



TRAFFIC STUDY – Addendum #2

Proposed Delivery Station Building

425 & 528 South Cherry Street

Wallingford, CT

I. Introduction	3
II. Projected Traffic Conditions	4
Trip Generation and On-Site Circulation	4
Trip Distribution	6
Assigned Site Generated Traffic Volumes	8
Build Traffic Volumes	10
III. INTERSECTION ANALYSIS	12
IV. CONCLUSIONS AND RECOMMENDATIONS	17

ILLUSTRATIONS

FIGURE 4A – TRIP DISTRIBUTION 7
FIGURE 5A – SITE GENERATED TRAFFIC VOLUMES..... 9
FIGURE 6A – BUILD (2020) TRAFFIC VOLUMES 11

TABLES

TABLE 2A – PEAK HOUR “STEADY STATE” TRIP GENERATION 6
TABLE 5A – PEAK HOUR LEVELS OF SERVICE 13

APPENDIX

CAPACITY ANALYSES

I. Introduction

This Addendum has been prepared for a traffic study for the Site (425 Cherry Street) submitted to the Town of Wallingford in October 2019 and revised in February 2020. It is in response to clarification from the tenant on traffic operations for the Site. This letter was submitted to the Town of Wallingford Planning and Zoning Commission on February 25, 2020. The letter describes “Steady State” operations and has revised entrance and egress times of vehicles associated with the Site. This time is defined as the period from January 1 through the last week in November for a given year, excluding a few days in the mid-year for a promotional sale. The description of the traffic operations presented by the tenant varies from the instance described in the traffic report revised in February 2020. This addendum also provides a revised trip distribution to reflect personal vehicle commuting patterns to CT Route 15 (Wilbur Cross Parkway), which is in proximity to the Site.

II. Projected Traffic Conditions

Trip Generation and On-Site Circulation

The tenant has revised the previously submitted logistics of the Site. The on-site circulation patterns have not changed; however, the timeframes and number of vehicles have changed. Below is a revised description of the traffic operations for the Site and how they relate to the Site's Trip Generation. It should be noted that, per the revised information from the tenant, the Site will not exceed 175 vans during their "Steady State" operations. This time is defined as the period from January 1 through the last week in November for a given year, excluding a few days in the mid-year for a promotional sale. The trip generation describes the "Steady State Operation."

The Tenant anticipates that this facility will employ approximately 125 associates/managers on-site over various shifts during the course of the day. It is anticipated that the shift change will occur at 11:00 a.m. (This will occur during the mid-day peak hour.) These employees will still utilize the two parking areas on site and one off site lot approximately 800' south of the delivery station building at 528 South Cherry Street (as known as the "Allnex Site"). One full access driveway on Pent Road for one area and the second area will have a one-way only area where employees will enter the site via on Ball Street and exit via Pent Road. The off-site parking lot is proposed to have one full access drive. It is anticipated that 125 trips (0 in, 125 out) will occur during the Mid-Day Peak Hour. No other peak hours will be impacted by Associates and Managers.

DSP drivers will arrive on-site in the morning (five shifts of 25 drivers between 9:50 and 11:30 a.m. and one shift of two drivers between 11:30 and 11:50 a.m.) through the southernmost access drive on Pent Road. The DSP drivers will park their personal vehicles on-site and then leave the site in a delivery van, exiting on Ball Street. The first "wave" of 25 DSP drivers arrive at the delivery station at approximately 10:00 AM. DSP drivers either park their personal vehicles onsite and pick up their delivery vans or park their personal vehicles offsite at the Allnex Site, pick up their delivery vans, and drive to the delivery station. Once at the delivery station with their van, DSP drivers load their van and depart to deliver packages directly to customers. Each delivery wave takes about 30 minutes to load and depart. As a wave of DSP drivers prepare to depart, a new wave of DSP drivers queue and prepare to load their delivery

van. The last wave of DSP drivers departs the delivery station around 1:00 PM. Approximately 175 delivery vans will depart the Delivery Station between 10:00 AM and 1:00 PM and return between 6:00 PM and 9:00 PM. During the Mid-Day Peak Hour, it is anticipated that 169 total trips (72 in, 97 out) will occur. No other peak hours will be affected.

DSP managers, who oversee the DSP drivers, are anticipated to arrive on-site over the course of the morning between 8:00 a.m. and 11:00 a.m. To be conservative, it was assumed that all DSP managers would arrive to work during the AM Peak Hour creating 20 trips (20 in, 0 out). DSP managers leave work between 7:00 p.m. and 10:00 p.m. This means there is no impact to the Mid-Day and PM Peak Hours.

The tenant expects that approximately 100 flex drivers will be utilized for daily package deliveries. Flex drivers will arrive on-site during the PM Peak Hour (three shifts of 25 drivers between 4:00 p.m. and 5:00 p.m., and one shift of 21 drivers between 5:00 and 5:20 p.m.) through the South Cherry Street access drive. It is anticipated that it takes approximately 20 minutes for flex loading to complete. The flex drivers enter the building in their personal vehicle, the vehicle will be loaded and then the flex drivers will leave via Ball Street and make deliveries in their personal vehicles. It is anticipated that there will be 150 trips (75 in, 75 out) during the PM Peak Hour. No other peak hours are impacted by Flex drivers.

The site is expected to process 8 tractor-trailers per day, generally in the overnight hours between 10:30 p.m. and 8:30 a.m. Tractor trailers will enter and exit on Pent Road. These are anticipated to not impact any of the peak hours analyzed.

A summary of the trip generation projections for the proposed distribution station is presented in **Table 2A**. As indicated by the tenant, the proposed distribution station is projected to have typical site generation of 20 (20 enter, 0 exit) vehicle trips during the weekday morning peak hour, 294 vehicle trips (72 enter, 222 exit) vehicle trips during the mid-day peak hour and 150 vehicle trips (75 enter, 75 exit) during the weekday evening peak hour.

Table 2A – Peak Hour “Steady State” Trip Generation

Trips By	Trips								
	AM Peak Hour Adjacent Street Traffic			Mid-day Peak Hour of Adjacent Street Traffic			PM Peak Hour of Adjacent Street Traffic		
	Total	In	Out	Total	In	Out	Total	In	Out
Associates/Managers	20	20	0	125	0	125	0	0	0
DSP	0	0	0	169	72	97	0	0	0
Flex Drivers	0	0	0	0	0	0	150	75	75
Trucks	0	0	0	0	0	0	0	0	0
Net New Trips	20	20	0	294	72	222	150	75	75

Trip Distribution

The trip distribution has been changed since the last submission in February 2020. A portion of non-commercial vehicles have been distributed towards CT Route 15 (Wilbur Cross Parkway) to reflect commuter patterns. The distribution of the anticipated traffic volumes are shown in **Figure 4A**.

LEGEND

- ⊕ SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

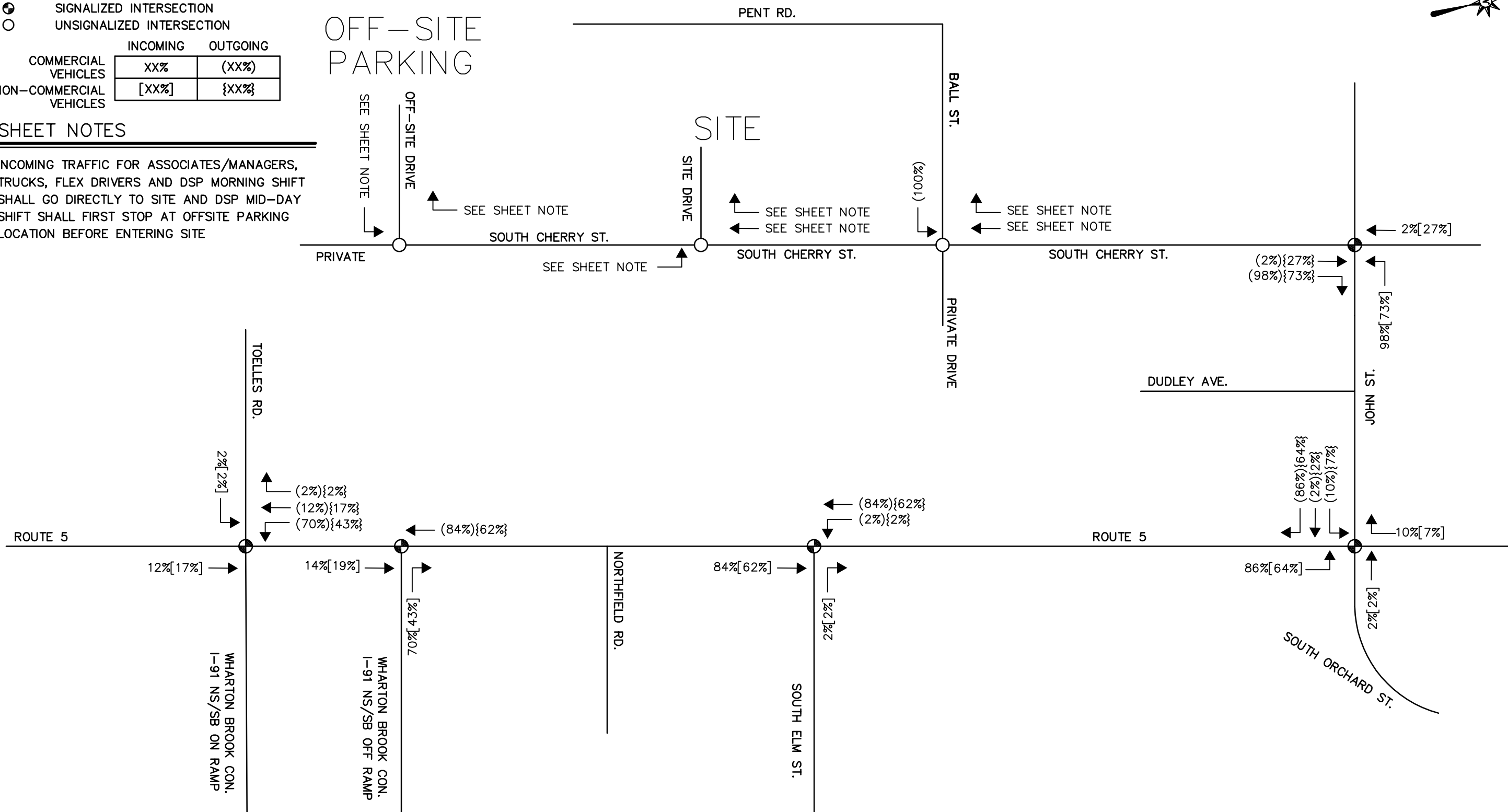
	INCOMING	OUTGOING
COMMERCIAL VEHICLES	XX%	(XX%)
NON-COMMERCIAL VEHICLES	[XX%]	{XX%}

SHEET NOTES

INCOMING TRAFFIC FOR ASSOCIATES/MANAGERS, TRUCKS, FLEX DRIVERS AND DSP MORNING SHIFT SHALL GO DIRECTLY TO SITE AND DSP MID-DAY SHIFT SHALL FIRST STOP AT OFFSITE PARKING LOCATION BEFORE ENTERING SITE

OFF-SITE PARKING

SITE



3/10/2020, MSHEPLEY, G:_JOBS\19\12\1901304\DWG\FLO190130405.DWG-FIGURE 4A.



