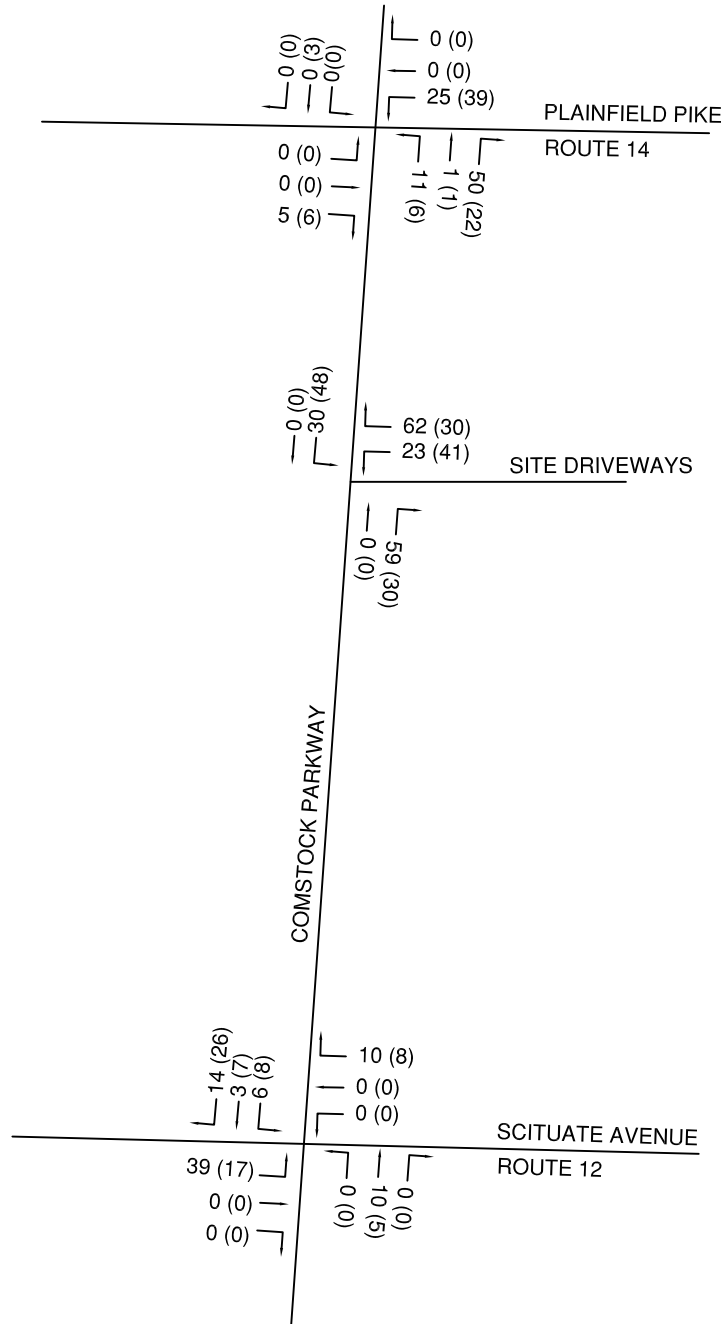
Date: February 2022



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Figure 5
Site Generated Pass-By Traffic Volumes

Latte Love Comstock Development
Cranston, Rhode Island



WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
(WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES)

Project No. 22028.00

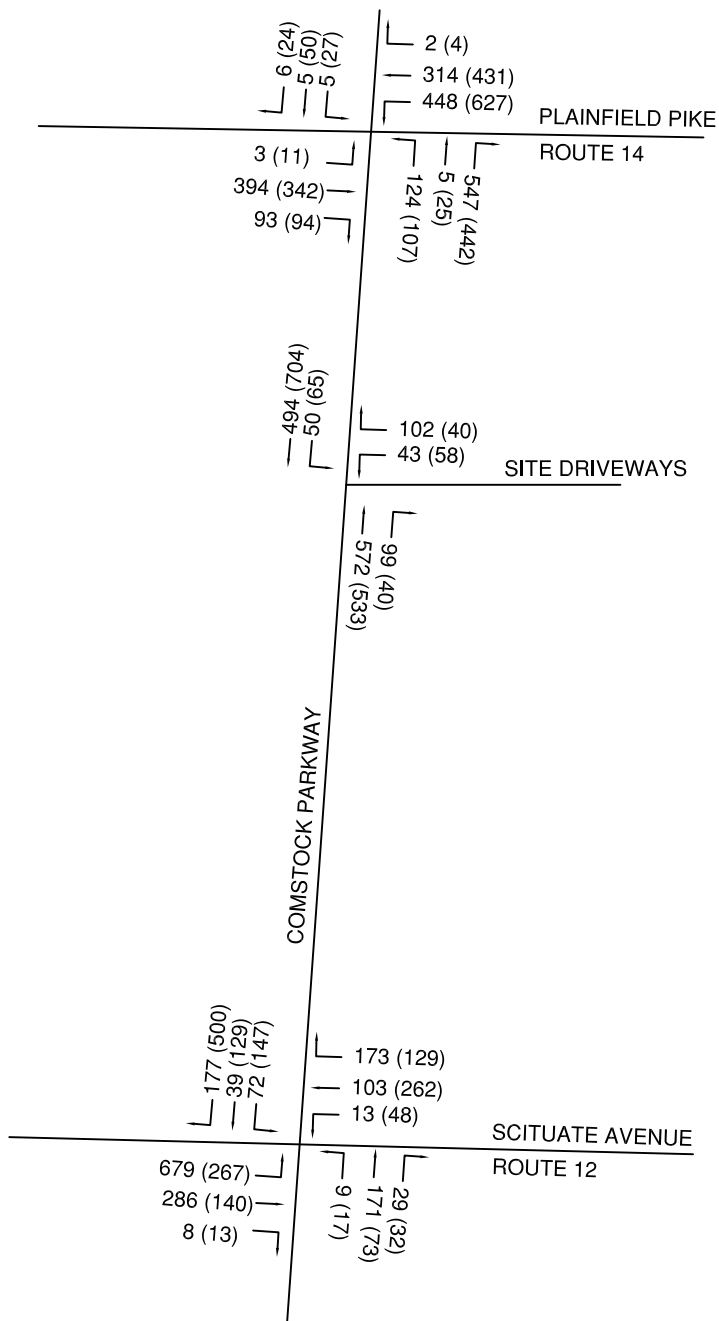
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Figure 6
Site Generated New Traffic Volumes

Latte Love Comstock Development
Cranston, Rhode Island



WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES
(WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES)

Project No. 22028.00

Date: February 2022



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Figure 7
Future (2027) Build Peak Hour Traffic Volumes

Latte Love Comstock Development
Cranston, Rhode Island

CAPACITY ANALYSES

Capacity analyses were completed for all study area intersections for existing, future (2027) no-build, and future (2027) build conditions. Capacity analyses characterize intersections based on their level of service (LOS). LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of service measures such as speed, travel times, traffic interruptions, etc. Six LOS values, from A to F, are defined for each type of facility, with A representing the best operating conditions and F representing the worst operating conditions. For this analysis, the two site driveways were analyzed as one driveway with all site trips to present a conservative analysis. The LOS criteria for signalized and unsignalized intersections is provided in Table 5 below. Tables 6 and 7 summarize the capacity analysis results for the morning and afternoon peak hours, respectively.

Table 5: LOS Criteria for Signalized and Unsignalized Intersections

LOS	Signalized Intersection	Unsignalized Intersection
	Delay Time (sec/veh)	Delay Time (sec/veh)
A	≤ 10	0-10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50



Table 6: Morning Peak Hour LOS Summary

Intersection	Movement		Existing (2022)		Future (2027) No-Build		Future (2027) Build	
			LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²
Plainfield Pike at Comstock Parkway	NB	T,L	D (36.7)	114	D (42.0)	126	D (44.7)	#149
		R	A (8.7)	93	A (9.4)	116	B (12.5)	167
		App	B (14.)	-	B (15.6)	-	B (18.6)	-
	SB	L,T,R	C (22.6)	14	C (23.6)	17	C (23.7)	17
	EB	L	A (6.5)	2	A (7.3)	3	A (7.7)	3
		T,R	C (27.6)	#404	C (30.8)	#458	C (32.7)	#465
		App	C (27.5)	-	C (30.7)	-	C (32.6)	-
	WB	L	A (8.7)	114	B (10.3)	155	B (12.1)	183
		T,R	A (6.2)	124	A (6.0)	126	A (6.1)	126
		App	A (7.6)	-	A (8.5)	-	A (9.6)	-
Intersection		B (15.3)	-	B (17.0)	-	B (18.9)	-	
Scituate Avenue at Comstock Parkway	NB	L,T,R	D (35.6)	162	D (37.4)	168	D (39.6)	#183
	SB	L,T	D (35.4)	68	D (38.2)	71	D (43.5)	#86
		R	B (11.9)	71	B (12.0)	73	B (12.0)	77
		App	B (17.7)	-	B (18.5)	-	B (19.9)	-
	EB	L	C (20.9)	#325	C (23.2)	#396	C (29.3)	#464
		T,R	A (5.2)	77	A (5.2)	80	A (5.2)	80
		App	C (24.2)	-	B (17.5)	-	C (22.0)	-
	WB	L	C (26.5)	19	C (24.5)	20	C (24.5)	20
		T,R	C (26.5)	159	C (27.9)	165	C (29.0)	170
		App	C (26.4)	-	C (27.7)	-	C (28.8)	-
Intersection		C (20.5)	-	C (21.9)	-	C (25.1)	-	
Site Driveways at Comstock Parkway	NB	R	-	-	-	-	A (0.0)	0
	SB	L	-	-	-	-	A (9.4)	5
	WB	L,R	-	-	-	-	D (30.9)	75

1. Delay shown in seconds per vehicle.

2. Queue Length shown in feet, assuming 25 feet per vehicle at unsignalized intersections.



Table 7: Afternoon Peak Hour LOS Summary

Intersection	Movement		Existing (2022)		Future (2027) No-Build		Future (2027) Build	
			LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²	LOS (Delay ¹)	Queue Length ²
Plainfield Pike at Comstock Parkway	NB	T,L	D (47.7)	124	D (53.5)	#132	E (61.0)	#154
		R	A (6.2)	36	A (8.6)	62	A (9.6)	78
		App	A (6.2)	-	B (18.8)	-	C (21.4)	-
	SB	L,T,R	C (31.9)	95	C (33.2)	98	C (34.6)	103
	EB	L	A (8.2)	7	A (8.4)	7	A (8.4)	7
		T,R	D (36.6)	#337	D (39.4)	#380	D (42.3)	#388
		App	D (35.9)	-	D (38.6)	-	D (41.5)	-
	WB	L	C (23.5)	#329	C (28.0)	#407	C (34.3)	#478
		T,R	A (7.6)	190	A (7.5)	197	A (7.5)	197
		App	B (16.7)	-	B (19.3)	-	C (23.3)	-
Intersection		C (21.1)	-	C (23.7)	-	C (26.9)	-	
Scituate Avenue at Comstock Parkway	NB	L,T,R	D (39.1)	#120	D (46.9)	#128	D (53.2)	#137
	SB	L,T	C (22.1)	94	C (22.6)	98	C (23.5)	104
		R	C (33.0)	#337	D (38.7)	#356	D (50.6)	#388
		App	C (31.0)	-	C (35.6)	-	D (45.5)	-
	EB	L	B (11.6)	70	B (12.3)	73	B (13.4)	78
		T,R	A (5.7)	42	A (5.7)	43	A (5.7)	43
		App	A (9.4)	-	A (9.8)	-	B (10.6)	-
	WB	L	B (14.7)	33	B (14.8)	34	B (14.7)	34
		T,R	C (24.0)	192	C (24.5)	199	C (24.9)	204
		App	C (23.0)	-	C (23.4)	-	C (23.8)	-
Intersection		C (24.3)	-	C (27.0)	-	C (32.1)	-	
Site Driveways at Comstock Parkway	NB	R	-	-	-	-	A (0.0)	0
	SB	L	-	-	-	-	A (9.1)	5
	WB	L,R	-	-	-	-	F (57.0)	88

1. Delay shown in seconds per vehicle.

2. Queue Length shown in feet, assuming 25 feet per vehicle at unsignalized intersections.

The signalized intersection of Plainfield Pike at Comstock Parkway sees no anticipated change in the overall LOS between no-build and build conditions, for either peak hour. Further, only the westbound approach will see a change in LOS and only during the afternoon peak hour, when the expected LOS is anticipated to operate at LOS C conditions under build conditions as opposed to LOS B conditions under no-build conditions, with a total average delay increase of less than four seconds. The movement with the longest anticipated delay is the northbound through and left turn movements, which are anticipated to operate at LOS E during the afternoon peak hour. It should



be noted that despite the acceptable levels of service, the westbound left turn lane does experience significant queues during the afternoon peak hour under all analysis scenarios.

The other signalized intersection considered of Scituate Avenue at Comstock Parkway operates at LOS C currently and is anticipated to continue to operate at LOS C under both future scenarios. Further, all movements are anticipated to operate at LOS D or better under all future scenarios and during both peak hours. During the morning peak hour, it should be noted that the queue for the eastbound left turn movement does extend beyond the length of the turn bay on occasion under existing conditions.

At the intersection of Comstock Parkway and the proposed site driveways, which were conservatively modeled as one single driveway, the intersection's stop-controlled approaches operate at an LOS D under build conditions for the morning peak hour and LOS F during the afternoon peak hour, with delay times of 30.3 seconds and 57 seconds, respectively. It should be noted that to be conservative, the analysis combined all site trips into one driveway. However, actual operating conditions should be better than indicated when the site trips are split into two driveways.

CONCLUSIONS

Pare Corporation conducted analyses of the potential impacts of the construction of a mixed-use lot, with uses involving a coffee shop, an unspecified retail plaza, and a self-storage facility. The site is anticipated to have two driveways approximately 200 and 400 feet south of the intersection of Plainfield Pike at Comstock Parkway.

Capacity analyses were conducted at two signalized intersections near the anticipated site and at the proposed site driveway. Analyses indicate that the mixed-use lot will have little impact to the levels of service on the roadway network. While it is noted that the stop-controlled approaches at the site intersection are anticipated to operate at low levels of service due to the heavy traffic volumes on Comstock Parkway, the analysis was conservative by combining the two driveways.

Based on the sight distance analysis conducted, it is anticipated that access to and from the site can safely occur and additional safety issues occurring from this development are not anticipated. From the crash data received and reviewed, no abnormal crash patterns were identified.

In summary, Pare Corporation is of the opinion that the proposed development will have minimal impacts on the traffic capacity and safety operations for the roadways and intersections within the study area.



APPENDIX A

Traffic Count Data



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N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515A
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Cars & Peds - Trucks & Buses - Bikes by Direction

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	1	0	0	0	0	58	65	0	87	1	24	0	14	81	1	0	332
07:15 AM	1	0	1	0	1	69	101	0	113	1	30	0	25	78	0	0	420
07:30 AM	2	3	1	0	0	74	98	0	119	0	26	0	16	95	2	0	436
07:45 AM	2	1	1	0	0	77	101	0	113	1	26	0	18	107	0	0	447
Total	6	4	3	0	1	278	365	0	432	3	106	0	73	361	3	0	1635
08:00 AM	0	0	1	0	0	86	88	0	133	1	26	0	21	104	0	0	460
08:15 AM	2	0	0	0	0	86	98	0	99	1	24	0	26	82	1	0	419
08:30 AM	1	2	3	0	1	78	65	0	77	2	37	0	19	99	0	0	384
08:45 AM	6	6	3	0	0	89	92	0	79	7	25	0	22	90	0	0	419
Total	9	8	7	0	1	339	343	0	388	11	112	0	88	375	1	0	1682
Grand Total	15	12	10	0	2	617	708	0	820	14	218	0	161	736	4	0	3317
Apprch %	40.5	32.4	27	0	0.2	46.5	53.4	0	77.9	1.3	20.7	0	17.9	81.7	0.4	0	
Total %	0.5	0.4	0.3	0	0.1	18.6	21.3	0	24.7	0.4	6.6	0	4.9	22.2	0.1	0	
Cars & Peds	15	12	10	0	2	566	683	0	791	14	210	0	153	678	4	0	3138
% Cars & Peds	100	100	100	0	100	91.7	96.5	0	96.5	100	96.3	0	95	92.1	100	0	94.6
Trucks & Buses																	
% Trucks & Buses	0	0	0	0	0	8.3	3.5	0	3.5	0	3.7	0	5	7.9	0	0	5.4
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Start Time	CVS Driveway From North					Plainfield Pike (Route 14) From East					Comstock Parkway From South					Plainfield Pike (Route 14) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	1	0	2	1	69	101	0	171	113	1	30	0	144	25	78	0	0	103	420
07:30 AM	2	3	1	0	6	0	74	98	0	172	119	0	26	0	145	16	95	2	0	113	436
07:45 AM	2	1	1	0	4	0	77	101	0	178	113	1	26	0	140	18	107	0	0	125	447
08:00 AM	0	0	1	0	1	0	86	88	0	174	133	1	26	0	160	21	104	0	0	125	460
Total Volume	5	4	4	0	13	1	306	388	0	695	478	3	108	0	589	80	384	2	0	466	1763
% App. Total	38.5	30.8	30.8	0		0.1	44	55.8	0		81.2	0.5	18.3	0		17.2	82.4	0.4	0		
PHF	.625	.333	1.00	.000	.542	.250	.890	.960	.000	.976	.898	.750	.900	.000	.920	.800	.897	.250	.000	.932	.958
Cars & Peds	5	4	4	0	13	1	281	373	0	655	465	3	105	0	573	78	356	2	0	436	1677
% Cars & Peds	100	100	100	0	100	100	91.8	96.1	0	94.2	97.3	100	97.2	0	97.3	97.5	92.7	100	0	93.6	95.1
Trucks & Buses	0	0	0	0	0	0	25	15	0	40	13	0	3	0	16	2	28	0	0	30	86
% Trucks & Buses	0	0	0	0	0	0	8.2	3.9	0	5.8	2.7	0	2.8	0	2.7	2.5	7.3	0	0	6.4	4.9
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Transportation Data Corporation

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N/S: CVS Drive/Comstock Parkway
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City, State: Cranston, RI
Client: Pare/Derek Hug

File Name : 05515A
Site Code : 05515
Start Date : 2/2/2022
Page No : 1

Groups Printed- Cars & Peds

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	1	0	0	0	0	54	62	0	80	1	24	0	12	71	1	0	306
07:15 AM	1	0	1	0	1	66	98	0	111	1	28	0	25	73	0	0	405
07:30 AM	2	3	1	0	0	67	93	0	112	0	26	0	16	90	2	0	412
07:45 AM	2	1	1	0	0	72	97	0	111	1	26	0	17	101	0	0	429
Total	6	4	3	0	1	259	350	0	414	3	104	0	70	335	3	0	1552
08:00 AM	0	0	1	0	0	76	85	0	131	1	25	0	20	92	0	0	431
08:15 AM	2	0	0	0	0	78	95	0	93	1	21	0	25	75	1	0	391
08:30 AM	1	2	3	0	1	74	63	0	76	2	35	0	17	93	0	0	367
08:45 AM	6	6	3	0	0	79	90	0	77	7	25	0	21	83	0	0	397
Total	9	8	7	0	1	307	333	0	377	11	106	0	83	343	1	0	1586
Grand Total	15	12	10	0	2	566	683	0	791	14	210	0	153	678	4	0	3138
Apprch %	40.5	32.4	27	0	0.2	45.2	54.6	0	77.9	1.4	20.7	0	18.3	81.2	0.5	0	
Total %	0.5	0.4	0.3	0	0.1	18	21.8	0	25.2	0.4	6.7	0	4.9	21.6	0.1	0	

