January 2021

TRAFFIC STUDY

Proposed Development

404 & 412 Washington Avenue

North Haven, CT

PREPARED BY:
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Architecture
Engineering
Environmental
Land Surveying

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EXECUTIVE SUMMARY

This traffic study has been prepared for a new tenant and consolidation of two lots at 404 and 412 Washington Avenue in North Haven, CT. The study area is along an urban stretch of US Route 5 (Washington Avenue) that is primarily industrial commercial properties. The site currently is two separate lots. The two lots combined is proposed to be a total of ±7.7 acres, utilizing the existing Connex Credit Union building on Lot 2 and a proposed bank and residential building on Lot 1.

The study investigated the potential traffic impacts associated with the development in the weekday morning and evening peak periods. To asses existing traffic conditions in the vicinity of the site, peak hour manual turning movement traffic volumes, vehicle classification and pedestrian counts were provided by CTDOT and recorded at key intersections within the study area.

The level of traffic likely generated by the proposed development has been calculated utilizing the *ITE Trip Generation Manual 10th Edition*. The proposed development is projected to generate 115 (66 enter, 49 exit) vehicle trips during the weekday morning peak hour and 146 (72 enter, 74 exit) vehicle trips during the weekday evening peak hour.

A detailed traffic analysis was also conducted at key intersections and roadways in the general vicinity of the site in accordance with methodologies outlined in the Highway Capacity Manual 2010, published by the Transportation Research Board. After analyses of the No Build and Build Scenarios of the AM and PM Peak Hours, the PM Peak Hour may improve operations at the intersection of US Route 5 at Amazon Drive and Site Drive #1 with minor signal timing revisions.

Traffic operations for the overall intersection Level of Service (LOS) during the AM Peak Hour are projected to perform at acceptable LOS in the No Build and Build scenarios. With the redevelopment of the lot and realignment of the Site Drive #1, it is projected to perform adequately with the proposed lane arrangements and existing signal timings. Traffic operations for the overall intersection LOS during the PM Peak Hour at all intersections except US Route 5 at Amazon Drive and Site Drive #1 are projected to perform at acceptable Levels of Service in the No Build and Build scenarios. With slight signal timing changes at this intersection, the Site Drive #1 approach is proposed to perform adequately.

EXECUTIVE SUMMARY

The intersection of US Route 5 at Amazon Drive and Site Drive #1 theoretically operates as a T-Intersection in the No Build scenario because there is no volume existing the Site Drive #1 approach. It should be noted that any volume added to the Site Drive #1 approach, any development going into this site, will have significant impacts to this intersection with the existing lane arrangement.

Due to the significant signal delay increase between the No Build and Build scenarios during the PM Peak Hour, a Build Improvements scenario was investigated. It is suggested to revise the current lane arrangement of the Amazon Drive approach to a left, thru/right, and right turn lane from the existing dual left turn and shared thru/right lanes. It is projected that the intersection will have a significant improvement with the suggested Amazon Drive lane arrangements compared to the Build scenario with the existing lane arrangements. Since this intersection is a state-owned signal, it is suggested that CTDOT consult with Amazon to revise the Amazon Drive approach to possibly improve operations at this intersection.

The following is a summary of the results/recommendations for this site:

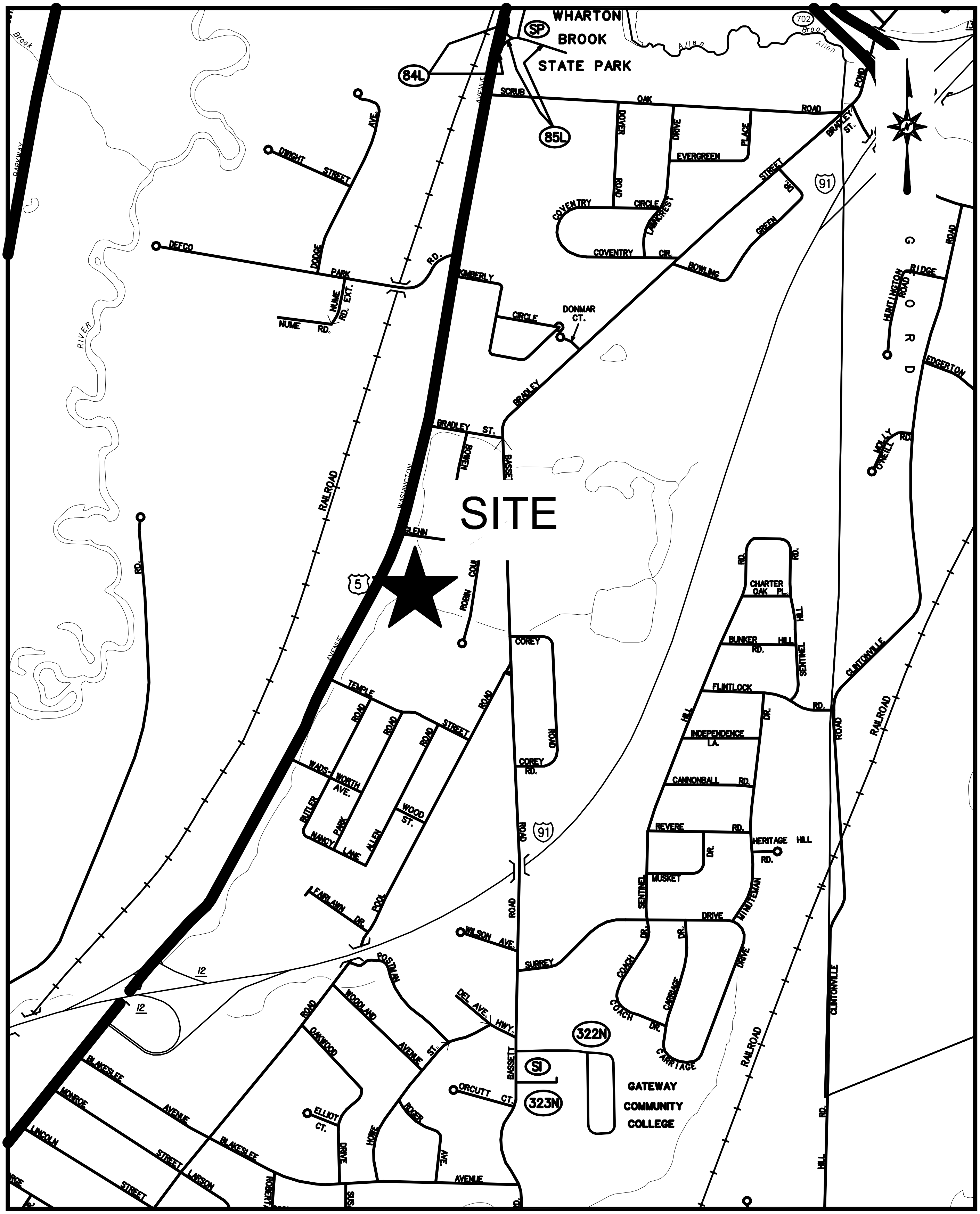
- At Site Drive #1, Install 12” white Stop Bar, lane arrangements, and accompanying signage as shown on the Site Plan
- At Site Drive #2, Install 12” white Stop Bar and “Stop” Signs (R1-1) at site driveway egress as shown on the Site Plan
- Minor signal timing changes at the intersection of US Route 5 at Amazon Drive and Site Drive #1
- Continue US Route 5 SB Left turn lane to the signalized intersection of US Route 5 at Amazon Drive and Site Drive #1
- CTDOT to consult with Amazon to revise the Amazon Drive approach at its intersection with US Route 5 and Site Drive #1 to possibly improve operations at this intersection

I. INTRODUCTION

This traffic study has been prepared for a new tenant and consolidation of two lots at 404 (Lot 1) and 412 (Lot 2) Washington Avenue in North Haven, CT. The focus of this study was to evaluate the traffic flows and operating conditions on the roadways and intersections projected to be used by motorists traveling to and from the proposed development and to quantify the potential traffic impacts on these roadways and intersections. The study area is along an urban stretch of US Route 5 (Washington Avenue) that is primarily industrial and commercial properties. See **Figure 1** for a location map.

The two lots combined is proposed to be a total of ±7.7 acres, utilizing the existing Connex Credit Union building on Lot 2 and a proposed bank and residential building on Lot 1. Access to the site will utilize the existing drive on Lot 2 and shifting the drive to Lot 1 north to be more in line with the Amazon drive at the existing traffic signal.

The study investigated the potential traffic impacts associated with the development in the weekday morning and evening peak periods. The signalized curb cut and the northern drive curb cut on Lot 1 are to remain in the redevelopment of the site. The southernmost drive on Lot 1 is proposed to be removed in the redevelopment of the site. The greatest cumulative impacts of project related traffic are likely to occur during the weekday morning and evening peak hours, when traffic consists mostly of commuters. As such, traffic operating conditions at the study intersections were analyzed during these peak periods.



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LOCATION MAP

PROPOSED DEVELOPMENT
404 AND 424 WASHINGTON AVENUE
NORTH HAVEN, CONNECTICUT
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FIGURE 1

II. EXISTING CONDITIONS

An investigation of the existing traffic conditions on the adjacent roadway network formed the basis for assessing any traffic issues associated with the proposed development. This investigation included a field reconnaissance, traffic counting, and research of pertinent planning and traffic data available with Connecticut Department of Transportation (CTDOT) and the Town of North Haven.

Access Network

The project study area consists of the signalized intersections at the following locations:

- US Route 5 (Washington Avenue) at Bradley Street
- US Route 5 (Washington Avenue) at Site Drive #2 (Unsignalized)
- US Route 5 (Washington Avenue) at Site Drive #1 and Amazon Drive
- US Route 5 (Washington Avenue) at I-91 Exit 12 Interchange

The unsignalized intersection of US Route 5 (Washington Avenue) at Site Drive #2 is included in this analysis. The unsignalized intersection of US Route 5 (Washington Avenue) at Site Drive #3 is proposed to be removed in the redevelopment of the site.

Major roadways in the vicinity of the project include US Route 5 (Washington Avenue), Bradley Street, and Interstate 91 Exit 12 Interchange.

US Route 5 (Washington Avenue) is an urban principal arterial, traveling in the general north/south direction within the study area. Along its length within the study area, Washington Avenue has two through lanes in each direction with auxiliary left turn lanes at key intersections. As noted by CTDOT, the posted speed limit is 40 mph, in the Site's vicinity. Illumination is present along Washington Avenue's entire length. There are various traffic monitoring stations along US Route 5 within the study area. The peak average daily traffic (ADT) within the study limits, provided by CTDOT, was noted as 20,200 vehicles per day (vpd).

Bradley Street is an urban collector that originates at its intersection with US Route 5 (Washington Avenue) and extends to the northeast where it becomes Pond Hill Road. In the

vicinity of the Site, Bradley Street travels in the east/west direction. Bradley Street has primarily one through lane in each direction with auxiliary turn lanes. There is illumination along Bradley Street and sidewalks on the southern side of the road. The ADT, provided by CTDOT, is 5,000 vpd.

Interstate 91 Exit 12 Interchange is a full interchange, connecting Interstate 91 to US Route 5. The ADT for the I-91 NB Ramps, provided by CTDOT, is 3,800 and 3,800 vpd for the On and Off Ramps, respectively. The ADT for the I-91 SB Ramps, provided by CTDOT, is 5,300 and 3,900 vpd for the On and Off Ramps, respectively.

Intersection Characteristics

Several key intersections were reviewed in this study to determine if they would be impacted by the expected site traffic volumes. They are as follows:

- **US Route 5 (Washington Avenue) at Bradley Street –** At this fully-actuated, 4-phase signalized intersection, US Route 5 SB left turn lane has a permitted/protected movement. US Route 5 NB has two through lanes and an exclusive left turn lane at this intersection. The two approaches of Bradley Street and Private Drive have split phasing. The Private Drive has one lane entering the intersection. Bradley Street has an exclusive left and a shared left/thru/right turn lane entering the intersection. This signal is part of a closed loop coordinated system with 75” and 90” cycle lengths in the AM and PM Peak Hours, respectively. Emergency pre-emption is on both approaches of US Route 5 at this intersection.

- **US Route 5 (Washington Avenue) at Site Drive #2 –** This unsignalized intersection is approximately 150’ north of the signalized intersection of US Route 5 at Site Drive #1 and Amazon Drive. The Site Drive approach currently allows left turns out of the drive but is proposed to be a right-in-right-out drive.

- **US Route 5 (Washington Avenue) at Site Drive #1 and Amazon Drive –** At this fully actuated, 4-phase signalized intersection there is two travel lanes and an exclusive left

turn lane in both directions along US Route 5. The left turn lane of Route 5 SB into Site Drive #2 is immediately upstream of the signal and the movement is unsignalized. There is no exclusive turn lane for the left turn of US Route 5 into Site Drive #1 at the signal. Exiting the Amazon Drive, there are dual left turn lanes and a shared through/right turn lane entering the intersection. There is one lane entering the intersection of Site Drive #1 under existing conditions. There is proposed to be a left turn and shared through/right turn lanes entering the intersection in the redevelopment. This signal is part of a closed loop coordinated system with 75" and 90" cycle lengths in the AM and PM Peak Hours, respectively. The Amazon Drive and Site Drive #1 approaches have split phasing at this signal. The US Route 5 NB leading left turn is a permitted/protected movement. Emergency pre-emption is on both approaches of US Route 5 at this intersection.

- **US Route 5 (Washington Avenue) at Site Drive #3 –** This unsignalized intersection is approximately 150' south of the signalized intersection of US Route 5 at Site Drive #1 and Amazon Drive. This site drive is proposed to be removed in the redevelopment of the site.

- **US Route 5 (Washington Avenue) at I-91 SB Exit 12 Interchange –** At this semi-actuated, 2-phase signalized intersection, there are two through lanes in both directions of US Route 5. The left turn of US Route 5 onto I-91 SB On Ramp is unsignalized and the movement is approximately 200' south of the signal. The channelized right turn of US Route 5 SB onto I-91 SB On Ramp is signalized. The right turn lane of the I-91 SB Off Ramp is signalized and channelized. This signal is part of a closed loop coordinated system with 75" and 90" cycle lengths in the AM and PM Peak Hours, respectively. Emergency pre-emption is on both approaches of US Route 5 at this intersection.

- **US Route 5 (Washington Avenue) at I-91 NB Exit 12 Interchange –** At this semi-actuated, 3-phase signalized intersection, there are two travel lanes in both directions of US Route 5 with exclusive left turn lane on the US Route 5 SB approach. The I-91 NB Off Ramp approach has two lanes entering the intersection, a shared left/right turn and an exclusive right turn. The US Route 5 SB left turn is a permitted/protected movement.

There is an exclusive pedestrian phase at this intersection. This signal is part of a closed loop coordinated system with 75" and 90" cycle lengths in the AM and PM Peak Hours, respectively. Emergency pre-emption is on both approaches of US Route 5 at this intersection.

Public Transit

There are various bus stops along US Route 5 on the NB and SB direction within the study area. The bus lines are operated by CT Transit.

Crash Data Analysis

As part of the existing conditions analysis, crash data for the most recent three-year period, January 1st, 2017 through January 31st, 2020, was obtained from the Connecticut Crash Data Repository.

Forty-Nine (49) crashes in the study area were reviewed, the most common crashes were the front to rear at forty-five percent (45%), followed by angle crashes, at thirty-seven percent (37%). Majority of crashes resulted in "No Apparent Injury" at sixty-three percent (63%). There were no fatalities, but one (1) crash associated with "Suspected Serious Injury" in the corridor for the three-year period. According to the crash records mentioned above, the intersection of Washington Avenue at I-91 SB Exit 12 Ramps experienced the majority of the crashes in the corridor at forty-one percent (41%). Below **Table 1** summaries the crash data.

