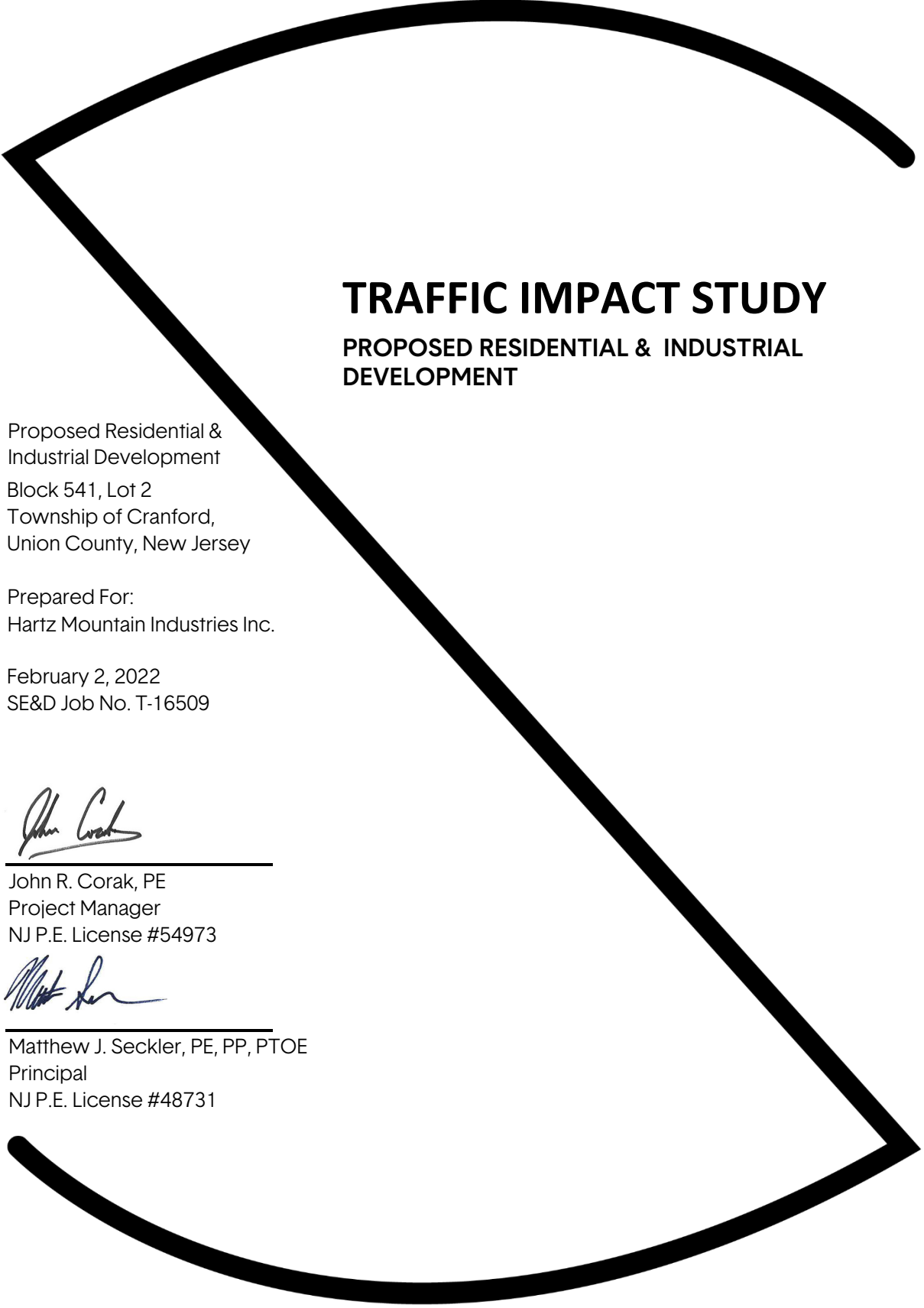




TRAFFIC IMPACT STUDY

PROPOSED RESIDENTIAL & INDUSTRIAL DEVELOPMENT

Proposed Residential &
Industrial Development
Block 541, Lot 2
Township of Cranford,
Union County, New Jersey

Prepared For:
Hartz Mountain Industries Inc.

February 2, 2022
SE&D Job No. T-16509



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STONEFIELD

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EXECUTIVE SUMMARY

This Traffic Impact Study was prepared for the proposed residential and industrial development located along Walnut Avenue in the Township of Cranford, Union County, New Jersey:

1. The proposed residential and industrial development is located along Walnut Avenue southbound, bounded by the Consolidated Rail Corporation Main Stem to the north and the Hyatt Hills Golf Complex to the south, in the Township of Cranford, Union County, New Jersey. The existing site is occupied by an approximate 315,000-square-foot office building. Under the proposed development program, the existing structures would be razed, and two (2) residential buildings consisting of 250 total residential dwelling units would be constructed on the southerly portion of the property and two (2) flex buildings totaling 241,200 square feet would be constructed on the northerly portion of the property.
2. Access is presently provided via two (2) full-movement driveways along Walnut Avenue. Access to the residential portion of the site is proposed via one (1) full-movement driveway that would serve as the fourth leg of the intersection of Walnut Avenue and Behnert Place and one (1) right-out only driveway along Walnut Avenue. Access to the industrial portion of the site is proposed via one (1) full-movement driveway serving as the fourth leg of the intersection of Walnut Avenue and Lexington Avenue.
3. Turning movement counts were conducted at 12 intersections throughout the Township of Cranford and Clark Township on Thursday, November 18, 2021 and Saturday, November 20, 2021.
4. The turning movement counts conducted were compared to pre-pandemic counts to compare the traffic volume difference at the intersection of Walnut Avenue and Raritan Road. The as-counted traffic volumes were within 10% of the increased 2016 turning movement counts and as such, no adjustments were made to the turning movement counts.
5. The proposed mixed-use development is expected to generate significantly less trips compared to the existing office building during the weekday morning and weekday evening peak hours.
6. Slight signal timing mitigations are proposed at the intersection of Central Avenue and Raritan Road during the weekday evening and Saturday midday peak hours.
7. A right-turn gap study was conducted at the intersection of Chester Lang Place and Walnut Avenue in order to assess the number of gaps in traffic for vehicles to turn from Chester Lang

Place onto Walnut Avenue. It was found that a sufficient number of gaps are available along Walnut Avenue to accommodate the projected turning movements from Chester Lang Place.

8. Based on the proximity of the intersection of Walnut Avenue and Raritan Road, it is anticipated that gaps created by the adjacent signalized intersection will provide ample opportunity for turning movements out of the site driveways. During the critical weekday evening peak hour, it is calculated that there would be approximately one (1) left-turn every 5.5 minutes from the residential site driveway and one (1) left-turn every 2.5 minutes from the industrial site driveway. As such, the proposed development would not have a significant adverse impact on the adjacent roadway network
9. Traffic calming measures are proposed within the residential community to discourage drivers from utilizing the residential side streets as a cut-through. Specifically, all-way stop-controlled intersections are proposed at the intersection of Lexington Avenue and Behnert Place and at the intersection of Lexington Avenue and Colin Kelly Street. Speed humps are also proposed along Lexington Avenue and Mohawk Drive.
10. The possibility of shifting the industrial site driveway approximately 100 feet to the south was observed and analyzed. The turning movements at the unsignalized intersection of Walnut Avenue and the offset industrial site driveway would operate at improved Levels of Service compared to the current Build Condition. Union County standards recommend aligning new streets or driveways with existing streets or driveways and, if the driveway is not aligned, recommends a 150-foot offset between the site driveway and opposite street. A driveway shift would also misalign the internal drive aisles on-site and would introduce hooking left-turns between the driveway and Lexington Avenue. To remain consistent with Union County standards and avoid potential safety hazards on and off the site, the proposed industrial site driveway is recommended to be aligned with Lexington Avenue.
11. A traffic signal was observed and analyzed at the intersection of Walnut Avenue, Behnert Place, and the residential site driveway. A traffic signal warrant analysis was conducted, and it was found that Warrants 1-3 were not met during any of the peak hours studied. The traffic volumes generated by the proposed development would not have a significant impact on the traffic operations of the existing intersection. As such, a traffic signal is not recommended at the Walnut Avenue, Behnert Place, and residential site driveway intersection. It is proposed to align the residential site driveway with Behnert Place, as the traffic calming measures proposed within the residential neighborhood would deter vehicles from using the intersection as a cut-through.

INTRODUCTION

This Traffic Impact Study was prepared to investigate the potential impacts of the proposed residential and industrial development on the adjacent roadway network. The subject property is located along Walnut Avenue southbound, bounded by the Consolidated Rail Corporation Main Stem to the north and the Hyatt Hills Golf Complex to the south, in the Township of Cranford, Union County, New Jersey. The site location is shown on appended **Figure I**.

The subject property is designated as Block 541, Lot 2 as depicted on the Township of Cranford Tax Map. The site has approximately 2,292 feet of frontage along Walnut Avenue. The existing site is occupied by an approximate 315,000-square-foot office building. Access is presently provided via two (2) full-movement driveways along Walnut Avenue. Under the proposed development program, the existing structures would be razed, and two (2) residential buildings consisting of 250 total residential dwelling units would be constructed on the southerly portion of the property and two (2) flex buildings totaling 241,200 square feet would be constructed on the northerly portion of the property. Access to the residential portion of the site is proposed via one (1) full-movement driveway that would serve as the fourth leg of the intersection of Walnut Avenue and Behnert Place and one (1) right-out only driveway along Walnut Avenue. Access to the industrial portion of the site is proposed via one (1) full-movement driveway serving as the fourth leg of the intersection of Walnut Avenue and Lexington Avenue.

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 intersections 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 10 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 field recordings and timing directives provided from the Traffic Impact Study prepared by Langan, dated March 20, 2017.

EXISTING CONDITION

EXISTING ROADWAY CONDITIONS

The proposed residential and industrial development is located along Walnut Avenue southbound, bounded by the Consolidated Rail Corporation Main Stem to the north and the Hyatt Hills Golf Complex to the south, in the Township of Cranford, Union County, New Jersey. The subject property is designated as Block 54I, Lot 2 as depicted on the Township of Cranford Tax Map. The site has approximately 2,292 feet of frontage along Walnut Avenue. Land uses in the area are a mix of residential, retail, commercial, and industrial uses.

Walnut Avenue (County Road 632) is classified as an Urban Minor Arterial roadway with a general north-south orientation and is under the jurisdiction of Union County. Along the site frontage, the roadway provides one (1) lane of travel in each direction, with additional turning lanes provided at key intersections to facilitate turning movements and provide additional capacity. Walnut Avenue has a posted speed limit of 35 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are provided along both sides of the roadway, and on-street parking is permitted along the easterly side of the roadway. Walnut Avenue provides north-south mobility throughout the Township of Cranford and surrounding municipalities and provides access to NJSH Route 28 to the north of the site for a mix of residential, retail, commercial, and industrial uses along its length.

Raritan Road (County Road 607) is classified as an Urban Minor Arterial roadway with a general east-west orientation and is under the jurisdiction of Union County. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction to the east of Walnut Avenue and two (2) lanes of travel in each direction to the west of Walnut Avenue with additional lanes provided at key intersections to facilitate turning movements and provide additional capacity. Raritan Road has a posted speed limit of 35 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are provided along both sides of the roadway to the east of Walnut Avenue, and on-street parking is not permitted. Raritan Road provides east-west mobility throughout Township of Cranford and surrounding municipalities for a mix of residential, retail, and commercial uses along its length.

Lincoln Avenue East is classified as an Urban Major Collector roadway with a general east-west orientation and is under the jurisdiction of the Township of Cranford. In the vicinity of the site, 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

along both sides of the roadway, shoulders are not provided, and on-street parking is not permitted. Lincoln Avenue East provides east-west mobility throughout the Township of Cranford and surrounding municipalities for a mix of residential, religious, and recreational uses along its length.

Chester Lang Place is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Cranford. In the vicinity of the site, the roadway provides one (1) lane of travel for each direction and has a posted speed limit of 15 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. Chester Lang Place provides mobility from Walnut Avenue at its easterly terminus to Lexington Avenue at its southerly terminus for predominantly residential uses along its length.

Lexington Avenue is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Cranford. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction and has a posted speed limit of 25 mph. Curb and sidewalk are generally provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. Lexington Avenue provides east-west mobility from Raritan Road at its easterly terminus to Walnut Avenue at its westerly terminus for predominantly residential uses along its length.

Behnert Place is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Cranford. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. Behnert Place provides east-west mobility from Lexington Avenue at its easterly terminus to Walnut Avenue at its westerly terminus for predominantly residential uses along its length.

Mitchell Place is a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Cranford. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. Mitchell Place provides east-west mobility from MacArthur Street at its easterly terminus to Walnut Avenue at its westerly terminus for predominantly residential uses along its length.

Florence Drive is a local roadway with a general east-west orientation and is under the jurisdiction of Clark Township. In the vicinity of the site, the roadway provides one (1) lane of travel in the eastbound/southbound direction. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is permitted along both sides of the roadway. Florence Drive provides one-way mobility connecting to Walnut Avenue at its terminuses for predominantly residential uses along its length.

Central Avenue is classified as an Urban Principal Arterial roadway with a general north-south orientation and is under the jurisdiction of Union County. In the vicinity of the site, the roadway provides two (2) lanes of travel in each direction, separated by a two-way left-turn lane, with additional lanes provided at key intersections to facilitate turning movements and provide additional capacity. Central Avenue has a posted speed limit of 25 mph. Curb and sidewalk are provided along both sides of the roadway, shoulders are not provided, and on-street parking is not permitted. Central Avenue provides east-west mobility throughout the City of Clark and surrounding municipalities and provides access to the Garden State Parkway to the south of the site and provides access to NJSH Route 28 to the north of the site for a mix of residential, retail, and commercial, uses along its length.

Shoprite Way is a local roadway with a general north-south orientation and is under the jurisdiction of Clark Township. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction. Curb is provided along both sides of the roadway, sidewalk is provided along the northerly side of the roadway, shoulders are not provided, and on-street parking is not permitted. Shoprite Way provides mobility from Raritan Road at its northerly terminus to the ShopRite parking lot at its southerly terminus.

New York Avenue is classified as a local roadway with a general east-west orientation and is under the jurisdiction of the Township of Cranford. New York Avenue becomes Colin Kelly Court to the north of Raritan Road. In the vicinity of the site, the roadway provides one (1) lane of travel in each direction. Curb is provided along both sides of the roadway, sidewalk and shoulders are not provided, and on-street parking is permitted along both sides of the roadway. New York Avenue provides one-way mobility north south mobility from Raritan Road at its northerly terminus to its southerly terminus for predominantly residential uses along its length. It is noted that New York Avenue is gated at its southerly terminus and does not provide a connection to the Garden State Parkway.

Walnut Avenue and Lincoln Avenue intersect to form a four (4)-leg intersection controlled by a four (4)-phase traffic signal operating on a 90-second fixed background cycle. The eastbound and westbound approaches of Lincoln Avenue each provide one (1) exclusive left-turn lane and one (1) shared through/right-turn lane. The northbound approach of Walnut Avenue provides one (1) exclusive left-turn lane and one (1) shared through/right-turn lane and the southbound approach of Walnut Avenue provides one (1) full-movement lane. Crosswalks and pedestrian signals are provided across each of the intersection legs.

Walnut Avenue and Chester Lang Place intersect to form an unsignalized T-intersection with the eastbound approach of Chester Lang Place operating under stop control. The eastbound approach of Chester Lang Place provides one (1) left-turn/right-turn lane. The northbound approach of Walnut Avenue provides one (1) shared

left-turn/through lane and the southbound approach of Walnut Avenue provides one (1) shared through/right-turn lane. Crosswalks are provided across the western and northern legs of the intersection.

Walnut Avenue and Lexington Avenue intersect to form an unsignalized T-intersection with the westbound approach of Lexington Avenue operating under stop control. The westbound approach of Lexington Avenue provides one (1) shared left-turn/right-turn lane. The northbound approach of Walnut Avenue provides one (1) shared through/right-turn lane and the southbound approach of Walnut Avenue provides one (1) shared left-turn/through lane. A crosswalk is provided across the eastern leg of the intersection.

Walnut Avenue and Behnert Place intersect to form an unsignalized T-intersection with the westbound approach of Behnert Place operating under stop control. The westbound approach of Behnert Place provides one (1) shared left-turn/right-turn lane. The northbound approach of Walnut Avenue provides one (1) shared through/right-turn lane and the southbound approach of Walnut Avenue provides one (1) shared left-turn/through lane. Crosswalks are not provided.

Walnut Avenue and Mitchell Place intersect to form an unsignalized T-intersection with the westbound approach of Mitchell Place operating under stop control. The westbound approach of Mitchell Place provides one (1) shared left-turn/right-turn lane. The northbound approach of Walnut Avenue provides one (1) shared through/right-turn lane and the southbound approach of Walnut Avenue provides one (1) shared left-turn/through lane. Crosswalks are not provided.

Raritan Road and Walnut Avenue intersect to form a four (4)-leg intersection controlled by a four (4)-phase traffic signal operating on a variable cycle length. The eastbound and westbound approaches of Raritan Road each provide one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) shared through/right-turn lane. The northbound approach of Walnut Avenue provides one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) exclusive right-turn lane and the southbound approach of Walnut Avenue provides one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) shared through/right-turn lane. Crosswalks and pedestrian signals are provided across each of the intersection legs.

Walnut Avenue and Florence Drive intersect to form an unsignalized T-intersection. The northbound approach of Raritan Road provides two (2) exclusive through lanes and one (1) shared through/right-turn lane and the southbound approach of Walnut Avenue provides one (1) shared left-turn/through lane and one (1) exclusive through lane. Florence Drive provides one (1) receiving lane.

Raritan Road, New York Avenue, and Colin Kelly Court intersect to form an unsignalized four (4)-leg intersection with the northbound approach of New York Avenue and southbound approach of Colin Kelly Court operating under stop control. The eastbound approach of Raritan Road provides one (1) shared left-

turn/through lane and one (1) shared through/right-turn lane and the westbound approach of Raritan Road provides one (1) full-movement lane. The northbound approach of New York Avenue provides one (1) full-movement lane. The southbound approach of Colin Kelly Court provides one (1) full-movement lane. Crosswalks are provided across the northern and western legs of the intersection.

Raritan Road, Shoprite Way, and the shopping center driveway intersect to form a four (4)-leg intersection controlled by a three (3)-phase traffic signal operating on a 75-second fixed background cycle. The eastbound and westbound approaches of Raritan Road each provide one (1) exclusive left-turn lane, one (1) exclusive through lane, and one (1) shared through/right-turn lane. The northbound approach of Shoprite Way provides one (1) shared left-turn/through lane and one (1) exclusive right-turn lane. The southbound approach of the shopping center driveway provides one (1) full-movement lane. Crosswalks and pedestrian signals are provided across the eastern and southern legs of the intersection.

Raritan Road and Central Avenue intersected to form a four (4)-leg intersection controlled by a four (4)-phase traffic signal operating on a 150-second fixed background cycle. The eastbound and westbound approaches of Raritan Road each provide one (1) exclusive left-turn lane, two (2) exclusive through lanes, and one (1) exclusive right-turn lane. The northbound approach of Central Avenue provides two (2) exclusive left-turn lanes, two (2) exclusive through lanes, and one (1) channelized right-turn lane and the southbound approach of Central Avenue provides two (2) exclusive left-turn lanes, one (1) exclusive through lane, and one (1) shared through/right-turn lane. Crosswalks and pedestrian signals are provided across each of the intersection legs.

2021 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 following intersections:

- ◆ Intersection of Lincoln Avenue and Walnut Avenue
- ◆ Intersection of Chester Lang Place and Walnut Avenue
- ◆ Intersection of Lexington Avenue and Walnut Avenue
- ◆ Intersection of Walnut Avenue and the northerly site driveway
- ◆ Intersection of Behnert Place and Walnut Avenue
- ◆ Intersection of Mitchell Place and Walnut Avenue
- ◆ Intersection of Walnut Avenue and the southerly site driveway
- ◆ Intersection of Raritan Road and Walnut Avenue

- ◆ Intersection of Florence Drive and Walnut Avenue
- ◆ Intersection of Raritan Road, New York Avenue, and Colin Kelly Court
- ◆ Intersection of Raritan Road, Shoprite Way, and the shopping center driveway
- ◆ Intersection of Raritan Road and Central Avenue

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

- ◆ Thursday, November 18, 2021, from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 7:00 p.m.
- ◆ Saturday, November 20, 2021, 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 7:45 a.m. to 8:45 a.m.; the weekday evening peak hour occurred from 4:45 p.m. to 5:45 p.m.; and the Saturday midday peak hour occurred from 11:45 a.m. to 12:45 p.m. The Technical Appendix contains a summary of the turning movement count data.

TRAFFIC VOLUME COMPARISON

The 2021 turning movement counts at the intersection of Walnut Avenue and Raritan Road were compared to turning movement counts collected at the intersection on October 25, 2016 to compare the traffic volume difference at the intersection. Specifically, the total intersection weekday morning and weekday evening peak hour traffic volumes were compared between the 2016 and 2021 turning movement counts. The 2016 traffic volumes were increased by 0.5% for five (5) years in accordance with North Jersey Transportation Planning Authority Demographic Forecasts to calculate the 2021 traffic volumes. **Table I** compares the 2016 increased traffic volumes and 2021 as-counted traffic volumes.

TABLE I – TRAFFIC VOLUME COUNT COMPARISON

Land Use	2016 TMC	2021 Increased TMC	2021 As-Counted TMC	Percent Difference
Weekday Morning Peak Hour	2493	2556	2408	-6.1%
Weekday Evening Peak Hour	3209	3290	3389	+3.0%

As shown in Table I, the as-counted traffic volumes were within 10% of the increased 2016 turning movement counts. As such, no adjustments were made to the as counted traffic volumes. The 2021 Existing weekday morning, weekday evening, and Saturday midday peak-hour volumes are summarized on appended **Figure 2**.

2021 EXISTING LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was conducted for the 2021 Existing Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersections and existing site driveways. Under the existing conditions, the signalized intersection of Lincoln Avenue and Walnut Avenue is calculated to operate at overall Level of Service C during the peak hours studied. The signalized intersection of Raritan Road and Walnut Avenue is calculated to operate at overall Level of Service C during the peak hours studied. The signalized intersection of Raritan Road, Shoprite Way, and the shopping center driveway is calculated to operate at overall Level of Service A during the weekday morning peak hour and overall Level of Service B during the weekday evening and Saturday midday peak hours. The signalized intersection of Raritan Road and Central Avenue is calculated to operate at overall Level of Service D during the weekday morning and weekday evening peak hours and overall Level of Service E during the Saturday midday peak hour. The eastbound left-turn movement, westbound left-turn movement, and northbound left-turn movement are calculated to operate under capacity constraints during the peak hours studied. The eastbound left-turn movement at the intersection Walnut Avenue and Chester Lang Place is calculated to operate under capacity constraints during the weekday evening peak hour. The remaining turning movements at the unsignalized intersections throughout the roadway network are calculated to operate at acceptable Levels of Service.

2023 NO-BUILD CONDITION

BACKGROUND GROWTH

The 2021 Existing Condition traffic volume data was grown to a future horizon year of 2023, which is a conservative estimate for when the proposed residential and industrial development is expected to be fully constructed. In accordance with industry guidelines, the existing traffic volumes at the study intersections were increased by 1.00% annually for two (2) years. The 1.00% background growth rate was obtained from NJ: 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 intersections. 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 the Township of Cranford Planning Board meeting minutes and agendas, there are no planned development projects within the area of the subject site. As such, the application of the background growth rate would be adequate to account for background traffic growth.

2023 NO-BUILD TRAFFIC VOLUMES

The background growth rate was applied to the 2021 Existing Traffic Volumes to calculate the 2023 No-Build Traffic Volumes for the weekday morning, weekday evening, and Saturday midday peak hours. These volumes are summarized on appended **Figure 3**.

2023 NO-BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2023 No-Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersections and existing site driveways. The signalized intersection of Lincoln Avenue and Walnut Avenue is calculated to operate generally consistent with the findings of the Existing Condition during the studied peak hours. The signalized intersection of Raritan Road and Walnut Avenue is calculated to operate generally consistent with the findings of the Existing Condition during the studied peak hours. The signalized intersection of Raritan Road, Shoprite Way, and the shopping center driveway is calculated to operate generally consistent with the findings of the Existing Condition during the studied peak hours. The signalized intersection of Raritan Road and Central Avenue is calculated to operate generally consistent with the findings of the Existing Condition during the studied peak hours. The eastbound left-turn movement, westbound left-turn movement, and northbound left-turn movement are calculated to operate under capacity constraints during the peak hours studied. The eastbound left-turn movement at the intersection Walnut Avenue and Chester Lang Place is calculated to operate under capacity constraints during the weekday evening peak hour. The remaining turning movements at the unsignalized intersections throughout the roadway network are calculated to operate at acceptable Levels of Service.

2023 BUILD CONDITION

The site-generated traffic volume of the proposed residential and industrial 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 existing office building and proposed residential and industrial development were prepared utilizing the ITE's Trip Generation Manual, 11th Edition. Trip generation rates associated with Land Use 710 “General Office Building” were cited for the existing 315,000-square-foot office building. Trip generation rates associated with Land Use 130 “Industrial Park” and Land Use 221 “Multifamily Housing (Mid-Rise)” were cited for the proposed development consisting of 241,200 square feet of industrial space and 250 residential dwelling units, respectively. It is noted that ITE's Trip Generation Manual, 11th Edition

only provides two (2) data points for the Saturday midday peak hour. As such, 10% of the daily Saturday trip generation was utilized for this analysis. To provide a conservative analysis, no trip reduction was applied for the existing uses on site. **Table 2** provides the weekday morning and weekday evening peak hour trip generation volumes associated with the proposed development.

TABLE 2 – 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
<i>Existing</i> 315,000 SF General Office Building <i>ITE Land Use 710</i>	421	58	479	77	377	454	90	77	167
<i>Proposed</i> 241,200 SF Industrial Park <i>ITE Land Use 130</i>	66	16	82	18	64	82	31	30	61
<i>Proposed</i> 250 Unit Multifamily Housing (Mid-Rise) <i>ITE Land Use 221</i>	21	72	93	59	39	98	50	48	98
Total	87	88	175	77	103	180	81	78	159
Trip Generation Difference	-344	+30	-304	0	-274	-274	-9	+1	-8

As shown in Table 1, the proposed development is expected to generate 175 trips during the weekday morning peak hour, 180 trips during the weekday evening peak hour, and 159 trips during the Saturday midday peak hour. The proposed development is expected to generate 304 less trips during the weekday morning peak hour, 274 less trips during the weekday evening peak hour, and eight (8) less trips during the Saturday midday peak hour compared to the existing office building. It is noted that the existing traffic volumes at the site driveways were removed from the roadway network. These volumes are summarized in appended **Figure 4**.

TRIP ASSIGNMENT/DISTRIBUTION

The trips generated by the proposed development were distributed according to Journey-To-Work Models prepared for the site using 2010 census data. The Township of Cranford was used as a place of residence for the residential portion of the site and used as a place of work for the industrial portion of the site to determine the trip assignment along the adjacent roadway network. The methodology used in the preparation of the Journey-To-Work Model utilizes the location of resident's jobs and the location of employee's homes identified through 2010 Census Data published by the US Census Bureau, divided by municipality, in the surrounding area to determine the trip distribution. The Journey-To-Work Models,

restricted to the top 25 surrounding municipalities, is in the Appendix. The results of the Journey-To-Work Model for the residential portion of the site and the industrial portion of the site were used to distribute the site-generated traffic along the adjacent roadway network and are summarized in **Tables 3** and **4**, respectively. **Figures 5** and **6** illustrate the Residential Site-Generated Traffic Volumes and Industrial Site-Generated Traffic Volumes, respectively. The Total Site-Generated Traffic Volumes are shown on appended **Figure 7**.

TABLE 3 – RESIDENTIAL JOURNEY-TO-WORK MODEL TRIP DISTRIBUTION

Destination	To	Origin	From
To GSP North – Raritan Road	28%	From GSP South – Central Avenue	55%
To GSP North – Central Avenue	28%	From Northwest – Lincoln Avenue	7%
To Northwest – Chester Lang Place	13%	From Northeast – Lincoln Avenue	10%
To Northeast – Lincoln Avenue	10%	From North – Lincoln Avenue	6%
To North - Lincoln Avenue	6%	From East – Raritan Road	3%
To South – Walnut Avenue	13%	From South – Walnut Avenue	12%
To West – Raritan Road	2%	From Northwest – Chester Lang Place	5%
		From West – Raritan Road	2%
TOTAL	100%	Total	100%

TABLE 4 – INDUSTRIAL JOURNEY-TO-WORK MODEL TRIP DISTRIBUTION

Destination	To	Origin	From
To GSP North – Raritan Road	19%	From GSP South – Central Avenue	28%
To GSP North – Central Avenue	19%	From Northwest – Lincoln Avenue	6%
To Northwest – Chester Lang Place	11%	From Northeast – Lincoln Avenue	24%
To Northeast – Lincoln Avenue	24%	From North – Lincoln Avenue	3%
To North - Lincoln Avenue	3%	From East – Raritan Road	19%
To South – Walnut Avenue	22%	From South – Walnut Avenue	12%
To West – Raritan Road	2%	From Northwest – Chester Lang Place	6%
		From West – Raritan Road	2%
TOTAL	100%	Total	100%

2023 BUILD TRAFFIC VOLUMES

The site-generated trips were added to the 2023 No-Build Traffic Volumes to calculate the 2023 Build Traffic Volumes and are shown on appended **Figure 8**.

2023 BUILD LOS/CAPACITY ANALYSIS

A Level of Service and Volume/Capacity analysis was also conducted for the 2023 Build Condition during the weekday morning, weekday evening, and Saturday midday peak hours at the study intersections and

proposed site driveways. Appended **Table AI** compares the Existing, No-Build, and Build Conditions Level of Service and delay values.

The signalized intersection of Lincoln Avenue and Walnut Avenue is calculated to operate generally consistent with the findings of the No-Build Condition during the peak hours studied. The signalized intersection of Raritan Road and Walnut Avenue is calculated to operate at overall Level of Service C during the weekday morning and Saturday midday peak hours and at overall Level of Service D during the weekday evening peak hour. The signalized intersection of Raritan Road, Shoprite Way, and the shopping center driveway is calculated to operate generally consistent with the findings of the No-Build Condition during the peak hours studied. The signalized intersection of Raritan Road and Central Avenue is calculated to operate at overall Level of Service D during the weekday morning peak hour and at overall Level of Service E during the weekday evening and Saturday midday peak hours. The eastbound left-turn movement, westbound left-turn movement, and northbound left-turn movement are calculated to operate under capacity constraints during the peak hours studied.

The eastbound left-turn/right-turn movement at the intersection of Walnut Avenue and Chester Lang Place is calculated to operate under capacity constraints during the weekday evening peak hour. The eastbound left-turn/through/right-turn movement at the intersection of Walnut Avenue, Lexington Avenue, and the industrial site driveway is calculated to operate under capacity constraints during the weekday evening peak hour. The eastbound left-turn/through/right-turn movement at the intersection of Walnut Avenue, Behnert Place, and the northerly residential site driveway is calculated to operate under capacity constraints during the weekday evening peak hour.

POTENTIAL DRIVEWAY MITIGATIONS

HCM methodology considers each intersection as part of an independent network, and queuing and platooning associated with adjacent intersections is not considered within the HCM analysis. Based on the proximity of the intersection of Walnut Avenue and Raritan Road, it is anticipated that gaps created by the adjacent signalized intersection will provide ample opportunity for turning movements out of the site driveways. During the weekday evening peak hour, there are a total 11 left-turns from the residential site driveway onto Walnut Avenue and a total 24 left-turns from the industrial site driveway onto Walnut Avenue. This equates to approximately one (1) left-turn every 5.5 minutes from the residential site driveway and one (1) left-turn every 2.5 minutes from the industrial site driveway. As such, the proposed development would not have a significant adverse impact on the adjacent roadway network.

The possibility of shifting the industrial site driveway approximately 100 feet to the south was observed and analyzed. It is noted that a shift of the industrial site driveway to form an unsignalized T-intersection with

Walnut Avenue would remove conflicting turning movements between Lexington Avenue and industrial site driveway. The turning movements at the unsignalized intersection of Walnut Avenue and the offset industrial site driveway would operate at Level of Service C or better during the weekday morning and Saturday midday peak hours and Level of Service D or better during the weekday evening peak hour. It is noted that Union County standards recommend aligning new streets or driveways with existing streets or driveways, similar to the alignment proposed for the industrial site driveway. For a nonaligned driveway, Union County standards recommend a 150-foot offset between the site driveway and opposite street. A driveway shift would also misalign the internal drive aisles on-site and would introduce hooking left-turns between the driveway and Lexington Avenue. To remain consistent with Union County standards and avoid potential safety hazards on and off the site, the proposed industrial site driveway is recommended to be aligned with Lexington Avenue.

A traffic signal was observed and analyzed at the intersection of Walnut Avenue, Behnert Place, and the residential site driveway. A traffic signal warrant analysis was conducted during the weekday morning, weekday evening, and Saturday midday peak hours using the Manual on Uniform Traffic Control Devices (MUTCD) published by the Federal Highway Administration (FHWA). It was found that Warrants 1-3 (8-hour Warrant, 4-hour Warrant, and Peak Hour Warrant) were not met during any of the peak hours studied. The traffic signal warrant calculations can be found in the Technical Appendix. The traffic volumes generated by the proposed development would not have a significant impact on the traffic operations of the existing intersection movements. As such, a traffic signal is not recommended at the Walnut Avenue, Behnert Place, and residential site driveway intersection. It is proposed to align the residential site driveway with Behnert Place, as the traffic calming measures proposed within the residential neighborhood would deter vehicles from using the intersection as a cut-through.

SIGNAL TIMING MITIGATIONS

Under the 2023 Build Condition, the eastbound left-turn and westbound left-turn movements at the intersection of Raritan Road and Central Avenue are calculated to operate under capacity constraints and increase delay during the weekday morning and weekday evening peak hours. To mitigate the impacts of the proposed development, signal timing changes are recommended at the intersection. Specifically, three (3) seconds of green time during the weekday evening peak hour and one (1) second of green time during the Saturday midday peak hour would be reallocated from the eastbound/westbound through movements to the eastbound/westbound left-turn movements. With the proposed retiming, the turning movements at the intersection would operate generally consistent with the findings in the No-Build Condition.

GAP STUDY ANALYSIS

The eastbound left-turn/right-turn movement at the intersection of Walnut Avenue and Chester Lang Place is calculated to operate under capacity constraints during the weekday morning and weekday evening peak hours. It is noted that 88% of turning movements from Chester Lang Place during the weekday morning peak hour and 97% of the turning movements from Chester Lang Place during the weekday evening peak hour consist of right-turn movements. In order to assess the number of gaps in traffic for vehicles to turn from Chester Lang Place onto Walnut Avenue, a right-turn gap study was conducted at the intersection. Specifically, the gap study was conducted during the critical weekday evening peak hour.

The data was analyzed using minimum gap acceptance rates as specified within the HCM. An available gap, or critical headway, represents the minimum time interval between oncoming vehicles that a motorist will accept to execute a turning movement. The critical headway times utilized in the analysis are specified within HCM for completing a right-turn on a two (2)-lane roadway. Specifically, the base critical headway required for a single vehicle to complete a left-turn is 6.2 seconds, the minimum follow-up headway required for additional vehicles to complete a left-turn is 3.3 seconds per additional vehicle. The gap count summary and analysis results can be found in the Technical Appendix.

Based on the gap count conducted, there would be 432 available gaps in traffic during the critical weekday evening peak hour. It is anticipated that 378 vehicles would make right-turns onto Walnut Avenue from Chester Lang Place. As such, there would be a sufficient number of available gaps along Walnut Avenue to accommodate the projected turning movements from Chester Lang Place. It is noted that the weekday evening peak hour is the critical peak hour. As such, it is expected that the weekday morning and Saturday midday peak hours would provide sufficient gaps in traffic to accommodate the projected turning movements from Chester Lang Place. It is also noted that the proposed development only increases the Chester Lang Avenue traffic volumes by 1% and only increases the Walnut Avenue southbound traffic volume by 3% during the critical weekday evening peak hour.

POTENTIAL TRAFFIC CALMING MEASURES

Based on the percentage of right turns from the residential side-streets onto Walnut Avenue, it is likely that the residential community is used as a cut-through between Walnut Avenue and Raritan Road. As such, traffic calming measures are proposed within the residential community to discourage drivers from utilizing the residential side streets as a cut-through. Specifically, all-way stop-controlled intersections are proposed at the intersection of Lexington Avenue and Behnert Place and at the intersection of Lexington Avenue and Colin Kelly Street. Speed humps are also proposed along Lexington Avenue and Mohawk Drive as potential traffic calming measure. The proposed all-way stop-controlled intersections and speed humps would increase the

travel time utilizing the residential side-streets and would encourage drivers to utilize the county roadways. The Technical Appendix contains a potential Traffic Calming Measures Exhibit.

SITE CIRCULATION/PARKING SUPPLY

A review was conducted of the proposed residential and industrial development using the Site Plan prepared by our office, dated January 12, 2022. In completing this review, particular attention was focused on the site access, circulation, and parking supply.

Under the proposed development plan, the southerly portion of the site would be developed with two (2) residential buildings consisting of 250 total residential dwelling units. Each of the residential buildings would consist of 125 total dwelling units and a ground-floor parking garage. Access to the residential portion of the site is proposed via one (1) full-movement driveway that would serve as the fourth leg of the intersection of Walnut Avenue and Behnert Place and one (1) right-out only driveway along Walnut Avenue. Residential parking would be provided along the drive aisles throughout the site and a surface parking lot would be provided to the east of the proposed buildings. Vehicular circulation throughout the site would be facilitated via a minimum of 24-foot-wide two-way drive aisles.

Under the proposed development plan, the northerly portion of the site would be developed with two (2) flex buildings totaling 241,200 square feet. The northerly building would consist of a 132,000-square-foot flex building and the southerly building would consist of a 109,200-square-foot flex building. Access to the industrial portion of the site is proposed via one (1) full-movement driveway serving as the fourth leg of the intersection of Walnut Avenue and Lexington Avenue. Standard parking spaces would be located along the northern and southern drive aisles. Loading spaces would be located between the two (2) flex buildings. Circulation throughout the site would be facilitated via a minimum of 24-foot-wide two-way drive aisles.

Regarding the parking requirements for the residential portion of the proposed development, the 750 Walnut Avenue Redevelopment Plan requires 1.8 parking spaces per residential dwelling unit. For the proposed development consisting of 250 dwelling units, this equates to 450 required parking spaces. The residential portion of the site would provide 450 parking spaces, inclusive of 16 ADA-accessible spaces, which meets the parking requirement and would be sufficient to support the residential portion of this projects parking demand. The spaces would be nine (9) feet wide by 18 feet deep in accordance with the 750 Walnut Avenue Redevelopment Plan and industry standards.

Regarding the parking requirements for the industrial portion of the proposed development, the Township of Cranford Ordinance requires one (1) space per 4,000 square feet of flex building space and one (1) space per 250 square feet of office space. It is assumed that 10% of the proposed flex buildings would consist of

office space. As such, the proposed development with 217,080 square feet of industrial space and 24,120 square feet of office space, this equates to 153 required parking spaces. The industrial portion of the site would provide 157 total passenger vehicle parking spaces, which meets the parking requirement and would be sufficient to support the industrial portion of this project's passenger vehicle parking demand. The spaces would be nine 8.5 feet wide by 18 feet deep in accordance with industry standards.

The 750 Walnut Avenue Redevelopment Plan also requires one (1) loading berth per 10,000 square feet of flex building space. For the proposed 241,200 square feet of flex space, this equates to 24 loading berths. The site would provide 32 loading berths with the potential for 78 total loading berths, which meets the requirements and would be sufficient to support the industrial portion of this projects loading demand. The spaces would be nine 13 feet wide by 65 feet deep in accordance with industry standards.

CONCLUSIONS

This report was prepared to examine the potential traffic impact of the proposed residential and industrial development. The proposed mixed-use development would generate significantly less trips compared to the existing office building during the weekday morning and weekday evening peak hours. Slight signal timing mitigations at the signalized intersection of Raritan Road with Central Avenue would improve the overall Levels of Service and individual movement delay compared to the No-Build Condition. The site is not expected to add a significant amount of traffic to the intersection of Walnut Avenue and Chester Lang Place and sufficient gaps in traffic are provided along Walnut Avenue for vehicles turning from Chester Lang Place. As such, the analysis findings, which have been based on industry-standard guidelines, indicate that the proposed development would not have a significant impact on the traffic operations of the adjacent roadway network with the mitigations proposed. The site driveways and on-site layout have been designed to provide for effective access to and from the subject property. Based on industry data, the 750 Walnut Avenue Redevelopment Plan, and local characteristics of the site and surrounding area, the parking supply for both the residential and industrial portions of the development would be sufficient to support this project's parking demand.