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total				
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds					
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	1	0	2	1	66	98	0	165	111	1	28	0	140	25	73	0	0	98	405
07:30 AM	2	3	1	0	6	0	67	93	0	160	112	0	26	0	138	16	90	2	0	108	412
07:45 AM	2	1	1	0	4	0	72	97	0	169	111	1	26	0	138	17	101	0	0	118	429
08:00 AM	0	0	1	0	1	0	76	85	0	161	131	1	25	0	157	20	92	0	0	112	431
Total Volume	5	4	4	0	13	1	281	373	0	655	465	3	105	0	573	78	356	2	0	436	1677
% App. Total	38.5	30.8	30.8	0		0.2	42.9	56.9	0		81.2	0.5	18.3	0		17.9	81.7	0.5	0		
PHF	.625	.333	1.00	.000	.542	.250	.924	.952	.000	.969	.887	.750	.938	.000	.912	.780	.881	.250	.000	.924	.973

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N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515A
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	4	3	0	7	0	0	0	2	10	0	0	26
07:15 AM	0	0	0	0	0	3	3	0	2	0	2	0	0	5	0	0	15
07:30 AM	0	0	0	0	0	7	5	0	7	0	0	0	0	5	0	0	24
07:45 AM	0	0	0	0	0	5	4	0	2	0	0	0	1	6	0	0	18
Total	0	0	0	0	0	19	15	0	18	0	2	0	3	26	0	0	83
08:00 AM	0	0	0	0	0	10	3	0	2	0	1	0	1	12	0	0	29
08:15 AM	0	0	0	0	0	8	3	0	6	0	3	0	1	7	0	0	28
08:30 AM	0	0	0	0	0	4	2	0	1	0	2	0	2	6	0	0	17
08:45 AM	0	0	0	0	0	10	2	0	2	0	0	0	1	7	0	0	22
Total	0	0	0	0	0	32	10	0	11	0	6	0	5	32	0	0	96
Grand Total	0	0	0	0	0	51	25	0	29	0	8	0	8	58	0	0	179
Apprch %	0	0	0	0	0	67.1	32.9	0	78.4	0	21.6	0	12.1	87.9	0	0	
Total %	0	0	0	0	0	28.5	14	0	16.2	0	4.5	0	4.5	32.4	0	0	

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:30 AM	0	0	0	0	0	7	5	0	7	0	0	0	0	5	0	0	5
07:45 AM	0	0	0	0	0	5	4	0	2	0	0	0	1	6	0	0	7
08:00 AM	0	0	0	0	0	10	3	0	2	0	1	0	1	12	0	0	13
08:15 AM	0	0	0	0	0	8	3	0	6	0	3	0	1	7	0	0	8
Total Volume	0	0	0	0	0	30	15	0	17	0	4	0	3	30	0	0	33
% App. Total	0	0	0	0	0	66.7	33.3	0	81	0	19	0	9.1	90.9	0	0	
PHF	.000	.000	.000	.000	.000	.750	.750	.000	.607	.000	.333	.000	.750	.625	.000	.000	.853

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:30 AM

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N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515A
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:00 AM

Transportation Data Corporation

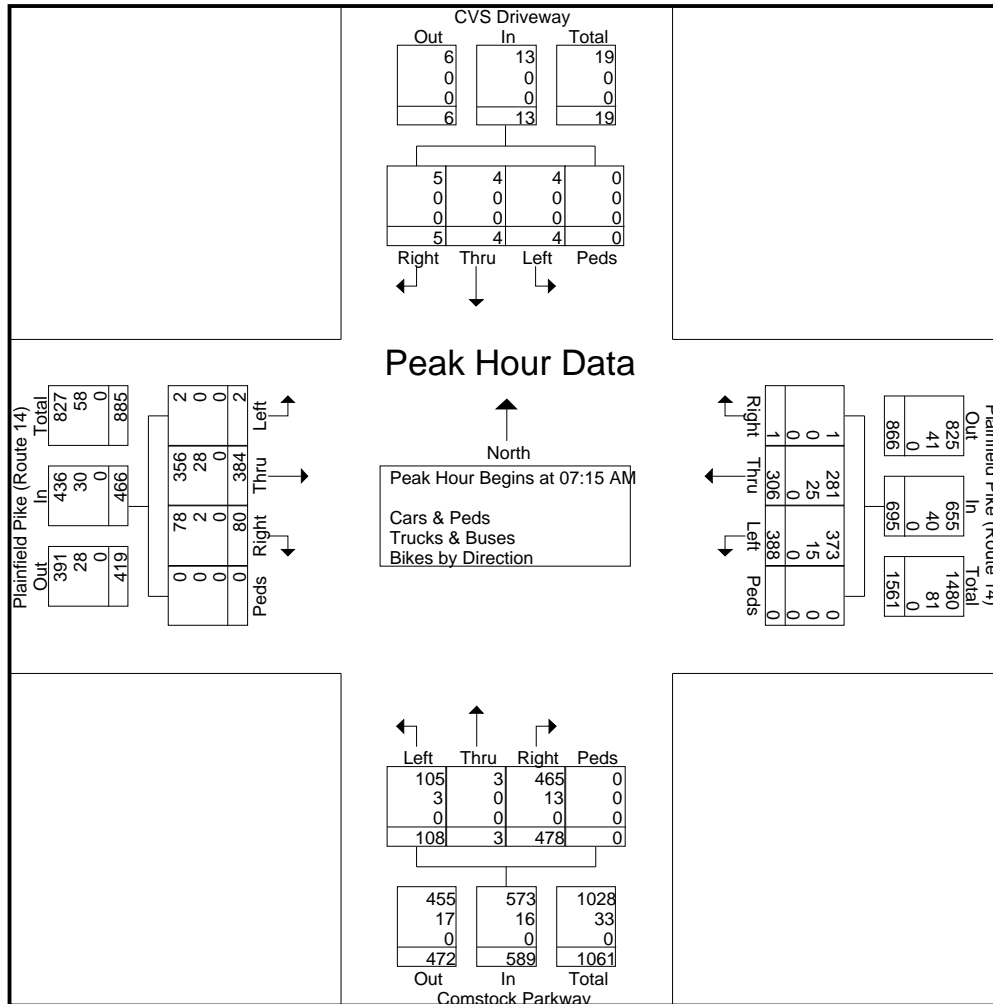
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tel (781) 587-0086 cell (781) 439-4999

N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515A
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Start Time	CVS Driveway From North					Plainfield Pike (Route 14) From East					Comstock Parkway From South					Plainfield Pike (Route 14) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	1	0	2	1	69	101	0	171	113	1	30	0	144	25	78	0	0	103	420
07:30 AM	2	3	1	0	6	0	74	98	0	172	119	0	26	0	145	16	95	2	0	113	436
07:45 AM	2	1	1	0	4	0	77	101	0	178	113	1	26	0	140	18	107	0	0	125	447
08:00 AM	0	0	1	0	1	0	86	88	0	174	133	1	26	0	160	21	104	0	0	125	460
Total Volume	5	4	4	0	13	1	306	388	0	695	478	3	108	0	589	80	384	2	0	466	1763
% App. Total	38.5	30.8	30.8	0		0.1	44	55.8	0		81.2	0.5	18.3	0		17.2	82.4	0.4	0		
PHF	.625	.333	1.00	.000	.542	.250	.890	.960	.000	.976	.898	.750	.900	.000	.920	.800	.897	.250	.000	.932	.958
Cars & Peds	5	4	4	0	13	1	281	373	0	655	465	3	105	0	573	78	356	2	0	436	1677
% Cars & Peds	100	100	100	0	100	100	91.8	96.1	0	94.2	97.3	100	97.2	0	97.3	97.5	92.7	100	0	93.6	95.1
Trucks & Buses	0	0	0	0	0	0	25	15	0	40	13	0	3	0	16	2	28	0	0	30	86
% Trucks & Buses	0	0	0	0	0	0	8.2	3.9	0	5.8	2.7	0	2.8	0	2.7	2.5	7.3	0	0	6.4	4.9
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515AA
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Cars & Peds

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	5	12	7	0	0	109	147	0	97	8	29	0	20	75	0	0	509
04:15 PM	3	13	6	0	1	110	142	0	77	3	19	0	24	80	5	0	483
04:30 PM	7	9	6	0	1	94	144	0	128	8	23	0	22	75	1	0	518
04:45 PM	8	11	7	0	1	94	122	0	75	3	22	0	13	97	4	0	457
Total	23	45	26	0	3	407	555	0	377	22	93	0	79	327	10	0	1967
05:00 PM	7	8	8	0	0	100	135	0	91	5	16	0	25	77	0	0	472
05:15 PM	5	8	5	0	0	103	138	0	78	4	23	0	20	66	1	0	451
05:30 PM	9	7	8	0	1	74	124	0	75	10	27	0	20	90	2	0	447
05:45 PM	3	5	5	0	1	81	130	0	84	4	19	0	15	63	3	0	413
Total	24	28	26	0	2	358	527	0	328	23	85	0	80	296	6	0	1783
Grand Total	47	73	52	0	5	765	1082	0	705	45	178	0	159	623	16	0	3750
Apprch %	27.3	42.4	30.2	0	0.3	41.3	58.4	0	76	4.8	19.2	0	19.9	78.1	2	0	
Total %	1.3	1.9	1.4	0	0.1	20.4	28.9	0	18.8	1.2	4.7	0	4.2	16.6	0.4	0	

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total				
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds					
04:00 PM	5	12	7	0	24	0	109	147	0	256	97	8	29	0	134	20	75	0	0	95	509
04:15 PM	3	13	6	0	22	1	110	142	0	253	77	3	19	0	99	24	80	5	0	109	483
04:30 PM	7	9	6	0	22	1	94	144	0	239	128	8	23	0	159	22	75	1	0	98	518
04:45 PM	8	11	7	0	26	1	94	122	0	217	75	3	22	0	100	13	97	4	0	114	457
Total Volume	23	45	26	0	94	3	407	555	0	965	377	22	93	0	492	79	327	10	0	416	1967
% App. Total	24.5	47.9	27.7	0		0.3	42.2	57.5	0		76.6	4.5	18.9	0		19	78.6	2.4	0		
PHF	.719	.865	.929	.000	.904	.750	.925	.944	.000	.942	.736	.688	.802	.000	.774	.823	.843	.500	.000	.912	.949

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

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N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515AA
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	5	1	0	2	0	2	0	1	1	0	0	12
04:15 PM	0	0	0	0	0	3	1	0	1	0	0	0	0	3	0	0	8
04:30 PM	0	0	0	0	0	4	2	0	0	0	0	0	1	1	0	0	8
04:45 PM	0	0	0	0	0	1	4	0	0	0	1	0	1	1	0	0	8
Total	0	0	0	0	0	13	8	0	3	0	3	0	3	6	0	0	36
05:00 PM	0	0	0	0	0	3	0	0	1	0	1	0	0	1	0	0	6
05:15 PM	0	0	0	0	0	1	3	0	0	0	0	0	1	2	0	0	7
05:30 PM	0	0	0	0	0	3	2	0	2	0	1	0	0	0	0	0	8
05:45 PM	0	0	0	0	0	0	6	0	0	0	0	0	0	1	0	0	7
Total	0	0	0	0	0	7	11	0	3	0	2	0	1	4	0	0	28
Grand Total	0	0	0	0	0	20	19	0	6	0	5	0	4	10	0	0	64
Apprch %	0	0	0	0	0	51.3	48.7	0	54.5	0	45.5	0	28.6	71.4	0	0	
Total %	0	0	0	0	0	31.2	29.7	0	9.4	0	7.8	0	6.2	15.6	0	0	

Start Time	CVS Driveway From North					Plainfield Pike (Route 14) From East					Comstock Parkway From South					Plainfield Pike (Route 14) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	5	1	0	6	2	0	2	0	4	1	1	0	0	2	12
04:15 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	0	3	0	0	3	8
04:30 PM	0	0	0	0	0	0	4	2	0	6	0	0	0	0	0	1	1	0	0	2	8
04:45 PM	0	0	0	0	0	0	1	4	0	5	0	0	1	0	1	1	1	0	0	2	8
Total Volume	0	0	0	0	0	0	13	8	0	21	3	0	3	0	6	3	6	0	0	9	36
% App. Total	0	0	0	0	0	0	61.9	38.1	0		50	0	50	0		33.3	66.7	0	0		
PHF	.000	.000	.000	.000	.000	.000	.650	.500	.000	.875	.375	.000	.375	.000	.375	.750	.500	.000	.000	.750	.750

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N/S: CVS Drive/Comstock Parkway
 E/W: Plainfield Pike (Route 14)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515AA
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	CVS Driveway From North				Plainfield Pike (Route 14) From East				Comstock Parkway From South				Plainfield Pike (Route 14) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Start Time	CVS Driveway From North					Plainfield Pike (Route 14) From East					Comstock Parkway From South					Plainfield Pike (Route 14) From West					Int. Total
	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

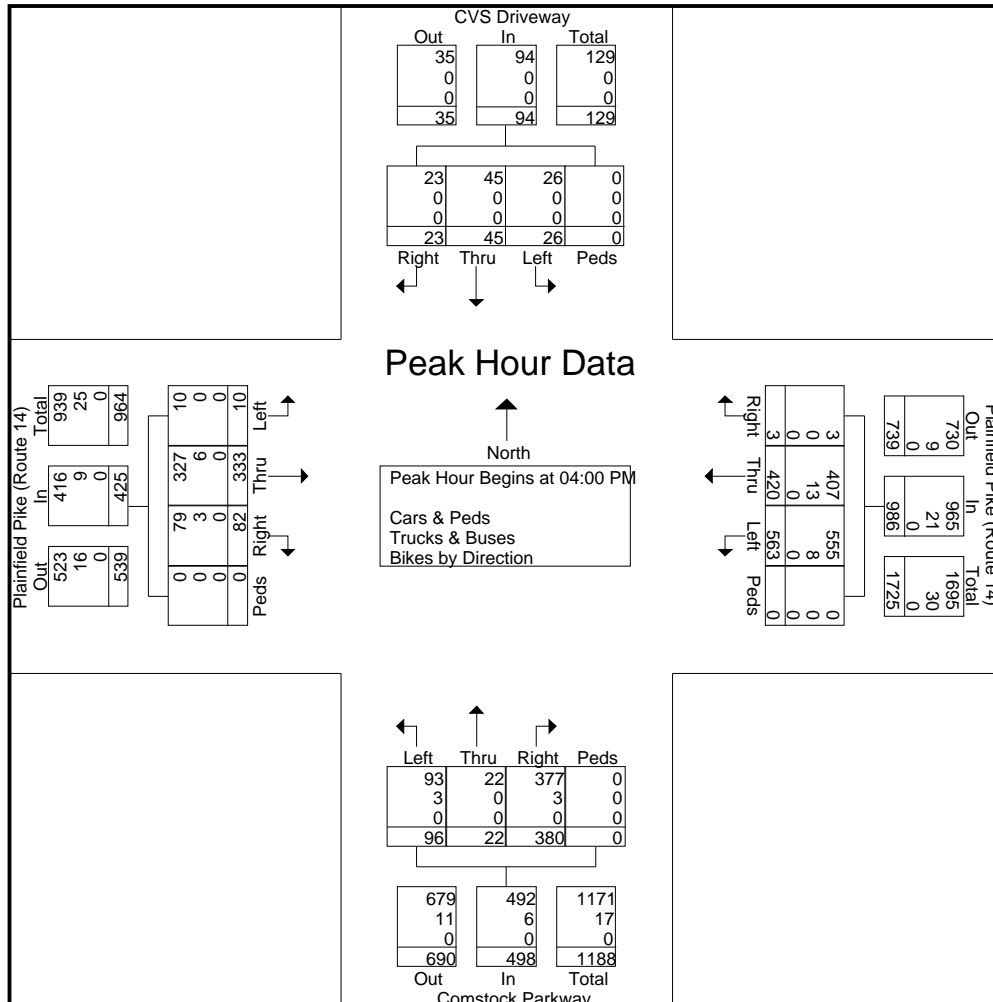
Transportation Data Corporation

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N/S: CVS Drive/Comstock Parkway
E/W: Plainfield Pike (Route 14)
City, State: Cranston, RI
Client: Pare/Derek Hug

File Name : 05515AA
Site Code : 05515
Start Date : 2/2/2022
Page No : 1

Start Time	CVS Driveway From North					Plainfield Pike (Route 14) From East					Comstock Parkway From South					Plainfield Pike (Route 14) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	5	12	7	0	24	0	114	148	0	262	99	8	31	0	138	21	76	0	0	97	521
04:15 PM	3	13	6	0	22	1	113	143	0	257	78	3	19	0	100	24	83	5	0	112	491
04:30 PM	7	9	6	0	22	1	98	146	0	245	128	8	23	0	159	23	76	1	0	100	526
04:45 PM	8	11	7	0	26	1	95	126	0	222	75	3	23	0	101	14	98	4	0	116	465
Total Volume	23	45	26	0	94	3	420	563	0	986	380	22	96	0	498	82	333	10	0	425	2003
% App. Total	24.5	47.9	27.7	0		0.3	42.6	57.1	0		76.3	4.4	19.3	0		19.3	78.4	2.4	0		
PHF	.719	.865	.929	.000	.904	.750	.921	.951	.000	.941	.742	.688	.774	.000	.783	.854	.849	.500	.000	.916	.952
Cars & Peds	23	45	26	0	94	3	407	555	0	965	377	22	93	0	492	79	327	10	0	416	1967
% Cars & Peds	100	100	100	0	100	100	96.9	98.6	0	97.9	99.2	100	96.9	0	98.8	96.3	98.2	100	0	97.9	98.2
Trucks & Buses	0	0	0	0	0	0	13	8	0	21	3	0	3	0	6	3	6	0	0	9	36
% Trucks & Buses	0	0	0	0	0	0	3.1	1.4	0	2.1	0.8	0	3.1	0	1.2	3.7	1.8	0	0	2.1	1.8
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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N/S: Comstock Parkway
 E/W: Scituate Avenue (Route 12)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515B
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	33	4	12	0	24	15	1	0	9	32	1	0	2	57	116	0	306
07:15 AM	38	8	16	0	33	20	2	0	8	45	2	0	1	84	147	0	404
07:30 AM	41	6	16	0	36	26	3	0	6	47	0	0	1	48	157	0	387
07:45 AM	39	10	14	0	36	29	5	0	9	26	3	0	1	77	164	0	413
Total	151	28	58	0	129	90	11	0	32	150	6	0	5	266	584	0	1510
08:00 AM	32	10	15	0	50	23	1	0	5	38	2	0	4	68	150	0	398
08:15 AM	49	13	21	0	33	28	2	0	4	24	4	0	0	47	113	0	338
08:30 AM	50	11	21	0	19	25	5	0	13	33	6	0	2	47	100	0	332
08:45 AM	44	14	22	0	25	17	3	0	5	26	7	0	4	53	82	0	302
Total	175	48	79	0	127	93	11	0	27	121	19	0	10	215	445	0	1370
Grand Total	326	76	137	0	256	183	22	0	59	271	25	0	15	481	1029	0	2880
Apprch %	60.5	14.1	25.4	0	55.5	39.7	4.8	0	16.6	76.3	7	0	1	31.5	67.5	0	
Total %	11.3	2.6	4.8	0	8.9	6.4	0.8	0	2	9.4	0.9	0	0.5	16.7	35.7	0	

