

ORIGINAL

TRAFFIC IMPACT STUDY

PROPOSED QUICKCHEK DEVELOPMENT

Proposed Food Store with
Fuel Sales
Block 4A, Lots 24 & 25
425-431 Plainfield Avenue
Township of Edison,
Middlesex County, New Jersey

Prepared For:
QuickChek Corporation

Date: June 21, 2022
SE&D Job No. S-18186



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STONEFIELD

92 Park Avenue, Rutherford, NJ 07070

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INTRODUCTION

This Traffic Impact Study was prepared to investigate the potential impacts of the proposed QuickChek food store with fuel sales development on the adjacent roadway network. The subject property is located adjacent to the intersection of Plainfield Avenue (County Route 529) and Kilmer Road in the Township of Edison, Middlesex County, New Jersey. The site location is shown on appended **Figure 1**.

The subject property is designated as Block 4A, Lots 24 and 25 as depicted on the Township of Edison Tax Map. The site has approximately 295 feet of frontage along Plainfield Avenue. The existing site is occupied by three (3) commercial uses including Shelton Diner, Edison Pepper Farm, and B&L Tire of Edison. Access is presently provided via four (4) full-movement driveways along Plainfield Avenue. Under the proposed development program, the existing structures would be razed and a 5,670-square-foot QuickChek with 16 fueling positions would be constructed. Access is proposed to be consolidated via one (1) full-movement signalized driveway and one (1) right-turn ingress-only driveway along Plainfield Avenue. The proposed driveways would utilize the existing northernmost and southernmost curb-cuts.

METHODOLOGY

Stonefield Engineering & Design, LLC has prepared this Traffic Impact Study in accordance with the recommended guidelines and practices outlined by the Institute of Transportation Engineers (ITE) within Transportation Impact Analyses for Site Development. A detailed field investigation was performed to assess the existing conditions of the adjacent roadway network. A data collection effort was completed to identify the existing traffic volumes at the study intersection to serve as a base for the traffic analyses. Capacity analysis, a procedure used to estimate the traffic-carrying ability of roadway facilities over a range of defined operating conditions, was performed using the Highway Capacity Manual, 6th Edition (HCM) and the Synchro II Software for all study conditions to assess the roadway operations.

For an unsignalized intersection, Level of Service (LOS) A indicates operations with delay of less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 50 seconds per vehicle. For a signalized intersection, LOS A indicates operations with delay of less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 80 seconds per vehicle. The Technical Appendix contains the Highway Capacity Analysis Detail Sheets for the study intersections analyzed in this assessment. The traffic signal timing utilized within the signalized analysis is based on timing directives provided by Middlesex County.

2022 EXISTING CONDITION

2022 EXISTING ROADWAY CONDITIONS

The proposed food store with fuel sales development is located adjacent to the intersection of Plainfield Avenue and Kilmer Road in the Township of Edison, Middlesex County, New Jersey. The subject property is designated as Block 4A, Lots 24 and 25 as depicted on the Township of Edison Tax Map. The site has approximately 295 feet of frontage along Plainfield Avenue. Land uses in the area are a mix of commercial, office, industrial, and residential uses.

Plainfield Avenue (County Road 529) is classified as an Urban Principal Arterial roadway with a general north-south orientation and is under the jurisdiction of Middlesex County. Along the site frontage, the roadway provides two (2) through-movement lanes and one (1) left-movement only lane in each direction and has a posted speed limit of 35 mph. Curb and sidewalk are provided, shoulder is provided along the westerly side of the roadway, and on-street parking is not permitted. Plainfield Avenue provides north-south mobility within Middlesex County for a mix of commercial, industrial, and office uses along its length and provides access to US Route 1 to the north of the site.

Kilmer Road is classified as an Urban Minor Arterial roadway with a general east-west orientation and is under the jurisdiction of the Township of Edison. The roadway provides one (1) lane of travel in each direction and has a posted speed limit of 25 mph. Curb and sidewalk are provided, shoulders are not provided, and on-street parking is not permitted. Kilmer Road provides east-west mobility within Edison Township for predominantly commercial and industrial uses along its length.

Plainfield Avenue and Kilmer Road intersect to form a four (4)-leg intersection controlled by a four (4)-phase traffic signal operating on a 100-second background cycle during the weekday morning peak hour, a 90-second background cycle during the weekday evening peak hour, and a variable cycle length during the Saturday midday peak hour. The northbound approach of Plainfield Avenue provides one (1) shared left-turn/through lane and one (1) shared through/right-turn lane, and the southbound approach of Plainfield Avenue provides one (1) shared left-turn/through lane, one (1) exclusive through lane, and one (1) channelized right-turn lane. The eastbound approach of Kilmer Road provides one (1) exclusive left-turn lane, one (1) shared left-turn/through lane, and one (1) channelized right-turn lane. The westbound approach of the site driveway provides one (1) full-movement lane. Crosswalks, pedestrian signals, and pedestrian ramps.

2022 EXISTING TRAFFIC VOLUMES

Turning movement counts were collected during the typical weekday morning, weekday evening, and Saturday midday time periods to evaluate existing traffic conditions and identify the specific hours when traffic

activity on the adjacent roadways is at a maximum and could be potentially impacted by the development of the site. Turning movement counts were collected at the intersection of Plainfield Avenue and Kilmer Road.

Specifically, turning movement counts were conducted on the following dates and during the following times:

- ◆ Wednesday, March 30, 2022, from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m.
- ◆ Saturday, April 2, 2022, from 11:00 a.m. to 2:00 p.m.

The study time periods were chosen as they are representative of the peak periods of both the adjacent roadway network and the proposed development. The traffic volume data was collected and analyzed to identify the design peak hour in accordance with HCM and ITE guidelines. Based on the review of the count data the weekday morning peak hour occurred from 8:00 a.m. to 9:00 a.m.; the weekday evening peak hour occurred from 5:00 p.m. to 6:00 p.m.; and the Saturday midday peak hour occurred from 11:15 a.m. to 12:15 p.m. The Technical Appendix contains a summary of the turning movement count data. The 2022 Existing weekday morning, weekday evening, and Saturday midday peak-hour volumes are summarized on appended **Figure 2**.

2022 EXISTING LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was conducted for the 2022 Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection. Under the existing condition, the signalized intersection of Plainfield Avenue and Kilmer Road is calculated to operate at overall Level of Service B during the weekday morning, weekday evening, and Saturday midday peak hours.

2024 NO-BUILD CONDITION

BACKGROUND GROWTH

The 2022 Existing Condition traffic volume data was grown to a future horizon year of 2024, which is a conservative estimate for when the proposed convenience store with fuel sales development is expected to be fully constructed. In accordance with industry guidelines, the existing traffic volumes at the study intersections were increased by 1.0% annually for two (2) years to generate the 2024 Base Traffic Volumes. These volumes are summarized on appended **Figure 3**. The 1.0% background growth rate was obtained from the New Jersey Department of Transportation (NJDOT) Annual Background Growth Rate Table.

OTHER PLANNED DEVELOPMENT PROJECTS

To evaluate the future traffic conditions, it is important to consider the potential site-generated traffic of other projects that could influence the traffic volume at the study intersection. Other planned development

projects include those that are either in the entitlement process or have recently been approved for building permits in proximity to the proposed development. Based on consultations with the Township of Edison and the Township of Piscataway, the following developments are anticipated to impact traffic volumes within the study area:

- ◆ Rivendell Heights II – 250 multi-family apartment units – located on Block 3B, Lots 18 and 19 in the Township of Edison
- ◆ Rivendell Meadows – 240 multi-family apartment units and an 8,000-square-foot club house – located on Block 9201, Lots 46.06, 46.07, and 46.11 in the Township of Piscataway

Appended **Figure 4** illustrates the site-generated traffic associated with the approved developments assigned to the study area network.

2024 NO-BUILD TRAFFIC VOLUMES

The site-generated trips associated with the approved developments were added to the 2024 Base Traffic Volumes to calculate the 2024 No-Build Traffic Volumes for the weekday morning, weekday evening, and Saturday midday peak hours. These volumes are summarized on appended **Figure 5**.

2024 NO-BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2024 No-Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection and existing site driveway. The signalized intersection of Plainfield Avenue and Kilmer Road is calculated to operate generally consistently with the findings of the Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours.

2024 BUILD CONDITION

The site-generated traffic volume of the proposed convenience store with fuel sales development was estimated to identify the potential impacts of the project. For the purpose of this analysis, a complete project “build out” is assumed within two (2) years of the preparation of this study.

TRIP GENERATION

Trip generation projections for the proposed food store with fuel sales were prepared utilizing ITE's Trip Generation Manual, 11th Edition. Specifically, trip generation rates associated with Land Use 945 “Convenience Store/Gas Station” were cited for the proposed 5,760-square-foot development with 16 fueling positions.

Table 1 provides the weekday morning, weekday evening, and Saturday midday peak-hour trip generation volumes associated with the proposed development.

TABLE 1 – PROPOSED TRIP GENERATION

Land Use	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
5,670 SF Convenience Store/Gas Station ITE Land Use 945	259	259	518	224	224	448	199	199	398

As stated within Chapter 10 of ITE's Trip Generation Handbook, 3rd Edition, there are instances when the total number of trips generated by a site is different from the amount of new traffic added to the street system by the generator. Convenience stores with fueling stations are specifically located on or adjacent to busy streets to attract motorists already on the roadway. Therefore, the proposed development would be expected to attract a portion of its trips from the traffic passing the site on the way from an origin to an ultimate destination. These trips do not add new traffic to the adjacent roadway system and are referred to as pass-by trips.

Based upon the published ITE data for Land Use 945 "Convenience Store/Gas Station," 76% of the site-generated traffic during the weekday morning peak period and 75% during the weekday evening peak period is comprised of pass-by traffic. Based upon the published NJDOT data for Land Use 960 "Super Convenience Market/Gas Station," 50% of the site-generated traffic during the Saturday midday peak period is comprised of pass-by traffic. **Table 2** shows the additional site generated traffic for the proposed development after applying the appropriate trip reductions to account for pass-by traffic.

TABLE 2 – PROPOSED TRIP GENERATION (NEW & PASS-BY TRIPS)

Land Use	Weekday Morning Peak Hour			Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
"New" Trips	62	62	124	56	56	112	99	99	198
"Pass-By" Trips	197	197	394	168	168	336	100	100	200
Total	259	259	518	224	224	448	199	199	398

At the site driveways, the calculated number of pass-by trips is shown as a negative number at the through movements as the vehicles are temporarily diverted from the through travel stream into and out of the site access point.

TRIP ASSIGNMENT/DISTRIBUTION

The trips generated by the proposed development were distributed according to the existing travel pattern along the adjacent roadways and the access management plan of the site. Approximately 40% of trips come from the north, approximately 40% of trips come from the south, and approximately 20% of trips come from the west. The “New” Site-Generated Traffic Volumes are illustrated on **Figure 6** and the “Pass-By” Site-Generated Traffic Volumes expected to access the site are depicted on **Figure 7**.

2024 BUILD TRAFFIC VOLUMES

The “New” and “Pass-By” site-generated trips of the proposed development were added to the 2024 No-Build Traffic Volumes and the as-counted trips associated with the existing site were removed to calculate the 2024 Build Traffic Volumes and are shown on appended **Figure 8**.

2024 BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2024 Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersection and proposed site driveways.

The signalized intersection of Plainfield Avenue and Kilmer Road is calculated to operate at overall Level of Service E during the weekday morning peak hour and overall Level of Service D during the weekday evening and Saturday midday peak hours. The westbound approach of the site driveway is calculated to operate under capacity constraints during all peak hours studied. It should be noted that this is due to the current signal timing directive plan only providing a total of 12 seconds for the split phase serving the site driveway approach. While this may be sufficient to accommodate the traffic associated with the existing Shelton Diner and Edison Pepper Farm, it is too short to accommodate the egress traffic of the proposed development.

As such, signal retiming is proposed at the study intersection of Plainfield Avenue and Kilmer Road as part of this redevelopment project. Specifically, 10 seconds of green time would be re-allocated from the Plainfield Avenue left-turn phase to the site driveway split phase during the weekday morning and Saturday midday peak hours, and five (5) seconds during the weekday evening peak hour. **Tables 3 through 5** compare the Existing, No-Build, Build, and Mitigation Conditions Level of Service and delay values.