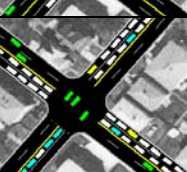
TECHNICAL APPENDIX

**LEVEL OF SERVICE/AVERAGE CONTROL DELAY
CRITERIA & COMPARISON TABLES**

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

STONEFIELD

Table A1: Comparative Level of Service (Delay) Table
Township of Cranford, Union County, New Jersey
X (n) = Level of Service (seconds of delay)

Intersection	Lane Group	Weekday Morning Peak Hour			Weekday Evening Peak Hour				Saturday Midday Peak Hour			
		2021 Existing Condition	2023 No-Build Condition	2023 Build Condition	2021 Existing Condition	2023 No-Build Condition	2023 Build Condition	2023 Build (Mitigation) Condition	2021 Existing Condition	2023 No-Build Condition	2023 Build Condition	2023 Build (Mitigation) Condition
		Signalized Intersections										
Lincoln Avenue (E/W) & Walnut Avenue (N/S)	EB Left	C (31.0)	C (30.9)	C (30.3)	C (24.8)	C (24.7)	C (24.4)		C (27.3)	C (27.3)	C (27.5)	
	EB Through/Right	D (37.2)	D (37.3)	D (37.4)	D (38.6)	D (38.7)	D (38.8)		D (35.1)	D (35.6)	D (36.7)	
	WB Left	C (23.3)	C (23.1)	C (23.3)	C (23.1)	C (23.1)	C (23.4)		C (23.9)	C (24.1)	C (24.6)	
	WB Through/Right	C (24.4)	C (24.2)	C (23.7)	B (20.0)	B (19.8)	B (19.6)		C (23.0)	C (23.1)	C (23.1)	
	NB Left	B (11.6)	B (11.9)	B (13.9)	B (13.9)	B (14.2)	B (16.3)		B (10.2)	B (10.2)	B (11.7)	
	NB Through/Right	B (15.9)	B (16.4)	C (20.0)	B (18.4)	B (19.0)	C (22.9)		B (12.5)	B (12.6)	B (14.9)	
	SB Left/Through/Right	B (19.6)	C (20.1)	C (23.8)	C (25.6)	C (26.3)	C (30.7)		B (18.3)	B (18.5)	C (20.9)	
	Overall	C (22.9)	C (23.1)	C (24.8)	C (24.8)	C (25.1)	C (27.1)		C (20.7)	C (20.9)	C (22.5)	
Raritan Road (E/W) & Walnut Avenue (N/S)	EB Left	B (13.2)	B (13.5)	B (14.1)	B (17.8)	B (19.3)	C (25.9)		B (10.3)	B (10.5)	B (11.5)	
	EB Through	B (17.2)	B (17.5)	B (17.8)	C (21.3)	C (21.9)	C (22.5)		B (13.7)	B (14.0)	B (14.5)	
	EB Through/Right	B (17.2)	B (17.5)	B (17.8)	C (21.3)	C (21.9)	C (22.5)		B (13.8)	B (14.0)	B (14.5)	
	WB Left	B (14.9)	B (15.2)	B (16.0)	B (17.0)	B (17.4)	B (17.8)		B (11.9)	B (12.2)	B (12.8)	
	WB Through	B (18.7)	B (19.1)	C (20.2)	C (21.7)	C (22.0)	C (22.5)		B (15.3)	B (15.6)	B (16.6)	
	WB Through/Right	B (18.7)	B (19.1)	C (20.3)	C (21.7)	C (22.1)	C (22.6)		B (15.3)	B (15.6)	B (16.6)	
	NB Left	C (23.8)	C (23.9)	C (24.9)	C (27.6)	C (27.6)	C (28.3)		C (27.2)	C (27.4)	C (28.1)	
	NB Through	E (56.2)	E (59.3)	E (71.1)	E (58.7)	E (60.6)	E (67.7)		C (33.2)	C (33.4)	C (34.7)	
	NB Right	C (26.7)	C (26.8)	C (27.8)	C (29.6)	C (29.5)	C (30.0)		C (29.7)	C (29.8)	C (30.5)	
	SB Left	C (26.7)	C (26.9)	C (27.4)	C (27.4)	C (27.5)	C (30.9)		C (26.7)	C (26.8)	C (27.1)	
	SB Through	C (27.7)	C (27.8)	C (28.3)	D (44.1)	D (44.7)	D (47.7)		D (36.6)	D (36.3)	D (38.5)	
	SB Through/Right	C (28.0)	C (28.1)	C (29.0)	D (45.2)	D (45.7)	D (48.9)		D (36.9)	D (37.6)	D (40.0)	
	Overall	C (27.3)	C (28.2)	C (30.9)	C (31.8)	C (32.5)	D (35.3)		C (21.8)	C (22.1)	C (23.3)	
Raritan Road (E/W) & Shoprite Way/Shopping Center Driveway (N/S)	EB Left	A (4.0)	A (4.0)	A (4.0)	A (6.3)	A (6.4)	A (6.5)		A (6.5)	A (6.6)	A (6.6)	
	EB Through	A (5.7)	A (5.8)	A (5.9)	A (9.3)	A (9.5)	A (9.7)		A (9.2)	A (9.4)	A (9.5)	
	EB Through/Right	A (5.7)	A (5.8)	A (5.9)	A (9.3)	A (9.5)	A (9.7)		A (9.1)	A (9.3)	A (9.5)	
	WB Left	A (3.2)	A (3.2)	A (3.3)	A (5.7)	A (5.9)	A (6.1)		A (5.5)	A (5.7)	A (5.8)	
	WB Through	A (2.8)	A (2.8)	A (2.9)	A (5.2)	A (5.4)	A (5.4)		A (5.1)	A (5.2)	A (5.2)	
	WB Through/Right	A (2.8)	A (2.8)	A (2.9)	A (5.2)	A (5.3)	A (5.4)		A (5.0)	A (5.1)	A (5.2)	
	NB Left/Through	C (32.0)	C (32.0)	C (32.0)	C (27.5)	C (27.4)	C (27.4)		C (27.6)	C (27.4)	C (27.4)	
	NB Right	D (35.6)	D (35.8)	D (35.8)	D (35.4)	D (35.3)	D (35.3)		D (35.1)	D (35.1)	D (35.1)	
	SB Left/Through/Right	C (32.2)	C (32.2)	C (32.2)	C (28.0)	C (27.9)	C (27.9)		C (27.8)	C (27.6)	C (27.6)	
	Overall	A (7.0)	A (7.1)	A (7.1)	B (10.8)	B (11.0)	B (11.0)		B (11.1)	B (11.2)	B (11.2)	
Raritan Road (E/W) & Central Avenue (N/S)	EB Left	F (82.0)	F (82.2)	F (82.2)	F (80.7)	F (81.3)	F (81.3)	E (77.9)	F (189.6)	F (199.8)	F (199.8)	F (175.6)
	EB Through	E (55.9)	E (55.9)	E (55.9)	E (55.5)	E (55.4)	E (55.4)	F (57.2)	D (52.5)	D (52.4)	D (52.4)	D (53.3)
	EB Right	D (42.4)	D (42.1)	D (42.1)	D (41.9)	D (42.0)	D (42.0)	D (43.4)	D (43.2)	D (43.0)	D (43.0)	D (44.0)
	WB Left	F (80.1)	E (80.0)	E (78.8)	F (94.8)	F (95.5)	F (114.6)	F (91.7)	F (96.5)	F (100.3)	F (118.5)	F (100.0)
	WB Through	D (50.4)	D (50.1)	D (48.6)	D (49.1)	D (48.8)	D (48.5)	D (48.3)	D (51.6)	D (51.4)	D (51.5)	D (52.2)
	WB Right	B (17.4)	B (17.5)	B (17.5)	B (18.3)	B (18.5)	B (18.5)	B (18.5)	B (19.6)	B (19.7)	B (19.7)	B (19.9)
	NB Left	F (82.7)	F (83.5)	F (83.5)	F (90.9)	F (96.0)	F (96.0)	F (96.0)	F (81.3)	F (82.1)	F (82.1)	F (82.1)
	NB Through	D (39.4)	D (39.9)	D (39.9)	D (36.3)	D (36.6)	D (36.6)	D (36.6)	D (35.5)	D (35.7)	D (35.7)	D (35.7)
	SB Left	D (53.3)	D (53.8)	E (55.4)	E (65.8)	E (67.8)	E (68.6)	E (69.5)	E (67.3)	E (68.4)	E (68.4)	E (68.8)
	SB Through	C (30.1)	C (31.0)	C (32.4)	D (43.4)	D (44.9)	D (45.3)	D (45.7)	D (44.3)	D (45.6)	D (45.6)	D (45.8)
	SB Through/Right	C (30.1)	C (30.9)	C (32.4)	D (43.3)	D (44.8)	D (45.2)	D (45.6)	D (44.2)	D (45.5)	D (45.5)	D (45.7)
	Overall	D (47.0)	D (47.4)	D (47.8)	D (52.8)	D (53.9)	E (55.3)	D (54.4)	E (60.6)	E (61.9)	E (63.1)	E (60.7)
Unsignalized Intersections												
Chester Lang Place (E/W) & Walnut Avenue (N/S)	EB Left/Right	D (30.8)	E (35.5)	E (45.8)	F (109.4)*	F (134.3)*	F (180.5)*		C (22.7)	C (24.0)	D (26.4)	
	NB Left/Through	A (9.3)	A (9.3)	A (9.5)	B (11.8)	B (12.0)	B (12.4)		A (9.4)	A (9.5)	A (9.7)	
Northerly Site Driveway/Lexington Avenue (E/W) & Walnut Avenue (N/S)	EB Left/Through/Right			D (31.1)			F (56.1)				C (19.5)	
	WB Left/Through/Right	C (16.6)	C (17.1)	C (17.4)	C (16.9)	C (17.3)	C (17.4)		B (12.9)	B (13.1)	B (13.2)	
	NB Left/Through/Right			A (8.7)			B (10.6)				A (9.2)	
	SB Left/Through/Right	B (10.1)	B (10.2)	B (10.3)	B (10.6)	B (10.7)	B (10.9)		A (9.3)	A (9.3)	A (9.4)	
	Overall	--	--	--	--	--	--		--	--	--	
Northerly Site Driveway/Behnert Place (E/W) & Walnut Avenue (N/S)	EB Left/Through/Right			D (26.2)			F (114.8)				D (27.3)	
	WB Left/Through/Right	B (13.7)	B (13.9)	C (15.6)	C (17.7)	C (18.1)	D (27.9)		B (11.6)	B (11.7)	B (11.9)	
	NB Left/Through/Right			A (8.6)			B (11.7)				A (9.4)	
	SB Left/Through/Right	A (9.5)	A (9.6)	A (9.8)	B (10.3)	B (10.4)	B (10.4)		A (8.9)	A (9.0)	A (9.1)	
Mitchell Place (W) & Walnut Avenue (N/S)	WB Left/Right	C (15.5)	C (15.8)	C (16.9)	C (15.2)	C (15.5)	C (16.4)		B (13.2)	B (13.3)	C (16.4)	
	SB Left/Through	A (9.5)	A (9.6)	A (9.8)	A (9.8)	A (9.9)	B (10.2)		A (9.0)	A (9.0)	B (10.2)	
Southerly Site Driveway (E) & Walnut Avenue (N/S)	EB Right	No Volume	No Volume	B (11.5)	No Volume	No Volume	C (15.4)		No Volume	No Volume	B (12.4)	
Florence Drive & Walnut Avenue (N/S)	SB Left/Through	B (11.4)	B (11.5)	B (11.6)	B (11.7)	B (11.8)	B (11.9)		B (10.2)	B (10.3)	B (10.3)	
	EB Left/Through	A (8.4)	A (8.5)	A (8.5)	A (9.3)	A (9.3)	A (9.3)		A (8.6)	A (8.7)	A (8.6)	
Raritan Road (E/W) & New York Avenue/Colin Kelly Court (N/S)	WB Left/Through	A (9.0)	A (9.1)	A (9.1)	A (9.9)	A (10.0)	B (10.1)		A (9.0)	A (9.1)	A (9.1)	
	NB Left/Through/Right	C (17.1)	C (17.5)	C (18.0)	C (20.9)	C (21.7)	C (22.3)		C (16.4)	C (16.6)	C (16.9)	
	SB Left/Through/Right	B (12.1)	B (12.4)	B (12.4)	C (15.7)	C (16.4)	C (16.3)		B (13.3)	B (13.2)	B (13.2)	

* Gap Study was performed to determine sufficient gaps exist based on platoon flow of traffic in the area

TURNING MOVEMENT COUNT DATA

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Lincoln Avenue East (EB/WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.07

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Lincoln Avenue East Eastbound					Lincoln Avenue East Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	30	7	3	43	4	45	19	1	69	27	83	24	1	135	6	21	2	0	29	276
07:15 AM	6	61	18	1	86	9	52	23	0	84	30	116	42	1	189	10	31	3	1	45	404
07:30 AM	4	50	16	3	73	16	68	25	1	110	34	131	53	2	220	11	52	3	1	67	470
07:45 AM	3	100	25	1	129	21	92	36	2	151	43	80	48	1	172	12	43	3	1	59	511
Total	16	241	66	8	331	50	257	103	4	414	134	410	167	5	716	39	147	11	3	200	1661
08:00 AM	4	58	19	0	81	20	97	28	1	146	39	83	27	1	150	20	64	1	0	85	462
08:15 AM	7	46	35	5	93	16	58	10	2	86	34	115	31	3	183	14	61	7	4	86	448
08:30 AM	11	63	49	0	123	23	61	17	1	102	48	104	34	1	187	10	59	4	0	73	485
08:45 AM	8	73	24	3	108	14	56	13	0	83	27	98	36	1	162	6	50	3	3	62	415
Total	30	240	127	8	405	73	272	68	4	417	148	400	128	6	682	50	234	15	7	306	1810

*** BREAK ***

04:00 PM	9	78	38	2	127	37	92	6	5	140	27	87	23	0	137	9	90	4	4	107	511
04:15 PM	6	56	36	1	99	21	63	15	1	100	32	107	24	1	164	8	101	7	1	117	480
04:30 PM	7	68	40	2	117	40	80	8	3	131	30	93	29	2	154	8	81	4	1	94	496
04:45 PM	6	59	46	2	113	29	84	8	1	122	46	91	43	0	180	12	97	6	0	115	530
Total	28	261	160	7	456	127	319	37	10	493	135	378	119	3	635	37	369	21	6	433	2017
05:00 PM	4	78	43	1	126	42	79	6	1	128	38	77	20	4	139	3	92	4	0	99	492
05:15 PM	8	75	41	4	128	41	94	10	1	146	31	98	27	2	158	5	101	9	2	117	549
05:30 PM	8	87	42	2	139	30	71	12	1	114	38	95	37	2	172	10	81	4	0	95	520
05:45 PM	3	77	34	0	114	33	73	8	0	114	34	106	39	0	179	10	98	7	0	115	522
Total	23	317	160	7	507	146	317	36	3	502	141	376	123	8	648	28	372	24	2	426	2083
06:00 PM	6	64	27	0	97	37	86	8	1	132	36	74	31	1	142	6	84	2	4	96	467
06:15 PM	6	55	32	1	94	23	71	10	1	105	33	71	18	0	122	6	82	2	1	91	412
06:30 PM	2	43	34	1	80	19	58	6	2	85	19	75	23	0	117	5	75	1	0	81	363
06:45 PM	5	43	24	0	72	16	42	12	0	70	22	65	15	0	102	2	54	7	0	63	307
Total	19	205	117	2	343	95	257	36	4	392	110	285	87	1	483	19	295	12	5	331	1549

*** BREAK ***

Grand Total	116	1264	630	32	2042	491	1422	280	25	2218	668	1849	624	23	3164	173	1417	83	23	1696	9120
Apprch %	5.7	61.9	30.9	1.6		22.1	64.1	12.6	1.1		21.1	58.4	19.7	0.7		10.2	83.5	4.9	1.4		
Total %	1.3	13.9	6.9	0.4	22.4	5.4	15.6	3.1	0.3	24.3	7.3	20.3	6.8	0.3	34.7	1.9	15.5	0.9	0.3	18.6	
Auto	115	1249	622	32	2018	481	1406	277	25	2189	659	1813	604	23	3099	170	1389	81	23	1663	8969
% Auto	99.1	98.8	98.7	100	98.8	98	98.9	98.9	100	98.7	98.7	98.1	96.8	100	97.9	98.3	98	97.6	100	98.1	98.3
HV	1	10	7	0	18	7	10	2	0	19	8	27	6	0	41	2	22	1	0	25	103
% HV	0.9	0.8	1.1	0	0.9	1.4	0.7	0.7	0	0.9	1.2	1.5	1	0	1.3	1.2	1.6	1.2	0	1.5	1.1
B/SB	0	5	1	0	6	3	6	1	0	10	1	9	14	0	24	1	6	1	0	8	48
% B/SB	0	0.4	0.2	0	0.3	0.6	0.4	0.4	0	0.5	0.1	0.5	2.2	0	0.8	0.6	0.4	1.2	0	0.5	0.5

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Lincoln Avenue East (EB/WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.07

Site Code : 00016509

Start Date : 11/18/2021

Page No : 2

	Lincoln Avenue East Eastbound					Lincoln Avenue East Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	3	100	25	1	129	21	92	36	2	151	43	80	48	1	172	12	43	3	1	59	511
08:00 AM	4	58	19	0	81	20	97	28	1	146	39	83	27	1	150	20	64	1	0	85	462
08:15 AM	7	46	35	5	93	16	58	10	2	86	34	115	31	3	183	14	61	7	4	86	448
08:30 AM	11	63	49	0	123	23	61	17	1	102	48	104	34	1	187	10	59	4	0	73	485
Total Volume	25	267	128	6	426	80	308	91	6	485	164	382	140	6	692	56	227	15	5	303	1906
% App. Total	5.9	62.7	30	1.4		16.5	63.5	18.8	1.2		23.7	55.2	20.2	0.9		18.5	74.9	5	1.7		
PHF	.568	.668	.653	.300	.826	.870	.794	.632	.750	.803	.854	.830	.729	.500	.925	.700	.887	.536	.313	.881	.932
Auto	24	265	127	6	422	77	305	90	6	478	162	373	134	6	675	54	217	14	5	290	1865
% Auto	96.0	99.3	99.2	100	99.1	96.3	99.0	98.9	100	98.6	98.8	97.6	95.7	100	97.5	96.4	95.6	93.3	100	95.7	97.8
HV	1	1	0	0	2	2	1	1	0	4	2	6	2	0	10	1	8	0	0	9	25
% HV	4.0	0.4	0	0	0.5	2.5	0.3	1.1	0	0.8	1.2	1.6	1.4	0	1.4	1.8	3.5	0	0	3.0	1.3
B/SB	0	1	1	0	2	1	2	0	0	3	0	3	4	0	7	1	2	1	0	4	16
% B/SB	0	0.4	0.8	0	0.5	1.3	0.6	0	0	0.6	0	0.8	2.9	0	1.0	1.8	0.9	6.7	0	1.3	0.8

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	6	59	46	2	113	29	84	8	1	122	46	91	43	0	180	12	97	6	0	115	530
05:00 PM	4	78	43	1	126	42	79	6	1	128	38	77	20	4	139	3	92	4	0	99	492
05:15 PM	8	75	41	4	128	41	94	10	1	146	31	98	27	2	158	5	101	9	2	117	549
05:30 PM	8	87	42	2	139	30	71	12	1	114	38	95	37	2	172	10	81	4	0	95	520
Total Volume	26	299	172	9	506	142	328	36	4	510	153	361	127	8	649	30	371	23	2	426	2091
% App. Total	5.1	59.1	34	1.8		27.8	64.3	7.1	0.8		23.6	55.6	19.6	1.2		7	87.1	5.4	0.5		
PHF	.813	.859	.935	.563	.910	.845	.872	.750	1.00	.873	.832	.921	.738	.500	.901	.625	.918	.639	.250	.910	.952
Auto	26	294	168	9	497	140	325	36	4	505	152	353	124	8	637	30	367	23	2	422	2061
% Auto	100	98.3	97.7	100	98.2	98.6	99.1	100	100	99.0	99.3	97.8	97.6	100	98.2	100	98.9	100	100	99.1	98.6
HV	0	4	4	0	8	2	2	0	0	4	1	5	1	0	7	0	4	0	0	4	23
% HV	0	1.3	2.3	0	1.6	1.4	0.6	0	0	0.8	0.7	1.4	0.8	0	1.1	0	1.1	0	0	0.9	1.1
B/SB	0	1	0	0	1	0	1	0	0	1	0	3	2	0	5	0	0	0	0	0	7
% B/SB	0	0.3	0	0	0.2	0	0.3	0	0	0.2	0	0.8	1.6	0	0.8	0	0	0	0	0	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Chester Lang Place (EB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.06

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Chester Lang Place Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	5	0	29	0	34	20	124	0	0	144	0	36	1	0	37	215
07:15 AM	7	0	48	0	55	39	178	0	0	217	0	52	5	0	57	329
07:30 AM	12	0	42	0	54	40	197	0	0	237	0	75	5	0	80	371
07:45 AM	4	0	51	1	56	76	146	0	0	222	0	94	14	0	108	386
Total	28	0	170	1	199	175	645	0	0	820	0	257	25	0	282	1301
08:00 AM	5	0	57	0	62	60	150	0	0	210	0	76	8	5	89	361
08:15 AM	9	0	49	0	58	64	189	0	0	253	0	96	3	2	101	412
08:30 AM	13	0	72	0	85	58	170	0	0	228	0	94	19	1	114	427
08:45 AM	5	0	53	0	58	45	134	0	0	179	0	104	10	3	117	354
Total	32	0	231	0	263	227	643	0	0	870	0	370	40	11	421	1554

*** BREAK ***

04:00 PM	0	0	76	0	76	59	154	0	0	213	0	156	14	1	171	460
04:15 PM	1	0	71	0	72	63	160	0	0	223	0	151	6	0	157	452
04:30 PM	2	0	65	1	68	64	146	0	0	210	0	156	6	0	162	440
04:45 PM	5	0	87	0	92	68	173	0	0	241	0	167	7	0	174	507
Total	8	0	299	1	308	254	633	0	0	887	0	630	33	1	664	1859
05:00 PM	1	0	76	1	78	63	133	0	0	196	0	177	6	2	185	459
05:15 PM	3	0	86	0	89	76	146	0	0	222	0	177	11	0	188	499
05:30 PM	4	0	97	0	101	82	185	0	0	267	0	149	5	0	154	522
05:45 PM	2	0	75	0	77	74	149	0	0	223	0	158	6	0	164	464
Total	10	0	334	1	345	295	613	0	0	908	0	661	28	2	691	1944
06:00 PM	4	0	58	4	66	66	139	0	0	205	0	127	14	3	144	415
06:15 PM	5	0	58	0	63	57	110	0	0	167	0	143	9	2	154	384
06:30 PM	7	0	44	1	52	41	114	0	0	155	0	116	7	0	123	330
06:45 PM	3	0	38	0	41	35	107	0	0	142	0	98	3	0	101	284
Total	19	0	198	5	222	199	470	0	0	669	0	484	33	5	522	1413

*** BREAK ***

Grand Total	97	0	1232	8	1337	1150	3004	0	0	4154	0	2402	159	19	2580	8071
Apprch %	7.3	0	92.1	0.6		27.7	72.3	0	0		0	93.1	6.2	0.7		
Total %	1.2	0	15.3	0.1	16.6	14.2	37.2	0	0	51.5	0	29.8	2	0.2	32	
Auto	93	0	1217	8	1318	1138	2952	0	0	4090	0	2358	156	19	2533	7941
% Auto	95.9	0	98.8	100	98.6	99	98.3	0	0	98.5	0	98.2	98.1	100	98.2	98.4
HV	1	0	14	0	15	9	32	0	0	41	0	36	1	0	37	93
% HV	1	0	1.1	0	1.1	0.8	1.1	0	0	1	0	1.5	0.6	0	1.4	1.2
B/SB	3	0	1	0	4	3	20	0	0	23	0	8	2	0	10	37
% B/SB	3.1	0	0.1	0	0.3	0.3	0.7	0	0	0.6	0	0.3	1.3	0	0.4	0.5

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Chester Lang Place (EB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.06
Site Code : 00016509
Start Date : 11/18/2021
Page No : 2

	Chester Lang Place Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	4	0	51	1	56	76	146	0	0	222	0	94	14	0	108	386
08:00 AM	5	0	57	0	62	60	150	0	0	210	0	76	8	5	89	361
08:15 AM	9	0	49	0	58	64	189	0	0	253	0	96	3	2	101	412
08:30 AM	13	0	72	0	85	58	170	0	0	228	0	94	19	1	114	427
Total Volume	31	0	229	1	261	258	655	0	0	913	0	360	44	8	412	1586
% App. Total	11.9	0	87.7	0.4		28.3	71.7	0	0		0	87.4	10.7	1.9		
PHF	.596	.000	.795	.250	.768	.849	.866	.000	.000	.902	.000	.938	.579	.400	.904	.929
Auto	28	0	226	1	255	253	640	0	0	893	0	350	43	8	401	1549
% Auto	90.3	0	98.7	100	97.7	98.1	97.7	0	0	97.8	0	97.2	97.7	100	97.3	97.7
HV	1	0	2	0	3	3	10	0	0	13	0	9	0	0	9	25
% HV	3.2	0	0.9	0	1.1	1.2	1.5	0	0	1.4	0	2.5	0	0	2.2	1.6
B/SB	2	0	1	0	3	2	5	0	0	7	0	1	1	0	2	12
% B/SB	6.5	0	0.4	0	1.1	0.8	0.8	0	0	0.8	0	0.3	2.3	0	0.5	0.8

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	5	0	87	0	92	68	173	0	0	241	0	167	7	0	174	507
05:00 PM	1	0	76	1	78	63	133	0	0	196	0	177	6	2	185	459
05:15 PM	3	0	86	0	89	76	146	0	0	222	0	177	11	0	188	499
05:30 PM	4	0	97	0	101	82	185	0	0	267	0	149	5	0	154	522
Total Volume	13	0	346	1	360	289	637	0	0	926	0	670	29	2	701	1987
% App. Total	3.6	0	96.1	0.3		31.2	68.8	0	0		0	95.6	4.1	0.3		
PHF	.650	.000	.892	.250	.891	.881	.861	.000	.000	.867	.000	.946	.659	.250	.932	.952
Auto	13	0	343	1	357	286	626	0	0	912	0	658	27	2	687	1956
% Auto	100	0	99.1	100	99.2	99.0	98.3	0	0	98.5	0	98.2	93.1	100	98.0	98.4
HV	0	0	3	0	3	3	5	0	0	8	0	12	1	0	13	24
% HV	0	0	0.9	0	0.8	1.0	0.8	0	0	0.9	0	1.8	3.4	0	1.9	1.2
B/SB	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	7
% B/SB	0	0	0	0	0	0	0.9	0	0	0.6	0	0	3.4	0	0.1	0.4

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Lexington Avenue (WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, NJ

Thursday, November 18, 2021

File Name : T-16509.01

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Lexington Avenue Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	0	19	0	22	0	131	1	0	132	7	57	0	0	64	218
07:15 AM	0	0	36	2	38	0	187	0	0	187	11	93	0	0	104	329
07:30 AM	0	0	40	0	40	0	205	1	0	206	8	109	0	0	117	363
07:45 AM	0	0	40	0	40	0	190	1	0	191	17	127	0	0	144	375
Total	3	0	135	2	140	0	713	3	0	716	43	386	0	0	429	1285
08:00 AM	0	0	23	0	23	0	182	1	0	183	17	123	0	0	140	346
08:15 AM	2	0	42	0	44	0	216	3	0	219	17	123	0	0	140	403
08:30 AM	0	0	28	0	28	0	195	2	0	197	37	131	0	0	168	393
08:45 AM	0	0	18	0	18	0	157	0	0	157	19	135	0	0	154	329
Total	2	0	111	0	113	0	750	6	0	756	90	512	0	0	602	1471
*** BREAK ***																
04:00 PM	4	0	26	1	31	0	189	3	0	192	30	204	0	0	234	457
04:15 PM	0	0	20	0	20	0	200	3	0	203	23	195	0	0	218	441
04:30 PM	0	0	29	1	30	0	185	2	0	187	26	199	0	0	225	442
04:45 PM	0	0	26	0	26	0	217	2	0	219	30	220	0	0	250	495
Total	4	0	101	2	107	0	791	10	0	801	109	818	0	0	927	1835
05:00 PM	0	0	17	0	17	0	182	2	0	184	31	214	0	0	245	446
05:15 PM	0	0	31	0	31	0	194	2	0	196	20	246	0	0	266	493
05:30 PM	1	0	26	0	27	0	245	1	0	246	19	227	0	0	246	519
05:45 PM	2	0	23	0	25	0	198	2	0	200	31	206	0	0	237	462
Total	3	0	97	0	100	0	819	7	0	826	101	893	0	0	994	1920
06:00 PM	0	0	15	0	15	0	190	3	0	193	13	170	0	0	183	391
06:15 PM	0	0	10	0	10	0	154	3	0	157	13	187	0	0	200	367
06:30 PM	1	0	16	0	17	0	140	2	0	142	19	138	0	0	157	316
06:45 PM	2	0	18	0	20	0	124	1	0	125	10	123	0	0	133	278
Total	3	0	59	0	62	0	608	9	0	617	55	618	0	0	673	1352
Grand Total	15	0	503	4	522	0	3681	35	0	3716	398	3227	0	0	3625	7863
Apprch %	2.9	0	96.4	0.8		0	99.1	0.9	0		11	89	0	0		
Total %	0.2	0	6.4	0.1	6.6	0	46.8	0.4	0	47.3	5.1	41	0	0	46.1	
Auto	14	0	499	4	517	0	3615	34	0	3649	393	3179	0	0	3572	7738
% Auto	93.3	0	99.2	100	99	0	98.2	97.1	0	98.2	98.7	98.5	0	0	98.5	98.4
HV	1	0	4	0	5	0	46	1	0	47	5	41	0	0	46	98
% HV	6.7	0	0.8	0	1	0	1.2	2.9	0	1.3	1.3	1.3	0	0	1.3	1.2
B/SB	0	0	0	0	0	0	20	0	0	20	0	7	0	0	7	27
% B/SB	0	0	0	0	0	0	0.5	0	0	0.5	0	0.2	0	0	0.2	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Lexington Avenue (WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, NJ
Thursday, November 18, 2021

File Name : T-16509.01
Site Code : 00016509
Start Date : 11/18/2021
Page No : 2

	Lexington Avenue Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	0	0	40	0	40	0	190	1	0	191	17	127	0	0	144	375
08:00 AM	0	0	23	0	23	0	182	1	0	183	17	123	0	0	140	346
08:15 AM	2	0	42	0	44	0	216	3	0	219	17	123	0	0	140	403
08:30 AM	0	0	28	0	28	0	195	2	0	197	37	131	0	0	168	393
Total Volume	2	0	133	0	135	0	783	7	0	790	88	504	0	0	592	1517
% App. Total	1.5	0	98.5	0		0	99.1	0.9	0		14.9	85.1	0	0		
PHF	.250	.000	.792	.000	.767	.000	.906	.583	.000	.902	.595	.962	.000	.000	.881	.941
Auto	2	0	131	0	133	0	764	7	0	771	87	492	0	0	579	1483
% Auto	100	0	98.5	0	98.5	0	97.6	100	0	97.6	98.9	97.6	0	0	97.8	97.8
HV	0	0	2	0	2	0	13	0	0	13	1	11	0	0	12	27
% HV	0	0	1.5	0	1.5	0	1.7	0	0	1.6	1.1	2.2	0	0	2.0	1.8
B/SB	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	7
% B/SB	0	0	0	0	0	0	0.8	0	0	0.8	0	0.2	0	0	0.2	0.5
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:45 PM																
04:45 PM	0	0	26	0	26	0	217	2	0	219	30	220	0	0	250	495
05:00 PM	0	0	17	0	17	0	182	2	0	184	31	214	0	0	245	446
05:15 PM	0	0	31	0	31	0	194	2	0	196	20	246	0	0	266	493
05:30 PM	1	0	26	0	27	0	245	1	0	246	19	227	0	0	246	519
Total Volume	1	0	100	0	101	0	838	7	0	845	100	907	0	0	1007	1953
% App. Total	1	0	99	0		0	99.2	0.8	0		9.9	90.1	0	0		
PHF	.250	.000	.806	.000	.815	.000	.855	.875	.000	.859	.806	.922	.000	.000	.946	.941
Auto	1	0	100	0	101	0	822	7	0	829	98	900	0	0	998	1928
% Auto	100	0	100	0	100	0	98.1	100	0	98.1	98.0	99.2	0	0	99.1	98.7
HV	0	0	0	0	0	0	10	0	0	10	2	6	0	0	8	18
% HV	0	0	0	0	0	0	1.2	0	0	1.2	2.0	0.7	0	0	0.8	0.9
B/SB	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	7
% B/SB	0	0	0	0	0	0	0.7	0	0	0.7	0	0.1	0	0	0.1	0.4

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Northerly Site Driveway (EB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.12

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Northerly Site Driveway Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	134	0	0	134	0	62	0	0	62	196
07:15 AM	0	0	0	1	1	0	195	0	0	195	0	89	0	0	89	285
07:30 AM	0	0	0	0	0	0	204	0	0	204	0	107	0	0	107	311
07:45 AM	0	0	0	1	1	0	191	0	0	191	0	128	0	0	128	320
Total	0	0	0	2	2	0	724	0	0	724	0	386	0	0	386	1112
08:00 AM	0	0	0	0	0	0	180	0	0	180	0	121	0	0	121	301
08:15 AM	0	0	0	0	0	0	222	0	0	222	0	126	0	0	126	348
08:30 AM	0	0	0	0	0	0	194	0	0	194	0	131	0	0	131	325
08:45 AM	0	0	0	1	1	0	159	0	0	159	0	133	0	0	133	293
Total	0	0	0	1	1	0	755	0	0	755	0	511	0	0	511	1267

*** BREAK ***

04:00 PM	1	0	0	0	1	0	180	0	0	180	0	210	1	0	211	392
04:15 PM	0	0	0	0	0	0	199	0	0	199	0	194	0	0	194	393
04:30 PM	0	0	0	0	0	0	181	0	0	181	0	203	0	0	203	384
04:45 PM	0	0	0	0	0	0	212	0	0	212	0	224	0	0	224	436
Total	1	0	0	0	1	0	772	0	0	772	0	831	1	0	832	1605
05:00 PM	0	0	0	0	0	0	184	0	0	184	0	209	0	0	209	393
05:15 PM	0	0	0	0	0	0	195	0	0	195	0	248	0	0	248	443
05:30 PM	0	0	0	0	0	0	244	0	0	244	0	222	0	0	222	466
05:45 PM	0	0	0	0	0	0	199	0	0	199	0	210	0	0	210	409
Total	0	0	0	0	0	0	822	0	0	822	0	889	0	0	889	1711
06:00 PM	0	0	0	0	0	0	192	0	0	192	0	169	0	0	169	361
06:15 PM	0	0	0	0	0	0	158	0	0	158	0	188	0	0	188	346
06:30 PM	0	0	0	0	0	0	142	0	0	142	0	140	0	0	140	282
06:45 PM	0	0	0	0	0	0	123	0	0	123	0	123	0	0	123	246
Total	0	0	0	0	0	0	615	0	0	615	0	620	0	0	620	1235

*** BREAK ***

Grand Total	1	0	0	3	4	0	3688	0	0	3688	0	3237	1	0	3238	6930
Apprch %	25	0	0	75		0	100	0	0		0	100	0	0		
Total %	0	0	0	0	0.1	0	53.2	0	0	53.2	0	46.7	0	0	46.7	
Auto	1	0	0	3	4	0	3613	0	0	3613	0	3180	1	0	3181	6798
% Auto	100	0	0	100	100	0	98	0	0	98	0	98.2	100	0	98.2	98.1
HV	0	0	0	0	0	0	58	0	0	58	0	43	0	0	43	101
% HV	0	0	0	0	0	0	1.6	0	0	1.6	0	1.3	0	0	1.3	1.5
B/SB	0	0	0	0	0	0	17	0	0	17	0	14	0	0	14	31
% B/SB	0	0	0	0	0	0	0.5	0	0	0.5	0	0.4	0	0	0.4	0.4

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Northerly Site Driveway (EB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.12

Site Code : 00016509

Start Date : 11/18/2021

Page No : 2

	Northerly Site Driveway Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	0	0	0	1	1	0	191	0	0	191	0	128	0	0	128	320
08:00 AM	0	0	0	0	0	0	180	0	0	180	0	121	0	0	121	301
08:15 AM	0	0	0	0	0	0	222	0	0	222	0	126	0	0	126	348
08:30 AM	0	0	0	0	0	0	194	0	0	194	0	131	0	0	131	325
Total Volume	0	0	0	1	1	0	787	0	0	787	0	506	0	0	506	1294
% App. Total	0	0	0	100		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.250	.250	.000	.886	.000	.000	.886	.000	.966	.000	.000	.966	.930
Auto	0	0	0	1	1	0	769	0	0	769	0	496	0	0	496	1266
% Auto	0	0	0	100	100	0	97.7	0	0	97.7	0	98.0	0	0	98.0	97.8
HV	0	0	0	0	0	0	13	0	0	13	0	9	0	0	9	22
% HV	0	0	0	0	0	0	1.7	0	0	1.7	0	1.8	0	0	1.8	1.7
B/SB	0	0	0	0	0	0	5	0	0	5	0	1	0	0	1	6
% B/SB	0	0	0	0	0	0	0.6	0	0	0.6	0	0.2	0	0	0.2	0.5

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	0	0	0	0	0	212	0	0	212	0	224	0	0	224	436
05:00 PM	0	0	0	0	0	0	184	0	0	184	0	209	0	0	209	393
05:15 PM	0	0	0	0	0	0	195	0	0	195	0	248	0	0	248	443
05:30 PM	0	0	0	0	0	0	244	0	0	244	0	222	0	0	222	466
Total Volume	0	0	0	0	0	0	835	0	0	835	0	903	0	0	903	1738
% App. Total	0	0	0	0		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.856	.000	.000	.856	.000	.910	.000	.000	.910	.932
Auto	0	0	0	0	0	0	813	0	0	813	0	888	0	0	888	1701
% Auto	0	0	0	0	0	0	97.4	0	0	97.4	0	98.3	0	0	98.3	97.9
HV	0	0	0	0	0	0	21	0	0	21	0	12	0	0	12	33
% HV	0	0	0	0	0	0	2.5	0	0	2.5	0	1.3	0	0	1.3	1.9
B/SB	0	0	0	0	0	0	1	0	0	1	0	3	0	0	3	4
% B/SB	0	0	0	0	0	0	0.1	0	0	0.1	0	0.3	0	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 Behnert Place (WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, NJ

Thursday, November 18, 2021

File Name : T-16509.02

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Behnert Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	137	0	0	137	1	61	0	0	62	199
07:15 AM	1	0	2	0	3	0	188	1	0	189	0	91	0	0	91	283
07:30 AM	0	0	3	0	3	0	197	2	0	199	0	109	0	0	109	311
07:45 AM	0	0	6	0	6	0	188	0	0	188	2	124	0	0	126	320
Total	1	0	11	0	12	0	710	3	0	713	3	385	0	0	388	1113
08:00 AM	1	0	0	0	1	0	182	5	0	187	1	119	0	0	120	308
08:15 AM	0	0	4	0	4	0	220	0	0	220	1	125	0	0	126	350
08:30 AM	0	0	1	1	2	0	189	2	0	191	2	128	0	0	130	323
08:45 AM	1	0	1	1	3	0	156	1	0	157	0	135	0	0	135	295
Total	2	0	6	2	10	0	747	8	0	755	4	507	0	0	511	1276

*** BREAK ***

04:00 PM	0	0	1	2	3	0	189	0	0	189	3	207	0	0	210	402
04:15 PM	0	0	2	0	2	0	213	0	0	213	1	195	0	0	196	411
04:30 PM	0	0	1	0	1	0	197	0	0	197	0	203	0	0	203	401
04:45 PM	0	0	2	2	4	0	228	2	0	230	2	298	0	0	300	534
Total	0	0	6	4	10	0	827	2	0	829	6	903	0	0	909	1748
05:00 PM	0	0	2	1	3	0	184	0	0	184	4	206	0	0	210	397
05:15 PM	1	0	1	1	3	0	195	1	0	196	3	246	0	0	249	448
05:30 PM	0	0	4	0	4	0	241	0	0	241	6	213	0	0	219	464
05:45 PM	1	0	4	0	5	0	195	2	0	197	6	201	0	0	207	409
Total	2	0	11	2	15	0	815	3	0	818	19	866	0	0	885	1718
06:00 PM	1	0	2	0	3	0	190	2	0	192	2	171	0	0	173	368
06:15 PM	0	0	1	1	2	0	155	1	0	156	3	187	0	0	190	348
06:30 PM	0	0	0	0	0	0	141	0	0	141	4	137	0	0	141	282
06:45 PM	0	0	4	0	4	0	124	2	0	126	2	120	0	0	122	252
Total	1	0	7	1	9	0	610	5	0	615	11	615	0	0	626	1250

*** BREAK ***

Grand Total	6	0	41	9	56	0	3709	21	0	3730	43	3276	0	0	3319	7105
Apprch %	10.7	0	73.2	16.1		0	99.4	0.6	0		1.3	98.7	0	0		
Total %	0.1	0	0.6	0.1	0.8	0	52.2	0.3	0	52.5	0.6	46.1	0	0	46.7	
Auto	6	0	40	9	55	0	3649	20	0	3669	43	3225	0	0	3268	6992
% Auto	100	0	97.6	100	98.2	0	98.4	95.2	0	98.4	100	98.4	0	0	98.5	98.4
HV	0	0	1	0	1	0	40	0	0	40	0	44	0	0	44	85
% HV	0	0	2.4	0	1.8	0	1.1	0	0	1.1	0	1.3	0	0	1.3	1.2
B/SB	0	0	0	0	0	0	20	1	0	21	0	7	0	0	7	28
% B/SB	0	0	0	0	0	0	0.5	4.8	0	0.6	0	0.2	0	0	0.2	0.4

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Behnert Place (WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, NJ

Thursday, November 18, 2021

File Name : T-16509.02

Site Code : 00016509

Start Date : 11/18/2021

Page No : 2

	Behnert Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	0	0	6	0	6	0	188	0	0	188	2	124	0	0	126	320
08:00 AM	1	0	0	0	1	0	182	5	0	187	1	119	0	0	120	308
08:15 AM	0	0	4	0	4	0	220	0	0	220	1	125	0	0	126	350
08:30 AM	0	0	1	1	2	0	189	2	0	191	2	128	0	0	130	323
Total Volume	1	0	11	1	13	0	779	7	0	786	6	496	0	0	502	1301
% App. Total	7.7	0	84.6	7.7		0	99.1	0.9	0		1.2	98.8	0	0		
PHF	.250	.000	.458	.250	.542	.000	.885	.350	.000	.893	.750	.969	.000	.000	.965	.929
Auto	1	0	11	1	13	0	764	7	0	771	6	485	0	0	491	1275
% Auto	100	0	100	100	100	0	98.1	100	0	98.1	100	97.8	0	0	97.8	98.0
HV	0	0	0	0	0	0	11	0	0	11	0	10	0	0	10	21
% HV	0	0	0	0	0	0	1.4	0	0	1.4	0	2.0	0	0	2.0	1.6
B/SB	0	0	0	0	0	0	4	0	0	4	0	1	0	0	1	5
% B/SB	0	0	0	0	0	0	0.5	0	0	0.5	0	0.2	0	0	0.2	0.4

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	0	2	2	4	0	228	2	0	230	2	298	0	0	300	534
05:00 PM	0	0	2	1	3	0	184	0	0	184	4	206	0	0	210	397
05:15 PM	1	0	1	1	3	0	195	1	0	196	3	246	0	0	249	448
05:30 PM	0	0	4	0	4	0	241	0	0	241	6	213	0	0	219	464
Total Volume	1	0	9	4	14	0	848	3	0	851	15	963	0	0	978	1843
% App. Total	7.1	0	64.3	28.6		0	99.6	0.4	0		1.5	98.5	0	0		
PHF	.250	.000	.563	.500	.875	.000	.880	.375	.000	.883	.625	.808	.000	.000	.815	.863
Auto	1	0	9	4	14	0	833	3	0	836	15	953	0	0	968	1818
% Auto	100	0	100	100	100	0	98.2	100	0	98.2	100	99.0	0	0	99.0	98.6
HV	0	0	0	0	0	0	9	0	0	9	0	10	0	0	10	19
% HV	0	0	0	0	0	0	1.1	0	0	1.1	0	1.0	0	0	1.0	1.0
B/SB	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
% B/SB	0	0	0	0	0	0	0.7	0	0	0.7	0	0	0	0	0	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Mitchell Place (WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, NJ

Thursday, November 18, 2021

File Name : T-16509.03

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Mitchell Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	0	1	1	4	0	137	1	0	138	0	59	0	0	59	201
07:15 AM	0	0	3	1	4	0	189	5	0	194	0	89	0	0	89	287
07:30 AM	0	0	6	1	7	0	192	1	0	193	3	107	0	0	110	310
07:45 AM	1	0	4	0	5	0	181	1	0	182	6	121	0	0	127	314
Total	3	0	14	3	20	0	699	8	0	707	9	376	0	0	385	1112
08:00 AM	1	0	5	0	6	0	183	2	0	185	2	119	0	0	121	312
08:15 AM	3	0	4	0	7	0	215	0	0	215	2	124	0	0	126	348
08:30 AM	0	0	0	0	0	0	190	0	0	190	0	127	0	0	127	317
08:45 AM	0	0	2	2	4	0	155	3	0	158	0	136	0	0	136	298
Total	4	0	11	2	17	0	743	5	0	748	4	506	0	0	510	1275

*** BREAK ***

04:00 PM	0	0	3	3	6	0	181	1	0	182	3	201	0	0	204	392
04:15 PM	2	0	1	1	4	0	202	2	0	204	1	196	0	0	197	405
04:30 PM	0	0	4	0	4	0	180	3	0	183	0	200	0	0	200	387
04:45 PM	0	0	2	0	2	0	216	1	0	217	6	220	0	0	226	445
Total	2	0	10	4	16	0	779	7	0	786	10	817	0	0	827	1629
05:00 PM	0	0	4	1	5	0	180	3	0	183	3	201	0	0	204	392
05:15 PM	0	0	2	0	2	0	190	0	0	190	2	245	0	0	247	439
05:30 PM	1	0	5	0	6	0	237	2	0	239	4	214	0	0	218	463
05:45 PM	4	0	4	0	8	0	190	1	0	191	2	197	0	0	199	398
Total	5	0	15	1	21	0	797	6	0	803	11	857	0	0	868	1692
06:00 PM	0	0	1	0	1	0	192	0	0	192	3	165	0	0	168	361
06:15 PM	1	0	5	1	7	0	149	1	0	150	1	184	0	0	185	342
06:30 PM	0	0	4	0	4	0	138	4	0	142	4	138	0	0	142	288
06:45 PM	0	0	2	0	2	0	119	1	0	120	2	118	0	0	120	242
Total	1	0	12	1	14	0	598	6	0	604	10	605	0	0	615	1233

*** BREAK ***

Grand Total	15	0	62	11	88	0	3616	32	0	3648	44	3161	0	0	3205	6941
Apprch %	17	0	70.5	12.5		0	99.1	0.9	0		1.4	98.6	0	0		
Total %	0.2	0	0.9	0.2	1.3	0	52.1	0.5	0	52.6	0.6	45.5	0	0	46.2	
Auto	14	0	62	11	87	0	3543	32	0	3575	44	3106	0	0	3150	6812
% Auto	93.3	0	100	100	98.9	0	98	100	0	98	100	98.3	0	0	98.3	98.1
HV	1	0	0	0	1	0	51	0	0	51	0	42	0	0	42	94
% HV	6.7	0	0	0	1.1	0	1.4	0	0	1.4	0	1.3	0	0	1.3	1.4
B/SB	0	0	0	0	0	0	22	0	0	22	0	13	0	0	13	35
% B/SB	0	0	0	0	0	0	0.6	0	0	0.6	0	0.4	0	0	0.4	0.5

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Mitchell Place (WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, NJ

Thursday, November 18, 2021

File Name : T-16509.03

Site Code : 00016509

Start Date : 11/18/2021

Page No : 2

	Mitchell Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	1	0	4	0	5	0	181	1	0	182	6	121	0	0	127	314
08:00 AM	1	0	5	0	6	0	183	2	0	185	2	119	0	0	121	312
08:15 AM	3	0	4	0	7	0	215	0	0	215	2	124	0	0	126	348
08:30 AM	0	0	0	0	0	0	190	0	0	190	0	127	0	0	127	317
Total Volume	5	0	13	0	18	0	769	3	0	772	10	491	0	0	501	1291
% App. Total	27.8	0	72.2	0		0	99.6	0.4	0		2	98	0	0		
PHF	.417	.000	.650	.000	.643	.000	.894	.375	.000	.898	.417	.967	.000	.000	.986	.927
Auto	4	0	13	0	17	0	750	3	0	753	10	478	0	0	488	1258
% Auto	80.0	0	100	0	94.4	0	97.5	100	0	97.5	100	97.4	0	0	97.4	97.4
HV	1	0	0	0	1	0	13	0	0	13	0	12	0	0	12	26
% HV	20.0	0	0	0	5.6	0	1.7	0	0	1.7	0	2.4	0	0	2.4	2.0
B/SB	0	0	0	0	0	0	6	0	0	6	0	1	0	0	1	7
% B/SB	0	0	0	0	0	0	0.8	0	0	0.8	0	0.2	0	0	0.2	0.5

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	0	2	0	2	0	216	1	0	217	6	220	0	0	226	445
05:00 PM	0	0	4	1	5	0	180	3	0	183	3	201	0	0	204	392
05:15 PM	0	0	2	0	2	0	190	0	0	190	2	245	0	0	247	439
05:30 PM	1	0	5	0	6	0	237	2	0	239	4	214	0	0	218	463
Total Volume	1	0	13	1	15	0	823	6	0	829	15	880	0	0	895	1739
% App. Total	6.7	0	86.7	6.7		0	99.3	0.7	0		1.7	98.3	0	0		
PHF	.250	.000	.650	.250	.625	.000	.868	.500	.000	.867	.625	.898	.000	.000	.906	.939
Auto	1	0	13	1	15	0	809	6	0	815	15	869	0	0	884	1714
% Auto	100	0	100	100	100	0	98.3	100	0	98.3	100	98.8	0	0	98.8	98.6
HV	0	0	0	0	0	0	8	0	0	8	0	8	0	0	8	16
% HV	0	0	0	0	0	0	1.0	0	0	1.0	0	0.9	0	0	0.9	0.9
B/SB	0	0	0	0	0	0	6	0	0	6	0	3	0	0	3	9
% B/SB	0	0	0	0	0	0	0.7	0	0	0.7	0	0.3	0	0	0.3	0.5

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Southerly Site Driveway (EB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.11

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Southerly Site Driveway Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	136	0	0	136	0	62	0	0	62	198
07:15 AM	0	0	0	0	0	0	192	0	0	192	0	88	0	0	88	280
07:30 AM	0	0	0	0	0	0	199	0	0	199	0	106	0	0	106	305
07:45 AM	0	0	0	1	1	0	185	0	0	185	0	118	0	0	118	304
Total	0	0	0	1	1	0	712	0	0	712	0	374	0	0	374	1087
08:00 AM	0	0	0	0	0	0	184	0	0	184	0	119	0	0	119	303
08:15 AM	0	0	0	0	0	0	214	0	0	214	0	127	0	0	127	341
08:30 AM	0	0	0	0	0	0	193	0	0	193	0	126	0	0	126	319
08:45 AM	0	0	0	0	0	0	157	0	0	157	0	137	0	0	137	294
Total	0	0	0	0	0	0	748	0	0	748	0	509	0	0	509	1257

*** BREAK ***

04:00 PM	0	0	0	2	2	0	187	0	0	187	0	200	0	0	200	389
04:15 PM	0	0	0	0	0	0	200	0	0	200	0	197	0	0	197	397
04:30 PM	0	0	0	2	2	0	185	0	0	185	0	200	0	0	200	387
04:45 PM	0	0	0	1	1	0	218	0	0	218	0	220	0	0	220	439
Total	0	0	0	5	5	0	790	0	0	790	0	817	0	0	817	1612
05:00 PM	0	0	0	0	0	0	188	0	0	188	0	204	0	0	204	392
05:15 PM	0	0	0	0	0	0	191	0	0	191	0	245	0	0	245	436
05:30 PM	0	0	0	0	0	0	240	0	0	240	0	215	0	0	215	455
05:45 PM	0	0	0	0	0	0	190	0	0	190	0	202	0	0	202	392
Total	0	0	0	0	0	0	809	0	0	809	0	866	0	0	866	1675
06:00 PM	0	0	0	0	0	0	195	0	0	195	0	166	0	0	166	361
06:15 PM	0	0	0	0	0	0	150	0	0	150	0	184	0	0	184	334
06:30 PM	0	0	0	0	0	0	140	0	0	140	0	137	0	0	137	277
06:45 PM	0	0	0	0	0	0	120	0	0	120	0	119	0	0	119	239
Total	0	0	0	0	0	0	605	0	0	605	0	606	0	0	606	1211

*** BREAK ***

Grand Total	0	0	0	6	6	0	3664	0	0	3664	0	3172	0	0	3172	6842
Apprch %	0	0	0	100		0	100	0	0		0	100	0	0		
Total %	0	0	0	0.1	0.1	0	53.6	0	0	53.6	0	46.4	0	0	46.4	
Auto	0	0	0	6	6	0	3592	0	0	3592	0	3122	0	0	3122	6720
% Auto	0	0	0	100	100	0	98	0	0	98	0	98.4	0	0	98.4	98.2
HV	0	0	0	0	0	0	53	0	0	53	0	44	0	0	44	97
% HV	0	0	0	0	0	0	1.4	0	0	1.4	0	1.4	0	0	1.4	1.4
B/SB	0	0	0	0	0	0	19	0	0	19	0	6	0	0	6	25
% B/SB	0	0	0	0	0	0	0.5	0	0	0.5	0	0.2	0	0	0.2	0.4

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Southerly Site Driveway (EB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.11
Site Code : 00016509
Start Date : 11/18/2021
Page No : 2

	Southerly Site Driveway Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	0	0	0	1	1	0	185	0	0	185	0	118	0	0	118	304
08:00 AM	0	0	0	0	0	0	184	0	0	184	0	119	0	0	119	303
08:15 AM	0	0	0	0	0	0	214	0	0	214	0	127	0	0	127	341
08:30 AM	0	0	0	0	0	0	193	0	0	193	0	126	0	0	126	319
Total Volume	0	0	0	1	1	0	776	0	0	776	0	490	0	0	490	1267
% App. Total	0	0	0	100		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.250	.250	.000	.907	.000	.000	.907	.000	.965	.000	.000	.965	.929
Auto	0	0	0	1	1	0	755	0	0	755	0	476	0	0	476	1232
% Auto	0	0	0	100	100	0	97.3	0	0	97.3	0	97.1	0	0	97.1	97.2
HV	0	0	0	0	0	0	14	0	0	14	0	13	0	0	13	27
% HV	0	0	0	0	0	0	1.8	0	0	1.8	0	2.7	0	0	2.7	2.1
B/SB	0	0	0	0	0	0	7	0	0	7	0	1	0	0	1	8
% B/SB	0	0	0	0	0	0	0.9	0	0	0.9	0	0.2	0	0	0.2	0.6