TRIP DISTRIBUTION
 PROPOSED DEVELOPMENT
 425 SOUTH CHERRY STREET
 WALLINGFORD, CT
 SCHEMATIC, NOT TO SCALE

MARCH 2020

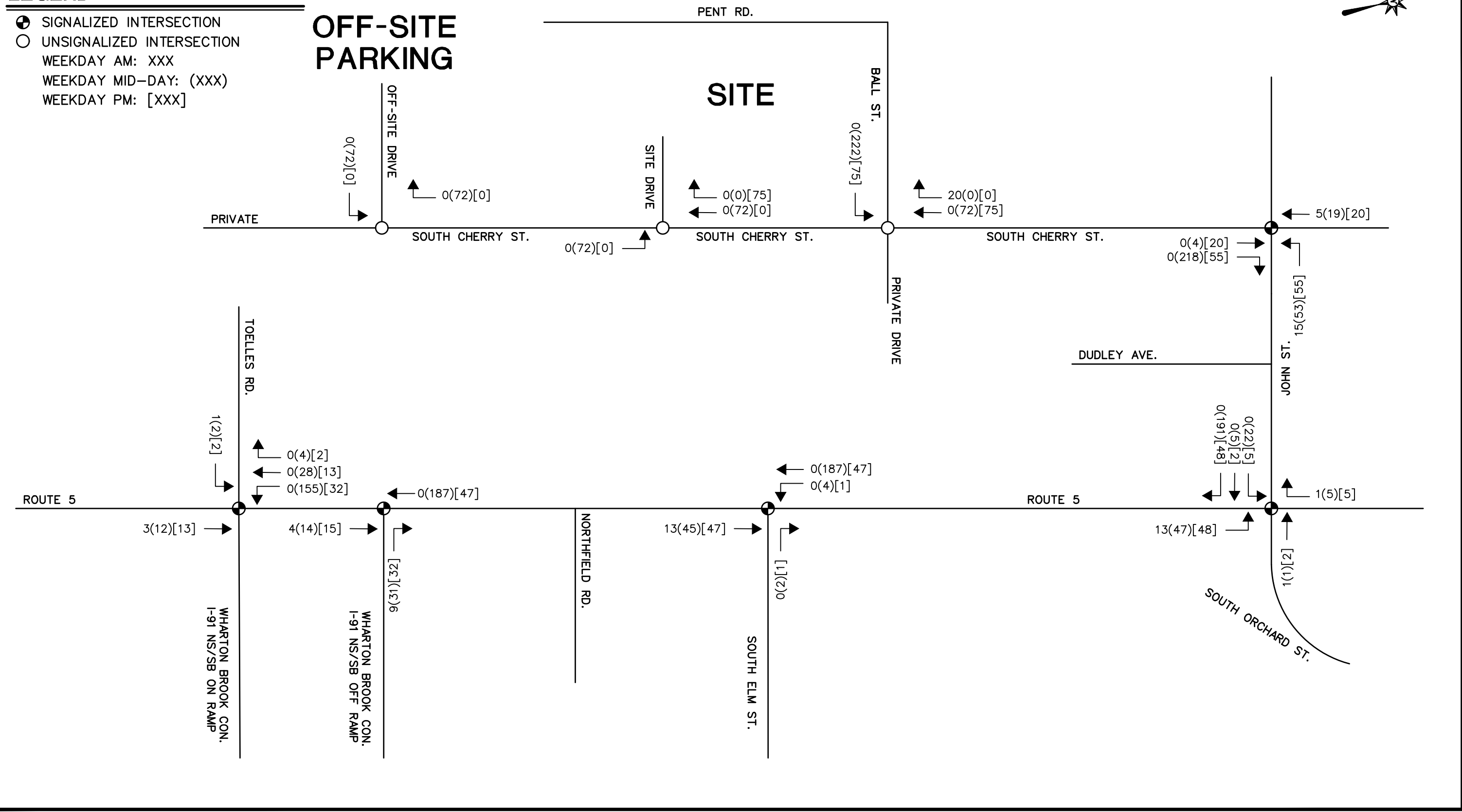
FIGURE 4A

Assigned Site Generated Traffic Volumes

The Site Generated Traffic Volumes have been updated to reflect the change in traffic operations. **Figure 5A** shows the site generated peak hour traffic generated by the site assigned to the nearby roadway network.

LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- WEEKDAY AM: XXX
- WEEKDAY MID-DAY: (XXX)
- WEEKDAY PM: [XXX]



3/10/2020, DGEHRING, G.: \JOBS\19\12\1901304\DWG\TFO\190130405.DWG, FIGURE 5A.



SITE GENERATED TRAFFIC VOLUMES
PROPOSED DEVELOPMENT
425 SOUTH CHERRY STREET
WALLINGFORD, CT
 SCHEMATIC, NOT TO SCALE

MARCH 2020

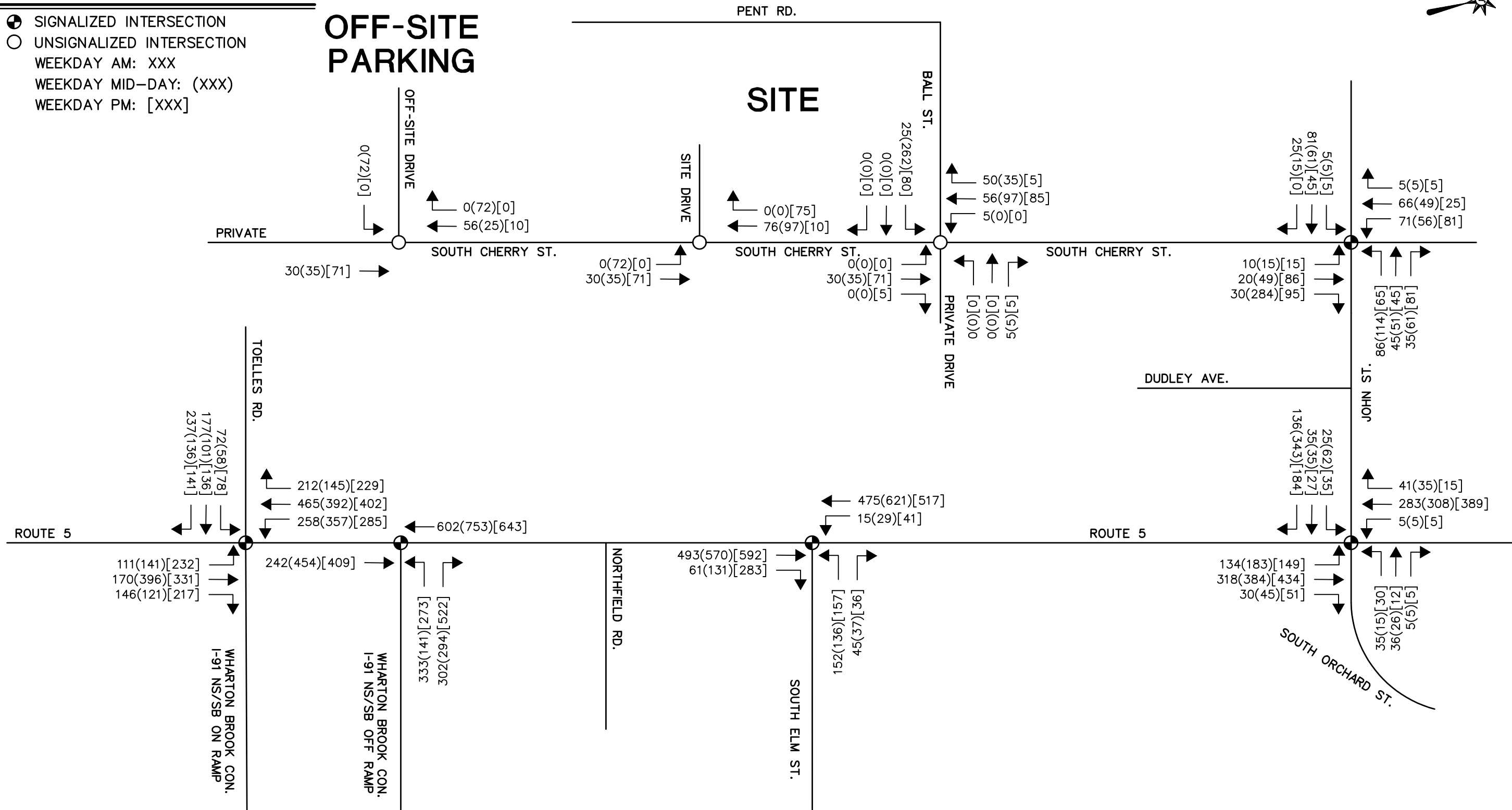
FIGURE 5A

Build Traffic Volumes

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

LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- WEEKDAY AM: XXX
- WEEKDAY MID-DAY: (XXX)
- WEEKDAY PM: [XXX]



3/10/2020, DGEHRING, G. \JOBS\19\12\1901304\DWG\TEL0190130405.DWG, FIGURE 6A.