COMPARATIVE LEVEL OF SERVICE (DELAY) TABLES**PLAINFIELD AVENUE & KILMER ROAD**

EB (Eastbound) approach is the Kilmer Road approach

WB (Westbound) approach is the site driveway approach

NB (Northbound) and SB (Southbound) approaches are the Plainfield Avenue approaches

X (n) = Level of Service (seconds of delay)

TABLE 3 – WEEKDAY MORNING PEAK HOUR

Lane Group	2022 Existing	2024 No-Build	2024 Build	2024 Mitigation
EB Left/Through	D (48.0)	D (47.9)	E (59.5)	E (66.9)
EB Right	C (29.0)	C (30.9)	C (33.0)	D (46.3)
WB Left/Through/Right	D (48.6)	D (49.5)	F (624.6)	E (66.4)
NB Left	A (8.9)	B (10.6)	B (11.9)	D (37.2)
NB Through	A (9.1)	A (9.3)	B (15.0)	B (19.1)
NB Through/Right	A (9.1)	A (9.3)	--	--
SB Left	B (10.4)	B (11.0)	B (10.8)	B (14.2)
SB Through	B (13.3)	B (14.2)	B (16.7)	B (18.4)
SB Right	A (8.6)	A (9.0)	B (11.1)	B (12.7)
Intersection	B (15.9)	B (17.0)	E (79.8)	C (32.1)

TABLE 4 – WEEKDAY EVENING PEAK HOUR

Lane Group	2022 Existing	2024 No-Build	2024 Build	2024 Mitigation
EB Left/Through	C (33.1)	C (32.3)	D (35.4)	D (35.8)
EB Right	C (25.5)	C (25.3)	C (27.1)	C (31.0)
WB Left/Through/Right	D (37.9)	D (39.6)	F (352.2)	E (70.1)
NB Left	B (10.2)	B (15.9)	B (16.2)	D (39.3)
NB Through	B (10.3)	B (11.3)	B (16.7)	B (18.3)
NB Through/Right	B (10.2)	B (11.3)	--	--
SB Left	B (11.0)	B (12.4)	B (11.7)	B (14.2)
SB Through	B (15.7)	B (17.8)	B (19.9)	C (21.0)
SB Right	B (10.3)	B (10.6)	B (12.5)	B (13.1)
Intersection	B (15.5)	B (17.1)	D (46.2)	C (27.3)

TABLE 5 – SATURDAY MIDDAY PEAK HOUR

Lane Group	2022 Existing	2024 No-Build	2024 Build	2024 Mitigation
EB Left/Through	C (31.9)	C (30.7)	C (33.4)	D (35.1)
EB Right	C (25.8)	C (26.1)	C (27.7)	C (31.8)
WB Left/Through/Right	D (38.7)	D (40.4)	F (310.1)	D (46.8)
NB Left	A (9.3)	B (11.4)	B (13.6)	B (19.0)
NB Through	B (10.4)	B (11.8)	B (17.1)	B (18.8)
NB Through/Right	B (10.4)	B (11.8)	--	--
SB Left	B (11.8)	B (13.2)	B (12.6)	B (16.0)
SB Through	B (14.7)	B (16.5)	B (18.6)	C (21.0)
SB Right	A (8.9)	A (8.7)	B (10.4)	B (12.0)
Intersection	B (15.7)	B (16.8)	D (43.3)	C (24.1)

SITE CIRCULATION/PARKING SUPPLY

A review was conducted of the proposed QuickChek food store with fuel sales using the Site Layout Plan prepared by Bohler Engineering LLC, dated June 20, 2022. In completing this review, particular attention was focused on the site access, circulation, and parking supply.

Under the proposed development program, the existing uses on-site consisting of Shelton Diner, Edison Pepper Farm, and B&L Tire of Edison would be removed and a 5,670-square-foot QuickChek food store with 16 fueling positions would be constructed. The food store would be located centrally on the rear portion of the property and the fueling stations would be located in between the food store and the site frontage. Parking spaces would be provided along the northerly, westerly, and southerly sides of the food store as well as along the northerly and southerly sides of the property. Oversized parking area and a loading zone would be provided along the rear side of the property in addition to a trash enclosure located at the southeasterly corner of the site. The fuel storage tanks with a striped fueling zone would be located along the site frontage.

Access to the site is proposed via one (1) full-movement signalized driveway at the intersection of Plainfield Avenue and Kilmer Road and one (1) right-turn ingress-only driveway along Plainfield Avenue. The signalized driveway would provide one (1) lane of travel in each direction separated by a six (6)-foot striped island. The proposed driveways would reutilize existing curb-cuts. The existing sidewalk along the site frontage would be maintained as-is. Vehicular circulation throughout the site would be facilitated via a minimum of 25-foot-wide two-way drive aisles. A concrete sidewalk would be provided along the northerly side of the property to connect the food store with the existing sidewalk along Plainfield Avenue to facilitate pedestrian circulation.

Regarding the parking requirements for the proposed development, the Township of Edison Ordinance requires one (1) space per 300 square feet of convenience store floor area, plus one (1) space for each

employee on the most heavily staffed shift. Additionally, for restaurants or similar food and drink establishments, the Township of Edison Ordinance requires one (1) space per three (3) seats provided for patron use. For the proposed 5,670-square-foot food store with a maximum of 10 employees staffed at any time and a total of 18 seats, this equates to 35 required spaces. The site would provide 62 total parking spaces, inclusive of four (4) ADA-accessible stalls, which meets the parking requirement and would be sufficient to support this project's parking demand. The spaces would be 10 feet wide by 20 feet deep in accordance with industry standards and exceeding the Township of Edison Ordinance requirements.

As per P.L. 2021, c.171 (C.40:55D-66.18 et al.), all non-residential projects involving a parking garage or parking lot, except retailers with fewer than 25 parking spaces, must provide parking spaces pre-wired for electric vehicle charging stations ("make-ready") according to the following requirements:

- *1 make-ready space if the garage or lot has 50 or fewer spaces;*
- *2 make-ready spaces if the garage or lot has between 51 and 75 spaces;*
- *3 make-ready spaces if the garage or lot has between 76 and 100 spaces;*
- *4 make-ready spaces if the garage or lot has between 101 and 150 spaces (at least one of which must be accessible for people with disabilities).*
- *At least 4% of the total parking spaces if the garage or lot has over 150 spaces (at least 5% of which must be accessible for people with disabilities).*

For the proposed parking supply of 62 parking spaces, this equates to two (2) make-ready spaces. The site would provide two (2) make-ready spaces, with one (1) of them being ADA-accessible. The electric vehicle requirements consider electric vehicle spaces as a minimum of two (2) parking spaces for the purpose of satisfying parking requirements, up to a 10% reduction of total requirement (3 spaces). As such, the development plan would be considered to provide 64 (62 + 2) total parking spaces, whereas 35 are required.

The parking supply was evaluated with respect to data published within the ITE's Parking Generation, 5th Edition, for Land Use 960 "Super Convenience Market/Gas Station" Specifically, parking generation rates for general urban/suburban locations were utilized. The average parking demand rate during the peak weekday period is 8.11 vehicles per 1,000 square feet of gross floor area. For the proposed 5,670-square-foot QuickChek development, this equates to 46 parking spaces. As such, based on published ITE parking demand rates, the proposed parking supply of 62 spaces would be sufficient to support the parking demand of the site.

CONCLUSIONS

This report was prepared to examine the potential traffic impact of the proposed 5,670-square-foot QuickChek food store with 16 fueling positions. The analysis findings, which have been based on industry-standard guidelines, indicate that with signal retiming modifications at the intersection of Plainfield Avenue and Kilmer Road, the proposed development would not have a significant impact on the traffic operations of the

adjacent roadway network. The site-generated trips of the proposed development would consist largely of “pass-by” trips, as opposed to new vehicles on the roadway. The site driveways and on-site layout have been designed to provide for effective access to and from the subject property. Based on published industry data, the parking supply would be sufficient to support this project and would meet the Township’s parking requirements.

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TECHNICAL APPENDIX

LEVEL OF SERVICE/AVERAGE CONTROL DELAY CRITERIA

LEVEL OF SERVICE /AVERAGE CONTROL DELAY CRITERIA

The ability of a roadway to effectively accommodate traffic demand is determined through an assessment of the volume-to-capacity ratio, delay and Level of Service of the lane group and/or intersection. The volume-to-capacity ratio is the ratio of traffic flow rate to capacity for a given transportation facility. As defined within the Highway Capacity Manual, 6th Edition (HCM), intersection delay is the total additional travel time experienced by drivers, passengers, or pedestrians as a result of control measures and interaction with other users of the facility, divided by the volume departing from the corresponding cross section of the facility. Level of service is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience.

For an unsignalized intersection, LOS A indicates operations with delay less than 10 seconds per vehicle, while LOS F describes operations with delay in excess of 50 seconds per vehicle. For a signalized intersection, LOS A indicates operations with delay less than 10 seconds per vehicle and LOS F denotes operations with delay in excess of 80 seconds per vehicle.

	Level Of Service (LOS)	Signalized Delay Range (average control delay in sec/veh)	Unsignalized Delay Range (average control delay in sec/veh)
	A	≤ 10	≤ 10
	B	> 10 and ≤ 20	> 10 and ≤ 15
	C	> 20 and ≤ 35	> 15 and ≤ 25
	D	> 35 and ≤ 55	> 25 and ≤ 35
	E	> 55 and ≤ 80	> 35 and ≤ 50
	F	> 80	> 50

Source: Highway Capacity Manual, 6th Edition

TURNING MOVEMENT COUNT DATA

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Intersection of Pepper Farm Driveway/Kilmer Road (E/W)
and Plainfield Avenue (N/S)
Edison, Middlesex County, New Jersey
Wednesday, March 30, 2022

File Name : S-18186
Site Code : 00018186
Start Date : 3/30/2022
Page No : 1

Groups Printed- Auto - HV - B/SB

Start Time	Kilmer Road Eastbound					Pepper Farm Driveway Westbound					Plainfield Avenue Northbound					Plainfield Avenue Southbound					Int. Total
	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	
07:00 AM	22	0	13	21	56	1	0	1	1	3	43	97	0	0	140	1	98	34	3	136	335
07:15 AM	31	1	15	21	68	1	2	0	0	3	39	91	3	0	133	1	135	21	14	171	375
07:30 AM	30	1	6	16	53	2	1	1	1	5	59	168	2	0	229	1	126	37	10	174	461
07:45 AM	41	0	10	32	83	0	0	0	0	0	69	114	1	0	184	1	134	66	4	205	472
Total	124	2	44	90	260	4	3	2	2	11	210	470	6	0	686	4	493	158	31	686	1643
08:00 AM	31	0	13	21	65	0	1	0	0	1	73	133	0	0	206	1	130	59	6	196	468
08:15 AM	54	1	16	29	100	0	0	0	0	0	82	170	1	0	253	0	138	52	10	200	553
08:30 AM	77	1	16	20	114	0	1	1	0	2	82	157	4	0	243	0	135	58	21	214	573
08:45 AM	97	5	17	29	148	1	1	0	0	2	42	163	5	0	210	1	142	77	30	250	610
Total	259	7	62	99	427	1	3	1	0	5	279	623	10	0	912	2	545	246	67	860	2204
*** BREAK ***																					
04:00 PM	57	0	17	37	111	1	0	2	0	3	58	158	6	0	222	0	154	55	11	220	556
04:15 PM	44	2	14	29	89	0	2	0	1	3	41	169	1	0	211	1	174	48	16	239	542
04:30 PM	70	1	29	31	131	3	3	1	0	7	38	129	1	0	168	1	184	64	16	265	571
04:45 PM	50	0	31	22	103	1	0	0	0	1	39	134	1	1	175	0	167	66	8	241	520
Total	221	3	91	119	434	5	5	3	1	14	176	590	9	1	776	2	679	233	51	965	2189
05:00 PM	58	0	43	19	120	1	1	0	1	3	65	126	1	0	192	1	193	66	14	274	589
05:15 PM	60	2	20	26	108	2	1	0	2	5	47	142	2	0	191	1	176	54	13	244	548
05:30 PM	56	0	22	27	105	1	1	0	3	5	56	183	3	0	242	2	190	78	14	284	636
05:45 PM	50	0	29	26	105	1	1	0	1	3	42	145	2	0	189	1	191	71	6	269	566
Total	224	2	114	98	438	5	4	0	7	16	210	596	8	0	814	5	750	269	47	1071	2339
06:00 PM	57	2	38	23	120	1	3	0	4	8	49	126	1	0	176	5	168	46	9	228	532
06:15 PM	36	0	15	25	76	3	0	0	3	6	39	153	2	0	194	1	153	34	7	195	471
06:30 PM	61	2	11	31	105	1	0	0	1	2	39	171	2	0	212	0	147	27	12	186	505
06:45 PM	49	1	18	33	101	1	0	0	0	1	49	108	3	0	160	1	131	33	6	171	433
Total	203	5	82	112	402	6	3	0	8	17	176	558	8	0	742	7	599	140	34	780	1941
Grand Total	1031	19	393	518	1961	21	18	6	18	63	1051	2837	41	1	3930	20	3066	1046	230	4362	10316
Apprch %	52.6	1	20	26.4		33.3	28.6	9.5	28.6		26.7	72.2	1	0		0.5	70.3	24	5.3		
Total %	10	0.2	3.8	5	19	0.2	0.2	0.1	0.2	0.6	10.2	27.5	0.4	0	38.1	0.2	29.7	10.1	2.2	42.3	
Auto	960	19	362	482	1823	19	18	6	18	61	977	2747	41	1	3766	20	2982	997	217	4216	9866
% Auto	93.1	100	92.1	93.1	93	90.5	100	100	100	96.8	93	96.8	100	100	95.8	100	97.3	95.3	94.3	96.7	95.6
HV	56	0	24	28	108	2	0	0	0	2	53	44	0	0	97	0	37	38	8	83	290
% HV	5.4	0	6.1	5.4	5.5	9.5	0	0	0	3.2	5	1.6	0	0	2.5	0	1.2	3.6	3.5	1.9	2.8
B/SB	15	0	7	8	30	0	0	0	0	0	21	46	0	0	67	0	47	11	5	63	160
% B/SB	1.5	0	1.8	1.5	1.5	0	0	0	0	0	2	1.6	0	0	1.7	0	1.5	1.1	2.2	1.4	1.6

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Pepper Farm Driveway/Kilmer Road (E/W)
and Plainfield Avenue (N/S)
Edison, Middlesex County, New Jersey
Wednesday, March 30, 2022