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	0	0	1	1	0	218	0	0	218	0	220	0	0	220	439
05:00 PM	0	0	0	0	0	0	188	0	0	188	0	204	0	0	204	392
05:15 PM	0	0	0	0	0	0	191	0	0	191	0	245	0	0	245	436
05:30 PM	0	0	0	0	0	0	240	0	0	240	0	215	0	0	215	455
Total Volume	0	0	0	1	1	0	837	0	0	837	0	884	0	0	884	1722
% App. Total	0	0	0	100		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.250	.250	.000	.872	.000	.000	.872	.000	.902	.000	.000	.902	.946
Auto	0	0	0	1	1	0	819	0	0	819	0	878	0	0	878	1698
% Auto	0	0	0	100	100	0	97.8	0	0	97.8	0	99.3	0	0	99.3	98.6
HV	0	0	0	0	0	0	16	0	0	16	0	6	0	0	6	22
% HV	0	0	0	0	0	0	1.9	0	0	1.9	0	0.7	0	0	0.7	1.3
B/SB	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% B/SB	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.1

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.04

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	56	88	6	0	150	10	59	10	0	79	9	74	10	0	93	16	27	21	1	65	387
07:15 AM	68	101	16	0	185	12	79	11	1	103	16	117	18	0	151	20	39	28	2	89	528
07:30 AM	59	109	23	0	191	18	92	12	0	122	20	118	22	0	160	22	60	25	0	107	580
07:45 AM	49	125	28	0	202	20	89	11	0	120	12	125	24	0	161	25	55	37	0	117	600
Total	232	423	73	0	728	60	319	44	1	424	57	434	74	0	565	83	181	111	3	378	2095
08:00 AM	49	115	15	0	179	22	95	17	0	134	13	120	19	0	152	17	53	49	0	119	584
08:15 AM	69	144	25	0	238	16	80	11	0	107	10	131	9	0	150	19	51	59	0	129	624
08:30 AM	62	106	24	0	192	19	98	15	1	133	9	116	24	0	149	26	46	54	0	126	600
08:45 AM	53	134	17	0	204	16	87	13	0	116	16	94	32	0	142	27	54	56	0	137	599
Total	233	499	81	0	813	73	360	56	1	490	48	461	84	0	593	89	204	218	0	511	2407

*** BREAK ***

04:00 PM	69	150	30	2	251	33	107	19	0	159	23	96	36	4	159	35	106	63	1	205	774
04:15 PM	78	175	47	0	300	29	129	16	0	174	18	104	30	0	152	35	84	74	0	193	819
04:30 PM	75	170	33	0	278	25	125	20	0	170	27	98	29	0	154	29	108	55	0	192	794
04:45 PM	82	158	37	1	278	40	124	27	0	191	20	107	33	0	160	31	105	76	0	212	841
Total	304	653	147	3	1107	127	485	82	0	694	88	405	128	4	625	130	403	268	1	802	3228
05:00 PM	79	173	38	0	290	31	115	17	0	163	25	86	31	0	142	28	103	70	0	201	796
05:15 PM	70	161	44	0	275	39	121	7	0	167	17	119	25	0	161	36	120	87	0	243	846
05:30 PM	85	182	37	0	304	40	147	19	0	206	22	132	30	0	184	29	111	71	1	212	906
05:45 PM	79	166	24	0	269	27	132	23	0	182	15	91	27	1	134	44	88	64	0	196	781
Total	313	682	143	0	1138	137	515	66	0	718	79	428	113	1	621	137	422	292	1	852	3329
06:00 PM	78	151	38	0	267	27	121	15	0	163	17	107	23	0	147	26	73	65	0	164	741
06:15 PM	73	159	41	0	273	31	90	11	0	132	12	59	18	0	89	31	99	56	0	186	680
06:30 PM	68	135	34	0	237	29	78	9	0	116	13	70	30	0	113	17	66	58	0	141	607
06:45 PM	72	144	39	0	255	38	101	14	0	153	10	42	15	0	67	7	56	51	3	117	592
Total	291	589	152	0	1032	125	390	49	0	564	52	278	86	0	416	81	294	230	3	608	2620

*** BREAK ***

Grand Total	1373	2846	596	3	4818	522	2069	297	2	2890	324	2006	485	5	2820	520	1504	1119	8	3151	13679
Apprch %	28.5	59.1	12.4	0.1		18.1	71.6	10.3	0.1		11.5	71.1	17.2	0.2		16.5	47.7	35.5	0.3		
Total %	10	20.8	4.4	0	35.2	3.8	15.1	2.2	0	21.1	2.4	14.7	3.5	0	20.6	3.8	11	8.2	0.1	23	
Auto	1351	2774	590	3	4718	518	2013	289	2	2822	322	1966	480	5	2773	519	1476	1098	8	3101	13414
% Auto	98.4	97.5	99	100	97.9	99.2	97.3	97.3	100	97.6	99.4	98	99	100	98.3	99.8	98.1	98.1	100	98.4	98.1
HV	13	42	4	0	59	4	33	4	0	41	2	30	3	0	35	1	25	17	0	43	178
% HV	0.9	1.5	0.7	0	1.2	0.8	1.6	1.3	0	1.4	0.6	1.5	0.6	0	1.2	0.2	1.7	1.5	0	1.4	1.3
B/SB	9	30	2	0	41	0	23	4	0	27	0	10	2	0	12	0	3	4	0	7	87
% B/SB	0.7	1.1	0.3	0	0.9	0	1.1	1.3	0	0.9	0	0.5	0.4	0	0.4	0	0.2	0.4	0	0.2	0.6

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.04

Site Code : 00016509

Start Date : 11/18/2021

Page No : 2

	Raritan Road Eastbound					Raritan Road Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	49	125	28	0	202	20	89	11	0	120	12	125	24	0	161	25	55	37	0	117	600
08:00 AM	49	115	15	0	179	22	95	17	0	134	13	120	19	0	152	17	53	49	0	119	584
08:15 AM	69	144	25	0	238	16	80	11	0	107	10	131	9	0	150	19	51	59	0	129	624
08:30 AM	62	106	24	0	192	19	98	15	1	133	9	116	24	0	149	26	46	54	0	126	600
Total Volume	229	490	92	0	811	77	362	54	1	494	44	492	76	0	612	87	205	199	0	491	2408
% App. Total	28.2	60.4	11.3	0		15.6	73.3	10.9	0.2		7.2	80.4	12.4	0		17.7	41.8	40.5	0		
PHF	.830	.851	.821	.000	.852	.875	.923	.794	.250	.922	.846	.939	.792	.000	.950	.837	.932	.843	.000	.952	.965
Auto	222	464	90	0	776	76	341	51	1	469	44	483	74	0	601	87	201	190	0	478	2324
% Auto	96.9	94.7	97.8	0	95.7	98.7	94.2	94.4	100	94.9	100	98.2	97.4	0	98.2	100	98.0	95.5	0	97.4	96.5
HV	4	12	2	0	18	1	15	2	0	18	0	7	1	0	8	0	4	8	0	12	56
% HV	1.7	2.4	2.2	0	2.2	1.3	4.1	3.7	0	3.6	0	1.4	1.3	0	1.3	0	2.0	4.0	0	2.4	2.3
B/SB	3	14	0	0	17	0	6	1	0	7	0	2	1	0	3	0	0	1	0	1	28
% B/SB	1.3	2.9	0	0	2.1	0	1.7	1.9	0	1.4	0	0.4	1.3	0	0.5	0	0	0.5	0	0.2	1.2

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	82	158	37	1	278	40	124	27	0	191	20	107	33	0	160	31	105	76	0	212	841
05:00 PM	79	173	38	0	290	31	115	17	0	163	25	86	31	0	142	28	103	70	0	201	796
05:15 PM	70	161	44	0	275	39	121	7	0	167	17	119	25	0	161	36	120	87	0	243	846
05:30 PM	85	182	37	0	304	40	147	19	0	206	22	132	30	0	184	29	111	71	1	212	906
Total Volume	316	674	156	1	1147	150	507	70	0	727	84	444	119	0	647	124	439	304	1	868	3389
% App. Total	27.6	58.8	13.6	0.1		20.6	69.7	9.6	0		13	68.6	18.4	0		14.3	50.6	35	0.1		
PHF	.929	.926	.886	.250	.943	.938	.862	.648	.000	.882	.840	.841	.902	.000	.879	.861	.915	.874	.250	.893	.935
Auto	311	663	156	1	1131	149	501	69	0	719	83	433	118	0	634	124	432	301	1	858	3342
% Auto	98.4	98.4	100	100	98.6	99.3	98.8	98.6	0	98.9	98.8	97.5	99.2	0	98.0	100	98.4	99.0	100	98.8	98.6
HV	2	9	0	0	11	1	4	1	0	6	1	8	1	0	10	0	7	3	0	10	37
% HV	0.6	1.3	0	0	1.0	0.7	0.8	1.4	0	0.8	1.2	1.8	0.8	0	1.5	0	1.6	1.0	0	1.2	1.1
B/SB	3	2	0	0	5	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	10
% B/SB	0.9	0.3	0	0	0.4	0	0.4	0	0	0.3	0	0.7	0	0	0.5	0	0	0	0	0	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Florence Drive (WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.05
Site Code : 00016509
Start Date : 11/18/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Florence Drive Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	92	0	0	92	0	44	0	0	44	136
07:15 AM	0	0	0	1	1	0	153	3	0	156	1	66	0	0	67	224
07:30 AM	0	0	0	1	1	0	159	1	0	160	0	106	0	0	106	267
07:45 AM	0	0	0	0	0	0	168	0	0	168	2	103	0	0	105	273
Total	0	0	0	2	2	0	572	4	0	576	3	319	0	0	322	900
08:00 AM	0	0	0	0	0	0	160	2	0	162	1	87	0	0	88	250
08:15 AM	0	0	0	0	0	0	155	1	0	156	4	90	0	0	94	250
08:30 AM	0	0	0	0	0	0	155	1	0	156	4	86	0	0	90	246
08:45 AM	0	0	0	0	0	0	142	2	0	144	1	85	0	0	86	230
Total	0	0	0	0	0	0	612	6	0	618	10	348	0	0	358	976

*** BREAK ***

04:00 PM	0	0	0	1	1	0	156	2	0	158	2	168	0	0	170	329
04:15 PM	0	0	0	1	1	0	153	3	0	156	3	156	0	0	159	316
04:30 PM	0	0	0	1	1	0	153	3	0	156	1	164	0	0	165	322
04:45 PM	0	0	0	1	1	0	155	0	0	155	2	179	0	0	181	337
Total	0	0	0	4	4	0	617	8	0	625	8	667	0	0	675	1304
05:00 PM	0	0	0	0	0	0	141	5	0	146	2	169	0	0	171	317
05:15 PM	0	0	0	2	2	0	164	3	0	167	2	196	0	0	198	367
05:30 PM	0	0	0	0	0	0	179	3	0	182	1	189	0	0	190	372
05:45 PM	0	0	0	0	0	0	136	4	0	140	0	138	0	0	138	278
Total	0	0	0	2	2	0	620	15	0	635	5	692	0	0	697	1334
06:00 PM	0	0	0	0	0	0	146	1	0	147	2	136	0	0	138	285
06:15 PM	0	0	0	0	0	0	87	3	0	90	2	170	0	0	172	262
06:30 PM	0	0	0	0	0	0	113	0	0	113	2	129	0	0	131	244
06:45 PM	0	0	0	0	0	0	64	4	0	68	3	132	0	0	135	203
Total	0	0	0	0	0	0	410	8	0	418	9	567	0	0	576	994

*** BREAK ***

Grand Total	0	0	0	8	8	0	2831	41	0	2872	35	2593	0	0	2628	5508
Apprch %	0	0	0	100		0	98.6	1.4	0		1.3	98.7	0	0		
Total %	0	0	0	0.1	0.1	0	51.4	0.7	0	52.1	0.6	47.1	0	0	47.7	
Auto	0	0	0	8	8	0	2782	41	0	2823	33	2558	0	0	2591	5422
% Auto	0	0	0	100	100	0	98.3	100	0	98.3	94.3	98.7	0	0	98.6	98.4
HV	0	0	0	0	0	0	37	0	0	37	1	32	0	0	33	70
% HV	0	0	0	0	0	0	1.3	0	0	1.3	2.9	1.2	0	0	1.3	1.3
B/SB	0	0	0	0	0	0	12	0	0	12	1	3	0	0	4	16
% B/SB	0	0	0	0	0	0	0.4	0	0	0.4	2.9	0.1	0	0	0.2	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Florence Drive (WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.05
Site Code : 00016509
Start Date : 11/18/2021
Page No : 2

	Florence Drive Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 07:45 AM																
07:45 AM	0	0	0	0	0	0	168	0	0	168	2	103	0	0	105	273
08:00 AM	0	0	0	0	0	0	160	2	0	162	1	87	0	0	88	250
08:15 AM	0	0	0	0	0	0	155	1	0	156	4	90	0	0	94	250
08:30 AM	0	0	0	0	0	0	155	1	0	156	4	86	0	0	90	246
Total Volume	0	0	0	0	0	0	638	4	0	642	11	366	0	0	377	1019
% App. Total	0	0	0	0		0	99.4	0.6	0		2.9	97.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.949	.500	.000	.955	.688	.888	.000	.000	.898	.933
Auto	0	0	0	0	0	0	626	4	0	630	10	360	0	0	370	1000
% Auto	0	0	0	0	0	0	98.1	100	0	98.1	90.9	98.4	0	0	98.1	98.1
HV	0	0	0	0	0	0	9	0	0	9	1	6	0	0	7	16
% HV	0	0	0	0	0	0	1.4	0	0	1.4	9.1	1.6	0	0	1.9	1.6
B/SB	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
% B/SB	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.3

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	0	0	0	1	1	0	155	0	0	155	2	179	0	0	181	337
05:00 PM	0	0	0	0	0	0	141	5	0	146	2	169	0	0	171	317
05:15 PM	0	0	0	2	2	0	164	3	0	167	2	196	0	0	198	367
05:30 PM	0	0	0	0	0	0	179	3	0	182	1	189	0	0	190	372
Total Volume	0	0	0	3	3	0	639	11	0	650	7	733	0	0	740	1393
% App. Total	0	0	0	100		0	98.3	1.7	0		0.9	99.1	0	0		
PHF	.000	.000	.000	.375	.375	.000	.892	.550	.000	.893	.875	.935	.000	.000	.934	.936
Auto	0	0	0	3	3	0	627	11	0	638	7	726	0	0	733	1374
% Auto	0	0	0	100	100	0	98.1	100	0	98.2	100	99.0	0	0	99.1	98.6
HV	0	0	0	0	0	0	9	0	0	9	0	7	0	0	7	16
% HV	0	0	0	0	0	0	1.4	0	0	1.4	0	1.0	0	0	0.9	1.1
B/SB	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	3
% B/SB	0	0	0	0	0	0	0.5	0	0	0.5	0	0	0	0	0	0.2

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and New York Avenue (NB), Colin Kelly Street (SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.10

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					New York Avenue Northbound					Colin Kelly Street Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	104	1	0	106	1	75	0	0	76	1	0	2	0	3	0	0	3	0	3	188
07:15 AM	0	144	0	0	144	1	110	1	0	112	1	0	1	0	2	2	0	5	0	7	265
07:30 AM	0	158	0	2	160	0	115	0	0	115	3	0	3	1	7	4	0	6	0	10	292
07:45 AM	0	175	1	0	176	0	119	3	0	122	1	0	1	0	2	2	0	6	0	8	308
Total	1	581	2	2	586	2	419	4	0	425	6	0	7	1	14	8	0	20	0	28	1053
08:00 AM	1	159	0	0	160	1	132	1	0	134	3	0	1	0	4	1	0	3	0	4	302
08:15 AM	0	172	2	0	174	0	108	1	0	109	3	0	1	0	4	0	0	2	2	4	291
08:30 AM	3	173	0	0	176	0	129	1	0	130	4	0	0	0	4	4	0	3	1	8	318
08:45 AM	3	191	2	0	196	0	108	0	0	108	1	1	0	0	2	2	0	5	2	9	315
Total	7	695	4	0	706	1	477	3	0	481	11	1	2	0	14	7	0	13	5	25	1226

*** BREAK ***

04:00 PM	4	221	4	0	229	2	152	4	3	161	2	0	2	4	8	0	0	9	2	11	409
04:15 PM	6	231	5	0	242	1	164	0	0	165	2	0	5	0	7	4	0	9	3	16	430
04:30 PM	7	221	2	1	231	0	146	0	0	146	2	0	1	0	3	3	1	11	4	19	399
04:45 PM	6	218	2	0	226	1	178	0	0	179	2	0	5	0	7	1	0	12	0	13	425
Total	23	891	13	1	928	4	640	4	3	651	8	0	13	4	25	8	1	41	9	59	1663
05:00 PM	9	220	4	0	233	1	159	3	1	164	3	0	4	0	7	4	0	4	2	10	414
05:15 PM	7	211	0	0	218	3	172	2	0	177	3	0	6	2	11	3	0	10	1	14	420
05:30 PM	10	225	1	0	236	2	184	0	0	186	3	2	4	0	9	4	0	8	0	12	443
05:45 PM	10	222	2	0	234	3	163	1	0	167	7	1	5	0	13	6	0	5	0	11	425
Total	36	878	7	0	921	9	678	6	1	694	16	3	19	2	40	17	0	27	3	47	1702
06:00 PM	5	193	1	0	199	3	143	1	0	147	4	0	2	0	6	5	0	8	5	18	370
06:15 PM	4	200	3	0	207	3	126	1	0	130	7	1	2	0	10	3	1	6	2	12	359
06:30 PM	3	172	0	0	175	2	109	1	0	112	5	0	1	1	7	3	0	6	5	14	308
06:45 PM	0	159	1	0	160	1	126	3	0	130	8	0	1	0	9	4	0	6	1	11	310
Total	12	724	5	0	741	9	504	6	0	519	24	1	6	1	32	15	1	26	13	55	1347

*** BREAK ***

Grand Total	79	3769	31	3	3882	25	2718	23	4	2770	65	5	47	8	125	55	2	127	30	214	6991
Apprch %	2	97.1	0.8	0.1		0.9	98.1	0.8	0.1		52	4	37.6	6.4		25.7	0.9	59.3	14		
Total %	1.1	53.9	0.4	0	55.5	0.4	38.9	0.3	0.1	39.6	0.9	0.1	0.7	0.1	1.8	0.8	0	1.8	0.4	3.1	
Auto	79	3695	30	3	3807	25	2645	22	4	2696	65	4	46	8	123	55	2	125	30	212	6838
% Auto	100	98	96.8	100	98.1	100	97.3	95.7	100	97.3	100	80	97.9	100	98.4	100	100	98.4	100	99.1	97.8
HV	0	41	1	0	42	0	45	1	0	46	0	1	0	0	1	0	0	2	0	2	91
% HV	0	1.1	3.2	0	1.1	0	1.7	4.3	0	1.7	0	20	0	0	0.8	0	0	1.6	0	0.9	1.3
B/SB	0	33	0	0	33	0	28	0	0	28	0	0	1	0	1	0	0	0	0	0	62
% B/SB	0	0.9	0	0	0.9	0	1	0	0	1	0	0	2.1	0	0.8	0	0	0	0	0	0.9

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and New York Avenue (NB), Colin Kelly Street (SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.10
Site Code : 00016509
Start Date : 11/18/2021
Page No : 2

	Raritan Road Eastbound					Raritan Road Westbound					New York Avenue Northbound					Colin Kelly Street Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	175	1	0	176	0	119	3	0	122	1	0	1	0	2	2	0	6	0	8	308
08:00 AM	1	159	0	0	160	1	132	1	0	134	3	0	1	0	4	1	0	3	0	4	302
08:15 AM	0	172	2	0	174	0	108	1	0	109	3	0	1	0	4	0	0	2	2	4	291
08:30 AM	3	173	0	0	176	0	129	1	0	130	4	0	0	0	4	4	0	3	1	8	318
Total Volume	4	679	3	0	686	1	488	6	0	495	11	0	3	0	14	7	0	14	3	24	1219
% App. Total	0.6	99	0.4	0		0.2	98.6	1.2	0		78.6	0	21.4	0		29.2	0	58.3	12.5		
PHF	.333	.970	.375	.000	.974	.250	.924	.500	.000	.924	.688	.000	.750	.000	.875	.438	.000	.583	.375	.750	.958
Auto	4	651	3	0	658	1	459	5	0	465	11	0	3	0	14	7	0	13	3	23	1160
% Auto	100	95.9	100	0	95.9	100	94.1	83.3	0	93.9	100	0	100	0	100	100	0	92.9	100	95.8	95.2
HV	0	12	0	0	12	0	22	1	0	23	0	0	0	0	0	0	0	1	0	1	36
% HV	0	1.8	0	0	1.7	0	4.5	16.7	0	4.6	0	0	0	0	0	0	0	7.1	0	4.2	3.0
B/SB	0	16	0	0	16	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	23
% B/SB	0	2.4	0	0	2.3	0	1.4	0	0	1.4	0	0	0	0	0	0	0	0	0	0	1.9
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	6	218	2	0	226	1	178	0	0	179	2	0	5	0	7	1	0	12	0	13	425
05:00 PM	9	220	4	0	233	1	159	3	1	164	3	0	4	0	7	4	0	4	2	10	414
05:15 PM	7	211	0	0	218	3	172	2	0	177	3	0	6	2	11	3	0	10	1	14	420
05:30 PM	10	225	1	0	236	2	184	0	0	186	3	2	4	0	9	4	0	8	0	12	443
Total Volume	32	874	7	0	913	7	693	5	1	706	11	2	19	2	34	12	0	34	3	49	1702
% App. Total	3.5	95.7	0.8	0		1	98.2	0.7	0.1		32.4	5.9	55.9	5.9		24.5	0	69.4	6.1		
PHF	.800	.971	.438	.000	.967	.583	.942	.417	.250	.949	.917	.250	.792	.250	.773	.750	.000	.708	.375	.875	.960
Auto	32	863	6	0	901	7	686	5	1	699	11	2	19	2	34	12	0	34	3	49	1683
% Auto	100	98.7	85.7	0	98.7	100	99.0	100	100	99.0	100	100	100	100	100	100	0	100	100	100	98.9
HV	0	9	1	0	10	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	15
% HV	0	1.0	14.3	0	1.1	0	0.7	0	0	0.7	0	0	0	0	0	0	0	0	0	0	0.9
B/SB	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4
% B/SB	0	0.2	0	0	0.2	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.2

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and Shoprite Drive (NB), Business Access (SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.08
Site Code : 00016509
Start Date : 11/18/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					Shoprite Drive Northbound					Business Access Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	159	8	0	168	6	80	3	0	89	4	0	11	0	15	0	1	0	0	1	273
07:15 AM	1	172	11	0	184	10	107	5	0	122	7	0	15	1	23	1	0	1	0	2	331
07:30 AM	1	199	17	0	217	10	128	4	0	142	11	1	20	0	32	2	0	0	0	2	393
07:45 AM	2	196	18	1	217	11	132	4	0	147	7	1	17	0	25	3	2	3	2	10	399
Total	5	726	54	1	786	37	447	16	0	500	29	2	63	1	95	6	3	4	2	15	1396
08:00 AM	2	204	11	0	217	19	147	11	0	177	9	2	19	0	30	4	0	3	0	7	431
08:15 AM	3	218	15	0	236	14	139	5	0	158	6	1	19	0	26	2	0	1	0	3	423
08:30 AM	2	197	26	0	225	16	144	7	0	167	11	0	27	1	39	5	0	2	1	8	439
08:45 AM	0	197	26	0	223	17	139	5	0	161	7	0	20	0	27	6	0	2	0	8	419
Total	7	816	78	0	901	66	569	28	0	663	33	3	85	1	122	17	0	8	1	26	1712

*** BREAK ***

04:00 PM	2	246	33	0	281	28	197	14	0	239	9	0	46	0	55	12	1	19	2	34	609
04:15 PM	0	229	26	0	255	34	203	13	1	251	11	0	51	2	64	10	2	5	0	17	587
04:30 PM	0	240	23	0	263	28	188	11	0	227	19	0	51	0	70	17	2	12	2	33	593
04:45 PM	2	201	30	0	233	24	224	27	0	275	18	1	59	1	79	11	0	9	0	20	607
Total	4	916	112	0	1032	114	812	65	1	992	57	1	207	3	268	50	5	45	4	104	2396
05:00 PM	3	238	18	2	261	32	239	12	0	283	16	0	57	1	74	4	0	8	0	12	630
05:15 PM	1	261	20	1	283	33	208	9	0	250	15	0	49	2	66	10	1	13	1	25	624
05:30 PM	1	238	19	1	259	40	225	15	0	280	6	0	55	0	61	11	2	7	0	20	620
05:45 PM	1	205	28	1	235	33	201	11	0	245	11	0	52	2	65	6	1	6	0	13	558
Total	6	942	85	5	1038	138	873	47	0	1058	48	0	213	5	266	31	4	34	1	70	2432
06:00 PM	2	228	26	0	256	31	200	7	0	238	16	2	61	0	79	9	3	12	0	24	597
06:15 PM	1	227	15	0	243	15	183	8	0	206	15	0	43	2	60	8	0	5	0	13	522
06:30 PM	2	190	20	0	212	13	175	5	0	193	11	0	42	0	53	5	0	4	1	10	468
06:45 PM	2	201	21	1	225	23	191	10	0	224	9	1	47	0	57	11	1	8	0	20	526
Total	7	846	82	1	936	82	749	30	0	861	51	3	193	2	249	33	4	29	1	67	2113

*** BREAK ***

Grand Total	29	4246	411	7	4693	437	3450	186	1	4074	218	9	761	12	1000	137	16	120	9	282	10049
Apprch %	0.6	90.5	8.8	0.1		10.7	84.7	4.6	0		21.8	0.9	76.1	1.2		48.6	5.7	42.6	3.2		
Total %	0.3	42.3	4.1	0.1	46.7	4.3	34.3	1.9	0	40.5	2.2	0.1	7.6	0.1	10	1.4	0.2	1.2	0.1	2.8	
Auto	29	4145	404	7	4585	436	3370	186	1	3993	209	9	757	12	987	136	15	119	9	279	9844
% Auto	100	97.6	98.3	100	97.7	99.8	97.7	100	100	98	95.9	100	99.5	100	98.7	99.3	93.8	99.2	100	98.9	98
HV	0	62	7	0	69	1	52	0	0	53	9	0	2	0	11	0	0	1	0	1	134
% HV	0	1.5	1.7	0	1.5	0.2	1.5	0	0	1.3	4.1	0	0.3	0	1.1	0	0	0.8	0	0.4	1.3
B/SB	0	39	0	0	39	0	28	0	0	28	0	0	2	0	2	1	1	0	0	2	71
% B/SB	0	0.9	0	0	0.8	0	0.8	0	0	0.7	0	0	0.3	0	0.2	0.7	6.2	0	0	0.7	0.7

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and Shoprite Drive (NB), Business Access (SB)
Cranford, Union County, New Jersey
Thursday, November 18, 2021

File Name : T-16509.08
Site Code : 00016509
Start Date : 11/18/2021
Page No : 2

	Raritan Road Eastbound					Raritan Road Westbound					Shoprite Drive Northbound					Business Access Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	196	18	1	217	11	132	4	0	147	7	1	17	0	25	3	2	3	2	10	399
08:00 AM	2	204	11	0	217	19	147	11	0	177	9	2	19	0	30	4	0	3	0	7	431
08:15 AM	3	218	15	0	236	14	139	5	0	158	6	1	19	0	26	2	0	1	0	3	423
08:30 AM	2	197	26	0	225	16	144	7	0	167	11	0	27	1	39	5	0	2	1	8	439
Total Volume	9	815	70	1	895	60	562	27	0	649	33	4	82	1	120	14	2	9	3	28	1692
% App. Total	1	91.1	7.8	0.1		9.2	86.6	4.2	0		27.5	3.3	68.3	0.8		50	7.1	32.1	10.7		
PHF	.750	.935	.673	.250	.948	.789	.956	.614	.000	.917	.750	.500	.759	.250	.769	.700	.250	.750	.375	.700	.964
Auto	9	780	68	1	858	59	531	27	0	617	31	4	81	1	117	14	1	9	3	27	1619
% Auto	100	95.7	97.1	100	95.9	98.3	94.5	100	0	95.1	93.9	100	98.8	100	97.5	100	50.0	100	100	96.4	95.7
HV	0	18	2	0	20	1	24	0	0	25	2	0	1	0	3	0	0	0	0	0	48
% HV	0	2.2	2.9	0	2.2	1.7	4.3	0	0	3.9	6.1	0	1.2	0	2.5	0	0	0	0	0	2.8
B/SB	0	17	0	0	17	0	7	0	0	7	0	0	0	0	0	0	1	0	0	1	25
% B/SB	0	2.1	0	0	1.9	0	1.2	0	0	1.1	0	0	0	0	0	0	50.0	0	0	3.6	1.5
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	2	201	30	0	233	24	224	27	0	275	18	1	59	1	79	11	0	9	0	20	607
05:00 PM	3	238	18	2	261	32	239	12	0	283	16	0	57	1	74	4	0	8	0	12	630
05:15 PM	1	261	20	1	283	33	208	9	0	250	15	0	49	2	66	10	1	13	1	25	624
05:30 PM	1	238	19	1	259	40	225	15	0	280	6	0	55	0	61	11	2	7	0	20	620
Total Volume	7	938	87	4	1036	129	896	63	0	1088	55	1	220	4	280	36	3	37	1	77	2481
% App. Total	0.7	90.5	8.4	0.4		11.9	82.4	5.8	0		19.6	0.4	78.6	1.4		46.8	3.9	48.1	1.3		
PHF	.583	.898	.725	.500	.915	.806	.937	.583	.000	.961	.764	.250	.932	.500	.886	.818	.375	.712	.250	.770	.985
Auto	7	922	87	4	1020	129	889	63	0	1081	54	1	220	4	279	36	3	36	1	76	2456
% Auto	100	98.3	100	100	98.5	100	99.2	100	0	99.4	98.2	100	100	100	99.6	100	100	97.3	100	98.7	99.0
HV	0	11	0	0	11	0	5	0	0	5	1	0	0	0	1	0	0	1	0	1	18
% HV	0	1.2	0	0	1.1	0	0.6	0	0	0.5	1.8	0	0	0	0.4	0	0	2.7	0	1.3	0.7
B/SB	0	5	0	0	5	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	7
% B/SB	0	0.5	0	0	0.5	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.3

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)

and Central Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.09

Site Code : 00016509

Start Date : 11/18/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					Central Avenue Northbound					Central Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	18	104	60	0	182	15	37	33	0	85	58	274	31	0	363	32	154	13	0	199	829
07:15 AM	15	94	74	0	183	10	59	43	0	112	95	265	46	2	408	45	199	18	0	262	965
07:30 AM	16	132	75	0	223	13	68	60	0	141	103	302	37	1	443	52	197	23	0	272	1079
07:45 AM	27	126	102	0	255	23	67	53	2	145	112	296	34	2	444	54	194	11	0	259	1103
Total	76	456	311	0	843	61	231	189	2	483	368	1137	148	5	1658	183	744	65	0	992	3976
08:00 AM	22	124	95	0	241	28	76	53	0	157	115	267	44	0	426	52	195	10	0	257	1081
08:15 AM	11	113	67	0	191	22	69	52	0	143	133	256	55	1	445	68	196	25	0	289	1068
08:30 AM	16	121	101	0	238	29	88	54	0	171	131	227	47	1	406	58	206	13	0	277	1092
08:45 AM	20	106	112	1	239	26	68	51	0	145	106	256	56	0	418	62	207	16	0	285	1087
Total	69	464	375	1	909	105	301	210	0	616	485	1006	202	2	1695	240	804	64	0	1108	4328

*** BREAK ***

04:00 PM	30	129	106	0	265	42	127	64	1	234	102	214	66	0	382	76	248	21	2	347	1228
04:15 PM	20	124	94	0	238	42	121	51	0	214	112	223	57	2	394	77	268	15	0	360	1206
04:30 PM	32	115	104	0	251	54	99	67	0	220	126	224	67	0	417	78	236	14	0	328	1216
04:45 PM	30	115	97	0	242	60	134	61	0	255	142	215	56	1	414	69	241	14	0	324	1235
Total	112	483	401	0	996	198	481	243	1	923	482	876	246	3	1607	300	993	64	2	1359	4885
05:00 PM	28	111	97	0	236	59	134	58	0	251	136	222	75	0	433	67	249	21	1	338	1258
05:15 PM	50	133	93	0	276	60	124	49	1	234	124	221	67	0	412	77	239	22	0	338	1260
05:30 PM	34	133	96	0	263	50	118	76	0	244	138	232	52	0	422	67	230	20	1	318	1247
05:45 PM	22	104	73	0	199	52	103	69	1	225	144	231	64	0	439	71	239	23	0	333	1196
Total	134	481	359	0	974	221	479	252	2	954	542	906	258	0	1706	282	957	86	2	1327	4961

06:00 PM	22	107	83	0	212	57	110	62	0	229	129	211	63	0	403	73	212	28	4	317	1161
06:15 PM	21	102	71	0	194	54	101	61	0	216	127	227	78	2	434	61	194	25	2	282	1126
06:30 PM	17	88	83	1	189	56	94	42	0	192	106	236	68	0	410	50	187	21	1	259	1050
06:45 PM	23	100	62	0	185	50	109	56	0	215	123	178	60	0	361	63	169	22	0	254	1015
Total	83	397	299	1	780	217	414	221	0	852	485	852	269	2	1608	247	762	96	7	1112	4352

*** BREAK ***

Grand Total	474	2281	1745	2	4502	802	1906	1115	5	3828	2362	4777	1123	12	8274	1252	4260	375	11	5898	22502
Apprch %	10.5	50.7	38.8	0		21	49.8	29.1	0.1		28.5	57.7	13.6	0.1		21.2	72.2	6.4	0.2		
Total %	2.1	10.1	7.8	0	20	3.6	8.5	5	0	17	10.5	21.2	5	0.1	36.8	5.6	18.9	1.7	0	26.2	
Auto	463	2231	1725	2	4421	794	1865	1076	5	3740	2327	4691	1112	12	8142	1213	4181	354	11	5759	22062
% Auto	97.7	97.8	98.9	100	98.2	99	97.8	96.5	100	97.7	98.5	98.2	99	100	98.4	96.9	98.1	94.4	100	97.6	98
HV	9	27	6	0	42	8	26	25	0	59	15	56	10	0	81	26	62	12	0	100	282
% HV	1.9	1.2	0.3	0	0.9	1	1.4	2.2	0	1.5	0.6	1.2	0.9	0	1	2.1	1.5	3.2	0	1.7	1.3
B/SB	2	23	14	0	39	0	15	14	0	29	20	30	1	0	51	13	17	9	0	39	158
% B/SB	0.4	1	0.8	0	0.9	0	0.8	1.3	0	0.8	0.8	0.6	0.1	0	0.6	1	0.4	2.4	0	0.7	0.7

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)

and Central Avenue (NB/SB)

Cranford, Union County, New Jersey

Thursday, November 18, 2021

File Name : T-16509.09

Site Code : 00016509

Start Date : 11/18/2021

Page No : 2

	Raritan Road Eastbound					Raritan Road Westbound					Central Avenue Northbound					Central Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	27	126	102	0	255	23	67	53	2	145	112	296	34	2	444	54	194	11	0	259	1103
08:00 AM	22	124	95	0	241	28	76	53	0	157	115	267	44	0	426	52	195	10	0	257	1081
08:15 AM	11	113	67	0	191	22	69	52	0	143	133	256	55	1	445	68	196	25	0	289	1068
08:30 AM	16	121	101	0	238	29	88	54	0	171	131	227	47	1	406	58	206	13	0	277	1092
Total Volume	76	484	365	0	925	102	300	212	2	616	491	1046	180	4	1721	232	791	59	0	1082	4344
% App. Total	8.2	52.3	39.5	0		16.6	48.7	34.4	0.3		28.5	60.8	10.5	0.2		21.4	73.1	5.5	0		
PHF	.704	.960	.895	.000	.907	.879	.852	.981	.250	.901	.923	.883	.818	.500	.967	.853	.960	.590	.000	.936	.985
Auto	74	467	359	0	900	101	285	196	2	584	477	1014	178	4	1673	218	769	53	0	1040	4197
% Auto	97.4	96.5	98.4	0	97.3	99.0	95.0	92.5	100	94.8	97.1	96.9	98.9	100	97.2	94.0	97.2	89.8	0	96.1	96.6
HV	2	7	1	0	10	1	12	12	0	25	5	23	2	0	30	8	17	5	0	30	95
% HV	2.6	1.4	0.3	0	1.1	1.0	4.0	5.7	0	4.1	1.0	2.2	1.1	0	1.7	3.4	2.1	8.5	0	2.8	2.2
B/SB	0	10	5	0	15	0	3	4	0	7	9	9	0	0	18	6	5	1	0	12	52
% B/SB	0	2.1	1.4	0	1.6	0	1.0	1.9	0	1.1	1.8	0.9	0	0	1.0	2.6	0.6	1.7	0	1.1	1.2

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:45 PM

04:45 PM	30	115	97	0	242	60	134	61	0	255	142	215	56	1	414	69	241	14	0	324	1235
05:00 PM	28	111	97	0	236	59	134	58	0	251	136	222	75	0	433	67	249	21	1	338	1258
05:15 PM	50	133	93	0	276	60	124	49	1	234	124	221	67	0	412	77	239	22	0	338	1260
05:30 PM	34	133	96	0	263	50	118	76	0	244	138	232	52	0	422	67	230	20	1	318	1247
Total Volume	142	492	383	0	1017	229	510	244	1	984	540	890	250	1	1681	280	959	77	2	1318	5000
% App. Total	14	48.4	37.7	0		23.3	51.8	24.8	0.1		32.1	52.9	14.9	0.1		21.2	72.8	5.8	0.2		
PHF	.710	.925	.987	.000	.921	.954	.951	.803	.250	.965	.951	.959	.833	.250	.971	.909	.963	.875	.500	.975	.992
Auto	142	484	383	0	1009	227	505	240	1	973	539	886	249	1	1675	275	944	77	2	1298	4955
% Auto	100	98.4	100	0	99.2	99.1	99.0	98.4	100	98.9	99.8	99.6	99.6	100	99.6	98.2	98.4	100	100	98.5	99.1
HV	0	4	0	0	4	2	3	3	0	8	1	4	1	0	6	4	14	0	0	18	36
% HV	0	0.8	0	0	0.4	0.9	0.6	1.2	0	0.8	0.2	0.4	0.4	0	0.4	1.4	1.5	0	0	1.4	0.7
B/SB	0	4	0	0	4	0	2	1	0	3	0	0	0	0	0	1	1	0	0	2	9
% B/SB	0	0.8	0	0	0.4	0	0.4	0.4	0	0.3	0	0	0	0	0	0.4	0.1	0	0	0.2	0.2

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Lincoln Drive East (EB/WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.07_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Lincoln Drive East Eastbound					Lincoln Drive East Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	1	46	30	1	78	14	43	13	1	71	27	69	20	0	116	8	83	6	0	97	362
11:15 AM	3	39	33	1	76	32	53	14	0	99	27	82	16	1	126	14	49	7	3	73	374
11:30 AM	6	30	27	2	65	25	49	8	0	82	33	68	26	0	127	10	76	9	0	95	369
11:45 AM	10	52	31	1	94	23	45	11	1	80	34	84	22	3	143	10	87	6	0	103	420
Total	20	167	121	5	313	94	190	46	2	332	121	303	84	4	512	42	295	28	3	368	1525
12:00 PM	7	45	35	3	90	20	62	9	3	94	26	81	27	1	135	11	80	6	1	98	417
12:15 PM	5	54	41	1	101	16	42	11	0	69	31	96	25	3	155	8	69	2	2	81	406
12:30 PM	7	42	32	0	81	21	48	4	0	73	39	69	16	0	124	6	79	5	1	91	369
12:45 PM	11	48	30	1	90	25	62	12	1	100	24	83	15	5	127	6	63	5	1	75	392
Total	30	189	138	5	362	82	214	36	4	336	120	329	83	9	541	31	291	18	5	345	1584
01:00 PM	8	43	31	0	82	26	43	9	2	80	32	59	19	0	110	13	70	10	2	95	367
01:15 PM	8	56	31	0	95	14	47	15	1	77	27	72	19	1	119	6	64	5	1	76	367
01:30 PM	7	39	33	0	79	31	54	6	3	94	28	81	29	0	138	9	67	3	3	82	393
01:45 PM	6	40	33	0	79	16	54	15	3	88	48	78	17	0	143	13	64	5	1	83	393
Total	29	178	128	0	335	87	198	45	9	339	135	290	84	1	510	41	265	23	7	336	1520
*** BREAK ***																					
Grand Total	79	534	387	10	1010	263	602	127	15	1007	376	922	251	14	1563	114	851	69	15	1049	4629
Apprch %	7.8	52.9	38.3	1		26.1	59.8	12.6	1.5		24.1	59	16.1	0.9		10.9	81.1	6.6	1.4		
Total %	1.7	11.5	8.4	0.2	21.8	5.7	13	2.7	0.3	21.8	8.1	19.9	5.4	0.3	33.8	2.5	18.4	1.5	0.3	22.7	
Auto	79	531	387	10	1007	255	597	125	15	992	371	903	248	14	1536	112	841	69	15	1037	4572
% Auto	100	99.4	100	100	99.7	97	99.2	98.4	100	98.5	98.7	97.9	98.8	100	98.3	98.2	98.8	100	100	98.9	98.8
HV	0	3	0	0	3	7	4	2	0	13	5	19	3	0	27	2	10	0	0	12	55
% HV	0	0.6	0	0	0.3	2.7	0.7	1.6	0	1.3	1.3	2.1	1.2	0	1.7	1.8	1.2	0	0	1.1	1.2
B/SB	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% B/SB	0	0	0	0	0	0.4	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0

	Lincoln Drive East Eastbound					Lincoln Drive East Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	10	52	31	1	94	23	45	11	1	80	34	84	22	3	143	10	87	6	0	103	420
12:00 PM	7	45	35	3	90	20	62	9	3	94	26	81	27	1	135	11	80	6	1	98	417
12:15 PM	5	54	41	1	101	16	42	11	0	69	31	96	25	3	155	8	69	2	2	81	406
12:30 PM	7	42	32	0	81	21	48	4	0	73	39	69	16	0	124	6	79	5	1	91	369
Total Volume	29	193	139	5	366	80	197	35	4	316	130	330	90	7	557	35	315	19	4	373	1612
% App. Total	7.9	52.7	38	1.4		25.3	62.3	11.1	1.3		23.3	59.2	16.2	1.3		9.4	84.5	5.1	1.1		
PHF	.725	.894	.848	.417	.906	.870	.794	.795	.333	.840	.833	.859	.833	.583	.898	.795	.905	.792	.500	.905	.960
Auto	29	192	139	5	365	75	196	35	4	310	127	319	88	7	541	35	313	19	4	371	1587
% Auto	100	99.5	100	100	99.7	93.8	99.5	100	100	98.1	97.7	96.7	97.8	100	97.1	100	99.4	100	100	99.5	98.4
HV	0	1	0	0	1	5	1	0	0	6	3	11	2	0	16	0	2	0	0	2	25
% HV	0	0.5	0	0	0.3	6.3	0.5	0	0	1.9	2.3	3.3	2.2	0	2.9	0	0.6	0	0	0.5	1.6
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Chester Lang Place (EB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.06_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Chester Lang Place Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	4	0	58	0	62	46	115	0	0	161	0	120	6	1	127	350
11:15 AM	3	0	63	0	66	37	113	0	0	150	0	119	6	0	125	341
11:30 AM	6	0	38	1	45	48	123	0	0	171	0	119	7	0	126	342
11:45 AM	7	0	64	0	71	47	120	0	0	167	0	119	9	0	128	366
Total	20	0	223	1	244	178	471	0	0	649	0	477	28	1	506	1399
12:00 PM	3	0	62	1	66	49	136	0	0	185	0	119	3	2	124	375
12:15 PM	6	0	74	0	80	57	130	0	0	187	0	121	5	0	126	393
12:30 PM	7	0	58	0	65	46	124	0	0	170	0	120	9	0	129	364
12:45 PM	2	0	59	0	61	48	117	0	0	165	0	119	4	0	123	349
Total	18	0	253	1	272	200	507	0	0	707	0	479	21	2	502	1481
01:00 PM	2	0	48	4	54	41	112	0	0	153	0	119	11	3	133	340
01:15 PM	4	0	60	0	64	51	119	0	0	170	0	121	5	2	128	362
01:30 PM	2	0	53	1	56	44	133	0	0	177	0	119	6	0	125	358
01:45 PM	1	0	58	0	59	52	142	0	0	194	0	118	4	0	122	375
Total	9	0	219	5	233	188	506	0	0	694	0	477	26	5	508	1435
*** BREAK ***																
Grand Total	47	0	695	7	749	566	1484	0	0	2050	0	1433	75	8	1516	4315
Apprch %	6.3	0	92.8	0.9		27.6	72.4	0	0		0	94.5	4.9	0.5		
Total %	1.1	0	16.1	0.2	17.4	13.1	34.4	0	0	47.5	0	33.2	1.7	0.2	35.1	
Auto	47	0	689	7	743	563	1456	0	0	2019	0	1416	74	8	1498	4260
% Auto	100	0	99.1	100	99.2	99.5	98.1	0	0	98.5	0	98.8	98.7	100	98.8	98.7
HV	0	0	5	0	5	3	28	0	0	31	0	17	1	0	18	54
% HV	0	0	0.7	0	0.7	0.5	1.9	0	0	1.5	0	1.2	1.3	0	1.2	1.3
B/SB	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
% B/SB	0	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0	0	0

	Chester Lang Place Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	7	0	64	0	71	47	120	0	0	167	0	119	9	0	128	366
12:00 PM	3	0	62	1	66	49	136	0	0	185	0	119	3	2	124	375
12:15 PM	6	0	74	0	80	57	130	0	0	187	0	121	5	0	126	393
12:30 PM	7	0	58	0	65	46	124	0	0	170	0	120	9	0	129	364
Total Volume	23	0	258	1	282	199	510	0	0	709	0	479	26	2	507	1498
% App. Total	8.2	0	91.5	0.4		28.1	71.9	0	0		0	94.5	5.1	0.4		
PHF	.821	.000	.872	.250	.881	.873	.938	.000	.000	.948	.000	.990	.722	.250	.983	.953
Auto	23	0	255	1	279	198	493	0	0	691	0	472	26	2	500	1470
% Auto	100	0	98.8	100	98.9	99.5	96.7	0	0	97.5	0	98.5	100	100	98.6	98.1
HV	0	0	3	0	3	1	17	0	0	18	0	7	0	0	7	28
% HV	0	0	1.2	0	1.1	0.5	3.3	0	0	2.5	0	1.5	0	0	1.4	1.9
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Lexington Avenue (WB)

and Walnut Avenue (NB/SB)