BUILD (2020) TRAFFIC VOLUMES
PROPOSED DEVELOPMENT
425 SOUTH CHERRY STREET
WALLINGFORD, CT
 SCHEMATIC, NOT TO SCALE

MARCH 2020

FIGURE 6A

III. INTERSECTION ANALYSIS

The analysis was updated and shown in **Table 5A** shows the levels of service (LOS) at the subject intersections. The Mid-Day Peak Hour is the only peak hour that would have more trips and a therefore, negatively impacted, analysis. It is the only analysis provided in this addendum. A more detailed table is included in the Appendix.

Table 3A – Peak Hour Levels of Service

	AM		MID-DAY		PM	
	No Build	Build	No Build	Build	No Build	Build
South Cherry Street at Ball Street and Private Drive²	-	-	-	-	-	-
Ball Street EB Left/Thru/Right	A/0.03/25	A/0.03/25	A/0.05/25	B/0.37/45	A/0.01/25	B/0.11/25
Private Drive WB Left/Thru/Right	A/0.01/25	A/0.01/25	A/0.01/25	A/0.01/25	A/0.01/25	A/0.01/25
S Cherry Street NB Left/Thru/Right	-	-	-	-	-	-
S Cherry Street SB Left/Thru/Right	-	A/0.01/25	-	-	-	-
South Cherry Street at John Street¹	B/10.4	B/10.8	A/9.3	A/8.9	A/8.3	A/8.2
John Street EB Left/Thru/Right	B/0.16/55	B/0.16/55	B/0.12/45	B/0.12/45	B/0.07/35	B/0.07/35
John Street WB Left/Thru/Right	B/0.28/75	B/0.31/85	B/0.30/75	B/0.42/110	A/0.20/45	A/0.31/80
S Cherry Street NB Left/Thru/Right	A/0.10/25	A/0.10/25	A/0.17/40	A/0.46/60	A/0.16/45	A/0.25/60
S Cherry Street SB Left/Thru/Right	B/0.20/65	B/0.21/65	B/0.15/45	B/0.18/55	B/0.16/45	B/0.19/55
U.S. Route 5 at John Street and South Orchard Street¹	B/13.1	B/13.0	B/12.4	B/18.3	B/12.5	B/14.0
John Street EB Left/Thru/Right	D/0.74/180	D/0.74/180	D/0.70/155	C/0.82/255	D/0.69/170	D/0.76/210
S Orchard Street WB	C/0.32/70	C/0.32/70	B/0.13/40	B/0.08/30	C/0.21/50	C/0.18/50
U.S. Route 5 NB Left/Thru	A/0.26/25	A/0.27/25	A/0.32/55	A/0.48/65	A/0.29/30	A/0.35/30
U.S. Route 5 NB Right ³	A/0.03/25	A/0.03/25	A/0.05/25	A/0.06/25	A/0.05/25	A/0.05/25
U.S. Route 5 SB Left/Thru/Right	A/0.19/55	A/0.19/60	B/0.23/75	C/0.38/115	B/0.22/100	B/0.24/100

	<u>AM</u>		<u>MID-DAY</u>		<u>PM</u>	
	<u>No Build</u>	<u>Build</u>	<u>No Build</u>	<u>Build</u>	<u>No Build</u>	<u>Build</u>
U.S. Route 5 at South Elm Street¹	A/7.5	A/7.5	A/6.5	A/5.8	A/9.2	A/9.2
S Elm Street WB Left	D/0.63/125	D/0.63/125	D/0.56/110	D/0.56/110	D/0.67/150	D/0.67/150
S Elm Street WB Right	A/0.18/30	A/0.18/30	A/0.14/25	A/0.15/25	B/0.15/25	B/0.15/30
U.S. Route 5 NB Thru/Right	A/0.23/25	A/0.24/25	A/0.27/35	A/0.29/40	A/0.35/115	A/0.37/155
U.S. Route 5 SB Left/Thru	A/0.22/55	A/0.22/55	A/0.21/60	A/0.29/70	A/0.25/75	A/0.28/95
U.S. Route 5 at I-91 Wharton Brook Connector Off Ramp¹	B/11.3	B/11.3	A/6.5	A/7.3	B/13.0	B/13.4
Off Ramp WB Left/Right	B/0.76/125	B/0.76/125	B/0.64/70	B/0.66/75	C/0.82/170	C/0.82/185
U.S. Route 5 NB Thru	A/0.11/65	A/0.11/70	A/0.19/25	A/0.20/25	A/0.18/50	A/0.19/50
U.S. Route 5 SB Thru	A/0.28/75	A/0.28/75	A/0.25/85	A/0.33/140	A/0.28/85	A/0.31/85

	<u>AM</u>		<u>MID-DAY</u>		<u>PM</u>	
	<u>No Build</u>	<u>Build</u>	<u>No Build</u>	<u>Build</u>	<u>No Build</u>	<u>Build</u>
U.S. Route 5 at I-91 Wharton Brook Connector On Ramp and Toelles Road¹	C/20.7	C/20.7	C/20.5	C/21.8	C/24.8	C/25.8
Toelles Road EB Left/Thru	C/0.50/170	C/0.51/170	C/0.35/100	C/0.35/100	C/0.51/170	C/0.51/170
Toelles Road EB Right	C/0.56/170	C/0.56/170	C/0.35/90	C/0.34/90	C/0.39/120	C/0.39/115
U.S. Route 5 NB Left	D/0.52/100	D/0.52/100	C/0.56/110	D/0.57/110	D/0.74/200	D/0.73/200
U.S. Route 5 NB Thru/Right	B/0.30/75	B/0.31/75	B/0.46/150	C/0.68/150	B/0.41/155	B/0.44/165
U.S. Route 5 SB Left	C/0.72/170	C/0.72/165	C/0.66/95	C/0.72/305	D/0.75/230	E/0.78/270
U.S. Route 5 SB Thru	B/0.34/150	B/0.34/150	B/0.30/135	B/0.32/145	B/0.29/110	B/0.30/105
U.S. Route 5 SB Right	A/0.18/95	A/0.18/95	A/0.13/80	A/0.14/70	A/0.21/75	A/0.22/60
South Cherry Street at Site Drive²	-	-	-	-	-	-
Site Drive EB *Entrance Only	-	-	-	-	-	-
S Cherry Street NB Left/Thru/Right	-	-	-	-	-	-
S Cherry Street SB Left/Thru/Right	-	-	-	-	-	-
South Cherry Street at Off-Site Parking Lot/Private Drive²	-	-	-	-	-	-
Ball Street EB Left	-	A/0.00/25	-	A/0.09/25	-	A/0.00/25
Private Drive NB Thru	-	-	-	-	-	-
S Cherry Street SB Thru/Right	-	-	-	-	-	-

As illustrated in **Table 5A**, traffic operations for the overall intersection LOS during the all peak hours analyzed, all intersections are projected to have the same intersection LOS between the No Build and Build scenarios. The only unacceptable LOS observed was the left turn movement on U.S. Route 5 SB onto the Wharton Brook Connector. The LOS deteriorates from a “D” to an “E.” However, the queue length increases by 40 feet and the delay increases by approximately three seconds. This is a minimal impact to the overall operation of the intersection.

IV. CONCLUSIONS AND RECOMMENDATIONS

This Addendum has been prepared for a traffic study for the Site (425 Cherry Street) submitted to the Town of Wallingford in October 2019 and revised in February 2020. It is in response to clarification from the tenant on traffic operations within the Site. This letter was submitted to the Town of Wallingford Planning and Zoning Commission on February 25, 2020. The letter included trip generation for a “Steady State Operation.” The trip generation was also revised to reflect non-commercial vehicle patterns to CT Route 15 (Wilbur Cross Parkway).

The revised analysis showed minimal impacts to the studied network. The only unacceptable LOS observed was a LOS E on the left turn movement from U.S. Route 5 SB onto the Wharton Brook Connector. With the minimal impacts observed on the network, there are no recommendations for mitigations for off-site traffic operations.

APPENDIX

CAPACITY ANALYSES

BUILD



Lanes, Volumes, Timings
1: South Cherry Street & Ball Street/Driveway

Build
Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	0	0	0	0	5	0	30	0	5	56	50
Future Volume (vph)	25	0	0	0	0	5	0	30	0	5	56	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.865							0.939
Fl _t Protected		0.950										0.998
Satd. Flow (prot)	0	1530	0	0	1611	0	0	1429	0	0	1576	0
Fl _t Permitted		0.950										0.998
Satd. Flow (perm)	0	1530	0	0	1611	0	0	1429	0	0	1576	0
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		472			112			414			1442	
Travel Time (s)		12.9			2.5			8.1			28.1	
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
Heavy Vehicles (%)	18%	18%	18%	2%	2%	2%	33%	33%	33%	13%	13%	13%
Adj. Flow (vph)	27	0	0	0	0	5	0	33	0	5	61	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	0	0	5	0	0	33	0	0	120	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)		0			0			0			0	
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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.1%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	0	0	0	0	5	0	30	0	5	56	50
Future Vol, veh/h	25	0	0	0	0	5	0	30	0	5	56	50
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	18	18	2	2	2	33	33	33	13	13	13
Mvmt Flow	27	0	0	0	0	5	0	33	0	5	61	54

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	134	131	88	131	158	33	115	0	-	33	0	0
Stage 1	98	98	-	33	33	-	-	-	-	-	-	-
Stage 2	36	33	-	98	125	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.68	6.38	7.12	6.52	6.22	4.43	-	-	4.23	-	-
Critical Hdwy Stg 1	6.28	5.68	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.68	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4.162	3.462	3.518	4.018	3.318	2.497	-	-	2.317	-	-
Pot Cap-1 Maneuver	802	731	928	841	734	1041	1302	-	0	1511	-	-
Stage 1	871	784	-	983	868	-	-	-	0	-	-	-
Stage 2	940	837	-	908	792	-	-	-	0	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	796	728	928	838	731	1041	1302	-	-	1511	-	-
Mov Cap-2 Maneuver	796	728	-	838	731	-	-	-	-	-	-	-
Stage 1	871	781	-	983	868	-	-	-	-	-	-	-
Stage 2	935	837	-	904	789	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Control Delay, s	9.7		8.5		0			0.3		
HCM LOS	A		A							

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1302	-	796	1041	1511	-	-
HCM Lane V/C Ratio	-	-	0.034	0.005	0.004	-	-
HCM Control Delay (s)	0	-	9.7	8.5	7.4	-	-
HCM Lane LOS	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	0	-	-