File Name : S-18186
Site Code : 00018186
Start Date : 3/30/2022
Page No : 2

	Kilmer Road Eastbound					Pepper Farm Driveway Westbound					Plainfield Avenue Northbound					Plainfield Avenue Southbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	31	0	13	21	65	0	1	0	0	1	73	133	0	0	206	1	130	59	6	196	468
08:15 AM	54	1	16	29	100	0	0	0	0	0	82	170	1	0	253	0	138	52	10	200	553
08:30 AM	77	1	16	20	114	0	1	1	0	2	82	157	4	0	243	0	135	58	21	214	573
08:45 AM	97	5	17	29	148	1	1	0	0	2	42	163	5	0	210	1	142	77	30	250	610
Total Volume	259	7	62	99	427	1	3	1	0	5	279	623	10	0	912	2	545	246	67	860	2204
% App. Total	60.7	1.6	14.5	23.2		20	60	20	0		30.6	68.3	1.1	0		0.2	63.4	28.6	7.8		
PHF	.668	.350	.912	.853	.721	.250	.750	.250	.000	.625	.851	.916	.500	.000	.901	.500	.960	.799	.558	.860	.903
Auto	235	7	53	86	381	1	3	1	0	5	259	586	10	0	855	2	511	235	63	811	2052
% Auto	90.7	100	85.5	86.9	89.2	100	100	100	0	100	92.8	94.1	100	0	93.8	100	93.8	95.5	94.0	94.3	93.1
HV	14	0	5	9	28	0	0	0	0	0	10	13	0	0	23	0	8	8	1	17	68
% HV	5.4	0	8.1	9.1	6.6	0	0	0	0	0	3.6	2.1	0	0	2.5	0	1.5	3.3	1.5	2.0	3.1
B/SB	10	0	4	4	18	0	0	0	0	0	10	24	0	0	34	0	26	3	3	32	84
% B/SB	3.9	0	6.5	4.0	4.2	0	0	0	0	0	3.6	3.9	0	0	3.7	0	4.8	1.2	4.5	3.7	3.8

Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:00 PM

05:00 PM	58	0	43	19	120	1	1	0	1	3	65	126	1	0	192	1	193	66	14	274	589
05:15 PM	60	2	20	26	108	2	1	0	2	5	47	142	2	0	191	1	176	54	13	244	548
05:30 PM	56	0	22	27	105	1	1	0	3	5	56	183	3	0	242	2	190	78	14	284	636
05:45 PM	50	0	29	26	105	1	1	0	1	3	42	145	2	0	189	1	191	71	6	269	566
Total Volume	224	2	114	98	438	5	4	0	7	16	210	596	8	0	814	5	750	269	47	1071	2339
% App. Total	51.1	0.5	26	22.4		31.2	25	0	43.8		25.8	73.2	1	0		0.5	70	25.1	4.4		
PHF	.933	.250	.663	.907	.913	.625	1.00	.000	.583	.800	.808	.814	.667	.000	.841	.625	.972	.862	.839	.943	.919
Auto	214	2	111	96	423	4	4	0	7	15	204	588	8	0	800	5	741	265	47	1058	2296
% Auto	95.5	100	97.4	98.0	96.6	80.0	100	0	100	93.8	97.1	98.7	100	0	98.3	100	98.8	98.5	100	98.8	98.2
HV	10	0	3	2	15	1	0	0	0	1	6	6	0	0	12	0	7	3	0	10	38
% HV	4.5	0	2.6	2.0	3.4	20.0	0	0	0	6.3	2.9	1.0	0	0	1.5	0	0.9	1.1	0	0.9	1.6
B/SB	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	1	0	3	5
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2	0	0.3	0.4	0	0.3	0.2

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Pepper Farm Driveway/Kilmer Road (E/W)
and Plainfield Avenue (N/S)
Edison, Middlesex County, New Jersey
Saturday, April 2, 2022

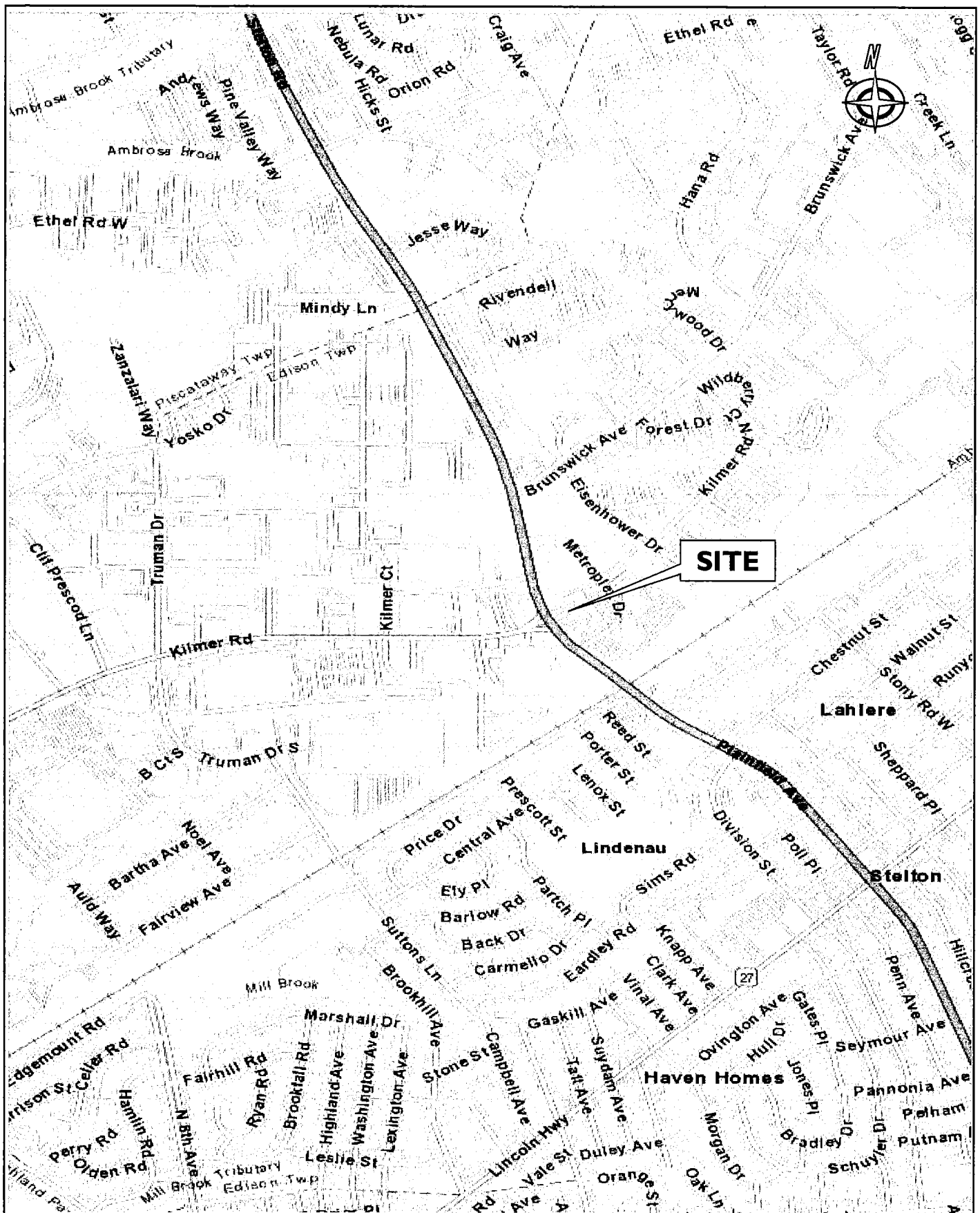
File Name : S-18186_SAT
Site Code : 00018186
Start Date : 4/2/2022
Page No : 1

Groups Printed- Auto - HV - B/SB

	Kilmer Road Eastbound					Pepper Farm Driveway Westbound					Plainfield Avenue Northbound					Plainfield Avenue Southbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
11:00 AM	39	1	52	0	92	1	1	0	0	2	31	109	3	0	143	1	141	49	0	191	428
11:15 AM	51	1	68	0	120	0	3	3	0	6	44	102	2	0	148	2	130	69	0	201	475
11:30 AM	68	0	77	0	145	1	1	1	0	3	46	114	5	0	165	0	125	60	0	185	498
11:45 AM	79	1	77	0	157	1	1	2	0	4	37	132	3	0	172	2	151	72	0	225	558
Total	237	3	274	0	514	3	6	6	0	15	158	457	13	0	628	5	547	250	0	802	1959
12:00 PM	38	1	70	0	109	1	3	0	0	4	41	138	4	0	183	2	129	60	0	191	487
12:15 PM	57	0	64	0	121	2	2	4	0	8	40	121	3	0	164	5	130	44	0	179	472
12:30 PM	66	0	57	0	123	5	2	1	0	8	31	121	1	0	153	2	149	44	0	195	479
12:45 PM	41	1	47	0	89	2	2	0	0	4	50	122	4	0	176	4	128	39	0	171	440
Total	202	2	238	0	442	10	9	5	0	24	162	502	12	0	676	13	536	187	0	736	1878
01:00 PM	39	5	43	0	87	1	2	1	0	4	34	125	0	0	159	2	120	54	0	176	426
01:15 PM	27	2	49	0	78	1	1	1	0	3	34	120	11	0	165	3	134	32	0	169	415
01:30 PM	44	1	57	0	102	2	2	3	0	7	40	135	3	0	178	3	129	42	0	174	461
01:45 PM	35	2	47	0	84	3	0	4	0	7	32	139	2	0	173	3	135	31	0	169	433
Total	145	10	196	0	351	7	5	9	0	21	140	519	16	0	675	11	518	159	0	688	1735
Grand Total	584	15	708	0	1307	20	20	20	0	60	460	1478	41	0	1979	29	1601	596	0	2226	5572
Apprch %	44.7	1.1	54.2	0		33.3	33.3	33.3	0		23.2	74.7	2.1	0		1.3	71.9	26.8	0		
Total %	10.5	0.3	12.7	0	23.5	0.4	0.4	0.4	0	1.1	8.3	26.5	0.7	0	35.5	0.5	28.7	10.7	0	39.9	
Auto	580	14	705	0	1299	20	19	20	0	59	457	1476	41	0	1974	29	1599	589	0	2217	5549
% Auto	99.3	93.3	99.6	0	99.4	100	95	100	0	98.3	99.3	99.9	100	0	99.7	100	99.9	98.8	0	99.6	99.6
HV	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% HV	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0
B/SB	4	1	3	0	8	0	1	0	0	1	3	1	0	0	4	0	2	7	0	9	22
% B/SB	0.7	6.7	0.4	0	0.6	0	5	0	0	1.7	0.7	0.1	0	0	0.2	0	0.1	1.2	0	0.4	0.4

	Kilmer Road Eastbound					Pepper Farm Driveway Westbound					Plainfield Avenue Northbound					Plainfield Avenue Southbound					
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:15 AM																					
11:15 AM	51	1	68	0	120	0	3	3	0	6	44	102	2	0	148	2	130	69	0	201	475
11:30 AM	68	0	77	0	145	1	1	1	0	3	46	114	5	0	165	0	125	60	0	185	498
11:45 AM	79	1	77	0	157	1	1	2	0	4	37	132	3	0	172	2	151	72	0	225	558
12:00 PM	38	1	70	0	109	1	3	0	0	4	41	138	4	0	183	2	129	60	0	191	487
Total Volume	236	3	292	0	531	3	8	6	0	17	168	486	14	0	668	6	535	261	0	802	2018
% App. Total	44.4	0.6	55	0		17.6	47.1	35.3	0		25.1	72.8	2.1	0		0.7	66.7	32.5	0		
PHF	.747	.750	.948	.000	.846	.750	.667	.500	.000	.708	.913	.880	.700	.000	.913	.750	.886	.906	.000	.891	.904
Auto	234	3	290	0	527	3	8	6	0	17	166	486	14	0	666	6	535	258	0	799	2009
% Auto	99.2	100	99.3	0	99.2	100	100	100	0	100	98.8	100	100	0	99.7	100	100	98.9	0	99.6	99.6
HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
B/SB	2	0	2	0	4	0	0	0	0	0	2	0	0	0	2	0	0	3	0	3	9
% B/SB	0.8	0	0.7	0	0.8	0	0	0	0	0	1.2	0	0	0	0.3	0	0	1.1	0	0.4	0.4