Cranford, Union County, New Jersey

Saturday, November 20, 2021

File Name : T-16509.01_SAT

Site Code : 00016509

Start Date : 11/20/2021

Page No : 1

Groups Printed- Auto - HV - B/SB

	Lexington Avenue Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	2	0	13	2	17	0	151	1	0	152	15	169	0	0	184	353
11:15 AM	0	0	13	0	13	0	136	1	0	137	19	153	0	0	172	322
11:30 AM	0	0	18	0	18	0	147	1	0	148	14	145	0	0	159	325
11:45 AM	0	0	19	1	20	0	147	2	0	149	22	171	0	0	193	362
Total	2	0	63	3	68	0	581	5	0	586	70	638	0	0	708	1362
12:00 PM	1	0	16	0	17	0	167	0	0	167	27	162	0	0	189	373
12:15 PM	0	0	19	0	19	0	166	2	0	168	13	183	0	0	196	383
12:30 PM	0	0	23	2	25	0	150	1	0	151	18	163	0	0	181	357
12:45 PM	2	0	15	0	17	0	152	2	0	154	23	157	0	0	180	351
Total	3	0	73	2	78	0	635	5	0	640	81	665	0	0	746	1464
01:00 PM	1	0	16	2	19	0	136	4	0	140	21	146	0	0	167	326
01:15 PM	1	0	19	0	20	0	147	5	0	152	20	154	0	0	174	346
01:30 PM	0	0	15	0	15	0	162	2	0	164	8	161	0	0	169	348
01:45 PM	1	0	25	0	26	0	181	1	0	182	16	153	0	0	169	377
Total	3	0	75	2	80	0	626	12	0	638	65	614	0	0	679	1397
*** BREAK ***																
Grand Total	8	0	211	7	226	0	1842	22	0	1864	216	1917	0	0	2133	4223
Apprch %	3.5	0	93.4	3.1		0	98.8	1.2	0		10.1	89.9	0	0		
Total %	0.2	0	5	0.2	5.4	0	43.6	0.5	0	44.1	5.1	45.4	0	0	50.5	
Auto	8	0	209	7	224	0	1812	21	0	1833	215	1895	0	0	2110	4167
% Auto	100	0	99.1	100	99.1	0	98.4	95.5	0	98.3	99.5	98.9	0	0	98.9	98.7
HV	0	0	2	0	2	0	30	1	0	31	1	22	0	0	23	56
% HV	0	0	0.9	0	0.9	0	1.6	4.5	0	1.7	0.5	1.1	0	0	1.1	1.3
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Lexington Avenue Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	0	0	19	1	20	0	147	2	0	149	22	171	0	0	193	362
12:00 PM	1	0	16	0	17	0	167	0	0	167	27	162	0	0	189	373
12:15 PM	0	0	19	0	19	0	166	2	0	168	13	183	0	0	196	383
12:30 PM	0	0	23	2	25	0	150	1	0	151	18	163	0	0	181	357
Total Volume	1	0	77	3	81	0	630	5	0	635	80	679	0	0	759	1475
% App. Total	1.2	0	95.1	3.7		0	99.2	0.8	0		10.5	89.5	0	0		
PHF	.250	.000	.837	.375	.810	.000	.943	.625	.000	.945	.741	.928	.000	.000	.968	.963
Auto	1	0	75	3	79	0	612	5	0	617	80	671	0	0	751	1447
% Auto	100	0	97.4	100	97.5	0	97.1	100	0	97.2	100	98.8	0	0	98.9	98.1
HV	0	0	2	0	2	0	18	0	0	18	0	8	0	0	8	28
% HV	0	0	2.6	0	2.5	0	2.9	0	0	2.8	0	1.2	0	0	1.1	1.9
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Northerly Site Driveway (EB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.12_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Site Access 1 Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	152	0	0	152	0	166	0	0	166	318
11:15 AM	0	0	0	0	0	0	136	0	0	136	0	154	0	0	154	290
11:30 AM	0	0	0	1	1	0	150	0	0	150	0	142	0	0	142	293
11:45 AM	0	0	0	1	1	0	148	0	0	148	0	178	0	0	178	327
Total	0	0	0	2	2	0	586	0	0	586	0	640	0	0	640	1228
12:00 PM	0	0	0	0	0	0	168	0	0	168	0	162	0	0	162	330
12:15 PM	0	0	0	4	4	0	167	0	0	167	0	176	0	0	176	347
12:30 PM	0	0	0	5	5	0	149	0	0	149	0	163	0	0	163	317
12:45 PM	0	0	0	2	2	0	153	0	0	153	0	158	0	0	158	313
Total	0	0	0	11	11	0	637	0	0	637	0	659	0	0	659	1307
01:00 PM	0	0	0	1	1	0	144	0	0	144	0	146	0	0	146	291
01:15 PM	0	0	0	0	0	0	152	0	0	152	0	153	0	0	153	305
01:30 PM	0	0	0	2	2	0	155	0	0	155	0	160	0	0	160	317
01:45 PM	0	0	0	0	0	0	174	0	0	174	0	157	0	0	157	331
Total	0	0	0	3	3	0	625	0	0	625	0	616	0	0	616	1244
*** BREAK ***																
Grand Total	0	0	0	16	16	0	1848	0	0	1848	0	1915	0	0	1915	3779
Apprch %	0	0	0	100		0	100	0	0		0	100	0	0		
Total %	0	0	0	0.4	0.4	0	48.9	0	0	48.9	0	50.7	0	0	50.7	
Auto	0	0	0	16	16	0	1819	0	0	1819	0	1891	0	0	1891	3726
% Auto	0	0	0	100	100	0	98.4	0	0	98.4	0	98.7	0	0	98.7	98.6
HV	0	0	0	0	0	0	28	0	0	28	0	24	0	0	24	52
% HV	0	0	0	0	0	0	1.5	0	0	1.5	0	1.3	0	0	1.3	1.4
B/SB	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% B/SB	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0

	Site Access 1 Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	0	0	0	1	1	0	148	0	0	148	0	178	0	0	178	327
12:00 PM	0	0	0	0	0	0	168	0	0	168	0	162	0	0	162	330
12:15 PM	0	0	0	4	4	0	167	0	0	167	0	176	0	0	176	347
12:30 PM	0	0	0	5	5	0	149	0	0	149	0	163	0	0	163	317
Total Volume	0	0	0	10	10	0	632	0	0	632	0	679	0	0	679	1321
% App. Total	0	0	0	100		0	100	0	0		0	100	0	0		
PHF	.000	.000	.000	.500	.500	.000	.940	.000	.000	.940	.000	.954	.000	.000	.954	.952
Auto	0	0	0	10	10	0	617	0	0	617	0	669	0	0	669	1296
% Auto	0	0	0	100	100	0	97.6	0	0	97.6	0	98.5	0	0	98.5	98.1
HV	0	0	0	0	0	0	14	0	0	14	0	10	0	0	10	24
% HV	0	0	0	0	0	0	2.2	0	0	2.2	0	1.5	0	0	1.5	1.8
B/SB	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% B/SB	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.1

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Behnert Place (WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.02_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Behnert Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	0	1	1	2	0	153	2	0	155	2	168	0	0	170	327
11:15 AM	0	0	1	0	1	0	133	0	0	133	0	153	0	0	153	287
11:30 AM	0	0	3	0	3	0	147	0	0	147	0	142	0	0	142	292
11:45 AM	0	0	1	0	1	0	148	0	0	148	0	176	0	0	176	325
Total	0	0	6	1	7	0	581	2	0	583	2	639	0	0	641	1231
12:00 PM	0	0	1	1	2	0	164	0	1	165	0	159	0	0	159	326
12:15 PM	0	0	2	0	2	0	164	0	0	164	2	183	0	0	185	351
12:30 PM	0	0	1	3	4	0	149	2	0	151	4	160	0	0	164	319
12:45 PM	1	0	1	1	3	0	150	0	0	150	2	158	0	0	160	313
Total	1	0	5	5	11	0	627	2	1	630	8	660	0	0	668	1309
01:00 PM	1	0	1	1	3	0	142	0	0	142	2	144	0	0	146	291
01:15 PM	1	0	1	0	2	0	151	1	0	152	1	153	0	0	154	308
01:30 PM	1	0	0	1	2	0	155	2	2	159	1	158	0	0	159	320
01:45 PM	0	0	2	1	3	0	173	2	0	175	2	154	0	0	156	334
Total	3	0	4	3	10	0	621	5	2	628	6	609	0	0	615	1253
*** BREAK ***																
Grand Total	4	0	15	9	28	0	1829	9	3	1841	16	1908	0	0	1924	3793
Apprch %	14.3	0	53.6	32.1		0	99.3	0.5	0.2		0.8	99.2	0	0		
Total %	0.1	0	0.4	0.2	0.7	0	48.2	0.2	0.1	48.5	0.4	50.3	0	0	50.7	
Auto	4	0	14	9	27	0	1800	9	3	1812	16	1887	0	0	1903	3742
% Auto	100	0	93.3	100	96.4	0	98.4	100	100	98.4	100	98.9	0	0	98.9	98.7
HV	0	0	1	0	1	0	29	0	0	29	0	21	0	0	21	51
% HV	0	0	6.7	0	3.6	0	1.6	0	0	1.6	0	1.1	0	0	1.1	1.3
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Behnert Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	0	0	1	0	1	0	148	0	0	148	0	176	0	0	176	325
12:00 PM	0	0	1	1	2	0	164	0	1	165	0	159	0	0	159	326
12:15 PM	0	0	2	0	2	0	164	0	0	164	2	183	0	0	185	351
12:30 PM	0	0	1	3	4	0	149	2	0	151	4	160	0	0	164	319
Total Volume	0	0	5	4	9	0	625	2	1	628	6	678	0	0	684	1321
% App. Total	0	0	55.6	44.4		0	99.5	0.3	0.2		0.9	99.1	0	0		
PHF	.000	.000	.625	.333	.563	.000	.953	.250	.250	.952	.375	.926	.000	.000	.924	.941
Auto	0	0	5	4	9	0	611	2	1	614	6	670	0	0	676	1299
% Auto	0	0	100	100	100	0	97.8	100	100	97.8	100	98.8	0	0	98.8	98.3
HV	0	0	0	0	0	0	14	0	0	14	0	8	0	0	8	22
% HV	0	0	0	0	0	0	2.2	0	0	2.2	0	1.2	0	0	1.2	1.7
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Mitchell Place (WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.03_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Mitchell Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	0	4	1	5	0	151	1	0	152	0	167	0	0	167	324
11:15 AM	0	0	1	0	1	0	130	6	0	136	1	154	0	0	155	292
11:30 AM	1	0	3	0	4	0	146	2	0	148	1	142	0	0	143	295
11:45 AM	1	0	3	0	4	0	140	3	0	143	6	170	0	0	176	323
Total	2	0	11	1	14	0	567	12	0	579	8	633	0	0	641	1234
12:00 PM	0	0	3	1	4	0	166	4	0	170	1	156	0	0	157	331
12:15 PM	0	0	3	0	3	0	160	3	0	163	4	181	0	0	185	351
12:30 PM	1	0	3	1	5	0	150	1	0	151	3	158	0	0	161	317
12:45 PM	0	0	3	1	4	0	151	2	0	153	4	152	0	0	156	313
Total	1	0	12	3	16	0	627	10	0	637	12	647	0	0	659	1312
01:00 PM	2	0	3	1	6	0	140	3	0	143	1	146	0	0	147	296
01:15 PM	0	0	3	0	3	0	150	1	0	151	0	153	0	0	153	307
01:30 PM	0	0	1	0	1	0	155	1	0	156	3	152	0	0	155	312
01:45 PM	0	0	2	2	4	0	177	1	0	178	1	155	0	0	156	338
Total	2	0	9	3	14	0	622	6	0	628	5	606	0	0	611	1253
*** BREAK ***																
Grand Total	5	0	32	7	44	0	1816	28	0	1844	25	1886	0	0	1911	3799
Apprch %	11.4	0	72.7	15.9		0	98.5	1.5	0		1.3	98.7	0	0		
Total %	0.1	0	0.8	0.2	1.2	0	47.8	0.7	0	48.5	0.7	49.6	0	0	50.3	
Auto	5	0	32	7	44	0	1779	28	0	1807	24	1865	0	0	1889	3740
% Auto	100	0	100	100	100	0	98	100	0	98	96	98.9	0	0	98.8	98.4
HV	0	0	0	0	0	0	37	0	0	37	1	21	0	0	22	59
% HV	0	0	0	0	0	0	2	0	0	2	4	1.1	0	0	1.2	1.6
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Mitchell Place Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	1	0	3	0	4	0	140	3	0	143	6	170	0	0	176	323
12:00 PM	0	0	3	1	4	0	166	4	0	170	1	156	0	0	157	331
12:15 PM	0	0	3	0	3	0	160	3	0	163	4	181	0	0	185	351
12:30 PM	1	0	3	1	5	0	150	1	0	151	3	158	0	0	161	317
Total Volume	2	0	12	2	16	0	616	11	0	627	14	665	0	0	679	1322
% App. Total	12.5	0	75	12.5		0	98.2	1.8	0		2.1	97.9	0	0		
PHF	.500	.000	1.00	.500	.800	.000	.928	.688	.000	.922	.583	.919	.000	.000	.918	.942
Auto	2	0	12	2	16	0	595	11	0	606	13	657	0	0	670	1292
% Auto	100	0	100	100	100	0	96.6	100	0	96.7	92.9	98.8	0	0	98.7	97.7
HV	0	0	0	0	0	0	21	0	0	21	1	8	0	0	9	30
% HV	0	0	0	0	0	0	3.4	0	0	3.3	7.1	1.2	0	0	1.3	2.3
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Southerly Site Driveway (EB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.11_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Southerly Site Driveway Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	155	0	0	155	0	163	0	0	163	318
11:15 AM	0	0	0	0	0	1	135	0	0	136	0	155	0	0	155	291
11:30 AM	0	0	0	1	1	1	145	0	0	146	0	143	0	2	145	292
11:45 AM	0	0	0	0	0	0	144	0	0	144	0	170	0	0	170	314
Total	0	0	0	1	1	2	579	0	0	581	0	631	0	2	633	1215
12:00 PM	0	0	0	7	7	0	171	0	0	171	0	156	1	0	157	335
12:15 PM	0	0	0	1	1	0	161	0	0	161	0	178	1	0	179	341
12:30 PM	0	0	0	4	4	0	153	0	0	153	0	157	0	0	157	314
12:45 PM	0	0	3	2	5	0	150	0	0	150	0	151	0	0	151	306
Total	0	0	3	14	17	0	635	0	0	635	0	642	2	0	644	1296
01:00 PM	0	0	1	1	2	1	145	0	0	146	0	149	0	0	149	297
01:15 PM	0	0	0	0	0	0	149	0	0	149	0	153	0	0	153	302
01:30 PM	0	0	1	4	5	1	155	0	0	156	0	152	0	0	152	313
01:45 PM	0	0	0	0	0	0	173	0	0	173	0	156	0	0	156	329
Total	0	0	2	5	7	2	622	0	0	624	0	610	0	0	610	1241
*** BREAK ***																
Grand Total	0	0	5	20	25	4	1836	0	0	1840	0	1883	2	2	1887	3752
Apprch %	0	0	20	80		0.2	99.8	0	0		0	99.8	0.1	0.1		
Total %	0	0	0.1	0.5	0.7	0.1	48.9	0	0	49	0	50.2	0.1	0.1	50.3	
Auto	0	0	3	20	23	2	1804	0	0	1806	0	1860	1	2	1863	3692
% Auto	0	0	60	100	92	50	98.3	0	0	98.2	0	98.8	50	100	98.7	98.4
HV	0	0	2	0	2	2	32	0	0	34	0	23	1	0	24	60
% HV	0	0	40	0	8	50	1.7	0	0	1.8	0	1.2	50	0	1.3	1.6
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southerly Site Driveway Eastbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	0	0	0	0	0	0	144	0	0	144	0	170	0	0	170	314
12:00 PM	0	0	0	7	7	0	171	0	0	171	0	156	1	0	157	335
12:15 PM	0	0	0	1	1	0	161	0	0	161	0	178	1	0	179	341
12:30 PM	0	0	0	4	4	0	153	0	0	153	0	157	0	0	157	314
Total Volume	0	0	0	12	12	0	629	0	0	629	0	661	2	0	663	1304
% App. Total	0	0	0	100		0	100	0	0		0	99.7	0.3	0		
PHF	.000	.000	.000	.429	.429	.000	.920	.000	.000	.920	.000	.928	.500	.000	.926	.956
Auto	0	0	0	12	12	0	612	0	0	612	0	653	1	0	654	1278
% Auto	0	0	0	100	100	0	97.3	0	0	97.3	0	98.8	50.0	0	98.6	98.0
HV	0	0	0	0	0	0	17	0	0	17	0	8	1	0	9	26
% HV	0	0	0	0	0	0	2.7	0	0	2.7	0	1.2	50.0	0	1.4	2.0
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.04_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	65	111	42	0	218	25	74	19	0	118	17	76	18	0	111	22	78	58	0	158	605
11:15 AM	64	118	36	0	218	27	95	13	0	135	16	73	16	0	105	17	72	69	1	159	617
11:30 AM	70	122	33	0	225	23	108	10	0	141	21	67	16	0	104	16	74	54	1	145	615
11:45 AM	68	114	36	0	218	33	93	20	0	146	13	48	26	0	87	19	81	69	1	170	621
Total	267	465	147	0	879	108	370	62	0	540	67	264	76	0	407	74	305	250	3	632	2458
12:00 PM	80	128	40	0	248	34	83	15	2	134	18	79	16	3	116	20	64	69	0	153	651
12:15 PM	79	140	32	1	252	29	94	17	0	140	26	67	17	1	111	22	88	62	0	172	675
12:30 PM	74	119	46	0	239	30	106	14	0	150	19	71	21	1	112	26	84	51	0	161	662
12:45 PM	85	134	55	2	276	29	79	9	1	118	10	52	13	1	76	29	71	57	1	158	628
Total	318	521	173	3	1015	122	362	55	3	542	73	269	67	6	415	97	307	239	1	644	2616
01:00 PM	66	132	40	0	238	28	88	12	1	129	8	61	16	1	86	30	60	70	1	161	614
01:15 PM	76	145	33	0	254	28	97	12	0	137	11	68	16	0	95	22	62	69	0	153	639
01:30 PM	79	137	37	1	254	29	99	12	0	140	15	61	16	0	92	24	75	55	1	155	641
01:45 PM	92	146	49	0	287	34	102	21	0	157	15	62	14	0	91	13	79	66	0	158	693
Total	313	560	159	1	1033	119	386	57	1	563	49	252	62	1	364	89	276	260	2	627	2587
*** BREAK ***																					
Grand Total	898	1546	479	4	2927	349	1118	174	4	1645	189	785	205	7	1186	260	888	749	6	1903	7661
Apprch %	30.7	52.8	16.4	0.1		21.2	68	10.6	0.2		15.9	66.2	17.3	0.6		13.7	46.7	39.4	0.3		
Total %	11.7	20.2	6.3	0.1	38.2	4.6	14.6	2.3	0.1	21.5	2.5	10.2	2.7	0.1	15.5	3.4	11.6	9.8	0.1	24.8	
Auto	884	1527	475	4	2890	346	1102	168	4	1620	187	771	202	7	1167	254	877	742	6	1879	7556
% Auto	98.4	98.8	99.2	100	98.7	99.1	98.6	96.6	100	98.5	98.9	98.2	98.5	100	98.4	97.7	98.8	99.1	100	98.7	98.6
HV	14	14	4	0	32	3	13	6	0	22	2	14	3	0	19	6	11	7	0	24	97
% HV	1.6	0.9	0.8	0	1.1	0.9	1.2	3.4	0	1.3	1.1	1.8	1.5	0	1.6	2.3	1.2	0.9	0	1.3	1.3
B/SB	0	5	0	0	5	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	8
% B/SB	0	0.3	0	0	0.2	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1

	Raritan Road Eastbound					Raritan Road Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	68	114	36	0	218	33	93	20	0	146	13	48	26	0	87	19	81	69	1	170	621
12:00 PM	80	128	40	0	248	34	83	15	2	134	18	79	16	3	116	20	64	69	0	153	651
12:15 PM	79	140	32	1	252	29	94	17	0	140	26	67	17	1	111	22	88	62	0	172	675
12:30 PM	74	119	46	0	239	30	106	14	0	150	19	71	21	1	112	26	84	51	0	161	662
Total Volume	301	501	154	1	957	126	376	66	2	570	76	265	80	5	426	87	317	251	1	656	2609
% App. Total	31.5	52.4	16.1	0.1		22.1	66	11.6	0.4		17.8	62.2	18.8	1.2		13.3	48.3	38.3	0.2		
PHF	.941	.895	.837	.250	.949	.926	.887	.825	.250	.950	.731	.839	.769	.417	.918	.837	.901	.909	.250	.953	.966
Auto	294	495	153	1	943	125	369	62	2	558	74	257	79	5	415	86	315	246	1	648	2564
% Auto	97.7	98.8	99.4	100	98.5	99.2	98.1	93.9	100	97.9	97.4	97.0	98.8	100	97.4	98.9	99.4	98.0	100	98.8	98.3
HV	7	5	1	0	13	1	6	4	0	11	2	8	1	0	11	1	2	5	0	8	43
% HV	2.3	1.0	0.6	0	1.4	0.8	1.6	6.1	0	1.9	2.6	3.0	1.3	0	2.6	1.1	0.6	2.0	0	1.2	1.6
B/SB	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% B/SB	0	0.2	0	0	0.1	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Florence Drive (WB)
and Walnut Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.05_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Florence Drive Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	108	4	0	112	2	142	0	0	144	256
11:15 AM	0	0	0	0	0	0	109	2	0	111	5	133	0	0	138	249
11:30 AM	0	0	0	1	1	0	105	2	0	107	2	128	0	0	130	238
11:45 AM	0	0	0	0	0	0	90	2	0	92	2	149	0	0	151	243
Total	0	0	0	1	1	0	412	10	0	422	11	552	0	0	563	986
12:00 PM	0	0	0	2	2	0	108	3	0	111	3	136	0	0	139	252
12:15 PM	0	0	0	1	1	0	104	3	0	107	2	147	0	0	149	257
12:30 PM	0	0	0	1	1	0	116	2	1	119	1	161	0	0	162	282
12:45 PM	0	0	0	2	2	0	79	1	0	80	6	142	0	0	148	230
Total	0	0	0	6	6	0	407	9	1	417	12	586	0	0	598	1021
01:00 PM	0	0	0	2	2	0	83	0	0	83	0	124	0	0	124	209
01:15 PM	0	0	0	0	0	0	98	0	0	98	2	117	0	0	119	217
01:30 PM	0	0	0	0	0	0	97	1	0	98	1	138	0	0	139	237
01:45 PM	0	0	0	1	1	0	86	3	0	89	2	156	0	0	158	248
Total	0	0	0	3	3	0	364	4	0	368	5	535	0	0	540	911
*** BREAK ***																
Grand Total	0	0	0	10	10	0	1183	23	1	1207	28	1673	0	0	1701	2918
Apprch %	0	0	0	100		0	98	1.9	0.1		1.6	98.4	0	0		
Total %	0	0	0	0.3	0.3	0	40.5	0.8	0	41.4	1	57.3	0	0	58.3	
Auto	0	0	0	10	10	0	1165	22	1	1188	28	1654	0	0	1682	2880
% Auto	0	0	0	100	100	0	98.5	95.7	100	98.4	100	98.9	0	0	98.9	98.7
HV	0	0	0	0	0	0	18	1	0	19	0	19	0	0	19	38
% HV	0	0	0	0	0	0	1.5	4.3	0	1.6	0	1.1	0	0	1.1	1.3
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Florence Drive Westbound					Walnut Avenue Northbound					Walnut Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 11:45 AM																
11:45 AM	0	0	0	0	0	0	90	2	0	92	2	149	0	0	151	243
12:00 PM	0	0	0	2	2	0	108	3	0	111	3	136	0	0	139	252
12:15 PM	0	0	0	1	1	0	104	3	0	107	2	147	0	0	149	257
12:30 PM	0	0	0	1	1	0	116	2	1	119	1	161	0	0	162	282
Total Volume	0	0	0	4	4	0	418	10	1	429	8	593	0	0	601	1034
% App. Total	0	0	0	100		0	97.4	2.3	0.2		1.3	98.7	0	0		
PHF	.000	.000	.000	.500	.500	.000	.901	.833	.250	.901	.667	.921	.000	.000	.927	.917
Auto	0	0	0	4	4	0	407	10	1	418	8	589	0	0	597	1019
% Auto	0	0	0	100	100	0	97.4	100	100	97.4	100	99.3	0	0	99.3	98.5
HV	0	0	0	0	0	0	11	0	0	11	0	4	0	0	4	15
% HV	0	0	0	0	0	0	2.6	0	0	2.6	0	0.7	0	0	0.7	1.5
B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% B/SB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and New York Avenue (NB), Colin Kelly Street (SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : t-16509.10_sat
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					New York Avenue Northbound					Colin Kelly Street Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	9	139	2	0	150	1	116	1	0	118	0	0	0	0	0	6	0	5	1	12	280
11:15 AM	4	148	2	0	154	1	120	4	0	125	1	0	0	1	2	6	0	9	5	20	301
11:30 AM	5	151	0	0	156	0	129	1	0	130	0	0	2	0	2	1	0	4	0	5	293
11:45 AM	4	160	2	0	166	1	142	1	0	144	3	0	6	0	9	3	0	8	5	16	335
Total	22	598	6	0	626	3	507	7	0	517	4	0	8	1	13	16	0	26	11	53	1209
12:00 PM	3	159	1	0	163	1	120	2	1	124	3	0	0	3	6	3	0	6	1	10	303
12:15 PM	5	173	3	0	181	0	123	1	1	125	3	0	0	2	5	3	0	12	1	16	327
12:30 PM	4	164	2	0	170	1	122	1	1	125	1	0	1	2	4	7	0	7	2	16	315
12:45 PM	4	157	3	0	164	0	108	0	1	109	5	0	4	4	13	4	0	9	2	15	301
Total	16	653	9	0	678	2	473	4	4	483	12	0	5	11	28	17	0	34	6	57	1246
01:00 PM	7	171	3	0	181	2	121	5	0	128	2	0	2	1	5	4	0	4	1	9	323
01:15 PM	3	180	0	0	183	0	126	1	0	127	6	0	2	1	9	3	0	8	3	14	333
01:30 PM	7	162	2	0	171	1	129	1	0	131	1	0	3	0	4	3	0	8	1	12	318
01:45 PM	4	164	3	0	171	0	147	2	0	149	7	0	4	1	12	1	0	6	0	7	339
Total	21	677	8	0	706	3	523	9	0	535	16	0	11	3	30	11	0	26	5	42	1313
*** BREAK ***																					
Grand Total	59	1928	23	0	2010	8	1503	20	4	1535	32	0	24	15	71	44	0	86	22	152	3768
Apprch %	2.9	95.9	1.1	0		0.5	97.9	1.3	0.3		45.1	0	33.8	21.1		28.9	0	56.6	14.5		
Total %	1.6	51.2	0.6	0	53.3	0.2	39.9	0.5	0.1	40.7	0.8	0	0.6	0.4	1.9	1.2	0	2.3	0.6	4	
Auto	59	1903	21	0	1983	7	1478	20	4	1509	32	0	22	15	69	44	0	85	22	151	3712
% Auto	100	98.7	91.3	0	98.7	87.5	98.3	100	100	98.3	100	0	91.7	100	97.2	100	0	98.8	100	99.3	98.5
HV	0	20	2	0	22	1	22	0	0	23	0	0	2	0	2	0	0	1	0	1	48
% HV	0	1	8.7	0	1.1	12.5	1.5	0	0	1.5	0	0	8.3	0	2.8	0	0	1.2	0	0.7	1.3
B/SB	0	5	0	0	5	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	8
% B/SB	0	0.3	0	0	0.2	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.2

	Raritan Road Eastbound					Raritan Road Westbound					New York Avenue Northbound					Colin Kelly Street Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	4	160	2	0	166	1	142	1	0	144	3	0	6	0	9	3	0	8	5	16	335
12:00 PM	3	159	1	0	163	1	120	2	1	124	3	0	0	3	6	3	0	6	1	10	303
12:15 PM	5	173	3	0	181	0	123	1	1	125	3	0	0	2	5	3	0	12	1	16	327
12:30 PM	4	164	2	0	170	1	122	1	1	125	1	0	1	2	4	7	0	7	2	16	315
Total Volume	16	656	8	0	680	3	507	5	3	518	10	0	7	7	24	16	0	33	9	58	1280
% App. Total	2.4	96.5	1.2	0		0.6	97.9	1	0.6		41.7	0	29.2	29.2		27.6	0	56.9	15.5		
PHF	.800	.948	.667	.000	.939	.750	.893	.625	.750	.899	.833	.000	.292	.583	.667	.571	.000	.688	.450	.906	.955
Auto	16	647	8	0	671	3	498	5	3	509	10	0	6	7	23	16	0	32	9	57	1260
% Auto	100	98.6	100	0	98.7	100	98.2	100	100	98.3	100	0	85.7	100	95.8	100	0	97.0	100	98.3	98.4
HV	0	8	0	0	8	0	8	0	0	8	0	0	1	0	1	0	0	1	0	1	18
% HV	0	1.2	0	0	1.2	0	1.6	0	0	1.5	0	0	14.3	0	4.2	0	0	3.0	0	1.7	1.4
B/SB	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% B/SB	0	0.2	0	0	0.1	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.2

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and Shoprite Drive (NB), Business Access (SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.08_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					Shoprite Drive Northbound					Business Access Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	5	217	27	0	249	41	165	11	0	217	8	0	48	2	58	6	1	7	1	15	539
11:15 AM	0	199	19	0	218	33	174	6	0	213	10	0	49	0	59	7	5	9	0	21	511
11:30 AM	2	192	31	0	225	29	192	4	0	225	16	0	47	1	64	6	1	6	0	13	527
11:45 AM	3	221	15	0	239	21	176	14	0	211	18	0	60	0	78	2	1	9	0	12	540
Total	10	829	92	0	931	124	707	35	0	866	52	0	204	3	259	21	8	31	1	61	2117
12:00 PM	2	211	28	0	241	37	190	8	0	235	12	2	62	3	79	6	0	11	2	19	574
12:15 PM	6	209	18	0	233	35	205	17	0	257	18	2	46	1	67	8	1	9	0	18	575
12:30 PM	3	205	17	1	226	35	182	12	0	229	13	0	51	1	65	10	2	11	0	23	543
12:45 PM	0	236	30	0	266	24	179	7	0	210	17	0	49	1	67	6	0	5	1	12	555
Total	11	861	93	1	966	131	756	44	0	931	60	4	208	6	278	30	3	36	3	72	2247
01:00 PM	4	210	29	0	243	30	181	11	0	222	19	1	53	0	73	7	2	3	1	13	551
01:15 PM	2	221	27	0	250	32	161	10	0	203	15	2	46	0	63	8	1	13	0	22	538
01:30 PM	3	243	38	0	284	25	190	10	0	225	20	1	49	0	70	8	0	12	0	20	599
01:45 PM	1	250	24	0	275	29	180	12	0	221	15	0	66	1	82	11	1	5	1	18	596
Total	10	924	118	0	1052	116	712	43	0	871	69	4	214	1	288	34	4	33	2	73	2284
*** BREAK ***																					
Grand Total	31	2614	303	1	2949	371	2175	122	0	2668	181	8	626	10	825	85	15	100	6	206	6648
Apprch %	1.1	88.6	10.3	0		13.9	81.5	4.6	0		21.9	1	75.9	1.2		41.3	7.3	48.5	2.9		
Total %	0.5	39.3	4.6	0	44.4	5.6	32.7	1.8	0	40.1	2.7	0.1	9.4	0.2	12.4	1.3	0.2	1.5	0.1	3.1	
Auto	31	2578	302	1	2912	370	2146	122	0	2638	180	7	624	10	821	84	15	100	6	205	6576
% Auto	100	98.6	99.7	100	98.7	99.7	98.7	100	0	98.9	99.4	87.5	99.7	100	99.5	98.8	100	100	100	99.5	98.9
HV	0	30	1	0	31	1	25	0	0	26	1	1	2	0	4	1	0	0	0	1	62
% HV	0	1.1	0.3	0	1.1	0.3	1.1	0	0	1	0.6	12.5	0.3	0	0.5	1.2	0	0	0	0.5	0.9
B/SB	0	6	0	0	6	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	10
% B/SB	0	0.2	0	0	0.2	0	0.2	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.2

	Raritan Road Eastbound					Raritan Road Westbound					Shoprite Drive Northbound					Business Access Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:45 AM	3	221	15	0	239	21	176	14	0	211	18	0	60	0	78	2	1	9	0	12	540
12:00 PM	2	211	28	0	241	37	190	8	0	235	12	2	62	3	79	6	0	11	2	19	574
12:15 PM	6	209	18	0	233	35	205	17	0	257	18	2	46	1	67	8	1	9	0	18	575
12:30 PM	3	205	17	1	226	35	182	12	0	229	13	0	51	1	65	10	2	11	0	23	543
Total Volume	14	846	78	1	939	128	753	51	0	932	61	4	219	5	289	26	4	40	2	72	2232
% App. Total	1.5	90.1	8.3	0.1		13.7	80.8	5.5	0		21.1	1.4	75.8	1.7		36.1	5.6	55.6	2.8		
PHF	.583	.957	.696	.250	.974	.865	.918	.750	.000	.907	.847	.500	.883	.417	.915	.650	.500	.909	.250	.783	.970
Auto	14	833	78	1	926	127	737	51	0	915	60	4	219	5	288	26	4	40	2	72	2201
% Auto	100	98.5	100	100	98.6	99.2	97.9	100	0	98.2	98.4	100	100	100	99.7	100	100	100	100	100	98.6
HV	0	12	0	0	12	1	14	0	0	15	1	0	0	0	1	0	0	0	0	0	28
% HV	0	1.4	0	0	1.3	0.8	1.9	0	0	1.6	1.6	0	0	0	0.3	0	0	0	0	0	1.3
B/SB	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	3
% B/SB	0	0.1	0	0	0.1	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1

Stonefield Engineering & Design, LLC

92 Park Avenue, Rutherford, NJ 07070

201.340.4468 t. 201.340.4472 f.

Intersection of Raritan Road (EB/WB)
and Central Avenue (NB/SB)
Cranford, Union County, New Jersey
Saturday, November 20, 2021

File Name : T-16509.09_SAT
Site Code : 00016509
Start Date : 11/20/2021
Page No : 1

Groups Printed- Auto - HV - B/SB

	Raritan Road Eastbound					Raritan Road Westbound					Central Avenue Northbound					Central Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
11:00 AM	24	116	112	1	253	52	82	55	0	189	115	186	60	2	363	69	219	24	1	313	1118
11:15 AM	35	91	102	1	229	56	92	47	0	195	88	174	64	1	327	60	226	19	0	305	1056
11:30 AM	24	110	97	0	231	61	86	62	0	209	120	231	45	2	398	65	232	22	0	319	1157
11:45 AM	28	116	108	0	252	57	92	65	0	214	132	225	58	1	416	69	218	27	0	314	1196
Total	111	433	419	2	965	226	352	229	0	807	455	816	227	6	1504	263	895	92	1	1251	4527
12:00 PM	25	110	110	0	245	60	97	52	1	210	114	216	67	3	400	64	229	21	0	314	1169
12:15 PM	38	109	102	1	250	64	96	56	0	216	114	181	63	2	360	61	247	16	0	324	1150
12:30 PM	46	108	88	0	242	55	103	66	1	225	125	198	72	2	397	44	223	30	0	297	1161
12:45 PM	32	123	100	3	258	51	95	62	0	208	118	220	78	1	417	63	227	29	0	319	1202
Total	141	450	400	4	995	230	391	236	2	859	471	815	280	8	1574	232	926	96	0	1254	4682
01:00 PM	37	104	112	1	254	60	82	56	1	199	116	200	71	1	388	64	204	31	0	299	1140
01:15 PM	27	98	101	1	227	56	75	43	1	175	100	232	69	0	401	83	200	19	0	302	1105
01:30 PM	24	131	94	1	250	58	114	55	5	232	115	228	71	0	414	73	226	27	0	326	1222
01:45 PM	32	107	92	0	231	53	79	62	0	194	102	208	89	1	400	76	209	16	0	301	1126
Total	120	440	399	3	962	227	350	216	7	800	433	868	300	2	1603	296	839	93	0	1228	4593
*** BREAK ***																					
Grand Total	372	1323	1218	9	2922	683	1093	681	9	2466	1359	2499	807	16	4681	791	2660	281	1	3733	13802
Apprch %	12.7	45.3	41.7	0.3		27.7	44.3	27.6	0.4		29	53.4	17.2	0.3		21.2	71.3	7.5	0		
Total %	2.7	9.6	8.8	0.1	21.2	4.9	7.9	4.9	0.1	17.9	9.8	18.1	5.8	0.1	33.9	5.7	19.3	2	0	27	
Auto	371	1305	1209	9	2894	679	1078	672	9	2438	1352	2475	802	16	4645	781	2636	278	1	3696	13673
% Auto	99.7	98.6	99.3	100	99	99.4	98.6	98.7	100	98.9	99.5	99	99.4	100	99.2	98.7	99.1	98.9	100	99	99.1
HV	1	14	8	0	23	4	15	5	0	24	7	23	4	0	34	9	23	2	0	34	115
% HV	0.3	1.1	0.7	0	0.8	0.6	1.4	0.7	0	1	0.5	0.9	0.5	0	0.7	1.1	0.9	0.7	0	0.9	0.8
B/SB	0	4	1	0	5	0	0	4	0	4	0	1	1	0	2	1	1	1	0	3	14
% B/SB	0	0.3	0.1	0	0.2	0	0	0.6	0	0.2	0	0	0.1	0	0	0.1	0	0.4	0	0.1	0.1

	Raritan Road Eastbound					Raritan Road Westbound					Central Avenue Northbound					Central Avenue Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	28	116	108	0	252	57	92	65	0	214	132	225	58	1	416	69	218	27	0	314	1196
12:00 PM	25	110	110	0	245	60	97	52	1	210	114	216	67	3	400	64	229	21	0	314	1169
12:15 PM	38	109	102	1	250	64	96	56	0	216	114	181	63	2	360	61	247	16	0	324	1150
12:30 PM	46	108	88	0	242	55	103	66	1	225	125	198	72	2	397	44	223	30	0	297	1161
Total Volume	137	443	408	1	989	236	388	239	2	865	485	820	260	8	1573	238	917	94	0	1249	4676
% App. Total	13.9	44.8	41.3	0.1		27.3	44.9	27.6	0.2		30.8	52.1	16.5	0.5		19.1	73.4	7.5	0		
PHF	.745	.955	.927	.250	.981	.922	.942	.905	.500	.961	.919	.911	.903	.667	.945	.862	.928	.783	.000	.964	.977
Auto	137	438	406	1	982	234	378	236	2	850	485	815	257	8	1565	234	913	93	0	1240	4637
% Auto	100	98.9	99.5	100	99.3	99.2	97.4	98.7	100	98.3	100	99.4	98.8	100	99.5	98.3	99.6	98.9	0	99.3	99.2
HV	0	4	2	0	6	2	10	1	0	13	0	5	3	0	8	4	3	1	0	8	35
% HV	0	0.9	0.5	0	0.6	0.8	2.6	0.4	0	1.5	0	0.6	1.2	0	0.5	1.7	0.3	1.1	0	0.6	0.7
B/SB	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	4
% B/SB	0	0.2	0	0	0.1	0	0	0.8	0	0.2	0	0	0	0	0	0	0.1	0	0	0.1	0.1

NJDOT ATR COUNT DATA

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 04/15/2019 to 04/18/2019

Site names:

3-0-170,Walnut Avenue-1,553,20000632__

Seasonal Factor Grp:

rg1_4U

County:

UNION

Daily Factor Grp:

rg1_4U

Funct Class:

Urban Minor Arterial

Axle Factor Grp:

rg1_4U

Location:

Between Blake Ave and Blake Ave

Growth Factor Grp:

rg1_4U

	Sun, Apr 14, 2019			Mon, Apr 15, 2019			Tue, Apr 16, 2019			Wed, Apr 17, 2019			Thu, Apr 18, 2019			Fri, Apr 19, 2019			Sat, Apr 20, 2019		
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S
00:00							50	20	30	38	19	19	46	17	29						
01:00							20	10	10	17	9	8	28	15	13						
02:00							4	2	2	12	4	8	12	5	7						
03:00							16	7	9	27	14	13	14	7	7						
04:00							40	14	26	33	14	19	37	17	20						
05:00							145	74	71	131	73	58	132	73	59						
06:00							399	251	148	440	264	176	381	237	144						
07:00							915	623	292	1,081	734	347	737	495	242						
08:00							942	546	396	1,017	568	449	811	478	333						
09:00							810	420	390	819	429	390	778	445	333						
10:00				706	360	346	749	384	365	804	377	427									
11:00				768	372	396	786	360	426	863	416	447									
12:00				993	437	556	924	427	497	900	431	469									
13:00				929	419	510	957	447	510	974	445	529									
14:00				935	449	486	966	427	539	941	450	491									
15:00				1,004	409	595	989	445	544	963	429	534									
16:00				1,236	477	759	1,104	461	643	1,096	451	645									
17:00				1,259	567	692	1,385	560	825	1,281	564	717									
18:00				1,004	387	617	1,103	446	657	1,110	478	632									
19:00				774	362	412	831	371	460	910	418	492									
20:00				543	228	315	567	234	333	660	312	348									
21:00				358	159	199	389	158	231	399	171	228									
22:00				175	71	104	202	90	112	249	117	132									
23:00				92	46	46	88	34	54	100	48	52									
Total				10,776	4,743	6,033	14,381	6,811	7,570	14,865	7,235	7,630	2,976	1,789	1,187						
AM Peak Vol				768	372	396	992	656	426	1,121	734	456									
AM Peak Fct				.686	.788	.604	.925	.937	.789	.865	.798	.82									
AM Peak Hr				11:00	11:00	11:00	7:30	7:15	11:00	7:15	7:00	10:45									
PM Peak Vol				1,325	581	800	1,385	560	825	1,289	564	747									
PM Peak Fct				.908	.925	.962	.975	.886	.929	.979	.934	.938									
PM Peak Hr				16:45	16:45	16:15	17:00	17:00	17:00	17:15	17:00	17:15									
Seasonal Fct				1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015						
Daily Fct				.903	.903	.903	.908	.908	.908	.893	.893	.893	.887	.887	.887						
Axle Fct				.492	.492	.492	.492	.492	.492	.492	.492	.492	.492	.492	.492						
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000						

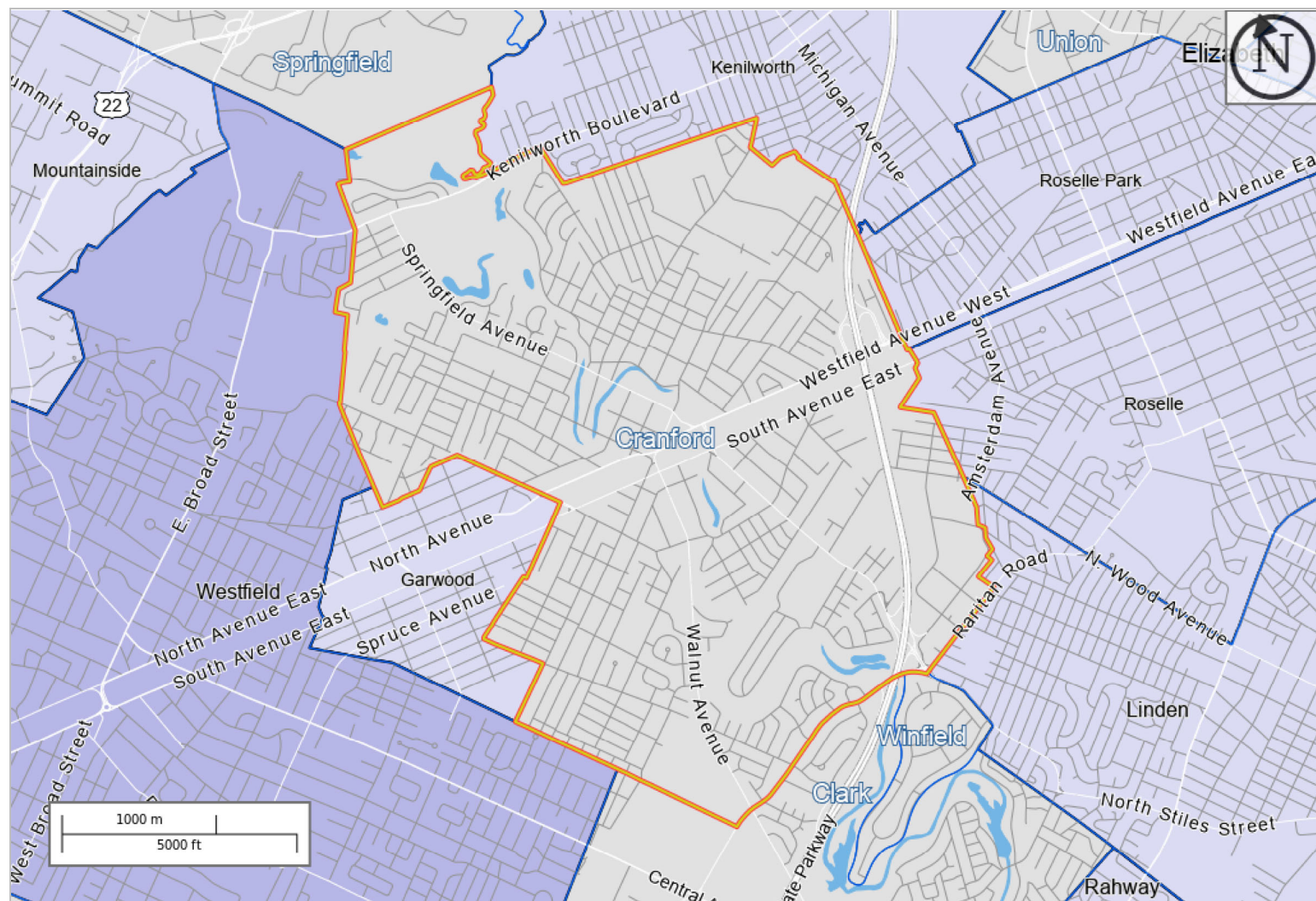
JOURNEY-TO-WORK MODELS

Work Destination Report - Home Selection Area to Work Places (Cities, CDPs, etc.)