Lanes, Volumes, Timings
2: South Cherry Street & John Street

Build
Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	5	81	25	86	45	35	10	20	30	71	66	5
Future Volume (vph)	5	81	25	86	45	35	10	20	30	71	66	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.970			0.971			0.932			0.996	
Fl _t Protected		0.998			0.975			0.992			0.976	
Satd. Flow (prot)	0	1803	0	0	1666	0	0	1489	0	0	1811	0
Fl _t Permitted		0.991			0.809			0.963			0.850	
Satd. Flow (perm)	0	1791	0	0	1382	0	0	1445	0	0	1577	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			25			33			4	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		333			861			1442			393	
Travel Time (s)		9.1			23.5			28.1			7.7	
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
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	18%	18%	18%	2%	2%	2%
Adj. Flow (vph)	5	88	27	93	49	38	11	22	33	77	72	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	120	0	0	180	0	0	66	0	0	154	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)		0			0			0			0	
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Minimum Split (s)	12.0	12.0		12.0	12.0		11.6	11.6		11.6	11.6	
Total Split (s)	30.0	30.0		30.0	30.0		34.0	34.0		34.0	34.0	
Total Split (%)	46.9%	46.9%		46.9%	46.9%		53.1%	53.1%		53.1%	53.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0			30.0			30.0	
Actuated g/C Ratio		0.41			0.41			0.47			0.47	
v/c Ratio		0.16			0.31			0.10			0.21	
Control Delay		10.2			12.9			6.2			10.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.2			12.9			6.2			10.7	
LOS		B			B			A			B	
Approach Delay		10.2			12.9			6.2			10.7	

Lanes, Volumes, Timings
 2: South Cherry Street & John Street

Build
 Timing Plan: AM Peak

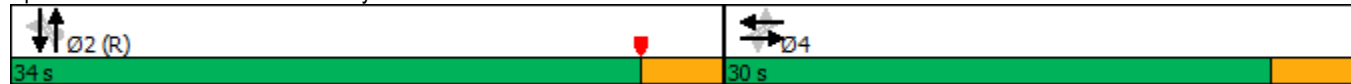


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		22			39			7			32	
Queue Length 95th (ft)		51			81			25			64	
Internal Link Dist (ft)		253			781			1362			313	
Turn Bay Length (ft)												
Base Capacity (vph)		743			576			694			741	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.16			0.31			0.10			0.21	

Intersection Summary

Area Type:	Other
Cycle Length:	64
Actuated Cycle Length:	64
Offset:	0 (0%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.31
Intersection Signal Delay:	10.8
Intersection LOS:	B
Intersection Capacity Utilization:	37.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: South Cherry Street & John Street



Lanes, Volumes, Timings
3: Route 5 & John Street/South Orchard Street

Build
Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Traffic Volume (vph)	25	35	136	35	36	5	134	318	30	5	283	41
Future Volume (vph)	25	35	136	35	36	5	134	318	30	5	283	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		120	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Frt		0.906			0.992				0.850		0.981	
Flt Protected		0.994			0.977			0.985			0.999	
Satd. Flow (prot)	0	1584	0	0	1805	0	0	3419	1553	0	3402	0
Flt Permitted		0.956			0.734			0.754			0.950	
Satd. Flow (perm)	0	1524	0	0	1356	0	0	2617	1553	0	3235	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					4				33			34
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		861			600			2769			612	
Travel Time (s)		23.5			16.4			47.2			10.4	
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
Heavy Vehicles (%)	8%	8%	8%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	27	38	148	38	39	5	146	346	33	5	308	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	213	0	0	82	0	0	492	33	0	358	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)		0			0			0			0	
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		Perm	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases		4			4		1	12				2
Permitted Phases	4			4			12		12	2		
Detector Phase	4	4		4	4		1	12	12	2		2
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0			15.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		8.0			20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		8.0			47.0	47.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		10.7%			62.7%	62.7%	
Maximum Green (s)	16.0	16.0		16.0	16.0		5.0			42.0	42.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		0.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0			3.0	3.0	
Recall Mode	None	None		None	None		None			C-Max	C-Max	

Lanes, Volumes, Timings
 3: Route 5 & John Street/South Orchard Street

Build
 Timing Plan: AM Peak

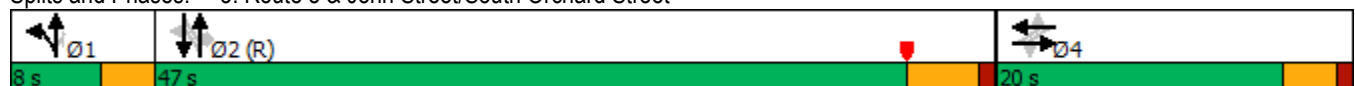


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		14.1			14.1			50.9	53.9		43.4	
Actuated g/C Ratio		0.19			0.19			0.68	0.72		0.58	
v/c Ratio		0.74			0.32			0.27	0.03		0.19	
Control Delay		45.0			27.8			1.7	0.1		7.3	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		45.0			27.8			1.7	0.1		7.3	
LOS		D			C			A	A		A	
Approach Delay		45.0			27.8			1.6			7.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		92			31			6	0		35	
Queue Length 95th (ft)		#176			68			14	0		56	
Internal Link Dist (ft)		781			520			2689			532	
Turn Bay Length (ft)									120			
Base Capacity (vph)		325			292			1833	1124		1887	
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		0.66			0.28			0.27	0.03		0.19	

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 58 (77%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 13.0
 Intersection LOS: B
 Intersection Capacity Utilization 47.9%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Route 5 & John Street/South Orchard Street



Lanes, Volumes, Timings
4: Route 5 & South Elm Street

Build
Timing Plan: AM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	152	45	493	61	15	475
Future Volume (vph)	152	45	493	61	15	475
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr _t		0.850	0.984			
Fl _t Protected	0.950					0.998
Satd. Flow (prot)	1770	1583	3483	0	0	3532
Fl _t Permitted	0.950					0.934
Satd. Flow (perm)	1770	1583	3483	0	0	3306
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		49	38			
Link Speed (mph)	30		40			40
Link Distance (ft)	96		3249			2769
Travel Time (s)	2.2		55.4			47.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	49	536	66	16	516
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	49	602	0	0	532
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		Perm	NA
Protected Phases	4		2			2
Permitted Phases		4			2	
Detector Phase	4	4	2		2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		15.0	15.0
Minimum Split (s)	20.0	20.0	23.0		23.0	23.0
Total Split (s)	20.0	20.0	55.0		55.0	55.0
Total Split (%)	26.7%	26.7%	73.3%		73.3%	73.3%
Maximum Green (s)	15.0	15.0	50.0		50.0	50.0
Yellow Time (s)	3.0	3.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Act Effct Green (s)	11.2	11.2	53.8			53.8
Actuated g/C Ratio	0.15	0.15	0.72			0.72
v/c Ratio	0.63	0.18	0.24			0.22
Control Delay	40.2	9.9	2.1			3.1

Lanes, Volumes, Timings
4: Route 5 & South Elm Street

Build
Timing Plan: AM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	40.2	9.9	2.1			3.1
LOS	D	A	A			A
Approach Delay	33.2		2.1			3.1
Approach LOS	C		A			A
Queue Length 50th (ft)	73	0	34			17
Queue Length 95th (ft)	125	26	15			51
Internal Link Dist (ft)	16		3169			2689
Turn Bay Length (ft)						
Base Capacity (vph)	354	355	2510			2372
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	0.47	0.14	0.24			0.22

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	17 (23%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	45
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	7.5
Intersection LOS:	A
Intersection Capacity Utilization	40.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 4: Route 5 & South Elm Street



Lanes, Volumes, Timings
5: Route 5 & I-91 Wharton Brook Connector Off-Ramp

Build
Timing Plan: AM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↙		↑↑			↑↑
Traffic Volume (vph)	333	302	242	0	0	602
Future Volume (vph)	333	302	242	0	0	602
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Fr _t	0.929					
Fl _t Protected	0.974					
Satd. Flow (prot)	3207	0	3539	0	0	3505
Fl _t Permitted	0.974					
Satd. Flow (perm)	3207	0	3539	0	0	3505
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	328					
Link Speed (mph)	45		40			40
Link Distance (ft)	408		437			3249
Travel Time (s)	6.2		7.4			55.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Adj. Flow (vph)	362	328	263	0	0	654
Shared Lane Traffic (%)						
Lane Group Flow (vph)	690	0	263	0	0	654
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		0			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		NA			NA
Protected Phases	4		2			2
Permitted Phases						
Detector Phase	4		2			2
Switch Phase						
Minimum Initial (s)	8.0		15.0			15.0
Minimum Split (s)	23.1		23.3			23.3
Total Split (s)	35.0		40.0			40.0
Total Split (%)	46.7%		53.3%			53.3%
Maximum Green (s)	29.9		34.7			34.7
Yellow Time (s)	3.0		4.3			4.3
All-Red Time (s)	2.1		1.0			1.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.1		5.3			5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			3.0
Recall Mode	None		C-Max			C-Max
Act Effct Green (s)	15.1		49.5			49.5
Actuated g/C Ratio	0.20		0.66			0.66
v/c Ratio	0.76		0.11			0.28

Lanes, Volumes, Timings
 5: Route 5 & I-91 Wharton Brook Connector Off-Ramp

Build
 Timing Plan: AM Peak



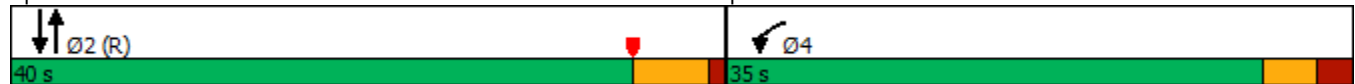
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Control Delay	19.7		6.8			4.3
Queue Delay	0.0		0.0			0.0
Total Delay	19.7		6.8			4.3
LOS	B		A			A
Approach Delay	19.7		6.8			4.3
Approach LOS	B		A			A
Queue Length 50th (ft)	80		15			54
Queue Length 95th (ft)	122		66			74
Internal Link Dist (ft)	328		357			3169
Turn Bay Length (ft)						
Base Capacity (vph)	1475		2333			2311
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.47		0.11			0.28

