



May 31, 2024

Lisa L. Feinberg
Carmody Torrance Sandak & Hennessey LLP
1055 Washington Blvd., 4th Floor
Stamford, CT 06901-2218

Re: Supplemental Traffic Engineering Analysis
800 Long Ridge Road
Stamford, Connecticut

Dear Ms. Feinberg:

As requested, Fuss and O'Neill has compiled additional traffic data and analysis to supplement our Traffic Impact Study dated September 2023 for the proposed development at 800 Long Ridge Road, Stamford, Connecticut. Additional traffic counts were collected at the existing Curb residential development on Glover Avenue in Norwalk to verify that the actual trip generation rates for this use are consistent with what the ITE Trip Generation Manual would project. In addition, traffic counts and analysis were conducted at the Long Ridge Rd at Wire Mill Rd and Route 15 NB Off Ramp intersection as well as the Long Ridge Rd at Vineyard Ln. intersection to verify the amount of traffic at these intersections today as well as the de minimis impact the additional 800 Long Ridge Road development traffic will have on these intersections.

This letter will serve to summarize our findings. Our scope tasks are reprinted in *italics* with our responses below.

1. *Conduct traffic counts at the existing Curb residential development on Glover Avenue in Norwalk during the morning and afternoon peak hours of traffic. It is assumed that four count cameras will be needed to capture the two site/garage driveways and the driveways to the surface lots across the street as well as the 25 short term parking spaces in front of the buildings. Counts will be compiled to determine the total entering and exiting vehicles from the development and then adjusted upward by 20% to account for the transit/pedestrian related traffic occurring at the site. The buildings are assumed to be 100% occupied.*

Additional turning movement counts were conducted at the existing Curb residential development on Glover Avenue in Norwalk, Connecticut on Thursday April 11, 2024. The traffic count data collected indicates that the existing 761-unit residential development generates a total of 228 vehicle trips (58 entering, 170 exiting) during the morning peak hour and a total of 281 vehicle trips (190 entering, 91 exiting) during the afternoon peak hour. The traffic count data collected indicates that the weekday morning peak hour of traffic is 8:00 a.m. to 9:00 a.m. and the weekday afternoon peak hour is 5:00 p.m. to 6:00 p.m. Copies of the turning movement counts can be found attached.

Vehicular counts entering and exiting The Curb development in Norwalk, Connecticut were grown by 20 percent (as approved by CTDOT) to represent the trips occurring by public transportation since there is no nearby rail for residents to use as a mode of transportation at the proposed 800 Long

Ridge Road site location. After applying the 20 percent growth factor, the 761-unit Curb residential development was counted to generate a total of 274 vehicle trips (70 entering, 204 exiting) during the morning peak hour and a total of 337 vehicle trips (228 entering, 109 exiting) during the afternoon peak hour.

Utilizing the trip generation rates actually occurring at the 761-unit Curb development and applying them proportionally to the proposed 354 units at the 800 Long Ridge Road residential development, the 800 Long Ridge Road development can be expected to generate 127 new vehicle trips in the morning peak hour and 156 new vehicle trips in the afternoon peak hour.

For comparison purposes, the empirical data from the Institute of Transportation Engineers (ITE) publication Trip Generation, 11th edition, 2021, using land use code 221 "Multifamily Housing (Mid-Rise)" that was utilized in our Traffic Impact Study projects that a residential development consisting of 354 units not close to rail transit will generate a total of 144 vehicle trips during the morning peak hour and a total of 139 vehicle trips during the afternoon peak hour. Therefore, the ITE rates that were utilized are comparable to the observed rates occurring at the Curb (approximately 17 trips more in the morning peak hour and approximately 17 trips less in the afternoon peak hour).