All Jobs for All Workers in 2018

Created by the U.S. Census Bureau's OnTheMap <https://onthemap.ces.census.gov> on 02/04/2021

Counts of All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2018 All Workers



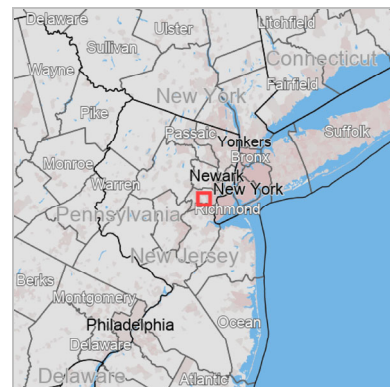
Map Legend

Job Count

- 1,325 - 1,537
- 1,113 - 1,324
- 901 - 1,112
- 689 - 900
- 477 - 688
- 265 - 476
- 52 - 264

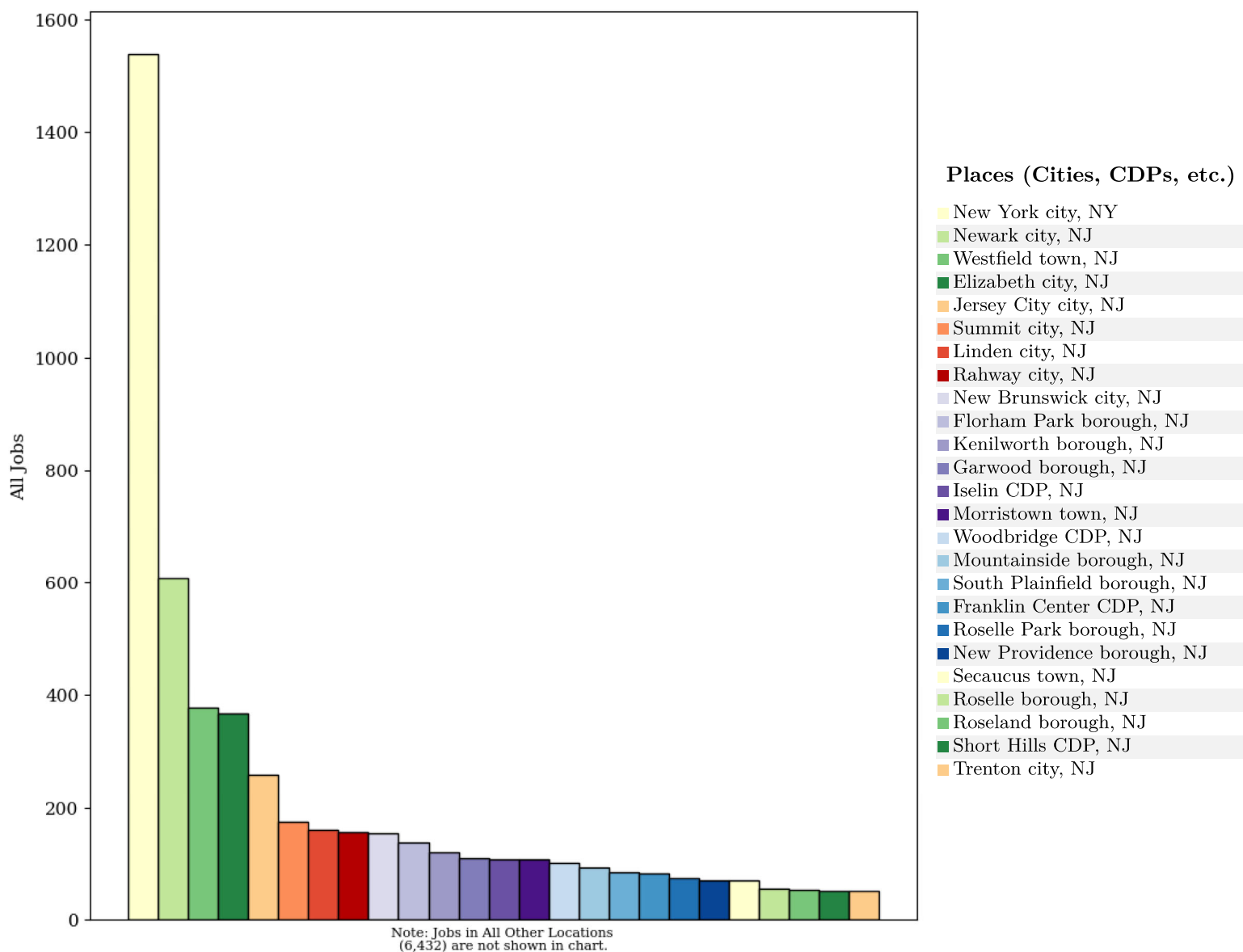
Selection Areas

- 🔷 Analysis Selection



All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2018

All Workers



All Jobs from Home Selection Area to Work Places (Cities, CDPs, etc.) in 2018

All Workers

Places (Cities, CDPs, etc.) as Work Destination Area	2018	
	Count	Share
All Places (Cities, CDPs, etc.)	11,600	100.0
New York city, NY	1,537	13.2
Newark city, NJ	608	5.2
Westfield town, NJ	378	3.3
Elizabeth city, NJ	367	3.2
Jersey City city, NJ	259	2.2
Summit city, NJ	175	1.5
Linden city, NJ	160	1.4
Rahway city, NJ	157	1.4
New Brunswick city, NJ	154	1.3
Florham Park borough, NJ	138	1.2

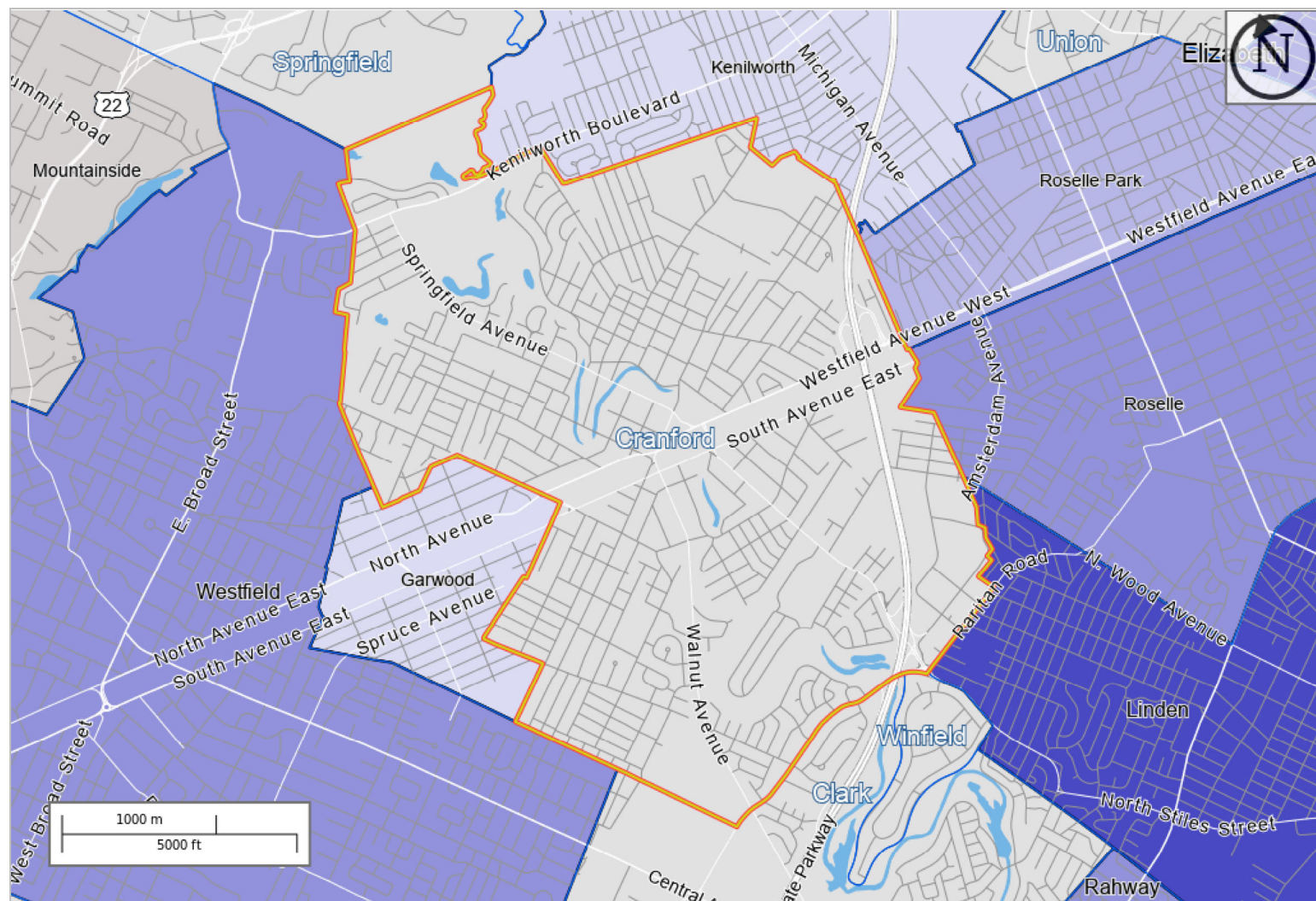
Places (Cities, CDPs, etc.) as Work Destination Area	2018	
	Count	Share
Kenilworth borough, NJ	119	1.0
Garwood borough, NJ	110	0.9
Iselin CDP, NJ	108	0.9
Morristown town, NJ	107	0.9
Woodbridge CDP, NJ	101	0.9
Mountainside borough, NJ	92	0.8
South Plainfield borough, NJ	84	0.7
Franklin Center CDP, NJ	83	0.7
Roselle Park borough, NJ	75	0.6
New Providence borough, NJ	71	0.6
Secaucus town, NJ	70	0.6
Roselle borough, NJ	56	0.5
Roseland borough, NJ	55	0.5
Short Hills CDP, NJ	52	0.4
Trenton city, NJ	52	0.4
All Other Locations	6,432	55.4

Home Destination Report - Work Selection Area to Home Places (Cities, CDPs, etc.)

All Jobs for All Workers in 2018

Created by the U.S. Census Bureau's OnTheMap <https://onthemap.ces.census.gov> on 02/04/2021

Counts of All Jobs from Work Selection Area to Home Places (Cities, CDPs, etc.) in 2018 All Workers



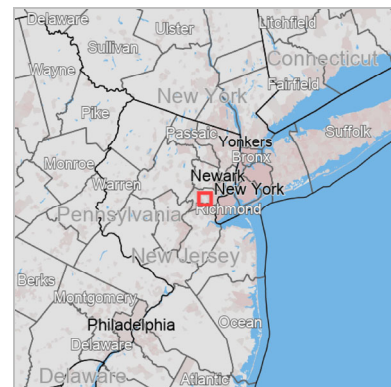
Map Legend

Job Count

- 577 - 662
- 492 - 576
- 406 - 491
- 321 - 405
- 235 - 320
- 150 - 234
- 64 - 149

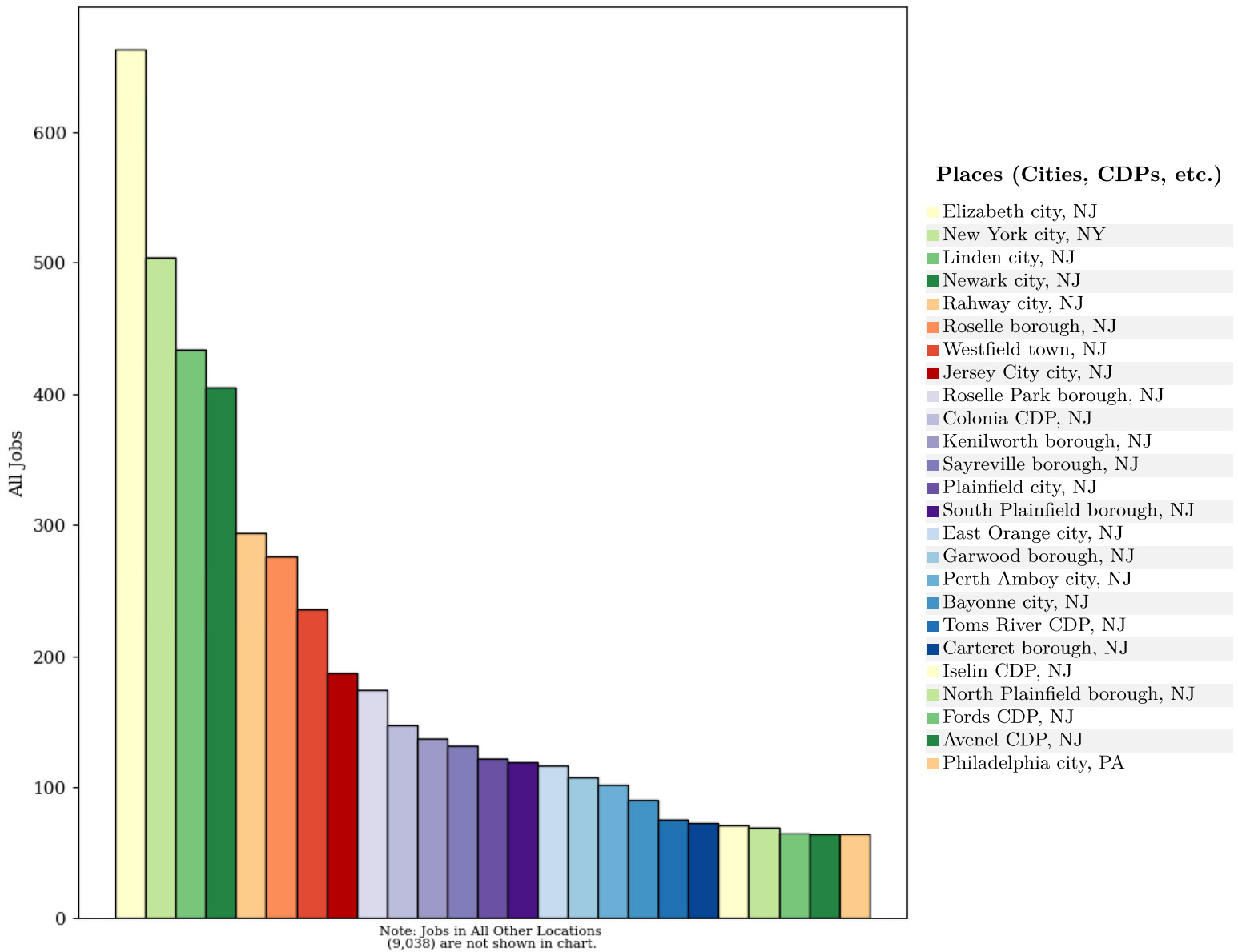
Selection Areas

- 🔴 Analysis Selection



All Jobs from Work Selection Area to Home Places (Cities, CDPs, etc.) in 2018

All Workers



All Jobs from Work Selection Area to Home Places (Cities, CDPs, etc.) in 2018

All Workers

Places (Cities, CDPs, etc.) as Home Destination Area	2018	
	Count	Share
All Places (Cities, CDPs, etc.)	13,766	100.0
Elizabeth city, NJ	662	4.8
New York city, NY	504	3.7
Linden city, NJ	434	3.2
Newark city, NJ	405	2.9
Rahway city, NJ	294	2.1
Roselle borough, NJ	276	2.0
Westfield town, NJ	236	1.7
Jersey City city, NJ	187	1.4
Roselle Park borough, NJ	174	1.3
Colonia CDP, NJ	148	1.1

Places (Cities, CDPs, etc.) as Home Destination Area	2018	
	Count	Share
Kenilworth borough, NJ	137	1.0
Sayreville borough, NJ	132	1.0
Plainfield city, NJ	122	0.9
South Plainfield borough, NJ	119	0.9
East Orange city, NJ	117	0.8
Garwood borough, NJ	108	0.8
Perth Amboy city, NJ	102	0.7
Bayonne city, NJ	90	0.7
Toms River CDP, NJ	75	0.5
Carteret borough, NJ	73	0.5
Iselin CDP, NJ	71	0.5
North Plainfield borough, NJ	69	0.5
Fords CDP, NJ	65	0.5
Avenel CDP, NJ	64	0.5
Philadelphia city, PA	64	0.5
All Other Locations	9,038	65.7

GAP ANALYSIS

TIME	AVAILABLE GAPS (SECONDS)							26+
	0 - 6.19	6.2 - 9.49	9.5 - 12.79	12.8 - 16.09	16.1 - 19.39	19.4 - 22.69	22.7 - 25.99	
4:45 PM	51	6	3	4	0	0	0	1
4:50 PM	32	5	4	1	2	0	1	2
4:55 PM	46	4	5	2	0	2	1	0
5:00 PM	35	8	1	1	3	0	0	2
5:05 PM	41	3	2	4	0	1	2	0
5:10 PM	66	6	2	1	1	0	1	0
5:15 PM	43	5	5	1	2	0	0	1
5:20 PM	56	5	1	3	1	0	0	1
5:25 PM	50	8	0	1	1	1	1	1
5:30 PM	35	6	0	4	0	1	1	2
5:35 PM	38	2	2	3	0	1	1	2
5:40 PM	31	3	9	1	0	2	1	1
Total Gaps 4:45 PM-5:45 PM Peak	524	61	34	26	10	8	9	13
Vehicles/Gap	0	1	2	3	4	5	6	7
Vehicular Capacity (Total Gaps 4:45 PM-5:45 PM Peak)								Total Capacity (Vehicles):
								91
								432

Gap Required For:

- 1 Vehicle: 6.2 seconds
- 2 Vehicles: 9.5 seconds
- 3 Vehicles: 12.8 seconds
- 4 Vehicles: 16.1 seconds
- 5 Vehicles: 19.4 seconds
- 6 Vehicles: 22.7 seconds
- 7 Vehicles: 26.0 seconds

Base Critical Gap: 6.2 seconds
Follow-Up Gap: 3.3 seconds

SIGNAL WARRANT ANALYSIS

HCS7 Warrants Report

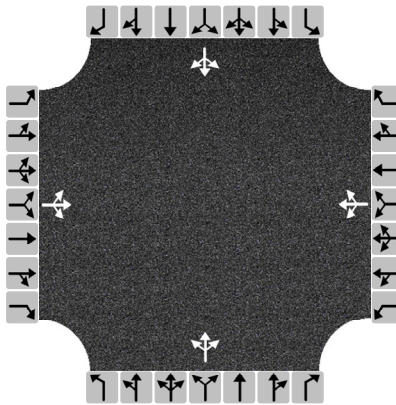
Project Information

Analyst	NK	Date	01/20/2022
Agency	SE&D	Analysis Year	2023
Jurisdiction	Township of Cranford	Time Period Analyzed	Weekday
Project Description	Proposed Mixed-Use Development		

General

Major Street Direction	North-South	Population < 10,000	No
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	35	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	1300		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Number of Lanes, N	0	1	0	0	1	0	0	1	0	0	1	0
Lane Usage		LTR			LTR			LTR			LTR	
Vehicle Volumes Averages (veh/h)	3	0	4	0	0	2	7	197	1	2	187	3
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)	-	Tractor-Trailer Trucks (%)	2

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (100%)	1A (80%)	1B (100%)	1B (80%)	2 (100%)	3A (100%)	3B (80%)	4A (100%)	4B (80%)
07 - 08	0	0	0	0	0	No	No	No	No	No	No	No	No	No
08 - 09	1389	46	1447	0	0	No	No	No	No	No	No	No	No	No
09 - 10	0	0	0	0	0	No	No	No	No	No	No	No	No	No
10 - 11	0	0	0	0	0	No	No	No	No	No	No	No	No	No
11 - 12	0	0	0	0	0	No	No	No	No	No	No	No	No	No
12 - 13	1430	31	1466	0	0	No	No	No	No	No	No	No	No	No
13 - 14	0	0	0	0	0	No	No	No	No	No	No	No	No	No
14 - 15	0	0	0	0	0	No	No	No	No	No	No	No	No	No
15 - 16	0	0	0	0	0	No	No	No	No	No	No	No	No	No
16 - 17	0	0	0	0	0	No	No	No	No	No	No	No	No	No
17 - 18	1975	25	2010	0	0	No	No	No	No	No	No	No	No	No
18 - 19	0	0	0	0	0	No	No	No	No	No	No	No	No	No
Total	4794	102	4923	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume

A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	
B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	
80% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	

Warrant 2: Four-Hour Vehicular Volume

Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)	
--	--

Warrant 3: Peak Hour

A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--	
B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	

Warrant 4: Pedestrian Volume

A. Four Hour Volumes --or--	
B. One-Hour Volumes	

Warrant 5: School Crossing

Gaps Same Period --and--	
Student Volumes	
Nearest Traffic Control Signal (optional)	✓

Warrant 6: Coordinated Signal System

Degree of Platooning (Predominant direction or both directions)	
---	--

Warrant 7: Crash Experience

A. Adequate trials of alternatives, observance and enforcement failed --and--	
B. Reported crashes susceptible to correction by signal (12-month period) --and--	
C. 80% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied	

Warrant 8: Roadway Network

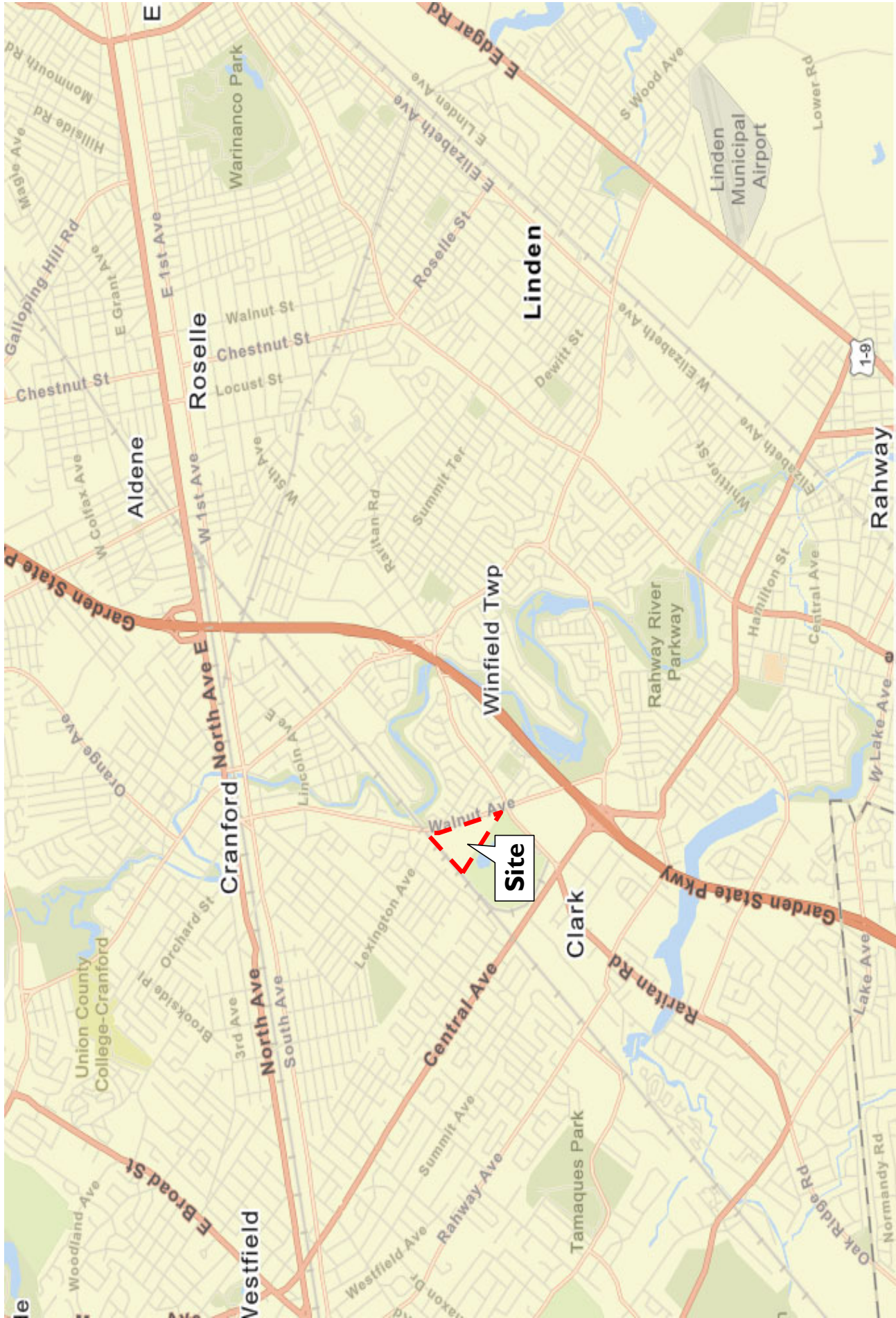
A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--	
B. Weekend Volume (Five hours total)	

Warrant 9: Grade Crossing

A. Grade Crossing within 140 ft --and--	
B. Peak-Hour Vehicular Volumes	

POTENTIAL TRAFFIC CALMING MEASURES

FIGURES



STONEFIELD

Proposed Mixed-Use Development

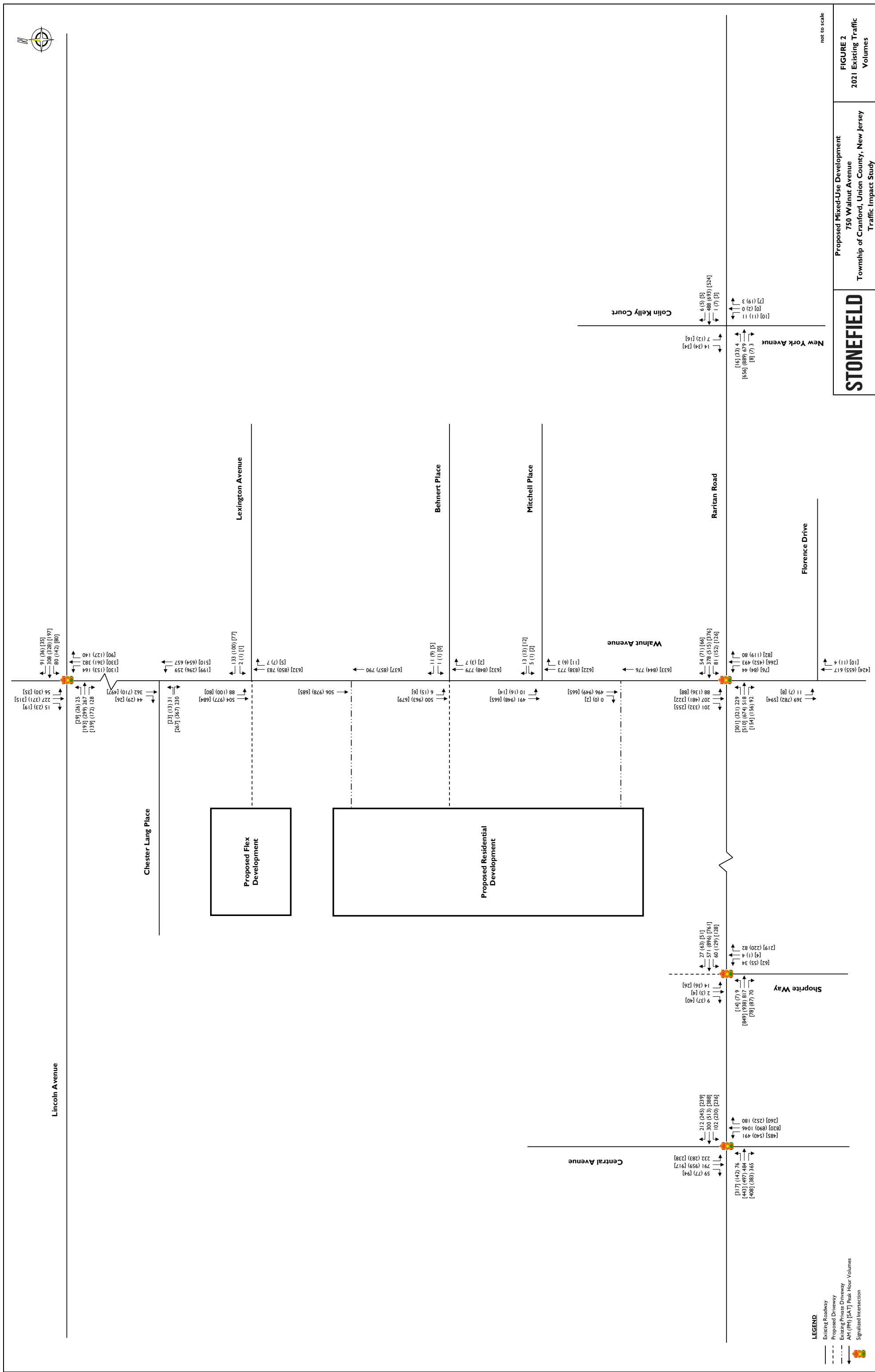
750 Walnut Avenue

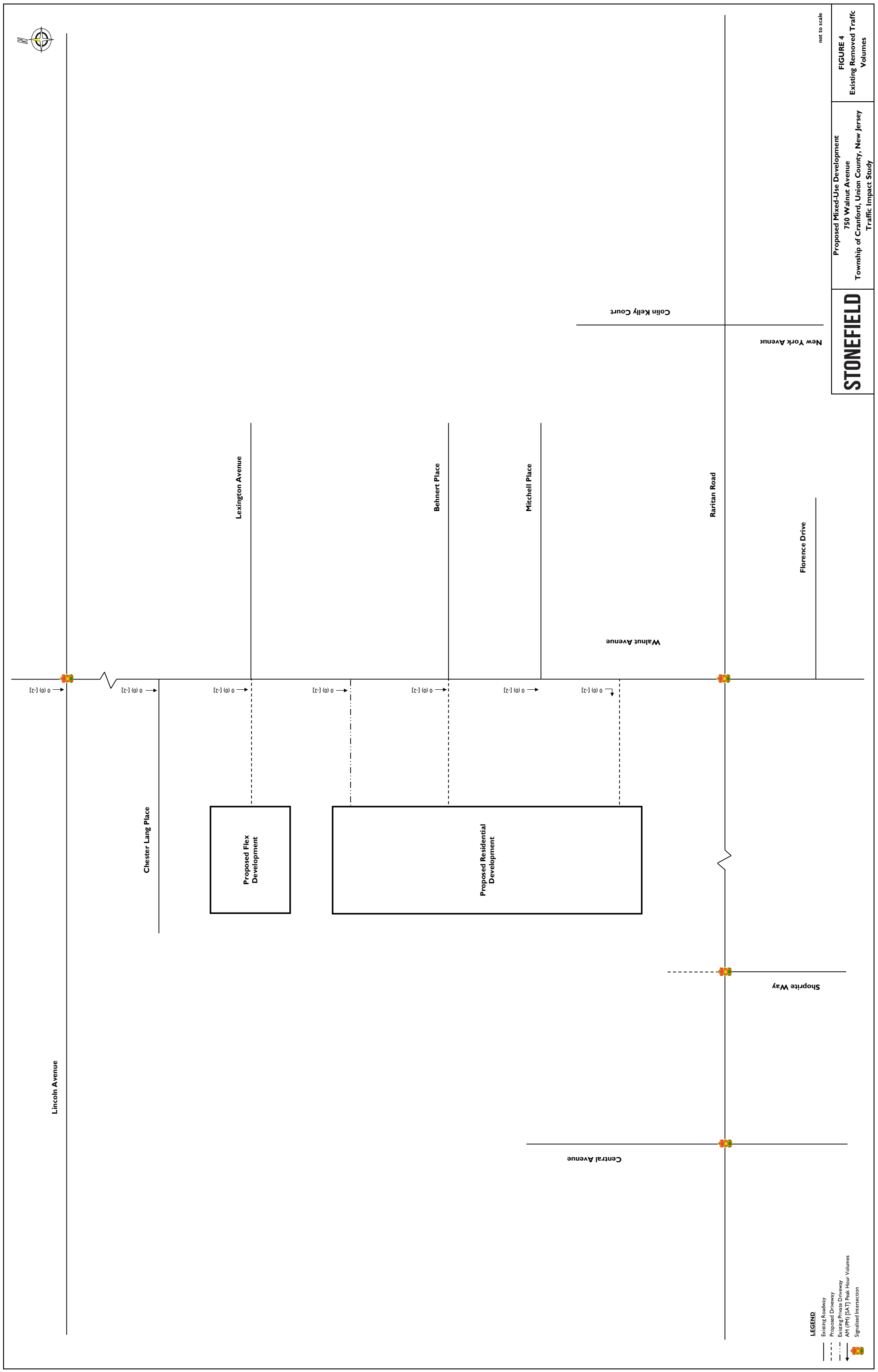
Township of Cranford, Union County, New Jersey

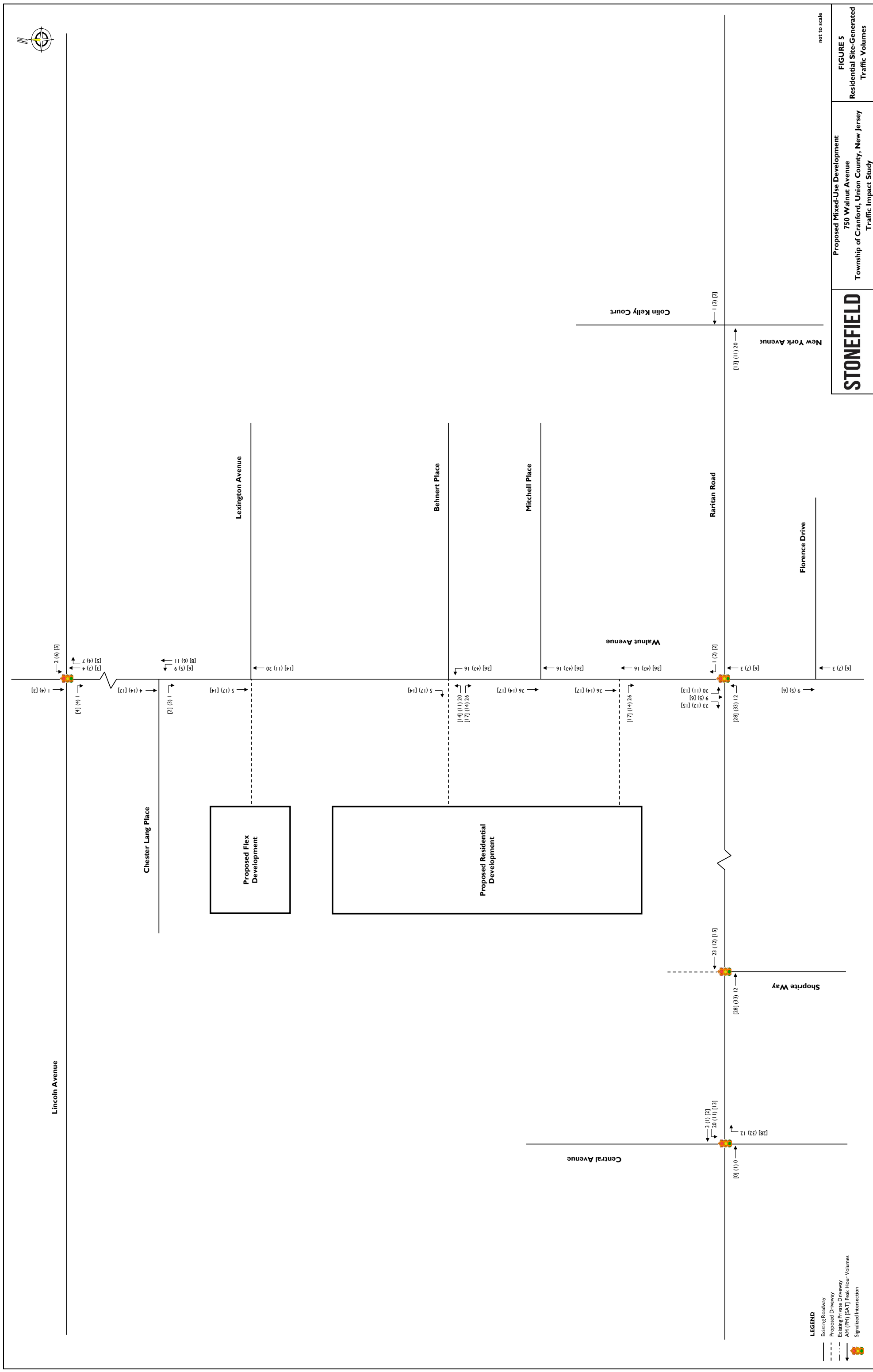
Traffic Impact Study

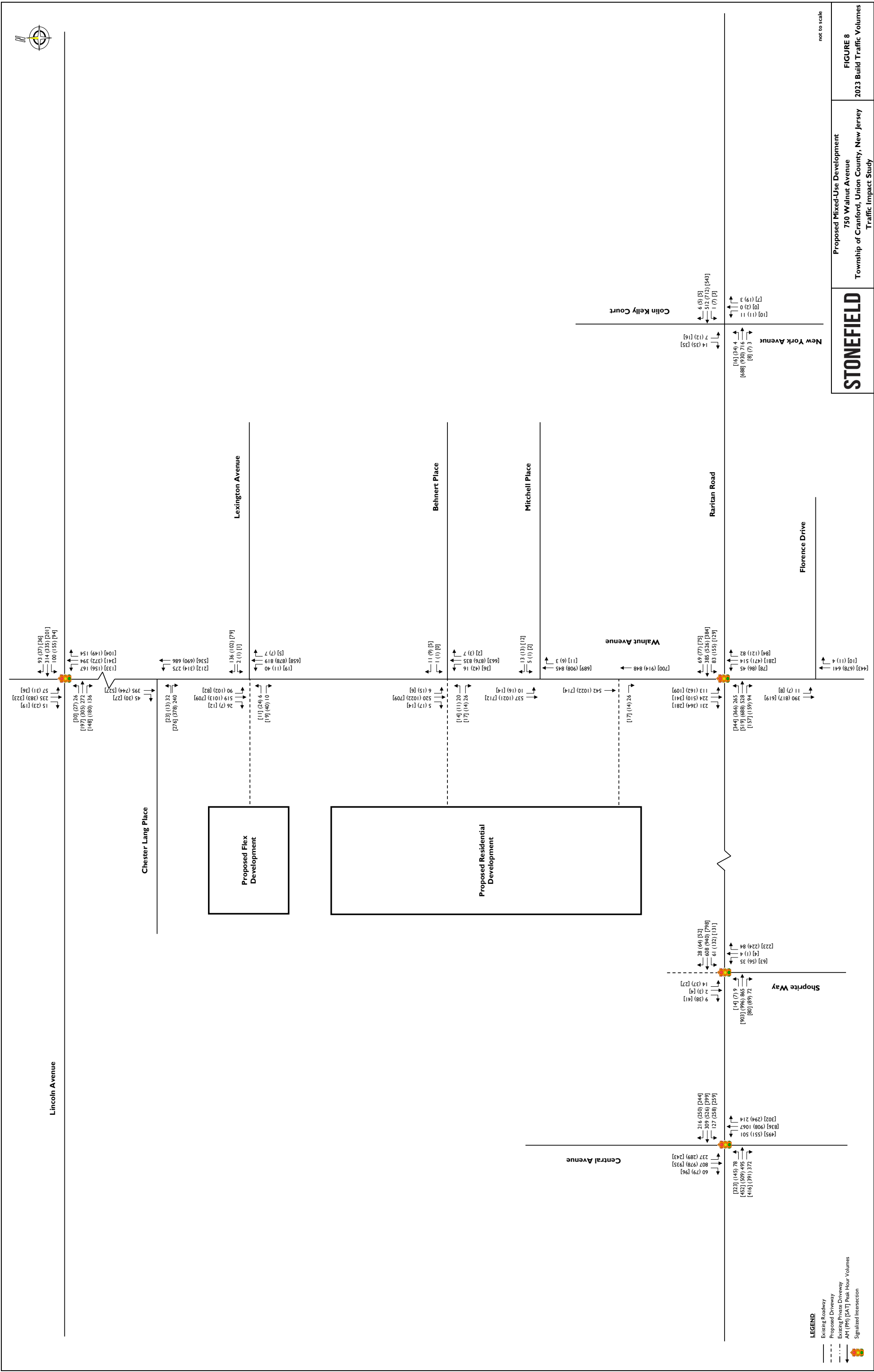
FIGURE I

Site Location Map









CAPACITY ANALYSIS DETAIL SHEETS

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2021 Existing Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	267	128	80	308	91	164	382	140	56	227	15
Future Volume (veh/h)	25	267	128	80	308	91	164	382	140	56	227	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	2034	2084	2084	2034	2084	2084	2084	2067	2034	2051	2034	1985
Adj Flow Rate, veh/h	27	287	138	86	331	98	176	411	151	60	244	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	1	1	4	1	1	1	2	4	3	4	7
Cap, veh/h	270	340	163	267	553	164	719	763	280	148	589	36
Arrive On Green	0.26	0.26	0.26	0.07	0.36	0.36	0.08	0.53	0.53	0.42	0.42	0.42
Sat Flow, veh/h	1038	1324	636	1938	1541	456	1984	1440	529	239	1403	86
Grp Volume(v), veh/h	27	0	425	86	0	429	176	0	562	320	0	0
Grp Sat Flow(s),veh/h/ln	1038	0	1960	1938	0	1997	1984	0	1968	1729	0	0
Q Serve(g_s), s	2.0	0.0	18.5	2.7	0.0	15.8	4.2	0.0	16.9	1.7	0.0	0.0
Cycle Q Clear(g_c), s	8.6	0.0	18.5	2.7	0.0	15.8	4.2	0.0	16.9	10.2	0.0	0.0
Prop In Lane	1.00		0.32	1.00		0.23	1.00		0.27	0.19		0.05
Lane Grp Cap(c), veh/h	270	0	503	267	0	717	719	0	1043	773	0	0
V/C Ratio(X)	0.10	0.00	0.84	0.32	0.00	0.60	0.24	0.00	0.54	0.41	0.00	0.00
Avail Cap(c_a), veh/h	408	0	762	392	0	1109	720	0	1043	773	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.8	0.0	31.7	22.6	0.0	23.6	11.4	0.0	13.9	18.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	5.5	0.7	0.0	0.8	0.2	0.0	2.0	1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	14.4	2.3	0.0	11.9	3.2	0.0	11.8	8.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	37.2	23.3	0.0	24.4	11.6	0.0	15.9	19.6	0.0	0.0
LnGrp LOS	C	A	D	C	A	C	B	A	B	B	A	A
Approach Vol, veh/h	452			515			738			320		
Approach Delay, s/veh	36.9			24.2			14.9			19.6		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	52.7			9.2			28.1			9.9		
Change Period (Y+Rc), s	5.0			3.0			5.0			5.0		
Max Green Setting (Gmax), s	30.0			12.0			35.0			7.0		
Max Q Clear Time (g_c+I1), s	18.9			4.7			20.5			6.2		
Green Ext Time (p_c), s	2.8			0.1			2.6			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	22.9											
HCM 6th LOS	C											

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2021 Existing Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	6.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	230	259	657	362	44
Future Vol, veh/h	31	230	259	657	362	44
Conflicting Peds, #/hr	8	0	1	0	0	1
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	93	93	93	93	93	93
Heavy Vehicles, %	10	1	2	2	3	2
Mvmt Flow	33	247	278	706	389	47
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1684	414	437	0	-	0
Stage 1	414	-	-	-	-	-
Stage 2	1270	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.12	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	166	719	1123	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	98	718	1122	-	-	-
Mov Cap-2 Maneuver	98	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	30.8	2.6		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1122	-	410	-	-	
HCM Lane V/C Ratio	0.248	-	0.685	-	-	
HCM Control Delay (s)	9.3	0	30.8	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	1	-	5	-	-	

HCM 6th TWSC
3: Walnut Avenue & Lexington Avenue

2021 Existing Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	133	783	7	88	504
Future Vol, veh/h	2	133	783	7	88	504
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	94	94	94	94	94	94
Heavy Vehicles, %	0	2	3	0	1	2
Mvmt Flow	2	141	833	7	94	536
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1561	837	0	0	840	0
Stage 1	837	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	192	465	-	-	799	-
Stage 1	428	-	-	-	-	-
Stage 2	484	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	160	465	-	-	799	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.6	0		1.5		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	452	799	-	
HCM Lane V/C Ratio	-	-	0.318	0.117	-	
HCM Control Delay (s)	-	-	16.6	10.1	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	1.4	0.4	-	

HCM 6th TWSC
4: Walnut Avenue & Northerly Site Driveway

2021 Existing Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	790	506	0
Future Vol, veh/h	0	0	0	790	506	0
Conflicting Peds, #/hr	0	0	1	0	0	1
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	0	0	849	544	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1394	545	545	0	-	0
Stage 1	545	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	232	631	1034	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	232	630	1033	-	-	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1033	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
5: Walnut Avenue & Behnert Place

2021 Existing Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	11	779	7	6	500
Future Vol, veh/h	1	11	779	7	6	500
Conflicting Peds, #/hr	0	0	0	1	1	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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	1	12	838	8	6	538

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1393	843	0	0	847
Stage 1	843	-	-	-	-
Stage 2	550	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	232	463	-	-	799
Stage 1	426	-	-	-	-
Stage 2	582	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	229	463	-	-	798
Mov Cap-2 Maneuver	229	-	-	-	-
Stage 1	426	-	-	-	-
Stage 2	576	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	427	798
HCM Lane V/C Ratio	-	-	0.03	0.008
HCM Control Delay (s)	-	-	13.7	9.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2021 Existing Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	13	773	3	10	491
Future Vol, veh/h	5	13	773	3	10	491
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	93	93	93	93	93	93
Heavy Vehicles, %	20	0	3	0	0	3
Mvmt Flow	5	14	831	3	11	528
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1383	833	0	0	834	0
Stage 1	833	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	230	468	-	-	808	-
Stage 1	398	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	226	468	-	-	808	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.5	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	361	808	-	
HCM Lane V/C Ratio	-	-	0.054	0.013	-	
HCM Control Delay (s)	-	-	15.5	9.5	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2021 Existing Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	776	496	0
Future Vol, veh/h	0	0	0	776	496	0
Conflicting Peds, #/hr	0	0	1	0	0	1
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	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	0	0	882	564	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1447	565	565	0	-	0
Stage 1	565	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	219	618	1017	-	-	-
Stage 1	573	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	219	617	1016	-	-	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1016	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary 8: Walnut Avenue & Raritan Road

2021 Existing Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	229	518	92	81	378	54	44	493	80	88	207	201
Future Volume (veh/h)	229	518	92	81	378	54	44	493	80	88	207	201
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	2051	2018	2067	2084	2002	2002	2100	2067	2067	2100	2067	2018
Adj Flow Rate, veh/h	236	534	95	84	390	56	45	508	82	91	213	207
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	5	2	1	6	6	0	2	2	0	2	5
Cap, veh/h	589	1456	258	472	1358	194	344	544	460	197	541	482
Arrive On Green	0.09	0.45	0.45	0.05	0.41	0.41	0.04	0.26	0.26	0.05	0.28	0.28
Sat Flow, veh/h	1953	3255	577	1984	3341	476	2000	2067	1750	2000	1964	1750
Grp Volume(v), veh/h	236	314	315	84	221	225	45	508	82	91	213	207
Grp Sat Flow(s),veh/h/ln	1953	1917	1914	1984	1902	1916	2000	2067	1750	2000	1964	1750
Q Serve(g_s), s	6.2	10.1	10.2	2.3	7.3	7.4	1.5	22.4	3.4	3.1	8.2	9.1
Cycle Q Clear(g_c), s	6.2	10.1	10.2	2.3	7.3	7.4	1.5	22.4	3.4	3.1	8.2	9.1
Prop In Lane	1.00		0.30	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	589	858	857	472	773	779	344	544	460	197	541	482
V/C Ratio(X)	0.40	0.37	0.37	0.18	0.29	0.29	0.13	0.93	0.18	0.46	0.39	0.43
Avail Cap(c_a), veh/h	625	858	857	590	773	779	485	553	468	312	541	482
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	17.1	17.1	14.8	18.6	18.7	23.8	33.6	26.6	26.1	27.5	27.8
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.1	22.6	0.1	0.6	0.2	0.2
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	7.6	7.6	1.8	5.6	5.7	1.3	20.4	2.5	2.6	6.8	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	17.2	17.2	14.9	18.7	18.7	23.8	56.2	26.7	26.7	27.7	28.0
LnGrp LOS	B	B	B	B	B	B	C	E	C	C	C	C
Approach Vol, veh/h	865			530			635			511		
Approach Delay, s/veh	16.1			18.1			50.1			27.6		
Approach LOS	B			B			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	47.8	7.6	30.6	11.3	44.0	6.4	31.8				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	4.3	12.2	5.1	24.4	8.2	9.4	3.5	11.1				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.2	0.1	1.7	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	27.3											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2021 Existing Condition
Weekday Morning Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘
Traffic Vol, veh/h	0	0	617	4	11	369
Future Vol, veh/h	0	0	617	4	11	369
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	0	663	4	12	397