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 61 (81%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 11.3
 Intersection Capacity Utilization 44.3%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 5: Route 5 & I-91 Wharton Brook Connector Off-Ramp



Lanes, Volumes, Timings
6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
Timing Plan: AM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗				↖	↕↗		↖	↕↗	↗
Traffic Volume (vph)	72	177	237	0	0	0	111	170	146	258	465	212
Future Volume (vph)	72	177	237	0	0	0	111	170	146	258	465	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		270
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.931				0.850
Flt Protected		0.986					0.950			0.950		
Satd. Flow (prot)	0	1837	1583	0	0	0	1752	3263	0	1752	3505	1568
Flt Permitted		0.986					0.950			0.950		
Satd. Flow (perm)	0	1837	1583	0	0	0	1752	3263	0	1752	3505	1568
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)								159				
Link Speed (mph)		35			45			40				40
Link Distance (ft)		500			668			319				437
Travel Time (s)		9.7			10.1			5.4				7.4
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
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	78	192	258	0	0	0	121	185	159	280	505	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	270	258	0	0	0	121	344	0	280	505	230
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)		0			0			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	Perm				Prot	NA		Prot	NA	custom
Protected Phases		3 4					1	6		5	2	3 4
Permitted Phases	3 4		3 4									2
Detector Phase	3 4	3 4	3 4				1	6		5	2	3 4
Switch Phase												
Minimum Initial (s)							5.0	15.0		5.0	15.0	
Minimum Split (s)							8.5	21.3		8.5	21.3	
Total Split (s)							26.0	22.0		26.0	22.0	
Total Split (%)							34.7%	29.3%		34.7%	29.3%	
Maximum Green (s)							22.5	15.7		22.5	15.7	
Yellow Time (s)							3.0	4.7		3.0	4.7	
All-Red Time (s)							0.5	1.6		0.5	1.6	
Lost Time Adjust (s)							0.0	0.0		0.0	0.0	
Total Lost Time (s)							3.5	6.3		3.5	6.3	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)							2.5	2.5		2.5	2.5	
Recall Mode							None	C-Min		None	C-Min	

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	4.0
Minimum Split (s)	11.5	8.4
Total Split (s)	18.0	9.0
Total Split (%)	24%	12%
Maximum Green (s)	14.5	4.6
Yellow Time (s)	3.0	3.0
All-Red Time (s)	0.5	1.4
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	2.5
Recall Mode	None	None

Lanes, Volumes, Timings
 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
 Timing Plan: AM Peak

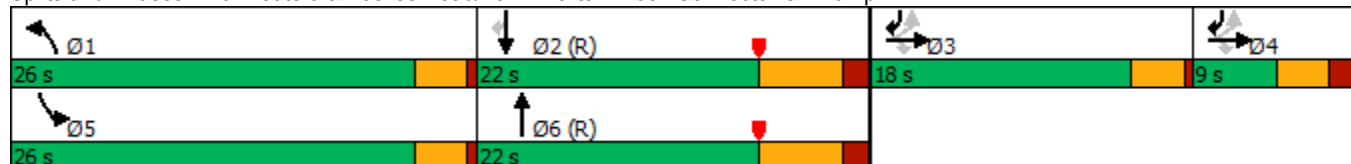


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		21.8	21.8				10.0	23.3		16.7	31.8	60.6
Actuated g/C Ratio		0.29	0.29				0.13	0.31		0.22	0.42	0.81
v/c Ratio		0.51	0.56				0.52	0.31		0.72	0.34	0.18
Control Delay		25.4	27.4				37.5	12.9		30.9	17.1	6.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		25.4	27.4				37.5	12.9		30.9	17.1	6.0
LOS		C	C				D	B		C	B	A
Approach Delay		26.4						19.3			18.4	
Approach LOS		C						B			B	
Queue Length 50th (ft)		101	99				53	33		106	104	50
Queue Length 95th (ft)		167	168				96	74		161	147	93
Internal Link Dist (ft)		420			588			239			357	
Turn Bay Length (ft)			150									270
Base Capacity (vph)		516	445				525	1121		525	1485	1237
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		0.52	0.58				0.23	0.31		0.53	0.34	0.19

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 66 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 20.7
 Intersection Capacity Utilization 52.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp



Lane Group	Ø3	Ø4
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
7: South Cherry Street & Site Drive

Build
Timing Plan: AM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Traffic Volume (vph)	0	0	0	30	76	0
Future Volume (vph)	0	0	0	30	76	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	1863	1863	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	136			878	414	
Travel Time (s)	3.1			17.1	8.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	33	83	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	33	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
 8: Private /South Cherry Street & Off-Site Parking

Build
 Timing Plan: AM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	30	56	0
Future Volume (vph)	0	0	0	30	56	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	194			171	878	
Travel Time (s)	4.4			3.3	17.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	33	61	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	33	61	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙			↑	↗	
Traffic Vol, veh/h	0	0	0	30	56	0
Future Vol, veh/h	0	0	0	30	56	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	33	61	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	94	-	-	0	-
Stage 1	61	-	-	-	-
Stage 2	33	-	-	-	-
Critical Hdwy	6.42	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-
Pot Cap-1 Maneuver	906	0	0	-	-
Stage 1	962	0	0	-	-
Stage 2	989	0	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	906	-	-	-	-
Mov Cap-2 Maneuver	906	-	-	-	-
Stage 1	962	-	-	-	-
Stage 2	989	-	-	-	-

















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

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



Lanes, Volumes, Timings
1: South Cherry Street & Ball Street/Driveway

Build
Timing Plan: MID Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	262	0	0	0	0	5	0	35	0	0	97	35
Future Volume (vph)	262	0	0	0	0	5	0	35	0	0	97	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t						0.865						0.964
Fl _t Protected	0.950											
Satd. Flow (prot)	0	1530	0	0	1611	0	0	1429	0	0	1621	0
Fl _t Permitted	0.950											
Satd. Flow (perm)	0	1530	0	0	1611	0	0	1429	0	0	1621	0
Link Speed (mph)	25		30				35				35	
Link Distance (ft)	472		112				439				1442	
Travel Time (s)	12.9		2.5				8.6				28.1	
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
Heavy Vehicles (%)	18%	18%	18%	2%	2%	2%	33%	33%	33%	13%	13%	13%
Adj. Flow (vph)	285	0	0	0	0	5	0	38	0	0	105	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	285	0	0	5	0	0	38	0	0	143	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)	0		0				0				0	
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
Sign Control	Stop		Stop				Free				Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.1%
Analysis Period (min)	15
	ICU Level of Service A

HCM 2010 TWSC
1: South Cherry Street & Ball Street/Driveway

Build
Timing Plan: MID Peak

Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	262	0	0	0	0	5	0	35	0	0	97	35
Future Vol, veh/h	262	0	0	0	0	5	0	35	0	0	97	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	18	18	2	2	2	33	33	33	13	13	13
Mvmt Flow	285	0	0	0	0	5	0	38	0	0	105	38

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	165	162	124	162	181	38	143	0	-	-	-	0
Stage 1	124	124	-	38	38	-	-	-	-	-	-	-
Stage 2	41	38	-	124	143	-	-	-	-	-	-	-
Critical Hdwy	7.28	6.68	6.38	7.12	6.52	6.22	4.43	-	-	-	-	-
Critical Hdwy Stg 1	6.28	5.68	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.28	5.68	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.662	4.162	3.462	3.518	4.018	3.318	2.497	-	-	-	-	-
Pot Cap-1 Maneuver	765	702	885	803	713	1034	1270	-	0	0	-	-
Stage 1	843	763	-	977	863	-	-	-	0	0	-	-
Stage 2	934	833	-	880	779	-	-	-	0	0	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	761	702	885	803	713	1034	1270	-	-	-	-	-
Mov Cap-2 Maneuver	761	702	-	803	713	-	-	-	-	-	-	-
Stage 1	843	763	-	977	863	-	-	-	-	-	-	-
Stage 2	929	833	-	880	779	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	12.5		8.5		0		0			
HCM LOS	B		A							

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1270	-	761	1034	-	-
HCM Lane V/C Ratio	-	-	0.374	0.005	-	-
HCM Control Delay (s)	0	-	12.5	8.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	1.7	0	-	-

Lanes, Volumes, Timings
2: South Cherry Street & John Street

Build
Timing Plan: MID Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	5	61	15	114	51	61	15	49	284	56	49	5
Future Volume (vph)	5	61	15	114	51	61	15	49	284	56	49	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.975			0.964			0.890			0.994	
Fl _t Protected		0.997			0.975			0.998			0.975	
Satd. Flow (prot)	0	1811	0	0	1654	0	0	1430	0	0	1805	0
Fl _t Permitted		0.986			0.813			0.989			0.747	
Satd. Flow (perm)	0	1791	0	0	1379	0	0	1417	0	0	1383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			35			309			5	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		333			861			1442			393	
Travel Time (s)		9.1			23.5			28.1			7.7	
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
Heavy Vehicles (%)	2%	2%	2%	8%	8%	8%	18%	18%	18%	2%	2%	2%
Adj. Flow (vph)	5	66	16	124	55	66	16	53	309	61	53	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	245	0	0	378	0	0	119	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)		0			0			0			0	
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Minimum Split (s)	12.0	12.0		12.0	12.0		11.6	11.6		11.6	11.6	
Total Split (s)	30.0	30.0		30.0	30.0		34.0	34.0		34.0	34.0	
Total Split (%)	46.9%	46.9%		46.9%	46.9%		53.1%	53.1%		53.1%	53.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0			30.0			30.0	
Actuated g/C Ratio		0.41			0.41			0.47			0.47	
v/c Ratio		0.12			0.42			0.46			0.18	
Control Delay		10.6			14.3			4.6			10.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.6			14.3			4.6			10.4	
LOS		B			B			A			B	
Approach Delay		10.6			14.3			4.6			10.4	

Lanes, Volumes, Timings
 2: South Cherry Street & John Street

Build
 Timing Plan: MID Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		16			55			14			24	
Queue Length 95th (ft)		41			110			58			52	
Internal Link Dist (ft)		253			781			1362			313	
Turn Bay Length (ft)												
Base Capacity (vph)		737			581			828			650	
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		0.12			0.42			0.46			0.18	