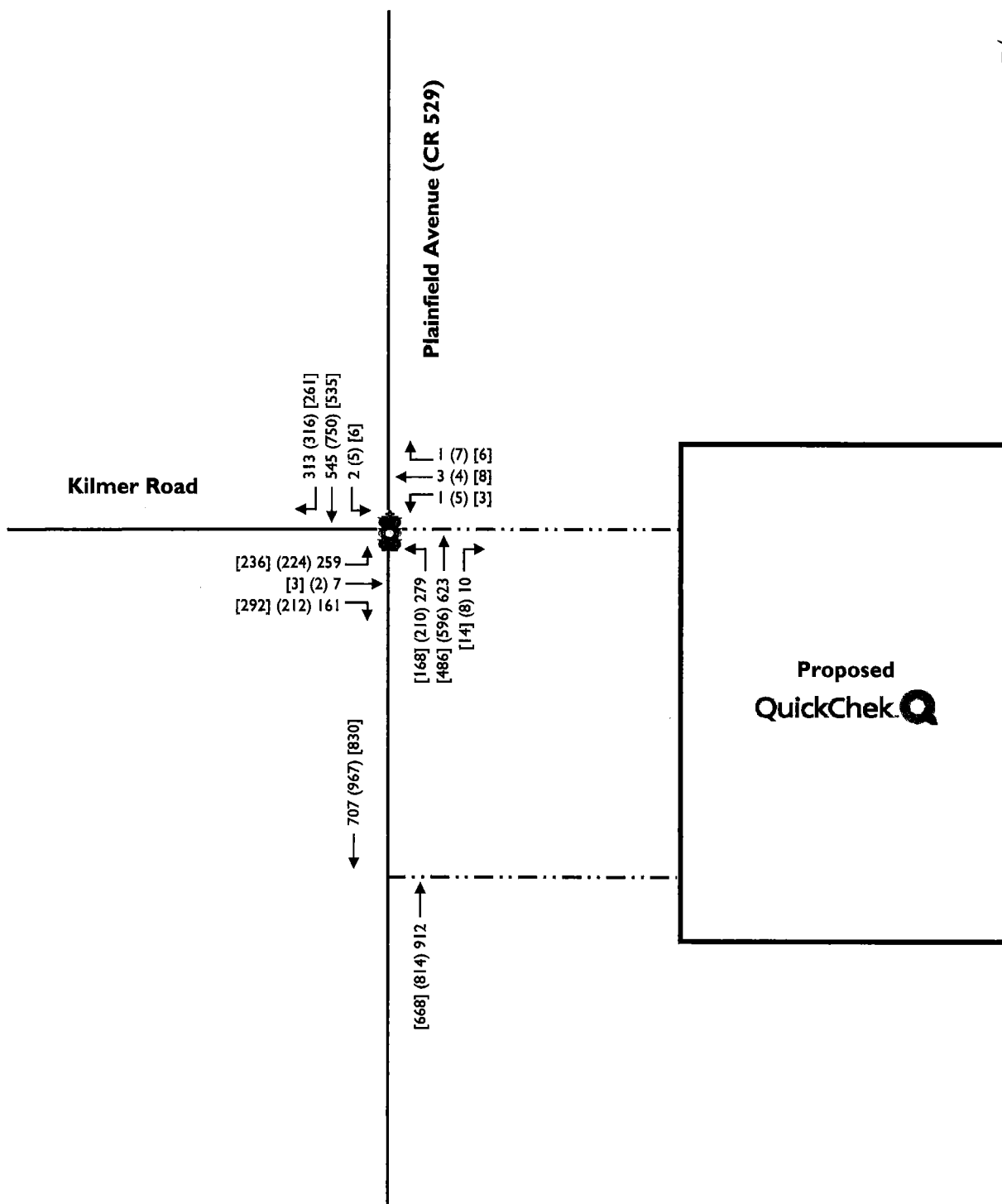
FIGURES



STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE I
Site Location Map

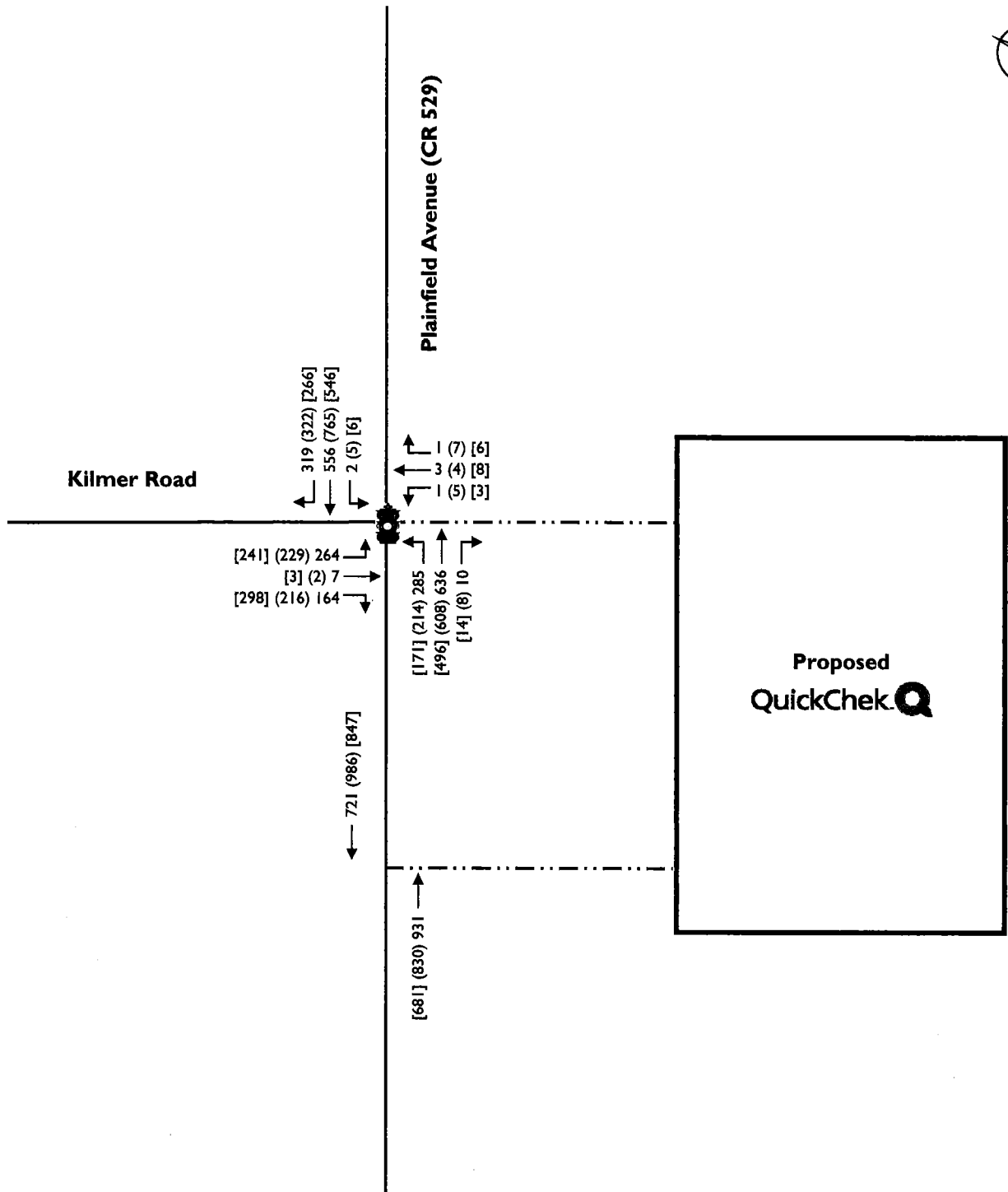


not to scale

STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 2
2022 Existing Traffic
Volumes



LEGEND

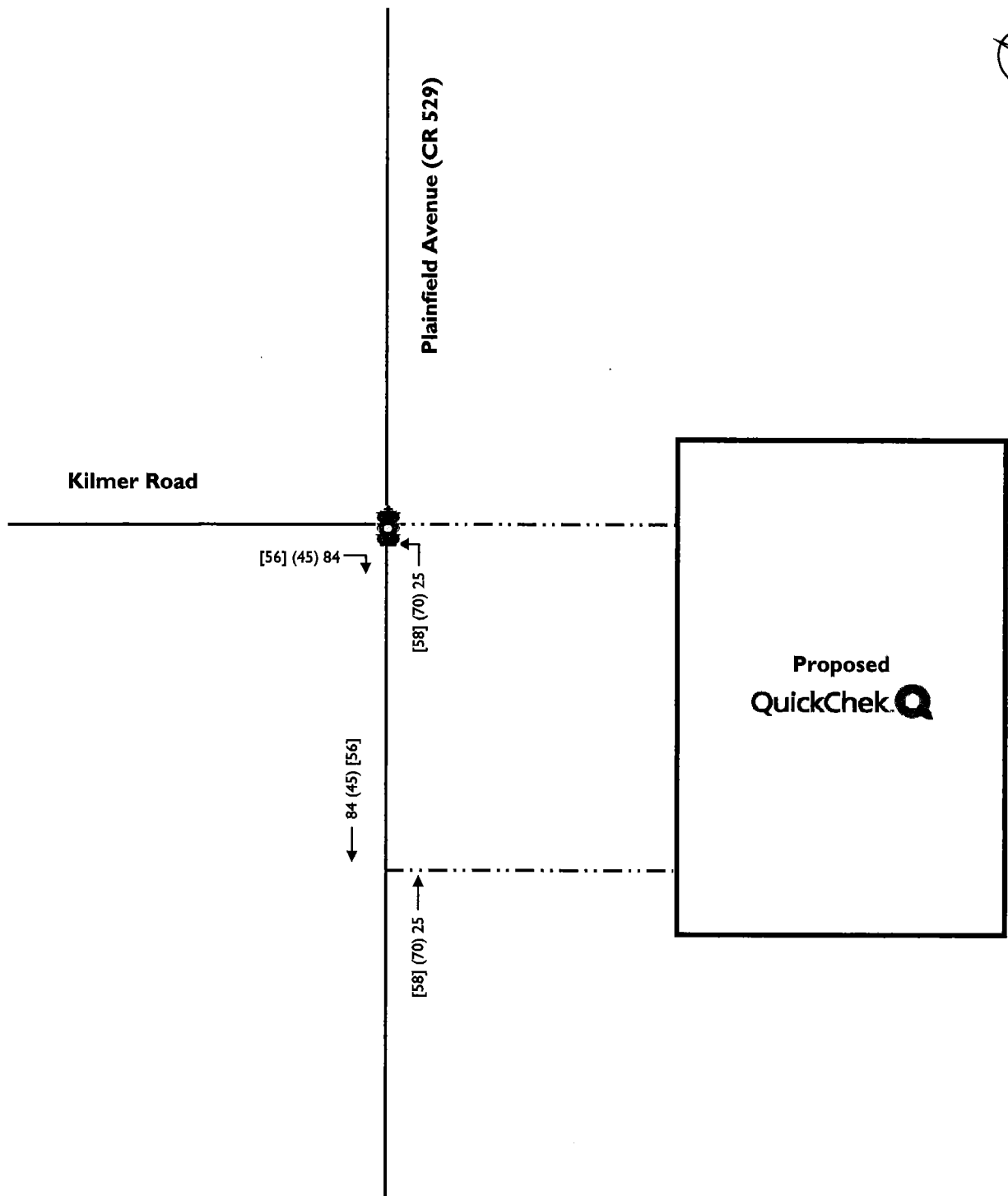
- Existing Roadway
- Existing Private Driveway
- AM (PM) [SAT] Peak Hour Volumes
- Signalized Intersection

not to scale

STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 3
2024 Base Traffic Volumes



LEGEND

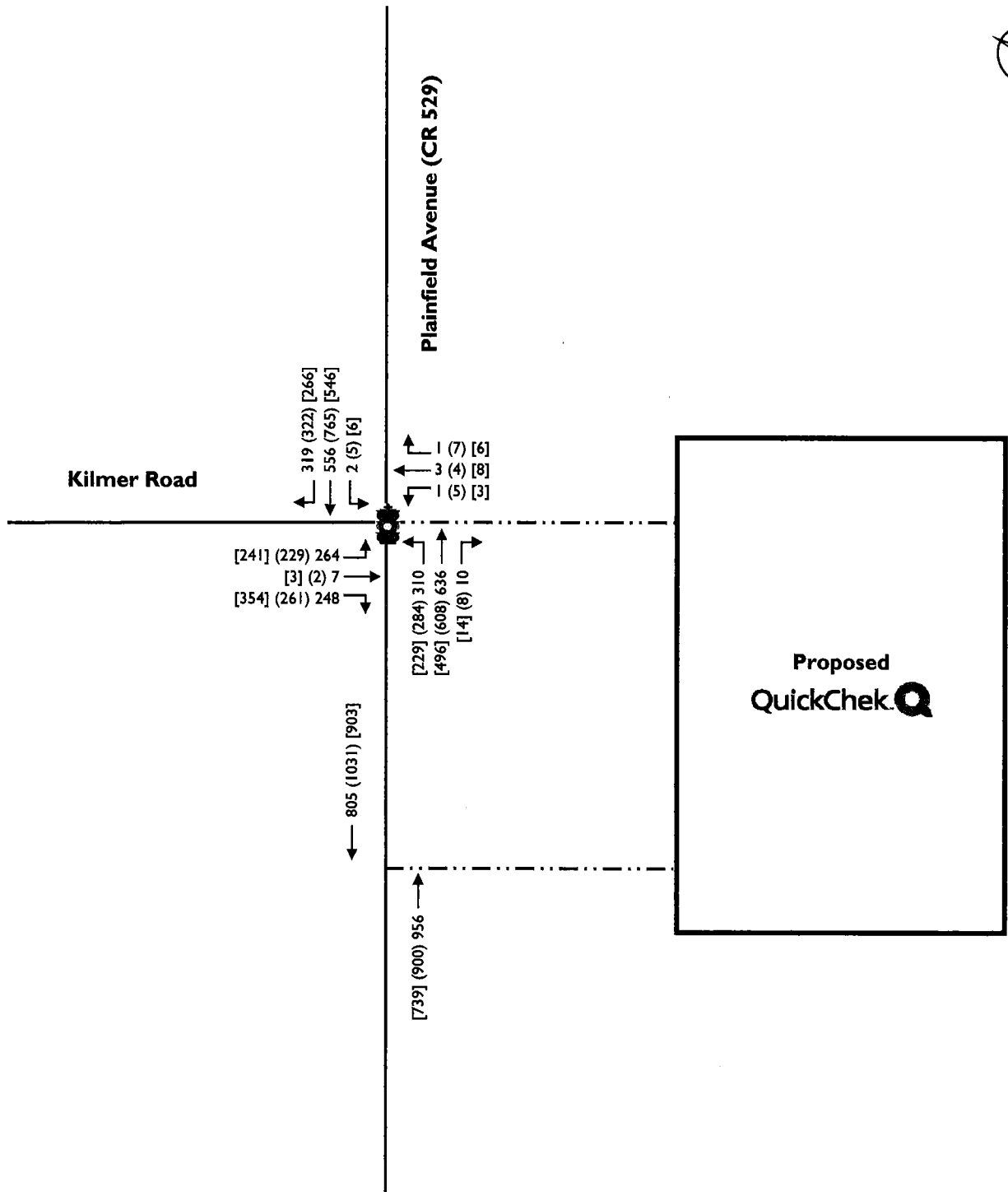
- Existing Roadway
- . - . Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes
-  Signalized Intersection