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	334	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.1	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.9	-
Pot Cap-1 Maneuver	0	569	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	569	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	572	-
HCM Lane V/C Ratio	-	-	0.021	-
HCM Control Delay (s)	-	-	0	11.4
HCM Lane LOS	-	-	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2021 Existing Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	4	679	3	1	488	6	11	0	3	7	0	14
Future Vol, veh/h	4	679	3	1	488	6	11	0	3	7	0	14
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	4	0	0	6	17	0	0	0	0	0	7
Mvmt Flow	4	707	3	1	508	6	11	0	3	7	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	517	0	0	710	0	0	973	1236	355	878	1234	260
Stage 1	-	-	-	-	-	-	717	717	-	516	516	-
Stage 2	-	-	-	-	-	-	256	519	-	362	718	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.37
Pot Cap-1 Maneuver	1059	-	-	899	-	-	275	250	765	313	251	827
Stage 1	-	-	-	-	-	-	391	437	-	515	538	-
Stage 2	-	-	-	-	-	-	732	536	-	635	436	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1056	-	-	899	-	-	268	247	765	309	248	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	268	247	-	309	248	-
Stage 1	-	-	-	-	-	-	389	434	-	510	535	-
Stage 2	-	-	-	-	-	-	718	533	-	629	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	17.1	12.1
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	311	1056	-	-	899	-	-	530
HCM Lane V/C Ratio	0.047	0.004	-	-	0.001	-	-	0.041
HCM Control Delay (s)	17.1	8.4	0	-	9	0	-	12.1
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2021 Existing Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	817	70	60	571	27	34	4	82	14	2	9
Future Volume (veh/h)	9	817	70	60	571	27	34	4	82	14	2	9
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	2100	2034	2051	2067	2002	2100	2002	2100	2084	2100	1281	1900
Adj Flow Rate, veh/h	9	851	73	62	595	28	35	4	85	15	2	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	4	3	2	6	0	6	0	1	0	50	0
Cap, veh/h	704	2434	209	576	2826	133	222	21	157	116	20	32
Arrive On Green	0.68	0.68	0.68	0.05	0.76	0.76	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	899	3602	309	1969	3698	174	1467	239	1760	446	222	354
Grp Volume(v), veh/h	9	457	467	62	306	317	39	0	85	26	0	0
Grp Sat Flow(s),veh/h/ln	899	1933	1978	1969	1902	1970	1706	0	1760	1022	0	0
Q Serve(g_s), s	0.2	7.5	7.5	0.6	3.4	3.4	0.0	0.0	3.5	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	7.5	7.5	0.6	3.4	3.4	1.3	0.0	3.5	1.5	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.09	0.90		1.00	0.58		0.35
Lane Grp Cap(c), veh/h	704	1306	1337	576	1453	1505	243	0	157	167	0	0
V/C Ratio(X)	0.01	0.35	0.35	0.11	0.21	0.21	0.16	0.00	0.54	0.16	0.00	0.00
Avail Cap(c_a), veh/h	704	1306	1337	796	1453	1505	594	0	540	379	0	0
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)	0.77	0.77	0.77	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.0	5.2	5.2	3.1	2.5	2.5	31.7	0.0	32.7	31.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.1	0.3	0.3	0.3	0.0	2.9	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	4.3	4.4	0.3	1.4	1.5	1.2	0.0	2.8	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	5.7	5.7	3.2	2.8	2.8	32.0	0.0	35.6	32.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	933			685				124		26		
Approach Delay, s/veh	5.7			2.8				34.4		32.2		
Approach LOS	A			A				C		C		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	6.6	56.2	12.2		62.8		12.2					
Change Period (Y+Rc), s	3.0	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	12.0	26.0	23.0		41.0		23.0					
Max Q Clear Time (g_c+I1), s	2.6	9.5	3.5		5.4		5.5					
Green Ext Time (p_c), s	0.1	5.4	0.1		4.1		0.4					
Intersection Summary												
HCM 6th Ctrl Delay	7.0											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2021 Existing Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 		 	 	
Traffic Volume (veh/h)	76	484	365	102	300	212	491	1046	180	232	791	59
Future Volume (veh/h)	76	484	365	102	300	212	491	1046	180	232	791	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	2051	2034	2067	2084	2018	1969	2051	2051	2084	2002	2051	1752
Adj Flow Rate, veh/h	77	489	369	103	303	214	496	1057	0	234	799	60
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	4	2	1	5	8	3	3	1	6	3	10
Cap, veh/h	100	781	603	128	827	669	543	1559		690	1677	126
Arrive On Green	0.05	0.20	0.20	0.06	0.22	0.22	0.14	0.40	0.00	0.19	0.46	0.46
Sat Flow, veh/h	1953	3866	1741	1984	3834	1659	3789	3897	1766	3698	3673	276
Grp Volume(v), veh/h	77	489	369	103	303	214	496	1057	0	234	424	435
Grp Sat Flow(s),veh/h/ln	1953	1933	1741	1984	1917	1659	1895	1948	1766	1849	1948	2001
Q Serve(g_s), s	5.8	17.3	26.4	7.7	10.1	1.7	19.4	33.5	0.0	8.2	22.7	22.7
Cycle Q Clear(g_c), s	5.8	17.3	26.4	7.7	10.1	1.7	19.4	33.5	0.0	8.2	22.7	22.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	100	781	603	128	827	669	543	1559		690	889	913
V/C Ratio(X)	0.77	0.63	0.61	0.80	0.37	0.32	0.91	0.68		0.34	0.48	0.48
Avail Cap(c_a), veh/h	260	850	634	265	844	676	556	1559		690	889	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.3	54.7	40.8	69.2	50.1	17.2	63.3	37.1	0.0	53.0	28.3	28.3
Incr Delay (d2), s/veh	11.7	1.3	1.6	10.9	0.3	0.3	19.3	2.4	0.0	0.3	1.8	1.8
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	5.8	13.4	17.2	7.7	8.5	6.8	16.3	23.4	0.0	7.1	16.8	17.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.0	55.9	42.4	80.1	50.4	17.4	82.7	39.4	0.0	53.3	30.1	30.1
LnGrp LOS	F	E	D	F	D	B	F	D		D	C	C
Approach Vol, veh/h		935			620			1553	A		1093	
Approach Delay, s/veh		52.7			43.9			53.2			35.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	34.0	66.0	13.7	36.3	25.5	74.5	11.7	38.3				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	10.2	35.5	9.7	28.4	21.4	24.7	7.8	12.1				
Green Ext Time (p_c), s	0.3	8.9	0.2	1.9	0.2	6.6	0.1	2.6				

Intersection Summary

HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2021 Existing Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	299	172	142	328	36	153	361	127	30	371	23
Future Volume (veh/h)	26	299	172	142	328	36	153	361	127	30	371	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	2100	2067	2067	2084	2084	2100	2084	2067	2067	2100	2084	2100
Adj Flow Rate, veh/h	27	315	181	149	345	38	161	380	134	32	391	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	1	1	0	1	2	2	0	1	0
Cap, veh/h	379	363	208	283	746	82	543	704	248	73	668	40
Arrive On Green	0.30	0.30	0.30	0.08	0.41	0.41	0.08	0.48	0.48	0.37	0.37	0.37
Sat Flow, veh/h	1115	1225	704	1984	1842	203	1984	1456	513	80	1787	106
Grp Volume(v), veh/h	27	0	496	149	0	383	161	0	514	447	0	0
Grp Sat Flow(s),veh/h/ln	1115	0	1929	1984	0	2045	1984	0	1969	1973	0	0
Q Serve(g_s), s	1.6	0.0	21.9	4.4	0.0	12.3	4.2	0.0	16.4	1.8	0.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	21.9	4.4	0.0	12.3	4.2	0.0	16.4	15.8	0.0	0.0
Prop In Lane	1.00		0.36	1.00		0.10	1.00		0.26	0.07		0.05
Lane Grp Cap(c), veh/h	379	0	571	283	0	829	543	0	952	781	0	0
V/C Ratio(X)	0.07	0.00	0.87	0.53	0.00	0.46	0.30	0.00	0.54	0.57	0.00	0.00
Avail Cap(c_a), veh/h	483	0	750	397	0	1136	545	0	952	781	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.7	0.0	30.0	21.6	0.0	19.6	13.6	0.0	16.2	22.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	8.5	1.5	0.0	0.4	0.3	0.0	2.2	3.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	0.0	16.9	3.8	0.0	9.8	3.2	0.0	11.8	12.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	0.0	38.6	23.1	0.0	20.0	13.9	0.0	18.4	25.6	0.0	0.0
LnGrp LOS	C	A	D	C	A	B	B	A	B	C	A	A
Approach Vol, veh/h	523			532			675			447		
Approach Delay, s/veh	37.9			20.9			17.4			25.6		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2		3	4	5	6	8					
Phs Duration (G+Y+Rc), s	48.5		9.8	31.6	9.9	38.7	41.5					
Change Period (Y+Rc), s	5.0		3.0	5.0	3.0	5.0	5.0					
Max Green Setting (Gmax), s	30.0		12.0	35.0	7.0	20.0	50.0					
Max Q Clear Time (g_c+I1), s	18.4		6.4	23.9	6.2	17.8	14.3					
Green Ext Time (p_c), s	2.5		0.2	2.7	0.0	0.6	2.8					
Intersection Summary												
HCM 6th Ctrl Delay	24.8											
HCM 6th LOS	C											

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	21.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	367	296	654	710	29
Future Vol, veh/h	13	367	296	654	710	29
Conflicting Peds, #/hr	2	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	2	2	7
Mvmt Flow	14	386	312	688	747	31
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2078	764	779	0	-	0
Stage 1	764	-	-	-	-	-
Stage 2	1314	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	106	502	842	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	42	502	841	-	-	-
Mov Cap-2 Maneuver	42	-	-	-	-	-
Stage 1	185	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	109.4	3.7		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	841	-	365	-	-	
HCM Lane V/C Ratio	0.37	-	1.096	-	-	
HCM Control Delay (s)	11.8	0	109.4	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	1.7	-	14.6	-	-	

HCM 6th TWSC
3: Walnut Avenue & Lexington Avenue

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	100	850	7	100	977
Future Vol, veh/h	1	100	850	7	100	977
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	2	1
Mvmt Flow	1	106	904	7	106	1039
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2159	908	0	0	911	0
Stage 1	908	-	-	-	-	-
Stage 2	1251	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	97	433	-	-	748	-
Stage 1	397	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	65	433	-	-	748	-
Mov Cap-2 Maneuver	65	-	-	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.9	0		1		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 410		748	-	
HCM Lane V/C Ratio	-	- 0.262		0.142	-	
HCM Control Delay (s)	-	- 16.9		10.6	0	
HCM Lane LOS	-	- C		B	A	
HCM 95th %tile Q(veh)	-	- 1		0.5	-	

HCM 6th TWSC
4: Walnut Avenue & Northerly Site Driveway

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	857	978	0
Future Vol, veh/h	0	0	0	857	978	0
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	0	0	0	922	1052	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1974	1052	1052	0	-	0
Stage 1	1052	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	120	372	669	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	120	372	669	-	-	-
Mov Cap-2 Maneuver	120	-	-	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	391	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	669	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
5: Walnut Avenue & Behnert Place

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	9	848	3	15	963
Future Vol, veh/h	1	9	848	3	15	963
Conflicting Peds, #/hr	0	0	0	4	4	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	86	86	86	86	86	86
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	1	10	986	3	17	1120
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2146	992	0	0	993	0
Stage 1	992	-	-	-	-	-
Stage 2	1154	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	98	396	-	-	704	-
Stage 1	362	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	91	394	-	-	701	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	361	-	-	-	-	-
Stage 2	284	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.7	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	296		701	-	
HCM Lane V/C Ratio	-	0.039		0.025	-	
HCM Control Delay (s)	-	17.7		10.3	0	
HCM Lane LOS	-	C		B	A	
HCM 95th %tile Q(veh)	-	0.1		0.1	-	

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	13	838	6	16	948
Future Vol, veh/h	1	13	838	6	16	948
Conflicting Peds, #/hr	0	0	0	1	1	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	1	14	891	6	17	1009

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1938	895	0	0	898
Stage 1	895	-	-	-	-
Stage 2	1043	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	125	439	-	-	765
Stage 1	402	-	-	-	-
Stage 2	342	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	119	439	-	-	764
Mov Cap-2 Maneuver	119	-	-	-	-
Stage 1	402	-	-	-	-
Stage 2	325	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	368	764
HCM Lane V/C Ratio	-	-	0.04	0.022
HCM Control Delay (s)	-	-	15.2	9.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	844	949	0
Future Vol, veh/h	0	0	0	844	949	0
Conflicting Peds, #/hr	0	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	0	0	888	999	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1888	1000	1000	0	-	0
Stage 1	1000	-	-	-	-	-
Stage 2	888	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	132	393	700	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	132	393	699	-	-	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	699	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary

8: Walnut Avenue & Raritan Road

2021 Existing Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	674	156	152	515	71	84	452	119	136	481	332
Future Volume (veh/h)	321	674	156	152	515	71	84	452	119	136	481	332
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	2067	2067	2100	2084	2084	2084	2084	2051	2084	2100	2067	2084
Adj Flow Rate, veh/h	341	717	166	162	548	76	89	481	127	145	512	353
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	0	1	1	1	1	3	1	0	2	1
Cap, veh/h	520	1341	310	388	1361	188	211	516	444	237	610	420
Arrive On Green	0.10	0.42	0.42	0.07	0.39	0.39	0.05	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	1969	3166	733	1984	3493	483	1984	2051	1764	2000	2223	1531
Grp Volume(v), veh/h	341	445	438	162	310	314	89	481	127	145	452	413
Grp Sat Flow(s),veh/h/ln	1969	1964	1934	1984	1979	1996	1984	2051	1764	2000	1964	1790
Q Serve(g_s), s	10.0	16.4	16.5	4.7	11.0	11.1	3.2	22.4	5.7	5.1	21.2	21.2
Cycle Q Clear(g_c), s	10.0	16.4	16.5	4.7	11.0	11.1	3.2	22.4	5.7	5.1	21.2	21.2
Prop In Lane	1.00		0.38	1.00		0.24	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	520	832	820	388	771	778	211	516	444	237	539	491
V/C Ratio(X)	0.66	0.53	0.53	0.42	0.40	0.40	0.42	0.93	0.29	0.61	0.84	0.84
Avail Cap(c_a), veh/h	520	832	820	456	771	778	318	526	452	299	539	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	20.9	20.9	16.7	21.5	21.6	27.1	35.7	29.4	26.5	33.4	33.4
Incr Delay (d2), s/veh	2.4	0.4	0.4	0.3	0.1	0.1	0.5	23.0	0.1	1.0	10.7	11.8
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	8.0	11.7	11.5	3.7	8.6	8.7	2.7	20.2	4.2	4.3	16.8	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.8	21.3	21.3	17.0	21.7	21.7	27.6	58.7	29.6	27.4	44.1	45.2
LnGrp LOS	B	C	C	B	C	C	C	E	C	C	D	D
Approach Vol, veh/h	1224			786			697			1010		
Approach Delay, s/veh	20.3			20.7			49.4			42.1		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	47.3	10.0	30.5	13.0	44.0	7.8	32.7				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	6.7	18.5	7.1	24.4	12.0	13.1	5.2	23.2				
Green Ext Time (p_c), s	0.1	3.5	0.0	0.2	0.0	2.4	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay	31.8											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2021 Existing Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘
Traffic Vol, veh/h	0	0	655	11	7	782
Future Vol, veh/h	0	0	655	11	7	782
Conflicting Peds, #/hr	0	0	0	3	3	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	0	697	12	7	832

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	358	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.1	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.9	-
Pot Cap-1 Maneuver	0	550	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	548	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	543	-
HCM Lane V/C Ratio	-	-	0.014	-
HCM Control Delay (s)	-	-	0	11.7
HCM Lane LOS	-	-	A	B
HCM 95th %tile Q(veh)	-	-	0	-

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2021 Existing Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	33	889	7	7	693	5	11	2	19	12	0	34
Future Vol, veh/h	33	889	7	7	693	5	11	2	19	12	0	34
Conflicting Peds, #/hr	3	0	2	2	0	3	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	14	0	1	0	0	0	0	0	0	0
Mvmt Flow	34	926	7	7	722	5	11	2	20	13	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	730	0	0	935	0	0	1375	1744	470	1275	1745	367
Stage 1	-	-	-	-	-	-	1000	1000	-	742	742	-
Stage 2	-	-	-	-	-	-	375	744	-	533	1003	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	883	-	-	741	-	-	156	142	681	180	142	772
Stage 1	-	-	-	-	-	-	264	324	-	378	425	-
Stage 2	-	-	-	-	-	-	624	424	-	503	322	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	880	-	-	740	-	-	138	128	679	159	128	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	138	128	-	159	128	-
Stage 1	-	-	-	-	-	-	242	297	-	347	417	-
Stage 2	-	-	-	-	-	-	586	416	-	446	296	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.2	20.9	15.7
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	880	-	-	740	-	-	385
HCM Lane V/C Ratio	0.129	0.039	-	-	0.01	-	-	0.124
HCM Control Delay (s)	20.9	9.3	0.3	-	9.9	0.1	-	15.7
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.4

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2021 Existing Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	938	87	129	896	63	55	1	220	36	3	37
Future Volume (veh/h)	7	938	87	129	896	63	55	1	220	36	3	37
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	0.99		0.99	0.99		0.99
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	2100	2067	2100	2100	2084	2100	2067	2100	2100	2100	2100	1856
Adj Flow Rate, veh/h	7	947	88	130	905	64	56	1	222	36	3	37
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	2	0	0	1	0	2	0	0	0	0	3
Cap, veh/h	481	2151	200	495	2604	184	349	6	280	164	36	123
Arrive On Green	0.59	0.59	0.59	0.06	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	651	3632	337	2000	3749	265	1602	35	1766	586	229	773
Grp Volume(v), veh/h	7	512	523	130	478	491	57	0	222	76	0	0
Grp Sat Flow(s),veh/h/ln	651	1964	2005	2000	1979	2035	1637	0	1766	1588	0	0
Q Serve(g_s), s	0.3	10.8	10.8	1.7	7.3	7.3	0.0	0.0	9.1	0.5	0.0	0.0
Cycle Q Clear(g_c), s	0.3	10.8	10.8	1.7	7.3	7.3	1.9	0.0	9.1	2.7	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.13	0.98		1.00	0.47		0.49
Lane Grp Cap(c), veh/h	481	1163	1188	495	1375	1414	355	0	280	323	0	0
V/C Ratio(X)	0.01	0.44	0.44	0.26	0.35	0.35	0.16	0.00	0.79	0.24	0.00	0.00
Avail Cap(c_a), veh/h	481	1163	1188	690	1375	1414	582	0	542	547	0	0
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)	0.74	0.74	0.74	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.3	8.4	8.4	5.5	4.6	4.6	27.3	0.0	30.4	27.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.9	0.3	0.6	0.6	0.2	0.0	5.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	6.8	7.0	0.9	4.1	4.2	1.6	0.0	7.5	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.3	9.3	9.3	5.7	5.2	5.2	27.5	0.0	35.4	28.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	1042		1099				279		76			
Approach Delay, s/veh	9.3		5.3				33.8		28.0			
Approach LOS	A		A				C		C			
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	7.7	49.9	17.4		57.6		17.4					
Change Period (Y+Rc), s	3.0	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	12.0	26.0	23.0		41.0		23.0					
Max Q Clear Time (g_c+I1), s	3.7	12.8	4.7		9.3		11.1					
Green Ext Time (p_c), s	0.2	5.5	0.3		7.0		0.8					
Intersection Summary												
HCM 6th Ctrl Delay	10.8											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 12: Central Avenue & Raritan Road

2021 Existing Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	497	383	230	513	245	540	890	252	283	959	77
Future Volume (veh/h)	142	497	383	230	513	245	540	890	252	283	959	77
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	2100	2067	2100	2084	2084	2067	2100	2100	2100	2067	2067	1900
Adj Flow Rate, veh/h	143	502	387	232	518	247	545	899	0	286	969	78
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	2	0	1	1	2	0	0	0	2	2	0
Cap, veh/h	170	807	626	256	988	644	569	1596		454	1419	114
Arrive On Green	0.08	0.21	0.21	0.13	0.25	0.25	0.15	0.40	0.00	0.12	0.39	0.39
Sat Flow, veh/h	2000	3928	1774	1984	3959	1748	3880	3990	1780	3819	3681	296
Grp Volume(v), veh/h	143	502	387	232	518	247	545	899	0	286	517	530
Grp Sat Flow(s),veh/h/ln	2000	1964	1774	1984	1979	1748	1940	1995	1780	1910	1964	2014
Q Serve(g_s), s	10.6	17.5	27.1	17.3	16.9	2.8	20.9	26.2	0.0	10.7	32.9	32.9
Cycle Q Clear(g_c), s	10.6	17.5	27.1	17.3	16.9	2.8	20.9	26.2	0.0	10.7	32.9	32.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	170	807	626	256	988	644	569	1596		454	757	776
V/C Ratio(X)	0.84	0.62	0.62	0.91	0.52	0.38	0.96	0.56		0.63	0.68	0.68
Avail Cap(c_a), veh/h	267	864	651	265	988	644	569	1596		454	757	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	54.3	40.2	64.4	48.6	18.0	63.5	34.9	0.0	63.0	38.4	38.4
Incr Delay (d2), s/veh	13.1	1.2	1.7	30.4	0.5	0.4	27.4	1.4	0.0	2.8	4.9	4.8
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	10.0	13.6	17.8	16.1	13.1	7.8	18.4	19.2	0.0	9.3	23.9	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.7	55.5	41.9	94.8	49.1	18.3	90.9	36.3	0.0	65.8	43.4	43.3
LnGrp LOS	F	E	D	F	D	B	F	D		E	D	D
Approach Vol, veh/h	1032				997				1444		1333	
Approach Delay, s/veh	53.9				52.1				56.9		48.1	
Approach LOS	D				D				E		D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.8	66.0	23.3	36.8	26.0	63.8	16.7	43.5				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	12.7	28.2	19.3	29.1	22.9	34.9	12.6	18.9				
Green Ext Time (p_c), s	0.2	7.9	0.1	1.7	0.0	7.5	0.2	3.6				

Intersection Summary

HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2021 Existing Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	193	139	80	197	35	130	330	90	35	315	19
Future Volume (veh/h)	29	193	139	80	197	35	130	330	90	35	315	19
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	2100	2084	2100	2002	2084	2100	2067	2051	2067	2100	2084	2100
Adj Flow Rate, veh/h	30	201	145	83	205	36	135	344	94	36	328	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	1	0	6	1	0	2	3	2	0	1	0
Cap, veh/h	377	261	188	282	575	101	688	862	235	92	784	46
Arrive On Green	0.23	0.23	0.23	0.07	0.33	0.33	0.08	0.56	0.56	0.45	0.45	0.45
Sat Flow, veh/h	1279	1126	812	1906	1726	303	1969	1551	424	107	1753	102
Grp Volume(v), veh/h	30	0	346	83	0	241	135	0	438	384	0	0
Grp Sat Flow(s),veh/h/ln	1279	0	1937	1906	0	2029	1969	0	1975	1962	0	0
Q Serve(g_s), s	1.7	0.0	15.0	2.8	0.0	8.1	3.0	0.0	11.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	15.0	2.8	0.0	8.1	3.0	0.0	11.4	11.4	0.0	0.0
Prop In Lane	1.00		0.42	1.00		0.15	1.00		0.21	0.09		0.05
Lane Grp Cap(c), veh/h	377	0	449	282	0	676	688	0	1097	921	0	0
V/C Ratio(X)	0.08	0.00	0.77	0.29	0.00	0.36	0.20	0.00	0.40	0.42	0.00	0.00
Avail Cap(c_a), veh/h	577	0	753	406	0	1127	693	0	1097	921	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	0.0	32.3	23.4	0.0	22.7	10.0	0.0	11.4	16.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	2.8	0.6	0.0	0.3	0.1	0.0	1.1	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	11.8	2.3	0.0	7.0	2.2	0.0	8.4	9.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.0	35.1	23.9	0.0	23.0	10.2	0.0	12.5	18.3	0.0	0.0
LnGrp LOS	C	A	D	C	A	C	B	A	B	B	A	A
Approach Vol, veh/h	376			324			573			384		
Approach Delay, s/veh	34.5			23.2			12.0			18.3		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2		3	4	5	6	8					
Phs Duration (G+Y+Rc), s	55.0		9.1	25.9	9.8	45.2	35.0					
Change Period (Y+Rc), s	5.0		3.0	5.0	3.0	5.0	5.0					
Max Green Setting (Gmax), s	30.0		12.0	35.0	7.0	20.0	50.0					
Max Q Clear Time (g_c+I1), s	13.4		4.8	17.0	5.0	13.4	10.1					
Green Ext Time (p_c), s	2.5		0.1	2.2	0.1	1.3	1.6					
Intersection Summary												
HCM 6th Ctrl Delay	20.7											
HCM 6th LOS	C											

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2021 Existing Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	5.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	267	199	510	497	26
Future Vol, veh/h	23	267	199	510	497	26
Conflicting Peds, #/hr	2	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	3	2	0
Mvmt Flow	24	281	209	537	523	27

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1495	538	551	0	-	0
Stage 1	538	-	-	-	-	-
Stage 2	957	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	207	634	1024	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	376	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	147	633	1023	-	-	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	417	-	-	-	-	-
Stage 2	376	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.7	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1023	-	502	-	-
HCM Lane V/C Ratio	0.205	-	0.608	-	-
HCM Control Delay (s)	9.4	0	22.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.8	-	4	-	-

HCM 6th TWSC
3: Walnut Avenue & Lexington Avenue

2021 Existing Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	77	632	5	80	684
Future Vol, veh/h	1	77	632	5	80	684
Conflicting Peds, #/hr	0	0	0	3	3	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	96	96	96	96	96	96
Heavy Vehicles, %	0	3	3	0	0	1
Mvmt Flow	1	80	658	5	83	713
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1543	664	0	0	666	0
Stage 1	664	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	-	-	2.2	-
Pot Cap-1 Maneuver	196	555	-	-	933	-
Stage 1	516	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	166	553	-	-	930	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.9	0	1			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	537	930	-	
HCM Lane V/C Ratio	-	-	0.151	0.09	-	
HCM Control Delay (s)	-	-	12.9	9.3	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-	

HCM 6th TWSC
4: Walnut Avenue & Northerly Site Driveway

2021 Existing Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	637	685	0
Future Vol, veh/h	0	0	0	637	685	0
Conflicting Peds, #/hr	0	0	10	0	0	10
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	0	0	671	721	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1402	731	731	0	-	0
Stage 1	731	-	-	-	-	-
Stage 2	671	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	230	521	883	-	-	-
Stage 1	480	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	225	516	875	-	-	-
Mov Cap-2 Maneuver	225	-	-	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	875	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
5: Walnut Avenue & Behnert Place

2021 Existing Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	632	2	6	679
Future Vol, veh/h	0	5	632	2	6	679
Conflicting Peds, #/hr	1	0	0	4	4	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	5	672	2	6	722

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1412	677	0	0	678	0
Stage 1	677	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	227	551	-	-	923	-
Stage 1	509	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	223	549	-	-	919	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	549	919
HCM Lane V/C Ratio	-	-	0.01	0.007
HCM Control Delay (s)	-	-	11.6	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	12	622	11	14	665
Future Vol, veh/h	2	12	622	11	14	665
Conflicting Peds, #/hr	0	0	0	2	2	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	3	0	0	1
Mvmt Flow	2	13	662	12	15	707
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1407	670	0	0	676	0
Stage 1	670	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	229	555	-	-	925	-
Stage 1	512	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	222	554	-	-	923	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	511	-	-	-	-	-
Stage 2	464	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.2	0		0.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 456		923	-	
HCM Lane V/C Ratio	-	- 0.033		0.016	-	
HCM Control Delay (s)	-	- 13.2		9	0	
HCM Lane LOS	-	- B		A	A	
HCM 95th %tile Q(veh)	-	- 0.1		0	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2021 Existing Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	633	665	2
Future Vol, veh/h	0	0	0	633	665	2
Conflicting Peds, #/hr	0	0	12	0	0	12
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	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	2	1	50
Mvmt Flow	0	0	0	659	693	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1365	706	707	0	-	0
Stage 1	706	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	240	534	901	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	235	528	891	-	-	-
Mov Cap-2 Maneuver	235	-	-	-	-	-
Stage 1	488	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	891	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary 8: Walnut Avenue & Raritan Road

2021 Existing Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	301	510	154	126	376	66	76	266	82	88	322	255
Future Volume (veh/h)	301	510	154	126	376	66	76	266	82	88	322	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	2067	2084	2084	2084	2067	2002	2051	2051	2084	2084	2084	2067
Adj Flow Rate, veh/h	310	526	159	130	388	68	78	274	85	91	332	263
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	1	2	6	3	3	1	1	1	2
Cap, veh/h	668	1464	440	515	1474	256	219	395	339	267	417	323
Arrive On Green	0.10	0.49	0.49	0.06	0.44	0.44	0.05	0.19	0.19	0.05	0.20	0.20
Sat Flow, veh/h	1969	2994	901	1984	3343	581	1953	2051	1760	1984	2118	1643
Grp Volume(v), veh/h	310	347	338	130	227	229	78	274	85	91	310	285
Grp Sat Flow(s),veh/h/ln	1969	1979	1916	1984	1964	1960	1953	2051	1760	1984	1979	1782
Q Serve(g_s), s	7.0	9.4	9.4	3.0	6.3	6.4	2.7	10.7	3.5	3.1	12.8	13.2
Cycle Q Clear(g_c), s	7.0	9.4	9.4	3.0	6.3	6.4	2.7	10.7	3.5	3.1	12.8	13.2
Prop In Lane	1.00		0.47	1.00		0.30	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	668	968	937	515	866	864	219	395	339	267	390	351
V/C Ratio(X)	0.46	0.36	0.36	0.25	0.26	0.27	0.36	0.69	0.25	0.34	0.80	0.81
Avail Cap(c_a), veh/h	690	968	937	633	866	864	350	595	511	391	574	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	13.7	13.7	11.8	15.2	15.3	26.9	32.4	29.5	26.4	33.0	33.1
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.4	0.8	0.1	0.3	2.7	3.8
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	4.8	6.9	6.8	2.2	4.8	4.8	2.2	9.0	2.6	2.6	10.3	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.3	13.7	13.8	11.9	15.3	15.3	27.2	33.2	29.7	26.7	35.6	36.9
LnGrp LOS	B	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h	995			586			437			686		
Approach Delay, s/veh	12.7			14.6			31.5			35.0		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	48.1	7.6	22.6	12.0	44.0	7.2	23.0				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	5.0	11.4	5.1	12.7	9.0	8.4	4.7	15.2				
Green Ext Time (p_c), s	0.1	2.7	0.0	0.9	0.1	1.7	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	21.8											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2021 Existing Condition
Saturday Middy Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘
Traffic Vol, veh/h	0	0	424	10	8	594
Future Vol, veh/h	0	0	424	10	8	594
Conflicting Peds, #/hr	1	0	0	4	4	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, %	0	0	3	0	0	1
Mvmt Flow	0	0	461	11	9	646

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	240	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.1	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.9	-
Pot Cap-1 Maneuver	0	653	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	651	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	699
HCM Lane V/C Ratio	-	-	-	0.012
HCM Control Delay (s)	-	-	0	10.2
HCM Lane LOS	-	-	A	B
HCM 95th %tile Q(veh)	-	-	-	0

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2021 Existing Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	16	656	8	3	524	5	10	0	7	16	0	34
Future Vol, veh/h	16	656	8	3	524	5	10	0	7	16	0	34
Conflicting Peds, #/hr	9	0	7	7	0	9	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	0	0	2	0	0	0	14	0	0	3
Mvmt Flow	17	683	8	3	546	5	10	0	7	17	0	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	560	0	0	698	0	0	1007	1294	356	943	1296	285
Stage 1	-	-	-	-	-	-	728	728	-	564	564	-
Stage 2	-	-	-	-	-	-	279	566	-	379	732	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.44	3.5	4	3.33
Pot Cap-1 Maneuver	1021	-	-	908	-	-	262	235	738	286	234	771
Stage 1	-	-	-	-	-	-	386	432	-	483	512	-
Stage 2	-	-	-	-	-	-	710	511	-	620	430	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1012	-	-	902	-	-	242	224	731	273	223	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	242	224	-	273	223	-
Stage 1	-	-	-	-	-	-	373	417	-	466	505	-
Stage 2	-	-	-	-	-	-	674	504	-	596	415	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	16.4	13.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	334	1012	-	-	902	-	-	485
HCM Lane V/C Ratio	0.053	0.016	-	-	0.003	-	-	0.107
HCM Control Delay (s)	16.4	8.6	0.1	-	9	0	-	13.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.4

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2021 Existing Condition
Saturday Midday Peak Hour

																						
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR										
Lane Configurations																						
Traffic Volume (veh/h)	14	849	78	128	761	51	62	4	219	26	4	40										
Future Volume (veh/h)	14	849	78	128	761	51	62	4	219	26	4	40										
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	2100	2067	2100	2084	2067	2100	2067	2100	2100	2100	2100	1900										
Adj Flow Rate, veh/h	14	875	80	132	785	53	64	4	226	27	4	41										
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97										
Percent Heavy Veh, %	0	2	0	1	2	0	2	0	0	0	0	0										
Cap, veh/h	530	2146	196	521	2585	174	339	19	286	136	45	152										
Arrive On Green	0.59	0.59	0.59	0.06	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16										
Sat Flow, veh/h	736	3637	333	1984	3733	252	1527	117	1776	435	277	943										
Grp Volume(v), veh/h	14	472	483	132	413	425	68	0	226	72	0	0										
Grp Sat Flow(s),veh/h/ln	736	1964	2006	1984	1964	2021	1644	0	1776	1655	0	0										
Q Serve(g_s), s	0.6	9.7	9.7	1.7	6.1	6.1	0.0	0.0	9.2	0.0	0.0	0.0										
Cycle Q Clear(g_c), s	0.6	9.7	9.7	1.7	6.1	6.1	2.2	0.0	9.2	2.5	0.0	0.0										
Prop In Lane	1.00		0.17	1.00		0.12	0.94		1.00	0.37		0.57										
Lane Grp Cap(c), veh/h	530	1159	1183	521	1360	1399	358	0	286	332	0	0										
V/C Ratio(X)	0.03	0.41	0.41	0.25	0.30	0.30	0.19	0.00	0.79	0.22	0.00	0.00										
Avail Cap(c_a), veh/h	530	1159	1183	714	1360	1399	584	0	545	561	0	0										
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)	0.81	0.81	0.81	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00										
Uniform Delay (d), s/veh	6.4	8.3	8.3	5.3	4.5	4.5	27.3	0.0	30.3	27.4	0.0	0.0										
Incr Delay (d2), s/veh	0.1	0.9	0.8	0.2	0.6	0.5	0.3	0.0	4.9	0.3	0.0	0.0										
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0										
%ile BackOfQ(95%),veh/ln	0.2	6.5	6.6	1.0	3.5	3.6	1.9	0.0	7.6	2.1	0.0	0.0										
Unsig. Movement Delay, s/veh																						
LnGrp Delay(d),s/veh	6.5	9.2	9.1	5.5	5.1	5.0	27.6	0.0	35.1	27.8	0.0	0.0										
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A										
Approach Vol, veh/h	969				970				294													
Approach Delay, s/veh	9.1				5.1				33.4													
Approach LOS	A				A				C													
Timer - Assigned Phs	1	2	4		6		8															
Phs Duration (G+Y+Rc), s	7.7	49.8	17.6		57.4		17.6															
Change Period (Y+Rc), s	3.0	5.5	5.5		5.5		5.5															
Max Green Setting (Gmax), s	12.0	26.0	23.0		41.0		23.0															
Max Q Clear Time (g_c+I1), s	3.7	11.7	4.5		8.1		11.2															
Green Ext Time (p_c), s	0.2	5.3	0.3		5.8		0.9															
Intersection Summary																						
HCM 6th Ctrl Delay																						
HCM 6th LOS																						

HCM 6th Signalized Intersection Summary 12: Central Avenue & Raritan Road

2021 Existing Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	317	443	408	236	388	239	485	820	260	238	917	94
Future Volume (veh/h)	317	443	408	236	388	239	485	820	260	238	917	94
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	2100	2084	2084	2084	2051	2084	2100	2084	2084	2067	2100	1885
Adj Flow Rate, veh/h	323	452	416	241	396	244	495	837	0	243	936	96
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	1	3	1	0	1	1	2	0	1
Cap, veh/h	267	859	628	264	845	561	546	1584		394	1372	141
Arrive On Green	0.13	0.22	0.22	0.13	0.22	0.22	0.14	0.40	0.00	0.10	0.38	0.38
Sat Flow, veh/h	2000	3959	1746	1984	3897	1746	3880	3959	1766	3819	3652	375
Grp Volume(v), veh/h	323	452	416	241	396	244	495	837	0	243	511	521
Grp Sat Flow(s),veh/h/ln	2000	1979	1746	1984	1948	1746	1940	1979	1766	1910	1995	2032
Q Serve(g_s), s	20.0	15.1	30.1	18.0	13.3	3.9	18.8	24.1	0.0	9.1	32.3	32.3
Cycle Q Clear(g_c), s	20.0	15.1	30.1	18.0	13.3	3.9	18.8	24.1	0.0	9.1	32.3	32.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	267	859	628	264	845	561	546	1584		394	750	763
V/C Ratio(X)	1.21	0.53	0.66	0.91	0.47	0.44	0.91	0.53		0.62	0.68	0.68
Avail Cap(c_a), veh/h	267	871	633	265	857	566	569	1584		394	750	763
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	51.9	40.6	64.1	51.2	19.1	63.5	34.2	0.0	64.4	39.3	39.3
Incr Delay (d2), s/veh	124.6	0.6	2.6	32.4	0.4	0.5	17.9	1.3	0.0	2.9	5.0	4.9
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	28.9	12.1	19.4	16.9	10.7	7.8	16.1	17.8	0.0	8.2	23.9	24.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.6	52.5	43.2	96.5	51.6	19.6	81.3	35.5	0.0	67.3	44.3	44.2
LnGrp LOS	F	D	D	F	D	B	F	D		E	D	D
Approach Vol, veh/h	1191			881			1332			A		
Approach Delay, s/veh	86.4			55.0			52.5			48.6		
Approach LOS	F			E			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.5	66.0	24.0	38.6	25.1	62.4	24.0	38.5				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	11.1	26.1	20.0	32.1	20.8	34.3	22.0	15.3				
Green Ext Time (p_c), s	0.3	7.3	0.0	0.4	0.3	7.4	0.0	3.2				

Intersection Summary

HCM 6th Ctrl Delay	60.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2023 No-Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	272	131	82	314	93	167	390	143	57	232	15
Future Volume (veh/h)	26	272	131	82	314	93	167	390	143	57	232	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	2034	2084	2084	2034	2084	2084	2084	2067	2034	2051	2034	1985
Adj Flow Rate, veh/h	28	292	141	88	338	100	180	419	154	61	249	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	1	1	4	1	1	1	2	4	3	4	7
Cap, veh/h	270	345	167	267	560	166	707	756	278	146	583	35
Arrive On Green	0.26	0.26	0.26	0.07	0.36	0.36	0.08	0.53	0.53	0.42	0.42	0.42
Sat Flow, veh/h	1030	1322	638	1938	1541	456	1984	1439	529	237	1404	85
Grp Volume(v), veh/h	28	0	433	88	0	438	180	0	573	326	0	0
Grp Sat Flow(s),veh/h/ln	1030	0	1960	1938	0	1997	1984	0	1968	1726	0	0
Q Serve(g_s), s	2.1	0.0	18.9	2.8	0.0	16.1	4.4	0.0	17.5	2.1	0.0	0.0
Cycle Q Clear(g_c), s	8.9	0.0	18.9	2.8	0.0	16.1	4.4	0.0	17.5	10.6	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.23	1.00		0.27	0.19		0.05
Lane Grp Cap(c), veh/h	270	0	511	267	0	726	707	0	1034	764	0	0
V/C Ratio(X)	0.10	0.00	0.85	0.33	0.00	0.60	0.25	0.00	0.55	0.43	0.00	0.00
Avail Cap(c_a), veh/h	402	0	762	392	0	1109	708	0	1034	764	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.8	0.0	31.5	22.4	0.0	23.4	11.7	0.0	14.3	18.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	5.8	0.7	0.0	0.8	0.2	0.0	2.1	1.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	14.7	2.3	0.0	12.1	3.3	0.0	12.2	8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	37.3	23.1	0.0	24.2	11.9	0.0	16.4	20.1	0.0	0.0
LnGrp LOS	C	A	D	C	A	C	B	A	B	C	A	A
Approach Vol, veh/h	461			526			753			326		
Approach Delay, s/veh	36.9			24.0			15.3			20.1		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2			3			4			5		
Phs Duration (G+Y+Rc), s	52.3			9.2			28.5			9.9		
Change Period (Y+Rc), s	5.0			3.0			5.0			5.0		
Max Green Setting (Gmax), s	30.0			12.0			35.0			7.0		
Max Q Clear Time (g_c+I1), s	19.5			4.8			20.9			6.4		
Green Ext Time (p_c), s	2.7			0.1			2.6			0.0		
Intersection Summary												
HCM 6th Ctrl Delay				23.1								
HCM 6th LOS				C								

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	7.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	235	264	671	369	45
Future Vol, veh/h	32	235	264	671	369	45
Conflicting Peds, #/hr	8	0	1	0	0	1
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	93	93	93	93	93	93
Heavy Vehicles, %	10	1	2	2	3	2
Mvmt Flow	34	253	284	722	397	48
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1720	422	446	0	-	0
Stage 1	422	-	-	-	-	-
Stage 2	1298	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.12	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	159	713	1114	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	91	712	1113	-	-	-
Mov Cap-2 Maneuver	91	-	-	-	-	-
Stage 1	370	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	35.5	2.6		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1113	-	392	-	-	
HCM Lane V/C Ratio	0.255	-	0.732	-	-	
HCM Control Delay (s)	9.3	0	35.5	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	1	-	5.7	-	-	

HCM 6th TWSC
3: Walnut Avenue & Lexington Avenue

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	2.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	136	799	7	90	514
Future Vol, veh/h	2	136	799	7	90	514
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	94	94	94	94	94	94
Heavy Vehicles, %	0	2	3	0	1	2
Mvmt Flow	2	145	850	7	96	547
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1593	854	0	0	857	0
Stage 1	854	-	-	-	-	-
Stage 2	739	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	185	457	-	-	788	-
Stage 1	421	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	153	457	-	-	788	-
Mov Cap-2 Maneuver	153	-	-	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.1	0		1.5		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	444	788	-	
HCM Lane V/C Ratio	-	-	0.331	0.122	-	
HCM Control Delay (s)	-	-	17.1	10.2	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	1.4	0.4	-	

HCM 6th TWSC
4: Walnut Avenue & Northerly Site Driveway

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	806	516	0
Future Vol, veh/h	0	0	0	806	516	0
Conflicting Peds, #/hr	0	0	1	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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	0	0	867	555	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1423	556	556	0	-	0
Stage 1	556	-	-	-	-	-
Stage 2	867	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	225	624	1025	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	225	623	1024	-	-	-
Mov Cap-2 Maneuver	225	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	415	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1024	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
5: Walnut Avenue & Behnert Place

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	11	795	7	6	510
Future Vol, veh/h	1	11	795	7	6	510
Conflicting Peds, #/hr	0	0	0	1	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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	1	12	855	8	6	548

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1420	860	0	0	864
Stage 1	860	-	-	-	-
Stage 2	560	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	225	455	-	-	787
Stage 1	418	-	-	-	-
Stage 2	576	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	222	455	-	-	786
Mov Cap-2 Maneuver	222	-	-	-	-
Stage 1	418	-	-	-	-
Stage 2	570	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	418	786
HCM Lane V/C Ratio	-	-	0.031	0.008
HCM Control Delay (s)	-	-	13.9	9.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	13	789	3	10	501
Future Vol, veh/h	5	13	789	3	10	501
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	93	93	93	93	93	93
Heavy Vehicles, %	20	0	3	0	0	3
Mvmt Flow	5	14	848	3	11	539

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1411	850	0	0	851	0
Stage 1	850	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	223	460	-	-	796	-
Stage 1	390	-	-	-	-	-
Stage 2	537	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	219	460	-	-	796	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	390	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	352	796
HCM Lane V/C Ratio	-	-	0.055	0.014
HCM Control Delay (s)	-	-	15.8	9.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	792	506	0
Future Vol, veh/h	0	0	0	792	506	0
Conflicting Peds, #/hr	0	0	1	0	0	1
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	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	0	0	900	575	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1476	576	576	0	-	0
Stage 1	576	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	212	611	1007	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	212	610	1006	-	-	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1006	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th Signalized Intersection Summary 8: Walnut Avenue & Raritan Road

2023 No-Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	528	94	83	385	55	45	503	82	90	211	205
Future Volume (veh/h)	234	528	94	83	385	55	45	503	82	90	211	205
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	2051	2018	2067	2084	2002	2002	2100	2067	2067	2100	2067	2018
Adj Flow Rate, veh/h	241	544	97	86	397	57	46	519	85	93	218	211
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	5	2	1	6	6	0	2	2	0	2	5
Cap, veh/h	583	1451	258	464	1348	192	344	549	464	194	547	487
Arrive On Green	0.09	0.45	0.45	0.05	0.40	0.40	0.04	0.27	0.27	0.05	0.28	0.28
Sat Flow, veh/h	1953	3253	578	1984	3341	476	2000	2067	1750	2000	1964	1750
Grp Volume(v), veh/h	241	320	321	86	225	229	46	519	85	93	218	211
Grp Sat Flow(s),veh/h/ln	1953	1917	1914	1984	1902	1916	2000	2067	1750	2000	1964	1750
Q Serve(g_s), s	6.4	10.4	10.5	2.3	7.5	7.6	1.5	23.2	3.5	3.1	8.5	9.3
Cycle Q Clear(g_c), s	6.4	10.4	10.5	2.3	7.5	7.6	1.5	23.2	3.5	3.1	8.5	9.3
Prop In Lane	1.00		0.30	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	855	854	464	767	773	344	549	464	194	547	487
V/C Ratio(X)	0.41	0.37	0.38	0.19	0.29	0.30	0.13	0.95	0.18	0.48	0.40	0.43
Avail Cap(c_a), veh/h	615	855	854	581	767	773	482	549	464	306	547	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	17.4	17.4	15.1	19.0	19.0	23.8	33.9	26.7	26.2	27.6	27.9
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.1	25.3	0.1	0.7	0.2	0.2
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	4.8	7.8	7.9	1.8	5.8	5.9	1.3	21.4	2.6	2.6	7.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	17.5	17.5	15.2	19.1	19.1	23.9	59.3	26.8	26.9	27.8	28.1
LnGrp LOS	B	B	B	B	B	B	C	E	C	C	C	C
Approach Vol, veh/h	882			540				650				522
Approach Delay, s/veh	16.4			18.5				52.5				27.8
Approach LOS	B			B				D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	48.0	7.7	31.0	11.5	44.0	6.5	32.2				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	4.3	12.5	5.1	25.2	8.4	9.6	3.5	11.3				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.1	1.7	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay	28.2											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘
Traffic Vol, veh/h	0	0	630	4	11	377
Future Vol, veh/h	0	0	630	4	11	377
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	0	677	4	12	405
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	341	0	0	681	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	5.3	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	3.1	-
Pot Cap-1 Maneuver	0	564	-	-	563	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	564	-	-	563	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0.5		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	563	-	
HCM Lane V/C Ratio	-	-	-	0.021	-	
HCM Control Delay (s)	-	-	0	11.5	0.2	
HCM Lane LOS	-	-	A	B	A	
HCM 95th %tile Q(veh)	-	-	-	0.1	-	