Intersection Summary

Area Type:	Other
Cycle Length:	64
Actuated Cycle Length:	64
Offset:	2.6 (4%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.46
Intersection Signal Delay:	8.9
Intersection LOS:	A
Intersection Capacity Utilization	56.0%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 2: South Cherry Street & John Street



Lanes, Volumes, Timings
3: Route 5 & John Street/South Orchard Street

Build
Timing Plan: MID Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Traffic Volume (vph)	62	35	343	15	26	5	183	384	45	5	308	35
Future Volume (vph)	62	35	343	15	26	5	183	384	45	5	308	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		120	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Frt		0.895			0.986				0.850		0.985	
Flt Protected		0.993			0.984			0.984			0.999	
Satd. Flow (prot)	0	1564	0	0	1807	0	0	3416	1553	0	3416	0
Flt Permitted		0.954			0.860			0.708			0.947	
Satd. Flow (perm)	0	1502	0	0	1580	0	0	2458	1553	0	3238	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					5				49			16
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		861			600			2769			612	
Travel Time (s)		23.5			16.4			47.2			10.4	
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
Heavy Vehicles (%)	8%	8%	8%	2%	2%	2%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	67	38	373	16	28	5	199	417	49	5	335	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	478	0	0	49	0	0	616	49	0	378	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)		0			0			0			0	
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		Perm	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases		4			4		1	12			2	
Permitted Phases	4			4			12		12	2		
Detector Phase	4	4		4	4		1	12	12	2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0			15.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		8.0			20.0	20.0	
Total Split (s)	37.0	37.0		37.0	37.0		12.0			21.0	21.0	
Total Split (%)	52.9%	52.9%		52.9%	52.9%		17.1%			30.0%	30.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		9.0			16.0	16.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		0.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0			3.0	3.0	
Recall Mode	None	None		None	None		None			C-Max	C-Max	

Lanes, Volumes, Timings
3: Route 5 & John Street/South Orchard Street

Build
Timing Plan: MID Peak

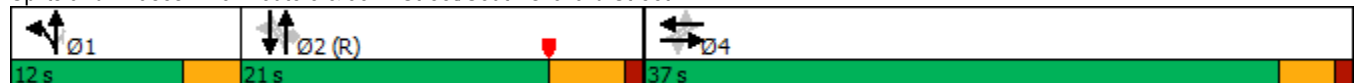


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		27.3			27.3			32.7	35.7		21.0	
Actuated g/C Ratio		0.39			0.39			0.47	0.51		0.30	
v/c Ratio		0.82			0.08			0.48	0.06		0.38	
Control Delay		30.4			10.7			8.5	2.6		21.8	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		30.4			10.7			8.5	2.6		21.8	
LOS		C			B			A	A		C	
Approach Delay		30.4			10.7			8.1			21.8	
Approach LOS		C			B			A			C	
Queue Length 50th (ft)		172			11			37	0		70	
Queue Length 95th (ft)		255			26			65	3		111	
Internal Link Dist (ft)		781			520			2689			532	
Turn Bay Length (ft)									120			
Base Capacity (vph)		708			747			1297	810		983	
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		0.68			0.07			0.47	0.06		0.38	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 56 (80%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 18.3
 Intersection Capacity Utilization 68.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 3: Route 5 & John Street/South Orchard Street



Lanes, Volumes, Timings
4: Route 5 & South Elm Street

Build
Timing Plan: MID Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	136	37	570	131	29	621
Future Volume (vph)	136	37	570	131	29	621
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.972			
Flt Protected	0.950					0.998
Satd. Flow (prot)	1770	1583	3440	0	0	3532
Flt Permitted	0.950					0.902
Satd. Flow (perm)	1770	1583	3440	0	0	3192
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		40	66			
Link Speed (mph)	30		40			40
Link Distance (ft)	96		3249			2769
Travel Time (s)	2.2		55.4			47.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	148	40	620	142	32	675
Shared Lane Traffic (%)						
Lane Group Flow (vph)	148	40	762	0	0	707
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		Perm	NA
Protected Phases	4		2			2
Permitted Phases		4			2	
Detector Phase	4	4	2		2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		15.0	15.0
Minimum Split (s)	23.0	23.0	23.0		23.0	23.0
Total Split (s)	25.0	25.0	45.0		45.0	45.0
Total Split (%)	35.7%	35.7%	64.3%		64.3%	64.3%
Maximum Green (s)	20.0	20.0	40.0		40.0	40.0
Yellow Time (s)	3.0	3.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Act Effct Green (s)	10.4	10.4	53.0			53.0
Actuated g/C Ratio	0.15	0.15	0.76			0.76
v/c Ratio	0.56	0.15	0.29			0.29
Control Delay	35.4	9.9	2.4			3.1

Lanes, Volumes, Timings
4: Route 5 & South Elm Street

Build
Timing Plan: MID Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	35.4	9.9	2.4			3.1
LOS	D	A	A			A
Approach Delay	30.0		2.4			3.1
Approach LOS	C		A			A
Queue Length 50th (ft)	60	0	26			41
Queue Length 95th (ft)	106	23	36			66
Internal Link Dist (ft)	16		3169			2689
Turn Bay Length (ft)						
Base Capacity (vph)	505	480	2618			2414
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	0.29	0.08	0.29			0.29

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	28 (40%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay:	5.8
Intersection LOS:	A
Intersection Capacity Utilization	54.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 4: Route 5 & South Elm Street



Lanes, Volumes, Timings
5: Route 5 & I-91 Wharton Brook Connector Off-Ramp

Build
Timing Plan: MID Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↙		↑↑			↑↑
Traffic Volume (vph)	141	294	454	0	0	753
Future Volume (vph)	141	294	454	0	0	753
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Fr _t	0.899					
Fl _t Protected	0.984					
Satd. Flow (prot)	3135	0	3539	0	0	3505
Fl _t Permitted	0.984					
Satd. Flow (perm)	3135	0	3539	0	0	3505
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	300					
Link Speed (mph)	45		40			40
Link Distance (ft)	408		437			3249
Travel Time (s)	6.2		7.4			55.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	2%	2%	3%	3%
Adj. Flow (vph)	153	320	493	0	0	818
Shared Lane Traffic (%)						
Lane Group Flow (vph)	473	0	493	0	0	818
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		0			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		NA			NA
Protected Phases	4		2			2
Permitted Phases						
Detector Phase	4		2			2
Switch Phase						
Minimum Initial (s)	8.0		15.0			15.0
Minimum Split (s)	23.1		23.3			23.3
Total Split (s)	30.0		40.0			40.0
Total Split (%)	42.9%		57.1%			57.1%
Maximum Green (s)	24.9		34.7			34.7
Yellow Time (s)	3.0		4.3			4.3
All-Red Time (s)	2.1		1.0			1.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.1		5.3			5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			3.0
Recall Mode	None		C-Max			C-Max
Act Effct Green (s)	10.3		49.3			49.3
Actuated g/C Ratio	0.15		0.70			0.70
v/c Ratio	0.66		0.20			0.33

Lanes, Volumes, Timings
 5: Route 5 & I-91 Wharton Brook Connector Off-Ramp

Build
 Timing Plan: MID Peak

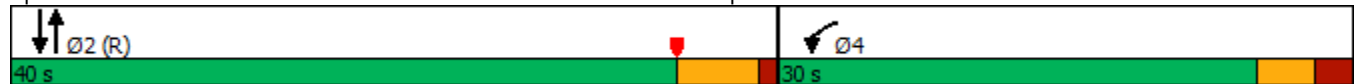


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Control Delay	14.7		2.0			6.1
Queue Delay	0.0		0.0			0.0
Total Delay	14.7		2.0			6.1
LOS	B		A			A
Approach Delay	14.7		2.0			6.1
Approach LOS	B		A			A
Queue Length 50th (ft)	35		16			93
Queue Length 95th (ft)	72		25			140
Internal Link Dist (ft)	328		357			3169
Turn Bay Length (ft)						
Base Capacity (vph)	1308		2490			2466
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.36		0.20			0.33

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 25 (36%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 7.3
 Intersection Capacity Utilization 42.8%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 5: Route 5 & I-91 Wharton Brook Connector Off-Ramp



Lanes, Volumes, Timings
6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
Timing Plan: MID Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗				↖	↕↗		↖	↕↗	↗
Traffic Volume (vph)	58	101	136	0	0	0	141	396	121	357	392	145
Future Volume (vph)	58	101	136	0	0	0	141	396	121	357	392	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		270
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.965				0.850
Flt Protected		0.982					0.950			0.950		
Satd. Flow (prot)	0	1829	1583	0	0	0	1752	3382	0	1752	3505	1568
Flt Permitted		0.982					0.950			0.950		
Satd. Flow (perm)	0	1829	1583	0	0	0	1752	3382	0	1752	3505	1568
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)								55				
Link Speed (mph)		35			45			40				40
Link Distance (ft)		500			668			319				437
Travel Time (s)		9.7			10.1			5.4				7.4
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
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	63	110	148	0	0	0	153	430	132	388	426	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	148	0	0	0	153	562	0	388	426	158
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)		0			0			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	Perm				Prot	NA		Prot	NA	custom
Protected Phases		3 4					1	6		5	2	3 4
Permitted Phases	3 4		3 4									2
Detector Phase	3 4	3 4	3 4				1	6		5	2	3 4
Switch Phase												
Minimum Initial (s)							5.0	15.0		5.0	15.0	
Minimum Split (s)							8.5	21.3		8.5	21.3	
Total Split (s)							15.0	24.0		15.0	24.0	
Total Split (%)							21.4%	34.3%		21.4%	34.3%	
Maximum Green (s)							11.5	17.7		11.5	17.7	
Yellow Time (s)							3.0	4.7		3.0	4.7	
All-Red Time (s)							0.5	1.6		0.5	1.6	
Lost Time Adjust (s)							0.0	0.0		0.0	0.0	
Total Lost Time (s)							3.5	6.3		3.5	6.3	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)							2.5	2.5		2.5	2.5	
Recall Mode							None	C-Min		None	C-Min	

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	4.0
Minimum Split (s)	11.5	8.4
Total Split (s)	22.0	9.0
Total Split (%)	31%	13%
Maximum Green (s)	18.5	4.6
Yellow Time (s)	3.0	3.0
All-Red Time (s)	0.5	1.4
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	2.5
Recall Mode	None	None