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:15 AM	38	8	16	0	33	20	2	0	8	45	2	0	1	84	147	0	404
07:30 AM	41	6	16	0	36	26	3	0	6	47	0	0	1	48	157	0	387
07:45 AM	39	10	14	0	36	29	5	0	9	26	3	0	1	77	164	0	413
08:00 AM	32	10	15	0	50	23	1	0	5	38	2	0	4	68	150	0	398
Total Volume	150	34	61	0	155	98	11	0	28	156	7	0	7	277	618	0	1602
% App. Total	61.2	13.9	24.9	0	58.7	37.1	4.2	0	14.7	81.7	3.7	0	0.8	30.7	68.5	0	
PHF	.915	.850	.953	.000	.775	.845	.550	.000	.778	.830	.583	.000	.438	.824	.942	.000	.970

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 07:15 AM

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N/S: Comstock Parkway
 E/W: Scituate Avenue (Route 12)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515B
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	2	0	1	0	1	2	0	0	1	0	0	0	0	1	2	0	10
07:15 AM	1	1	1	0	0	1	0	0	0	0	1	0	0	0	1	0	6
07:30 AM	2	0	0	0	3	1	0	0	0	0	0	0	0	0	1	0	7
07:45 AM	3	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	5
Total	8	1	2	0	4	4	1	0	1	0	1	0	0	2	4	0	28
08:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3
08:15 AM	0	0	2	0	2	2	0	0	0	0	0	0	0	0	1	0	7
08:30 AM	0	0	0	0	2	1	0	0	0	0	1	0	0	2	0	0	6
08:45 AM	1	0	2	0	0	1	0	0	0	0	0	0	0	3	3	0	10
Total	2	0	5	0	4	4	0	0	0	0	1	0	0	5	5	0	26
Grand Total	10	1	7	0	8	8	1	0	1	0	2	0	0	7	9	0	54
Apprch %	55.6	5.6	38.9	0	47.1	47.1	5.9	0	33.3	0	66.7	0	0	43.8	56.2	0	
Total %	18.5	1.9	13	0	14.8	14.8	1.9	0	1.9	0	3.7	0	0	13	16.7	0	

Start Time	Comstock Parkway From North					Scituate Avenue (Route 12) From East					Comstock Parkway From South					Scituate Avenue (Route 12) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	2	0	1	0	3	1	2	0	0	3	1	0	0	0	1	0	1	2	0	3	10
07:15 AM	1	1	1	0	3	0	1	0	0	1	0	0	1	0	1	0	0	1	0	1	6
07:30 AM	2	0	0	0	2	3	1	0	0	4	0	0	0	0	0	0	0	1	0	1	7
07:45 AM	3	0	0	0	3	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	5
Total Volume	8	1	2	0	11	4	4	1	0	9	1	0	1	0	2	0	2	4	0	6	28
% App. Total	72.7	9.1	18.2	0		44.4	44.4	11.1	0		50	0	50	0		0	33.3	66.7	0		
PHF	.667	.250	.500	.000	.917	.333	.500	.250	.000	.563	.250	.000	.250	.000	.500	.000	.500	.500	.000	.500	.700

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N/S: Comstock Parkway
 E/W: Scituate Avenue (Route 12)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515B
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Start Time	Comstock Parkway From North					Scituate Avenue (Route 12) From East					Comstock Parkway From South					Scituate Avenue (Route 12) From West					Int. Total
	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

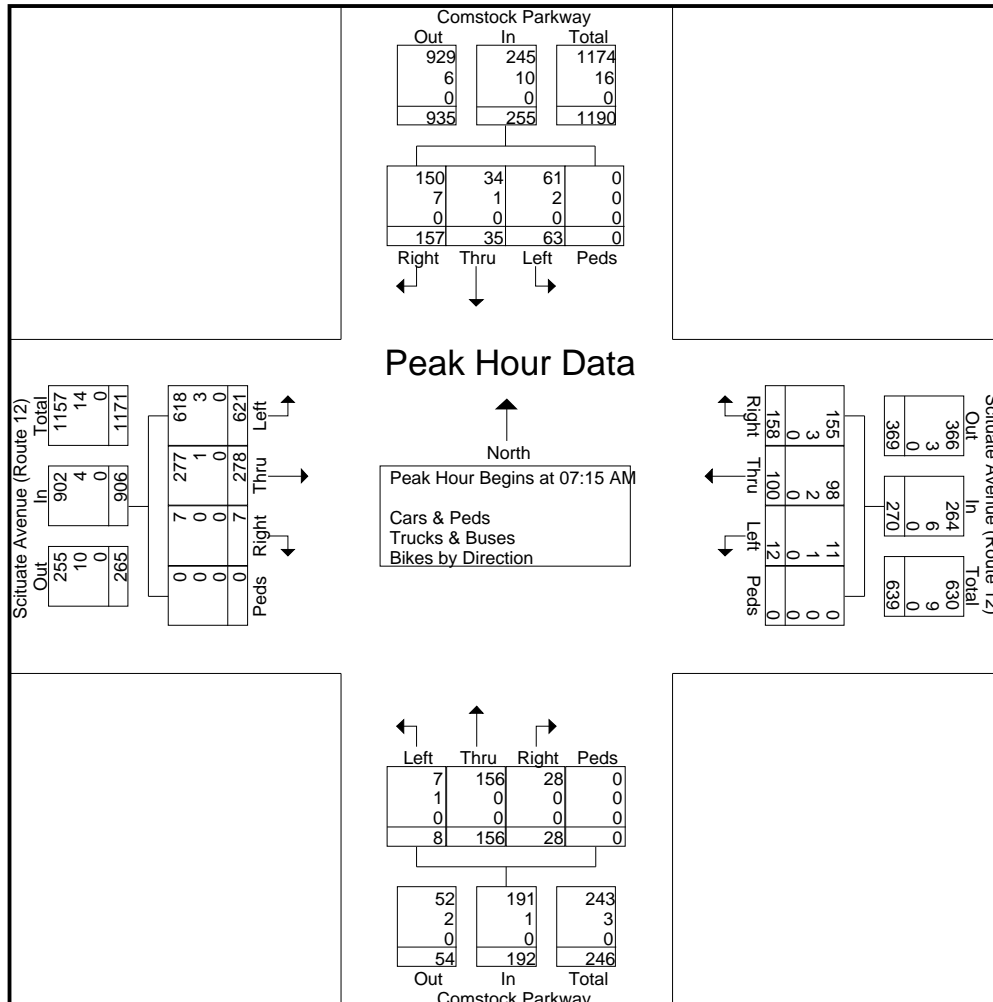
Transportation Data Corporation

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N/S: Comstock Parkway
E/W: Scituate Avenue (Route 12)
City, State: Cranston, RI
Client: Pare/Derek Hug

File Name : 05515B
Site Code : 05515
Start Date : 2/2/2022
Page No : 1

Start Time	Comstock Parkway From North					Scituate Avenue (Route 12) From East					Comstock Parkway From South					Scituate Avenue (Route 12) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	39	9	17	0	65	33	21	2	0	56	8	45	3	0	56	1	84	148	0	233	410
07:30 AM	43	6	16	0	65	39	27	3	0	69	6	47	0	0	53	1	48	158	0	207	394
07:45 AM	42	10	14	0	66	36	29	6	0	71	9	26	3	0	38	1	78	164	0	243	418
08:00 AM	33	10	16	0	59	50	23	1	0	74	5	38	2	0	45	4	68	151	0	223	401
Total Volume	157	35	63	0	255	158	100	12	0	270	28	156	8	0	192	7	278	621	0	906	1623
% App. Total	61.6	13.7	24.7	0		58.5	37	4.4	0		14.6	81.2	4.2	0		0.8	30.7	68.5	0		
PHF	.913	.875	.926	.000	.966	.790	.862	.500	.000	.912	.778	.830	.667	.000	.857	.438	.827	.947	.000	.932	.971
Cars & Peds	150	34	61	0	245	155	98	11	0	264	28	156	7	0	191	7	277	618	0	902	1602
% Cars & Peds	95.5	97.1	96.8	0	96.1	98.1	98.0	91.7	0	97.8	100	100	87.5	0	99.5	100	99.6	99.5	0	99.6	98.7
Trucks & Buses	7	1	2	0	10	3	2	1	0	6	0	0	1	0	1	0	1	3	0	4	21
% Trucks & Buses	4.5	2.9	3.2	0	3.9	1.9	2.0	8.3	0	2.2	0	0	12.5	0	0.5	0	0.4	0.5	0	0.4	1.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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N/S: Comstock Parkway
 E/W: Scituate Avenue (Route 12)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515BB
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Cars & Peds

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	137	23	26	0	22	57	11	0	5	19	2	0	5	35	78	0	420
04:15 PM	104	35	39	0	22	60	6	0	5	22	3	0	3	29	68	0	396
04:30 PM	121	24	46	0	33	64	18	0	5	16	3	0	3	33	70	0	436
04:45 PM	103	31	25	0	23	56	8	0	9	15	3	0	2	38	53	0	366
Total	465	113	136	0	100	237	43	0	24	72	11	0	13	135	269	0	1618
05:00 PM	115	31	39	0	26	71	8	0	8	17	6	0	4	34	57	0	416
05:15 PM	120	32	24	0	33	62	12	0	9	18	4	0	3	30	62	0	409
05:30 PM	98	24	29	0	16	61	5	0	7	15	1	0	2	32	66	0	356
05:45 PM	106	24	15	0	21	46	15	0	4	20	2	0	4	32	57	0	346
Total	439	111	107	0	96	240	40	0	28	70	13	0	13	128	242	0	1527
Grand Total	904	224	243	0	196	477	83	0	52	142	24	0	26	263	511	0	3145
Apprch %	65.9	16.3	17.7	0	25.9	63.1	11	0	23.9	65.1	11	0	3.2	32.9	63.9	0	
Total %	28.7	7.1	7.7	0	6.2	15.2	2.6	0	1.7	4.5	0.8	0	0.8	8.4	16.2	0	

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:30 PM	121	24	46	0	33	64	18	0	5	16	3	0	3	33	70	0	436
04:45 PM	103	31	25	0	23	56	8	0	9	15	3	0	2	38	53	0	366
05:00 PM	115	31	39	0	26	71	8	0	8	17	6	0	4	34	57	0	416
05:15 PM	120	32	24	0	33	62	12	0	9	18	4	0	3	30	62	0	409
Total Volume	459	118	134	0	115	253	46	0	31	66	16	0	12	135	242	0	1627
% App. Total	64.6	16.6	18.8	0	27.8	61.1	11.1	0	27.4	58.4	14.2	0	3.1	34.7	62.2	0	
PHF	.948	.922	.728	.000	.871	.891	.639	.000	.861	.917	.667	.000	.750	.888	.864	.000	.933

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

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 E/W: Scituate Avenue (Route 12)
 City, State: Cranston, RI
 Client: Pare/Derek Hug

File Name : 05515BB
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Trucks & Buses

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
04:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0	6
05:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3
Total	1	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	5
Grand Total	2	0	1	0	2	3	1	0	0	0	0	0	0	1	1	0	11
Apprch %	66.7	0	33.3	0	33.3	50	16.7	0	0	0	0	0	0	50	50	0	
Total %	18.2	0	9.1	0	18.2	27.3	9.1	0	0	0	0	0	0	9.1	9.1	0	

Start Time	Comstock Parkway From North					Scituate Avenue (Route 12) From East					Comstock Parkway From South					Scituate Avenue (Route 12) From West					Int. Total
	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	0	1	0	2	1	1	0	0	2	0	0	0	0	0	0	1	1	0	2	6
% App. Total	50	0	50	0		50	50	0	0		0	0	0	0		0	50	50	0		
PHF	.250	.000	.250	.000	.250	.250	.250	.000	.000	.500	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.500

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 Client: Pare/Derek Hug

File Name : 05515BB
 Site Code : 05515
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Bikes by Direction

Start Time	Comstock Parkway From North				Scituate Avenue (Route 12) From East				Comstock Parkway From South				Scituate Avenue (Route 12) From West				Int. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %																	

Start Time	Comstock Parkway From North					Scituate Avenue (Route 12) From East					Comstock Parkway From South					Scituate Avenue (Route 12) From West					Int. Total	
	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total	Right			Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

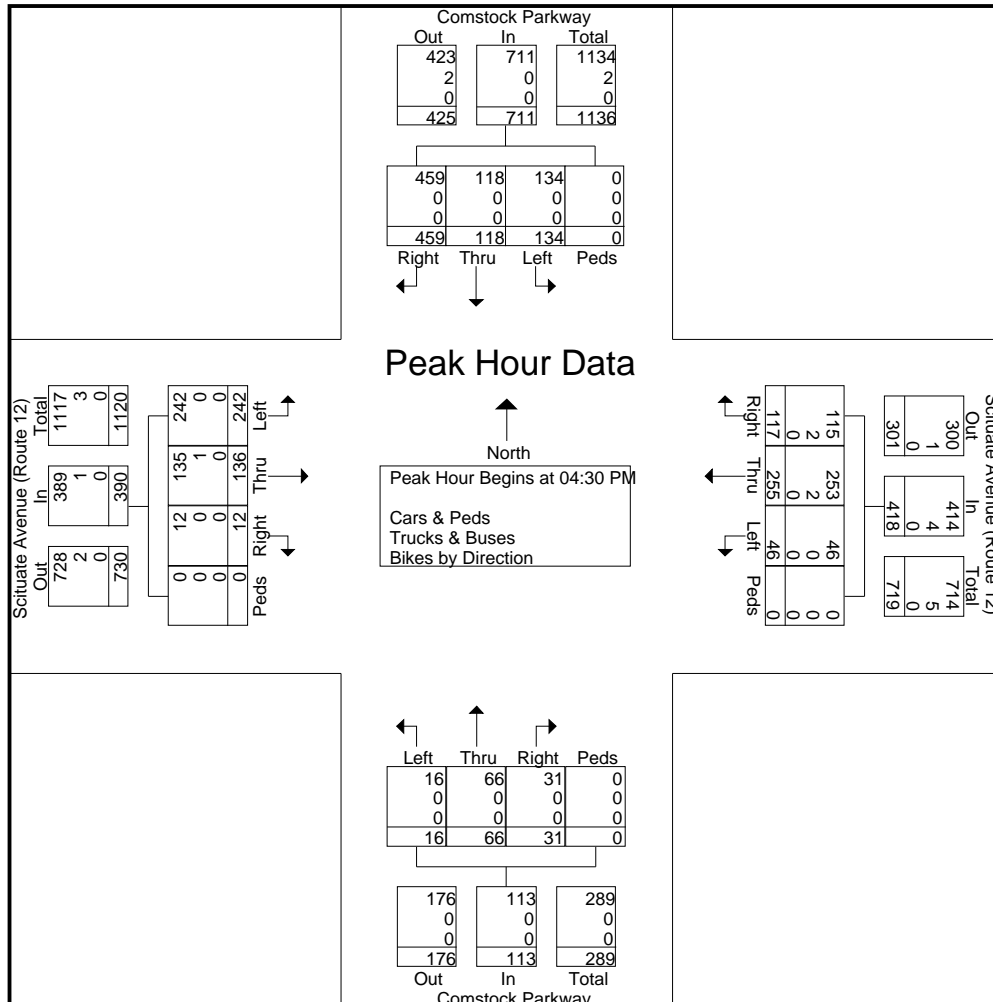
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Client: Pare/Derek Hug

File Name : 05515BB
Site Code : 05515
Start Date : 2/2/2022
Page No : 1

Start Time	Comstock Parkway From North					Scituate Avenue (Route 12) From East					Comstock Parkway From South					Scituate Avenue (Route 12) From West					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	121	24	46	0	191	34	64	18	0	116	5	16	3	0	24	3	34	70	0	107	438
04:45 PM	103	31	25	0	159	23	57	8	0	88	9	15	3	0	27	2	38	53	0	93	367
05:00 PM	115	31	39	0	185	27	71	8	0	106	8	17	6	0	31	4	34	57	0	95	417
05:15 PM	120	32	24	0	176	33	63	12	0	108	9	18	4	0	31	3	30	62	0	95	410
Total Volume	459	118	134	0	711	117	255	46	0	418	31	66	16	0	113	12	136	242	0	390	1632
% App. Total	64.6	16.6	18.8	0		28	61	11	0		27.4	58.4	14.2	0		3.1	34.9	62.1	0		
PHF	.948	.922	.728	.000	.931	.860	.898	.639	.000	.901	.861	.917	.667	.000	.911	.750	.895	.864	.000	.911	.932
Cars & Peds	459	118	134	0	711	115	253	46	0	414	31	66	16	0	113	12	135	242	0	389	1627
% Cars & Peds	100	100	100	0	100	98.3	99.2	100	0	99.0	100	100	100	0	100	100	99.3	100	0	99.7	99.7
Trucks & Buses	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	1	0	0	0	5
% Trucks & Buses	0	0	0	0	0	1.7	0.8	0	0	1.0	0	0	0	0	0	0	0.7	0	0	0.3	0.3
Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes by Direction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



State of Rhode Island Department of Transportation

Volume By Hour By Week for 7/8/2019 - 7/13/2019

Criteria: Location ID = 070065

District :

Location ID : 070065

County : Providence

SF Group : OU

Located On : Comstock Pkwy

Functional Class : Minor Arterial

Area Type : Urban

YEAR	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AADT															130		2100	12360	13348	13508

Start Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Avg	Avg Volume Graph	Pct. of Total
	7/8/2019	7/9/2019	7/10/2019	7/11/2019	7/12/2019	7/13/2019			
12:00 AM	100	93	96	108	89	195	114		0.8%
1:00 AM	72	59	58	70	77	104	73		0.5%
2:00 AM	23	29	33	46	37	66	39		0.3%
3:00 AM	93	49	43	56	41	63	58		0.4%
4:00 AM	94	113	122	126	110	54	103		0.7%
5:00 AM	285	309	284	290	276	156	267		1.8%
6:00 AM	640	677	667	660	623	325	599		4.0%
7:00 AM	866	978	944	923	883	555	858		5.7%
8:00 AM	978	1023	1054	1083	928	746	969		6.5%
9:00 AM	805	862	821	806	896	837	838		5.6%
10:00 AM	803	824	832	787	915	906	845		5.6%
11:00 AM	822	813	805	909	873	904	854		5.7%
12:00 PM	894	922	929	948	1007	873	929		6.2%
1:00 PM	825	807	851	910	978	865	873		5.8%
2:00 PM	961	905	909	1014	1096	820	951		6.4%
3:00 PM	1111	1155	1140	1123	1096	789	1,069		7.2%
4:00 PM	1254	1231	1261	1297	1207	777	1,171		7.8%
5:00 PM	1212	1225	1308	1242	1194	735	1,153		7.7%
6:00 PM	927	974	980	1037	915	708	924		6.2%
7:00 PM	768	764	769	686	635	572	699		4.7%
8:00 PM	578	642	601	603	533	479	573		3.8%
9:00 PM	402	410	508	502	499	473	466		3.1%
10:00 PM	252	314	340	279	342	398	321		2.1%
11:00 PM	158	165	162	189	253	315	207		1.4%
Total	14923	15343	15517	15694	15503	12715	Avg		
AM Pk Hr	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	10:00 AM			
AM Peak	978	1023	1054	1083	928	906	995		
PM Pk Hr	4:00 PM	4:00 PM	5:00 PM	4:00 PM	4:00 PM	12:00 PM			
PM Peak	1254	1231	1308	1297	1207	873	1195		