- 2. Conduct turning movement traffic counts at the intersections of Long Ridge Rd at Wire Mill Rd and the Rte 15 NB Off Ramp as well as Long Ridge Rd at Vineyard Ln. to determine existing traffic volumes utilizing these side streets. Counts will be performed at both intersections during the morning and afternoon peak hours of traffic.*

Additional turning movement counts were conducted at the intersections of Long Ridge Rd at Wire Mill Rd and the Route 15 NB Off Ramp as well as Long Ridge Rd at Vineyard Ln on Tuesday April 23, 2024. The traffic count data collected indicates that the weekday morning peak hour of traffic is 8:00 a.m. to 9:00 a.m. and the weekday afternoon peak hour is 5:00 p.m. to 6:00 p.m. Copies of the turning movement counts can be found attached.

The additional turning movement counts were subsequently analyzed during 2025 background conditions and 2025 combined conditions. Capacity analysis was conducted for the signalized and unsignalized intersection using Synchro Professional Software, version 11.0. Additionally, Background and Combined Condition 95th percentile (design) queue lengths were reviewed at the intersections.

The distribution of traffic entering and exiting the proposed site was applied to the road network based on the existing regional traffic distributions and the layout of the adjacent roadway network.

The signalized intersection of Route 104 and Long Ridge Rd at Wire Mill Rd and the Route 15 NB Off Ramp operates at LOS C under background conditions during the morning and afternoon peak hours and continues to do so in the combined conditions under the existing office use and proposed residential land use.

At the unsignalized intersection of Route 104 and Vineyard Lane, the westbound Vineyard Lane approach operates poorly at LOS F during the morning and afternoon peak hours under background

Ms. Lisa L. Feinberg
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conditions and continues to do so in the combined condition under both the existing office land use and proposed residential land use. The southbound left turn movement operates efficiently at LOS B during the morning and afternoon peak hours under background conditions and continues to do so in the combined condition under both the existing office land use and proposed residential land use. The addition of the site generated traffic will result in a de minimis two second increase in vehicular delay for the westbound Vineyard Lane approach and will have no noticeable impact to traffic operations at the intersection.

At both intersections that were analyzed, the 95th percentile queue lengths on all approaches will experience minimal queue increases (six vehicle lengths or less during the morning peak hour and four vehicle lengths or less during the afternoon peak hour) between the background and combined condition with the proposed residential land use. The queue increases experienced occur on Route 15 off ramp and Long Ridge Road mainline and are generally less with the proposed residential land use in comparison to the existing office use. Queue increases on the Wire Mill Road and Vineyard Lane approaches are negligible. Ample lane storage lengths exist on all approaches to accommodate these anticipated queue increases.

Table No. 1 attached presents a summary of the levels of service at the signalized intersection and *Table No. 2* attached presents a summary of the levels of service at the unsignalized intersection, for both Background and Combined Condition traffic volumes of the existing office and proposed residential land uses. *Tables 3 and 4* attached provide a summary of the queue lengths for the critical lanes at each intersection. Copies of the analysis worksheets can be found attached.

We trust that this information is sufficient for you to complete your review. Should you have any questions or require additional information, please contact us.

Sincerely,



Ajeet Sandhu, EIT
Project Engineer

Mark G. Vertucci, PE, PTOE
Vice President

Attachments:

Appendix A - Tables

Appendix B - Figures

Appendix C - Intersection Capacity Analysis Worksheets Weekday Morning Peak Hour

Appendix D - Intersection Capacity Analysis Worksheets Weekday Afternoon Peak Hour

Appendix E - Turning Movement Count (TMC) Data

Appendix A

Tables

Table 1

**Signalized Intersection Level of Service Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut**

Critical Movements	2025 Weekday Morning Peak Hour			2025 Weekday Afternoon Peak Hour		
	Background	Office Land Use Combined	Residential Land Use Combined	Background	Office Land Use Combined	Residential Land Use Combined
Route 104 at Wire Mill Road and Route 15 Off-Ramp	C	C	C	C	C	C
Eastbound Approach	D	E	D	D	D	D
Westbound Approach	D	D	D	D	D	D
Northbound Approach	C	C	C	C	D	C
Southbound Approach	B	B	B	B	B	B