Lanes, Volumes, Timings
 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
 Timing Plan: MID Peak

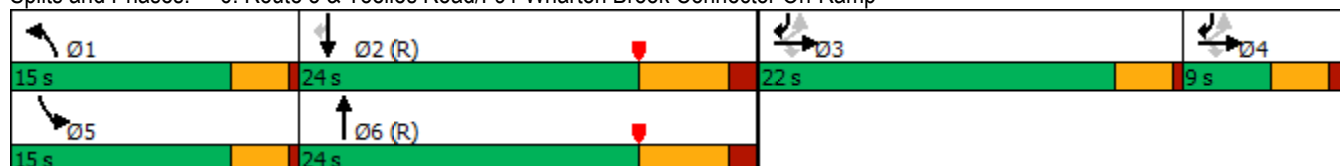


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		19.0	19.0				10.8	16.1		21.6	26.9	52.2
Actuated g/C Ratio		0.27	0.27				0.15	0.23		0.31	0.38	0.75
v/c Ratio		0.35	0.34				0.57	0.68		0.72	0.32	0.14
Control Delay		22.1	22.3				35.0	26.7		28.9	13.2	3.6
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		22.1	22.3				35.0	26.7		28.9	13.2	3.6
LOS		C	C				D	C		C	B	A
Approach Delay		22.2						28.5			17.9	
Approach LOS		C						C			B	
Queue Length 50th (ft)		61	52				62	106		106	61	8
Queue Length 95th (ft)		101	90				108	152		#304	114	64
Internal Link Dist (ft)		420			588			239			357	
Turn Bay Length (ft)			150									270
Base Capacity (vph)		514	445				311	896		539	1345	1184
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		0.34	0.33				0.49	0.63		0.72	0.32	0.13

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 19 (27%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 22.4
 Intersection LOS: C
 Intersection Capacity Utilization 55.0%
 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: 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp



Lane Group	Ø3	Ø4
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
7: South Cherry Street & Site Drive

Build
Timing Plan: MID Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Traffic Volume (vph)	0	0	27	35	52	0
Future Volume (vph)	0	0	27	35	52	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected				0.979		
Satd. Flow (prot)	0	0	0	1824	1863	0
Flt Permitted				0.979		
Satd. Flow (perm)	0	0	0	1824	1863	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	153			702	439	
Travel Time (s)	3.5			13.7	8.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	29	38	57	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	67	57	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔			↑	↑	
Traffic Vol, veh/h	27	0	0	35	25	27
Future Vol, veh/h	27	0	0	35	25	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	0	0	38	27	29

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	80	-	-	0	0
Stage 1	42	-	-	-	-
Stage 2	38	-	-	-	-
Critical Hdwy	6.42	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-
Pot Cap-1 Maneuver	922	0	0	-	-
Stage 1	980	0	0	-	-
Stage 2	984	0	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	922	-	-	-	-
Mov Cap-2 Maneuver	922	-	-	-	-
Stage 1	980	-	-	-	-
Stage 2	984	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	922	-	-
HCM Lane V/C Ratio	-	0.032	-	-
HCM Control Delay (s)	-	9	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-



Lanes, Volumes, Timings
1: South Cherry Street & Ball Street/Driveway

Build
Timing Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	80	0	0	0	0	5	0	71	5	0	85	5
Future Volume (vph)	80	0	0	0	0	5	0	71	5	0	85	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.865			0.992			0.993	
Fl _t Protected		0.950										
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1812	0	0	1613	0
Fl _t Permitted		0.950										
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1812	0	0	1613	0
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		472			142			459			1442	
Travel Time (s)		12.9			3.2			8.9			28.1	
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
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	17%	17%	17%
Adj. Flow (vph)	87	0	0	0	0	5	0	77	5	0	92	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	5	0	0	82	0	0	97	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)		0			0			0			0	
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
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.5%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	80	0	0	0	0	5	0	71	5	0	85	5
Future Vol, veh/h	80	0	0	0	0	5	0	71	5	0	85	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	17	17	17
Mvmt Flow	87	0	0	0	0	5	0	77	5	0	92	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	177	177	95	175	177	80	97	0	0	-	-	0
Stage 1	95	95	-	80	80	-	-	-	-	-	-	-
Stage 2	82	82	-	95	97	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	-	-	-
Pot Cap-1 Maneuver	785	717	962	788	717	980	1484	-	-	0	-	-
Stage 1	912	816	-	929	828	-	-	-	-	0	-	-
Stage 2	926	827	-	912	815	-	-	-	-	0	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	780	717	962	788	717	980	1484	-	-	-	-	-
Mov Cap-2 Maneuver	780	717	-	788	717	-	-	-	-	-	-	-
Stage 1	912	816	-	929	828	-	-	-	-	-	-	-
Stage 2	921	827	-	912	815	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	10.2		8.7		0		0			
HCM LOS	B		A							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1484	-	-	780	980	-	-
HCM Lane V/C Ratio	-	-	-	0.111	0.006	-	-
HCM Control Delay (s)	0	-	-	10.2	8.7	-	-
HCM Lane LOS	A	-	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0	-	-

Lanes, Volumes, Timings
2: South Cherry Street & John Street

Build
Timing Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	5	45	0	65	45	81	15	86	95	81	25	5
Future Volume (vph)	5	45	0	65	45	81	15	86	95	81	25	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.943			0.934			0.994	
Fl _t Protected		0.995			0.983			0.996			0.965	
Satd. Flow (prot)	0	1853	0	0	1727	0	0	1733	0	0	1787	0
Fl _t Permitted		0.980			0.894			0.981			0.719	
Satd. Flow (perm)	0	1825	0	0	1570	0	0	1707	0	0	1331	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					69			100			5	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		333			861			1442			393	
Travel Time (s)		9.1			23.5			28.1			7.7	
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)	5	49	0	71	49	88	16	93	103	88	27	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	208	0	0	212	0	0	120	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)		0			0			0			0	
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		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Minimum Split (s)	12.0	12.0		12.0	12.0		11.6	11.6		11.6	11.6	
Total Split (s)	30.0	30.0		30.0	30.0		34.0	34.0		34.0	34.0	
Total Split (%)	46.9%	46.9%		46.9%	46.9%		53.1%	53.1%		53.1%	53.1%	
Maximum Green (s)	26.0	26.0		26.0	26.0		30.0	30.0		30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		26.0			26.0			30.0			30.0	
Actuated g/C Ratio		0.41			0.41			0.47			0.47	
v/c Ratio		0.07			0.31			0.25			0.19	
Control Delay		12.1			9.9			6.4			10.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.1			9.9			6.4			10.5	
LOS		B			A			A			B	
Approach Delay		12.1			9.9			6.4			10.5	
Approach LOS		B			A			A			B	

Lanes, Volumes, Timings
 2: South Cherry Street & John Street

Build
 Timing Plan: PM Peak

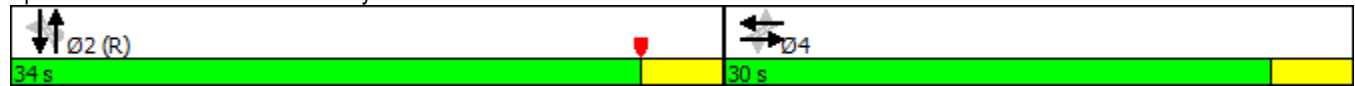


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)		12			34			23			25	
Queue Length 95th (ft)		31			76			58			53	
Internal Link Dist (ft)		253			781			1362			313	
Turn Bay Length (ft)												
Base Capacity (vph)		741			678			853			626	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.07			0.31			0.25			0.19	

Intersection Summary

Area Type:	Other
Cycle Length:	64
Actuated Cycle Length:	64
Offset:	2.6 (4%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.31
Intersection Signal Delay:	9.0
Intersection LOS:	A
Intersection Capacity Utilization:	44.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 2: South Cherry Street & John Street



Lanes, Volumes, Timings
3: Route 5 & John Street/South Orchard Street

Build
Timing Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Traffic Volume (vph)	35	27	184	30	12	5	149	434	51	5	389	15
Future Volume (vph)	35	27	184	30	12	5	149	434	51	5	389	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		120	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	0.95
Frt		0.899			0.987				0.850		0.995	
Flt Protected		0.993			0.969			0.987			0.999	
Satd. Flow (prot)	0	1663	0	0	1782	0	0	3493	1583	0	3518	0
Flt Permitted		0.954			0.677			0.732			0.950	
Satd. Flow (perm)	0	1598	0	0	1245	0	0	2591	1583	0	3345	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					5				55			6
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		861			600			2769			612	
Travel Time (s)		23.5			16.4			47.2			10.4	
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)	38	29	200	33	13	5	162	472	55	5	423	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	267	0	0	51	0	0	634	55	0	444	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)		0			0			0			0	
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		Perm	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases		4			4			1	1	2		2
Permitted Phases	4			4			1	2	1	2	2	
Detector Phase	4	4		4	4		1	1	2	2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		5.0			15.0	15.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		8.0			20.0	20.0	
Total Split (s)	30.0	30.0		30.0	30.0		8.0			52.0	52.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		8.9%			57.8%	57.8%	
Maximum Green (s)	26.0	26.0		26.0	26.0		5.0			47.0	47.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0			4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		0.0			1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		4.0			4.0						5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0			3.0	3.0	
Recall Mode	None	None		None	None		None			C-Max	C-Max	
Act Effect Green (s)		19.9			19.9			60.1	63.1		50.2	

Lanes, Volumes, Timings
 3: Route 5 & John Street/South Orchard Street

Build
 Timing Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.22			0.22			0.67	0.70			0.56
v/c Ratio		0.76			0.18			0.35	0.05			0.24
Control Delay		46.2			25.8			2.8	0.1			11.1
Queue Delay		0.0			0.0			0.0	0.0			0.0
Total Delay		46.2			25.8			2.8	0.1			11.1
LOS		D			C			A	A			B
Approach Delay		46.2			25.8			2.6				11.1
Approach LOS		D			C			A				B
Queue Length 50th (ft)		142			21			15	0			67
Queue Length 95th (ft)		210			48			28	0			97
Internal Link Dist (ft)		781			520			2689				532
Turn Bay Length (ft)									120			
Base Capacity (vph)		461			363			1810	1126			1867
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		0.58			0.14			0.35	0.05			0.24