not to scale

STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

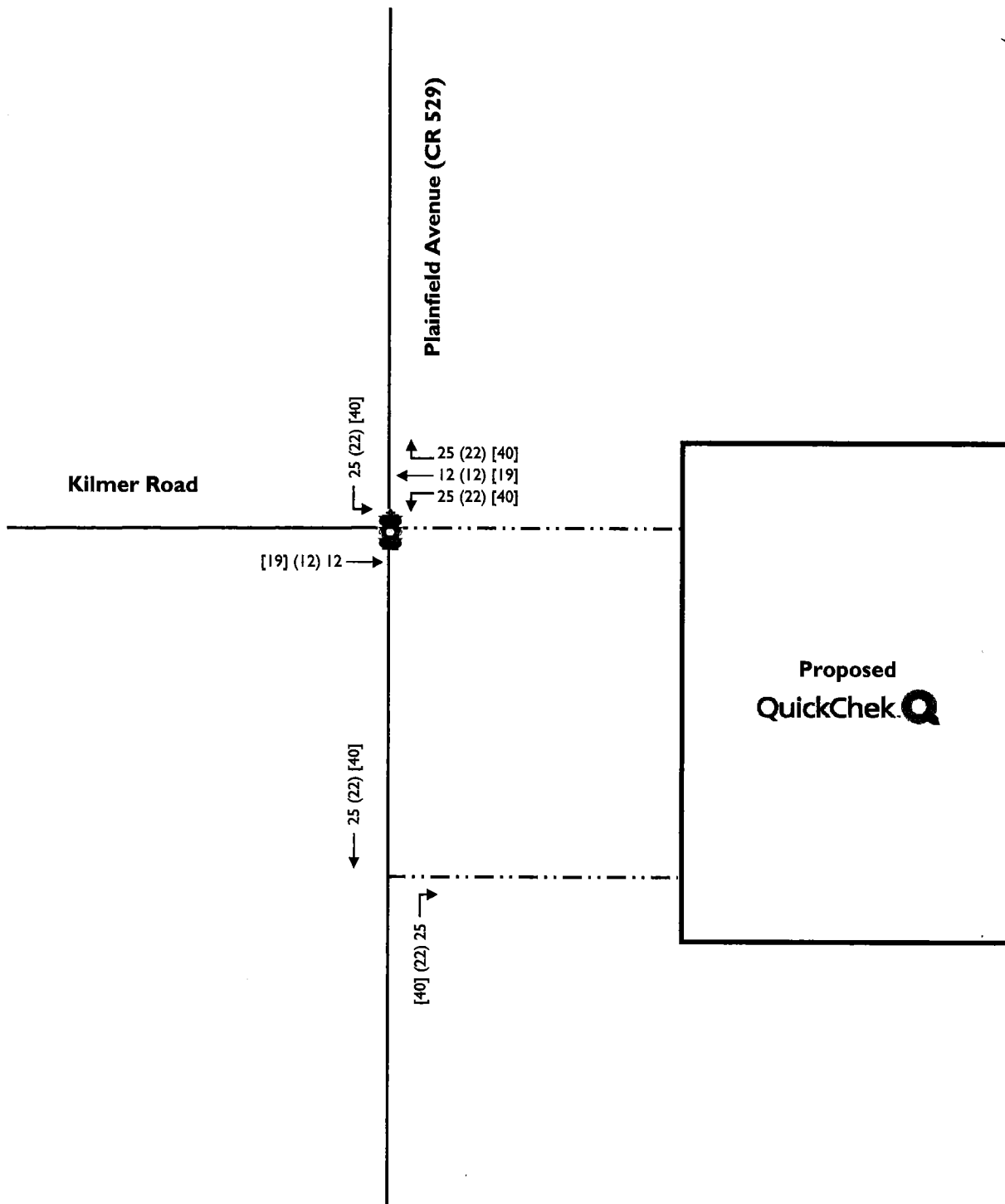
FIGURE 4
Other Planned Projects
Future Traffic Volumes



STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 5
2024 No-Build Traffic
Volumes



LEGEND

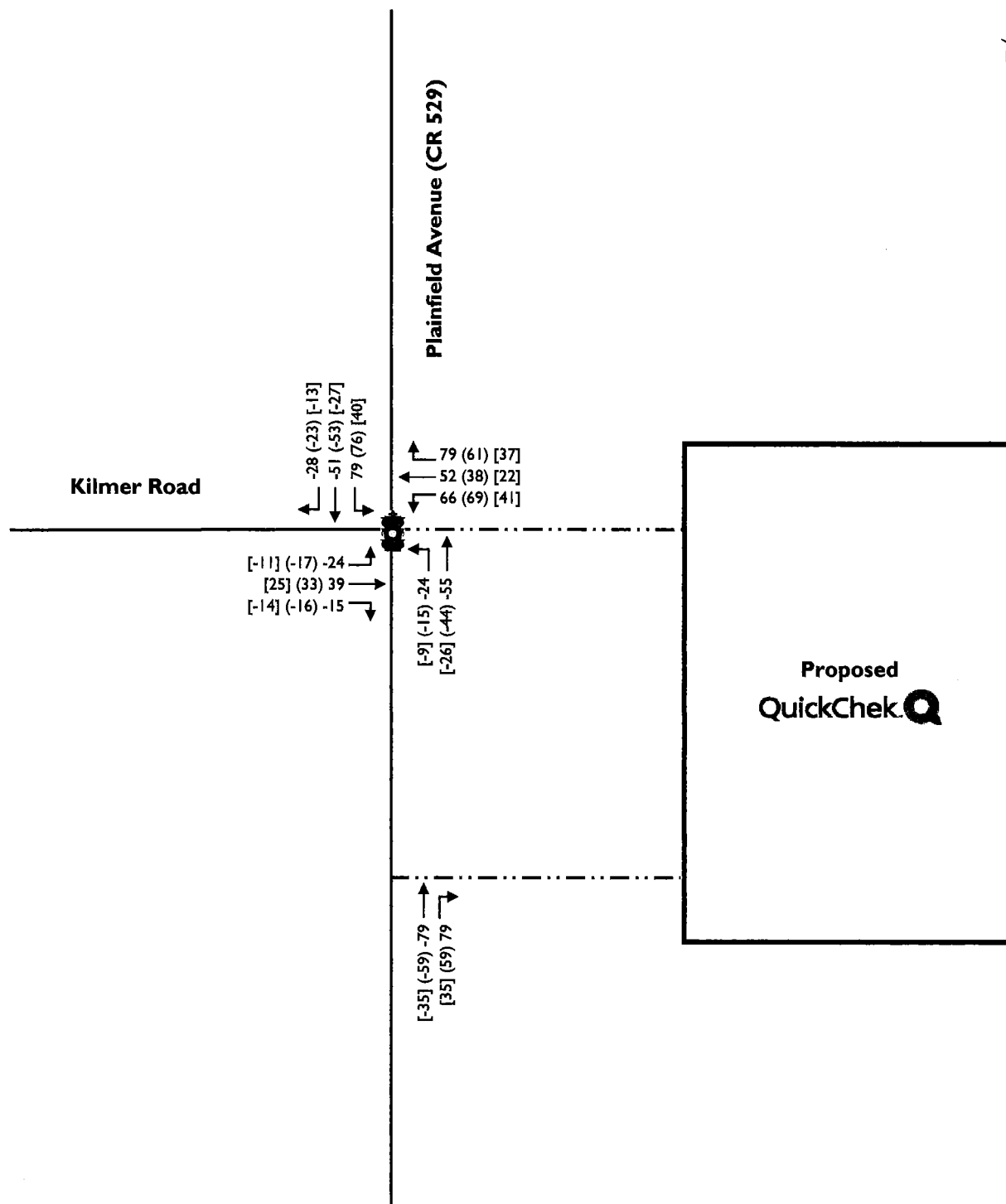
- Existing Roadway
- . . - Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes
- 🚦 Signalized Intersection

not to scale

STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 6
"New" Site-Generated
Traffic Volumes

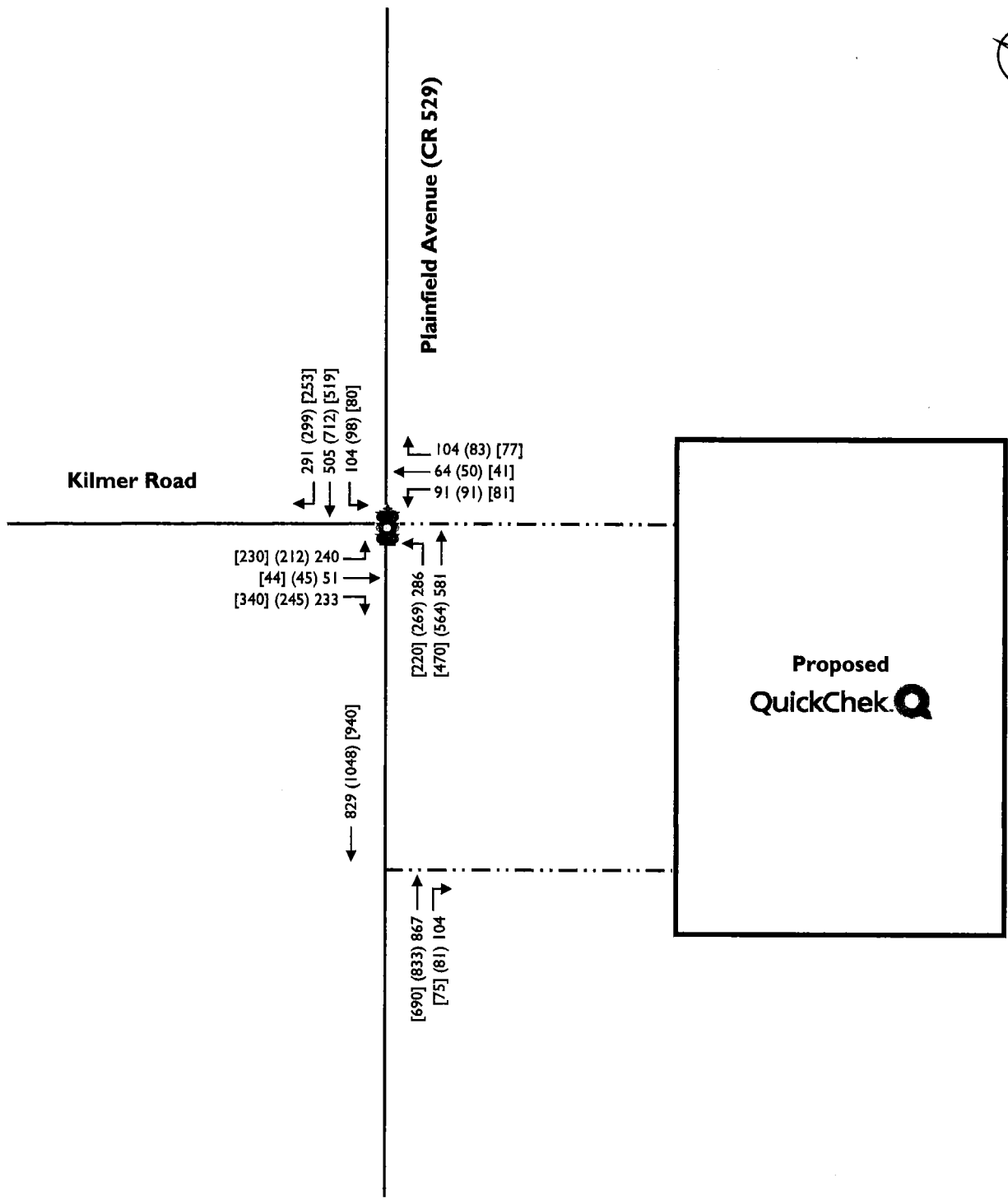


not to scale

STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 7
"Pass-By" Site-Generated
Traffic Volumes



LEGEND

- Existing Roadway
- - - Existing Private Driveway
- ← AM (PM) [SAT] Peak Hour Volumes
- Signalized Intersection

not to scale

STONEFIELD

Proposed Food Store with Fuel Sales Development
425-431 Plainfield Avenue
Township of Edison, Middlesex County, New Jersey
Traffic Impact Study