*Values indicated are overall intersection and approach Level of Service (LOS)



Table 2

Unsignalized Intersection Level of Service Summary
 800 Long Ridge Road Multi-Family Housing
 Stamford, Connecticut

Critical Movements	2025 Weekday Morning Peak Hour			2025 Weekday Afternoon Peak Hour		
	Background	Office Land Use Combined	Residential Land Use Combined	Background	Office Land Use Combined	Residential Land Use Combined
Route 104 at Vineyard Lane						
Westbound Approach	F	F	F	F	F	F
Southbound Left	B	B	B	B	B	B

*Values indicated are overall intersection and approach Level of Service (LOS)



Table 3

**Weekday Morning Peak Hour Queue Length Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut**

Intersection	Approach Lane	2025 Background Queue	2025 Office Use Combined Queue	2025 Residential Use Combined Queue	Available Storage
Route 104 at Wire Mill Road and Route 15 Off-Ramp	EB Left Turn/Through	120 Feet	120 Feet	120 Feet	1,500 Feet
	EB Right Turn	210 Feet	395 Feet	260 Feet	500 Feet
	WB Left Turn	80 Feet	100 Feet	85 Feet	1,240 Feet
	WB Right Turn	0 Feet	0 Feet	0 Feet	100 Feet
	NB Through/Right Turn	245 Feet	305 Feet	310 Feet	2,700 Feet
	SB Left Turn	10 Feet	25 Feet	25 Feet	285 Feet
	SB Through	220 Feet	375 Feet	340 Feet	1,450 Feet
Route 104 at Vineyard Lane	WB Approach	10 Feet	15 Feet	10 Feet	1,150 Feet
	NB Through/Right Turn	0 Feet	0 Feet	0 Feet	1,215 Feet
	SB Left Turn	0 Feet	0 Feet	0 Feet	65 Feet
	SB Through/Right Turn	0 Feet	0 Feet	0 Feet	270 Feet

NOTE: Values indicated represent 95th percentile (design) vehicle queue lengths. Values are rounded to the nearest 5 feet.