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 23 (26%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 14.0
 Intersection LOS: B
 Intersection Capacity Utilization 54.1%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Route 5 & John Street/South Orchard Street



Lanes, Volumes, Timings
4: Route 5 & South Elm Street

Build
Timing Plan: PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	157	36	592	283	41	517
Future Volume (vph)	157	36	592	283	41	517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr _t		0.850	0.951			
Fl _t Protected	0.950					0.996
Satd. Flow (prot)	1770	1583	3366	0	0	3525
Fl _t Permitted	0.950					0.830
Satd. Flow (perm)	1770	1583	3366	0	0	2938
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		39	192			
Link Speed (mph)	30		40			40
Link Distance (ft)	131		3249			2769
Travel Time (s)	3.0		55.4			47.2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	39	643	308	45	562
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	39	951	0	0	607
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		Perm	NA
Protected Phases	4		2			2
Permitted Phases		4			2	
Detector Phase	4	4	2		2	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0		15.0	15.0
Minimum Split (s)	23.0	23.0	23.0		23.0	23.0
Total Split (s)	25.0	25.0	65.0		65.0	65.0
Total Split (%)	27.8%	27.8%	72.2%		72.2%	72.2%
Maximum Green (s)	20.0	20.0	60.0		60.0	60.0
Yellow Time (s)	3.0	3.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	C-Max		C-Max	C-Max
Act Effct Green (s)	13.0	13.0	67.0			67.0
Actuated g/C Ratio	0.14	0.14	0.74			0.74
v/c Ratio	0.67	0.15	0.37			0.28
Control Delay	48.8	11.7	4.0			6.1

Lanes, Volumes, Timings
4: Route 5 & South Elm Street

Build
Timing Plan: PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	48.8	11.7	4.0			6.1
LOS	D	B	A			A
Approach Delay	41.9		4.0			6.1
Approach LOS	D		A			A
Queue Length 50th (ft)	93	0	101			71
Queue Length 95th (ft)	149	26	125			91
Internal Link Dist (ft)	51		3169			2689
Turn Bay Length (ft)						
Base Capacity (vph)	393	382	2553			2186
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	0.44	0.10	0.37			0.28

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	72 (80%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	9.2
Intersection LOS:	A
Intersection Capacity Utilization	62.1%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 4: Route 5 & South Elm Street



Lanes, Volumes, Timings
5: Route 5 & I-91 Wharton Brook Connector Off-Ramp

Build
Timing Plan: PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘		↑↑			↑↑
Traffic Volume (vph)	273	522	409	0	0	643
Future Volume (vph)	273	522	409	0	0	643
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	0.95	1.00	1.00	0.95
Fr _t	0.902					
Fl _t Protected	0.983					
Satd. Flow (prot)	3173	0	3539	0	0	3539
Fl _t Permitted	0.983					
Satd. Flow (perm)	3173	0	3539	0	0	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	385					
Link Speed (mph)	45		40			40
Link Distance (ft)	408		437			3249
Travel Time (s)	6.2		7.4			55.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	297	567	445	0	0	699
Shared Lane Traffic (%)						
Lane Group Flow (vph)	864	0	445	0	0	699
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		0			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		NA			NA
Protected Phases	4		2			2
Permitted Phases						
Detector Phase	4		2			2
Switch Phase						
Minimum Initial (s)	8.0		15.0			15.0
Minimum Split (s)	23.1		23.3			23.3
Total Split (s)	35.0		55.0			55.0
Total Split (%)	38.9%		61.1%			61.1%
Maximum Green (s)	29.9		49.7			49.7
Yellow Time (s)	3.0		4.3			4.3
All-Red Time (s)	2.1		1.0			1.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.1		5.3			5.3
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0			3.0
Recall Mode	None		C-Max			C-Max
Act Effct Green (s)	21.4		58.2			58.2
Actuated g/C Ratio	0.24		0.65			0.65
v/c Ratio	0.82		0.19			0.31

Lanes, Volumes, Timings
 5: Route 5 & I-91 Wharton Brook Connector Off-Ramp

Build
 Timing Plan: PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Control Delay	24.3		4.4			5.8
Queue Delay	0.0		0.0			0.0
Total Delay	24.3		4.4			5.8
LOS	C		A			A
Approach Delay	24.3		4.4			5.8
Approach LOS	C		A			A
Queue Length 50th (ft)	135		16			67
Queue Length 95th (ft)	182		48			84
Internal Link Dist (ft)	328		357			3169
Turn Bay Length (ft)						
Base Capacity (vph)	1311		2286			2286
Starvation Cap Reductn	0		0			0
Spillback Cap Reductn	0		0			0
Storage Cap Reductn	0		0			0
Reduced v/c Ratio	0.66		0.19			0.31

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	25 (28%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	13.4
Intersection LOS:	B
Intersection Capacity Utilization:	50.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: Route 5 & I-91 Wharton Brook Connector Off-Ramp



Lanes, Volumes, Timings
6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
Timing Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗				↖	↕↗		↖	↕↗	↗
Traffic Volume (vph)	78	136	141	0	0	0	232	331	217	285	402	229
Future Volume (vph)	78	136	141	0	0	0	232	331	217	285	402	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		150	0		0	0		0	0		270
Storage Lanes	0		1	0		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850					0.941				0.850
Flt Protected		0.982					0.950			0.950		
Satd. Flow (prot)	0	1829	1583	0	0	0	1770	3330	0	1770	3539	1583
Flt Permitted		0.982					0.950			0.950		
Satd. Flow (perm)	0	1829	1583	0	0	0	1770	3330	0	1770	3539	1583
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)								178				
Link Speed (mph)		35			45			40				40
Link Distance (ft)		500			668			319				437
Travel Time (s)		9.7			10.1			5.4				7.4
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)	85	148	153	0	0	0	252	360	236	310	437	249
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	233	153	0	0	0	252	596	0	310	437	249
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)		0			0			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	Perm				Prot	NA		Prot	NA	custom
Protected Phases		3 4					1	6		5	2	3 4
Permitted Phases	3 4		3 4									2
Detector Phase	3 4	3 4	3 4				1	6		5	2	3 4
Switch Phase												
Minimum Initial (s)							5.0	15.0		5.0	15.0	
Minimum Split (s)							8.5	21.3		8.5	21.3	
Total Split (s)							24.0	35.0		24.0	35.0	
Total Split (%)							26.7%	38.9%		26.7%	38.9%	
Maximum Green (s)							20.5	28.7		20.5	28.7	
Yellow Time (s)							3.0	4.7		3.0	4.7	
All-Red Time (s)							0.5	1.6		0.5	1.6	
Lost Time Adjust (s)							0.0	0.0		0.0	0.0	
Total Lost Time (s)							3.5	6.3		3.5	6.3	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)							2.5	2.5		2.5	2.5	
Recall Mode							None	C-Min		None	C-Min	
Act Effct Green (s)		22.6	22.6				17.4	34.0		20.1	36.7	65.6

Lanes, Volumes, Timings
 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
 Timing Plan: PM Peak

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	8.0	4.0
Minimum Split (s)	11.5	8.4
Total Split (s)	22.0	9.0
Total Split (%)	24%	10%
Maximum Green (s)	18.5	4.6
Yellow Time (s)	3.0	3.0
All-Red Time (s)	0.5	1.4
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lag
Lead-Lag Optimize?		
Vehicle Extension (s)	2.0	2.5
Recall Mode	None	None
Act Effct Green (s)		

Lanes, Volumes, Timings
 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp

Build
 Timing Plan: PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.25	0.25				0.19	0.38		0.22	0.41	0.73
v/c Ratio		0.51	0.39				0.73	0.44		0.78	0.30	0.22
Control Delay		32.2	29.9				46.5	17.1		57.1	11.1	4.0
Queue Delay		0.0	0.0				0.0	0.0		0.0	0.0	0.0
Total Delay		32.2	29.9				46.5	17.1		57.1	11.1	4.0
LOS		C	C				D	B		E	B	A
Approach Delay		31.3						25.8			23.6	
Approach LOS		C						C			C	
Queue Length 50th (ft)		115	73				136	88		168	50	29
Queue Length 95th (ft)		167	115				200	164		268	101	58
Internal Link Dist (ft)		420			588			239			357	
Turn Bay Length (ft)			150									270
Base Capacity (vph)		464	401				415	1408		431	1480	1158
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		0.50	0.38				0.61	0.42		0.72	0.30	0.22

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 15 (17%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 25.8
 Intersection LOS: C
 Intersection Capacity Utilization 55.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Route 5 & Toelles Road/I-91 Wharton Brook Connector On-Ramp



Lane Group	Ø3	Ø4
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
7: South Cherry Street & Site Drive

Build
Timing Plan: PM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				↕	↕	
Traffic Volume (vph)	0	0	0	71	10	75
Future Volume (vph)	0	0	0	71	10	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t					0.881	
Fl _t Protected						
Satd. Flow (prot)	0	0	0	1863	1641	0
Fl _t Permitted						
Satd. Flow (perm)	0	0	0	1863	1641	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	141			717	459	
Travel Time (s)	3.2			14.0	8.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	77	11	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	77	93	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.7%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings
 8: Private /South Cherry Street & Off-Site Parking

Build
 Timing Plan: PM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	71	10	0
Future Volume (vph)	0	0	0	71	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (mph)	30			35	35	
Link Distance (ft)	165			264	717	
Travel Time (s)	3.8			5.1	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	77	11	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	77	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.7%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙			↑	↗	
Traffic Vol, veh/h	0	0	0	71	10	0
Future Vol, veh/h	0	0	0	71	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	77	11	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	88	-	-	0	-
Stage 1	11	-	-	-	-
Stage 2	77	-	-	-	-
Critical Hdwy	6.42	-	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	-
Pot Cap-1 Maneuver	913	0	0	-	-
Stage 1	1012	0	0	-	-
Stage 2	946	0	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	913	-	-	-	-
Mov Cap-2 Maneuver	913	-	-	-	-
Stage 1	1012	-	-	-	-
Stage 2	946	-	-	-	-

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

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