Table 1 – Crash Data Summary

Proposed Development, North Haven, CT						
	Washington Avenue at Bradley Street	**Washington Avenue at Site Drive #2**	**Washington Avenue at Site Drive #1 and Amazon Drive**	**Washington Avenue at Site Drive #3**	**Washington Avenue at I-91 SB Exit 12 Ramps**	**Washington Avenue at I-91 NB Exit 12 Ramps**
Year						
2017	4	0	0	0	2	2
2018	3	1	0	0	6	7
2019	3	0	3	0	10	4
2020	0	0	1	0	2	1
Total	10	1	4	0	20	14
Crash Type						
Angle	6	0	4	0	4	4
Front to Front	0	0	0	0	1	0
Front to Rear	3	1	0	0	9	9
Not Applicable	1	0	0	0	2	0
Other	0	0	0	0	0	1
Rear to Rear	0	0	0	0	0	0
Rear to Side	0	0	0	0	0	0
Sideswipe, Opposite Direction	0	0	0	0	1	0
Sideswipe, Same Direction	0	0	0	0	3	0
Total	10	1	4	0	20	14
Severity						
Fatal Injury (K)	0	0	0	0	0	0
Suspected Serious Injury (A)	0	0	1	0	0	0
Suspected Minor Injury (B)	1	0	0	0	3	0
Possible Injury (C)	3	0	0	0	6	4
No Apparent Injury (O)	6	1	3	0	11	10
Unknown	0	0	0	0	0	0
Total	10	1	4	0	20	14

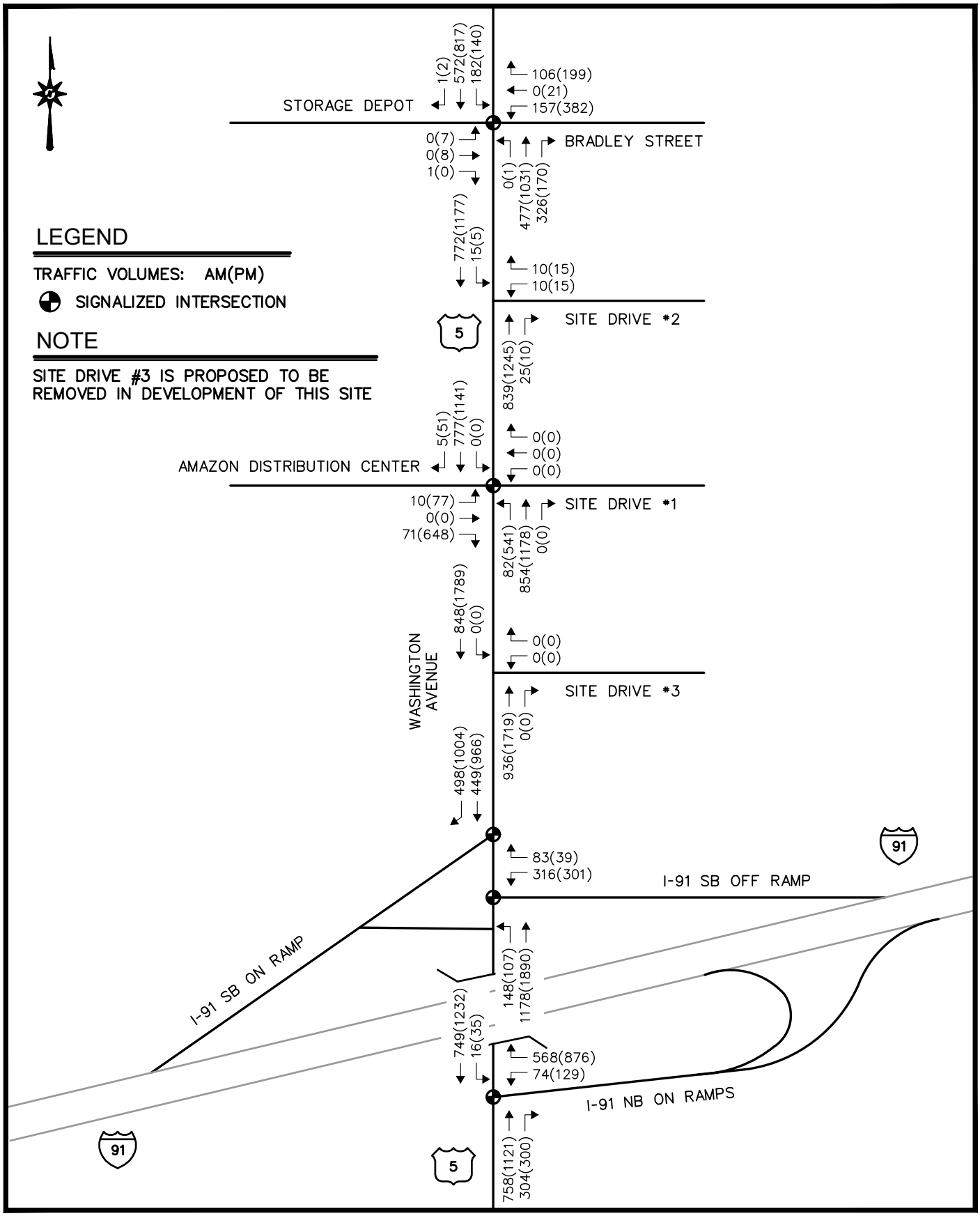
Note: Data collected from the Connecticut Crash Data Repository

III. PROJECTED TRAFFIC CONDITIONS

In order to evaluate traffic conditions when the proposed development is completed in 2022, future traffic volumes networks for forecast under the 2022 No Build Conditions (without the proposed development) and under 2022 Build Conditions (with the proposed development). The projected traffic volumes on the roadway network under 2022 No Build conditions were assumed to include all existing traffic and new traffic resulting from background sources of traffic growth, independent of the proposed development. The project traffic volumes on the roadway network under 2022 Build conditions were assumed to include the anticipated project site-generated traffic volumes in addition to the assumed background traffic growth.

No Build Traffic Volumes

At the direction of CTDOT Bureau of Policy and Planning, the Build traffic volumes of OSTA #100-1901-01 were used as the existing traffic volumes for this study (they are presented in the **Appendix**). The traffic volumes from this study were utilized for the study area and supplemented at the Site Drives. Traffic counts for the existing Connex Site Drive were recorded in December 2020. The Credit Union was fully operational during counting operations. Traffic volumes were then balanced, reviewed, and accepted by CTDOT. The current peak hour traffic volumes for the intersections are illustrated in **Figure 2**.



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NO BUILD TRAFFIC VOLUMES (2022)

PROPOSED DEVELOPMENT
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FIGURE 2

Trip Generation

As currently envisioned, the proposed development will consist of two curb cuts on US Route 5. The anticipated traffic volumes generated by the development proposal were projected based upon guidelines set forth by CTDOT and data provided by the *ITE Trip Generation Manual 10th Edition*. This widely used reference manual provided trip generation rates for various land used based on traffic count data collected at similar sites. The following table shows projected trip generation for residential space (ITE Land Use Code 221 – Multifamily Housing), a bank (ITE Land Use Code 912 – Drive-In Bank), and office space (ITE Land Use Code 710 – General Office Building). Due to the nature of the use, in addition to new site generated trips, a portion of the site generated traffic by the bank will come from the existing traffic stream, referred to as "pass-by" trips. A 20% pass-by percentage was applied to the bank based on CTDOT allowances. **Table 2** illustrates the trip generation for the proposed development scenario. As indicated in this table, the proposed delivery station is projected to generate 115 (66 enter, 49 exit) vehicle trips during the weekday morning peak hour and 146 (72 enter, 74 exit) vehicle trips during the weekday evening peak hour.

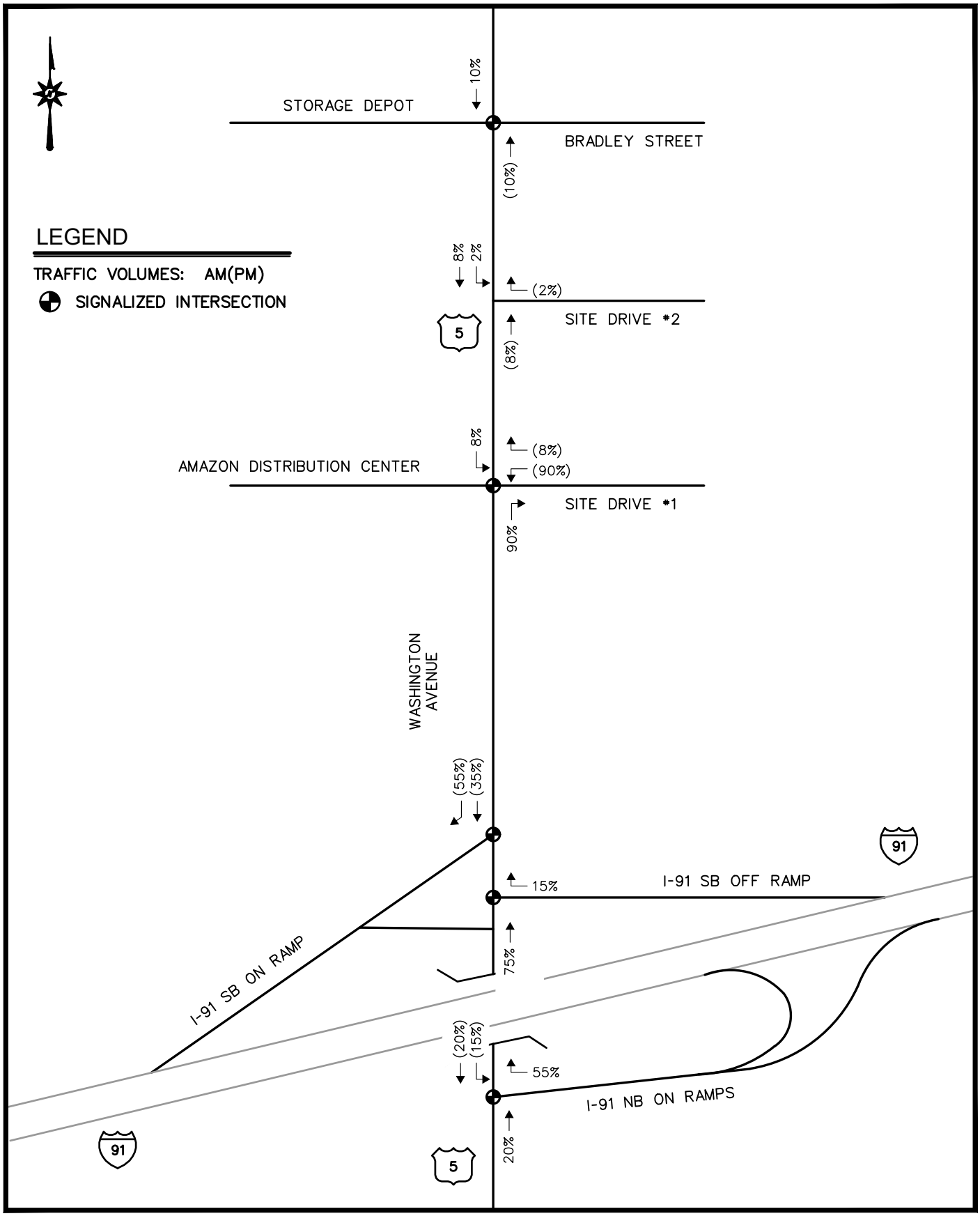
Table 2 – Peak Hour Trip Generation

			Trips					
			AM Peak Hour			PM Peak Hour		
Land Use	ITE Land Use Code	Size	Total	In	Out	Total	In	Out
Residential	221 - Multifamily Housing (Mid-Rise)	99 [1]	36	9	27	44	27	17
Bank	912 - Drive-In Bank	5.10 [2]	48	28	20	104	52	52
Office	710 - General Office Building	14.03 [2]	40	34	6	16	3	15
	Total New Trips		124	71	53	164	82	84
	Pass-By Trips (Drive-In Bank Only) (20%)[3]		-9	-5	-4	-20	-10	-10
	Net New Trips		**115**	**66**	**49**	**146**	**72**	**74**

1 – Size = Number of Units in Development
2 – Size = SF of Gross Floor Area
3 – Per CTDOT allowance
Ref: ITE Trip Generation Manual, 10th Edition

Trip Distribution

The directional distribution of traffic is typically a function of population densities, competing opportunities, existing travel patterns adjacent to the site, and the efficiency and limitations of the existing roadway system. The distribution of the anticipated traffic volumes was based on arrival/departure patterns shown in **Figure 3**.



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TRIP DISTRIBUTION

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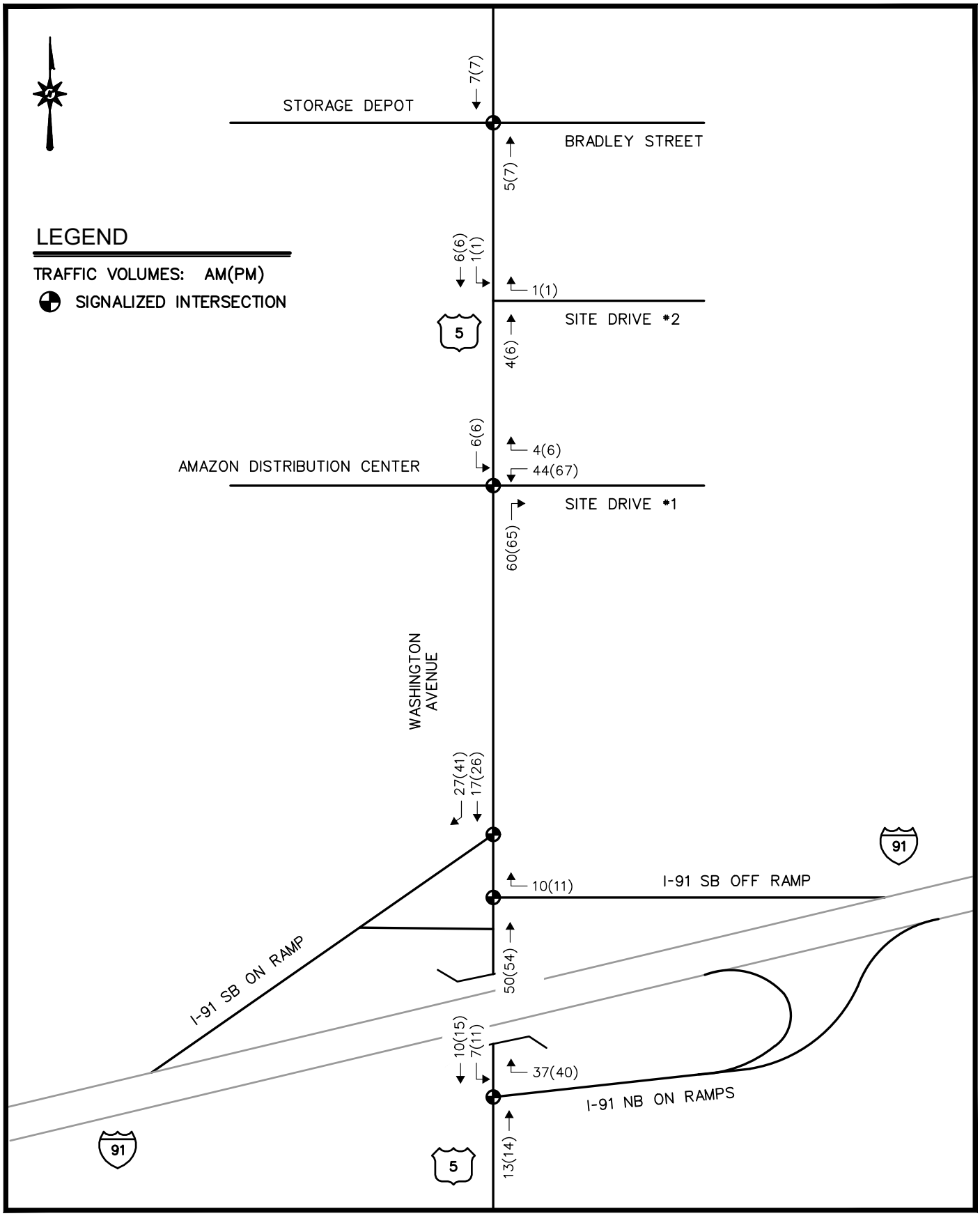
FIGURE 3

Assigned Site Generated and Pass-By Traffic Volumes

The generated trips are multiplied by the corresponding proportions to ascertain the site-generated traffic volumes. **Figure 4** shows the site generated peak hour traffic assigned to the nearby roadway network. It should be noted that not all of the projected site traffic represents new vehicles on the adjacent roadway network. A portion of trips generated are classified as "pass-by" traffic. Pass-by traffic consists of vehicles already on the roadway that are attracted to site when passing through the area. The primary destination of this traffic is elsewhere, and the primary trip will be resumed following a stop at the proposed development. The Pass-By Traffic Volumes were assigned to enter and exit at Site Drive #1, which is the closest drive to the land use that these volumes are generated from, the bank. The pass-by traffic volumes are shown in **Figure 5.**



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SITE GENERATED TRAFFIC VOLUMES