State of Rhode Island Department of Transportation

Volume By Hour By Week for 7/8/2019 - 7/13/2019

Criteria: Location ID = 070065

Peak %	8.40%	8.02%	8.43%	8.26%	7.79%	7.13%	8.01%		
Count Start:	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00		
Start	7/8/2019	7/9/2019	7/10/2019	7/11/2019	7/12/2019	7/13/2019			
End	7/9/2019	7/10/2019	7/11/2019	7/12/2019	7/13/2019	7/14/2019			
24h Total	14923	15343	15517	15694	15503	12715			

APPENDIX B

Crash Data



Latte Love Comstock Development

Cranston, RI

Crash Data Summary

Pare Project No. 22028.00

February, 2022



Crash Ref. No.	Report No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type
1	17-15295-AC	3/13/2017	3:59 PM	Scituate Avenue	Comstock Parkway	West/West	2	0	0	Clear	Dry	Daylight	Rear End
2	17-29906-AC	5/21/2017	1:04 AM	Scituate Avenue	Comstock Parkway	Unknown	1	0	0	Clear	Dry	Dark - Lighted	Single Vehicle
3	17-16733-AC	3/20/2017	8:57 AM	Plainfield Pike	Comstock Parkway	North/North	2	0	0	Clear	Dry	Daylight	Angle - Opposite Direction
4	17-21474-AC	4/11/2017	8:16 AM	Scituate Avenue	Comstock Parkway	South/South	2	0	0	Clear	Dry	Daylight	Rear End
5	17-14461-AC	3/9/2017	8:22 AM	Comstock Parkway		South/South	2	0	0	Clear	Dry	Daylight	Rear End
6	17-12046-AC	2/25/2017	7:31 PM	Comstock Parkway	Amflex Drive	South	1	1	0	Rain	Wet	Dark - Non Lighted	Single Vehicle
7	17-9246-AC	2/12/2017	1:20 PM	Comstock Parkway	Plainfield Pike	East/Unknown	2	0	0	Clear	Snow	Daylight	Rear End
8	17-4323-AC	1/20/2017	10:14 PM	Scituate Avenue	Comstock Parkway	North/South	2	0	0	Clear	Dry	Dark - Lighted	Angle - Opposite Direction
9	17-1476-AC	1/8/2017	7:42 AM	Comstock Parkway	Plainfield Pike	North/North	2	0	0	Clear	Ice/Frost	Daylight	Rear End
10	17-59835-AC	9/19/2017	9:20 PM	Plainfield Pike	Comstock Parkway	South/South	2	0	0	Clear	Dry	Dark - Lighted	Rear End
11	17-49000-AC	8/11/2017	3:36 PM	Comstock Parkway	Stamp Farm Road	South/East	2	0	0	Clear	Dry	Daylight	Angle - Right Angle
12	17-37671-AC	6/23/2017	2:31 PM	Comstock Parkway	Scituate Avenue	North/North	2	0	0	Clear	Dry	Daylight	Rear End
13	17-68360-AC	11/4/2017	6:36 AM	Comstock Parkway	Plainfield Pike	North/North	2	0	0	Clear	Dry	Daylight	Rear End
14	17-33904-AC	6/8/2017	8:16 AM	Comstock Parkway	Plainfield Pike	North/North	2	0	0	Clear	Dry	Daylight	Rear End
15	17-63917-AC	10/16/2017	8:24 AM	Comstock Parkway		North/East	2	0	0	Cloudy	Dry	Daylight	Angle - Right Angle
16	17-67444-AC	10/31/2017	8:35 AM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Rear End
17	17-62860-AC	10/11/2017	12:56 PM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Rear End
18	17-60750-AC	10/2/2017	2:22 PM	Plainfield Pike	Comstock Parkway	North/North	2	0	0	Clear	Dry	Daylight	Rear End
19	18-21592-AC	4/8/2018	12:42 PM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Rear End
20	18-19354-AC	3/29/2018	4:52 PM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Rear End
21	18-14572-AC	3/10/2018	12:00 PM	Scituate Avenue	Comstock Parkway	West/West	2	0	0	Clear	Dry	Daylight	Rear End
22	18-18856-AC	3/28/2018	7:58 AM	Plainfield Pike	Comstock Parkway	North/North	2	0	0	Clear	Dry	Daylight	Rear End
23	18-10208-AC	2/19/2018	2:34 PM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Rear End
24	18-14382-AC	3/9/2018	3:02 PM	Scituate Avenue	Comstock Parkway	West/West	2	0	0	Clear	Dry	Daylight	Rear End
25	18-594-AC	1/3/2018	5:14 PM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Dark - Unknown Lighting	Rear End

Latte Love Comstock Development

Cranston, RI

Crash Data Summary

Pare Project No. 22028.00

February, 2022



Crash Ref. No.	Report No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type
26	17-78844-AC	12/21/2017	9:19 PM	Comstock Parkway	Plainfield Pike	South/East	2	2	0	Clear	Dry	Dark - Lighted	Angle - Right Angle
27	17-77372-AC	12/14/2017	4:07 PM	Comstock Parkway	Western Industrial Way	West/West	2	0	0	Clear	Dry	Dark - Lighted	Rear End
28	18-82818-AC	12/4/2018	5:17 PM	Comstock Parkway	Plainfield Pike	East/West	2	2	0	Clear	Dry	Dark - Lighted	Angle - Right Angle
29	18-69788-AC	10/15/2018	3:06 PM	Comstock Parkway	Amflex Drive	North/North	2	0	0	Clear	Wet	Daylight	Single Vehicle
30	18-45198-AC	7/9/2018	12:59 PM	Comstock Parkway	Western Industrial Way	South/South	2	1	0	Clear	Dry	Daylight	Rear End
31	18-39810-AC	6/18/2018	4:38 AM	Plainfield Pike	Comstock Parkway	North/South	2	0	0	Clear	Dry	Daylight	Head On
32	18-24160-AC	4/18/2018	9:00 AM	Comstock Parkway	Scituate Avenue	West/West	2	2	0	Clear	Dry	Daylight	Rear End
33	18-25803-AC	4/25/2018	11:04 AM	Comstock Parkway	Amflex Drive	West/South	2	0	0	Rain	Wet	Daylight	Angle - Same Direction
34	19-15146-AC	3/2/2019	8:06 AM	Scituate Avenue	Comstock Parkway	South	1	0	0	Snow	Snow	Daylight	Single Vehicle
35	19-10739-AC	2/12/2019	6:00 AM	Comstock Parkway	Plainfield Pike	West/North	3	0	0	Clear	Dry	Dawn	Head On
36	19-7037-AC	1/29/2019	6:51 AM	Comstock Parkway	Plainfield Pike	North/South	2	0	0	Clear	Dry	Daylight	Sideswipe - Same Direction
37	19-3348-AC	1/14/2019	3:20 PM	Plainfield Pike	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Rear End
38	19-62785-AC	9/10/2019	9:44 AM	Comstock Parkway	Scituate Avenue	North/South	2	0	0	Clear	Dry	Daylight	Sideswipe - Opposite Direction
39	19-59776-AC	8/29/2019	7:20 PM	Scituate Avenue	Comstock Parkway	South/South	2	0	0	Clear	Dry	Daylight	Rear End
40	19-47719-AC	7/10/2019	3:47 PM	Comstock Parkway	Amflex Drive	North/North	2	0	0	Clear	Dry	Daylight	Rear End
41	19-45519-AC	7/1/2019	8:43 PM	Comstock Parkway	Amflex Drive	North/South	2	0	0	Clear	Dry	Dark - Lighted	Head On
42	19-39431-AC	5/17/2019	7:20 AM	Scituate Avenue	Comstock Parkway	East/East	2	0	0	Clear	Dry	Daylight	Sideswipe, Same Direction
43	19-45060-AC	6/29/2019	4:35 PM	Plainfield Pike	Comstock Parkway	East/East	2	1	0	Clear	Dry	Daylight	Sideswipe, Same Direction
44	19-25050-AC	4/12/2019	8:08 AM	Comstock Parkway	Western Industrial Way	North/North	3	0	0	Clear	Dry	Daylight	Rear End
45	19-33671-AC	5/16/2019	3:32 PM	Comstock Parkway	Plainfield Pike	West/East	2	1	0	Clear	Dry	Daylight	Angle - Right Angle
46	19-63205-AC	9/11/2019	5:13 PM	Comstock Parkway	Sweet Pea Drive	North/North	2	0	0	Clear	Dry	Daylight	Rear End
47	19-65844-AC	9/21/2019	8:43 PM	Plainfield Pike	Comstock Parkway	West/East	2	0	0	Clear	Dry	Dark - Lighted	Angle - Right Angle
48	19-85230-AC	12/5/2019	9:45 AM	Comstock Parkway	Plainfield Pike	North/North	2	0	0	Clear	Dry	Dark - Lighted	Rear End
49	19-84652-AC	12/6/2019	5:13 PM	Comstock Parkway	Plainfield Pike	North/North	2	0	0	Clear	Wet	Dark - Lighted	Sideswipe, Same Direction

Latte Love Comstock Development
 Cranston, RI
 Crash Data Summary
 Pare Project No. 22028.00
 February, 2022



Crash Ref. No.	Report No.	Date	Time	On Street	Intersecting Street	Directions of Travel	No. of Vehicles	Injuries	Fatalities	Weather Condition	Road Condition	Lighting	Crash Type
50	19-79406-AC	11/14/2019	8:11 AM	Comstock Parkway	Scituate Avenue	North/North	3	1	0	Clear	Dry	Daylight	Rear End
51	19-67665-AC	9/27/2019	9:38 PM	Scituate Avenue	Comstock Parkway	North/West	2	2	0	Clear	Dry	Dark - Lighted	Angle - Right Angle
52	19-76178-AC	10/31/2019	2:45 PM	Comstock Parkway	Western Industrial Way	West/West	2	1	0	Rain	Wet	Dark - Lighted	Rear End
53	19-87532-AC	12/20/2019	2:23 PM	Scituate Avenue	Comstock Parkway	North/North	2	0	0	Clear	Dry	Daylight	Angle - Same Direction
54	19-85456-AC	12/10/2019	12:58 PM	Comstock Parkway	Stamp Farm Road	South/South	2	0	0	Rain	Wet	Daylight	Rear End

APPENDIX C

Speed Study Data



Pare Corporation

8 Blackstone Valley Place
 Lincoln, RI, 02865
 401-334-4100
 www.parecorp.com

Roadway: Comstock Parkway
 City, State: Cranston, RI
 Weather: 27 and Sunny
 Taken by: EB

File Name : Comstock Parkway
 Site Code : 22028.00
 Start Date : 2/5/2022
 Page No : 1

#	NB	SB
1	31	30
2	25	24
3	31	28
4	28	29
5	24	30
6	28	27
7	24	28
8	27	30
9	28	32
10	29	31
11	27	27
12	27	29
13	28	27
14	32	24
15	25	31
16	26	31
17	28	30
18	28	27
19	29	25
20	27	28
21	26	26
22	26	25
23	27	24
24	25	26
25	29	28
26	30	34
27	36	33
28	28	31
29	25	27
30	26	28
31	28	33
32	36	29
33	27	32
34	25	23
35	27	27
36	29	26
37	33	31
38	31	32
39	34	29
40	37	26
41	32	30
42	28	31
43	32	28
44	32	31
45	26	37
46	27	32
47	26	31
48	28	28
49	27	34
50	30	29
51		

Class	Vehicle Count	85 Percentile	10 MPH Pace Speed	Number in Pace	Percent in Pace	Number of Vehicles Over 25 MPH	Percent of Vehicles Over 25 MPH	Average Speed	True Median (50th Percentile)	95 Percentile	15 Percentile
NB	50	32	24 - 33	46	92	43	86	28	28	36	26
SB	50	32	24 - 33	46	92	44	88	29	29	34	26
Summary	100	32	24 - 33	92	92	87	87	29	28	34	26

APPENDIX D

Census Data



Latte Love Comstock Development
Cranston, RI
Background Growth Rate
PARE Project No. 22028.00
February 3, 2022



**US Census Data
City of Cranston**

	Population
2020	82,934
2010	80387
Years	10

ANNUAL GROWTH RATE 0.31%

SAY 0.50%

APPENDIX E

Trip Generation & Distribution Worksheets



Coffee/Donut Shop with Drive-Through Window (937)

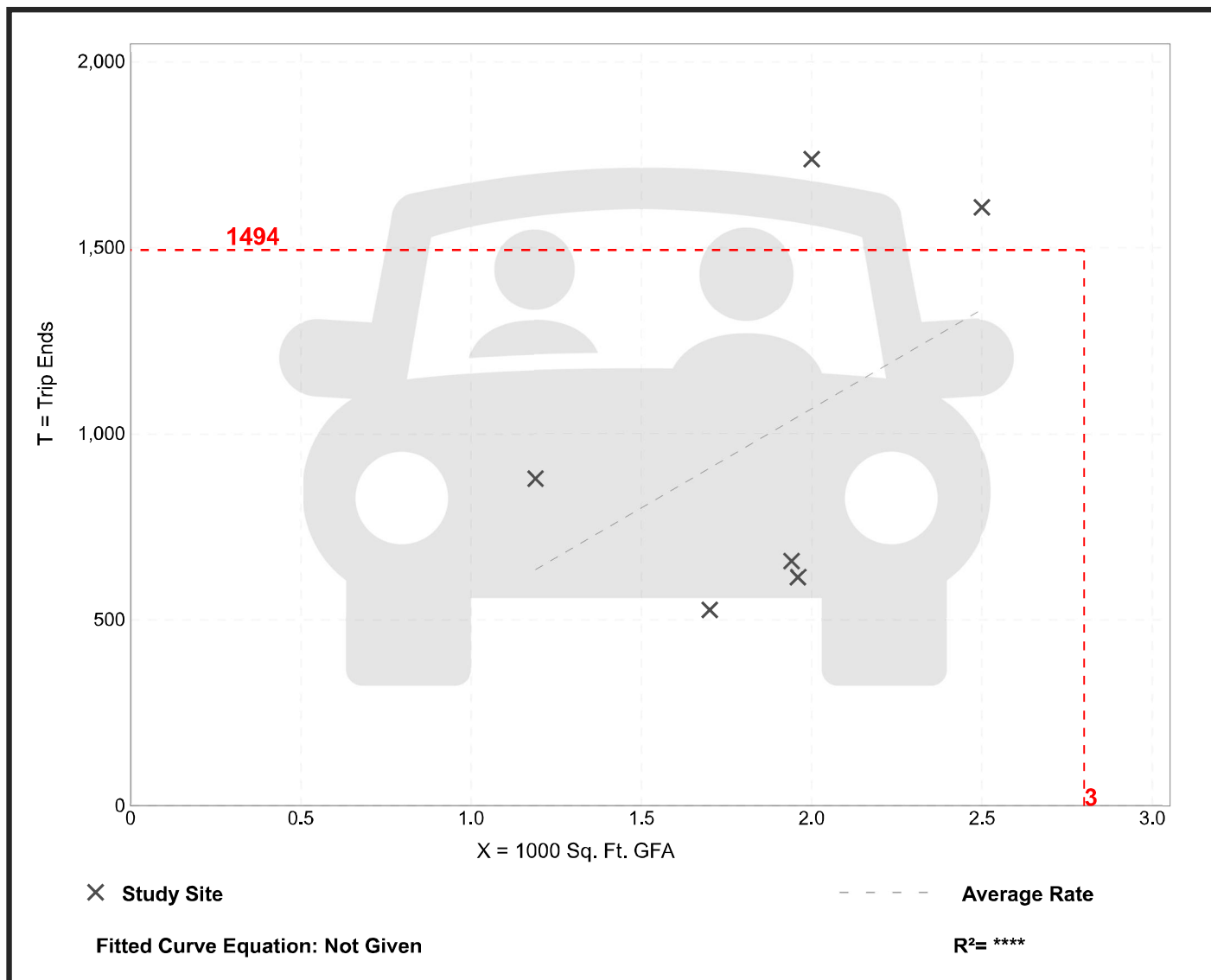
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
533.57	309.41 - 869.00	243.65

Data Plot and Equation



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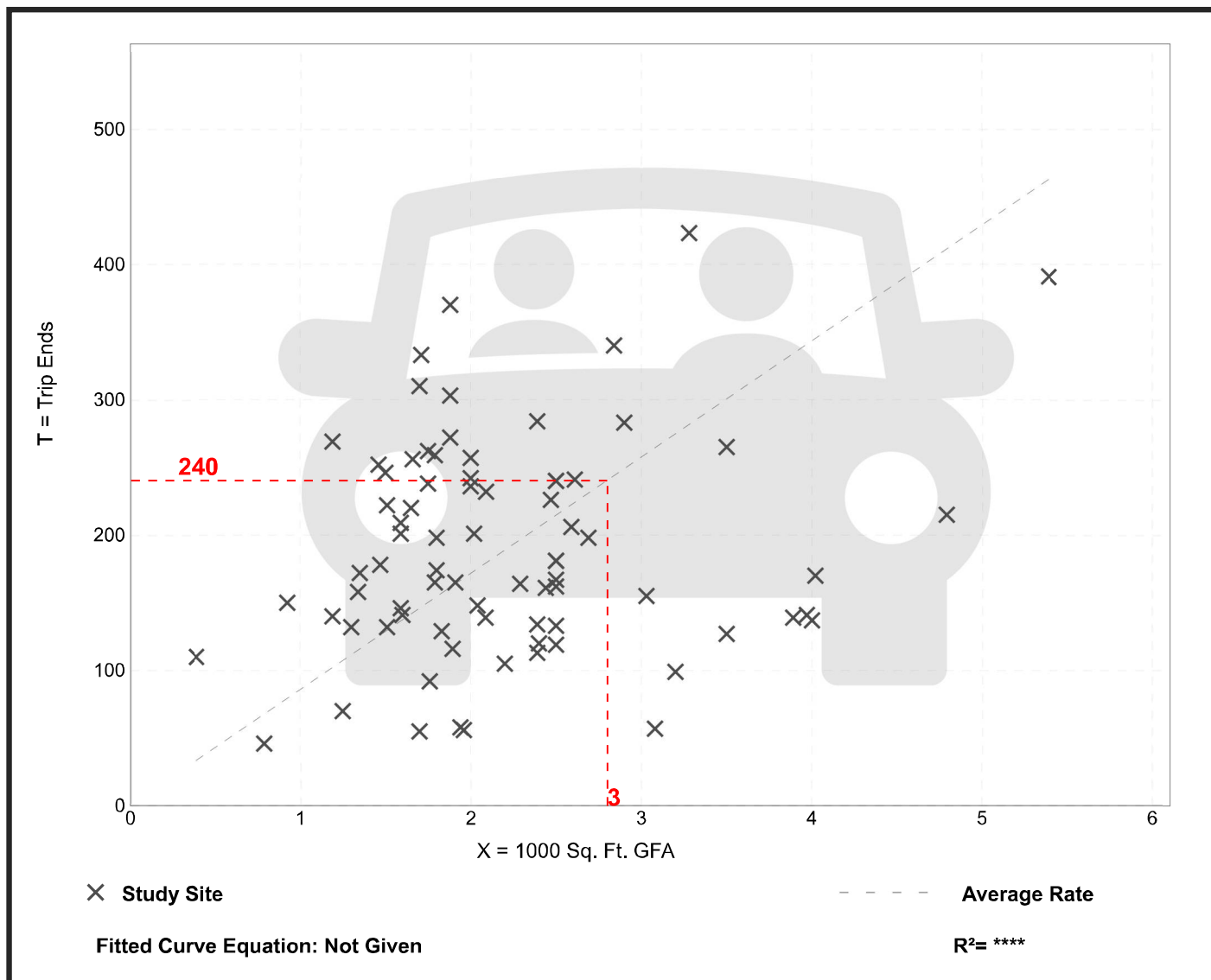
Coffee/Donut Shop with Drive-Through Window (937)