FIGURE 8
2024 Build Traffic Volumes

HIGHWAY CAPACITY ANALYSIS DETAIL SHEETS

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2022 Existing Condition
Weekday Morning Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	259	7	161	1	3	1	279	623	10	2	545	313
Future Volume (veh/h)	259	7	161	1	3	1	279	623	10	2	545	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1813	1950	1737	1950	1950	1950	1844	1859	1950	1950	1859	1874
Adj Flow Rate, veh/h	294	0	69	1	3	1	310	692	11	2	606	274
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	9	0	14	0	0	0	7	6	0	0	6	5
Cap, veh/h	368	0	309	3	9	3	511	2168	34	475	1801	979
Arrive On Green	0.11	0.00	0.11	0.01	0.01	0.01	0.10	0.61	0.61	0.00	0.51	0.51
Sat Flow, veh/h	3454	0	1472	373	1119	373	1756	3558	57	1857	3532	1588
Grp Volume(v), veh/h	294	0	69	5	0	0	310	343	360	2	606	274
Grp Sat Flow(s),veh/h/ln	1727	0	1472	1864	0	0	1756	1766	1849	1857	1766	1588
Q Serve(g_s), s	7.3	0.0	3.4	0.2	0.0	0.0	6.9	8.3	8.3	0.0	9.0	7.1
Cycle Q Clear(g_c), s	7.3	0.0	3.4	0.2	0.0	0.0	6.9	8.3	8.3	0.0	9.0	7.1
Prop In Lane	1.00		1.00	0.20		0.20	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	368	0	309	15	0	0	511	1076	1126	475	1801	979
V/C Ratio(X)	0.80	0.00	0.22	0.34	0.00	0.00	0.61	0.32	0.32	0.00	0.34	0.28
Avail Cap(c_a), veh/h	391	0	319	127	0	0	627	1076	1126	783	1801	979
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	28.9	43.5	0.0	0.0	8.5	8.4	8.4	10.4	12.8	7.8
Inor Delay (d2), s/veh	9.5	0.0	0.1	5.0	0.0	0.0	0.4	0.8	0.7	0.0	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	0.0	2.2	0.2	0.0	0.0	4.0	5.4	5.6	0.0	6.1	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	0.0	29.0	48.6	0.0	0.0	8.9	9.1	9.1	10.4	13.3	8.6
LnGrp LOS	D	A	C	D	A	A	A	A	A	B	B	A
Approach Vol, veh/h	363			5			1013			882		
Approach Delay, s/veh	44.4			48.6			9.1			11.8		
Approach LOS	D			D			A			B		
PERMITTING												
Phs Duration (G+Y+Rc), s	5.4	60.8		15.4	14.1	52.0		6.7				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	15.0	45.0		10.0	15.0	45.0		6.0				
Max Q Clear Time (g_c+I1), s	2.0	10.3		9.3	8.9	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.8		0.1	0.3	3.3		0.0				
PERFORMANCE												
HCM 6th Ctrl Delay	15.9											
HCM 6th LOS	B											
NOTES												

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2022 Existing Condition

Weekday Evening Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	224	2	212	5	4	7	210	596	8	5	750	316
Future Volume (veh/h)	224	2	212	5	4	7	210	596	8	5	750	316
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1874	1950	1920	1846	1950	1950	1904	1935	1950	1950	1935	1935
Adj Flow Rate, veh/h	244	0	123	5	4	8	228	648	9	5	815	292
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	2	20	0	0	3	1	0	0	1	1
Cap, veh/h	357	0	337	12	10	20	436	2011	28	468	1637	894
Arrive On Green	0.10	0.00	0.10	0.02	0.02	0.02	0.11	0.54	0.54	0.01	0.45	0.45
Sat Flow, veh/h	3569	0	1827	522	417	835	1814	3712	52	1857	3676	1640
Grp Volume(v), veh/h	244	0	123	17	0	0	228	321	336	5	815	292
Grp Sat Flow(s), veh/h/ln	1785	0	1827	1774	0	0	1814	1838	1826	1857	1838	1640
Q Serve(g_s), s	4.9	0.0	4.8	0.7	0.0	0.0	4.5	7.2	7.2	0.1	11.7	7.3
Cycle Q Clear(g_c), s	4.9	0.0	4.8	0.7	0.0	0.0	4.5	7.2	7.2	0.1	11.7	7.3
Prop In Lane	1.00		1.00	0.29		0.47	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	357	0	337	42	0	0	436	996	1043	468	1637	894
V/C Ratio(X)	0.68	0.00	0.37	0.40	0.00	0.00	0.52	0.32	0.32	0.01	0.50	0.33
Avail Cap(c_a), veh/h	771	0	525	144	0	0	511	996	1043	724	1637	894
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	0.0	25.2	35.6	0.0	0.0	9.8	9.4	9.4	11.0	14.6	9.3
Incr Delay (d2), s/veh	0.9	0.0	0.2	2.3	0.0	0.0	0.4	0.9	0.8	0.0	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	3.3	0.6	0.0	0.0	2.7	4.8	5.1	0.1	8.1	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	25.5	37.9	0.0	0.0	10.2	10.3	10.2	11.0	15.7	10.3
LnGrp LOS	C	A	C	D	A	A	B	B	B	B	B	B
Approach Vol, veh/h	367			17			885			1112		
Approach Delay, s/veh	30.5			37.9			10.2			14.3		
Approach LOS	C			D			B			B		
Phase Duration (G+Y+Rc), s	5.8	47.1		13.4	12.9	40.0		7.8				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	11.0	33.0		16.0	11.0	33.0		6.0				
Max Q Clear Time (g_c+I1), s	2.1	9.2		6.9	6.5	13.7		2.7				
Green Ext Time (p_c), s	0.0	2.5		0.5	0.1	4.2		0.0				
HCM 6th Ctrl Delay	15.5											
HCM 6th LOS	B											

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2022 Existing Condition
Saturday Midday Peak Hour



Lane Configurations	↖	←	↗	↔			↖	↗	↔			↖
Traffic Volume (veh/h)	236	3	292	3	8	6	168	486	14	6	535	261
Future Volume (veh/h)	236	3	292	3	8	6	168	486	14	6	535	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1935	1950	1935	1950	1950	1950	1935	1950	1950	1900	1950	1935
Adj Flow Rate, veh/h	264	0	174	3	9	7	187	540	16	7	594	247
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	0	1	0	0	0	1	0	0	0	0	1
Cap, veh/h	481	0	374	7	22	17	502	1911	57	495	1600	913
Arrive On Green	0.13	0.00	0.13	0.03	0.03	0.03	0.10	0.52	0.52	0.01	0.43	0.43
Sat Flow, veh/h	3685	0	1840	287	860	669	1843	3874	109	1810	3705	1840
Grp Volume(v), veh/h	264	0	174	19	0	0	187	272	284	7	594	247
Grp Sat Flow(s),veh/h/ln	1843	0	1840	1815	0	0	1843	1853	1830	1810	1853	1840
Q Serve(g_s), s	5.2	0.0	7.0	0.8	0.0	0.0	3.8	6.3	6.3	0.2	8.3	6.0
Cycle Q Clear(g_c), s	5.2	0.0	7.0	0.8	0.0	0.0	3.8	6.3	6.3	0.2	8.3	6.0
Prop In Lane	1.00		1.00	0.16		0.37	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	481	0	374	47	0	0	502	884	1004	495	1600	913
V/C Ratio(X)	0.57	0.00	0.47	0.40	0.00	0.00	0.37	0.28	0.28	0.01	0.37	0.27
Avail Cap(c_a), veh/h	772	0	512	143	0	0	723	1358	1415	871	2718	1407
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	25.5	36.6	0.0	0.0	9.2	10.3	10.3	11.8	14.7	8.8
Incr Delay (d2), s/veh	0.4	0.0	0.3	2.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	0.0	4.9	0.7	0.0	0.0	2.4	4.1	4.3	0.1	5.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	25.8	38.7	0.0	0.0	9.3	10.4	10.4	11.8	14.7	8.9
LnGrp LOS	C	A	C	D	A	A	A	B	B	B	B	A
Approach Vol, veh/h	438				19		743				848	
Approach Delay, s/veh	29.5				38.7		10.1				13.0	
Approach LOS	C				D		B				B	
PERMITTING												
Phs Duration (G+Y+Rc), s	6.1	46.7			15.6	12.8	40.0			8.0		
Change Period (Y+Rc), s	5.0	7.0			6.0	5.0	7.0			6.0		
Max Green Setting (Gmax), s	17.0	56.0			16.0	17.0	56.0			6.0		
Max Q Clear Time (g_c+I1), s	2.2	8.3			9.0	5.8	10.3			2.8		
Green Ext Time (p_o), s	0.0	2.1			0.6	0.2	3.1			0.0		
PERMITTING												
HCM 6th Ctrl Delay			15.7									
HCM 6th LOS			B									
NOTE												

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 No-Build Condition

Weekday Morning Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	264	7	248	1	3	1	310	636	10	2	556	319
Future Volume (veh/h)	264	7	248	1	3	1	310	636	10	2	556	319
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1813	1950	1737	1950	1950	1950	1844	1859	1950	1950	1859	1874
Adj Flow Rate, veh/h	299	0	166	1	3	1	344	707	11	2	618	280
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	9	0	14	0	0	0	7	6	0	0	6	5
Cap, veh/h	384	0	331	3	9	3	515	2170	34	461	1767	971
Arrive On Green	0.11	0.00	0.11	0.01	0.01	0.01	0.11	0.61	0.61	0.00	0.50	0.50
Sat Flow, veh/h	3454	0	1472	373	1119	373	1766	3569	55	1857	3532	1688
Grp Volume(v), veh/h	299	0	166	5	0	0	344	351	367	2	618	280
Grp Sat Flow(s), veh/h/ln	1727	0	1472	1864	0	0	1766	1766	1849	1857	1766	1688
Q Serve(g_s), s	7.6	0.0	8.9	0.2	0.0	0.0	8.0	8.7	8.7	0.0	9.5	7.5
Cycle Q Clear(g_c), s	7.6	0.0	8.9	0.2	0.0	0.0	8.0	8.7	8.7	0.0	9.5	7.5
Prop In Lane	1.00		1.00	0.20		0.20	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	384	0	331	15	0	0	515	1077	1127	461	1767	971
V/C Ratio(X)	0.78	0.00	0.50	0.34	0.00	0.00	0.67	0.33	0.33	0.00	0.35	0.29
Avail Cap(c_a), veh/h	384	0	331	124	0	0	608	1077	1127	763	1767	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	0.0	30.4	44.4	0.0	0.0	9.1	8.5	8.5	11.0	13.6	8.2
Incrr Delay (d2), s/veh	9.0	0.0	0.4	5.1	0.0	0.0	1.4	0.8	0.8	0.0	0.5	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	6.6	0.0	5.7	0.2	0.0	0.0	4.9	5.7	5.9	0.0	6.6	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	0.0	30.9	49.5	0.0	0.0	10.6	9.3	9.3	11.0	14.2	9.0
LnGrp LOS	D	A	C	D	A	A	B	A	A	B	B	A
Approach Vol, veh/h	465			5			1062			900		
Approach Delay, s/veh	41.8			49.5			9.7			12.5		
Approach LOS	D			D			A			B		
Phs Duration (G+Y+Rc), s	5.4	61.8		18.0	15.2	52.0		6.7				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	15.0	45.0		10.0	15.0	45.0		6.0				
Max Q Clear Time (g_c+l1), s	2.0	10.7		10.9	10.0	11.5		2.2				
Green Ext Time (p_c), s	0.0	2.9		0.0	0.3	3.4		0.0				
HCM 6th Grn Delay	17.0											
HCM 6th LOS	B											

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 No-Build Condition
Weekday Evening Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	229	2	261	5	4	7	284	608	8	5	765	322
Future Volume (veh/h)	229	2	261	5	4	7	284	608	8	5	765	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1874	1950	1920	1646	1950	1950	1904	1935	1950	1950	1935	1935
Adj Flow Rate, veh/h	250	0	177	5	4	8	309	661	9	5	832	299
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	2	20	0	0	3	1	0	0	1	1
Cap, veh/h	447	0	393	12	10	20	434	1972	27	453	1564	903
Arrive On Green	0.13	0.00	0.13	0.02	0.02	0.02	0.12	0.53	0.53	0.01	0.43	0.43
Sat Flow, veh/h	3569	0	1627	522	417	835	1814	3718	51	1857	3676	1640
Grp Volume(v), veh/h	250	0	177	17	0	0	309	327	343	5	832	299
Grp Sat Flow(s), veh/h/ln	1785	0	1627	1774	0	0	1814	1838	1926	1857	1838	1640
Q Serve(g_s), s	5.1	0.0	7.2	0.7	0.0	0.0	6.9	7.9	7.9	0.1	13.0	7.8
Cycle Q Clear(g_c), s	5.1	0.0	7.2	0.7	0.0	0.0	6.9	7.9	7.9	0.1	13.0	7.8
Prop In Lane	1.00		1.00	0.29		0.47	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	447	0	393	42	0	0	434	976	1022	453	1564	903
V/C Ratio(X)	0.56	0.00	0.45	0.40	0.00	0.00	0.71	0.34	0.34	0.01	0.53	0.33
Avail Cap(c_a), veh/h	736	0	524	137	0	0	481	976	1022	697	1564	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	25.0	37.3	0.0	0.0	12.4	10.4	10.4	12.4	16.5	9.6
Inc Delay (d2), s/veh	0.4	0.0	0.3	2.3	0.0	0.0	3.4	0.9	0.9	0.0	1.3	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	4.0	0.0	5.0	0.6	0.0	0.0	4.9	5.5	5.7	0.1	9.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	0.0	25.3	39.6	0.0	0.0	15.9	11.3	11.3	12.4	17.8	10.6
LnGrp LOS	C	A	C	D	A	A	B	B	B	B	B	B
Approach Vol, veh/h	427			17			979			1136		
Approach Delay, s/veh	29.4			39.6			12.7			15.9		
Approach LOS	C			D			B			B		
PERMUTATION												
Phs Duration (G+Y+Rc), s	5.8	48.2		15.7	14.0	40.0		7.8				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	11.0	33.0		16.0	11.0	33.0		6.0				
Max Q Clear Time (g_c+I1), s	2.1	9.9		9.2	8.9	15.0		2.7				
Green Ext Time (p_e), s	0.0	2.5		0.5	0.1	4.2		0.0				
PERFORMANCE												
HCM 6th Ctrl Delay	17.1											
HCM 6th LOS	B											
NOTES												