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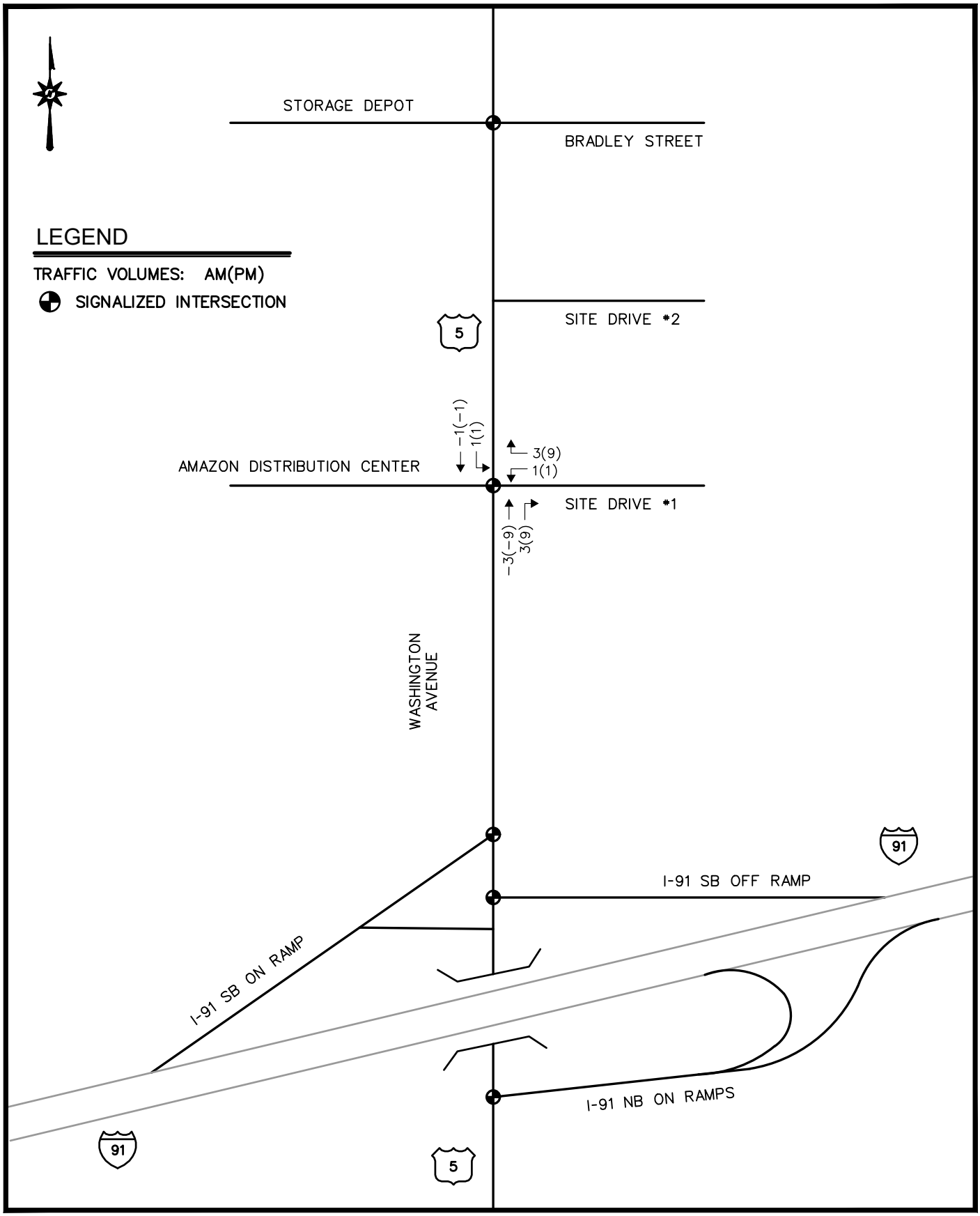
FIGURE 4



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PASS-BY TRAFFIC VOLUMES

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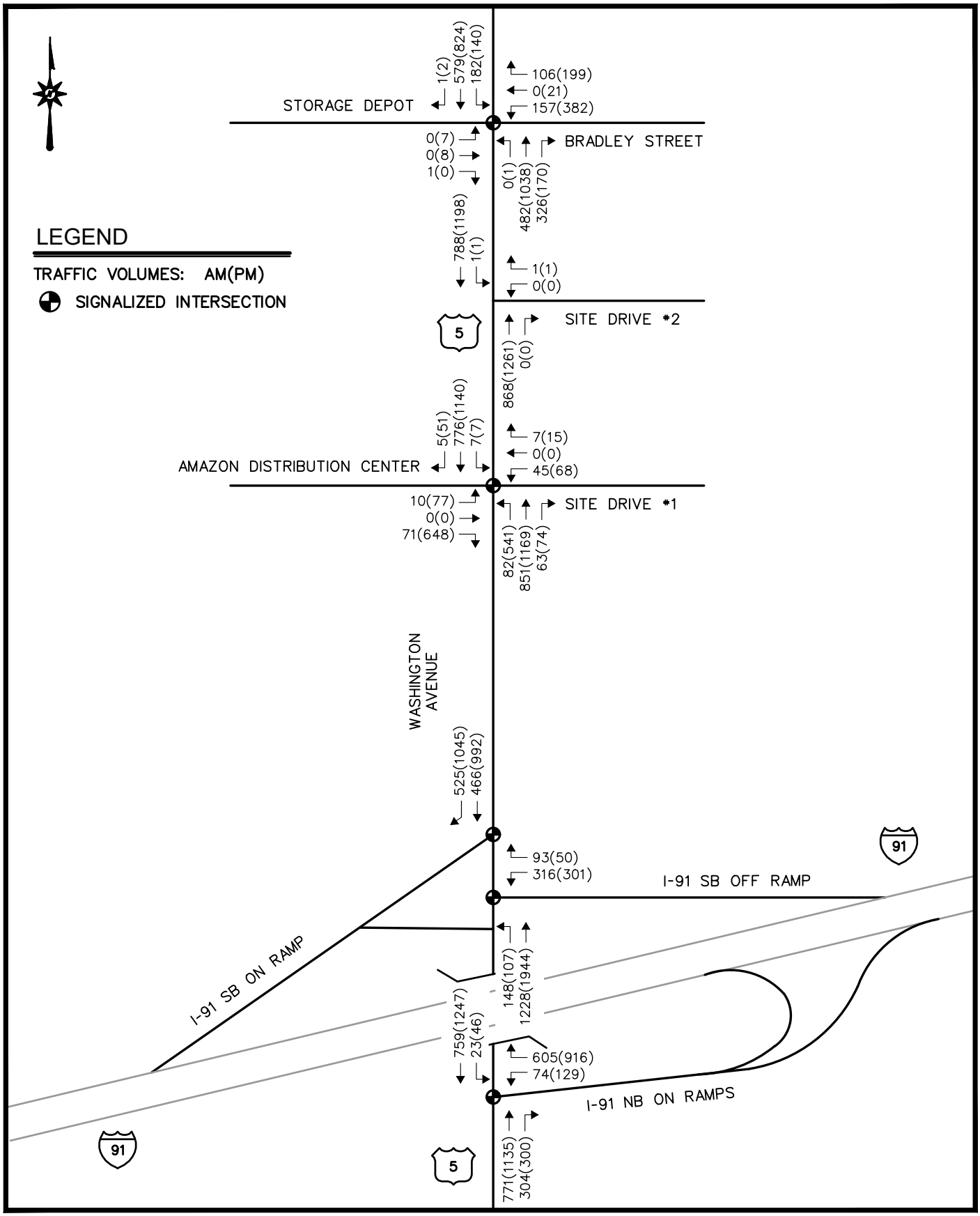
FIGURE 5

Build Traffic Volumes

The assigned site-generated traffic volumes were superimposed onto the No Build Traffic volumes to establish the future Build Traffic volumes, as illustrated in **Figure 6**.



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PROPOSED DEVELOPMENT
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FIGURE 6

IV. ROADWAY ADEQUACY

The intersection capacity analyses were prepared using the methodology described in the Highway Capacity Manual (HCM), published by the Transportation Research Board (TRB) for the existing and build traffic volume scenarios to simulate the traffic impact of a proposed Delivery Station on the adjacent roadway network. As documented in the HCM, intersection performance is influenced by a number of factors, including: traffic demand; lane configurations; lane widths; turning restrictions; roadway grades; and signal phasing. The existing physical roadway characteristics and signal phasing and timing settings were determined by observing conditions in the field and reviewing the current traffic control signal plans provided by the Connecticut Department of Transportation.

Synchro™ software (Version 10) was used to model the study intersections based on the parameters mentioned above. The Synchro software is widely utilized by the traffic engineering industry and is consistent with the procedures in the HCM.

Signalized Intersections

Signalized intersections are analyzed in terms of vehicle capacity and motorist delay. Capacity is the maximum rate of vehicle flow through an intersection given typical operating conditions. The number of vehicles traveling through an intersection is divided by the capacity of the intersection to determine an overall volume to capacity ratio (v/c). A v/c value under 1.00 indicates that the number of vehicles traveling through an intersection is less than capacity.

As stated in the HCM, level of service for signalized intersections is defined in terms of control delay. Control delay measures the increase in delay a motorist experiences while encountering a traffic control signal. These factors include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. This delay is measured per vehicle for a 15-minute analysis period and is associated with the levels of service, which are summarized in **Table 3** below:

Table 3 – Signalized Intersection – Level of Service

Level of Service[1]	Average Control Delay (seconds per vehicle)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

[1]If volume-to-capacity ratio is over 1.0 for a lane group, LOS F. Intersection and approach-based LOS is based solely on control delay.

Level of service A represents the optimum level where most motorists arrive at the subject intersection during the green phase and thus experience virtually no delay. Conversely, level of service F indicates that motorists are delayed over 80 seconds while traveling through the intersection, and can often imply a complete breakdown of that location. Level of service D is generally considered the limit of acceptable motorist delay.

Unsignalized Intersections

Unsignalized intersections are generally evaluated in terms of average side street delay, as well as the capacity of the roadway approach. This analysis is based on the random arrival of vehicles and the associated gaps generated by this random arrival within the traffic stream. There is no overall level of service for unsignalized intersections. The relationship between levels of service and average side street delay are summarized in **Table 4** below:

Table 4 – Unsignalized Intersection – Level of Service

Level of Service[1]	Average Control Delay (seconds per vehicle)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

[1]If volume-to-capacity ratio is over 1.0 for a lane group, LOS F. Intersection and approach-based LOS is based solely on control delay.

It should be noted that unsignalized levels of service do not correspond to those for signalized intersections, nor do they constitute warrants for the installation of traffic control signals. It is also recognized that the methodology is overly conservative and that computations can indicate operations at poor levels of service (E or F) with even very low side street volumes, although they often function without serious problems in the real world.

Table 5 shows the levels of service (LOS) at the subject intersections. A more detailed table is included in the Appendix.

Table 5 – Peak Hour Levels of Service

	AM			PM		
	No Build	Build	Build Improvement[5]	No Build	Build	Build Improvement[5]
US Route 5 (Washington Avenue) at Amazon Drive and Site Drive #1[1]	**A/6.3**	**B/12.5**	**B/11.7**	**F/84.4**	**F/146.9**	**E/66.1**
Amazon Drive EB Left[4]	C/0.03/25	C/0.03/25	C/0.07/25	B/0.08/30	C/0.08/35	D/0.37/80
Amazon Drive EB Thru/Right[4]	A/0.16/25	A/0.20/25	A/0.10/25	C/0.88/275	D/0.96/515	B/0.75/100
Amazon Drive EB Right[4]	-	-	A/0.06/25	-	-	A/0.58/25
Site Drive WB Left/Thru/Right[3]	A/0.00/25	-	-	A/0.00/25	-	-
Site Drive WB Left[3]	-	D/0.35/55	D/0.35/55	-	D/0.49/85	D/0.49/85
Site Drive WB Thru/Right[3]	-	A/0.01/25	A/0.01/25	-	A/0.04/25	A/0.04/25
US Route 5 NB Left	A/0.14/25	A/0.15/30	A/0.15/25	F/1.21/700	F/2.14/695	D/0.94/625
US Route 5 NB Thru/Right	A/0.31/60	A/0.38/135	A/0.36/105	B/0.61/395	C/0.82/430	B/0.58/370
US Route 5 SB Left/Thru/Right[3]	B/0.42/195	-	-	F/1.28/635	-	-
US Route 5 SB Left[3]	-	B/0.03/25	B/0.03/25	-	C/0.09/25	C/0.07/25
US Route 5 SB Thru/Right[3]	-	C/0.53/290	B/0.49/180	-	F/1.28/635	F/1.28/635
US Route 5 (Washington Avenue) at Site Drive #2[2]	**-**	**-**	**-**	**-**	**-**	**-**
Site Drive WB Left[3]	D/0.08/25	-	-	F/0.33/30	-	-
Site Drive WB Right[3]	B/0.02/25	-	-	B/0.04/25	-	-
Site Drive WB Left/Right[3]	-	B/0.01/25	B/0.01/25	-	B/0.01/25	B/0.01/25
US Route 5 NB Thru/Right	-	-	-	-	-	-
US Route 5 SB Left	B/0.02/25	A/0.00/25	A/0.00/25	B/0.01/25	B/0.01/25	B/0.01/25
US Route 5 SB Thru	-	-	-	-	-	-
US Route 5 (Washington Avenue) at Bradley Street and Commercial Drive[1]	**A/9.8**	**A/9.8**	**A/9.8**	**C/25.0**	**C/25.1**	**C/25.1**
Commercial Drive EB Left/Thru/Right	A/0.00/25	A/0.00/25	A/0.00/25	D/0.13/30	D/0.13/30	D/0.13/30
Bradley Street WB Left	D/0.59/120	D/0.59/120	D/0.59/120	E/0.87/355	E/0.87/355	E/0.87/355
Bradley Street WB Left/Thru/Right	A/0.38/40	A/0.38/40	A/0.38/40	C/0.70/210	C/0.70/210	C/0.70/210
US Route 5 NB Left	A/0.00/25	A/0.00/25	A/0.00/25	B/0.00/25	B/0.00/25	B/0.00/25
US Route 5 NB Thru/Right	A/0.45/190	A/0.45/195	A/0.45/195	C/0.80/495	C/0.81/500	C/0.81/500
US Route 5 SB Left	A/0.43/75	A/0.43/75	A/0.43/75	C/0.55/120	C/0.54/120	C/0.54/120
US Route 5 SB Thru/Right	A/0.24/105	A/0.24/105	A/0.24/105	A/0.39/195	A/0.40/195	A/0.40/195

Overall Intersection – X/XX.X - Level of Service/Intersection Signal Delay in sec
Approaches - X/X.XX/XXX – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft

[1] – Signalized Intersection
[2] – Unsignalized Intersection, Analysis for controlled approach
[3] – Revised in Site Development
[4] – Amazon Drive approach revised in Build Improvement
[5] – with Potential CTDOT Build Improvements

	AM			PM		
	No Build	Build	Build Improvement[5]	No Build	Build	Build Improvement[5]
US Route 5 (Washington Avenue) at I-91 SB Exit 12 Off Ramp[1]	**B/13.5**	**B/13.6**	**B/13.6**	**B/16.6**	**B/17.3**	**B/17.3**
I-91 Off Ramp WB Left	D/0.80/255	D/0.80/255	D/0.80/255	D/0.79/260	D/0.79/260	D/0.79/260
I-91 Off Ramp WB Right	B/0.21/45	B/0.24/55	B/0.24/55	C/0.11/40	C/0.14/50	C/0.14/50
US Route 5 NB Thru	A/0.58/225	A/0.61/240	A/0.61/240	B/0.89/715	B/0.91/725	B/0.91/725
US Route 5 SB Thru	A/0.22/75	A/0.23/80	A/0.23/80	A/0.45/210	A/0.47/220	A/0.47/220
US Route 5 (Washington Avenue) at I-91 NB Exit 12 On/Off Ramp[1]	**B/12.6**	**B/13.6**	**B/13.6**	**C/31.5**	**D/36.2**	**D/36.2**
I-91 Off Ramp WB Left/Right	B/0.72/120	C/0.76/140	C/0.76/140	D/0.92/425	D/0.96/465	D/0.96/465
I-91 Off Ramp WB Right	B/0.74/130	C/0.77/145	C/0.77/145	E/0.97/465	E/0.99/485	E/0.99/485
US Route 5 NB Thru	B/0.65/270	B/0.67/275	B/0.67/275	D/0.92/570	D/0.93/580	D/0.93/580
US Route 5 SB Left	A/0.04/25	A/0.07/25	A/0.07/25	A/0.18/25	A/0.25/25	A/0.25/25
US Route 5 SB Thru	A/0.33/115	A/0.33/115	A/0.33/115	A/0.62/175	A/0.63/170	A/0.63/170

Overall Intersection – X/XX.X - Level of Service/Intersection Signal Delay in sec
Approaches - X/X.XX/XXX – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft

[1] – Signalized Intersection
[2] – Unsignalized Intersection, Analysis for controlled approach
[3] – Revised in Site Development
[4] – Amazon Drive approach revised in Build Improvement
[5] – Build with Potential CTDOT Improvements

As illustrated in **Table 5**, traffic operations for the overall intersection LOS during the AM Peak Hour are projected to perform at acceptable Levels of Service in the No Build and Build scenarios. With the redevelopment of the lot and realignment of the Site Drive #1, it is projected to perform adequately with the proposed lane arrangements and existing signal timings. It is proposed that the site generated volumes will have negligible impacts to the surrounding roadway network during the AM Peak Hour.