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: 78
 Avg. 1000 Sq. Ft. GFA: 2
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
85.88	18.51 - 282.05	44.92

Data Plot and Equation



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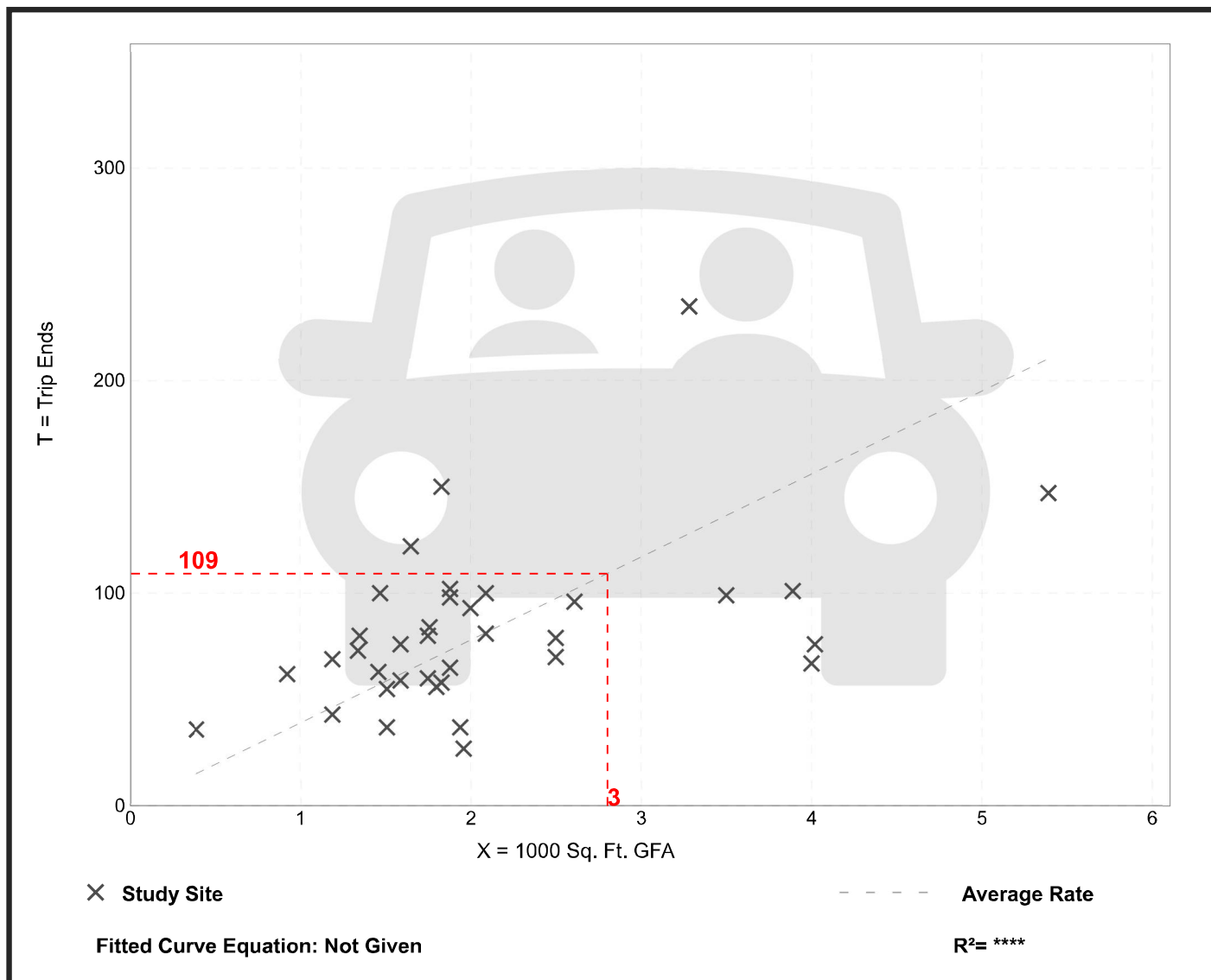
Coffee/Donut Shop with Drive-Through Window (937)

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: 36
 Avg. 1000 Sq. Ft. GFA: 2
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
38.99	13.78 - 92.31	17.79

Data Plot and Equation



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Strip Retail Plaza (<40k)

(822)

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

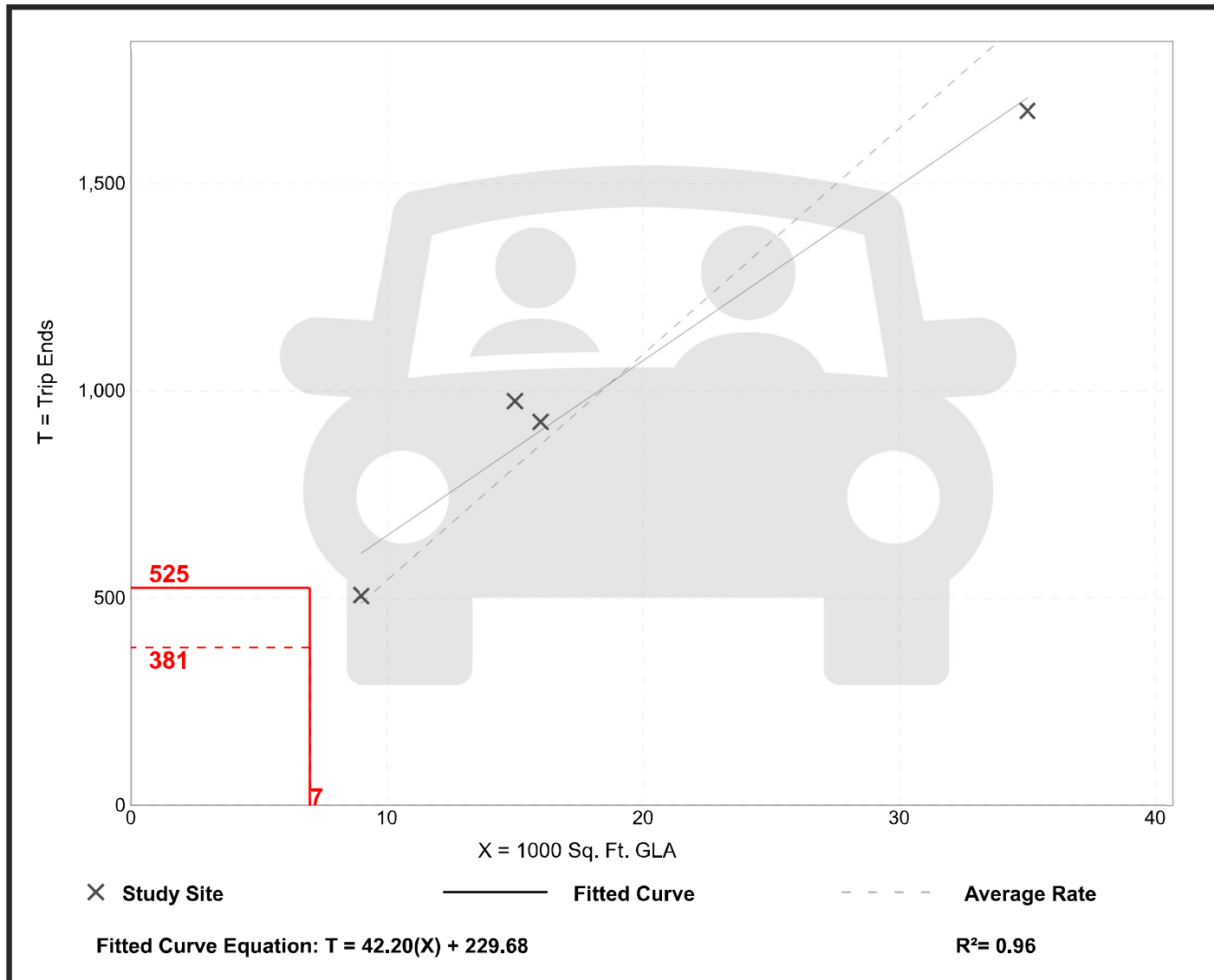
Setting/Location: General Urban/Suburban
 Number of Studies: 4
 Avg. 1000 Sq. Ft. GLA: 19
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation

Caution – Small Sample Size



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Strip Retail Plaza (<40k) (822)

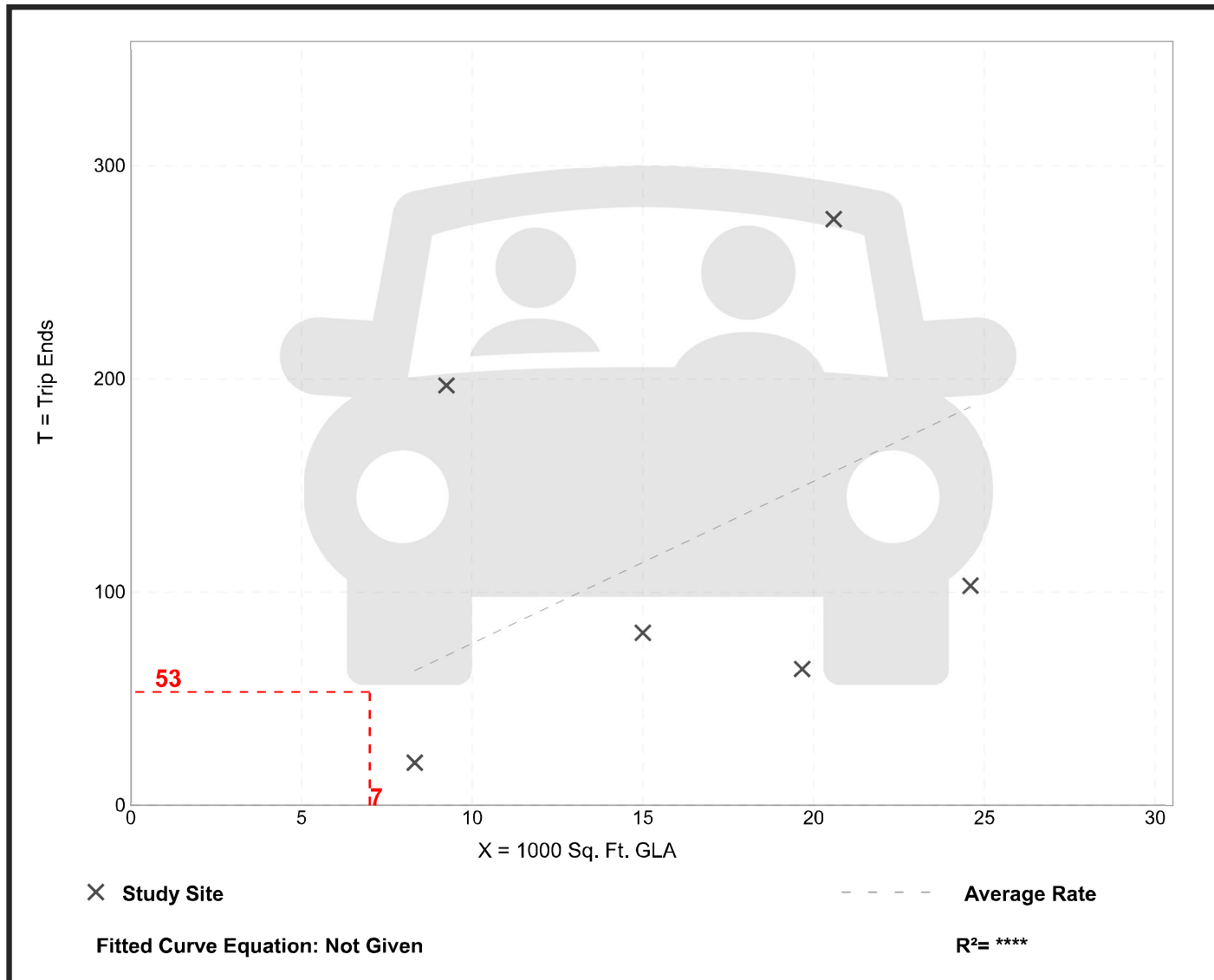
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 6
 Avg. 1000 Sq. Ft. GLA: 16
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
7.60	2.40 - 21.30	6.45

Data Plot and Equation



Trip Gen Manual, 11th Edition

● Institute of Transportation Engineers

Strip Retail Plaza (<40k) (822)

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

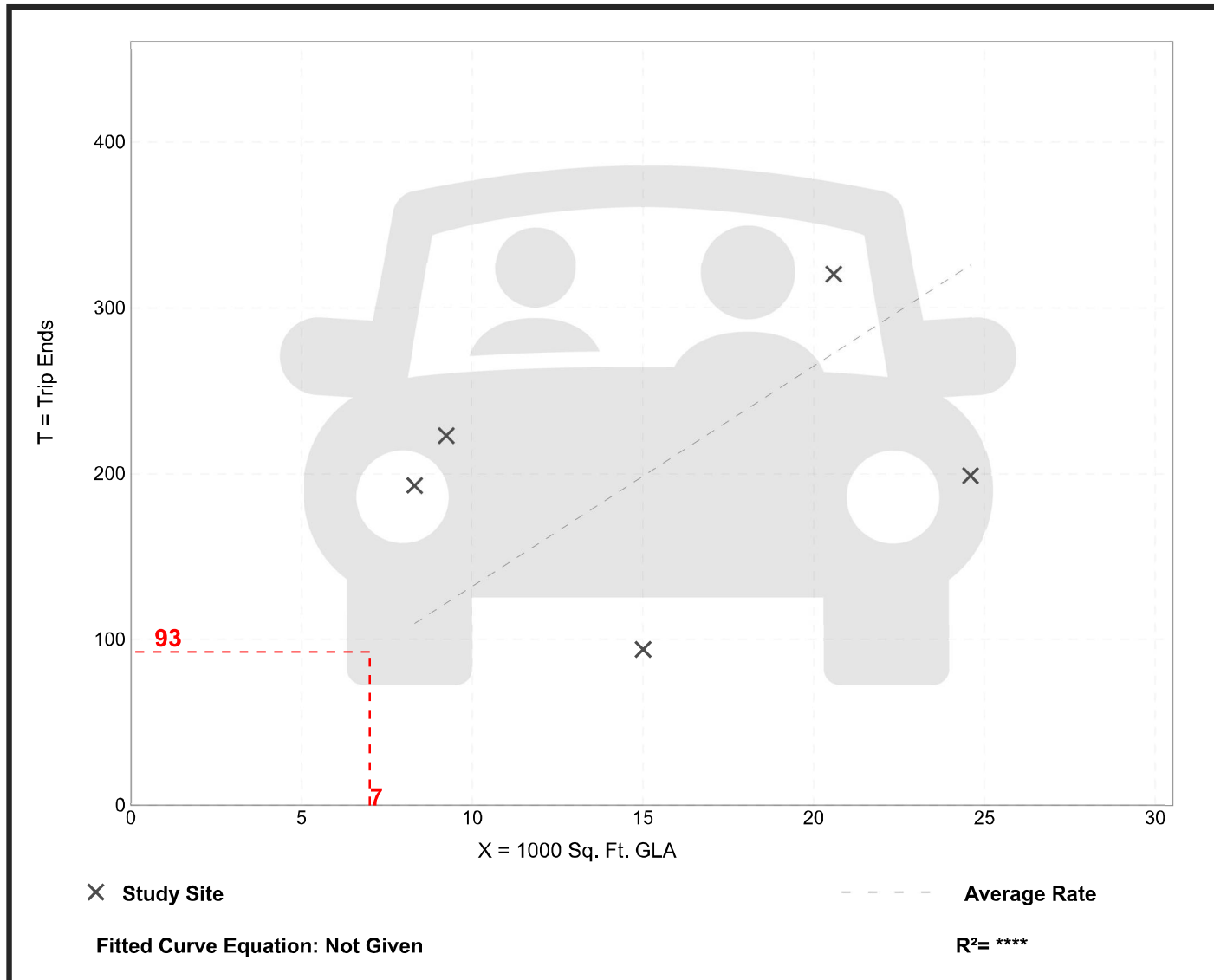
Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GLA: 16
 Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
13.24	6.27 - 24.11	7.40

Data Plot and Equation

Caution – Small Sample Size



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Mini-Warehouse (151)

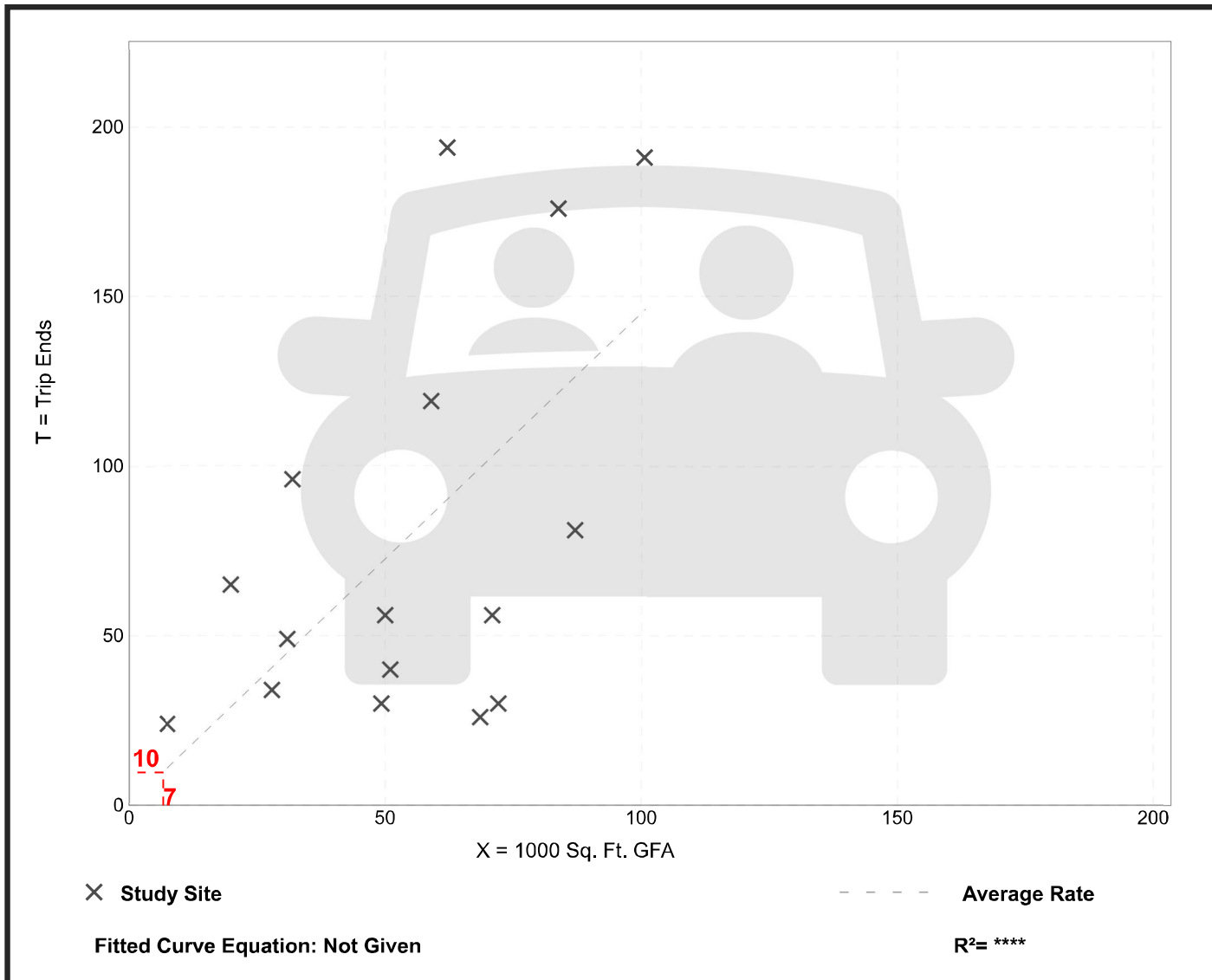
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 55
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.45	0.38 - 3.25	0.92