Table 4

**Weekday Afternoon Peak Hour Queue Length Summary
800 Long Ridge Road Multi-Family Housing
Stamford, Connecticut**

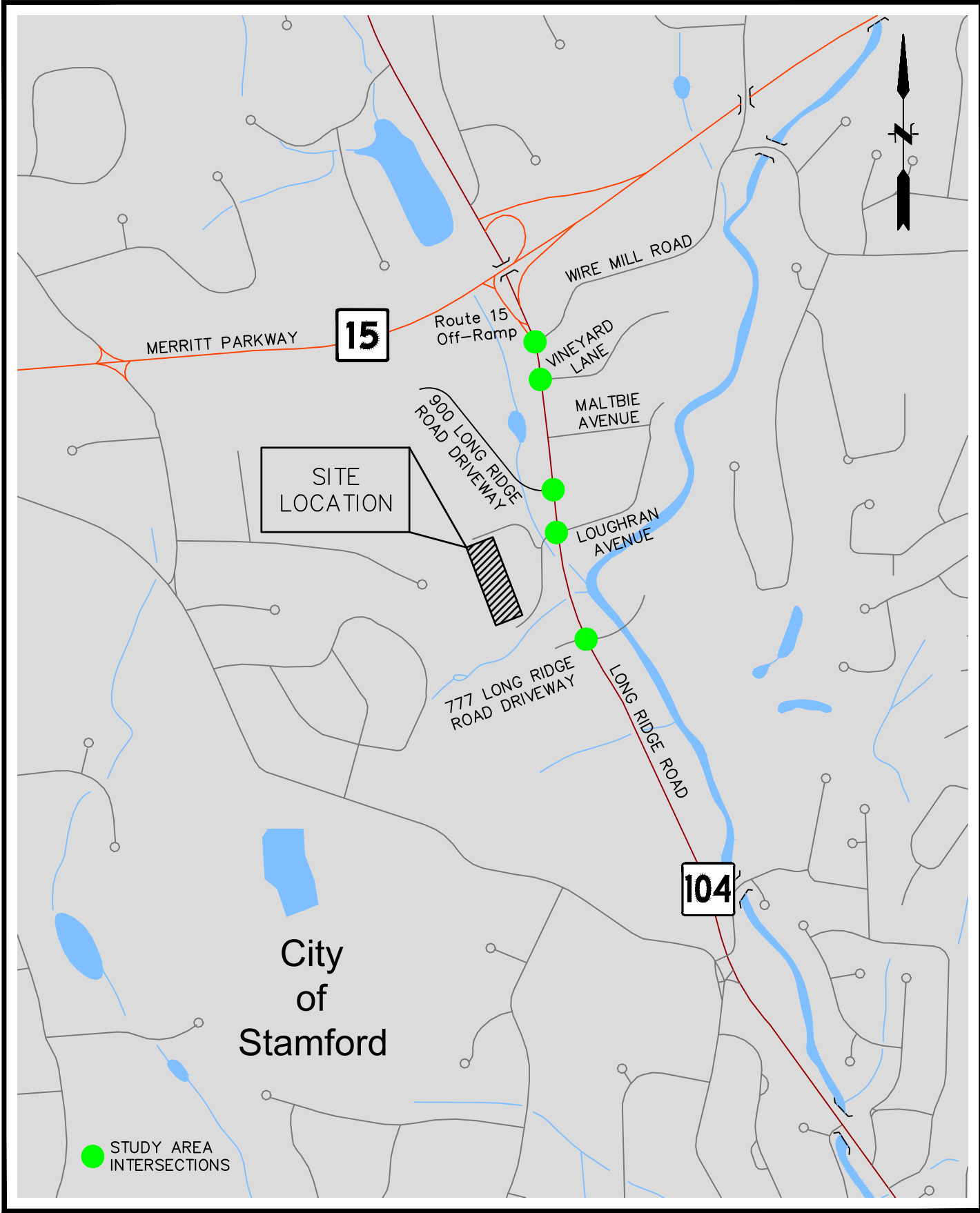
Intersection	Approach Lane	2025 Background Queue	2025 Office Use Combined Queue	2025 Residential Use Combined Queue	Available Storage
Route 104 at Wire Mill Road and Route 15 Off- Ramp	EB Left Turn/Through	460 Feet	470 Feet	470 Feet	1,500 Feet
	EB Right Turn	165 Feet	365 Feet	390 Feet	500 Feet
	WB Left Turn	70 Feet	75 Feet	75 Feet	1,240 Feet
	WB Right Turn	0 Feet	0 Feet	0 Feet	100 Feet
	NB Through/Right Turn	395 Feet	505 Feet	415 Feet	2,700 Feet
	SB Left Turn	40 Feet	40 Feet	40 Feet	285 Feet
	SB Through	260 Feet	270 Feet	275 Feet	1,450 Feet
Route 104 at Vineyard Lane	WB Approach	10 Feet	10 Feet	10 Feet	1,150 Feet
	NB Through/Right Turn	0 Feet	0 Feet	0 Feet	1,215 Feet
	SB Left Turn	5 Feet	5 Feet	5 Feet	65 Feet
	SB Through/Right Turn	0 Feet	0 Feet	0 Feet	270 Feet

NOTE: Values indicated represent 95th percentile (design) vehicle queue lengths. Values are rounded to the nearest 5 feet.