As illustrated in the table above, traffic operations for the overall intersection LOS during the PM Peak Hour at all intersections except US Route 5 at Amazon Drive and Site Drive #1 are projected to perform at desirable Levels of Service in the No Build and Build scenarios. At this intersection, the Level of Service remains an F in the No Build and Build scenarios, with the signal delay increasing approximately 63 seconds between the two scenarios. The significant volumes entering and exiting the Amazon Drive are seen as the major contributors to the signal delay at this intersection.

The intersection of US Route 5 at Amazon Drive and Site Drive #1 theoretically operates as a T-Intersection in the No Build scenario because there are currently no volumes exiting the Site Drive #1 approach. It should be noted that any volume added to the Site Drive #1 approach, any development going into this site, will have significant impacts to this intersection with the existing lane arrangement.

Due to the significant signal delay increase between the No Build and Build scenarios during the PM Peak Hour, a Build Improvements scenario was investigated. It is suggested to revise the current lane arrangement of the Amazon Drive approach to a left, thru/right, and right turn lane from the existing dual left turn and shared thru/right lanes. Due to this revision being a lane arrangement revision, the Build Improvement was also analyzed in the AM Peak Hour. This suggestion is from the volumes provided in the No Build scenario. As seen in the table above, it is projected that the intersection will have a significant improvement with the suggested Amazon Drive lane arrangements compared to the Build scenario with the existing lane arrangements. This improvement should be investigated by CTDOT since this impacts the Amazon Drive.

It should be noted that any volume added to the Site Drive #1 approach, any development going into this site, will have significant impacts to this intersection with the existing lane arrangement. With slight signal timing changes to phases 4 and 5 at this intersection and the extension of the southbound US Route 5 exclusive left turn lane to the intersection, as shown in the PM Build Synchro report in the **Appendix**, the Site Drive #1 approach is proposed to perform adequately.

V. CONCLUSIONS AND RECOMMENDATIONS

This traffic study has been prepared for a new tenant and consolidation of two lots at 404 (Lot 1) and 412 (Lot 2) Washington Avenue in North Haven, CT. The focus of this study was to evaluate the traffic flows and operating conditions on the roadways and intersections projected to be used by motorists traveling to and from the proposed development and to quantify the potential traffic impacts on these roadways and intersections.

Traffic operations for the overall intersection LOS during the AM Peak Hour are projected to perform at acceptable Levels of Service in the No Build and Build scenarios. With the redevelopment of the lot and realignment of the Site Drive #1, it is projected to perform adequately with the proposed lane arrangements and existing signal timings. Traffic operations for the overall intersection LOS during the PM Peak Hour at all intersections except US Route 5 at Amazon Drive and Site Drive #1 are projected to perform at acceptable Levels of Service in the No Build and Build scenarios. With slight signal timing changes at this intersection, the Site Drive #1 approach is proposed to perform adequately.

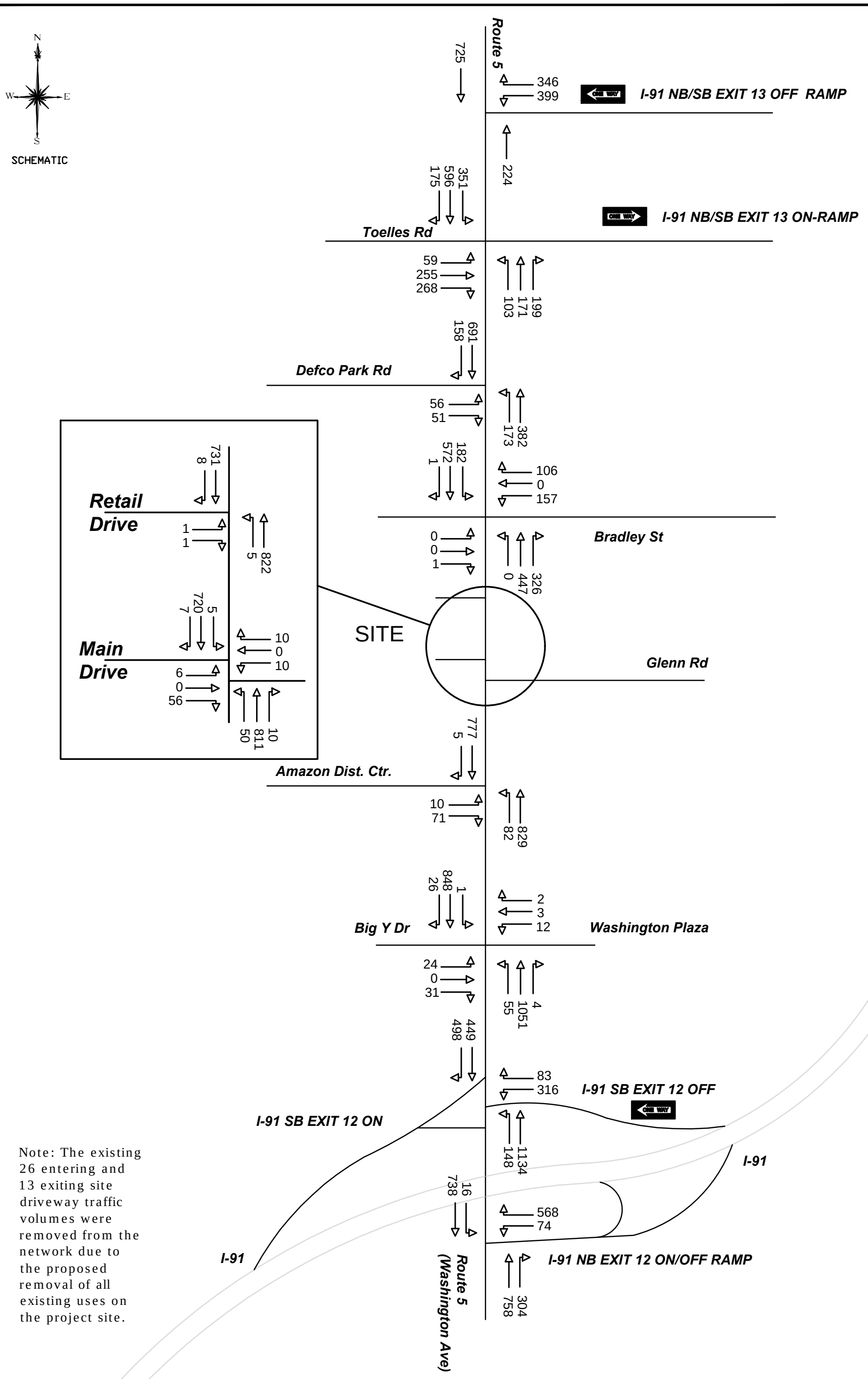
Due to the significant signal delay increase between the No Build and Build scenarios during the PM Peak Hour, a Build Improvements scenario was investigated. It is suggested to revise the current lane arrangement of the Amazon Drive approach to a left, thru/right, and right turn lane from the existing dual left turn and shared thru/right lanes. It is projected that the intersection will have a significant improvement with the suggested Amazon Drive lane arrangements compared to the Build scenario with the existing lane arrangements. Since this intersection is a state-owned signal, it is suggested that CTDOT consult with Amazon to revise the Amazon Drive approach to possibly improve operations at this intersection.

The following is a summary of the results/recommendations for this site:

- At Site Drive #1, Install 12" white Stop Bar, lane arrangements, and accompanying signage as shown on the Site Plan
- At Site Drive #2, Install 12" white Stop Bar and "Stop" Signs (R1-1) at site driveway egress as shown on the Site Plan
- Minor signal timing changes at the intersection of US Route 5 at Amazon Drive and Site Drive #1
- Continue US Route 5 SB Left turn lane to the signalized intersection of US Route 5 at Amazon Drive and Site Drive #1
- CTDOT to consult with Amazon to revise the Amazon Drive approach at its intersection with US Route 5 and Site Drive #1 to possibly improve operations at this intersection

APPENDIX

RECORD OSTA APPROVED NO BUILD TRAFFIC VOLUMES



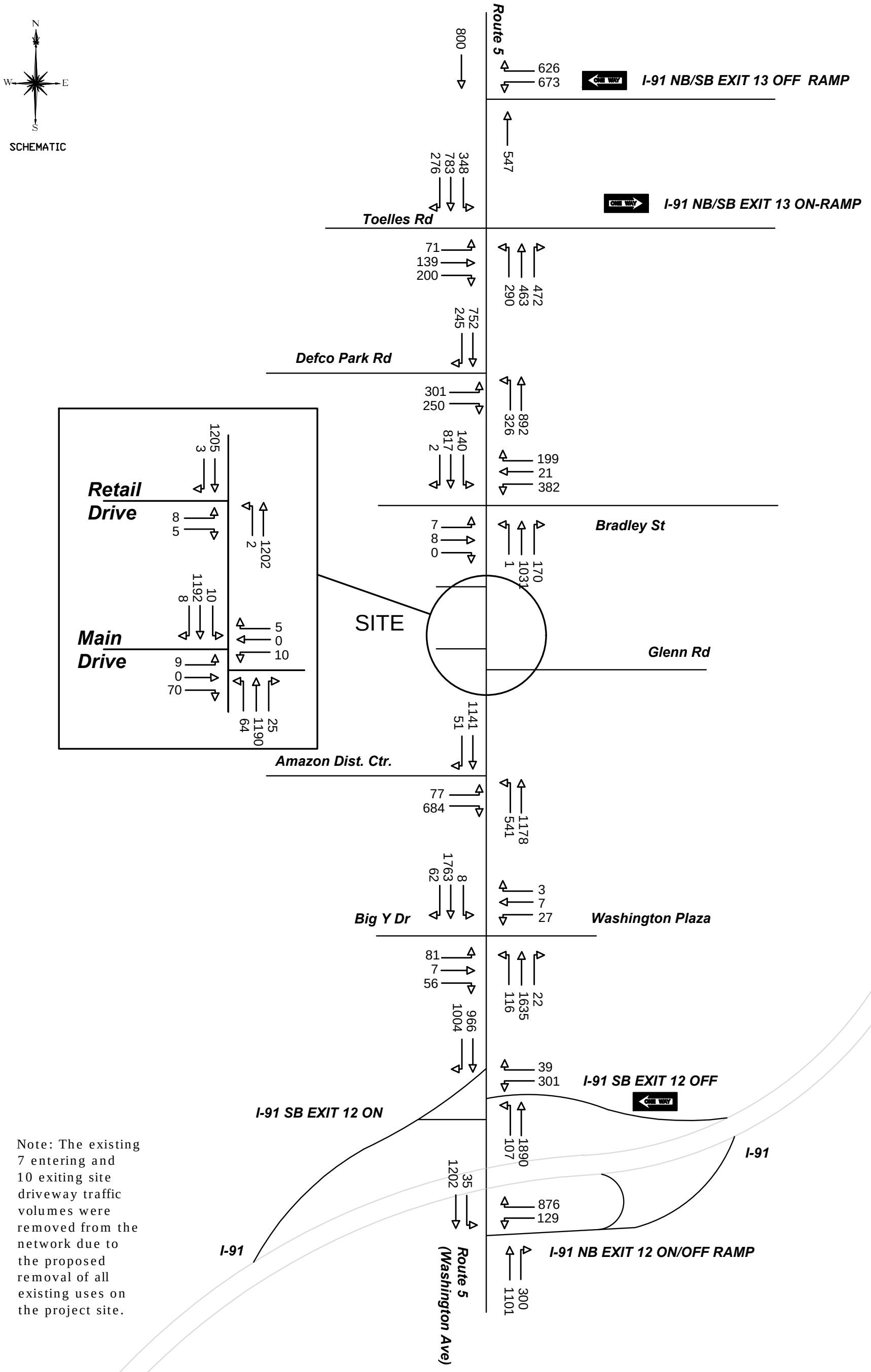
Note: The existing 26 entering and 13 exiting site driveway traffic volumes were removed from the network due to the proposed removal of all existing uses on the project site.

2022 COMBINED TRAFFIC VOLUMES
WEEKDAY MORNING PEAK HOUR

441/447 Washington Ave
North Haven, Connecticut

FIGURE 10

MILONE & MACBROOM
NOW PART OF SLR
195 CHURCH STREET, 7TH FLOOR
NEW HAVEN, CT 06510
203.344.7887
WWW.MMINC.COM | SLRCONSULTING.COM



Note: The existing 7 entering and 10 exiting site driveway traffic volumes were removed from the network due to the proposed removal of all existing uses on the project site.

2022 COMBINED TRAFFIC VOLUMES
WEEKDAY AFTERNOON PEAK HOUR

441/447 Washington Ave
North Haven, Connecticut

FIGURE 11

MILONE & MACBROOM
NOW PART OF SLR
195 CHURCH STREET, 7TH FLOOR
NEW HAVEN, CT 06510
203.344.7887
WWW.MMINC.COM | SLRCONSULTING.COM

CAPACITY ANALYSES

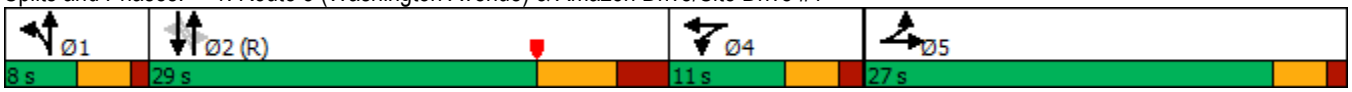
NO BUILD

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	71	0	0	0	82	854	0	0	777	5
Future Volume (vph)	10	0	71	0	0	0	82	854	0	0	777	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	2		0	0		0	1		0	0		0
Taper Length (ft)	60			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.850									0.999	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1583	0	0	1863	0	1770	3539	0	0	3536	0
Flt Permitted	0.950						0.305					
Satd. Flow (perm)	3433	1583	0	0	1863	0	568	3539	0	0	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		370									1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		928			176			146			173	
Travel Time (s)		21.1			4.0			2.5			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	77	0	0	0	89	928	0	0	845	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	77	0	0	0	0	89	928	0	0	850	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			0			12			12	
Link Offset(ft)		-24			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA					pm+pt	NA			NA	
Protected Phases	5	5		4	4		1	1 2			2	
Permitted Phases							1 2			2		
Detector Phase	5	5		4	4		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0			15.0	15.0	
Minimum Split (s)	11.2	11.2		9.5	9.5		9.0			22.3	22.3	
Total Split (s)	27.0	27.0		11.0	11.0		8.0			29.0	29.0	
Total Split (%)	36.0%	36.0%		14.7%	14.7%		10.7%			38.7%	38.7%	
Maximum Green (s)	22.8	22.8		6.5	6.5		4.0			21.7	21.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.5	4.5	
All-Red Time (s)	1.2	1.2		1.5	1.5		1.0			2.8	2.8	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0				0.0	
Total Lost Time (s)	4.2	4.2			4.5		4.0				7.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	2.0		2.0			2.5	2.5	
Recall Mode	None	None		None	None		None			C-Min	C-Min	
Act Effct Green (s)	7.0	7.0					58.0	62.8			43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.09					0.77	0.84			0.57	
v/c Ratio	0.03	0.16					0.14	0.31			0.42	
Control Delay	31.3	0.7					2.3	2.1			11.4	
Queue Delay	0.0	0.0					0.0	0.0			0.0	
Total Delay	31.3	0.7					2.3	2.1			11.4	
LOS	C	A					A	A			B	
Approach Delay		4.5						2.1			11.4	
Approach LOS		A						A			B	
Queue Length 50th (ft)	2	0					6	42			115	
Queue Length 95th (ft)	9	0					13	57			192	
Internal Link Dist (ft)		848			96			66			93	
Turn Bay Length (ft)	150											
Base Capacity (vph)	1043	738					627	2965			2029	
Starvation Cap Reductn	0	0					0	0			0	
Spillback Cap Reductn	0	0					0	0			0	
Storage Cap Reductn	0	0					0	0			0	
Reduced v/c Ratio	0.01	0.10					0.14	0.31			0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 54 (72%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 64.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Route 5 (Washington Avenue) & Amazon Drive/Site Drive #1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	10	839	25	15	772
Future Volume (vph)	10	10	839	25	15	772
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.996			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3525	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3525	0	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	172		173			194
Travel Time (s)	3.9		2.9			3.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	912	27	16	839
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	11	939	0	16	839
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	10	839	25	15	772
Future Vol, veh/h	10	10	839	25	15	772
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	11	912	27	16	839