Data Plot and Equation



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Mini-Warehouse (151)

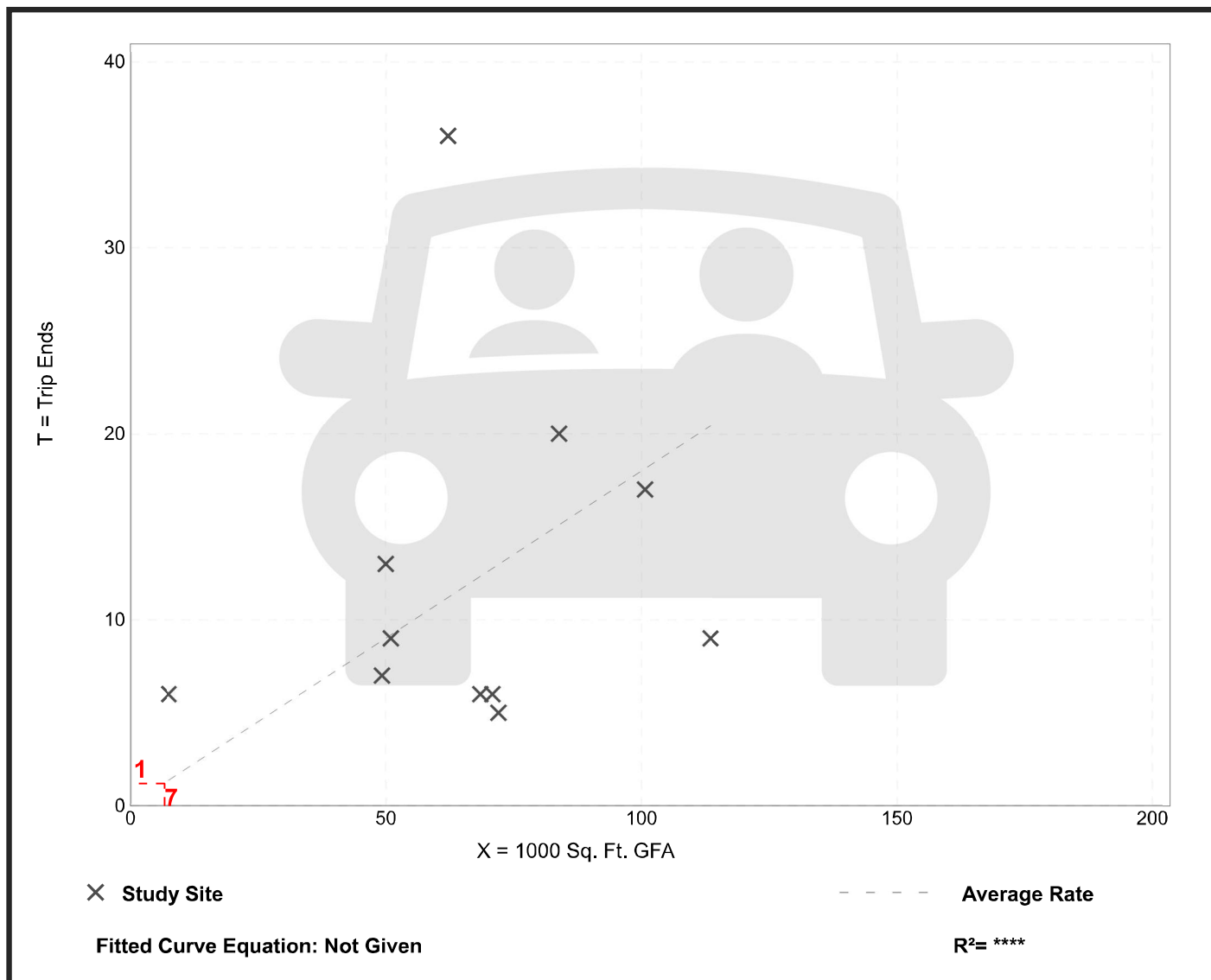
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 66
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.07 - 0.79	0.16

Data Plot and Equation



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● Institute of Transportation Engineers

Mini-Warehouse (151)

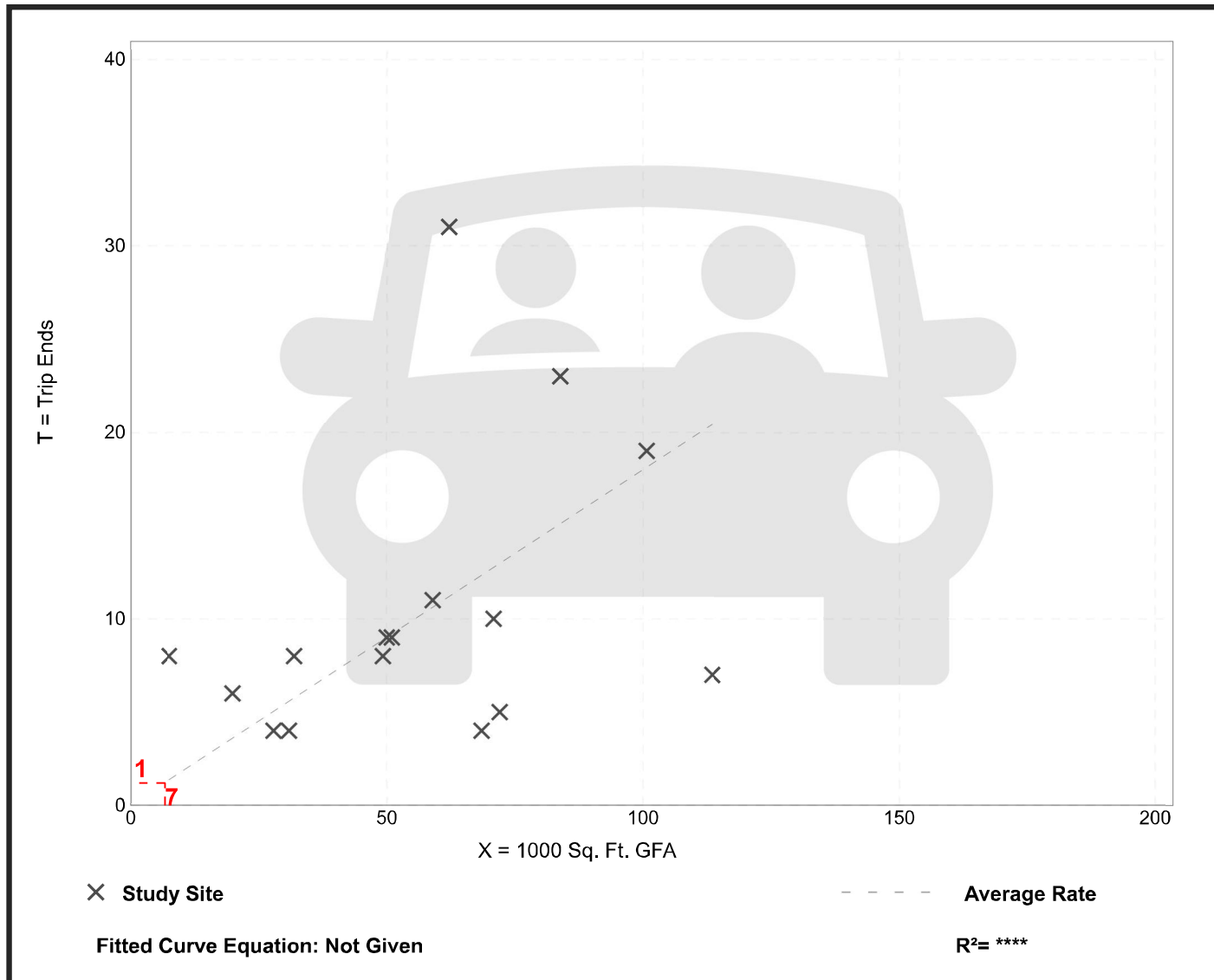
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 56
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.18	0.06 - 1.05	0.14

Data Plot and Equation



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2022-2027
 TRAFFIC VOLUME SUMMARY
 Future No-Build Growth Factor = 0.5%

Weekday AM Peak Hour					
Plainfield Pike (Route 14) at Comstock Parkway Drive and CVS Drive					
	2022 Existing	Outside Development	2027 Future No-Build	Site Generated	2027 Future Build
NB - L	108	2	113	11	124
NB - T	3	0	4	1	5
NB - R	478	6	497	50	547
SB - L	4	0	5	0	5
SB - T	4	0	5	0	5
SB - R	5	0	6	0	6
EB - L	2	0	3	0	3
EB - T	384	0	394	0	394
EB - R	80	5	88	5	93
WB - L	388	25	423	25	448
WB - T	306	0	314	0	314
WB - R	1	0	2	0	2

Weekday PM Peak Hour					
Plainfield Pike (Route 14) at Comstock Parkway Drive and CVS Drive					
	2022 Existing	Outside Development	2027 Future No-Build	Site Generated	2027 Future Build
NB - L	96	2	101	6	107
NB - T	22	0	23	2	25
NB - R	380	30	420	22	442
SB - L	26	0	27	0	27
SB - T	45	0	47	3	50
SB - R	23	0	24	0	24
EB - L	10	0	11	0	11
EB - T	333	0	342	0	342
EB - R	82	3	88	6	94
WB - L	563	10	588	39	627
WB - T	420	0	431	0	431
WB - R	3	0	4	0	4

Weekday AM Peak Hour					
Scituate Avenue (Route 12) at Comstock Parkway					
	2022 Existing	Outside Development	2027 Future No-Build	Site Generated	2027 Future Build
NB - L	8	0	9	0	9
NB - T	156	1	161	10	171
NB - R	28	0	29	0	29
SB - L	63	1	66	6	72
SB - T	35	0	36	3	39
SB - R	157	2	163	14	177
EB - L	621	3	640	39	679
EB - T	278	0	286	0	286
EB - R	7	0	8	0	8
WB - L	12	0	13	0	13
WB - T	100	0	103	0	103
WB - R	158	1	163	10	173

Weekday PM Peak Hour					
Scituate Avenue (Route 12) at Comstock Parkway					
	2022 Existing	Outside Development	2027 Future No-Build	Site Generated	2027 Future Build
NB - L	16	0	17	0	17
NB - T	66	0	68	5	73
NB - R	31	0	32	0	32
SB - L	134	1	139	8	147
SB - T	118	1	122	7	129
SB - R	459	3	474	26	500
EB - L	242	1	250	17	267
EB - T	136	0	140	0	140
EB - R	12	0	13	0	13
WB - L	46	0	48	0	48
WB - T	255	0	262	0	262
WB - R	117	1	121	8	129

Weekday AM Peak Hour					
Site Driveway					
	2022 Existing	Outside Development	2027 Future No-Build	Site Generated	2027 Future Build
NB - T	589	8	612	-40	572
NB - R	-	-	-	99	99
SB - L	-	-	-	50	50
SB - T	472	30	514	-20	494
WB - L	-	-	-	43	43
WB - R	-	-	-	102	102

Weekday PM Peak Hour					
Site Driveway					
	2022 Existing	Outside Development	2027 Future No-Build	Site Generated	2027 Future Build
NB - T	498	32	543	-10	533
NB - R	-	-	-	40	40
SB - L	-	-	-	65	65
SB - T	690	13	721	-17	704
WB - L	-	-	-	58	58
WB - R	-	-	-	40	40

APPENDIX F

Capacity Analysis Worksheets



Lanes, Volumes, Timings
3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Existing
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	384	80	388	306	1	108	3	478	4	4	5
Future Volume (vph)	2	384	80	388	306	1	108	3	478	4	4	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	117		0	470		0	0		230	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			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		0.974							0.850		0.947	
Flt Protected	0.950			0.950				0.954			0.985	
Satd. Flow (prot)	1805	1741	0	1736	1760	0	0	1813	1615	0	1736	0
Flt Permitted	0.570			0.282				0.715			0.882	
Satd. Flow (perm)	1083	1741	0	515	1760	0	0	1358	1615	0	1555	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12							489		9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			520			2948			116	
Travel Time (s)		12.1			11.8			67.0			2.6	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.92	0.92	0.92	0.54	0.54	0.54
Heavy Vehicles (%)	0%	7%	3%	4%	8%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	2	413	86	396	312	1	117	3	520	7	7	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	499	0	396	313	0	0	120	520	0	23	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Over	Perm	NA	
Protected Phases	5	2		1	6			3	1		7	
Permitted Phases	2			6			3			7		
Detector Phase	5	2		1	6		3	3	1	7	7	
Switch Phase												
Minimum Initial (s)	4.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	8.5	33.5		10.5	11.5		11.0	11.0	10.5	11.0	11.0	
Total Split (s)	14.5	35.5		34.5	55.5		20.0	20.0	34.5	20.0	20.0	
Total Split (%)	16.1%	39.4%		38.3%	61.7%		22.2%	22.2%	38.3%	22.2%	22.2%	
Maximum Green (s)	10.0	30.0		30.0	50.0		15.0	15.0	30.0	15.0	15.0	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.0	3.0	3.5	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5			5.0	4.5		5.0	
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.7	2.9		2.7	2.9		2.4	2.4	2.7	2.4	2.4	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)		5.0					5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		23.0					10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	31.1	23.8		45.0	44.9			11.1	14.7		11.1	
Actuated g/C Ratio	0.50	0.38		0.72	0.72			0.18	0.24		0.18	
v/c Ratio	0.00	0.74		0.60	0.25			0.50	0.69		0.08	
Control Delay	6.5	27.6		8.7	6.2			36.7	8.7		22.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	

Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Existing
 AM Peak

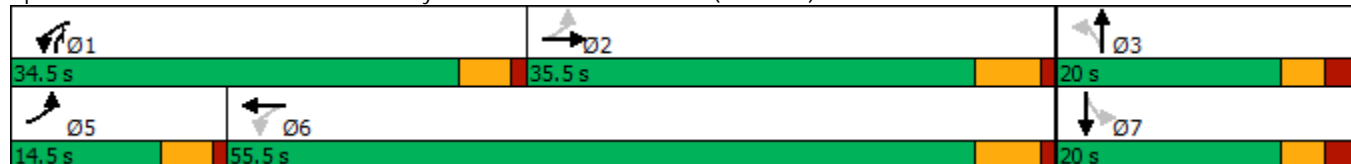


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	6.5	27.6		8.7	6.2			36.7	8.7		22.6	
LOS	A	C		A	A			D	A		C	
Approach Delay		27.5			7.6			14.0			22.6	
Approach LOS		C			A			B			C	
Queue Length 50th (ft)	0	164		52	41			46	10		5	
Queue Length 95th (ft)	2	#404		114	124			114	93		14	
Internal Link Dist (ft)		453			440			2868			36	
Turn Bay Length (ft)	117			470					230			
Base Capacity (vph)	775	962		1060	1400			385	1108		447	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.00	0.52		0.37	0.22			0.31	0.47		0.05	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	62.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	15.3
Intersection LOS:	B
Intersection Capacity Utilization:	72.2%
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.	

Splits and Phases: 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)



Lanes, Volumes, Timings
6: Comstock Parkway & Scituate Avenue (Route 12)

Existing
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	621	278	7	12	100	158	8	156	28	63	35	157
Future Volume (vph)	621	278	7	12	100	158	8	156	28	63	35	157
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	89		0	0		0	150		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			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		0.996			0.908			0.980			0.877	
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	1892	0	1671	1691	0	0	1849	0	1752	1592	0
Flt Permitted	0.379			0.573				0.982		0.468		
Satd. Flow (perm)	713	1892	0	1008	1691	0	0	1819	0	863	1592	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			95			10			162	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		589			651			181			2948	
Travel Time (s)		13.4			14.8			4.1			67.0	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.86	0.86	0.86	0.97	0.97	0.97
Heavy Vehicles (%)	1%	0%	0%	8%	2%	2%	13%	0%	0%	3%	3%	5%
Adj. Flow (vph)	668	299	8	13	110	174	9	181	33	65	36	162
Shared Lane Traffic (%)												
Lane Group Flow (vph)	668	307	0	13	284	0	0	223	0	65	198	0
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	1			2			8			4	
Permitted Phases	2	2		2			8			4		
Detector Phase	1	1		2	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	43.8%	43.8%		31.3%	31.3%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	30.0	30.0		20.0	20.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.7	2.7		2.7	2.7		2.7	2.7		2.7	2.7	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effect Green (s)	36.8	42.0		12.9	12.9			11.9		11.9	11.9	
Actuated g/C Ratio	0.57	0.65		0.20	0.20			0.18		0.18	0.18	
v/c Ratio	0.83	0.25		0.06	0.69			0.65		0.41	0.47	
Control Delay	20.9	5.2		24.2	26.5			35.6		35.4	11.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	20.9	5.2		24.2	26.5			35.6		35.4	11.9	
LOS	C	A		C	C			D		D	B	
Approach Delay		16.0			26.4			35.6			17.7	

Lanes, Volumes, Timings
 6: Comstock Parkway & Scituate Avenue (Route 12)

Existing
 AM Peak

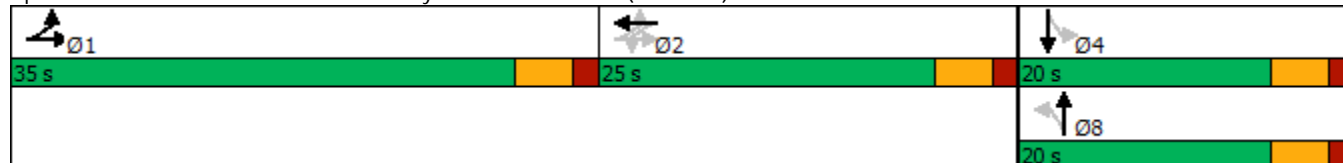


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			D			B		
Queue Length 50th (ft)	148	43		5	73			83		24	13	
Queue Length 95th (ft)	#325	77		19	159			162		68	71	
Internal Link Dist (ft)		509			571			101			2868	
Turn Bay Length (ft)	300			89						150		
Base Capacity (vph)	984	1260		330	618			454		211	513	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.68	0.24		0.04	0.46			0.49		0.31	0.39	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 64.5
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 20.5
 Intersection LOS: C
 Intersection Capacity Utilization 87.9%
 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.