Appendix B

Figures

File: J:\DWG\20101217\A30\Civil\Traffic Figures\20101217\A30_LOC.dwg Layout 08:5X11-P Plotted: 2024-05-01 4:58 PM Saved: 2024-05-01 4:57 PM User: hollyrussell
 PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB
 LAYER STATE:



SCALE:	
HORIZ.:	1" = 1000'
VERT.:	
DATUM:	
HORIZ.:	
VERT.:	
GRAPHIC SCALE	



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 146 HARTFORD ROAD
 MANCHESTER, CONNECTICUT 06040
 860.646.2469
 www.fando.com

BLT MANAGEMENT LLC
 SITE LOCATION MAP
 800 LONG RIDGE ROAD
 STAMFORD CONNECTICUT











PROJ. No.: 20101217_A30
DATE: MAY 2024
LOC-01

Appendix C

Intersection Capacity Analysis Worksheets Weekday Morning Peak Hour

Lanes, Volumes, Timings
9: Route 104 & Vineyard Lane

2025 Background Conditions
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	4	1148	4	1	1427
Future Volume (vph)	6	4	1148	4	1	1427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.951					
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1717	0	5085	0	1770	3539
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1717	0	5085	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	4	1248	4	1	1551
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	1252	0	1	1551
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.4%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 9: Route 104 & Vineyard Lane

2025 Background Conditions
 AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↑↑↑		↔	↑↑	
Traffic Volume (veh/h)	6	4	1148	4	1	1427	
Future Volume (Veh/h)	6	4	1148	4	1	1427	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	7	4	1248	4	1	1551	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	758			211			
pX, platoon unblocked	0.80						
vC, conflicting volume	2028	418			1252		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1783	418			1252		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	88	99			100		
cM capacity (veh/h)	58	584			552		
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	499	499	254	1	776	776
Volume Left	7	0	0	0	1	0	0
Volume Right	4	0	0	4	0	0	0
cSH	87	1700	1700	1700	552	1700	1700
Volume to Capacity	0.13	0.29	0.29	0.15	0.00	0.46	0.46
Queue Length 95th (ft)	10	0	0	0	0	0	0
Control Delay (s)	52.5	0.0	0.0	0.0	11.5	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	52.5	0.0			0.0		
Approach LOS	F						
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			49.4%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Background Conditions
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Future Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.850		0.996				
Flt Protected		0.957		0.950						0.950		
Satd. Flow (prot)	0	1783	1583	1770	0	1583	0	5065	0	1770	3539	0
Flt Permitted		0.957		0.950						0.137		
Satd. Flow (perm)	0	1783	1583	1770	0	1583	0	5065	0	255	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			147		5				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		585			436			211				555
Travel Time (s)		13.3			9.9			4.8				12.6
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)	110	11	332	67	0	53	0	1232	35	34	1150	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	332	67	0	53	0	1267	0	34	1150	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
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-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		16.2	16.2	9.4		9.4		42.6		57.7	61.7	
Actuated g/C Ratio		0.16	0.16	0.09		0.09		0.43		0.58	0.62	
v/c Ratio		0.42	0.84	0.40		0.19		0.59		0.10	0.53	
Control Delay		40.6	39.4	49.3		1.5		22.1		11.5	14.0	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		40.6	39.4	49.3		1.5		22.1		11.5	14.0	

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

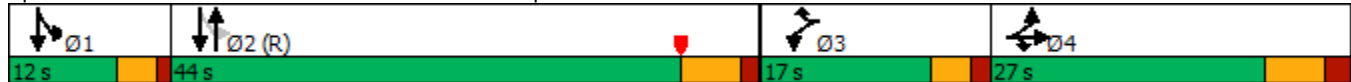
2025 Background Conditions
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	D	D		A		C		B	B	
Approach Delay		39.7			28.2			22.1			13.9	
Approach LOS		D			C			C			B	
Queue Length 50th (ft)		69	105	41		0		245		9	220	
Queue Length 95th (ft)		120	#212	81		0		296		25	330	
Internal Link Dist (ft)		505			356			131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		370	458	223		327		2161		346	2184	
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		0.33	0.72	0.30		0.16		0.59		0.10	0.53	