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1378	470	0	0	939	0
Stage 1	926	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	136	540	-	-	726	-
Stage 1	346	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	540	-	-	726	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	346	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.2
HCM LOS	C		

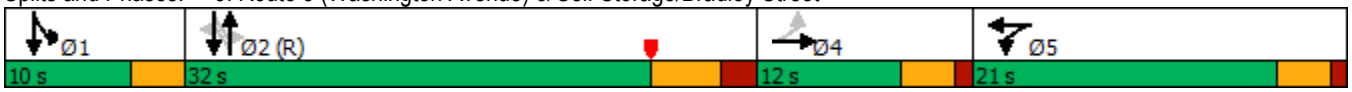
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	133	540	726	-
HCM Lane V/C Ratio	-	-	0.082	0.02	0.022	-
HCM Control Delay (s)	-	-	34.5	11.8	10.1	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	157	0	106	0	477	326	182	572	1
Future Volume (vph)	0	0	1	157	0	106	0	477	326	182	572	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	230		0	105		0	430		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			96			70			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.873			0.939				
Flt Protected				0.950	0.992					0.950		
Satd. Flow (prot)	0	1611	0	1681	1533	0	1863	3323	0	1770	3539	0
Flt Permitted				0.950	0.992					0.270		
Satd. Flow (perm)	0	1611	0	1681	1533	0	1863	3323	0	503	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		291			145			248				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		160			402			504			602	
Travel Time (s)		3.6			9.1			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1	171	0	115	0	518	354	198	622	1
Shared Lane Traffic (%)				12%								
Lane Group Flow (vph)	0	1	0	150	136	0	0	872	0	198	623	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Split	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		5	5			2		1	1 2	
Permitted Phases	4						2			1 2		
Detector Phase	4	4		5	5		2	2		1	1 2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		15.0	15.0		4.0		
Minimum Split (s)	10.0	10.0		12.0	12.0		21.0	21.0		7.0		
Total Split (s)	12.0	12.0		21.0	21.0		32.0	32.0		10.0		
Total Split (%)	16.0%	16.0%		28.0%	28.0%		42.7%	42.7%		13.3%		
Maximum Green (s)	8.0	8.0		17.0	17.0		26.0	26.0		7.0		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		0.0		
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0		
Total Lost Time (s)		4.0		4.0	4.0		6.0	6.0		3.0		
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		2.0		
Recall Mode	None	None		None	None		C-Min	C-Min		None		
Act Effct Green (s)		6.0		11.3	11.3			41.6		51.7	54.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08		0.15	0.15			0.55		0.69	0.73	
v/c Ratio		0.00		0.59	0.38			0.45		0.43	0.24	
Control Delay		0.0		38.9	7.9			9.3		7.4	4.6	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		0.0		38.9	7.9			9.3		7.4	4.6	
LOS		A		D	A			A		A	A	
Approach Delay					24.1			9.3			5.3	
Approach LOS					C			A			A	
Queue Length 50th (ft)		0		69	0			71		19	33	
Queue Length 95th (ft)		0		120	40			188		73	103	
Internal Link Dist (ft)		80			322			424			522	
Turn Bay Length (ft)				230						430		
Base Capacity (vph)		431		381	459			1952		487	2565	
Starvation Cap Reductn		0		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.00		0.39	0.30			0.45		0.41	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 25 (33%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Route 5 (Washington Avenue) & Self Storage/Bradley Street

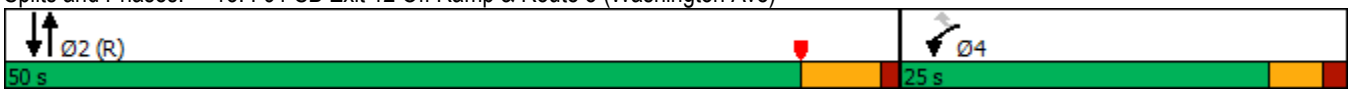


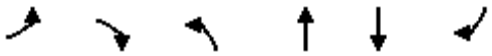
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	316	83	1178	0	0	449
Future Volume (vph)	316	83	1178	0	0	449
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	170		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		61				
Link Speed (mph)	30		40			40
Link Distance (ft)	543		238			260
Travel Time (s)	12.3		4.1			4.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	90	1280	0	0	488
Shared Lane Traffic (%)						
Lane Group Flow (vph)	343	90	1280	0	0	488
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		2			2
Permitted Phases		4				
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0			15.0
Minimum Split (s)	13.5	13.5	20.6			20.6
Total Split (s)	25.0	25.0	50.0			50.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	20.5	20.5	44.4			44.4
Yellow Time (s)	3.1	3.1	4.5			4.5
All-Red Time (s)	1.4	1.4	1.1			1.1
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	5.6			5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Act Effct Green (s)	18.2	18.2	46.7			46.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.24	0.24	0.62			0.62
v/c Ratio	0.80	0.21	0.58			0.22
Control Delay	41.5	10.7	8.7			6.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	41.5	10.7	8.7			6.9
LOS	D	B	A			A
Approach Delay	35.1		8.7			6.9
Approach LOS	D		A			A
Queue Length 50th (ft)	146	10	137			49
Queue Length 95th (ft)	#254	43	221			73
Internal Link Dist (ft)	463		158			180
Turn Bay Length (ft)		170				
Base Capacity (vph)	483	477	2204			2204
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.71	0.19	0.58			0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 13.5		Intersection LOS: B	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: I-91 SB Exit 12 Off Ramp & Route 5 (Washington Ave)





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1178	765	0
Future Volume (vph)	0	0	148	1178	765	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		96			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	3539	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	3539	3539	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	133			534	238	
Travel Time (s)	3.0			9.1	4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	161	1280	832	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	161	1280	832	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	

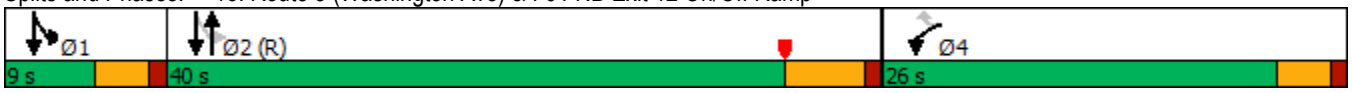
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	74	568	758	304	16	749
Future Volume (vph)	74	568	758	304	16	749
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	225		0	165	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				84	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.95
Frt	0.884	0.850	0.957			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1629	1504	3387	0	1770	3539
Flt Permitted	0.989				0.160	
Satd. Flow (perm)	1629	1504	3387	0	298	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	227	227	106			
Link Speed (mph)	30		40			40
Link Distance (ft)	385		513			534
Travel Time (s)	8.8		8.7			9.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	617	824	330	17	814
Shared Lane Traffic (%)		44%				
Lane Group Flow (vph)	351	346	1154	0	17	814
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			1 2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0		5.0	
Minimum Split (s)	13.0	13.0	20.5		9.0	
Total Split (s)	26.0	26.0	40.0		9.0	
Total Split (%)	34.7%	34.7%	53.3%		12.0%	
Maximum Green (s)	22.0	22.0	34.5		5.0	
Yellow Time (s)	3.0	3.0	4.5		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0	5.5		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Max		None	
Act Effct Green (s)	14.0	14.0	38.0		49.0	53.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.19	0.19	0.51		0.65	0.71
v/c Ratio	0.72	0.74	0.65		0.04	0.33
Control Delay	18.4	19.9	15.2		3.5	3.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	18.4	19.9	15.2		3.5	3.6
LOS	B	B	B		A	A
Approach Delay	19.2		15.2			3.6
Approach LOS	B		B			A
Queue Length 50th (ft)	52	52	191		1	20
Queue Length 95th (ft)	120	127	270		m5	113
Internal Link Dist (ft)	305		433			454
Turn Bay Length (ft)		225			165	
Base Capacity (vph)	638	601	1769		380	2498
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.55	0.58	0.65		0.04	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: Route 5 (Washington Ave) & I-91 NB Exit 12 On/Off Ramp



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	936	0	0	848
Future Volume (vph)	0	0	936	0	0	848
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	5085	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	5085	0	0	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	187		132			146
Travel Time (s)	4.3		2.3			2.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1017	0	0	922
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1017	0	0	922
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

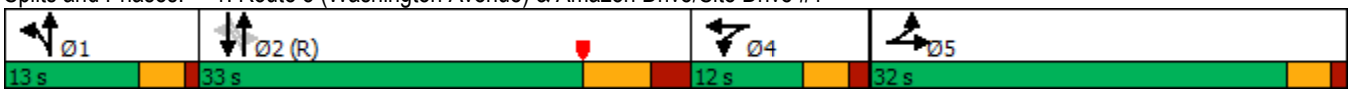
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			

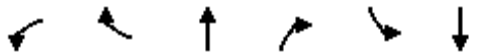
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	648	0	0	0	541	1178	0	0	1141	51
Future Volume (vph)	77	0	648	0	0	0	541	1178	0	0	1141	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	0		0
Storage Lanes	2		0	0		0	1		0	0		0
Taper Length (ft)	60			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.850									0.994	
Flt Protected	0.950						0.950					
Satd. Flow (prot)	3433	1583	0	0	1863	0	1770	3539	0	0	3518	0
Flt Permitted	0.950						0.156					
Satd. Flow (perm)	3433	1583	0	0	1863	0	291	3539	0	0	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		428									5	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		928			176			146			173	
Travel Time (s)		21.1			4.0			2.5			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	704	0	0	0	588	1280	0	0	1240	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	704	0	0	0	0	588	1280	0	0	1295	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			0			12			12	
Link Offset(ft)		-24			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA					pm+pt	NA			NA	
Protected Phases	5	5		4	4		1	1 2			2	
Permitted Phases							1 2			2		
Detector Phase	5	5		4	4		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0			15.0	15.0	
Minimum Split (s)	11.2	11.2		9.5	9.5		9.0			22.3	22.3	
Total Split (s)	32.0	32.0		12.0	12.0		13.0			33.0	33.0	
Total Split (%)	35.6%	35.6%		13.3%	13.3%		14.4%			36.7%	36.7%	
Maximum Green (s)	27.8	27.8		7.5	7.5		9.0			25.7	25.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.5	4.5	
All-Red Time (s)	1.2	1.2		1.5	1.5		1.0			2.8	2.8	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0				0.0	
Total Lost Time (s)	4.2	4.2			4.5		4.0				7.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	2.0		2.0			2.5	2.5	
Recall Mode	None	None		None	None		None			C-Min	C-Min	
Act Effct Green (s)	28.8	28.8					49.0	53.0			25.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.32	0.32					0.54	0.59			0.29	
v/c Ratio	0.08	0.88					1.21	0.61			1.28	
Control Delay	18.2	23.6					138.0	15.6			165.5	
Queue Delay	0.0	0.0					0.0	0.0			0.0	
Total Delay	18.2	23.6					138.0	15.6			165.5	
LOS	B	C					F	B			F	
Approach Delay		23.1						54.1			165.5	
Approach LOS		C						D			F	
Queue Length 50th (ft)	16	153					~377	240			~500	
Queue Length 95th (ft)	26	275					#696	393			#633	
Internal Link Dist (ft)		848			96			66			93	
Turn Bay Length (ft)	150											
Base Capacity (vph)	1231	842					487	2084			1008	
Starvation Cap Reductn	0	0					0	0			0	
Spillback Cap Reductn	0	0					0	0			0	
Storage Cap Reductn	0	0					0	0			0	
Reduced v/c Ratio	0.07	0.84					1.21	0.61			1.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 86 (96%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay: 84.4		Intersection LOS: F	
Intersection Capacity Utilization 118.8%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Route 5 (Washington Avenue) & Amazon Drive/Site Drive #1





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	15	1245	10	5	1177
Future Volume (vph)	15	15	1245	10	5	1177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.999			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3536	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3536	0	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	172		173			194
Travel Time (s)	3.9		2.9			3.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	16	1353	11	5	1279
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	16	1364	0	5	1279
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	1245	10	5	1177
Future Vol, veh/h	15	15	1245	10	5	1177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	16	1353	11	5	1279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2009	682	0	0	1364	0
Stage 1	1359	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	51	392	-	-	500	-
Stage 1	204	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	392	-	-	500	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	204	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	61.6	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	50	392	500	-
HCM Lane V/C Ratio	-	-	0.326	0.042	0.011	-
HCM Control Delay (s)	-	-	108.6	14.6	12.3	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	0	-

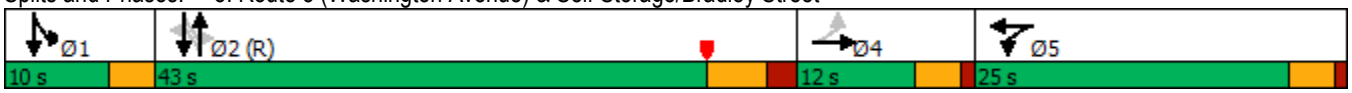
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	8	0	382	21	199	1	1031	170	140	817	2
Future Volume (vph)	7	8	0	382	21	199	1	1031	170	140	817	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	230		0	105		0	430		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			96			70			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.897			0.979				
Flt Protected		0.977		0.950	0.988		0.950			0.950		
Satd. Flow (prot)	0	1820	0	1681	1568	0	1770	3465	0	1770	3539	0
Flt Permitted		0.919		0.950	0.988		0.320			0.101		
Satd. Flow (perm)	0	1712	0	1681	1568	0	596	3465	0	188	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					115			25				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		160			402			504			602	
Travel Time (s)		3.6			9.1			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	9	0	415	23	216	1	1121	185	152	888	2
Shared Lane Traffic (%)				18%								
Lane Group Flow (vph)	0	17	0	340	314	0	1	1306	0	152	890	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		5	5			2		1	1 2	
Permitted Phases	4						2			1 2		
Detector Phase	4	4		5	5		2	2		1	1 2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		15.0	15.0		4.0		
Minimum Split (s)	10.0	10.0		12.0	12.0		21.0	21.0		7.0		
Total Split (s)	12.0	12.0		25.0	25.0		43.0	43.0		10.0		
Total Split (%)	13.3%	13.3%		27.8%	27.8%		47.8%	47.8%		11.1%		
Maximum Green (s)	8.0	8.0		21.0	21.0		37.0	37.0		7.0		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		0.0		
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0		
Total Lost Time (s)		4.0		4.0	4.0		6.0	6.0		3.0		
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		2.0		
Recall Mode	None	None		None	None		C-Min	C-Min		None		
Act Effct Green (s)		6.9		20.8	20.8		42.0	42.0		54.4	57.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08		0.23	0.23		0.47	0.47		0.60	0.64	
v/c Ratio		0.13		0.87	0.70		0.00	0.80		0.55	0.39	
Control Delay		40.4		57.6	28.7		16.0	26.4		20.7	9.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		40.4		57.6	28.7		16.0	26.4		20.7	9.6	
LOS		D		E	C		B	C		C	A	
Approach Delay		40.4			43.7			26.4			11.2	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)		9		185	102		0	342		30	111	
Queue Length 95th (ft)		29		#355	207		3	#495		#118	193	
Internal Link Dist (ft)		80			322			424			522	
Turn Bay Length (ft)				230			105			430		
Base Capacity (vph)		152		406	466		278	1629		278	2256	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.11		0.84	0.67		0.00	0.80		0.55	0.39	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 53 (59%), Referenced to phase 2:NBSB, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 25.0	Intersection LOS: C
Intersection Capacity Utilization 77.2%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 8: Route 5 (Washington Avenue) & Self Storage/Bradley Street