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2023 No-Build Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	4	693	3	1	498	6	11	0	3	7	0	14
Future Vol, veh/h	4	693	3	1	498	6	11	0	3	7	0	14
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	4	0	0	6	17	0	0	0	0	0	7
Mvmt Flow	4	722	3	1	519	6	11	0	3	7	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	528	0	0	725	0	0	994	1262	363	896	1260	266
Stage 1	-	-	-	-	-	-	732	732	-	527	527	-
Stage 2	-	-	-	-	-	-	262	530	-	369	733	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.37
Pot Cap-1 Maneuver	1049	-	-	887	-	-	267	243	759	306	244	780
Stage 1	-	-	-	-	-	-	383	430	-	508	532	-
Stage 2	-	-	-	-	-	-	726	530	-	629	429	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1046	-	-	887	-	-	260	240	759	302	241	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	260	240	-	302	241	-
Stage 1	-	-	-	-	-	-	381	427	-	503	529	-
Stage 2	-	-	-	-	-	-	711	527	-	623	426	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			17.5			12.4		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	303	1046	-	-	887	-	-	510
HCM Lane V/C Ratio	0.048	0.004	-	-	0.001	-	-	0.043
HCM Control Delay (s)	17.5	8.5	0	-	9.1	0	-	12.4
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2023 No-Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	834	72	61	582	28	35	4	84	14	2	9
Future Volume (veh/h)	9	834	72	61	582	28	35	4	84	14	2	9
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	2100	2034	2051	2067	2002	2100	2002	2100	2084	2100	1281	1900
Adj Flow Rate, veh/h	9	869	75	64	606	29	36	4	88	15	2	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	4	3	2	6	0	6	0	1	0	50	0
Cap, veh/h	696	2429	210	567	2822	135	223	21	158	116	20	32
Arrive On Green	0.67	0.67	0.67	0.05	0.76	0.76	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	889	3600	311	1969	3695	177	1472	233	1760	446	222	353
Grp Volume(v), veh/h	9	467	477	64	312	323	40	0	88	26	0	0
Grp Sat Flow(s),veh/h/ln	889	1933	1978	1969	1902	1970	1705	0	1760	1021	0	0
Q Serve(g_s), s	0.2	7.8	7.8	0.6	3.5	3.5	0.0	0.0	3.6	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	7.8	7.8	0.6	3.5	3.5	1.4	0.0	3.6	1.5	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.09	0.90		1.00	0.58		0.35
Lane Grp Cap(c), veh/h	696	1304	1334	567	1452	1504	244	0	158	167	0	0
V/C Ratio(X)	0.01	0.36	0.36	0.11	0.21	0.21	0.16	0.00	0.56	0.16	0.00	0.00
Avail Cap(c_a), veh/h	696	1304	1334	786	1452	1504	594	0	540	378	0	0
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)	0.76	0.76	0.76	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.0	5.2	5.2	3.1	2.5	2.5	31.7	0.0	32.7	31.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.1	0.3	0.3	0.3	0.0	3.1	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	4.4	4.5	0.3	1.5	1.5	1.2	0.0	3.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	5.8	5.8	3.2	2.8	2.8	32.0	0.0	35.8	32.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	953			699			128			26		
Approach Delay, s/veh	5.8			2.9			34.6			32.2		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	6.7	56.1	12.2		62.8		12.2					
Change Period (Y+Rc), s	3.0	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	12.0	26.0	23.0		41.0		23.0					
Max Q Clear Time (g_c+I1), s	2.6	9.8	3.5		5.5		5.6					
Green Ext Time (p_c), s	0.1	5.5	0.1		4.1		0.4					
Intersection Summary												
HCM 6th Ctrl Delay	7.1											
HCM 6th LOS	A											

HCM 6th Signalized Intersection Summary 12: Central Avenue & Raritan Road

2023 No-Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 		 	 	
Traffic Volume (veh/h)	78	494	372	104	306	216	501	1067	184	237	807	60
Future Volume (veh/h)	78	494	372	104	306	216	501	1067	184	237	807	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	2051	2034	2067	2084	2018	1969	2051	2051	2084	2002	2051	1752
Adj Flow Rate, veh/h	79	499	376	105	309	218	506	1078	0	239	815	61
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	4	2	1	5	8	3	3	1	6	3	10
Cap, veh/h	102	790	611	130	836	668	551	1559		678	1658	124
Arrive On Green	0.05	0.20	0.20	0.07	0.22	0.22	0.15	0.40	0.00	0.18	0.45	0.45
Sat Flow, veh/h	1953	3866	1742	1984	3834	1659	3789	3897	1766	3698	3674	275
Grp Volume(v), veh/h	79	499	376	105	309	218	506	1078	0	239	432	444
Grp Sat Flow(s),veh/h/ln	1953	1933	1742	1984	1917	1659	1895	1948	1766	1849	1948	2001
Q Serve(g_s), s	6.0	17.7	26.9	7.8	10.3	1.8	19.8	34.4	0.0	8.5	23.5	23.5
Cycle Q Clear(g_c), s	6.0	17.7	26.9	7.8	10.3	1.8	19.8	34.4	0.0	8.5	23.5	23.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	102	790	611	130	836	668	551	1559		678	879	903
V/C Ratio(X)	0.78	0.63	0.62	0.81	0.37	0.33	0.92	0.69		0.35	0.49	0.49
Avail Cap(c_a), veh/h	260	850	638	265	844	671	556	1559		678	879	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	1.00	1.00	0.99	0.99	0.99	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	54.5	40.4	69.1	49.9	17.2	63.2	37.3	0.0	53.5	29.0	29.0
Incr Delay (d2), s/veh	11.9	1.4	1.7	10.9	0.3	0.3	20.3	2.5	0.0	0.3	2.0	1.9
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	6.0	13.6	17.4	7.8	8.6	7.0	16.6	24.0	0.0	7.3	17.3	17.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	55.9	42.1	80.0	50.1	17.5	83.5	39.9	0.0	53.8	31.0	30.9
LnGrp LOS	F	E	D	E	D	B	F	D		D	C	C
Approach Vol, veh/h		954			632			1584	A		1115	
Approach Delay, s/veh		52.6			43.8			53.8			35.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.5	66.0	13.9	36.7	25.8	73.7	11.8	38.7				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	10.5	36.4	9.8	28.9	21.8	25.5	8.0	12.3				
Green Ext Time (p_c), s	0.3	9.0	0.2	1.8	0.1	6.8	0.1	2.6				

Intersection Summary

HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2023 No-Build Condition
Weekday Evening Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	27	305	175	145	335	37	156	368	130	31	378	23	
Future Volume (veh/h)	27	305	175	145	335	37	156	368	130	31	378	23	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		0.99	
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	2100	2067	2067	2084	2084	2100	2084	2067	2067	2100	2084	2100	
Adj Flow Rate, veh/h	28	321	184	153	353	39	164	387	137	33	398	24	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	0	2	2	1	1	0	1	2	2	0	1	0	
Cap, veh/h	378	368	211	283	755	83	530	697	247	73	659	38	
Arrive On Green	0.30	0.30	0.30	0.08	0.41	0.41	0.08	0.48	0.48	0.37	0.37	0.37	
Sat Flow, veh/h	1106	1226	703	1984	1841	203	1984	1454	515	82	1784	104	
Grp Volume(v), veh/h	28	0	505	153	0	392	164	0	524	455	0	0	
Grp Sat Flow(s),veh/h/ln	1106	0	1929	1984	0	2045	1984	0	1969	1970	0	0	
Q Serve(g_s), s	1.7	0.0	22.3	4.5	0.0	12.6	4.3	0.0	17.0	2.8	0.0	0.0	
Cycle Q Clear(g_c), s	4.5	0.0	22.3	4.5	0.0	12.6	4.3	0.0	17.0	16.3	0.0	0.0	
Prop In Lane	1.00		0.36	1.00		0.10	1.00		0.26	0.07		0.05	
Lane Grp Cap(c), veh/h	378	0	580	283	0	838	530	0	943	770	0	0	
V/C Ratio(X)	0.07	0.00	0.87	0.54	0.00	0.47	0.31	0.00	0.56	0.59	0.00	0.00	
Avail Cap(c_a), veh/h	476	0	750	397	0	1136	533	0	943	770	0	0	
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00	
Uniform Delay (d), s/veh	24.6	0.0	29.8	21.5	0.0	19.4	13.9	0.0	16.6	23.0	0.0	0.0	
Incr Delay (d2), s/veh	0.1	0.0	8.9	1.6	0.0	0.4	0.3	0.0	2.4	3.3	0.0	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(95%),veh/ln	0.8	0.0	17.2	3.9	0.0	10.0	3.4	0.0	12.2	12.8	0.0	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	24.7	0.0	38.7	23.1	0.0	19.8	14.2	0.0	19.0	26.3	0.0	0.0	
LnGrp LOS	C	A	D	C	A	B	B	A	B	C	A	A	
Approach Vol, veh/h	533			545				688				455	
Approach Delay, s/veh	38.0			20.7				17.9				26.3	
Approach LOS	D			C				B				C	
Timer - Assigned Phs	2		3	4	5	6	8						
Phs Duration (G+Y+Rc), s	48.1		9.8	32.0	9.9	38.2	41.9						
Change Period (Y+Rc), s	5.0		3.0	5.0	3.0	5.0	5.0						
Max Green Setting (Gmax), s	30.0		12.0	35.0	7.0	20.0	50.0						
Max Q Clear Time (g_c+I1), s	19.0		6.5	24.3	6.3	18.3	14.6						
Green Ext Time (p_c), s	2.5		0.2	2.7	0.0	0.5	2.8						
Intersection Summary													
HCM 6th Ctrl Delay	25.1												
HCM 6th LOS	C												

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	26.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	374	302	667	724	30
Future Vol, veh/h	13	374	302	667	724	30
Conflicting Peds, #/hr	2	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	2	2	7
Mvmt Flow	14	394	318	702	762	32
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2119	779	795	0	-	0
Stage 1	779	-	-	-	-	-
Stage 2	1340	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	101	495	831	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	37	495	830	-	-	-
Mov Cap-2 Maneuver	37	-	-	-	-	-
Stage 1	170	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	134.3	3.7		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	830	-	350	-	-	
HCM Lane V/C Ratio	0.383	-	1.164	-	-	
HCM Control Delay (s)	12	0	134.3	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	1.8	-	16.5	-	-	

HCM 6th TWSC
3: Walnut Avenue & Lexington Avenue

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	102	867	7	102	996
Future Vol, veh/h	1	102	867	7	102	996
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	2	1
Mvmt Flow	1	109	922	7	109	1060
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2204	926	0	0	929	0
Stage 1	926	-	-	-	-	-
Stage 2	1278	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.218	-
Pot Cap-1 Maneuver	92	425	-	-	736	-
Stage 1	389	-	-	-	-	-
Stage 2	264	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	59	425	-	-	736	-
Mov Cap-2 Maneuver	59	-	-	-	-	-
Stage 1	389	-	-	-	-	-
Stage 2	169	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	17.3	0		1		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	401	736	-	
HCM Lane V/C Ratio	-	-	0.273	0.147	-	
HCM Control Delay (s)	-	-	17.3	10.7	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	1.1	0.5	-	

HCM 6th TWSC
4: Walnut Avenue & Northerly Site Driveway

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	874	997	0
Future Vol, veh/h	0	0	0	874	997	0
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	0	0	0	940	1072	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2012	1072	1072	0	-	0
Stage 1	1072	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	115	364	658	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	115	364	658	-	-	-
Mov Cap-2 Maneuver	115	-	-	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	658	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
5: Walnut Avenue & Behnert Place

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	9	865	3	15	982
Future Vol, veh/h	1	9	865	3	15	982
Conflicting Peds, #/hr	0	0	0	4	4	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	86	86	86	86	86	86
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	1	10	1006	3	17	1142
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2188	1012	0	0	1013	0
Stage 1	1012	-	-	-	-	-
Stage 2	1176	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	93	388	-	-	692	-
Stage 1	354	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	86	387	-	-	689	-
Mov Cap-2 Maneuver	86	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.1	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	287	689	-	
HCM Lane V/C Ratio	-	-	0.041	0.025	-	
HCM Control Delay (s)	-	-	18.1	10.4	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	13	855	6	16	967
Future Vol, veh/h	1	13	855	6	16	967
Conflicting Peds, #/hr	0	0	0	1	1	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	1	14	910	6	17	1029
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1977	914	0	0	917	0
Stage 1	914	-	-	-	-	-
Stage 2	1063	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	119	430	-	-	752	-
Stage 1	394	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	113	430	-	-	751	-
Mov Cap-2 Maneuver	113	-	-	-	-	-
Stage 1	394	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.5	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	358	751	-	
HCM Lane V/C Ratio	-	-	0.042	0.023	-	
HCM Control Delay (s)	-	-	15.5	9.9	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	861	968	0
Future Vol, veh/h	0	0	0	861	968	0
Conflicting Peds, #/hr	0	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	0	0	906	1019	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1926	1020	1020	0	-	0
Stage 1	1020	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	127	385	688	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	385	687	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	351	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	687	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary

8: Walnut Avenue & Raritan Road

2023 No-Build Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	327	688	159	155	526	72	86	462	121	139	491	338
Future Volume (veh/h)	327	688	159	155	526	72	86	462	121	139	491	338
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	2067	2067	2100	2084	2084	2084	2084	2051	2084	2100	2067	2084
Adj Flow Rate, veh/h	348	732	169	165	560	77	91	491	129	148	522	360
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	0	1	1	1	1	3	1	0	2	1
Cap, veh/h	510	1330	307	380	1355	186	211	523	449	236	617	425
Arrive On Green	0.10	0.42	0.42	0.07	0.39	0.39	0.05	0.25	0.25	0.07	0.28	0.28
Sat Flow, veh/h	1969	3167	731	1984	3497	479	1984	2051	1764	2000	2222	1531
Grp Volume(v), veh/h	348	454	447	165	316	321	91	491	129	148	461	421
Grp Sat Flow(s),veh/h/ln	1969	1964	1935	1984	1979	1997	1984	2051	1764	2000	1964	1790
Q Serve(g_s), s	10.0	17.1	17.1	4.8	11.4	11.5	3.3	23.0	5.8	5.2	21.8	21.8
Cycle Q Clear(g_c), s	10.0	17.1	17.1	4.8	11.4	11.5	3.3	23.0	5.8	5.2	21.8	21.8
Prop In Lane	1.00		0.38	1.00		0.24	1.00		1.00	1.00		0.86
Lane Grp Cap(c), veh/h	510	824	812	380	767	774	211	523	449	236	545	497
V/C Ratio(X)	0.68	0.55	0.55	0.43	0.41	0.41	0.43	0.94	0.29	0.63	0.85	0.85
Avail Cap(c_a), veh/h	510	824	812	445	767	774	315	523	449	296	545	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	21.5	21.5	17.1	21.9	21.9	27.1	35.8	29.4	26.5	33.5	33.5
Incr Delay (d2), s/veh	3.1	0.5	0.5	0.3	0.1	0.1	0.5	24.8	0.1	1.0	11.2	12.2
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	8.3	12.1	12.0	3.8	8.9	9.0	2.8	21.0	4.3	4.4	17.3	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.3	21.9	21.9	17.4	22.0	22.1	27.6	60.6	29.5	27.5	44.7	45.7
LnGrp LOS	B	C	C	B	C	C	C	E	C	C	D	D
Approach Vol, veh/h	1249			802			711			1030		
Approach Delay, s/veh	21.2			21.1			50.8			42.6		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	47.2	10.1	31.0	13.0	44.0	7.9	33.2				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	6.8	19.1	7.2	25.0	12.0	13.5	5.3	23.8				
Green Ext Time (p_c), s	0.1	3.6	0.0	0.0	0.0	2.4	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay	32.5											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘
Traffic Vol, veh/h	0	0	669	11	7	798
Future Vol, veh/h	0	0	669	11	7	798
Conflicting Peds, #/hr	0	0	0	3	3	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	0	712	12	7	849
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	365	0	0	727	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	5.3	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	3.1	-
Pot Cap-1 Maneuver	0	544	-	-	536	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	542	-	-	534	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	534	-	
HCM Lane V/C Ratio	-	-	-	0.014	-	
HCM Control Delay (s)	-	-	0	11.8	0.1	
HCM Lane LOS	-	-	A	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2023 No-Build Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	34	907	7	7	707	5	11	2	19	12	0	35
Future Vol, veh/h	34	907	7	7	707	5	11	2	19	12	0	35
Conflicting Peds, #/hr	3	0	2	2	0	3	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	14	0	1	0	0	0	0	0	0	0
Mvmt Flow	35	945	7	7	736	5	11	2	20	13	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	744	0	0	954	0	0	1403	1779	479	1301	1780	374
Stage 1	-	-	-	-	-	-	1021	1021	-	756	756	-
Stage 2	-	-	-	-	-	-	382	758	-	545	1024	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	873	-	-	729	-	-	150	136	675	173	136	698
Stage 1	-	-	-	-	-	-	257	316	-	371	419	-
Stage 2	-	-	-	-	-	-	618	418	-	495	315	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	871	-	-	728	-	-	131	122	673	153	122	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	131	122	-	153	122	-
Stage 1	-	-	-	-	-	-	235	289	-	338	411	-
Stage 2	-	-	-	-	-	-	576	410	-	436	288	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.2			21.7			16.4		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	871	-	-	728	-	-	365
HCM Lane V/C Ratio	0.134	0.041	-	-	0.01	-	-	0.134
HCM Control Delay (s)	21.7	9.3	0.4	-	10	0.1	-	16.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.5

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2023 No-Build Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	957	89	132	914	64	56	1	224	37	3	38
Future Volume (veh/h)	7	957	89	132	914	64	56	1	224	37	3	38
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	0.99		0.99	0.99		0.99
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	2100	2067	2100	2100	2084	2100	2067	2100	2100	2100	2100	1856
Adj Flow Rate, veh/h	7	967	90	133	923	65	57	1	226	37	3	38
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	2	0	0	1	0	2	0	0	0	0	3
Cap, veh/h	473	2142	199	485	2596	183	353	6	284	165	36	124
Arrive On Green	0.59	0.59	0.59	0.06	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	639	3631	338	2000	3750	264	1604	34	1766	588	225	772
Grp Volume(v), veh/h	7	523	534	133	487	501	58	0	226	78	0	0
Grp Sat Flow(s),veh/h/ln	639	1964	2005	2000	1979	2035	1638	0	1766	1584	0	0
Q Serve(g_s), s	0.3	11.2	11.2	1.7	7.5	7.5	0.0	0.0	9.2	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.3	11.2	11.2	1.7	7.5	7.5	1.9	0.0	9.2	2.8	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.13	0.98		1.00	0.47		0.49
Lane Grp Cap(c), veh/h	473	1158	1183	485	1370	1409	359	0	284	326	0	0
V/C Ratio(X)	0.01	0.45	0.45	0.27	0.36	0.36	0.16	0.00	0.79	0.24	0.00	0.00
Avail Cap(c_a), veh/h	473	1158	1183	680	1370	1409	582	0	542	546	0	0
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)	0.73	0.73	0.73	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	8.6	8.6	5.6	4.7	4.7	27.2	0.0	30.3	27.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.9	0.3	0.7	0.6	0.2	0.0	5.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	7.0	7.2	1.0	4.3	4.4	1.6	0.0	7.6	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	9.5	9.5	5.9	5.4	5.3	27.4	0.0	35.3	27.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	1064				1121				284		78	
Approach Delay, s/veh	9.5				5.4				33.7		27.9	
Approach LOS	A				A				C		C	
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.7	49.7		17.6		57.4		17.6				
Change Period (Y+Rc), s	3.0	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	12.0	26.0		23.0		41.0		23.0				
Max Q Clear Time (g_c+I1), s	3.7	13.2		4.8		9.5		11.2				
Green Ext Time (p_c), s	0.2	5.5		0.4		7.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay	11.0											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2023 No-Build Condition
Weekday Evening Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	145	507	391	235	523	250	551	908	257	289	978	79	
Future Volume (veh/h)	145	507	391	235	523	250	551	908	257	289	978	79	
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	2100	2067	2100	2084	2084	2067	2100	2100	2100	2067	2067	1900	
Adj Flow Rate, veh/h	146	512	395	237	528	253	557	917	0	292	988	80	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Percent Heavy Veh, %	0	2	0	1	1	2	0	0	0	2	2	0	
Cap, veh/h	173	818	631	261	1002	642	569	1596		434	1400	113	
Arrive On Green	0.09	0.21	0.21	0.13	0.25	0.25	0.15	0.40	0.00	0.11	0.38	0.38	
Sat Flow, veh/h	2000	3928	1775	1984	3959	1748	3880	3990	1780	3819	3679	298	
Grp Volume(v), veh/h	146	512	395	237	528	253	557	917	0	292	527	541	
Grp Sat Flow(s),veh/h/ln	2000	1964	1775	1984	1979	1748	1940	1995	1780	1910	1964	2013	
Q Serve(g_s), s	10.8	17.8	27.7	17.7	17.2	2.9	21.5	26.9	0.0	11.0	34.1	34.1	
Cycle Q Clear(g_c), s	10.8	17.8	27.7	17.7	17.2	2.9	21.5	26.9	0.0	11.0	34.1	34.1	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15	
Lane Grp Cap(c), veh/h	173	818	631	261	1002	642	569	1596		434	747	766	
V/C Ratio(X)	0.85	0.63	0.63	0.91	0.53	0.39	0.98	0.57		0.67	0.71	0.71	
Avail Cap(c_a), veh/h	267	864	651	265	1002	642	569	1596		434	747	766	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	0.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	67.5	54.1	40.1	64.3	48.3	18.1	63.8	35.1	0.0	63.8	39.4	39.4	
Incr Delay (d2), s/veh	13.8	1.3	1.8	31.2	0.5	0.4	32.2	1.5	0.0	4.0	5.5	5.4	
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	10.2	13.9	18.2	16.5	13.3	8.0	19.2	19.7	0.0	9.6	24.8	25.3	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	81.3	55.4	42.0	95.5	48.8	18.5	96.0	36.6	0.0	67.8	44.9	44.8	
LnGrp LOS	F	E	D	F	D	B	F	D		E	D	D	
Approach Vol, veh/h	1053			1018			1474			A			1360
Approach Delay, s/veh	53.9			52.1			59.0						49.8
Approach LOS	D			D			E						D
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	23.1	66.0	23.7	37.2	26.0	63.1	17.0	44.0					
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0					
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0					
Max Q Clear Time (g_c+I1), s	13.0	28.9	19.7	29.7	23.5	36.1	12.8	19.2					
Green Ext Time (p_c), s	0.2	8.1	0.0	1.5	0.0	7.4	0.2	3.7					

Intersection Summary

HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2023 No-Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	197	142	82	201	36	133	337	92	36	321	19
Future Volume (veh/h)	30	197	142	82	201	36	133	337	92	36	321	19
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		0.99
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	2100	2084	2100	2002	2084	2100	2067	2051	2067	2100	2084	2100
Adj Flow Rate, veh/h	31	205	148	85	209	38	139	351	96	38	334	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	1	0	6	1	0	2	3	2	0	1	0
Cap, veh/h	374	260	188	277	572	104	683	861	236	94	779	45
Arrive On Green	0.23	0.23	0.23	0.07	0.33	0.33	0.08	0.56	0.56	0.45	0.45	0.45
Sat Flow, veh/h	1272	1125	812	1906	1716	312	1969	1550	424	112	1742	100
Grp Volume(v), veh/h	31	0	353	85	0	247	139	0	447	392	0	0
Grp Sat Flow(s),veh/h/ln	1272	0	1937	1906	0	2027	1969	0	1975	1954	0	0
Q Serve(g_s), s	1.7	0.0	15.4	2.8	0.0	8.3	3.1	0.0	11.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	15.4	2.8	0.0	8.3	3.1	0.0	11.7	11.7	0.0	0.0
Prop In Lane	1.00		0.42	1.00		0.15	1.00		0.21	0.10		0.05
Lane Grp Cap(c), veh/h	374	0	449	277	0	676	683	0	1097	917	0	0
V/C Ratio(X)	0.08	0.00	0.79	0.31	0.00	0.37	0.20	0.00	0.41	0.43	0.00	0.00
Avail Cap(c_a), veh/h	575	0	753	401	0	1126	688	0	1097	917	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	0.0	32.5	23.5	0.0	22.8	10.0	0.0	11.5	17.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	3.1	0.6	0.0	0.3	0.1	0.0	1.1	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	12.0	2.4	0.0	7.2	2.3	0.0	8.6	9.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	0.0	35.6	24.1	0.0	23.1	10.2	0.0	12.6	18.5	0.0	0.0
LnGrp LOS	C	A	D	C	A	C	B	A	B	B	A	A
Approach Vol, veh/h	384			332			586			392		
Approach Delay, s/veh	34.9			23.4			12.0			18.5		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	2		3	4	5	6	8					
Phs Duration (G+Y+Rc), s	55.0		9.2	25.8	9.8	45.2	35.0					
Change Period (Y+Rc), s	5.0		3.0	5.0	3.0	5.0	5.0					
Max Green Setting (Gmax), s	30.0		12.0	35.0	7.0	20.0	50.0					
Max Q Clear Time (g_c+I1), s	13.7		4.8	17.4	5.1	13.7	10.3					
Green Ext Time (p_c), s	2.5		0.1	2.3	0.1	1.2	1.7					
Intersection Summary												
HCM 6th Ctrl Delay	20.9											
HCM 6th LOS	C											

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	272	203	520	507	27
Future Vol, veh/h	23	272	203	520	507	27
Conflicting Peds, #/hr	2	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	3	2	0
Mvmt Flow	24	286	214	547	534	28

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1526	549	563	0	-	0
Stage 1	549	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	200	627	1013	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	139	626	1012	-	-	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	368	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24	2.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1012	-	492	-	-
HCM Lane V/C Ratio	0.211	-	0.631	-	-
HCM Control Delay (s)	9.5	0	24	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.8	-	4.3	-	-

HCM 6th TWSC
3: Walnut Avenue & Lexington Avenue

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	79	644	5	82	697
Future Vol, veh/h	1	79	644	5	82	697
Conflicting Peds, #/hr	0	0	0	3	3	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	96	96	96	96	96	96
Heavy Vehicles, %	0	3	3	0	0	1
Mvmt Flow	1	82	671	5	85	726
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1573	677	0	0	679	0
Stage 1	677	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	-	-	2.2	-
Pot Cap-1 Maneuver	190	547	-	-	923	-
Stage 1	509	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	160	545	-	-	920	-
Mov Cap-2 Maneuver	160	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.1	0		1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	529	920	-	
HCM Lane V/C Ratio	-	-	0.158	0.093	-	
HCM Control Delay (s)	-	-	13.1	9.3	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-	

HCM 6th TWSC
4: Walnut Avenue & Northerly Site Driveway

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	649	698	0
Future Vol, veh/h	0	0	0	649	698	0
Conflicting Peds, #/hr	0	0	10	0	0	10
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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	0	0	0	683	735	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1428	745	745	0	-	0
Stage 1	745	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	223	513	872	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	219	508	864	-	-	-
Mov Cap-2 Maneuver	219	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	864	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th TWSC
5: Walnut Avenue & Behnert Place

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	644	2	6	692
Future Vol, veh/h	0	5	644	2	6	692
Conflicting Peds, #/hr	1	0	0	4	4	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	5	685	2	6	736
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1439	690	0	0	691	0
Stage 1	690	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	221	543	-	-	913	-
Stage 1	502	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	217	541	-	-	910	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	11.7	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	541	910	-	
HCM Lane V/C Ratio	-	-	0.01	0.007	-	
HCM Control Delay (s)	-	-	11.7	9	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	12	634	11	14	678
Future Vol, veh/h	2	12	634	11	14	678
Conflicting Peds, #/hr	0	0	0	2	2	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	3	0	0	1
Mvmt Flow	2	13	674	12	15	721
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1433	682	0	0	688	0
Stage 1	682	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	222	548	-	-	916	-
Stage 1	506	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	216	547	-	-	914	-
Mov Cap-2 Maneuver	216	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	13.3	0		0.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	449	914	-	
HCM Lane V/C Ratio	-	-	0.033	0.016	-	
HCM Control Delay (s)	-	-	13.3	9	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	645	678	2
Future Vol, veh/h	0	0	0	645	678	2
Conflicting Peds, #/hr	0	0	12	0	0	12
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	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	2	1	50
Mvmt Flow	0	0	0	672	706	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1391	719	720	0	-	0
Stage 1	719	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	233	527	891	-	-	-
Stage 1	486	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	228	521	881	-	-	-
Mov Cap-2 Maneuver	228	-	-	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	881	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 6th Signalized Intersection Summary 8: Walnut Avenue & Raritan Road

2023 No-Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	307	519	157	129	384	67	78	271	84	90	328	260
Future Volume (veh/h)	307	519	157	129	384	67	78	271	84	90	328	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	2067	2084	2084	2084	2067	2002	2051	2051	2084	2084	2084	2067
Adj Flow Rate, veh/h	316	535	162	133	396	69	80	279	87	93	338	268
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	1	2	6	3	3	1	1	1	2
Cap, veh/h	662	1456	439	508	1465	253	218	399	342	267	422	328
Arrive On Green	0.11	0.49	0.49	0.06	0.44	0.44	0.05	0.19	0.19	0.05	0.20	0.20
Sat Flow, veh/h	1969	2993	902	1984	3346	578	1953	2051	1760	1984	2116	1645
Grp Volume(v), veh/h	316	353	344	133	231	234	80	279	87	93	316	290
Grp Sat Flow(s),veh/h/ln	1969	1979	1916	1984	1964	1961	1953	2051	1760	1984	1979	1782
Q Serve(g_s), s	7.2	9.7	9.8	3.1	6.5	6.6	2.8	11.0	3.6	3.2	13.2	13.5
Cycle Q Clear(g_c), s	7.2	9.7	9.8	3.1	6.5	6.6	2.8	11.0	3.6	3.2	13.2	13.5
Prop In Lane	1.00		0.47	1.00		0.29	1.00		1.00	1.00		0.92
Lane Grp Cap(c), veh/h	662	963	932	508	860	858	218	399	342	267	395	355
V/C Ratio(X)	0.48	0.37	0.37	0.26	0.27	0.27	0.37	0.70	0.25	0.35	0.80	0.82
Avail Cap(c_a), veh/h	680	963	932	623	860	858	347	591	507	388	570	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.3	13.9	14.0	12.1	15.6	15.6	27.0	32.6	29.6	26.5	33.1	33.2
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.4	0.8	0.1	0.3	3.2	4.3
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	7.2	7.0	2.3	5.0	5.0	2.3	9.2	2.7	2.7	10.6	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.5	14.0	14.0	12.2	15.6	15.6	27.4	33.4	29.8	26.8	36.3	37.6
LnGrp LOS	B	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h	1013			598			446			699		
Approach Delay, s/veh	12.9			14.9			31.6			35.5		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	48.2	7.7	22.9	12.2	44.0	7.3	23.3				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	5.1	11.8	5.2	13.0	9.2	8.6	4.8	15.5				
Green Ext Time (p_c), s	0.1	2.8	0.0	0.9	0.1	1.7	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	22.1											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘	↗ ↘ ↘ ↘			↗ ↘
Traffic Vol, veh/h	0	0	433	10	8	606
Future Vol, veh/h	0	0	433	10	8	606
Conflicting Peds, #/hr	1	0	0	4	4	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, %	0	0	3	0	0	1
Mvmt Flow	0	0	471	11	9	659
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	245	0	0	486	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	5.3	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	3.1	-
Pot Cap-1 Maneuver	0	648	-	-	695	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	646	-	-	692	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	692	-	
HCM Lane V/C Ratio	-	-	-	0.013	-	
HCM Control Delay (s)	-	-	0	10.3	0.1	
HCM Lane LOS	-	-	A	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2023 No-Build Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	16	669	8	3	535	5	10	0	7	16	0	35
Future Vol, veh/h	16	669	8	3	535	5	10	0	7	16	0	35
Conflicting Peds, #/hr	9	0	7	7	0	9	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	0	0	2	0	0	0	14	0	0	3
Mvmt Flow	17	697	8	3	557	5	10	0	7	17	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	571	0	0	712	0	0	1027	1319	363	961	1321	290
Stage 1	-	-	-	-	-	-	742	742	-	575	575	-
Stage 2	-	-	-	-	-	-	285	577	-	386	746	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.44	3.5	4	3.33
Pot Cap-1 Maneuver	1012	-	-	897	-	-	255	229	733	279	228	811
Stage 1	-	-	-	-	-	-	378	425	-	475	506	-
Stage 2	-	-	-	-	-	-	704	505	-	614	424	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1003	-	-	891	-	-	236	218	726	266	217	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	236	218	-	266	217	-
Stage 1	-	-	-	-	-	-	365	410	-	458	499	-
Stage 2	-	-	-	-	-	-	669	498	-	589	409	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	16.6	13.2
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	327	1003	-	-	891	-	-	492
HCM Lane V/C Ratio	0.054	0.017	-	-	0.004	-	-	0.108
HCM Control Delay (s)	16.6	8.7	0.1	-	9.1	0	-	13.2
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.4

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2023 No-Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	866	80	131	777	52	63	4	223	27	4	41
Future Volume (veh/h)	14	866	80	131	777	52	63	4	223	27	4	41
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	2100	2067	2100	2084	2067	2100	2067	2100	2100	2100	2100	1900
Adj Flow Rate, veh/h	14	893	82	135	801	54	65	4	230	28	4	42
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	1	2	0	2	0	0	0	0	0
Cap, veh/h	521	2136	196	511	2576	174	343	19	290	138	44	153
Arrive On Green	0.59	0.59	0.59	0.06	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	724	3636	334	1984	3733	252	1529	115	1776	441	272	936
Grp Volume(v), veh/h	14	482	493	135	421	434	69	0	230	74	0	0
Grp Sat Flow(s),veh/h/ln	724	1964	2005	1984	1964	2021	1644	0	1776	1650	0	0
Q Serve(g_s), s	0.6	10.1	10.1	1.8	6.3	6.4	0.0	0.0	9.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	10.1	10.1	1.8	6.3	6.4	2.2	0.0	9.3	2.5	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.12	0.94		1.00	0.38		0.57
Lane Grp Cap(c), veh/h	521	1154	1178	511	1355	1395	362	0	290	335	0	0
V/C Ratio(X)	0.03	0.42	0.42	0.26	0.31	0.31	0.19	0.00	0.79	0.22	0.00	0.00
Avail Cap(c_a), veh/h	521	1154	1178	704	1355	1395	584	0	545	560	0	0
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)	0.80	0.80	0.80	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	8.5	8.5	5.4	4.6	4.6	27.2	0.0	30.2	27.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.9	0.9	0.3	0.6	0.6	0.3	0.0	4.9	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	6.7	6.8	1.0	3.6	3.7	1.9	0.0	7.7	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	9.4	9.3	5.7	5.2	5.1	27.4	0.0	35.1	27.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	989				990				299			
Approach Delay, s/veh	9.3				5.2				33.3			
Approach LOS	A				A				C			
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.7	49.6		17.7		57.3		17.7				
Change Period (Y+Rc), s	3.0	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	12.0	26.0		23.0		41.0		23.0				
Max Q Clear Time (g_c+I1), s	3.8	12.1		4.5		8.4		11.3				
Green Ext Time (p_c), s	0.2	5.3		0.3		6.0		0.9				
Intersection Summary												
HCM 6th Ctrl Delay	11.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary 12: Central Avenue & Raritan Road

2023 No-Build Condition
Saturday Midday Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	323	452	416	241	396	244	495	836	265	243	935	96	
Future Volume (veh/h)	323	452	416	241	396	244	495	836	265	243	935	96	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	2100	2084	2084	2084	2051	2084	2100	2084	2084	2067	2100	1885	
Adj Flow Rate, veh/h	330	461	424	246	404	249	505	853	0	248	954	98	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Percent Heavy Veh, %	0	1	1	1	3	1	0	1	1	2	0	1	
Cap, veh/h	267	867	635	265	853	561	554	1584		386	1357	139	
Arrive On Green	0.13	0.22	0.22	0.13	0.22	0.22	0.14	0.40	0.00	0.10	0.37	0.37	
Sat Flow, veh/h	2000	3959	1746	1984	3897	1746	3880	3959	1766	3819	3652	375	
Grp Volume(v), veh/h	330	461	424	246	404	249	505	853	0	248	521	531	
Grp Sat Flow(s),veh/h/ln	2000	1979	1746	1984	1948	1746	1940	1979	1766	1910	1995	2032	
Q Serve(g_s), s	20.0	15.4	30.7	18.4	13.6	4.0	19.2	24.7	0.0	9.4	33.3	33.3	
Cycle Q Clear(g_c), s	20.0	15.4	30.7	18.4	13.6	4.0	19.2	24.7	0.0	9.4	33.3	33.3	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18	
Lane Grp Cap(c), veh/h	267	867	635	265	853	561	554	1584		386	741	755	
V/C Ratio(X)	1.24	0.53	0.67	0.93	0.47	0.44	0.91	0.54		0.64	0.70	0.70	
Avail Cap(c_a), veh/h	267	871	636	265	857	563	569	1584		386	741	755	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	0.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	65.0	51.8	40.3	64.3	51.0	19.1	63.4	34.4	0.0	64.8	40.1	40.1	
Incr Delay (d2), s/veh	134.8	0.6	2.7	36.0	0.4	0.5	18.7	1.3	0.0	3.6	5.5	5.4	
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	30.1	12.3	19.7	17.5	10.8	7.9	16.5	18.2	0.0	8.4	24.6	25.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	199.8	52.4	43.0	100.3	51.4	19.7	82.1	35.7	0.0	68.4	45.6	45.5	
LnGrp LOS	F	D	D	F	D	B	F	D		E	D	D	
Approach Vol, veh/h	1215			899			1358			A			1300
Approach Delay, s/veh	89.1			56.0			53.0						49.9
Approach LOS	F			E			D						D
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	21.1	66.0	24.0	38.9	25.4	61.7	24.0	38.9					
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0					
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0					
Max Q Clear Time (g_c+I1), s	11.4	26.7	20.4	32.7	21.2	35.3	22.0	15.6					
Green Ext Time (p_c), s	0.3	7.5	0.0	0.2	0.2	7.4	0.0	3.2					

Intersection Summary

HCM 6th Ctrl Delay	61.9
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2023 Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	272	136	100	314	93	167	394	154	57	235	15
Future Volume (veh/h)	26	272	136	100	314	93	167	394	154	57	235	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	2034	2084	2084	2034	2084	2084	2084	2067	2034	2051	2034	1985
Adj Flow Rate, veh/h	28	292	146	108	338	100	180	424	166	61	253	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	1	1	4	1	1	1	2	4	3	4	7
Cap, veh/h	278	344	172	274	570	169	624	686	268	128	514	30
Arrive On Green	0.26	0.26	0.26	0.07	0.37	0.37	0.08	0.49	0.49	0.38	0.38	0.38
Sat Flow, veh/h	1029	1305	652	1938	1541	456	1984	1411	553	213	1369	81
Grp Volume(v), veh/h	28	0	438	108	0	438	180	0	590	330	0	0
Grp Sat Flow(s),veh/h/ln	1029	0	1957	1938	0	1997	1984	0	1964	1663	0	0
Q Serve(g_s), s	2.0	0.0	19.1	3.4	0.0	15.9	4.7	0.0	19.9	3.5	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	19.1	3.4	0.0	15.9	4.7	0.0	19.9	13.5	0.0	0.0
Prop In Lane	1.00		0.33	1.00		0.23	1.00		0.28	0.18		0.05
Lane Grp Cap(c), veh/h	278	0	516	274	0	738	624	0	954	672	0	0
V/C Ratio(X)	0.10	0.00	0.85	0.39	0.00	0.59	0.29	0.00	0.62	0.49	0.00	0.00
Avail Cap(c_a), veh/h	407	0	761	392	0	1043	625	0	954	672	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.2	0.0	31.4	22.4	0.0	22.9	13.7	0.0	17.0	21.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	6.0	0.9	0.0	0.8	0.3	0.0	3.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	0.0	14.9	2.9	0.0	12.0	3.6	0.0	13.9	9.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	0.0	37.4	23.3	0.0	23.7	13.9	0.0	20.0	23.8	0.0	0.0
LnGrp LOS	C	A	D	C	A	C	B	A	C	C	A	A
Approach Vol, veh/h	466			546			770			330		
Approach Delay, s/veh	37.0			23.6			18.6			23.8		
Approach LOS	D			C			B			C		
Timer - Assigned Phs	2		3	4	5	6	8					
Phs Duration (G+Y+Rc), s	48.7		9.5	31.7	9.9	38.8	41.3					
Change Period (Y+Rc), s	5.0		3.0	* 8	3.0	5.0	8.0					
Max Green Setting (Gmax), s	30.0		12.0	* 35	7.0	20.0	47.0					
Max Q Clear Time (g_c+I1), s	21.9		5.4	21.1	6.7	15.5	17.9					
Green Ext Time (p_c), s	2.4		0.1	2.6	0.0	0.8	3.2					
Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			C									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2023 Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	240	275	686	395	45
Future Vol, veh/h	32	240	275	686	395	45
Conflicting Peds, #/hr	8	0	1	0	0	1
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	93	93	93	93	93	93
Heavy Vehicles, %	10	1	2	2	3	2
Mvmt Flow	34	258	296	738	425	48
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1788	450	474	0	-	0
Stage 1	450	-	-	-	-	-
Stage 2	1338	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.12	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.309	2.218	-	-	-
Pot Cap-1 Maneuver	147	693	1088	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	235	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	79	692	1087	-	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-
Stage 1	337	-	-	-	-	-
Stage 2	235	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	45.8	2.7		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1087	-	362	-	-	
HCM Lane V/C Ratio	0.272	-	0.808	-	-	
HCM Control Delay (s)	9.5	0	45.8	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	1.1	-	7	-	-	

HCM 6th TWSC
3: Walnut Avenue & Northerly Site Driveway/Lexington Avenue

2023 Build Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	10	2	0	136	40	819	7	90	519	26
Future Vol, veh/h	6	0	10	2	0	136	40	819	7	90	519	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	2	0	3	0	1	2	0
Mvmt Flow	6	0	11	2	0	145	43	871	7	96	552	28

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1791	1722	566	1725	1733	875	580	0	0	878	0	0
Stage 1	758	758	-	961	961	-	-	-	-	-	-	-
Stage 2	1033	964	-	764	772	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.5	5.2	6.5	5.5	5.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.318	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	86	145	617	94	144	447	1004	-	-	774	-	-
Stage 1	402	418	-	311	337	-	-	-	-	-	-	-
Stage 2	283	336	-	399	412	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	47	108	617	74	108	447	1004	-	-	774	-	-
Mov Cap-2 Maneuver	69	164	-	162	187	-	-	-	-	-	-	-
Stage 1	368	341	-	285	309	-	-	-	-	-	-	-
Stage 2	175	308	-	320	336	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.1		17.4		0.4		1.5	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1004	-	-	155	436	774	-
HCM Lane V/C Ratio	0.042	-	-	0.11	0.337	0.124	-
HCM Control Delay (s)	8.7	0	-	31.1	17.4	10.3	0
HCM Lane LOS	A	A	-	D	C	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0.4	1.5	0.4	-

HCM 6th TWSC
5: Walnut Avenue & Northerly Site Driveway/Behnert Place

2023 Build Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	0	26	1	0	11	16	835	7	6	520	5
Future Vol, veh/h	20	0	26	1	0	11	16	835	7	6	520	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	2	0
Mvmt Flow	22	0	28	1	0	12	17	898	8	6	559	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1516	1515	562	1525	1513	903	564	0	0	907	0	0
Stage 1	574	574	-	937	937	-	-	-	-	-	-	-
Stage 2	942	941	-	588	576	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.5	5.2	6.5	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	127	184	620	126	184	435	1018	-	-	759	-	-
Stage 1	507	506	-	320	346	-	-	-	-	-	-	-
Stage 2	318	345	-	499	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	119	175	620	116	175	435	1018	-	-	758	-	-
Mov Cap-2 Maneuver	119	175	-	116	175	-	-	-	-	-	-	-
Stage 1	490	500	-	309	334	-	-	-	-	-	-	-
Stage 2	299	333	-	471	499	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.2		15.6		0.2		0.1	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1018	-	-	219 354	758	-	-
HCM Lane V/C Ratio	0.017	-	-	0.226 0.036	0.009	-	-
HCM Control Delay (s)	8.6	0	-	26.2 15.6	9.8	0	-
HCM Lane LOS	A	A	-	D C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8 0.1	0	-	-

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2023 Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	13	845	3	10	537
Future Vol, veh/h	5	13	845	3	10	537
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	93	93	93	93	93	93
Heavy Vehicles, %	20	0	3	0	0	3
Mvmt Flow	5	14	909	3	11	577
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1510	911	0	0	912	0
Stage 1	911	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.68	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	199	432	-	-	755	-
Stage 1	364	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	195	432	-	-	755	-
Mov Cap-2 Maneuver	195	-	-	-	-	-
Stage 1	364	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.9	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	323	755	-	
HCM Lane V/C Ratio	-	-	0.06	0.014	-	
HCM Control Delay (s)	-	-	16.9	9.8	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2023 Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	26	0	848	542	0
Future Vol, veh/h	0	26	0	848	542	0
Conflicting Peds, #/hr	0	0	1	0	0	1
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	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	30	0	964	616	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1581	617	617	0	-	0
Stage 1	617	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	188	586	973	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	188	585	972	-	-	-
Mov Cap-2 Maneuver	188	-	-	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.5	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	972	-	585	-	-	
HCM Lane V/C Ratio	-	-	0.051	-	-	
HCM Control Delay (s)	0	-	11.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

HCM 6th Signalized Intersection Summary 8: Walnut Avenue & Raritan Road

2023 Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	528	94	83	385	69	45	514	82	113	224	231
Future Volume (veh/h)	265	528	94	83	385	69	45	514	82	113	224	231
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	2051	2018	2067	2084	2002	2002	2100	2067	2067	2100	2067	2018
Adj Flow Rate, veh/h	273	544	97	86	397	71	46	530	85	116	231	238
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	5	2	1	6	6	0	2	2	0	2	5
Cap, veh/h	583	1456	259	462	1273	226	324	536	454	198	554	495
Arrive On Green	0.10	0.45	0.45	0.05	0.39	0.39	0.04	0.26	0.26	0.06	0.28	0.28
Sat Flow, veh/h	1953	3253	578	1984	3228	573	2000	2067	1750	2000	1964	1752
Grp Volume(v), veh/h	273	320	321	86	233	235	46	530	85	116	231	238
Grp Sat Flow(s),veh/h/ln	1953	1917	1914	1984	1902	1899	2000	2067	1750	2000	1964	1752
Q Serve(g_s), s	7.6	10.7	10.7	2.4	8.1	8.3	1.6	24.6	3.6	4.0	9.2	10.9
Cycle Q Clear(g_c), s	7.6	10.7	10.7	2.4	8.1	8.3	1.6	24.6	3.6	4.0	9.2	10.9
Prop In Lane	1.00		0.30	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	858	856	462	750	749	324	536	454	198	554	495
V/C Ratio(X)	0.47	0.37	0.38	0.19	0.31	0.31	0.14	0.99	0.19	0.59	0.42	0.48
Avail Cap(c_a), veh/h	591	858	856	576	750	749	458	536	454	286	554	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.9	17.7	17.7	15.9	20.1	20.2	24.8	35.5	27.8	26.4	28.1	28.7
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.1	0.1	35.6	0.1	1.0	0.2	0.3
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	5.7	8.0	8.0	1.9	6.3	6.4	1.3	24.0	2.7	3.4	7.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.1	17.8	17.8	16.0	20.2	20.3	24.9	71.1	27.8	27.4	28.3	29.0
LnGrp LOS	B	B	B	B	C	C	C	E	C	C	C	C
Approach Vol, veh/h	914			554			661			585		
Approach Delay, s/veh	16.7			19.6			62.4			28.4		
Approach LOS	B			B			E			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	49.1	8.7	31.0	12.6	44.0	6.5	33.2				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	4.4	12.7	6.0	26.6	9.6	10.3	3.6	12.9				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.0	0.0	1.8	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay	30.9											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2023 Build Condition
Weekday Morning Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↘ ↘ ↘				↗ ↘
Traffic Vol, veh/h	0	0	641	4	11	390
Future Vol, veh/h	0	0	641	4	11	390
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	0	689	4	12	419
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	347	0	0	693	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	5.3	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	3.1	-
Pot Cap-1 Maneuver	0	559	-	-	556	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	559	-	-	556	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0.5		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	556	-	
HCM Lane V/C Ratio	-	-	-	0.021	-	
HCM Control Delay (s)	-	-	0	11.6	0.2	
HCM Lane LOS	-	-	A	B	A	
HCM 95th %tile Q(veh)	-	-	-	0.1	-	

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2023 Build Condition
Weekday Morning Peak Hour

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	4	716	3	1	512	6	11	0	3	7	0	14
Future Vol, veh/h	4	716	3	1	512	6	11	0	3	7	0	14
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	4	0	0	6	17	0	0	0	0	0	7
Mvmt Flow	4	746	3	1	533	6	11	0	3	7	0	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	542	0	0	749	0	0	1025	1300	375	922	1298	273
Stage 1	-	-	-	-	-	-	756	756	-	541	541	-
Stage 2	-	-	-	-	-	-	269	544	-	381	757	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.37
Pot Cap-1 Maneuver	1037	-	-	869	-	-	255	233	750	295	234	816
Stage 1	-	-	-	-	-	-	371	419	-	498	524	-
Stage 2	-	-	-	-	-	-	719	522	-	619	419	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1034	-	-	869	-	-	249	230	750	291	231	814
Mov Cap-2 Maneuver	-	-	-	-	-	-	249	230	-	291	231	-
Stage 1	-	-	-	-	-	-	368	416	-	493	521	-
Stage 2	-	-	-	-	-	-	705	519	-	612	416	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			18			12.4		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	291	1034	-	-	869	-	-	509				
HCM Lane V/C Ratio	0.05	0.004	-	-	0.001	-	-	0.043				
HCM Control Delay (s)	18	8.5	0	-	9.1	0	-	12.4				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1				