Intersection Summary





















Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 21.8
 Intersection LOS: C
 Intersection Capacity Utilization 63.6%
 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: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



HCM Signalized Intersection Capacity Analysis
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Background Conditions
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Future Volume (vph)	101	10	305	62	0	49	0	1133	32	31	1058	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		1.00		1.00	1.00	
Flt Protected		0.96	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583	1770		1583		5064		1770	3539	
Flt Permitted		0.96	1.00	0.95		1.00		1.00		0.14	1.00	
Satd. Flow (perm)		1782	1583	1770		1583		5064		255	3539	
Peak-hour factor, PHF	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)	110	11	332	67	0	53	0	1232	35	34	1150	0
RTOR Reduction (vph)	0	0	137	0	0	49	0	3	0	0	0	0
Lane Group Flow (vph)	0	121	195	67	0	4	0	1264	0	34	1150	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		16.2	16.2	8.0		8.0		41.8		54.9	58.9	
Effective Green, g (s)		16.2	16.2	8.0		8.0		41.8		54.9	58.9	
Actuated g/C Ratio		0.16	0.16	0.08		0.08		0.42		0.55	0.59	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		288	256	141		126		2116		338	2084	
v/s Ratio Prot		0.07	c0.12	c0.04		0.00		c0.25		0.01	c0.32	
v/s Ratio Perm										0.04		
v/c Ratio		0.42	0.76	0.48		0.03		0.60		0.10	0.55	
Uniform Delay, d1		37.7	40.1	44.0		42.4		22.6		11.5	12.5	
Progression Factor		1.00	1.00	1.00		1.00		0.90		1.00	1.00	
Incremental Delay, d2		1.0	12.6	2.5		0.1		1.1		0.1	0.3	
Delay (s)		38.7	52.7	46.5		42.5		21.4		11.6	12.8	
Level of Service		D	D	D		D		C		B	B	
Approach Delay (s)		49.0			44.8			21.4			12.8	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			23.1									C
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			100.0							20.9		
Intersection Capacity Utilization			63.6%									B
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
9: Route 104 & Vineyard Lane

2025 Combined Conditions - Office
AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑↑		↘	↑↑
Traffic Volume (vph)	6	4	1175	4	1	1627
Future Volume (vph)	6	4	1175	4	1	1627
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.951					
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1717	0	5085	0	1770	3539
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1717	0	5085	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	4	1277	4	1	1768
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	1281	0	1	1768
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	55.0% ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 9: Route 104 & Vineyard Lane






















2025 Combined Conditions - Office
 AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↑↑↑		↔	↑↑	
Traffic Volume (veh/h)	6	4	1175	4	1	1627	
Future Volume (Veh/h)	6	4	1175	4	1	1627	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	7	4	1277	4	1	1768	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	758			211			
pX, platoon unblocked	0.73						
vC, conflicting volume	2165	428			1281		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1856	428			1281		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	85	99			100		
cM capacity (veh/h)	47	575			538		
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	11	511	511	259	1	884	884
Volume Left	7	0	0	0	1	0	0
Volume Right	4	0	0	4	0	0	0
cSH	71	1700	1700	1700	538	1700	1700
Volume to Capacity	0.15	0.30	0.30	0.15	0.00	0.52	0.52
Queue Length 95th (ft)	13	0	0	0	0	0	0
Control Delay (s)	64.5	0.0	0.0	0.0	11.7	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	64.5	0.0			0.0		
Approach LOS	F						
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			55.0%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Office
 AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Future Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.850		0.996				
Flt Protected		0.957		0.950						0.950		
Satd. Flow (prot)	0	1783	1583	1770	0	1583	0	5065	0	1770	3539	0
Flt Permitted		0.957		0.950						0.112		
Satd. Flow (perm)	0	1783	1583	1770	0	1583	0	5065	0	209	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			147		5				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		585			436			211				555
Travel Time (s)		13.3			9.9			4.8				12.6
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)	110	11	418	89	0	53	0	1259	37	34	1259	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	418	89	0	53	0	1296	0	34	1259	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
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-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		22.4	22.4	10.1		10.1		38.0		50.9	54.9	
Actuated g/C Ratio		0.22	0.22	0.10		0.10		0.38		0.51	0.55	
v/c Ratio		0.30	0.92	0.50		0.18		0.67		0.12	0.65	
Control Delay		35.3	55.0	51.8		1.4		24.6		12.9	18.6	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		35.3	55.0	51.8		1.4		24.6		12.9	18.6	