Splits and Phases: 6: Comstock Parkway & Scituate Avenue (Route 12)



Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Existing
 PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	333	82	563	420	3	96	22	380	26	45	23
Future Volume (vph)	10	333	82	563	420	3	96	22	380	26	45	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	117		0	470		0	0		230	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			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		0.970			0.999				0.850		0.967	
Flt Protected	0.950			0.950				0.961			0.986	
Satd. Flow (prot)	1805	1779	0	1736	1758	0	0	1826	1615	0	1784	0
Flt Permitted	0.503			0.249				0.723			0.874	
Satd. Flow (perm)	956	1779	0	455	1758	0	0	1374	1615	0	1581	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			1				468			16
Link Speed (mph)		30			30			30				30
Link Distance (ft)		533			520			2948				116
Travel Time (s)		12.1			11.8			67.0				2.6
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90
Heavy Vehicles (%)	0%	4%	2%	4%	8%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	11	362	89	599	447	3	123	28	487	29	50	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	451	0	599	450	0	0	151	487	0	105	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Over	Perm	NA	
Protected Phases	5	2		1	6			3	1			7
Permitted Phases	2			6			3			7		
Detector Phase	5	2		1	6		3	3	1	7		7
Switch Phase												
Minimum Initial (s)	4.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	8.5	11.5		10.5	11.5		11.0	11.0	10.5	11.0	11.0	11.0
Total Split (s)	14.5	35.5		34.5	55.5		20.0	20.0	34.5	20.0	20.0	20.0
Total Split (%)	16.1%	39.4%		38.3%	61.7%		22.2%	22.2%	38.3%	22.2%	22.2%	22.2%
Maximum Green (s)	10.0	30.0		30.0	50.0		15.0	15.0	30.0	15.0	15.0	15.0
Yellow Time (s)	3.5	4.5		3.5	4.5		3.0	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Lost Time (s)	4.5	5.5		4.5	5.5			5.0	4.5			5.0
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.7	2.9		2.7	2.9		2.4	2.4	2.7	2.4	2.4	2.4
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		5.0					5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		23.0					10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	29.8	23.0		51.8	49.1			12.5	23.0			12.5
Actuated g/C Ratio	0.40	0.31		0.70	0.66			0.17	0.31			0.17
v/c Ratio	0.02	0.81		0.84	0.39			0.65	0.59			0.38
Control Delay	8.2	36.6		23.5	7.6			47.7	6.2			31.9
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0

Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Existing
 PM Peak

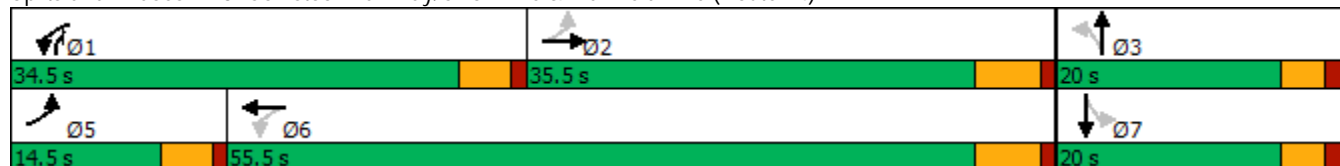


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	8.2	36.6		23.5	7.6			47.7	6.2		31.9	
LOS	A	D		C	A			D	A		C	
Approach Delay		35.9			16.7			16.0			31.9	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	2	204		163	81			72	7		40	
Queue Length 95th (ft)	7	#337		#329	190			124	36		95	
Internal Link Dist (ft)		453			440			2868			36	
Turn Bay Length (ft)	117			470					230			
Base Capacity (vph)	567	772		867	1333			295	960		351	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.58		0.69	0.34			0.51	0.51		0.30	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	74.5
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	21.1
Intersection LOS:	C
Intersection Capacity Utilization:	79.3%
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.	

Splits and Phases: 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)



Lanes, Volumes, Timings
6: Comstock Parkway & Scituate Avenue (Route 12)

Existing
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	242	136	12	46	255	117	16	66	31	134	118	459
Future Volume (vph)	242	136	12	46	255	117	16	66	31	134	118	459
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	89		0	0		0	150		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			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		0.988			0.953			0.963				0.881
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1805	1860	0	1805	1787	0	0	1817	0	1805	1674	0
Flt Permitted	0.318			0.656				0.354		0.752		
Satd. Flow (perm)	604	1860	0	1246	1787	0	0	648	0	1429	1674	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			41			27				279
Link Speed (mph)		30			30			30				30
Link Distance (ft)		589			651			181				2948
Travel Time (s)		13.4			14.8			4.1				67.0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.86	0.86	0.86	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	260	146	13	51	280	129	19	77	36	138	122	473
Shared Lane Traffic (%)												
Lane Group Flow (vph)	260	159	0	51	409	0	0	132	0	138	595	0
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	1			2			8				4
Permitted Phases	2	2		2			8			4		
Detector Phase	1	1		2	2		8	8		4		4
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0		12.0	12.0		20.0	20.0		20.0		20.0
Total Split (s)	15.0	15.0		30.0	30.0		20.0	20.0		20.0		20.0
Total Split (%)	23.1%	23.1%		46.2%	46.2%		30.8%	30.8%		30.8%		30.8%
Maximum Green (s)	10.0	10.0		25.0	25.0		15.0	15.0		15.0		15.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5		1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0		5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.7	2.7		2.7	2.7		2.7	2.7		2.7		2.7
Recall Mode	Min	Min		Min	Min		None	None		None		None
Act Effect Green (s)	25.5	30.5		16.6	16.6			15.2		15.2		15.2
Actuated g/C Ratio	0.46	0.55		0.30	0.30			0.27		0.27		0.27
v/c Ratio	0.56	0.16		0.14	0.73			0.67		0.36		0.90
Control Delay	11.6	5.7		14.7	24.0			39.1		22.1		33.0
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0		0.0
Total Delay	11.6	5.7		14.7	24.0			39.1		22.1		33.0
LOS	B	A		B	C			D		C		C
Approach Delay		9.4			23.0			39.1				31.0

Lanes, Volumes, Timings
 6: Comstock Parkway & Scituate Avenue (Route 12)

Existing
 PM Peak

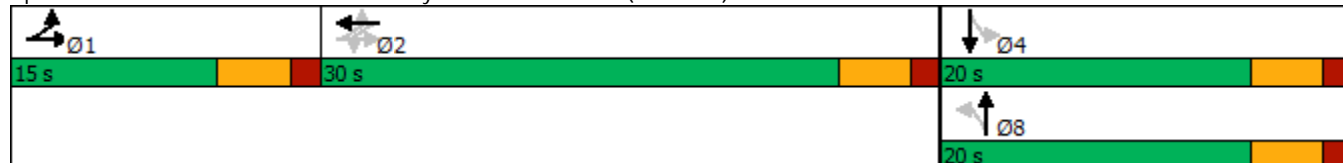


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			C			D			C		
Queue Length 50th (ft)	40	21		12	109			30		37	100	
Queue Length 95th (ft)	70	42		33	192			#120		94	#337	
Internal Link Dist (ft)		509			571			101			2868	
Turn Bay Length (ft)	300			89						150		
Base Capacity (vph)	506	954		565	832			196		388	658	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.51	0.17		0.09	0.49			0.67		0.36	0.90	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 55.9
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 24.3
 Intersection LOS: C
 Intersection Capacity Utilization 80.9%
 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.

Splits and Phases: 6: Comstock Parkway & Scituate Avenue (Route 12)



Lanes, Volumes, Timings
3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

No Build
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	394	88	423	314	2	113	4	497	5	5	6
Future Volume (vph)	3	394	88	423	314	2	113	4	497	5	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	117		0	470		0	0		230	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			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		0.973			0.999				0.850		0.949	
Flt Protected	0.950			0.950				0.954			0.985	
Satd. Flow (prot)	1805	1740	0	1736	1758	0	0	1813	1615	0	1740	0
Flt Permitted	0.566			0.258				0.712			0.877	
Satd. Flow (perm)	1075	1740	0	471	1758	0	0	1353	1615	0	1549	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			1				477		11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			520			2948			116	
Travel Time (s)		12.1			11.8			67.0			2.6	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.92	0.92	0.92	0.54	0.54	0.54
Heavy Vehicles (%)	0%	7%	3%	4%	8%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	3	424	95	432	320	2	123	4	540	9	9	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	519	0	432	322	0	0	127	540	0	29	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Over	Perm	NA	
Protected Phases	5	2		1	6			3	1		7	
Permitted Phases	2			6			3			7		
Detector Phase	5	2		1	6		3	3	1	7	7	
Switch Phase												
Minimum Initial (s)	4.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	8.5	33.5		10.5	11.5		11.0	11.0	10.5	11.0	11.0	
Total Split (s)	14.5	35.5		34.5	55.5		20.0	20.0	34.5	20.0	20.0	
Total Split (%)	16.1%	39.4%		38.3%	61.7%		22.2%	22.2%	38.3%	22.2%	22.2%	
Maximum Green (s)	10.0	30.0		30.0	50.0		15.0	15.0	30.0	15.0	15.0	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.0	3.0	3.5	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5			5.0	4.5		5.0	
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.7	2.9		2.7	2.9		2.4	2.4	2.7	2.4	2.4	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)		5.0					5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		23.0					10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	33.4	26.4		50.7	50.3			11.4	18.1		11.4	
Actuated g/C Ratio	0.49	0.39		0.74	0.74			0.17	0.26		0.17	
v/c Ratio	0.01	0.77		0.63	0.25			0.56	0.69		0.11	
Control Delay	7.3	30.8		10.3	6.0			42.0	9.4		23.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	

Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

No Build
 AM Peak

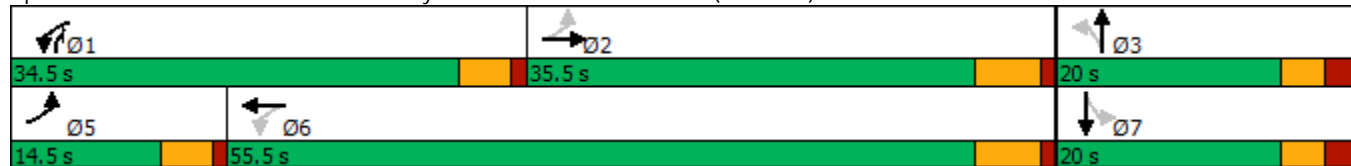


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	7.3	30.8		10.3	6.0			42.0	9.4		23.6	
LOS	A	C		B	A			D	A		C	
Approach Delay		30.7			8.5			15.6			23.6	
Approach LOS		C			A			B			C	
Queue Length 50th (ft)	0	193		61	44			55	23		7	
Queue Length 95th (ft)	3	#458		155	126			126	116		17	
Internal Link Dist (ft)		453			440			2868			36	
Turn Bay Length (ft)	117			470					230			
Base Capacity (vph)	730	869		979	1349			335	1041		392	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.00	0.60		0.44	0.24			0.38	0.52		0.07	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	68.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	17.0
Intersection LOS:	B
Intersection Capacity Utilization:	75.2%
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.	

Splits and Phases: 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)



Lanes, Volumes, Timings
6: Comstock Parkway & Scituate Avenue (Route 12)

No Build
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	640	286	8	13	103	163	9	161	29	66	36	163
Future Volume (vph)	640	286	8	13	103	163	9	161	29	66	36	163
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	89		0	0		0	150		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			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		0.996			0.908			0.980				0.877
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	1892	0	1671	1691	0	0	1848	0	1752	1592	0
Flt Permitted	0.353			0.568				0.980		0.442		
Satd. Flow (perm)	664	1892	0	999	1691	0	0	1815	0	815	1592	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			95			10				168
Link Speed (mph)		30			30			30				30
Link Distance (ft)		589			651			181				2948
Travel Time (s)		13.4			14.8			4.1				67.0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.86	0.86	0.86	0.97	0.97	0.97
Heavy Vehicles (%)	1%	0%	0%	8%	2%	2%	13%	0%	0%	3%	3%	5%
Adj. Flow (vph)	688	308	9	14	113	179	10	187	34	68	37	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	688	317	0	14	292	0	0	231	0	68	205	0
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	1			2			8				4
Permitted Phases	2	2		2			8			4		
Detector Phase	1	1		2	2		8	8		4		4
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0		7.0
Minimum Split (s)	12.0	12.0		12.0	12.0		20.0	20.0		20.0		20.0
Total Split (s)	35.0	35.0		25.0	25.0		20.0	20.0		20.0		20.0
Total Split (%)	43.8%	43.8%		31.3%	31.3%		25.0%	25.0%		25.0%		25.0%
Maximum Green (s)	30.0	30.0		20.0	20.0		15.0	15.0		15.0		15.0
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5		3.5
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5		1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0		0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0		5.0
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.7	2.7		2.7	2.7		2.7	2.7		2.7		2.7
Recall Mode	Min	Min		Min	Min		None	None		None		None
Act Effect Green (s)	38.5	43.7		13.2	13.2			12.3		12.3		12.3
Actuated g/C Ratio	0.58	0.66		0.20	0.20			0.18		0.18		0.18
v/c Ratio	0.85	0.25		0.07	0.71			0.67		0.45		0.48
Control Delay	23.2	5.2		24.5	27.9			37.4		38.2		12.0
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0		0.0
Total Delay	23.2	5.2		24.5	27.9			37.4		38.2		12.0
LOS	C	A		C	C			D		D		B
Approach Delay		17.5			27.7			37.4				18.5

Lanes, Volumes, Timings
 6: Comstock Parkway & Scituate Avenue (Route 12)

No Build
 AM Peak

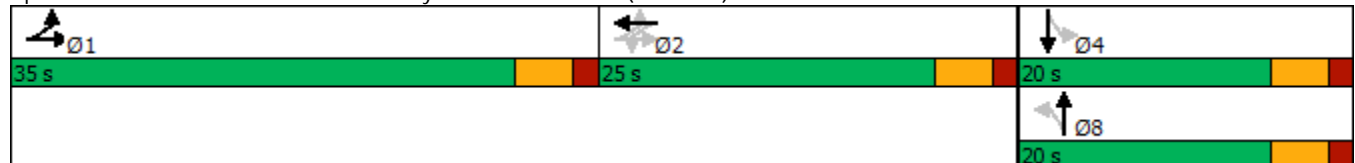


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	B			C			D			B		
Queue Length 50th (ft)	182	47		5	83			92		27	14	
Queue Length 95th (ft)	#396	80		20	165			168		71	73	
Internal Link Dist (ft)		509			571			101			2868	
Turn Bay Length (ft)	300			89						150		
Base Capacity (vph)	952	1247		315	599			437		192	505	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.72	0.25		0.04	0.49			0.53		0.35	0.41	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 66.5
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 21.9
 Intersection LOS: C
 Intersection Capacity Utilization 90.2%
 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.

Splits and Phases: 6: Comstock Parkway & Scituate Avenue (Route 12)



Lanes, Volumes, Timings
3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

No-Build
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	342	88	588	431	4	101	23	420	27	47	24
Future Volume (vph)	11	342	88	588	431	4	101	23	420	27	47	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	117		0	470		0	0		230	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			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		0.969			0.999				0.850		0.967	
Flt Protected	0.950			0.950				0.961			0.986	
Satd. Flow (prot)	1805	1777	0	1736	1759	0	0	1826	1615	0	1784	0
Flt Permitted	0.497			0.229				0.702			0.871	
Satd. Flow (perm)	944	1777	0	418	1759	0	0	1334	1615	0	1576	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			1				459			16
Link Speed (mph)		30			30				30			30
Link Distance (ft)		533			520				2948			116
Travel Time (s)		12.1			11.8				67.0			2.6
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90
Heavy Vehicles (%)	0%	4%	2%	4%	8%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	12	372	96	626	459	4	129	29	538	30	52	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	468	0	626	463	0	0	158	538	0	109	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Over	Perm	NA	
Protected Phases	5	2		1	6			3	1			7
Permitted Phases	2			6			3			7		
Detector Phase	5	2		1	6		3	3	1	7		7
Switch Phase												
Minimum Initial (s)	4.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	8.5	11.5		10.5	11.5		11.0	11.0	10.5	11.0	11.0	11.0
Total Split (s)	14.5	35.5		34.5	55.5		20.0	20.0	34.5	20.0	20.0	20.0
Total Split (%)	16.1%	39.4%		38.3%	61.7%		22.2%	22.2%	38.3%	22.2%	22.2%	22.2%
Maximum Green (s)	10.0	30.0		30.0	50.0		15.0	15.0	30.0	15.0	15.0	15.0
Yellow Time (s)	3.5	4.5		3.5	4.5		3.0	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	5.5		4.5	5.5			5.0	4.5		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.7	2.9		2.7	2.9		2.4	2.4	2.7	2.4	2.4	2.4
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		5.0					5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		23.0					10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	31.0	24.3		55.1	52.3			12.9	25.0		12.9	
Actuated g/C Ratio	0.40	0.31		0.71	0.67			0.17	0.32		0.17	
v/c Ratio	0.03	0.83		0.87	0.39			0.71	0.65		0.40	
Control Delay	8.4	39.4		28.0	7.5			53.5	8.6		33.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	

Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

No-Build
 PM Peak

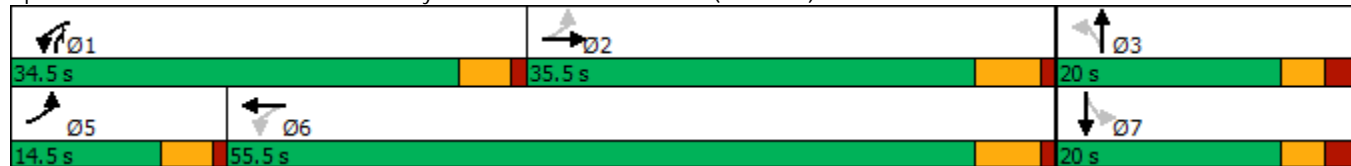


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	8.4	39.4		28.0	7.5			53.5	8.6		33.2	
LOS	A	D		C	A			D	A		C	
Approach Delay		38.6			19.3			18.8			33.2	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	2	230		201	85			83	30		46	
Queue Length 95th (ft)	7	#380		#407	197			#132	62		98	
Internal Link Dist (ft)		453			440			2868			36	
Turn Bay Length (ft)	117			470					230			
Base Capacity (vph)	549	726		827	1306			269	926		331	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.64		0.76	0.35			0.59	0.58		0.33	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	78
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	23.7
Intersection LOS:	C
Intersection Capacity Utilization:	81.9%
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.	