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2023 Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	865	72	61	608	28	35	4	84	14	2	9
Future Volume (veh/h)	9	865	72	61	608	28	35	4	84	14	2	9
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	2100	2034	2051	2067	2002	2100	2002	2100	2084	2100	1281	1900
Adj Flow Rate, veh/h	9	901	75	64	633	29	36	4	88	15	2	9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	4	3	2	6	0	6	0	1	0	50	0
Cap, veh/h	681	2437	203	553	2828	129	223	21	158	116	20	32
Arrive On Green	0.67	0.67	0.67	0.05	0.76	0.76	0.09	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	867	3612	301	1969	3703	170	1472	233	1760	446	222	353
Grp Volume(v), veh/h	9	482	494	64	325	337	40	0	88	26	0	0
Grp Sat Flow(s),veh/h/ln	867	1933	1980	1969	1902	1971	1705	0	1760	1021	0	0
Q Serve(g_s), s	0.3	8.1	8.1	0.6	3.6	3.7	0.0	0.0	3.6	0.2	0.0	0.0
Cycle Q Clear(g_c), s	0.3	8.1	8.1	0.6	3.6	3.7	1.4	0.0	3.6	1.5	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.09	0.90		1.00	0.58		0.35
Lane Grp Cap(c), veh/h	681	1304	1336	553	1452	1505	244	0	158	167	0	0
V/C Ratio(X)	0.01	0.37	0.37	0.12	0.22	0.22	0.16	0.00	0.56	0.16	0.00	0.00
Avail Cap(c_a), veh/h	681	1304	1336	772	1452	1505	594	0	540	378	0	0
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)	0.77	0.77	0.77	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.0	5.3	5.3	3.2	2.5	2.5	31.7	0.0	32.7	31.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.1	0.3	0.3	0.3	0.0	3.1	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	4.6	4.7	0.3	1.5	1.6	1.2	0.0	3.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.0	5.9	5.9	3.3	2.9	2.9	32.0	0.0	35.8	32.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	985		726				128		26			
Approach Delay, s/veh	5.9		2.9				34.6		32.2			
Approach LOS	A		A				C		C			
Timer - Assigned Phs	1	2	4		6		8					
Phs Duration (G+Y+Rc), s	6.7	56.1	12.2		62.8		12.2					
Change Period (Y+Rc), s	3.0	5.5	5.5		5.5		5.5					
Max Green Setting (Gmax), s	12.0	26.0	23.0		41.0		23.0					
Max Q Clear Time (g_c+I1), s	2.6	10.1	3.5		5.7		5.6					
Green Ext Time (p_c), s	0.1	5.7	0.1		4.4		0.4					
Intersection Summary												
HCM 6th Ctrl Delay			7.1									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2023 Build Condition
Weekday Morning Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	495	372	127	309	216	501	1067	214	237	807	60
Future Volume (veh/h)	78	495	372	127	309	216	501	1067	214	237	807	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	2051	2034	2067	2084	2018	1969	2051	2051	2084	2002	2051	1752
Adj Flow Rate, veh/h	79	500	376	128	312	218	506	1078	0	239	815	61
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	4	2	1	5	8	3	3	1	6	3	10
Cap, veh/h	102	790	611	154	882	670	551	1559		633	1613	121
Arrive On Green	0.05	0.20	0.20	0.08	0.23	0.23	0.15	0.40	0.00	0.17	0.44	0.44
Sat Flow, veh/h	1953	3866	1742	1984	3834	1669	3789	3897	1766	3698	3674	275
Grp Volume(v), veh/h	79	500	376	128	312	218	506	1078	0	239	432	444
Grp Sat Flow(s),veh/h/ln	1953	1933	1742	1984	1917	1669	1895	1948	1766	1849	1948	2001
Q Serve(g_s), s	6.0	17.7	26.9	9.5	10.2	1.8	19.8	34.4	0.0	8.6	24.0	24.0
Cycle Q Clear(g_c), s	6.0	17.7	26.9	9.5	10.2	1.8	19.8	34.4	0.0	8.6	24.0	24.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	102	790	611	154	882	670	551	1559		633	855	879
V/C Ratio(X)	0.78	0.63	0.62	0.83	0.35	0.33	0.92	0.69		0.38	0.51	0.51
Avail Cap(c_a), veh/h	260	850	638	265	882	670	556	1559		633	855	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	54.5	40.4	68.2	48.4	17.2	63.2	37.3	0.0	55.1	30.3	30.3
Incr Delay (d2), s/veh	11.9	1.4	1.7	10.6	0.2	0.3	20.3	2.5	0.0	0.4	2.1	2.1
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	6.0	13.6	17.4	9.0	8.6	7.0	16.6	24.0	0.0	7.4	17.7	18.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.2	55.9	42.1	78.8	48.6	17.5	83.5	39.9	0.0	55.4	32.4	32.4
LnGrp LOS	F	E	D	E	D	B	F	D		E	C	C
Approach Vol, veh/h	955				658				1584			
Approach Delay, s/veh	52.6				44.2				53.8			
Approach LOS	D				D				D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.7	66.0	15.7	36.7	25.8	71.9	11.8	40.5				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	10.6	36.4	11.5	28.9	21.8	26.0	8.0	12.2				
Green Ext Time (p_c), s	0.3	9.0	0.2	1.8	0.1	6.7	0.1	2.6				

Intersection Summary

HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2023 Build Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	305	180	155	335	37	156	372	149	31	383	23
Future Volume (veh/h)	27	305	180	155	335	37	156	372	149	31	383	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	0.99		0.99
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	2100	2067	2067	2084	2084	2100	2084	2067	2067	2100	2084	2100
Adj Flow Rate, veh/h	28	321	189	163	353	39	164	392	157	33	403	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	1	1	0	1	2	2	0	1	0
Cap, veh/h	383	368	216	283	760	84	473	619	248	70	593	34
Arrive On Green	0.30	0.30	0.30	0.08	0.41	0.41	0.08	0.44	0.44	0.33	0.33	0.33
Sat Flow, veh/h	1106	1213	714	1984	1841	203	1984	1399	560	82	1782	103
Grp Volume(v), veh/h	28	0	510	163	0	392	164	0	549	460	0	0
Grp Sat Flow(s),veh/h/ln	1106	0	1927	1984	0	2045	1984	0	1960	1966	0	0
Q Serve(g_s), s	1.7	0.0	22.6	4.8	0.0	12.5	4.6	0.0	19.5	5.8	0.0	0.0
Cycle Q Clear(g_c), s	4.3	0.0	22.6	4.8	0.0	12.5	4.6	0.0	19.5	17.8	0.0	0.0
Prop In Lane	1.00		0.37	1.00		0.10	1.00		0.29	0.07		0.05
Lane Grp Cap(c), veh/h	383	0	584	283	0	844	473	0	867	697	0	0
V/C Ratio(X)	0.07	0.00	0.87	0.58	0.00	0.46	0.35	0.00	0.63	0.66	0.00	0.00
Avail Cap(c_a), veh/h	477	0	750	396	0	1068	475	0	867	697	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.4	0.0	29.7	21.6	0.0	19.2	15.9	0.0	19.4	25.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	9.1	1.8	0.0	0.4	0.4	0.0	3.5	4.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	0.0	17.3	4.2	0.0	9.9	3.7	0.0	14.0	13.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.4	0.0	38.8	23.4	0.0	19.6	16.3	0.0	22.9	30.7	0.0	0.0
LnGrp LOS	C	A	D	C	A	B	B	A	C	C	A	A
Approach Vol, veh/h	538			555			713			460		
Approach Delay, s/veh	38.1			20.7			21.4			30.7		
Approach LOS	D			C			C			C		
Timer - Assigned Phs	2		3	4	5	6	8					
Phs Duration (G+Y+Rc), s	44.8		9.9	35.3	9.9	35.0	45.2					
Change Period (Y+Rc), s	5.0		3.0	* 8	3.0	5.0	8.0					
Max Green Setting (Gmax), s	30.0		12.0	* 35	7.0	20.0	47.0					
Max Q Clear Time (g_c+I1), s	21.5		6.8	24.6	6.6	19.8	14.5					
Green Ext Time (p_c), s	2.3		0.2	2.7	0.0	0.1	2.8					
Intersection Summary												
HCM 6th Ctrl Delay	27.1											
HCM 6th LOS	C											
Notes												

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2023 Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	34.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	378	314	690	744	30
Future Vol, veh/h	13	378	314	690	744	30
Conflicting Peds, #/hr	2	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	2	2	7
Mvmt Flow	14	398	331	726	783	32
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2190	800	816	0	-	0
Stage 1	800	-	-	-	-	-
Stage 2	1390	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	93	484	816	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	30	484	815	-	-	-
Mov Cap-2 Maneuver	30	-	-	-	-	-
Stage 1	142	-	-	-	-	-
Stage 2	233	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	180.5	3.9		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	815	-	322	-	-	
HCM Lane V/C Ratio	0.406	-	1.278	-	-	
HCM Control Delay (s)	12.4	0	180.5	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	2	-	19.2	-	-	

HCM 6th TWSC
3: Walnut Avenue & Northerly Site Driveway/Lexington Avenue

2023 Build Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	0	40	1	0	102	11	878	7	102	1013	7
Future Vol, veh/h	24	0	40	1	0	102	11	878	7	102	1013	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	4	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	2	1	0
Mvmt Flow	26	0	43	1	0	109	12	934	7	109	1078	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2316	2269	1082	2287	2269	942	1085	0	0	945	0	0
Stage 1	1300	1300	-	966	966	-	-	-	-	-	-	-
Stage 2	1016	969	-	1321	1303	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.5	5.2	6.5	5.5	5.2	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	40	77	360	41	77	418	651	-	-	726	-	-
Stage 1	200	233	-	309	336	-	-	-	-	-	-	-
Stage 2	289	334	-	195	233	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 20	46	360	25	46	416	651	-	-	723	-	-
Mov Cap-2 Maneuver	66	98	-	74	102	-	-	-	-	-	-	-
Stage 1	192	144	-	296	322	-	-	-	-	-	-	-
Stage 2	205	320	-	107	144	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	56.1		17.4		0.1		1					
HCM LOS	F		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	651	-	-	135	398	723	-	-				
HCM Lane V/C Ratio	0.018	-	-	0.504	0.275	0.15	-	-				
HCM Control Delay (s)	10.6	0	-	56.1	17.4	10.9	0	-				
HCM Lane LOS	B	A	-	F	C	B	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	2.4	1.1	0.5	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th TWSC
5: Walnut Avenue & Northerly Site Driveway/Behnert Place

2023 Build Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	11	0	14	1	0	9	42	876	3	15	1022	17
Future Vol, veh/h	11	0	14	1	0	9	42	876	3	15	1022	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	13	0	16	1	0	10	49	1019	3	17	1188	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2356	2352	1198	2359	2361	1021	1208	0	0	1022	0	0
Stage 1	1232	1232	-	1119	1119	-	-	-	-	-	-	-
Stage 2	1124	1120	-	1240	1242	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.5	5.2	6.5	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	37	70	319	37	69	384	585	-	-	687	-	-
Stage 1	219	252	-	253	285	-	-	-	-	-	-	-
Stage 2	252	284	-	217	249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	29	52	319	28	51	384	585	-	-	687	-	-
Mov Cap-2 Maneuver	29	52	-	28	51	-	-	-	-	-	-	-
Stage 1	177	233	-	204	230	-	-	-	-	-	-	-
Stage 2	198	229	-	190	230	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	114.8		27.9		0.5		0.1	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	585	-	-	59	169	687	-
HCM Lane V/C Ratio	0.083	-	-	0.493	0.069	0.025	-
HCM Control Delay (s)	11.7	0	-	114.8	27.9	10.4	0
HCM Lane LOS	B	A	-	F	D	B	A
HCM 95th %tile Q(veh)	0.3	-	-	1.9	0.2	0.1	-

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2023 Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	13	908	6	16	1021
Future Vol, veh/h	1	13	908	6	16	1021
Conflicting Peds, #/hr	0	0	0	1	1	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	1	14	966	6	17	1086
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2090	970	0	0	973	0
Stage 1	970	-	-	-	-	-
Stage 2	1120	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	105	406	-	-	717	-
Stage 1	371	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	99	406	-	-	716	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	16.4	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	332	716	-	
HCM Lane V/C Ratio	-	-	0.045	0.024	-	
HCM Control Delay (s)	-	-	16.4	10.2	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2023 Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	0	914	1022	0
Future Vol, veh/h	0	14	0	914	1022	0
Conflicting Peds, #/hr	0	0	1	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	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	0	15	0	962	1076	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2039	1077	1077	0	-	0
Stage 1	1077	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	111	362	655	-	-	-
Stage 1	330	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	111	362	654	-	-	-
Mov Cap-2 Maneuver	111	-	-	-	-	-
Stage 1	330	-	-	-	-	-
Stage 2	374	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.4	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	654	-	362	-	-	
HCM Lane V/C Ratio	-	-	0.041	-	-	
HCM Control Delay (s)	0	-	15.4	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile O(veh)	0	-	0.1	-	-	

HCM 6th Signalized Intersection Summary 8: Walnut Avenue & Raritan Road

2023 Build Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	366	688	159	155	526	77	86	471	121	162	510	364
Future Volume (veh/h)	366	688	159	155	526	77	86	471	121	162	510	364
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	2067	2067	2100	2084	2084	2084	2084	2051	2084	2100	2067	2084
Adj Flow Rate, veh/h	389	732	169	165	560	82	91	501	129	172	543	387
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	0	1	1	1	1	3	1	0	2	1
Cap, veh/h	502	1315	304	376	1330	194	203	518	445	244	621	442
Arrive On Green	0.10	0.42	0.42	0.07	0.38	0.38	0.05	0.25	0.25	0.08	0.28	0.28
Sat Flow, veh/h	1969	3167	731	1984	3466	506	1984	2051	1764	2000	2189	1560
Grp Volume(v), veh/h	389	454	447	165	319	323	91	501	129	172	487	443
Grp Sat Flow(s),veh/h/ln	1969	1964	1935	1984	1979	1992	1984	2051	1764	2000	1964	1785
Q Serve(g_s), s	10.0	17.4	17.4	4.9	11.7	11.8	3.3	23.9	5.8	6.0	23.4	23.4
Cycle Q Clear(g_c), s	10.0	17.4	17.4	4.9	11.7	11.8	3.3	23.9	5.8	6.0	23.4	23.4
Prop In Lane	1.00		0.38	1.00		0.25	1.00		1.00	1.00		0.87
Lane Grp Cap(c), veh/h	502	815	803	376	760	765	203	518	445	244	557	506
V/C Ratio(X)	0.78	0.56	0.56	0.44	0.42	0.42	0.45	0.97	0.29	0.70	0.87	0.87
Avail Cap(c_a), veh/h	502	815	803	438	760	765	305	518	445	285	557	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.2	22.0	22.0	17.5	22.4	22.4	27.7	36.6	29.8	26.3	33.8	33.8
Incr Delay (d2), s/veh	6.8	0.5	0.5	0.3	0.1	0.1	0.6	31.1	0.1	4.6	13.9	15.1
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	10.0	12.3	12.2	3.9	9.1	9.2	2.8	22.6	4.4	5.5	18.8	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	22.5	22.5	17.8	22.5	22.6	28.3	67.7	30.0	30.9	47.7	48.9
LnGrp LOS	C	C	C	B	C	C	C	E	C	C	D	D
Approach Vol, veh/h	1290			807			721			1102		
Approach Delay, s/veh	23.6			21.6			55.9			45.5		
Approach LOS	C			C			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	47.1	11.0	31.0	13.0	44.0	7.9	34.1				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	6.9	19.4	8.0	25.9	12.0	13.8	5.3	25.4				
Green Ext Time (p_c), s	0.1	3.6	0.0	0.0	0.0	2.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	35.3											
HCM 6th LOS	D											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2023 Build Condition
Weekday Evening Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↑↑↑				↖ ↑↑
Traffic Vol, veh/h	0	0	678	11	7	817
Future Vol, veh/h	0	0	678	11	7	817
Conflicting Peds, #/hr	0	0	0	3	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	2	0	0	1
Mvmt Flow	0	0	721	12	7	869
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	370	0	0	736	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	5.3	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	3.1	-
Pot Cap-1 Maneuver	0	540	-	-	531	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	538	-	-	529	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	0	0	0.3			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	529	-	
HCM Lane V/C Ratio	-	-	-	0.014	-	
HCM Control Delay (s)	-	-	0	11.9	0.2	
HCM Lane LOS	-	-	A	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2023 Build Condition
Weekday Evening Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Traffic Vol, veh/h	34	930	7	7	712	5	11	2	19	12	0	35
Future Vol, veh/h	34	930	7	7	712	5	11	2	19	12	0	35
Conflicting Peds, #/hr	3	0	2	2	0	3	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	14	0	1	0	0	0	0	0	0	0
Mvmt Flow	35	969	7	7	742	5	11	2	20	13	0	36
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	750	0	0	978	0	0	1430	1809	491	1319	1810	377
Stage 1	-	-	-	-	-	-	1045	1045	-	762	762	-
Stage 2	-	-	-	-	-	-	385	764	-	557	1048	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	868	-	-	714	-	-	144	132	667	169	132	748
Stage 1	-	-	-	-	-	-	248	308	-	368	416	-
Stage 2	-	-	-	-	-	-	615	416	-	487	307	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	866	-	-	713	-	-	126	118	665	148	118	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	118	-	148	118	-
Stage 1	-	-	-	-	-	-	226	280	-	335	408	-
Stage 2	-	-	-	-	-	-	575	408	-	427	279	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.2			22.3			16.3		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	241	866	-	-	713	-	-	367				
HCM Lane V/C Ratio	0.138	0.041	-	-	0.01	-	-	0.133				
HCM Control Delay (s)	22.3	9.3	0.4	-	10.1	0.1	-	16.3				
HCM Lane LOS	C	A	A	-	B	A	-	C				
HCM 95th %tile O(veh)	0.5	0.1	-	-	0	-	-	0.5				

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2023 Build Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	996	89	132	940	64	56	1	224	37	3	38
Future Volume (veh/h)	7	996	89	132	940	64	56	1	224	37	3	38
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	0.99		0.99	0.99		0.99
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	2100	2067	2100	2100	2084	2100	2067	2100	2100	2100	2100	1856
Adj Flow Rate, veh/h	7	1006	90	133	949	65	57	1	226	37	3	38
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	2	0	0	1	0	2	0	0	0	0	3
Cap, veh/h	463	2150	192	471	2602	178	353	6	284	165	36	124
Arrive On Green	0.59	0.59	0.59	0.06	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	624	3645	326	2000	3758	257	1604	34	1766	588	225	772
Grp Volume(v), veh/h	7	542	554	133	500	514	58	0	226	78	0	0
Grp Sat Flow(s),veh/h/ln	624	1964	2007	2000	1979	2036	1638	0	1766	1584	0	0
Q Serve(g_s), s	0.4	11.7	11.7	1.7	7.8	7.8	0.0	0.0	9.2	0.6	0.0	0.0
Cycle Q Clear(g_c), s	0.5	11.7	11.7	1.7	7.8	7.8	1.9	0.0	9.2	2.8	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.13	0.98		1.00	0.47		0.49
Lane Grp Cap(c), veh/h	463	1158	1184	471	1370	1410	359	0	284	326	0	0
V/C Ratio(X)	0.02	0.47	0.47	0.28	0.36	0.36	0.16	0.00	0.79	0.24	0.00	0.00
Avail Cap(c_a), veh/h	463	1158	1184	666	1370	1410	582	0	542	546	0	0
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)	0.73	0.73	0.73	0.91	0.91	0.91	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.4	8.7	8.7	5.8	4.7	4.7	27.2	0.0	30.3	27.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.0	0.3	0.7	0.7	0.2	0.0	5.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.1	7.3	7.4	1.0	4.4	4.6	1.6	0.0	7.6	2.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	9.7	9.7	6.1	5.4	5.4	27.4	0.0	35.3	27.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	1103			1147			284			78		
Approach Delay, s/veh	9.7			5.5			33.7			27.9		
Approach LOS	A			A			C			C		
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.7	49.7		17.6		57.4		17.6				
Change Period (Y+Rc), s	3.0	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	12.0	26.0		23.0		41.0		23.0				
Max Q Clear Time (g_c+I1), s	3.7	13.7		4.8		9.8		11.2				
Green Ext Time (p_c), s	0.2	5.6		0.4		7.5		0.9				
Intersection Summary												
HCM 6th Ctrl Delay				11.0								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2023 Build Condition
Weekday Evening Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	509	391	258	526	250	551	908	294	289	978	79
Future Volume (veh/h)	145	509	391	258	526	250	551	908	294	289	978	79
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	2100	2067	2100	2084	2084	2067	2100	2100	2100	2067	2067	1900
Adj Flow Rate, veh/h	146	514	395	261	531	253	557	917	0	292	988	80
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	2	0	1	1	2	0	0	0	2	2	0
Cap, veh/h	173	818	631	265	1011	642	569	1596		427	1392	113
Arrive On Green	0.09	0.21	0.21	0.13	0.26	0.26	0.15	0.40	0.00	0.11	0.38	0.38
Sat Flow, veh/h	2000	3928	1775	1984	3959	1748	3880	3990	1780	3819	3679	298
Grp Volume(v), veh/h	146	514	395	261	531	253	557	917	0	292	527	541
Grp Sat Flow(s),veh/h/ln	2000	1964	1775	1984	1979	1748	1940	1995	1780	1910	1964	2013
Q Serve(g_s), s	10.8	17.9	27.7	19.7	17.3	2.9	21.5	26.9	0.0	11.0	34.2	34.2
Cycle Q Clear(g_c), s	10.8	17.9	27.7	19.7	17.3	2.9	21.5	26.9	0.0	11.0	34.2	34.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	173	818	631	265	1011	642	569	1596		427	743	762
V/C Ratio(X)	0.85	0.63	0.63	0.99	0.53	0.39	0.98	0.57		0.68	0.71	0.71
Avail Cap(c_a), veh/h	267	864	651	265	1011	642	569	1596		427	743	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.5	54.1	40.1	64.9	48.0	18.1	63.8	35.1	0.0	64.1	39.6	39.6
Incr Delay (d2), s/veh	13.8	1.3	1.8	49.7	0.5	0.4	32.2	1.5	0.0	4.5	5.7	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.2	13.9	18.2	19.4	13.3	8.0	19.2	19.7	0.0	9.6	24.9	25.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.3	55.4	42.0	114.6	48.5	18.5	96.0	36.6	0.0	68.6	45.3	45.2
LnGrp LOS	F	E	D	F	D	B	F	D		E	D	D
Approach Vol, veh/h		1055			1045			1474	A		1360	
Approach Delay, s/veh		54.0			57.7			59.0			50.2	
Approach LOS		D			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.8	66.0	24.0	37.2	26.0	62.8	17.0	44.3				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	13.0	28.9	21.7	29.7	23.5	36.2	12.8	19.3				
Green Ext Time (p_c), s	0.2	8.1	0.0	1.5	0.0	7.4	0.2	3.7				
Intersection Summary												
HCM 6th Ctrl Delay			55.3									
HCM 6th LOS			E									
Notes												
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary

1: Walnut Avenue & Lincoln Avenue

2023 Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	197	148	94	201	36	133	341	104	36	323	19
Future Volume (veh/h)	30	197	148	94	201	36	133	341	104	36	323	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		1.00	1.00		0.99
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	2100	2084	2100	2002	2084	2100	2067	2051	2067	2100	2084	2100
Adj Flow Rate, veh/h	31	205	154	98	209	38	139	355	108	38	336	20
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	1	0	6	1	0	2	3	2	0	1	0
Cap, veh/h	368	251	189	272	571	104	635	787	239	90	719	41
Arrive On Green	0.23	0.23	0.23	0.07	0.33	0.33	0.08	0.52	0.52	0.41	0.41	0.41
Sat Flow, veh/h	1258	1097	824	1906	1712	311	1969	1507	459	112	1739	99
Grp Volume(v), veh/h	31	0	359	98	0	247	139	0	463	394	0	0
Grp Sat Flow(s),veh/h/ln	1258	0	1920	1906	0	2024	1969	0	1966	1951	0	0
Q Serve(g_s), s	1.8	0.0	16.0	3.3	0.0	8.3	3.3	0.0	13.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.8	0.0	16.0	3.3	0.0	8.3	3.3	0.0	13.2	12.5	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.15	1.00		0.23	0.10		0.05
Lane Grp Cap(c), veh/h	368	0	440	272	0	675	635	0	1027	851	0	0
V/C Ratio(X)	0.08	0.00	0.82	0.36	0.00	0.37	0.22	0.00	0.45	0.46	0.00	0.00
Avail Cap(c_a), veh/h	569	0	747	390	0	1057	640	0	1027	851	0	0
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	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	32.9	23.8	0.0	22.8	11.6	0.0	13.4	19.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	3.8	0.8	0.0	0.3	0.2	0.0	1.4	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	12.4	2.8	0.0	7.2	2.5	0.0	9.7	10.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	0.0	36.7	24.6	0.0	23.1	11.7	0.0	14.9	20.9	0.0	0.0
LnGrp LOS	C	A	D	C	A	C	B	A	B	C	A	A
Approach Vol, veh/h		390			345			602			394	
Approach Delay, s/veh		35.9			23.5			14.1			20.9	
Approach LOS		D			C			B			C	
Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		52.0	9.4	28.6	9.8	42.2		38.0				
Change Period (Y+Rc), s		5.0	3.0	* 8	3.0	5.0		8.0				
Max Green Setting (Gmax), s		30.0	12.0	* 35	7.0	20.0		47.0				
Max Q Clear Time (g_c+I1), s		15.2	5.3	18.0	5.3	14.5		10.3				
Green Ext Time (p_c), s		2.5	0.1	2.3	0.1	1.1		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			22.5									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th TWSC
2: Walnut Avenue & Chester Lang Place

2023 Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	276	212	536	527	27
Future Vol, veh/h	23	276	212	536	527	27
Conflicting Peds, #/hr	2	0	1	0	0	1
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	95	95	95	95	95	95
Heavy Vehicles, %	0	1	1	3	2	0
Mvmt Flow	24	291	223	564	555	28
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1582	570	584	0	-	0
Stage 1	570	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	188	614	996	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	127	613	995	-	-	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	26.4	2.7		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	995	-	474	-	-	
HCM Lane V/C Ratio	0.224	-	0.664	-	-	
HCM Control Delay (s)	9.7	0	26.4	-	-	
HCM Lane LOS	A	A	D	-	-	
HCM 95th %tile Q(veh)	0.9	-	4.8	-	-	

HCM 6th TWSC
3: Walnut Avenue & Northerly Site Driveway/Lexington Avenue

2023 Build Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	0	19	1	0	79	19	658	5	82	709	12
Future Vol, veh/h	11	0	19	1	0	79	19	658	5	82	709	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	3	0	3	0	0	1	0
Mvmt Flow	11	0	20	1	0	82	20	685	5	85	739	13
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1685	1649	746	1657	1653	691	752	0	0	693	0	0
Stage 1	916	916	-	731	731	-	-	-	-	-	-	-
Stage 2	769	733	-	926	922	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.5	5.2	6.5	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.327	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	100	158	513	104	157	540	867	-	-	912	-	-
Stage 1	329	354	-	416	430	-	-	-	-	-	-	-
Stage 2	397	429	-	325	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	72	127	513	85	127	538	867	-	-	909	-	-
Mov Cap-2 Maneuver	156	200	-	173	205	-	-	-	-	-	-	-
Stage 1	317	297	-	399	413	-	-	-	-	-	-	-
Stage 2	324	412	-	262	295	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	19.5		13.2		0.3		1					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	867	-	-	279	524	909	-	-				
HCM Lane V/C Ratio	0.023	-	-	0.112	0.159	0.094	-	-				
HCM Control Delay (s)	9.2	0	-	19.5	13.2	9.4	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile O(veh)	0.1	-	-	0.4	0.6	0.3	-	-				

HCM 6th TWSC
5: Walnut Avenue & Northerly Site Driveway/Behnert Place

2023 Build Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	0	17	0	0	5	36	663	2	6	709	14
Future Vol, veh/h	14	0	17	0	0	5	36	663	2	6	709	14
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	4	4	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	15	0	18	0	0	5	38	705	2	6	754	15

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1559	1561	763	1570	1567	710	769	0	0	711	0	0
Stage 1	774	774	-	786	786	-	-	-	-	-	-	-
Stage 2	785	787	-	784	781	-	-	-	-	-	-	-
Critical Hdwy	6.5	5.5	5.2	6.5	5.5	5.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	120	175	504	118	173	532	854	-	-	898	-	-
Stage 1	394	411	-	388	406	-	-	-	-	-	-	-
Stage 2	389	406	-	389	408	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	111	160	504	106	158	530	854	-	-	895	-	-
Mov Cap-2 Maneuver	111	160	-	106	158	-	-	-	-	-	-	-
Stage 1	365	406	-	358	375	-	-	-	-	-	-	-
Stage 2	357	375	-	370	403	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	27.3		11.9		0.5		0.1	
HCM LOS	D		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	854	-	-	194	530	895	-
HCM Lane V/C Ratio	0.045	-	-	0.17	0.01	0.007	-
HCM Control Delay (s)	9.4	0	-	27.3	11.9	9.1	0
HCM Lane LOS	A	A	-	D	B	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0	0	-

HCM 6th TWSC
6: Walnut Avenue & Mitchell Place

2023 Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	12	689	11	14	712
Future Vol, veh/h	2	12	689	11	14	712
Conflicting Peds, #/hr	0	0	0	2	2	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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	3	0	0	1
Mvmt Flow	2	13	733	12	15	757
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1528	741	0	0	747	0
Stage 1	741	-	-	-	-	-
Stage 2	787	-	-	-	-	-
Critical Hdwy	5.4	5.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	200	515	-	-	870	-
Stage 1	475	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	514	-	-	868	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	474	-	-	-	-	-
Stage 2	438	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	14	0		0.2		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 416		868	-	
HCM Lane V/C Ratio	-	- 0.036		0.017	-	
HCM Control Delay (s)	-	- 14		9.2	0	
HCM Lane LOS	-	- B		A	A	
HCM 95th %tile Q(veh)	-	- 0.1		0.1	-	

HCM 6th TWSC
7: Walnut Avenue & Southerly Site Driveway

2023 Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	17	0	700	714	0
Future Vol, veh/h	0	17	0	700	714	0
Conflicting Peds, #/hr	0	0	12	0	0	12
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	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	2	1	50
Mvmt Flow	0	18	0	729	744	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1485	756	756	0	-	0
Stage 1	756	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Critical Hdwy	5.4	5.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	210	507	864	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	205	501	854	-	-	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.4	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	854	-	501	-	-	
HCM Lane V/C Ratio	-	-	0.035	-	-	
HCM Control Delay (s)	0	-	12.4	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

HCM 6th Signalized Intersection Summary

8: Walnut Avenue & Raritan Road

2023 Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	344	519	157	129	384	75	78	281	84	109	341	281
Future Volume (veh/h)	344	519	157	129	384	75	78	281	84	109	341	281
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	2067	2084	2084	2084	2067	2002	2051	2051	2084	2084	2084	2067
Adj Flow Rate, veh/h	355	535	162	133	396	77	80	290	87	112	352	290
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	1	1	1	2	6	3	3	1	1	1	2
Cap, veh/h	658	1445	436	504	1405	271	213	396	340	274	431	349
Arrive On Green	0.11	0.48	0.48	0.06	0.43	0.43	0.05	0.19	0.19	0.06	0.21	0.21
Sat Flow, veh/h	1969	2993	902	1984	3282	633	1953	2051	1760	1984	2074	1681
Grp Volume(v), veh/h	355	353	344	133	236	237	80	290	87	112	336	306
Grp Sat Flow(s),veh/h/ln	1969	1979	1916	1984	1964	1951	1953	2051	1760	1984	1979	1775
Q Serve(g_s), s	8.5	10.0	10.0	3.3	6.9	7.0	2.9	11.8	3.7	3.9	14.4	14.7
Cycle Q Clear(g_c), s	8.5	10.0	10.0	3.3	6.9	7.0	2.9	11.8	3.7	3.9	14.4	14.7
Prop In Lane	1.00		0.47	1.00		0.32	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	658	956	925	504	841	835	213	396	340	274	411	369
V/C Ratio(X)	0.54	0.37	0.37	0.26	0.28	0.28	0.38	0.73	0.26	0.41	0.82	0.83
Avail Cap(c_a), veh/h	658	956	925	612	841	835	338	578	496	372	558	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	14.4	14.5	12.7	16.5	16.5	27.7	33.6	30.4	26.7	33.5	33.7
Incr Delay (d2), s/veh	0.5	0.1	0.1	0.1	0.1	0.1	0.4	1.0	0.1	0.4	4.9	6.3
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	6.1	7.5	7.3	2.5	5.3	5.4	2.4	9.7	2.8	3.3	11.6	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	14.5	14.5	12.8	16.6	16.6	28.1	34.7	30.5	27.1	38.5	40.0
LnGrp LOS	B	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h	1052			606			457			754		
Approach Delay, s/veh	13.5			15.8			32.7			37.4		
Approach LOS	B			B			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	48.9	8.6	23.1	13.0	44.0	7.3	24.4				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	10.0	38.0	10.0	25.0	10.0	38.0	10.0	25.0				
Max Q Clear Time (g_c+I1), s	5.3	12.0	5.9	13.8	10.5	9.0	4.9	16.7				
Green Ext Time (p_c), s	0.1	2.8	0.0	0.9	0.0	1.8	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	23.3											
HCM 6th LOS	C											

HCM 6th TWSC
9: Walnut Avenue & Florence Drive

2023 Build Condition
Saturday Midday Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗ ↑↑↑				↖ ↑↑
Traffic Vol, veh/h	0	0	443	10	8	619
Future Vol, veh/h	0	0	443	10	8	619
Conflicting Peds, #/hr	1	0	0	4	4	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, %	0	0	3	0	0	1
Mvmt Flow	0	0	482	11	9	673
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	251	0	0	497	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.1	-	-	5.3	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.9	-	-	3.1	-
Pot Cap-1 Maneuver	0	643	-	-	687	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	641	-	-	684	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	0	0		0.2		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	-	684	-	
HCM Lane V/C Ratio	-	-	-	0.013	-	
HCM Control Delay (s)	-	-	0	10.3	0.1	
HCM Lane LOS	-	-	A	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 6th TWSC
10: New York Avenue/Colin Kelly Court & Raritan Road

2023 Build Condition
Saturday Midday Peak Hour

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔			↔	
Traffic Vol, veh/h	16	688	8	3	543	5	10	0	7	16	0	35
Future Vol, veh/h	16	688	8	3	543	5	10	0	7	16	0	35
Conflicting Peds, #/hr	2	0	5	5	0	2	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	1	0	0	2	0	0	0	14	0	0	3
Mvmt Flow	17	717	8	3	566	5	10	0	7	17	0	36
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	573	0	0	730	0	0	1050	1339	368	970	1341	289
Stage 1	-	-	-	-	-	-	760	760	-	577	577	-
Stage 2	-	-	-	-	-	-	290	579	-	393	764	-
Critical Hdwy	4.1	-	-	4.1	-	-	6.5	5.5	5.2	6.5	5.5	5.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.44	3.5	4	3.33
Pot Cap-1 Maneuver	1010	-	-	883	-	-	247	224	729	276	223	812
Stage 1	-	-	-	-	-	-	369	417	-	474	505	-
Stage 2	-	-	-	-	-	-	699	504	-	609	416	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1008	-	-	879	-	-	229	215	726	266	214	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	215	-	266	214	-
Stage 1	-	-	-	-	-	-	357	403	-	460	501	-
Stage 2	-	-	-	-	-	-	664	500	-	586	402	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0			16.9			13.2		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	319	1008	-	-	879	-	-	493				
HCM Lane V/C Ratio	0.056	0.017	-	-	0.004	-	-	0.108				
HCM Control Delay (s)	16.9	8.6	0.1	-	9.1	0	-	13.2				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile O(veh)	0.2	0.1	-	-	0	-	-	0.4				

HCM 6th Signalized Intersection Summary

11: Shoprite Way/Shopping Center Driveway & Raritan Road

2023 Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	903	80	131	798	52	63	4	223	27	4	41
Future Volume (veh/h)	14	903	80	131	798	52	63	4	223	27	4	41
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	2100	2067	2100	2084	2067	2100	2067	2100	2100	2100	2100	1900
Adj Flow Rate, veh/h	14	931	82	135	823	54	65	4	230	28	4	42
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	2	0	1	2	0	2	0	0	0	0	0
Cap, veh/h	513	2144	189	497	2581	169	343	19	290	138	44	153
Arrive On Green	0.59	0.59	0.59	0.06	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	709	3650	321	1984	3740	245	1529	115	1776	441	272	936
Grp Volume(v), veh/h	14	501	512	135	432	445	69	0	230	74	0	0
Grp Sat Flow(s),veh/h/ln	709	1964	2008	1984	1964	2022	1644	0	1776	1650	0	0
Q Serve(g_s), s	0.6	10.6	10.6	1.8	6.6	6.6	0.0	0.0	9.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	10.6	10.6	1.8	6.6	6.6	2.2	0.0	9.3	2.5	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.12	0.94		1.00	0.38		0.57
Lane Grp Cap(c), veh/h	513	1154	1179	497	1355	1395	362	0	290	335	0	0
V/C Ratio(X)	0.03	0.43	0.43	0.27	0.32	0.32	0.19	0.00	0.79	0.22	0.00	0.00
Avail Cap(c_a), veh/h	513	1154	1179	690	1355	1395	584	0	545	560	0	0
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)	0.80	0.80	0.80	0.97	0.97	0.97	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	8.6	8.6	5.6	4.6	4.6	27.2	0.0	30.2	27.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.0	0.9	0.3	0.6	0.6	0.3	0.0	4.9	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	6.9	7.0	1.0	3.8	3.9	1.9	0.0	7.7	2.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	9.5	9.5	5.8	5.2	5.2	27.4	0.0	35.1	27.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	D	C	A	A
Approach Vol, veh/h	1027				1012				299			
Approach Delay, s/veh	9.5				5.3				33.3			
Approach LOS	A				A				C			
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.7	49.6		17.7		57.3		17.7				
Change Period (Y+Rc), s	3.0	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	12.0	26.0		23.0		41.0		23.0				
Max Q Clear Time (g_c+I1), s	3.8	12.6		4.5		8.6		11.3				
Green Ext Time (p_c), s	0.2	5.4		0.3		6.2		0.9				
Intersection Summary												
HCM 6th Ctrl Delay	11.2											
HCM 6th LOS	B											

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2023 Build Condition
Saturday Midday Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 		 	 	
Traffic Volume (veh/h)	323	452	416	259	399	244	495	836	302	243	935	96
Future Volume (veh/h)	323	452	416	259	399	244	495	836	302	243	935	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	2100	2084	2084	2084	2051	2084	2100	2084	2084	2067	2100	1885
Adj Flow Rate, veh/h	330	461	424	264	407	249	505	853	0	248	954	98
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	1	1	1	3	1	0	1	1	2	0	1
Cap, veh/h	267	867	635	265	853	561	554	1584		386	1357	139
Arrive On Green	0.13	0.22	0.22	0.13	0.22	0.22	0.14	0.40	0.00	0.10	0.37	0.37
Sat Flow, veh/h	2000	3959	1746	1984	3897	1746	3880	3959	1766	3819	3652	375
Grp Volume(v), veh/h	330	461	424	264	407	249	505	853	0	248	521	531
Grp Sat Flow(s),veh/h/ln	2000	1979	1746	1984	1948	1746	1940	1979	1766	1910	1995	2032
Q Serve(g_s), s	20.0	15.4	30.7	19.9	13.7	4.0	19.2	24.7	0.0	9.4	33.3	33.3
Cycle Q Clear(g_c), s	20.0	15.4	30.7	19.9	13.7	4.0	19.2	24.7	0.0	9.4	33.3	33.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	267	867	635	265	853	561	554	1584		386	741	755
V/C Ratio(X)	1.24	0.53	0.67	1.00	0.48	0.44	0.91	0.54		0.64	0.70	0.70
Avail Cap(c_a), veh/h	267	871	636	265	857	563	569	1584		386	741	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	51.8	40.3	65.0	51.1	19.1	63.4	34.4	0.0	64.8	40.1	40.1
Incr Delay (d2), s/veh	134.8	0.6	2.7	53.6	0.4	0.5	18.7	1.3	0.0	3.6	5.5	5.4
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	30.1	12.3	19.7	20.0	10.9	7.9	16.5	18.2	0.0	8.4	24.6	25.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.8	52.4	43.0	118.5	51.5	19.7	82.1	35.7	0.0	68.4	45.6	45.5
LnGrp LOS	F	D	D	F	D	B	F	D		E	D	D
Approach Vol, veh/h		1215			920			1358	A		1300	
Approach Delay, s/veh		89.1			62.1			53.0			49.9	
Approach LOS		F			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.1	66.0	24.0	38.9	25.4	61.7	24.0	38.9				
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0				
Max Green Setting (Gmax), s	15.0	60.0	20.0	33.0	22.0	55.0	20.0	33.0				
Max Q Clear Time (g_c+I1), s	11.4	26.7	21.9	32.7	21.2	35.3	22.0	15.7				
Green Ext Time (p_c), s	0.3	7.5	0.0	0.2	0.2	7.4	0.0	3.2				

Intersection Summary

HCM 6th Ctrl Delay	63.1
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2023 Build (Mitigation) Condition
Weekday Evening Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	145	509	391	258	526	250	551	908	294	289	978	79	
Future Volume (veh/h)	145	509	391	258	526	250	551	908	294	289	978	79	
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	2100	2067	2100	2084	2084	2067	2100	2100	2100	2067	2067	1900	
Adj Flow Rate, veh/h	146	514	395	261	531	253	557	917	0	292	988	80	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Percent Heavy Veh, %	0	2	0	1	1	2	0	0	0	2	2	0	
Cap, veh/h	173	786	616	285	1018	641	569	1596		418	1384	112	
Arrive On Green	0.09	0.20	0.20	0.14	0.26	0.26	0.15	0.40	0.00	0.11	0.38	0.38	
Sat Flow, veh/h	2000	3928	1774	1984	3959	1748	3880	3990	1780	3819	3679	298	
Grp Volume(v), veh/h	146	514	395	261	531	253	557	917	0	292	527	541	
Grp Sat Flow(s),veh/h/ln	2000	1964	1774	1984	1979	1748	1940	1995	1780	1910	1964	2013	
Q Serve(g_s), s	10.8	18.1	28.1	19.4	17.3	2.9	21.5	26.9	0.0	11.1	34.3	34.4	
Cycle Q Clear(g_c), s	10.8	18.1	28.1	19.4	17.3	2.9	21.5	26.9	0.0	11.1	34.3	34.4	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15	
Lane Grp Cap(c), veh/h	173	786	616	285	1018	641	569	1596		418	739	757	
V/C Ratio(X)	0.84	0.65	0.64	0.91	0.52	0.39	0.98	0.57		0.70	0.71	0.71	
Avail Cap(c_a), veh/h	307	786	616	304	1018	641	569	1596		418	739	757	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	0.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	67.5	55.2	41.2	63.3	47.8	18.1	63.8	35.1	0.0	64.4	39.9	39.9	
Incr Delay (d2), s/veh	10.4	2.0	2.3	28.4	0.5	0.4	32.2	1.5	0.0	5.1	5.8	5.7	
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(50%),veh/ln	6.0	9.1	12.6	12.0	8.6	4.6	13.2	13.6	0.0	5.7	18.0	18.4	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	77.9	57.2	43.4	91.7	48.3	18.5	96.0	36.6	0.0	69.5	45.7	45.6	
LnGrp LOS	E	E	D	F	D	B	F	D		E	D	D	
Approach Vol, veh/h	1055				1045				1474		A		1360
Approach Delay, s/veh	54.9				51.9				59.0				50.8
Approach LOS	D				D				E				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	22.4	66.0	25.6	36.0	26.0	62.4	17.0	44.6					
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0					
Max Green Setting (Gmax), s	15.0	60.0	23.0	30.0	22.0	55.0	23.0	30.0					
Max Q Clear Time (g_c+I1), s	13.1	28.9	21.4	30.1	23.5	36.4	12.8	19.3					
Green Ext Time (p_c), s	0.2	8.1	0.1	0.0	0.0	7.4	0.2	3.3					

Intersection Summary

HCM 6th Ctrl Delay 54.4
HCM 6th LOS D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

12: Central Avenue & Raritan Road

2023 Build (Mitigation) Condition
Saturday Midday Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	323	453	416	255	398	244	495	836	295	243	935	96	
Future Volume (veh/h)	323	453	416	255	398	244	495	836	295	243	935	96	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	2100	2084	2084	2084	2051	2084	2100	2084	2084	2067	2100	1885	
Adj Flow Rate, veh/h	330	462	424	260	406	249	505	853	0	248	954	98	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Percent Heavy Veh, %	0	1	1	1	3	1	0	1	1	2	0	1	
Cap, veh/h	280	845	625	278	831	549	554	1584		382	1353	139	
Arrive On Green	0.14	0.21	0.21	0.14	0.21	0.21	0.14	0.40	0.00	0.10	0.37	0.37	
Sat Flow, veh/h	2000	3959	1746	1984	3897	1746	3880	3959	1766	3819	3652	375	
Grp Volume(v), veh/h	330	462	424	260	406	249	505	853	0	248	521	531	
Grp Sat Flow(s),veh/h/ln	2000	1979	1746	1984	1948	1746	1940	1979	1766	1910	1995	2032	
Q Serve(g_s), s	21.0	15.6	31.0	19.5	13.7	4.2	19.2	24.7	0.0	9.4	33.4	33.4	
Cycle Q Clear(g_c), s	21.0	15.6	31.0	19.5	13.7	4.2	19.2	24.7	0.0	9.4	33.4	33.4	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.18	
Lane Grp Cap(c), veh/h	280	845	625	278	831	549	554	1584		382	739	753	
V/C Ratio(X)	1.18	0.55	0.68	0.94	0.49	0.45	0.91	0.54		0.65	0.71	0.71	
Avail Cap(c_a), veh/h	280	845	625	278	831	549	569	1584		382	739	753	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	0.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	64.5	52.5	41.1	63.8	51.8	19.3	63.4	34.4	0.0	65.0	40.2	40.2	
Incr Delay (d2), s/veh	111.1	0.7	3.0	36.2	0.4	0.6	18.7	1.3	0.0	3.8	5.6	5.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	19.3	7.8	13.8	12.6	6.8	4.5	11.0	12.4	0.0	4.8	17.8	18.1	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	175.6	53.3	44.0	100.0	52.2	19.9	82.1	35.7	0.0	68.8	45.8	45.7	
LnGrp LOS	F	D	D	F	D	B	F	D		E	D	D	
Approach Vol, veh/h	1216			915			1358			A			1300
Approach Delay, s/veh	83.2			57.0			53.0						50.2
Approach LOS	F			E			D						D
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	21.0	66.0	25.0	38.0	25.4	61.6	25.0	38.0					
Change Period (Y+Rc), s	6.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0					
Max Green Setting (Gmax), s	15.0	60.0	21.0	32.0	22.0	55.0	21.0	32.0					
Max Q Clear Time (g_c+I1), s	11.4	26.7	21.5	33.0	21.2	35.4	23.0	15.7					
Green Ext Time (p_c), s	0.3	7.5	0.0	0.0	0.2	7.4	0.0	3.1					
Intersection Summary													
HCM 6th Ctrl Delay	60.7												
HCM 6th LOS	E												