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 No-Build Condition

Saturday Midday Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	241	3	354	3	8	6	229	496	14	6	546	266
Future Volume (veh/h)	241	3	354	3	8	6	229	496	14	6	546	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1935	1950	1935	1950	1950	1950	1935	1950	1950	1950	1950	1935
Adj Flow Rate, veh/h	270	0	243	3	9	7	254	551	16	7	607	253
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	0	1	0	0	0	1	0	0	0	0	1
Cap, veh/h	587	0	428	7	22	17	475	1838	53	479	1530	938
Arrive On Green	0.16	0.00	0.16	0.03	0.03	0.03	0.10	0.50	0.50	0.01	0.41	0.41
Sat Flow, veh/h	3685	0	1840	287	880	689	1843	3677	107	1857	3706	1840
Grp Volume(v), veh/h	270	0	243	19	0	0	254	277	290	7	607	253
Grp Sat Flow(s), veh/h/ln	1843	0	1840	1815	0	0	1843	1853	1931	1857	1853	1840
Q Serve(g_s), s	5.3	0.0	10.3	0.8	0.0	0.0	5.9	7.0	7.0	0.2	9.2	6.2
Cycle Q Clear(g_c), s	5.3	0.0	10.3	0.8	0.0	0.0	5.9	7.0	7.0	0.2	9.2	6.2
Prop In Lane	1.00		1.00	0.16		0.37	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	587	0	428	47	0	0	475	926	965	479	1530	938
V/C Ratio(X)	0.46	0.00	0.57	0.41	0.00	0.00	0.53	0.30	0.30	0.01	0.40	0.27
Avail Cap(c_a), veh/h	738	0	495	136	0	0	680	1298	1353	848	2597	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	25.6	38.3	0.0	0.0	11.1	11.7	11.7	13.1	16.5	8.6
Incr Delay (d2), s/veh	0.2	0.0	0.4	2.1	0.0	0.0	0.3	0.1	0.1	0.0	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	0.0	7.2	0.7	0.0	0.0	3.8	4.7	4.9	0.1	6.5	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	0.0	26.1	40.4	0.0	0.0	11.4	11.8	11.8	13.2	16.6	8.7
LnGrp LOS	C	A	C	D	A	A	B	B	B	B	B	A
Approach Vol, veh/h	513			19			821			887		
Approach Delay, s/veh	28.5			40.4			11.7			14.2		
Approach LOS	C			D			B			B		
Timing Parameters												
Phs Duration (G+Y+Rc), s	6.2	47.0		18.7	13.1	40.0		8.1				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	17.0	56.0		16.0	17.0	56.0		6.0				
Max Q Clear Time (g_c+I1), s	2.2	9.0		12.3	7.9	11.2		2.8				
Green Ext Time (p_c), s	0.0	2.2		0.5	0.2	3.2		0.0				
Intersection Results												
HCM 6th Ctrl Delay	16.8											
HCM 6th LOS	B											
Notes												

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 Build Condition
Weekday Morning Peak Hour

	←	→	↙	↘	←	↙	↘	↑	↙	↘	↓	↙
Lane Configurations	↙	↘	↙	↘	↙	↘	↙	↑	↙	↘	↑	↙
Traffic Volume (veh/h)	240	51	233	91	64	104	286	581	0	104	505	291
Future Volume (veh/h)	240	51	233	91	64	104	286	581	0	104	505	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1813	1950	1737	1950	1950	1950	1844	1859	0	1950	1859	1874
Adj Flow Rate, veh/h	308	0	149	101	71	80	318	646	0	116	561	249
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	9	0	14	0	0	0	7	6	0	0	6	5
Cap, veh/h	360	0	322	45	32	38	514	1779	0	536	1856	910
Arrive On Green	0.10	0.00	0.10	0.06	0.06	0.06	0.11	0.50	0.00	0.08	0.47	0.47
Sat Flow, veh/h	3454	0	1472	726	510	575	1766	3625	0	1857	3532	1588
Grp Volume(v), veh/h	308	0	149	252	0	0	318	646	0	116	561	249
Grp Sat Flow(s), veh/h/ln	1727	0	1472	1810	0	0	1766	1766	0	1857	1766	1588
Q Serve(g_s), s	8.4	0.0	8.4	6.0	0.0	0.0	8.8	10.7	0.0	2.9	9.6	7.6
Cycle Q Clear(g_c), s	8.4	0.0	8.4	6.0	0.0	0.0	8.8	10.7	0.0	2.9	9.6	7.6
Prop In Lane	1.00		1.00	0.40		0.32	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	0	322	113	0	0	514	1779	0	536	1856	910
V/C Ratio(X)	0.86	0.00	0.46	2.23	0.00	0.00	0.62	0.36	0.00	0.22	0.34	0.27
Avail Cap(c_a), veh/h	360	0	322	113	0	0	588	1779	0	678	1856	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.3	0.0	32.6	45.0	0.0	0.0	11.0	14.5	0.0	10.8	16.1	10.4
Incrr Delay (d2), s/veh	17.3	0.0	0.4	579.6	0.0	0.0	0.9	0.6	0.0	0.1	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back Of Q(95%),veh/ln	7.9	0.0	5.5	33.6	0.0	0.0	5.7	7.5	0.0	2.0	6.9	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	0.0	33.0	624.6	0.0	0.0	11.9	15.0	0.0	10.8	16.7	11.1
LnGrp LOS	E	A	C	F	A	A	B	B	A	B	B	B
Approach Vol, veh/h	457				252				964			
Approach Delay, s/veh	50.9				624.6				14.0			
Approach LOS	D				F				B			
Phase Duration (G+Y+Rc), s	12.6	55.3		16.0	16.0	52.0		12.0				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	15.0	45.0		10.0	15.0	45.0		8.0				
Max Q Clear Time (g_c+I1), s	4.9	12.7		10.4	10.8	11.6		8.0				
Green Ext Time (p_c), s	0.1	3.0		0.0	0.2	3.0		0.0				
HCM 6th Ctrl Delay	79.8											
HCM 6th LOS	E											

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 Build Condition
Weekday Evening Peak Hour

												
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Traffic Volume (veh/h)	212	45	245	91	50	83	269	564	0	98	712	299
Future Volume (veh/h)	212	45	245	91	50	83	269	564	0	98	712	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1874	1950	1920	1646	1950	1950	1904	1935	0	1950	1935	1935
Adj Flow Rate, veh/h	265	0	159	99	54	63	292	613	0	107	774	274
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	2	20	0	0	3	1	0	0	1	1
Cap, veh/h	408	0	377	61	33	39	434	1584	0	520	1480	847
Arrive On Green	0.11	0.00	0.11	0.07	0.07	0.07	0.12	0.43	0.00	0.09	0.40	0.40
Sat Flow, veh/h	3569	0	1627	831	453	529	1814	3773	0	1857	3676	1640
Grp Volume(v), veh/h	265	0	159	216	0	0	292	613	0	107	774	274
Grp Sat Flow(s), veh/h/ln	1785	0	1627	1813	0	0	1814	1838	0	1857	1838	1640
Q Serve(g_s), s	5.8	0.0	6.8	6.0	0.0	0.0	7.6	9.3	0.0	2.5	13.1	7.9
Cycle Q Clear(g_c), s	5.8	0.0	6.8	6.0	0.0	0.0	7.6	9.3	0.0	2.5	13.1	7.9
Prop In Lane	1.00		1.00	0.46		0.29	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	0	377	133	0	0	434	1584	0	520	1480	847
V/C Ratio(X)	0.65	0.00	0.42	1.63	0.00	0.00	0.67	0.39	0.00	0.21	0.52	0.32
Avail Cap(c_a), veh/h	697	0	508	133	0	0	464	1584	0	804	1480	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	26.8	38.0	0.0	0.0	13.5	15.9	0.0	11.6	18.5	11.5
Incr Delay (d2), s/veh	0.7	0.0	0.3	314.2	0.0	0.0	2.7	0.7	0.0	0.1	1.3	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	4.6	0.0	4.8	23.3	0.0	0.0	5.4	6.8	0.0	1.7	9.2	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.4	0.0	27.1	352.2	0.0	0.0	16.2	16.7	0.0	11.7	19.9	12.5
LnGrp LOS	D	A	C	F	A	A	B	B	A	B	B	B
Approach Vol, veh/h	424			216			905			1155		
Approach Delay, s/veh	32.3			352.2			16.5			17.4		
Approach LOS	C			F			B			B		
Phs Duration (G+Y+Rc), s	12.3	42.3		15.4	14.6	40.0		12.0				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	11.0	33.0		16.0	11.0	33.0		8.0				
Max Q Clear Time (g_c+I1), s	4.5	11.3		8.8	9.6	15.1		8.0				
Green Ext Time (p_o), s	0.1	2.7		0.5	0.1	3.8		0.0				
HCM 6th Ctrl Delay	46.2											
HCM 6th LOS	D											

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 Build Condition
Saturday Midday Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	230	44	340	81	41	77	220	470	0	80	519	253
Future Volume (veh/h)	230	44	340	81	41	77	220	470	0	80	519	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1935	1950	1935	1950	1950	1950	1935	1950	0	1950	1950	1935
Adj Flow Rate, veh/h	291	0	228	90	46	60	244	522	0	89	577	238
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	0	1	0	0	0	1	0	0	0	0	1
Cap, veh/h	552	0	415	59	30	39	469	1524	0	528	1449	887
Arrive On Green	0.15	0.00	0.15	0.07	0.07	0.07	0.10	0.41	0.00	0.08	0.39	0.39
Sat Flow, veh/h	3685	0	1840	831	425	554	1843	3803	0	1857	3706	1640
Grp Volume(v), veh/h	291	0	228	196	0	0	244	522	0	89	577	238
Grp Sat Flow(s), veh/h/ln	1843	0	1840	1809	0	0	1843	1853	0	1857	1853	1640
Q Serve(g_s), s	6.1	0.0	10.2	6.0	0.0	0.0	6.5	8.1	0.0	2.2	9.5	6.6
Cycle Q Clear(g_c), s	6.1	0.0	10.2	6.0	0.0	0.0	6.5	8.1	0.0	2.2	9.5	6.6
Prop In Lane	1.00		1.00	0.46		0.31	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	552	0	415	129	0	0	469	1524	0	528	1449	887
V/C Ratio(X)	0.53	0.00	0.55	1.52	0.00	0.00	0.52	0.34	0.00	0.17	0.40	0.27
Avail Cap(c_a), veh/h	699	0	480	129	0	0	650	2460	0	749	2460	1334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.1	0.0	27.3	39.2	0.0	0.0	13.2	17.0	0.0	12.5	18.5	10.4
lnor Delay (d2), s/veh	0.3	0.0	0.4	270.9	0.0	0.0	0.3	0.0	0.0	0.1	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	5.0	0.0	7.2	20.3	0.0	0.0	4.5	5.9	0.0	1.6	6.9	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.4	0.0	27.7	310.1	0.0	0.0	13.6	17.1	0.0	12.6	18.6	10.4
LnGrp LOS	C	A	C	F	A	A	B	B	A	B	B	B
Approach Vol, veh/h	519			196			768			904		
Approach Delay, s/veh	30.9			310.1			16.0			15.8		
Approach LOS	C			F			B			B		
Phase Duration (G+Y+Rc), s	12.0	41.7		18.6	13.7	40.0		12.0				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	17.0	56.0		16.0	17.0	56.0		6.0				
Max Q Clear Time (g_c+I1), s	4.2	10.1		12.2	8.5	11.5		8.0				
Green Ext Time (p_c), s	0.1	2.4		0.5	0.2	3.0		0.0				
HCM 6th Ctrl Delay	43.3											
HCM 6th LOS	D											