Splits and Phases: 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)



Lanes, Volumes, Timings
6: Comstock Parkway & Scituate Avenue (Route 12)

No-Build
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	140	13	48	262	121	17	68	32	139	122	474
Future Volume (vph)	250	140	13	48	262	121	17	68	32	139	122	474
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	89		0	0		0	150		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			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		0.987			0.953			0.963			0.881	
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1805	1858	0	1805	1787	0	0	1817	0	1805	1674	0
Flt Permitted	0.304			0.653				0.333		0.742		
Satd. Flow (perm)	578	1858	0	1241	1787	0	0	609	0	1410	1674	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			42			27			279	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		589			651			181			2948	
Travel Time (s)		13.4			14.8			4.1			67.0	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.86	0.86	0.86	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	269	151	14	53	288	133	20	79	37	143	126	489
Shared Lane Traffic (%)												
Lane Group Flow (vph)	269	165	0	53	421	0	0	136	0	143	615	0
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	1			2			8			4	
Permitted Phases	2	2		2			8			4		
Detector Phase	1	1		2	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	15.0		30.0	30.0		20.0	20.0		20.0	20.0	
Total Split (%)	23.1%	23.1%		46.2%	46.2%		30.8%	30.8%		30.8%	30.8%	
Maximum Green (s)	10.0	10.0		25.0	25.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.7	2.7		2.7	2.7		2.7	2.7		2.7	2.7	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effect Green (s)	25.9	30.9		16.9	16.9			15.2		15.2	15.2	
Actuated g/C Ratio	0.46	0.55		0.30	0.30			0.27		0.27	0.27	
v/c Ratio	0.58	0.16		0.14	0.74			0.74		0.38	0.94	
Control Delay	12.3	5.7		14.8	24.5			46.9		22.6	38.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.3	5.7		14.8	24.5			46.9		22.6	38.7	
LOS	B	A		B	C			D		C	D	
Approach Delay		9.8			23.4			46.9			35.6	

Lanes, Volumes, Timings
 6: Comstock Parkway & Scituate Avenue (Route 12)

No-Build
 PM Peak

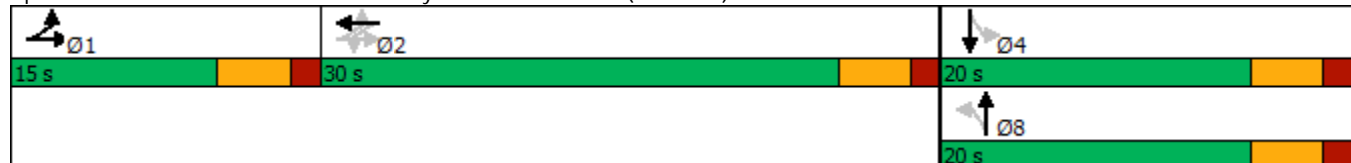


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	A			C			D			D		
Queue Length 50th (ft)	42	22		13	113			33		39	112	
Queue Length 95th (ft)	73	43		34	199			#128		98	#356	
Internal Link Dist (ft)		509			571			101			2868	
Turn Bay Length (ft)	300			89						150		
Base Capacity (vph)	498	957		558	827			184		380	655	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.54	0.17		0.09	0.51			0.74		0.38	0.94	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 56.3
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 27.0
 Intersection LOS: C
 Intersection Capacity Utilization 83.1%
 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.

Splits and Phases: 6: Comstock Parkway & Scituate Avenue (Route 12)



Lanes, Volumes, Timings
3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Build
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	394	93	448	314	2	124	5	547	5	5	6
Future Volume (vph)	3	394	93	448	314	2	124	5	547	5	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	117		0	470		0	0		230	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			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		0.971			0.999				0.850		0.949	
Flt Protected	0.950			0.950				0.954			0.985	
Satd. Flow (prot)	1805	1737	0	1736	1758	0	0	1813	1615	0	1740	0
Flt Permitted	0.566			0.246				0.712			0.877	
Satd. Flow (perm)	1075	1737	0	449	1758	0	0	1353	1615	0	1549	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			1				477		11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		533			520			594			116	
Travel Time (s)		12.1			11.8			13.5			2.6	
Peak Hour Factor	0.93	0.93	0.93	0.98	0.98	0.98	0.92	0.92	0.92	0.54	0.54	0.54
Heavy Vehicles (%)	0%	7%	3%	4%	8%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	3	424	100	457	320	2	135	5	595	9	9	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	524	0	457	322	0	0	140	595	0	29	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Over	Perm	NA	
Protected Phases	5	2		1	6			3	1		7	
Permitted Phases	2			6			3			7		
Detector Phase	5	2		1	6		3	3	1	7	7	
Switch Phase												
Minimum Initial (s)	4.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	8.5	33.5		10.5	11.5		11.0	11.0	10.5	11.0	11.0	
Total Split (s)	14.5	35.5		34.5	55.5		20.0	20.0	34.5	20.0	20.0	
Total Split (%)	16.1%	39.4%		38.3%	61.7%		22.2%	22.2%	38.3%	22.2%	22.2%	
Maximum Green (s)	10.0	30.0		30.0	50.0		15.0	15.0	30.0	15.0	15.0	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.0	3.0	3.5	3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	1.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5			5.0	4.5		5.0	
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.7	2.9		2.7	2.9		2.4	2.4	2.7	2.4	2.4	
Recall Mode	None	Min		None	Min		None	None	None	None	None	
Walk Time (s)		5.0					5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		23.0					10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	33.9	26.9		52.6	52.1			12.1	19.5		11.8	
Actuated g/C Ratio	0.48	0.38		0.74	0.74			0.17	0.28		0.17	
v/c Ratio	0.01	0.78		0.66	0.25			0.61	0.75		0.11	
Control Delay	7.7	32.7		12.1	6.1			44.7	12.5		23.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	

Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Build
 AM Peak

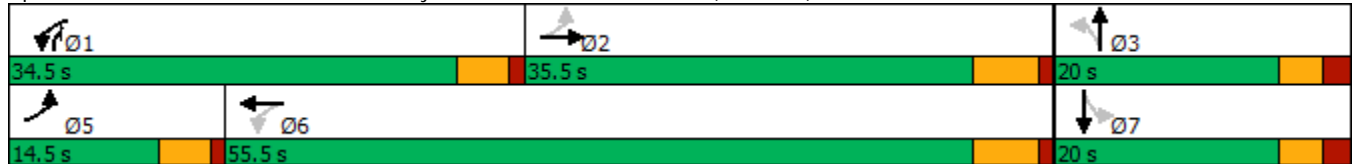


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	7.7	32.7		12.1	6.1			44.7	12.5		23.7	
LOS	A	C		B	A			D	B		C	
Approach Delay		32.6			9.6			18.6			23.7	
Approach LOS		C			A			B			C	
Queue Length 50th (ft)	0	212		74	48			64	46		8	
Queue Length 95th (ft)	3	#465		183	126			#149	167		17	
Internal Link Dist (ft)		453			440			514			36	
Turn Bay Length (ft)	117			470					230			
Base Capacity (vph)	713	836		948	1332			322	1019		378	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.00	0.63		0.48	0.24			0.43	0.58		0.08	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	70.7
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	18.9
Intersection LOS:	B
Intersection Capacity Utilization:	77.8%
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.	

Splits and Phases: 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)



Lanes, Volumes, Timings
6: Comstock Parkway & Scituate Avenue (Route 12)

Build
AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	679	286	8	13	103	173	9	171	29	72	39	177
Future Volume (vph)	679	286	8	13	103	173	9	171	29	72	39	177
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	89		0	0		0	150		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			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		0.996			0.906			0.981			0.877	
Flt Protected	0.950			0.950				0.998		0.950		
Satd. Flow (prot)	1787	1892	0	1671	1688	0	0	1850	0	1752	1592	0
Flt Permitted	0.318			0.568				0.981		0.409		
Satd. Flow (perm)	598	1892	0	999	1688	0	0	1819	0	754	1592	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			101			9			182	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		589			651			181			2354	
Travel Time (s)		13.4			14.8			4.1			53.5	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.86	0.86	0.86	0.97	0.97	0.97
Heavy Vehicles (%)	1%	0%	0%	8%	2%	2%	13%	0%	0%	3%	3%	5%
Adj. Flow (vph)	730	308	9	14	113	190	10	199	34	74	40	182
Shared Lane Traffic (%)												
Lane Group Flow (vph)	730	317	0	14	303	0	0	243	0	74	222	0
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	1			2			8			4	
Permitted Phases	2	2		2			8			4		
Detector Phase	1	1		2	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0		25.0	25.0		20.0	20.0		20.0	20.0	
Total Split (%)	43.8%	43.8%		31.3%	31.3%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)	30.0	30.0		20.0	20.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.7	2.7		2.7	2.7		2.7	2.7		2.7	2.7	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effect Green (s)	40.3	45.5		13.5	13.5			12.7		12.7	12.7	
Actuated g/C Ratio	0.59	0.66		0.20	0.20			0.19		0.19	0.19	
v/c Ratio	0.90	0.25		0.07	0.73			0.70		0.53	0.50	
Control Delay	29.3	5.2		24.5	29.0			39.6		43.5	12.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	29.3	5.2		24.5	29.0			39.6		43.5	12.0	
LOS	C	A		C	C			D		D	B	
Approach Delay		22.0			28.8			39.6			19.9	

Lanes, Volumes, Timings
 6: Comstock Parkway & Scituate Avenue (Route 12)

Build
 AM Peak

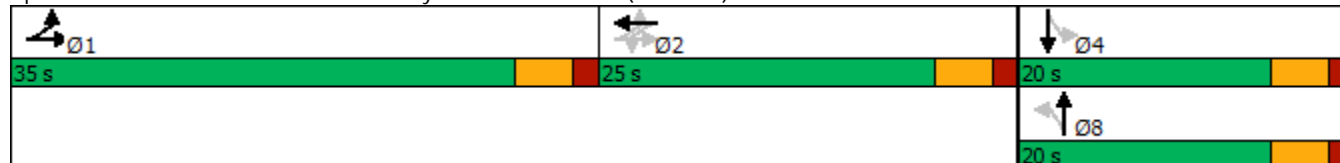


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			C			D			B		
Queue Length 50th (ft)	225	49		5	87			100		30	15	
Queue Length 95th (ft)	#464	80		20	170			#183		#86	77	
Internal Link Dist (ft)		509			571			101			2274	
Turn Bay Length (ft)	300			89						150		
Base Capacity (vph)	910	1250		302	580			419		170	501	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.80	0.25		0.05	0.52			0.58		0.44	0.44	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 68.6
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 25.1
 Intersection LOS: C
 Intersection Capacity Utilization 94.5%
 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.

Splits and Phases: 6: Comstock Parkway & Scituate Avenue (Route 12)



HCM 6th TWSC
9: Comstock Parkway & Site Driveway

Build
AM Peak

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	102	572	99	50	494
Future Vol, veh/h	43	102	572	99	50	494
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	111	622	108	54	537

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1321	676	0	0	730
Stage 1	676	-	-	-	-
Stage 2	645	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	173	453	-	-	874
Stage 1	505	-	-	-	-
Stage 2	522	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	158	453	-	-	874
Mov Cap-2 Maneuver	158	-	-	-	-
Stage 1	505	-	-	-	-
Stage 2	476	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.9	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	292	874
HCM Lane V/C Ratio	-	-	0.54	0.062
HCM Control Delay (s)	-	-	30.9	9.4
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	3	0.2

Lanes, Volumes, Timings
3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Build
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	342	94	627	431	4	107	25	442	27	50	24
Future Volume (vph)	11	342	94	627	431	4	107	25	442	27	50	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	117		0	470		0	0		230	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			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		0.968			0.999				0.850		0.968	
Flt Protected	0.950			0.950				0.961			0.987	
Satd. Flow (prot)	1805	1776	0	1736	1759	0	0	1826	1615	0	1788	0
Flt Permitted	0.497			0.210				0.682			0.836	
Satd. Flow (perm)	944	1776	0	384	1759	0	0	1296	1615	0	1515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			1				459			15
Link Speed (mph)		30			30				30			30
Link Distance (ft)		533			520				594			116
Travel Time (s)		12.1			11.8				13.5			2.6
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90
Heavy Vehicles (%)	0%	4%	2%	4%	8%	0%	0%	0%	0%	3%	0%	3%
Adj. Flow (vph)	12	372	102	667	459	4	137	32	567	30	56	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	474	0	667	463	0	0	169	567	0	113	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Over	Perm	NA	
Protected Phases	5	2		1	6			3	1			7
Permitted Phases	2			6			3			7		
Detector Phase	5	2		1	6		3	3	1	7		7
Switch Phase												
Minimum Initial (s)	4.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	8.5	11.5		10.5	11.5		11.0	11.0	10.5	11.0	11.0	11.0
Total Split (s)	14.5	35.5		34.5	55.5		20.0	20.0	34.5	20.0	20.0	20.0
Total Split (%)	16.1%	39.4%		38.3%	61.7%		22.2%	22.2%	38.3%	22.2%	22.2%	22.2%
Maximum Green (s)	10.0	30.0		30.0	50.0		15.0	15.0	30.0	15.0	15.0	15.0
Yellow Time (s)	3.5	4.5		3.5	4.5		3.0	3.0	3.5	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Lost Time (s)	4.5	5.5		4.5	5.5			5.0	4.5			5.0
Lead/Lag	Lead	Lag		Lead	Lag				Lead			
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			
Vehicle Extension (s)	2.7	2.9		2.7	2.9		2.4	2.4	2.7	2.4	2.4	2.4
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		5.0					5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		23.0					10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		0					0	0		0	0	
Act Effct Green (s)	31.7	25.2		58.7	55.8			13.7	27.8			13.7
Actuated g/C Ratio	0.39	0.31		0.71	0.68			0.17	0.34			0.17
v/c Ratio	0.03	0.85		0.91	0.39			0.78	0.67			0.43
Control Delay	8.4	42.3		34.3	7.5			61.0	9.6			34.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0

Lanes, Volumes, Timings
 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)

Build
 PM Peak

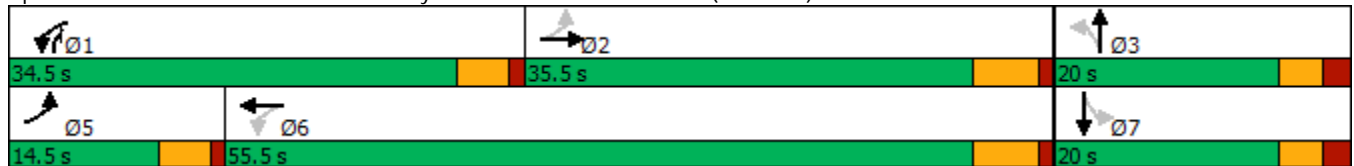


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	8.4	42.3		34.3	7.5			61.0	9.6		34.6	
LOS	A	D		C	A			E	A		C	
Approach Delay		41.5			23.3			21.4			34.6	
Approach LOS		D			C			C			C	
Queue Length 50th (ft)	2	233		247	85			91	42		49	
Queue Length 95th (ft)	7	#388		#478	197			#154	78		103	
Internal Link Dist (ft)		453			440			514			36	
Turn Bay Length (ft)	117			470					230			
Base Capacity (vph)	526	675		781	1254			243	892		296	
Starvation Cap Reductn	0	0		0	0			0	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.02	0.70		0.85	0.37			0.70	0.64		0.38	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	82.1
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	26.9
Intersection LOS:	C
Intersection Capacity Utilization:	84.9%
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.	

Splits and Phases: 3: Comstock Parkway/CVS Drive & Plainfield Pike (Route 14)



Lanes, Volumes, Timings
6: Comstock Parkway & Scituate Avenue (Route 12)

Build
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	140	13	48	262	129	17	73	32	147	129	500
Future Volume (vph)	267	140	13	48	262	129	17	73	32	147	129	500
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	89		0	0		0	150		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	25			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		0.987			0.950			0.965				0.881
Flt Protected	0.950			0.950				0.993		0.950		
Satd. Flow (prot)	1805	1858	0	1805	1781	0	0	1821	0	1805	1674	0
Flt Permitted	0.294			0.653				0.331		0.729		
Satd. Flow (perm)	559	1858	0	1241	1781	0	0	607	0	1385	1674	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			44			25			279	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		589			651			181			2354	
Travel Time (s)		13.4			14.8			4.1			53.5	
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.86	0.86	0.86	0.97	0.97	0.97
Heavy Vehicles (%)	0%	1%	0%	0%	1%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	287	151	14	53	288	142	20	85	37	152	133	515
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	165	0	53	430	0	0	142	0	152	648	0
Turn Type	D.P+P	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	1	1			2			8			4	
Permitted Phases	2	2		2			8			4		
Detector Phase	1	1		2	2		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	12.0	12.0		12.0	12.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	15.0		30.0	30.0		20.0	20.0		20.0	20.0	
Total Split (%)	23.1%	23.1%		46.2%	46.2%		30.8%	30.8%		30.8%	30.8%	
Maximum Green (s)	10.0	10.0		25.0	25.0		15.0	15.0		15.0	15.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.7	2.7		2.7	2.7		2.7	2.7		2.7	2.7	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effect Green (s)	26.3	31.4		17.2	17.2			15.2		15.2	15.2	
Actuated g/C Ratio	0.46	0.55		0.30	0.30			0.27		0.27	0.27	
v/c Ratio	0.63	0.16		0.14	0.75			0.78		0.41	0.99	
Control Delay	13.4	5.7		14.7	24.9			53.2		23.5	50.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	13.4	5.7		14.7	24.9			53.2		23.5	50.6	
LOS	B	A		B	C			D		C	D	
Approach Delay		10.6			23.8			53.2			45.5	

Lanes, Volumes, Timings
 6: Comstock Parkway & Scituate Avenue (Route 12)

Build
 PM Peak

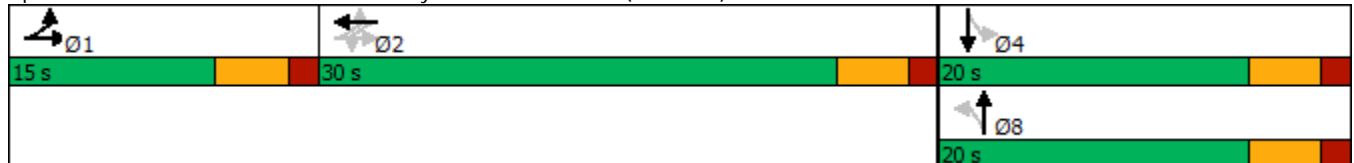


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			C			D			D	
Queue Length 50th (ft)	45	22		13	117			37		43	~135	
Queue Length 95th (ft)	78	43		34	204			#137		104	#388	
Internal Link Dist (ft)		509			571			101			2274	
Turn Bay Length (ft)	300			89						150		
Base Capacity (vph)	492	960		554	820			181		371	653	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.58	0.17		0.10	0.52			0.78		0.41	0.99	

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 56.7
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 32.1
 Intersection LOS: C
 Intersection Capacity Utilization 86.5%
 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.

Splits and Phases: 6: Comstock Parkway & Scituate Avenue (Route 12)



HCM 6th TWSC
9: Comstock Parkway & Site Driveway

Build
PM Peak

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	40	533	40	65	704
Future Vol, veh/h	58	40	533	40	65	704
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	43	579	43	71	765

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1508	601	0	0	622
Stage 1	601	-	-	-	-
Stage 2	907	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	133	500	-	-	959
Stage 1	547	-	-	-	-
Stage 2	394	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	116	500	-	-	959
Mov Cap-2 Maneuver	116	-	-	-	-
Stage 1	547	-	-	-	-
Stage 2	343	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	57	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	169	959
HCM Lane V/C Ratio	-	-	0.63	0.074
HCM Control Delay (s)	-	-	57	9.1
HCM Lane LOS	-	-	F	A
HCM 95th %tile Q(veh)	-	-	3.5	0.2