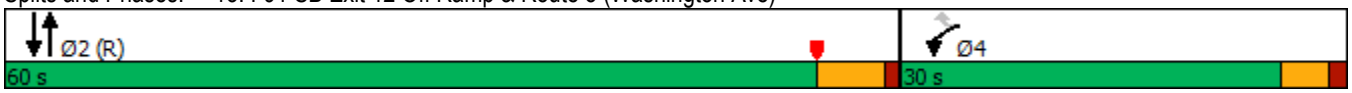


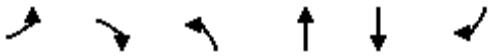
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	301	39	1890	0	0	966
Future Volume (vph)	301	39	1890	0	0	966
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	170		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		10				
Link Speed (mph)	30		40			40
Link Distance (ft)	543		238			260
Travel Time (s)	12.3		4.1			4.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	327	42	2054	0	0	1050
Shared Lane Traffic (%)						
Lane Group Flow (vph)	327	42	2054	0	0	1050
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		2			2
Permitted Phases		4				
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0			15.0
Minimum Split (s)	13.5	13.5	20.6			20.6
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.5	25.5	54.4			54.4
Yellow Time (s)	3.1	3.1	4.5			4.5
All-Red Time (s)	1.4	1.4	1.1			1.1
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	5.6			5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Act Effct Green (s)	21.0	21.0	58.9			58.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.23	0.23	0.65			0.65
v/c Ratio	0.79	0.11	0.89			0.45
Control Delay	46.4	21.1	15.5			9.0
Queue Delay	0.0	0.0	0.1			0.0
Total Delay	46.4	21.1	15.7			9.0
LOS	D	C	B			A
Approach Delay	43.5		15.7			9.0
Approach LOS	D		B			A
Queue Length 50th (ft)	173	14	355			141
Queue Length 95th (ft)	256	38	m#715			208
Internal Link Dist (ft)	463		158			180
Turn Bay Length (ft)		170				
Base Capacity (vph)	501	455	2315			2315
Starvation Cap Reductn	0	0	17			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.65	0.09	0.89			0.45

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 77.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 13: I-91 SB Exit 12 Off Ramp & Route 5 (Washington Ave)





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	107	1890	1267	0
Future Volume (vph)	0	0	107	1890	1267	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		96			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	3539	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	3539	3539	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	133			534	238	
Travel Time (s)	3.0			9.1	4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	116	2054	1377	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	116	2054	1377	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	876	1121	300	35	1232
Future Volume (vph)	129	876	1121	300	35	1232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	225		0	165	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				84	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.95
Frt	0.888	0.850	0.968			
Flt Protected	0.987				0.950	
Satd. Flow (prot)	1633	1504	3426	0	1770	3539
Flt Permitted	0.987				0.092	
Satd. Flow (perm)	1633	1504	3426	0	171	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	164	164	52			
Link Speed (mph)	30		40			40
Link Distance (ft)	385		513			534
Travel Time (s)	8.8		8.7			9.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	952	1218	326	38	1339
Shared Lane Traffic (%)		43%				
Lane Group Flow (vph)	549	543	1544	0	38	1339
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			1 2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0		5.0	
Minimum Split (s)	13.0	13.0	20.5		9.0	
Total Split (s)	31.0	31.0	49.0		10.0	
Total Split (%)	34.4%	34.4%	54.4%		11.1%	
Maximum Green (s)	27.0	27.0	43.5		6.0	
Yellow Time (s)	3.0	3.0	4.5		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0	5.5		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Max		None	
Act Effct Green (s)	26.7	26.7	43.5		51.3	55.3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.30	0.30	0.48		0.57	0.61
v/c Ratio	0.92	0.97	0.92		0.18	0.62
Control Delay	44.0	54.5	31.2		6.8	9.1
Queue Delay	0.6	1.4	7.1		0.0	0.0
Total Delay	44.6	55.8	38.3		6.8	9.1
LOS	D	E	D		A	A
Approach Delay	50.2		38.3			9.0
Approach LOS	D		D			A
Queue Length 50th (ft)	219	235	400		7	148
Queue Length 95th (ft)	#423	#462	#568		m11	171
Internal Link Dist (ft)	305		433			454
Turn Bay Length (ft)		225			165	
Base Capacity (vph)	604	566	1682		210	2175
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	5	5	123		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.92	0.97	0.99		0.18	0.62

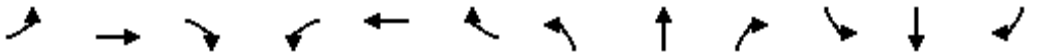
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 31.5		Intersection LOS: C	
Intersection Capacity Utilization 84.6%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: Route 5 (Washington Ave) & I-91 NB Exit 12 On/Off Ramp

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	1719	0	0	1789
Future Volume (vph)	0	0	1719	0	0	1789
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	5085	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	5085	0	0	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	187		132			146
Travel Time (s)	4.3		2.3			2.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1868	0	0	1945
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1868	0	0	1945
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

BUILD

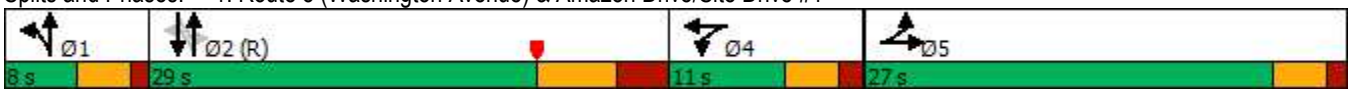


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	71	45	0	7	82	851	63	7	776	5
Future Volume (vph)	10	0	71	45	0	7	82	851	63	7	776	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	170		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	60			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.990			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1583	0	1770	1583	0	1770	3504	0	1770	3536	0
Flt Permitted	0.950			0.950			0.256			0.289		
Satd. Flow (perm)	3433	1583	0	1770	1583	0	477	3504	0	538	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		256			525			13			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		928			176			146			173	
Travel Time (s)		21.1			4.0			2.5			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	77	49	0	8	89	925	68	8	843	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	77	0	49	8	0	89	993	0	8	848	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			14			12			12	
Link Offset(ft)		-24			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	5		4	4		1	1 2			2	
Permitted Phases							1 2			2		
Detector Phase	5	5		4	4		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0			15.0	15.0	
Minimum Split (s)	11.2	11.2		9.5	9.5		9.0			22.3	22.3	
Total Split (s)	27.0	27.0		11.0	11.0		8.0			29.0	29.0	
Total Split (%)	36.0%	36.0%		14.7%	14.7%		10.7%			38.7%	38.7%	
Maximum Green (s)	22.8	22.8		6.5	6.5		4.0			21.7	21.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.5	4.5	
All-Red Time (s)	1.2	1.2		1.5	1.5		1.0			2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Lost Time (s)	4.2	4.2		4.5	4.5		4.0			7.3	7.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	2.0		2.0			2.5	2.5	
Recall Mode	None	None		None	None		None			C-Min	C-Min	
Act Effct Green (s)	7.0	7.0		6.0	6.0		51.4	56.2		33.7	33.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.09		0.08	0.08		0.69	0.75		0.45	0.45	
v/c Ratio	0.03	0.20		0.35	0.01		0.15	0.38		0.03	0.53	
Control Delay	31.3	1.2		39.5	0.0		5.2	5.3		19.9	21.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.3	1.2		39.5	0.0		5.2	5.3		19.9	21.0	
LOS	C	A		D	A		A	A		B	C	
Approach Delay		5.0			34.0			5.3			21.0	
Approach LOS		A			C			A			C	
Queue Length 50th (ft)	2	0		22	0		13	101		3	179	
Queue Length 95th (ft)	9	0		54	0		28	135		13	#286	
Internal Link Dist (ft)		848			96			66			93	
Turn Bay Length (ft)	150									170		
Base Capacity (vph)	1043	659		153	616		575	2630		241	1591	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.01	0.12		0.32	0.01		0.15	0.38		0.03	0.53	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 54 (72%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Route 5 (Washington Avenue) & Amazon Drive/Site Drive #1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	868	0	1	788
Future Volume (vph)	0	1	868	0	1	788
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	1611	0	3539	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	1611	0	3539	0	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	172		173			194
Travel Time (s)	3.9		2.9			3.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	943	0	1	857
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	943	0	1	857
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	868	0	1	788
Future Vol, veh/h	0	1	868	0	1	788
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	943	0	1	857

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1374	472	0	0	943	0
Stage 1	943	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	137	538	-	-	723	-
Stage 1	339	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	538	-	-	723	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

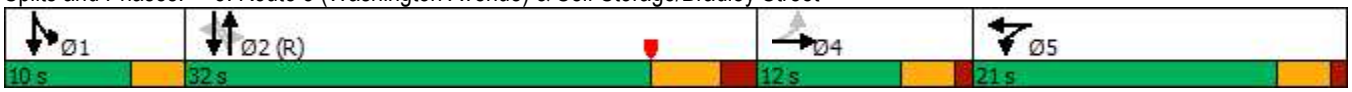
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	538	723	-
HCM Lane V/C Ratio	-	-	0.002	0.002	-
HCM Control Delay (s)	-	-	11.7	10	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	157	0	106	0	482	326	182	579	1
Future Volume (vph)	0	0	1	157	0	106	0	482	326	182	579	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	230		0	105		0	430		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			96			70			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.873			0.940				
Flt Protected				0.950	0.992					0.950		
Satd. Flow (prot)	0	1611	0	1681	1533	0	1863	3327	0	1770	3539	0
Flt Permitted				0.950	0.992					0.268		
Satd. Flow (perm)	0	1611	0	1681	1533	0	1863	3327	0	499	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		288			145			241				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		160			402			504			602	
Travel Time (s)		3.6			9.1			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1	171	0	115	0	524	354	198	629	1
Shared Lane Traffic (%)				12%								
Lane Group Flow (vph)	0	1	0	150	136	0	0	878	0	198	630	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Split	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		5	5			2		1	1 2	
Permitted Phases	4						2			1 2		
Detector Phase	4	4		5	5		2	2		1	1 2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		15.0	15.0		4.0		
Minimum Split (s)	10.0	10.0		12.0	12.0		21.0	21.0		7.0		
Total Split (s)	12.0	12.0		21.0	21.0		32.0	32.0		10.0		
Total Split (%)	16.0%	16.0%		28.0%	28.0%		42.7%	42.7%		13.3%		
Maximum Green (s)	8.0	8.0		17.0	17.0		26.0	26.0		7.0		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		0.0		
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0		
Total Lost Time (s)		4.0		4.0	4.0		6.0	6.0		3.0		
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		2.0		
Recall Mode	None	None		None	None		C-Min	C-Min		None		
Act Effct Green (s)		6.0		11.3	11.3			41.6		51.7	54.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08		0.15	0.15			0.55		0.69	0.73	
v/c Ratio		0.00		0.59	0.38			0.45		0.43	0.24	
Control Delay		0.0		38.9	7.9			9.5		7.5	4.6	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		0.0		38.9	7.9			9.5		7.5	4.6	
LOS		A		D	A			A		A	A	
Approach Delay					24.1			9.5			5.3	
Approach LOS					C			A			A	
Queue Length 50th (ft)		0		69	0			72		19	33	
Queue Length 95th (ft)		0		120	40			192		73	104	
Internal Link Dist (ft)		80			322			424			522	
Turn Bay Length (ft)				230						430		
Base Capacity (vph)		429		381	459			1950		485	2565	
Starvation Cap Reductn		0		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.00		0.39	0.30			0.45		0.41	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 25 (33%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Route 5 (Washington Avenue) & Self Storage/Bradley Street

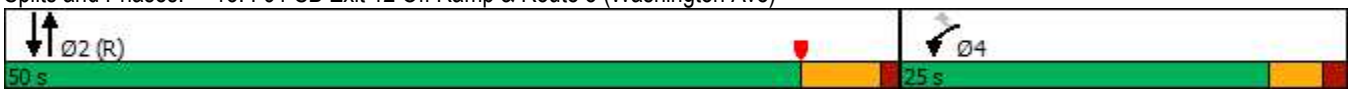


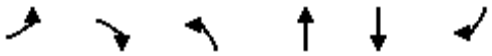
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	316	93	1228	0	0	466
Future Volume (vph)	316	93	1228	0	0	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	170		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		53				
Link Speed (mph)	30		40			40
Link Distance (ft)	543		238			260
Travel Time (s)	12.3		4.1			4.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	101	1335	0	0	507
Shared Lane Traffic (%)						
Lane Group Flow (vph)	343	101	1335	0	0	507
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		2			2
Permitted Phases		4				
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0			15.0
Minimum Split (s)	13.5	13.5	20.6			20.6
Total Split (s)	25.0	25.0	50.0			50.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	20.5	20.5	44.4			44.4
Yellow Time (s)	3.1	3.1	4.5			4.5
All-Red Time (s)	1.4	1.4	1.1			1.1
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	5.6			5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Act Effct Green (s)	18.2	18.2	46.7			46.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.24	0.24	0.62			0.62
v/c Ratio	0.80	0.24	0.61			0.23
Control Delay	41.5	13.2	9.0			7.0
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	41.5	13.2	9.0			7.0
LOS	D	B	A			A
Approach Delay	35.0		9.0			7.0
Approach LOS	D		A			A
Queue Length 50th (ft)	146	17	151			51
Queue Length 95th (ft)	#254	52	237			76
Internal Link Dist (ft)	463		158			180
Turn Bay Length (ft)		170				
Base Capacity (vph)	483	471	2204			2204
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.71	0.21	0.61			0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 59.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: I-91 SB Exit 12 Off Ramp & Route 5 (Washington Ave)





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1228	782	0
Future Volume (vph)	0	0	148	1228	782	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		96			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	3539	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	3539	3539	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	133			534	238	
Travel Time (s)	3.0			9.1	4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	161	1335	850	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	161	1335	850	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	

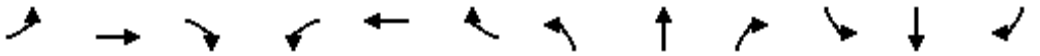
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	74	605	771	304	23	759
Future Volume (vph)	74	605	771	304	23	759
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	225		0	165	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				84	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.95
Frt	0.882	0.850	0.958			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1625	1504	3391	0	1770	3539
Flt Permitted	0.989				0.153	
Satd. Flow (perm)	1625	1504	3391	0	285	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	223	223	103			
Link Speed (mph)	30		40			40
Link Distance (ft)	385		513			534
Travel Time (s)	8.8		8.7			9.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	658	838	330	25	825
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	376	362	1168	0	25	825
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			1 2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0		5.0	
Minimum Split (s)	13.0	13.0	20.5		9.0	
Total Split (s)	26.0	26.0	40.0		9.0	
Total Split (%)	34.7%	34.7%	53.3%		12.0%	
Maximum Green (s)	22.0	22.0	34.5		5.0	
Yellow Time (s)	3.0	3.0	4.5		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0	5.5		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Max		None	
Act Effct Green (s)	14.6	14.6	37.6		48.4	52.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.19	0.19	0.50		0.65	0.70
v/c Ratio	0.76	0.77	0.67		0.07	0.33
Control Delay	21.2	21.7	15.7		3.7	3.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.2	21.7	15.7		3.7	3.9
LOS	C	C	B		A	A
Approach Delay	21.5		15.7			3.8
Approach LOS	C		B			A
Queue Length 50th (ft)	64	61	201		1	30
Queue Length 95th (ft)	139	142	275		m7	113
Internal Link Dist (ft)	305		433			454
Turn Bay Length (ft)		225			165	
Base Capacity (vph)	634	598	1752		367	2471
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.59	0.61	0.67		0.07	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: Route 5 (Washington Ave) & I-91 SB Exit 12 On/Off Ramp

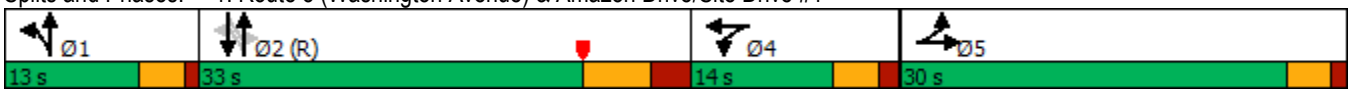


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	648	68	0	15	541	1169	74	7	1140	51
Future Volume (vph)	77	0	648	68	0	15	541	1169	74	7	1140	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	170		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	60			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.991			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1583	0	1770	1583	0	1770	3507	0	1770	3518	0
Flt Permitted	0.950			0.950			0.161			0.161		
Satd. Flow (perm)	3433	1583	0	1770	1583	0	300	3507	0	300	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		318			336			10			5	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		928			176			146			173	
Travel Time (s)		21.1			4.0			2.5			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	704	74	0	16	588	1271	80	8	1239	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	704	0	74	16	0	588	1351	0	8	1294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			14			12			12	
Link Offset(ft)		-24			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA		Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	5		4	4		1	1 2			2	
Permitted Phases							1 2			2		
Detector Phase	5	5		4	4		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0			15.0	15.0	
Minimum Split (s)	11.2	11.2		9.5	9.5		9.0			22.3	22.3	
Total Split (s)	30.0	30.0		14.0	14.0		13.0			33.0	33.0	
Total Split (%)	33.3%	33.3%		15.6%	15.6%		14.4%			36.7%	36.7%	
Maximum Green (s)	25.8	25.8		9.5	9.5		9.0			25.7	25.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.5	4.5	
All-Red Time (s)	1.2	1.2		1.5	1.5		1.0			2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Lost Time (s)	4.2	4.2		4.5	4.5		4.0			7.3	7.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	2.0		2.0			2.5	2.5	
Recall Mode	None	None		None	None		None			C-Min	C-Min	
Act Effct Green (s)	29.3	29.3		7.8	7.8		38.1	42.1		25.7	25.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.33	0.33		0.09	0.09		0.42	0.47		0.29	0.29	
v/c Ratio	0.08	0.96		0.49	0.04		2.14	0.82		0.09	1.28	
Control Delay	23.1	44.9		49.6	0.1		542.8	25.8		27.1	165.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.1	44.9		49.6	0.1		542.8	25.8		27.1	165.0	
LOS	C	D		D	A		F	C		C	F	
Approach Delay		42.6			40.8			182.6			164.2	
Approach LOS		D			D			F			F	
Queue Length 50th (ft)	17	~255		41	0		~487	334		3	~500	
Queue Length 95th (ft)	35	#511		83	0		#693	428		15	#633	
Internal Link Dist (ft)		848			96			66			93	
Turn Bay Length (ft)	150									170		
Base Capacity (vph)	1119	730		186	467		275	1645		85	1008	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.96		0.40	0.03		2.14	0.82		0.09	1.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 86 (96%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.14			
Intersection Signal Delay: 146.9		Intersection LOS: F	
Intersection Capacity Utilization 124.1%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Route 5 (Washington Avenue) & Amazon Drive/Site Drive #1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	1261	0	1	1198
Future Volume (vph)	0	1	1261	0	1	1198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	1611	0	3539	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	1611	0	3539	0	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	172		173			194
Travel Time (s)	3.9		2.9			3.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	1371	0	1	1302
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	1371	0	1	1302
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	1261	0	1	1198
Future Vol, veh/h	0	1	1261	0	1	1198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1371	0	1	1302