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 Build (Mitigation) Condition
Weekday Morning Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	240	51	233	91	64	104	286	581	0	104	505	291
Future Volume (veh/h)	240	51	233	91	64	104	286	581	0	104	505	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1813	1950	1737	1950	1950	1950	1844	1859	0	1950	1859	1874
Adj Flow Rate, veh/h	308	0	149	101	71	80	318	646	0	116	561	249
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	9	0	14	0	0	0	7	6	0	0	6	5
Cap, veh/h	347	0	222	114	80	90	386	1595	0	428	1595	877
Arrive On Green	0.10	0.00	0.10	0.16	0.16	0.16	0.05	0.45	0.00	0.05	0.45	0.45
Sat Flow, veh/h	3454	0	1472	726	510	675	1756	3625	0	1857	3532	1588
Grp Volume(v), veh/h	308	0	149	252	0	0	318	646	0	116	561	249
Grp Sat Flow(s),veh/h/ln	1727	0	1472	1810	0	0	1756	1756	0	1857	1756	1588
Q Serve(g_s), s	8.8	0.0	9.5	13.6	0.0	0.0	5.0	12.2	0.0	3.3	10.3	8.3
Cycle Q Clear(g_c), s	8.8	0.0	9.5	13.6	0.0	0.0	5.0	12.2	0.0	3.3	10.3	8.3
Prop In Lane	1.00		1.00	0.40		0.32	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	347	0	222	284	0	0	386	1595	0	428	1595	877
V/C Ratio(X)	0.89	0.00	0.67	0.89	0.00	0.00	0.82	0.40	0.00	0.27	0.35	0.28
Avail Cap(b_a), veh/h	347	0	222	291	0	0	386	1595	0	428	1595	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	0.0	40.0	41.1	0.0	0.0	24.4	18.3	0.0	14.1	17.8	11.8
Inor Delay (d2), s/veh	22.6	0.0	6.3	25.3	0.0	0.0	12.8	0.8	0.0	0.1	0.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	0.0	6.9	12.7	0.0	0.0	9.9	8.6	0.0	2.4	7.5	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	0.0	46.3	66.4	0.0	0.0	37.2	19.1	0.0	14.2	18.4	12.7
LnGrp LOS	E	A	D	E	A	A	D	B	A	B	B	B
Approach Vol, veh/h	457			252			984			926		
Approach Delay, s/veh	60.2			66.4			25.1			16.3		
Approach LOS	E			E			C			B		
PERMITTING												
Phs Duration (G+Y+Rc), s	10.0	52.0		18.0	10.0	52.0		21.6				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	5.0	45.0		10.0	5.0	45.0		18.0				
Max Q Clear Time (g_c+1), s	5.3	14.2		11.5	7.0	12.3		15.6				
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	3.0		0.0				
DESIGN SUMMARY												
HCM 6th Ctrl Delay	32.1											
HCM 6th LOS	C											
NOTES												

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 Build (Mitigation) Condition

Weekday Evening Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	212	45	245	91	50	83	269	564	0	98	712	299
Future Volume (veh/h)	212	45	245	91	50	83	269	564	0	98	712	299
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1874	1950	1920	1646	1950	1950	1904	1935	0	1950	1935	1935
Adj Flow Rate, veh/h	265	0	159	99	54	63	292	613	0	107	774	274
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	0	2	20	0	0	3	1	0	0	1	1
Cap, veh/h	421	0	308	109	59	69	342	1508	0	434	1446	838
Arrive On Green	0.12	0.00	0.12	0.13	0.13	0.13	0.07	0.41	0.00	0.05	0.39	0.39
Sat Flow, veh/h	3589	0	1627	831	453	529	1814	3773	0	1857	3676	1640
Grp Volume(v), veh/h	265	0	159	216	0	0	292	613	0	107	774	274
Grp Sat Flow(s), veh/h/ln	1785	0	1627	1813	0	0	1814	1838	0	1857	1838	1640
Q Serve(g_s), s	5.9	0.0	7.4	9.9	0.0	0.0	6.0	9.9	0.0	2.8	13.6	8.2
Cycle Q Clear(g_c), s	5.9	0.0	7.4	9.9	0.0	0.0	6.0	9.9	0.0	2.8	13.6	8.2
Prop In Lane	1.00		1.00	0.46		0.29	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	421	0	308	238	0	0	342	1508	0	434	1446	838
V/C Ratio(X)	0.63	0.00	0.52	0.91	0.00	0.00	0.85	0.41	0.00	0.25	0.54	0.33
Avail Cap(c_a), veh/h	681	0	427	238	0	0	342	1508	0	465	1446	838
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	30.5	35.9	0.0	0.0	21.7	17.5	0.0	14.1	19.6	12.0
Inor Delay (d2), s/veh	0.6	0.0	0.5	34.2	0.0	0.0	17.5	0.8	0.0	0.1	1.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.7	0.0	5.2	10.8	0.0	0.0	7.9	7.3	0.0	2.0	9.6	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.0	31.0	70.1	0.0	0.0	39.3	18.3	0.0	14.2	21.0	13.1
LnGrp LOS	D	A	C	E	A	A	D	B	A	B	C	B
Approach Vol, veh/h	424			216			905			1155		
Approach Delay, s/veh	34.0			70.1			25.1			18.5		
Approach LOS	C			E			C			B		
Phs Duration (G+Y+Rc), s	9.6	41.4		16.9	11.0	40.0		17.0				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	6.0	33.0		16.0	6.0	38.0		11.0				
Max Q Clear Time (g_c+I1), s	4.8	11.9		9.4	8.0	15.6		11.9				
Green-Ext-Time (p_c), s	0.0	2.6		0.6	0.0	3.8		0.0				
HCM 6th Ctrl Delay	27.3											
HCM 6th LOS	C											

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

1: Plainfield Avenue & Kilmer Road/Site Driveway

2024 Build (Mitigation) Condition
Saturday Midday Peak Hour

												
Lane Configurations												
Traffic Volume (veh/h)	230	44	340	81	41	77	220	470	0	80	519	253
Future Volume (veh/h)	230	44	340	81	41	77	220	470	0	80	519	253
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1935	1950	1935	1950	1950	1950	1935	1950	0	1950	1950	1935
Adj Flow Rate, veh/h	291	0	228	90	46	60	244	522	0	89	577	238
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	0	1	0	0	0	1	0	0	0	0	1
Cap, veh/h	557	0	377	108	55	72	402	1479	0	449	1372	855
Arrive On Green	0.15	0.00	0.15	0.13	0.13	0.13	0.08	0.40	0.00	0.05	0.37	0.37
Sat Flow, veh/h	3685	0	1640	831	425	554	1843	3803	0	1857	3705	1640
Grp Volume(v), veh/h	291	0	228	196	0	0	244	522	0	89	577	238
Grp Sat Flow(s), veh/h/ln	1843	0	1640	1809	0	0	1843	1853	0	1857	1853	1640
Q Serve(g_s), s	6.5	0.0	11.1	9.4	0.0	0.0	7.0	8.8	0.0	2.6	10.3	7.2
Cycle Q Clear(g_c), s	6.5	0.0	11.1	9.4	0.0	0.0	7.0	8.8	0.0	2.6	10.3	7.2
Prop In Lane	1.00		1.00	0.46		0.31	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	557	0	377	236	0	0	402	1479	0	449	1372	855
V/C Ratio(X)	0.52	0.00	0.61	0.83	0.00	0.00	0.61	0.35	0.00	0.20	0.42	0.28
Avail Cap(c_a), veh/h	682	0	423	325	0	0	402	2329	0	502	2329	1279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	0.0	30.7	37.8	0.0	0.0	17.1	18.7	0.0	16.0	20.9	11.9
Inor Delay (d2), s/veh	0.3	0.0	1.1	9.1	0.0	0.0	1.9	0.1	0.0	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	0.0	7.9	8.3	0.0	0.0	5.7	6.5	0.0	1.9	7.7	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	31.8	46.8	0.0	0.0	19.0	18.8	0.0	16.0	21.0	12.0
LnGrp LOS	D	A	C	D	A	A	B	B	A	B	C	B
Approach Vol, veh/h	519			196			766			904		
Approach Delay, s/veh	33.7			46.8			18.9			18.1		
Approach LOS	C			D			B			B		
Timing Parameters												
Phs Duration (G+Y+Rc), s	9.4	42.6		19.5	12.0	40.0		17.6				
Change Period (Y+Rc), s	5.0	7.0		6.0	5.0	7.0		6.0				
Max Green Setting (Gmax), s	7.0	56.0		16.0	7.0	56.0		16.0				
Max Q Clear Time (g_c+I1), s	4.6	10.8		13.1	9.0	12.3		11.4				
Green Ext Time (p_c), s	0.0	2.4		0.4	0.0	3.0		0.3				
Performance Summary												
HCM 6th Ctrl Delay	24.1											
HCM 6th LOS	C											
Notes												
User approved volume balancing among the lanes for turning movement.												

TRAFFIC SIGNAL TIMING DIRECTIVE

VEHICLE ACTUATION

INDICATIONS

Phase	Approach	1,2	3,4	5,6	7,8	9,10	11,12, 13	14,15	16,17	18	19-22	23-24	25-28	TIMING PLAN I (SEC.)	TIMING PLAN II (SEC.)	TIMING PLAN III (SEC.)	TIMING PLAN IV (SEC.)
A.	Plainfield Avenue (CR 529) Lefts Change	R/<G- R/<Y-	R	R/<G- R/<Y-	R	R	R	R/G> R/Y>	R	R	DW	DW	DW	8-15 5	8-17 5	8-11 5	8-17 5
B.	Plainfield Avenue (CR 529) R.O.W. Change Clearance	G Y	G Y	G Y	G Y	-FY> -Y>	R	R	R	R	DW	DW	DW	56-45 5	56-38 5	46-33 5	33-56 5
C.	Kilmer Road R.O.W. Change Clearance	R R	R R	R R	R R	R/G> R/Y>	R	R	R	R	DW	DW	DW	6-10 2	6-15 2	6-16 2	6-16 2
D.	Site Driveway R.O.W. Change Clearance	R R	R R	R R	R R	R	R	R	G/<G- Y/<Y-	G	DW	DW	DW	6 4	6 4	6 4	6 4
OFFSET														0	0	0	N/A
EMERGENCY FLASH														-	-	-	-

NOTES:

- The memory circuits are to be disconnected.
- The vehicle extension shall be set at 2 seconds.
- The manual control is to be disconnected.
- The controller shall have the ability to skip any phase which has not been actuated.
- The left turn lanes on Plainfield Avenue (Phase A) are to operate independently but concurrently if actuation occurs on both approaches. If only one left turn lane is actuated, the non-conflicting through movement shall be initiated prior to Phase B.
- Phase A shall always be followed by Phase B.
- The signal shall be set to free mode, soft recall, and rest in Phase B Plainfield Avenue (CR 529) R.O.W, Don't Walk.
- The offset during all hours of operation shall be measured as zero (0) from the beginning of the yellow (clearance) time on Phase B Plainfield Avenue (CR 529) R.O.W, as this intersection shall be set as the master intersection for the following intersections
 - Plainfield Avenue (CR 529) and Brunswick Avenue
 - Plainfield Avenue (CR 529) and Rivendell Way
 - Stelton Road (CR 529) and Jesse Way
 - Stelton Road (CR 529) and Ethel Road
- During pedestrian actuation, green times will be exceeded for Phases B, C and D (all timing plans) using the pedestrian override feature.

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Directive #
 Plainfield Avenue (C.R. 529) and Kilmer Road
 Township of Edison, Middlesex County
 13000511G
 July 23, 2013
 AS-BUILT: May 13, 2020

HOURS OF OPERATION:

- Timing Plan I
 - 100 Second Background Cycle / 7:00AM - 9:00AM, Monday - Friday
- Timing Plan II
 - 90 Second Background Cycle / 9:00AM - 3:00PM, Monday - Friday
- Timing Plan III
 - 90 Second Background Cycle / 3:00AM - 8:00PM, Monday - Friday
- Timing Plan IV
 - Variable Cycle Length / All Other Times

PEDESTRIAN ACTUATION

INDICATIONS

Phase	Approach	1,2	3,4	5,6	7,8	9,10	11,12, 13	14,15	16,17	18	19-22	23-24	25-28	TIMING PLAN I (SEC.)	TIMING PLAN II (SEC.)	TIMING PLAN III (SEC.)	TIMING PLAN IV (SEC.)
A.	Plainfield Avenue (CR 529) Lefts Change	R<G- R<Y-	R	R<G- R<Y-	R	R	R	R/G> R/Y>	R	R	DW DW	DW DW	DW DW	8-15 5	8-17 5	8-11 5	8-17 5
B.	Plainfield Avenue (CR 529) R.O.W. Pedestrian Clearance Change	G Y	G Y	G Y	G Y	-FY> -FY> -Y>	R R R	R R R	R R R	R R R	W FDW DW	DW DW DW	DW DW DW	40 40 5	40 40 5	40 40 5	40 40 5
C.	Kilmer Road R.O.W. Pedestrian Clearance Change	R R R	R R R	R R R	R R R	R/G> R/G> R/Y>	G<G- G<G- Y<Y-	G/G> G/G> Y/Y>	R R R	R R R	DW DW DW	W FDW DW	DW DW DW	19 19 4	19 19 4	19 19 4	19 19 4
D.	Site Driveway R.O.W. Pedestrian Clearance Change	R R R	R R R	R R R	R R R	R R R	R R R	R R R	G<G- G<G- Y<Y-	G G Y	DW DW DW	DW DW DW	W FDW DW	20 20 4	20 20 4	20 20 4	20 20 4
OFFSET														0	0	0	N/A

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FIRE PRE-EMPTION:

1. The intersection shall have a controller with internal pre-emption features.
2. Remote control pre-emption is permitted from all approaches to the intersection.
3. The device shall only select a phase displayed in the normal operation.
4. The controller shall guarantee all vehicular and pedestrian minimums, change, and clearance times.
5. If the controller is replaced with one without internal pre-emption, the pre-emption device shall be disconnected.
6. Fire pre-emption R.O.W. is to be in effect until released.
7. Normal operation shall commence at the point in the sequence where pre-emption is terminated.
8. A minimum guaranteed green time shall be provided to the main street before servicing another pre-emption request.
9. In the event multiple vehicles are requesting Fire pre-emption, the device grants pre-emption on a first come, first served basis. The first request received for pre-emption will be the first request granted. All remaining requests for pre-emption will be processed in order of receipt.