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2024	686	0	0	1371	0
Stage 1	1371	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	50	390	-	-	497	-
Stage 1	201	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	390	-	-	497	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	201	-	-	-	-	-
Stage 2	479	-	-	-	-	-

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

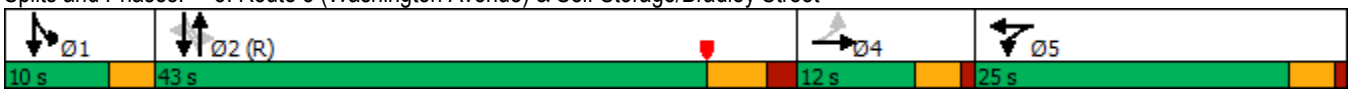
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	390	497	-
HCM Lane V/C Ratio	-	-	0.003	0.002	-
HCM Control Delay (s)	-	-	14.3	12.3	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	8	0	382	21	199	1	1038	170	140	824	2
Future Volume (vph)	7	8	0	382	21	199	1	1038	170	140	824	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	230		0	105		0	430		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			96			70			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.897			0.979				
Flt Protected		0.977		0.950	0.988		0.950			0.950		
Satd. Flow (prot)	0	1820	0	1681	1568	0	1770	3465	0	1770	3539	0
Flt Permitted		0.919		0.950	0.988		0.317			0.101		
Satd. Flow (perm)	0	1712	0	1681	1568	0	590	3465	0	188	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					115			25				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		160			402			504			602	
Travel Time (s)		3.6			9.1			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	9	0	415	23	216	1	1128	185	152	896	2
Shared Lane Traffic (%)				18%								
Lane Group Flow (vph)	0	17	0	340	314	0	1	1313	0	152	898	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		5	5			2		1	1 2	
Permitted Phases	4						2			1 2		
Detector Phase	4	4		5	5		2	2		1	1 2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		15.0	15.0		4.0		
Minimum Split (s)	10.0	10.0		12.0	12.0		21.0	21.0		7.0		
Total Split (s)	12.0	12.0		25.0	25.0		43.0	43.0		10.0		
Total Split (%)	13.3%	13.3%		27.8%	27.8%		47.8%	47.8%		11.1%		
Maximum Green (s)	8.0	8.0		21.0	21.0		37.0	37.0		7.0		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		0.0		
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0		
Total Lost Time (s)		4.0		4.0	4.0		6.0	6.0		3.0		
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		2.0		
Recall Mode	None	None		None	None		C-Min	C-Min		None		
Act Effct Green (s)		6.9		20.8	20.8		41.9	41.9		54.4	57.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08		0.23	0.23		0.47	0.47		0.60	0.64	
v/c Ratio		0.13		0.87	0.70		0.00	0.81		0.54	0.40	
Control Delay		40.4		57.6	28.7		16.0	26.7		20.6	9.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		40.4		57.6	28.7		16.0	26.7		20.6	9.6	
LOS		D		E	C		B	C		C	A	
Approach Delay		40.4			43.7			26.7			11.2	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)		9		185	102		0	346		30	113	
Queue Length 95th (ft)		29		#355	207		3	#500		#118	195	
Internal Link Dist (ft)		80			322			424			522	
Turn Bay Length (ft)				230			105			430		
Base Capacity (vph)		152		406	466		274	1627		280	2256	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.11		0.84	0.67		0.00	0.81		0.54	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 53 (59%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Route 5 (Washington Avenue) & Self Storage/Bradley Street

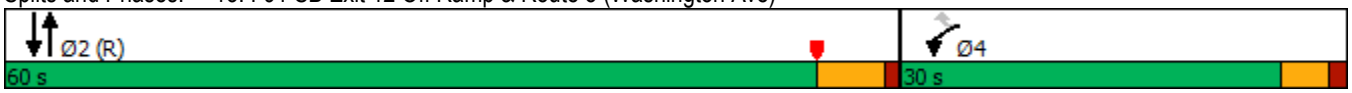


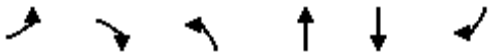
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	301	50	1944	0	0	992
Future Volume (vph)	301	50	1944	0	0	992
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	170		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		9				
Link Speed (mph)	30		40			40
Link Distance (ft)	543		238			260
Travel Time (s)	12.3		4.1			4.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	327	54	2113	0	0	1078
Shared Lane Traffic (%)						
Lane Group Flow (vph)	327	54	2113	0	0	1078
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		2			2
Permitted Phases		4				
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0			15.0
Minimum Split (s)	13.5	13.5	20.6			20.6
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.5	25.5	54.4			54.4
Yellow Time (s)	3.1	3.1	4.5			4.5
All-Red Time (s)	1.4	1.4	1.1			1.1
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	5.6			5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Act Effct Green (s)	21.0	21.0	58.9			58.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.23	0.23	0.65			0.65
v/c Ratio	0.79	0.14	0.91			0.47
Control Delay	46.4	22.9	16.6			9.1
Queue Delay	0.0	0.0	0.2			0.0
Total Delay	46.4	22.9	16.8			9.1
LOS	D	C	B			A
Approach Delay	43.1		16.8			9.1
Approach LOS	D		B			A
Queue Length 50th (ft)	173	20	375			146
Queue Length 95th (ft)	256	47	m#723			216
Internal Link Dist (ft)	463		158			180
Turn Bay Length (ft)		170				
Base Capacity (vph)	501	454	2315			2315
Starvation Cap Reductn	0	0	16			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.65	0.12	0.92			0.47

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 13: I-91 SB Exit 12 Off Ramp & Route 5 (Washington Ave)





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	107	1944	1293	0
Future Volume (vph)	0	0	107	1944	1293	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		96			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	3539	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	3539	3539	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	133			534	238	
Travel Time (s)	3.0			9.1	4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	116	2113	1405	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	116	2113	1405	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	916	1135	300	46	1247
Future Volume (vph)	129	916	1135	300	46	1247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	225		0	165	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				84	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.95
Frt	0.886	0.850	0.969			
Flt Protected	0.988				0.950	
Satd. Flow (prot)	1631	1504	3429	0	1770	3539
Flt Permitted	0.988				0.092	
Satd. Flow (perm)	1631	1504	3429	0	171	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	163	163	51			
Link Speed (mph)	30		40			40
Link Distance (ft)	385		513			534
Travel Time (s)	8.8		8.7			9.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	996	1234	326	50	1355
Shared Lane Traffic (%)		44%				
Lane Group Flow (vph)	578	558	1560	0	50	1355
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			1 2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0		5.0	
Minimum Split (s)	13.0	13.0	20.5		9.0	
Total Split (s)	31.0	31.0	49.0		10.0	
Total Split (%)	34.4%	34.4%	54.4%		11.1%	
Maximum Green (s)	27.0	27.0	43.5		6.0	
Yellow Time (s)	3.0	3.0	4.5		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0	5.5		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Max		None	
Act Effct Green (s)	27.0	27.0	43.5		51.0	55.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.30	0.30	0.48		0.57	0.61
v/c Ratio	0.96	0.99	0.93		0.25	0.63
Control Delay	51.7	59.1	32.2		8.3	9.3
Queue Delay	1.5	2.4	12.8		0.0	0.0
Total Delay	53.2	61.5	45.0		8.3	9.3
LOS	D	E	D		A	A
Approach Delay	57.3		45.0			9.2
Approach LOS	E		D			A
Queue Length 50th (ft)	244	250	407		9	148
Queue Length 95th (ft)	#462	#485	#578		m14	170
Internal Link Dist (ft)	305		433			454
Turn Bay Length (ft)		225			165	
Base Capacity (vph)	603	565	1683		203	2162
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	6	6	146		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.97	1.00	1.01		0.25	0.63

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 36.2		Intersection LOS: D	
Intersection Capacity Utilization 86.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: Route 5 (Washington Ave) & I-91 NB Exit 12 On/Off Ramp

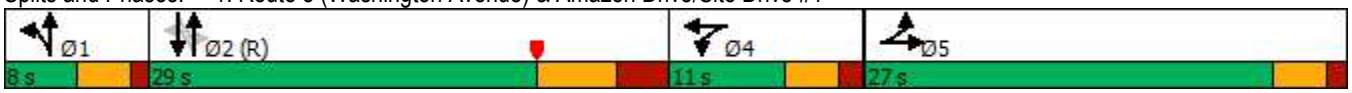
WITH POTENTIAL CTDOT BUILD IMPROVEMENT

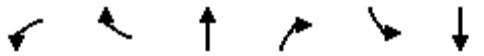
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	71	45	0	7	82	851	63	7	776	5
Future Volume (vph)	10	0	71	45	0	7	82	851	63	7	776	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	170		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	60			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850	0.850		0.850			0.990			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1504	1504	1770	1583	0	1770	3504	0	1770	3536	0
Flt Permitted	0.950			0.950			0.269			0.289		
Satd. Flow (perm)	1770	1504	1504	1770	1583	0	501	3504	0	538	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		256	602		525			13			1	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		928			176			146			173	
Travel Time (s)		21.1			4.0			2.5			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	77	49	0	8	89	925	68	8	843	5
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	11	39	38	49	8	0	89	993	0	8	848	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			14			12			12	
Link Offset(ft)		-24			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	NA	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	5		4	4		1	1 2			2	
Permitted Phases							1 2			2		
Detector Phase	5	5		4	4		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0			15.0	15.0	
Minimum Split (s)	11.2	11.2		9.5	9.5		9.0			22.3	22.3	
Total Split (s)	27.0	27.0		11.0	11.0		8.0			29.0	29.0	
Total Split (%)	36.0%	36.0%		14.7%	14.7%		10.7%			38.7%	38.7%	
Maximum Green (s)	22.8	22.8		6.5	6.5		4.0			21.7	21.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.5	4.5	
All-Red Time (s)	1.2	1.2		1.5	1.5		1.0			2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Lost Time (s)	4.2	4.2		4.5	4.5		4.0			7.3	7.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	2.0		2.0			2.5	2.5	
Recall Mode	None	None		None	None		None			C-Min	C-Min	
Act Effct Green (s)	7.0	7.0	0.0	6.0	6.0		53.7	59.3		36.7	36.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.09	0.00	0.08	0.08		0.72	0.79		0.49	0.49	
v/c Ratio	0.07	0.10	0.06	0.35	0.01		0.15	0.36		0.03	0.49	
Control Delay	32.1	0.6	0.2	39.5	0.0		5.0	4.9		19.7	19.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.1	0.6	0.2	39.5	0.0		5.0	4.9		19.7	19.6	
LOS	C	A	A	D	A		A	A		B	B	
Approach Delay		4.3			34.0			4.9			19.6	
Approach LOS		A			C			A			B	
Queue Length 50th (ft)	5	0	0	22	0		13	101		3	179	
Queue Length 95th (ft)	19	0	0	54	0		28	136		13	#286	
Internal Link Dist (ft)		848			96			66			93	
Turn Bay Length (ft)	150									170		
Base Capacity (vph)	538	635	602	153	616		589	2771		263	1731	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.06	0.06	0.32	0.01		0.15	0.36		0.03	0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 54 (72%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 11.7		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Route 5 (Washington Avenue) & Amazon Drive/Site Drive #1





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	868	0	1	788
Future Volume (vph)	0	1	868	0	1	788
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	1611	0	3539	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	1611	0	3539	0	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	172		173			194
Travel Time (s)	3.9		2.9			3.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	943	0	1	857
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	943	0	1	857
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	868	0	1	788
Future Vol, veh/h	0	1	868	0	1	788
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	943	0	1	857

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1374	472	0	0	943	0
Stage 1	943	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	137	538	-	-	723	-
Stage 1	339	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	137	538	-	-	723	-
Mov Cap-2 Maneuver	137	-	-	-	-	-
Stage 1	339	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	0
HCM LOS	B		

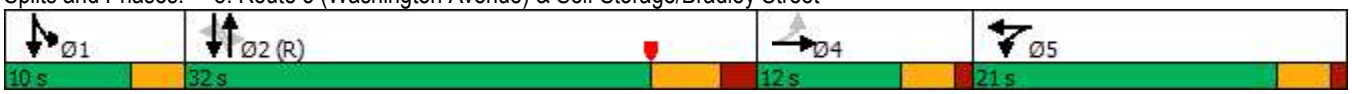
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	538	723	-
HCM Lane V/C Ratio	-	-	0.002	0.002	-
HCM Control Delay (s)	-	-	11.7	10	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1	157	0	106	0	482	326	182	579	1
Future Volume (vph)	0	0	1	157	0	106	0	482	326	182	579	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	230		0	105		0	430		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			96			70			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.865			0.873			0.940				
Flt Protected				0.950	0.992					0.950		
Satd. Flow (prot)	0	1611	0	1681	1533	0	1863	3327	0	1770	3539	0
Flt Permitted				0.950	0.992					0.268		
Satd. Flow (perm)	0	1611	0	1681	1533	0	1863	3327	0	499	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		288			145			241				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		160			402			504			602	
Travel Time (s)		3.6			9.1			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	1	171	0	115	0	524	354	198	629	1
Shared Lane Traffic (%)				12%								
Lane Group Flow (vph)	0	1	0	150	136	0	0	878	0	198	630	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Split	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		5	5			2		1	1 2	
Permitted Phases	4						2			1 2		
Detector Phase	4	4		5	5		2	2		1	1 2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		15.0	15.0		4.0		
Minimum Split (s)	10.0	10.0		12.0	12.0		21.0	21.0		7.0		
Total Split (s)	12.0	12.0		21.0	21.0		32.0	32.0		10.0		
Total Split (%)	16.0%	16.0%		28.0%	28.0%		42.7%	42.7%		13.3%		
Maximum Green (s)	8.0	8.0		17.0	17.0		26.0	26.0		7.0		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		0.0		
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0		
Total Lost Time (s)		4.0		4.0	4.0		6.0	6.0		3.0		
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		2.0		
Recall Mode	None	None		None	None		C-Min	C-Min		None		
Act Effct Green (s)		6.0		11.3	11.3			41.6		51.7	54.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08		0.15	0.15			0.55		0.69	0.73	
v/c Ratio		0.00		0.59	0.38			0.45		0.43	0.24	
Control Delay		0.0		38.9	7.9			9.5		7.5	4.6	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		0.0		38.9	7.9			9.5		7.5	4.6	
LOS		A		D	A			A		A	A	
Approach Delay					24.1			9.5			5.3	
Approach LOS					C			A			A	
Queue Length 50th (ft)		0		69	0			72		19	33	
Queue Length 95th (ft)		0		120	40			192		73	104	
Internal Link Dist (ft)		80			322			424			522	
Turn Bay Length (ft)				230						430		
Base Capacity (vph)		429		381	459			1950		485	2565	
Starvation Cap Reductn		0		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.00		0.39	0.30			0.45		0.41	0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 25 (33%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Route 5 (Washington Avenue) & Self Storage/Bradley Street

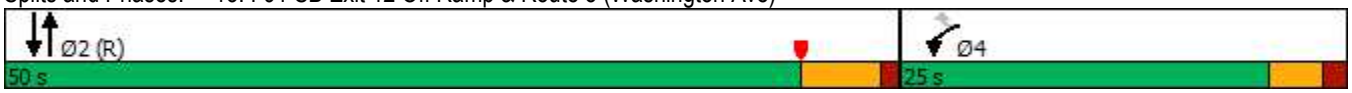


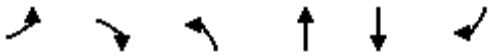
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	316	93	1228	0	0	466
Future Volume (vph)	316	93	1228	0	0	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	170		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		53				
Link Speed (mph)	30		40			40
Link Distance (ft)	543		238			260
Travel Time (s)	12.3		4.1			4.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	343	101	1335	0	0	507
Shared Lane Traffic (%)						
Lane Group Flow (vph)	343	101	1335	0	0	507
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		2			2
Permitted Phases		4				
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0			15.0
Minimum Split (s)	13.5	13.5	20.6			20.6
Total Split (s)	25.0	25.0	50.0			50.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	20.5	20.5	44.4			44.4
Yellow Time (s)	3.1	3.1	4.5			4.5
All-Red Time (s)	1.4	1.4	1.1			1.1
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	5.6			5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Act Effct Green (s)	18.2	18.2	46.7			46.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.24	0.24	0.62			0.62
v/c Ratio	0.80	0.24	0.61			0.23
Control Delay	41.5	13.2	9.0			7.0
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	41.5	13.2	9.0			7.0
LOS	D	B	A			A
Approach Delay	35.0		9.0			7.0
Approach LOS	D		A			A
Queue Length 50th (ft)	146	17	151			51
Queue Length 95th (ft)	#254	52	237			76
Internal Link Dist (ft)	463		158			180
Turn Bay Length (ft)		170				
Base Capacity (vph)	483	471	2204			2204
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.71	0.21	0.61			0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 59.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 13: I-91 SB Exit 12 Off Ramp & Route 5 (Washington Ave)





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	148	1228	782	0
Future Volume (vph)	0	0	148	1228	782	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		96			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	3539	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	3539	3539	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	133			534	238	
Travel Time (s)	3.0			9.1	4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	161	1335	850	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	161	1335	850	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	74	605	771	304	23	759
Future Volume (vph)	74	605	771	304	23	759
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	225		0	165	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				84	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.95
Frt	0.882	0.850	0.958			
Flt Protected	0.989				0.950	
Satd. Flow (prot)	1625	1504	3391	0	1770	3539
Flt Permitted	0.989				0.153	
Satd. Flow (perm)	1625	1504	3391	0	285	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	223	223	103			
Link Speed (mph)	30		40			40
Link Distance (ft)	385		513			534
Travel Time (s)	8.8		8.7			9.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	658	838	330	25	825
Shared Lane Traffic (%)		45%				
Lane Group Flow (vph)	376	362	1168	0	25	825
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			1 2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0		5.0	
Minimum Split (s)	13.0	13.0	20.5		9.0	
Total Split (s)	26.0	26.0	40.0		9.0	
Total Split (%)	34.7%	34.7%	53.3%		12.0%	
Maximum Green (s)	22.0	22.0	34.5		5.0	
Yellow Time (s)	3.0	3.0	4.5		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0	5.5		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Max		None	
Act Effct Green (s)	14.6	14.6	37.6		48.4	52.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.19	0.19	0.50		0.65	0.70
v/c Ratio	0.76	0.77	0.67		0.07	0.33
Control Delay	21.2	21.7	15.7		3.7	3.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	21.2	21.7	15.7		3.7	3.9
LOS	C	C	B		A	A
Approach Delay	21.5		15.7			3.8
Approach LOS	C		B			A
Queue Length 50th (ft)	64	61	201		1	30
Queue Length 95th (ft)	139	142	275		m7	113
Internal Link Dist (ft)	305		433			454
Turn Bay Length (ft)		225			165	
Base Capacity (vph)	634	598	1752		367	2471
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.59	0.61	0.67		0.07	0.33

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

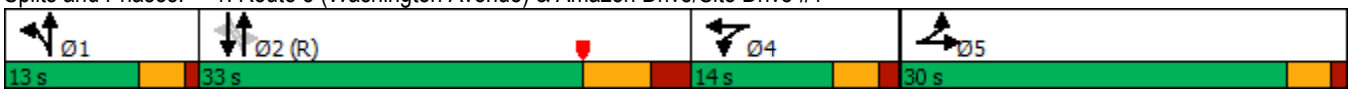
Splits and Phases: 18: Route 5 (Washington Ave) & I-91 SB Exit 12 On/Off Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	0	648	68	0	15	541	1169	74	7	1140	51
Future Volume (vph)	77	0	648	68	0	15	541	1169	74	7	1140	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	0		0	170		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	60			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850	0.850		0.850			0.991			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1504	1504	1770	1583	0	1770	3507	0	1770	3518	0
Flt Permitted	0.950			0.950			0.162			0.202		
Satd. Flow (perm)	1770	1504	1504	1770	1583	0	302	3507	0	376	3518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		318	603		336			10			5	
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		928			176			146			173	
Travel Time (s)		21.1			4.0			2.5			2.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	0	704	74	0	16	588	1271	80	8	1239	55
Shared Lane Traffic (%)			50%									
Lane Group Flow (vph)	84	352	352	74	16	0	588	1351	0	8	1294	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			14			12			12	
Link Offset(ft)		-24			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Split	NA	NA	Split	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	5		4	4		1	1 2			2	
Permitted Phases							1 2			2		
Detector Phase	5	5		4	4		1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		5.0	5.0		5.0			15.0	15.0	
Minimum Split (s)	11.2	11.2		9.5	9.5		9.0			22.3	22.3	
Total Split (s)	30.0	30.0		14.0	14.0		13.0			33.0	33.0	
Total Split (%)	33.3%	33.3%		15.6%	15.6%		14.4%			36.7%	36.7%	
Maximum Green (s)	25.8	25.8		9.5	9.5		9.0			25.7	25.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.5	4.5	
All-Red Time (s)	1.2	1.2		1.5	1.5		1.0			2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0			0.0	0.0	
Total Lost Time (s)	4.2	4.2		4.5	4.5		4.0			7.3	7.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		2.0	2.0		2.0			2.5	2.5	
Recall Mode	None	None		None	None		None			C-Min	C-Min	
Act Effct Green (s)	11.5	11.5	0.0	7.8	7.8		56.0	60.0		25.7	25.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.13	0.13	0.00	0.09	0.09		0.62	0.67		0.29	0.29	
v/c Ratio	0.37	0.75	0.58	0.49	0.04		0.94	0.58		0.07	1.28	
Control Delay	38.9	16.7	4.1	49.6	0.1		49.4	11.2		25.9	165.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.9	16.7	4.1	49.6	0.1		49.4	11.2		25.9	165.0	
LOS	D	B	A	D	A		D	B		C	F	
Approach Delay		13.4			40.8			22.8			164.2	
Approach LOS		B			D			C			F	
Queue Length 50th (ft)	46	18	0	41	0		260	194		3	~500	
Queue Length 95th (ft)	79	100	0	83	0		#622	370		15	#633	
Internal Link Dist (ft)		848			96			66			93	
Turn Bay Length (ft)	150									170		
Base Capacity (vph)	507	657	603	186	467		627	2339		107	1008	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.17	0.54	0.58	0.40	0.03		0.94	0.58		0.07	1.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 86 (96%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay: 66.1		Intersection LOS: E	
Intersection Capacity Utilization 97.3%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Route 5 (Washington Avenue) & Amazon Drive/Site Drive #1



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	1261	0	1	1198
Future Volume (vph)	0	1	1261	0	1	1198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	1611	0	3539	0	1770	3539
Flt Permitted					0.950	
Satd. Flow (perm)	1611	0	3539	0	1770	3539
Link Speed (mph)	30		40			40
Link Distance (ft)	172		173			194
Travel Time (s)	3.9		2.9			3.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1	1371	0	1	1302
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1	0	1371	0	1	1302
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	1261	0	1	1198
Future Vol, veh/h	0	1	1261	0	1	1198
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1371	0	1	1302

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2024	686	0	0	1371	0
Stage 1	1371	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	50	390	-	-	497	-
Stage 1	201	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	390	-	-	497	-
Mov Cap-2 Maneuver	50	-	-	-	-	-
Stage 1	201	-	-	-	-	-
Stage 2	479	-	-	-	-	-

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

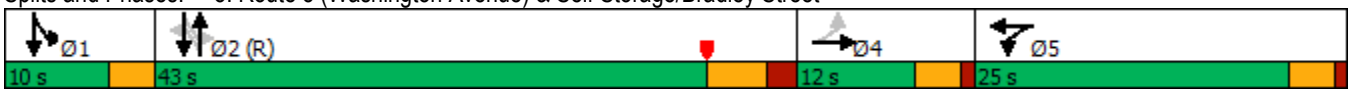
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	390	497	-
HCM Lane V/C Ratio	-	-	0.003	0.002	-
HCM Control Delay (s)	-	-	14.3	12.3	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	8	0	382	21	199	1	1038	170	140	824	2
Future Volume (vph)	7	8	0	382	21	199	1	1038	170	140	824	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	230		0	105		0	430		0
Storage Lanes	0		0	1		0	1		0	1		0
Taper Length (ft)	25			96			70			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt					0.897			0.979				
Flt Protected		0.977		0.950	0.988		0.950			0.950		
Satd. Flow (prot)	0	1820	0	1681	1568	0	1770	3465	0	1770	3539	0
Flt Permitted		0.919		0.950	0.988		0.317			0.101		
Satd. Flow (perm)	0	1712	0	1681	1568	0	590	3465	0	188	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					115			25				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		160			402			504			602	
Travel Time (s)		3.6			9.1			11.5			13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	9	0	415	23	216	1	1128	185	152	896	2
Shared Lane Traffic (%)				18%								
Lane Group Flow (vph)	0	17	0	340	314	0	1	1313	0	152	898	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Split	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		5	5			2		1	1 2	
Permitted Phases	4						2			1 2		
Detector Phase	4	4		5	5		2	2		1	1 2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		15.0	15.0		4.0		
Minimum Split (s)	10.0	10.0		12.0	12.0		21.0	21.0		7.0		
Total Split (s)	12.0	12.0		25.0	25.0		43.0	43.0		10.0		
Total Split (%)	13.3%	13.3%		27.8%	27.8%		47.8%	47.8%		11.1%		
Maximum Green (s)	8.0	8.0		21.0	21.0		37.0	37.0		7.0		
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0		
All-Red Time (s)	1.0	1.0		1.0	1.0		2.0	2.0		0.0		
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0		
Total Lost Time (s)		4.0		4.0	4.0		6.0	6.0		3.0		
Lead/Lag	Lead	Lead		Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		2.0		
Recall Mode	None	None		None	None		C-Min	C-Min		None		
Act Effct Green (s)		6.9		20.8	20.8		41.9	41.9		54.4	57.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.08		0.23	0.23		0.47	0.47		0.60	0.64	
v/c Ratio		0.13		0.87	0.70		0.00	0.81		0.54	0.40	
Control Delay		40.4		57.6	28.7		16.0	26.7		20.6	9.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		40.4		57.6	28.7		16.0	26.7		20.6	9.6	
LOS		D		E	C		B	C		C	A	
Approach Delay		40.4			43.7			26.7			11.2	
Approach LOS		D			D			C			B	
Queue Length 50th (ft)		9		185	102		0	346		30	113	
Queue Length 95th (ft)		29		#355	207		3	#500		#118	195	
Internal Link Dist (ft)		80			322			424			522	
Turn Bay Length (ft)				230			105			430		
Base Capacity (vph)		152		406	466		274	1627		280	2256	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.11		0.84	0.67		0.00	0.81		0.54	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 53 (59%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 25.1		Intersection LOS: C	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 8: Route 5 (Washington Avenue) & Self Storage/Bradley Street

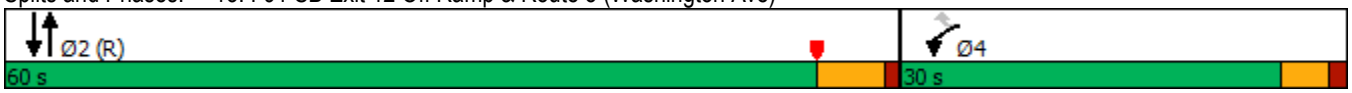


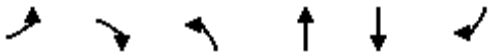
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	301	50	1944	0	0	992
Future Volume (vph)	301	50	1944	0	0	992
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	170		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1770	1583	3539	0	0	3539
Flt Permitted	0.950					
Satd. Flow (perm)	1770	1583	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		9				
Link Speed (mph)	30		40			40
Link Distance (ft)	543		238			260
Travel Time (s)	12.3		4.1			4.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	327	54	2113	0	0	1078
Shared Lane Traffic (%)						
Lane Group Flow (vph)	327	54	2113	0	0	1078
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA			NA
Protected Phases	4		2			2
Permitted Phases		4				
Detector Phase	4	4	2			2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0			15.0
Minimum Split (s)	13.5	13.5	20.6			20.6
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.5	25.5	54.4			54.4
Yellow Time (s)	3.1	3.1	4.5			4.5
All-Red Time (s)	1.4	1.4	1.1			1.1
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	5.6			5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Act Effct Green (s)	21.0	21.0	58.9			58.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.23	0.23	0.65			0.65
v/c Ratio	0.79	0.14	0.91			0.47
Control Delay	46.4	22.9	16.6			9.1
Queue Delay	0.0	0.0	0.2			0.0
Total Delay	46.4	22.9	16.8			9.1
LOS	D	C	B			A
Approach Delay	43.1		16.8			9.1
Approach LOS	D		B			A
Queue Length 50th (ft)	173	20	375			146
Queue Length 95th (ft)	256	47	m#723			216
Internal Link Dist (ft)	463		158			180
Turn Bay Length (ft)		170				
Base Capacity (vph)	501	454	2315			2315
Starvation Cap Reductn	0	0	16			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.65	0.12	0.92			0.47

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 13: I-91 SB Exit 12 Off Ramp & Route 5 (Washington Ave)





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	107	1944	1293	0
Future Volume (vph)	0	0	107	1944	1293	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	210			0
Storage Lanes	0	0	1			0
Taper Length (ft)	25		96			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	3539	3539	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	3539	3539	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	133			534	238	
Travel Time (s)	3.0			9.1	4.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	116	2113	1405	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	116	2113	1405	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	129	916	1135	300	46	1247
Future Volume (vph)	129	916	1135	300	46	1247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	225		0	165	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				84	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	0.95
Frt	0.886	0.850	0.969			
Flt Protected	0.988				0.950	
Satd. Flow (prot)	1631	1504	3429	0	1770	3539
Flt Permitted	0.988				0.092	
Satd. Flow (perm)	1631	1504	3429	0	171	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	163	163	51			
Link Speed (mph)	30		40			40
Link Distance (ft)	385		513			534
Travel Time (s)	8.8		8.7			9.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	996	1234	326	50	1355
Shared Lane Traffic (%)		44%				
Lane Group Flow (vph)	578	558	1560	0	50	1355
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			1 2	
Detector Phase	4	4	2		1	1 2
Switch Phase						
Minimum Initial (s)	9.0	9.0	15.0		5.0	
Minimum Split (s)	13.0	13.0	20.5		9.0	
Total Split (s)	31.0	31.0	49.0		10.0	
Total Split (%)	34.4%	34.4%	54.4%		11.1%	
Maximum Green (s)	27.0	27.0	43.5		6.0	
Yellow Time (s)	3.0	3.0	4.5		3.0	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0	5.5		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Max		None	
Act Effct Green (s)	27.0	27.0	43.5		51.0	55.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Actuated g/C Ratio	0.30	0.30	0.48		0.57	0.61
v/c Ratio	0.96	0.99	0.93		0.25	0.63
Control Delay	51.7	59.1	32.2		8.3	9.3
Queue Delay	1.5	2.4	12.8		0.0	0.0
Total Delay	53.2	61.5	45.0		8.3	9.3
LOS	D	E	D		A	A
Approach Delay	57.3		45.0			9.2
Approach LOS	E		D			A
Queue Length 50th (ft)	244	250	407		9	148
Queue Length 95th (ft)	#462	#485	#578		m14	170
Internal Link Dist (ft)	305		433			454
Turn Bay Length (ft)		225			165	
Base Capacity (vph)	603	565	1683		203	2162
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	6	6	146		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.97	1.00	1.01		0.25	0.63

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 36.2		Intersection LOS: D	
Intersection Capacity Utilization 86.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: Route 5 (Washington Ave) & I-91 NB Exit 12 On/Off Ramp