Lanes, Volumes, Timings
11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

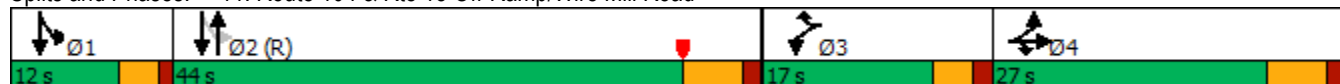
2025 Combined Conditions - Office
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	E	D		A		C		B	B	
Approach Delay		50.6				32.9		24.6			18.5	
Approach LOS		D				C		C			B	
Queue Length 50th (ft)		64	188	55		0		254		10	300	
Queue Length 95th (ft)		120	#394	102		0		306		25	376	
Internal Link Dist (ft)		505				356		131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		399	453	223		327		1927		276	1941	
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		0.30	0.92	0.40		0.16		0.67		0.12	0.65	





















Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 72.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



HCM Signalized Intersection Capacity Analysis
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road














2025 Combined Conditions - Office
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Future Volume (vph)	101	10	385	82	0	49	0	1158	34	31	1158	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		1.00		1.00	1.00	
Flt Protected		0.96	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583	1770		1583		5064		1770	3539	
Flt Permitted		0.96	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1782	1583	1770		1583		5064		208	3539	
Peak-hour factor, PHF	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)	110	11	418	89	0	53	0	1259	37	34	1259	0
RTOR Reduction (vph)	0	0	99	0	0	48	0	3	0	0	0	0
Lane Group Flow (vph)	0	121	319	89	0	5	0	1293	0	34	1259	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		22.4	22.4	8.7		8.7		37.1		48.0	52.0	
Effective Green, g (s)		22.4	22.4	8.7		8.7		37.1		48.0	52.0	
Actuated g/C Ratio		0.22	0.22	0.09		0.09		0.37		0.48	0.52	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		399	354	153		137		1878		270	1840	
v/s Ratio Prot		0.07	c0.20	c0.05		0.00		0.26		0.01	c0.36	
v/s Ratio Perm										0.05		
v/c Ratio		0.30	0.90	0.58		0.03		0.69		0.13	0.68	
Uniform Delay, d1		32.3	37.7	43.9		41.8		26.6		15.3	17.9	
Progression Factor		1.00	1.00	1.00		1.00		0.88		1.00	1.00	
Incremental Delay, d2		0.4	25.1	5.5		0.1		1.8		0.2	1.1	
Delay (s)		32.7	62.9	49.4		41.9		25.3		15.5	19.0	
Level of Service		C	E	D		D		C		B	B	
Approach Delay (s)		56.1			46.6			25.3			18.9	
Approach LOS		E			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			28.7									C
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			100.0							20.9		
Intersection Capacity Utilization			72.5%									C
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
9: Route 104 & Vineyard Lane

2025 Combined Conditions - Residential
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			 
Traffic Volume (vph)	6	5	1228	4	1	1472
Future Volume (vph)	6	5	1228	4	1	1472
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.944					
Flt Protected	0.972				0.950	
Satd. Flow (prot)	1709	0	5085	0	1770	3539
Flt Permitted	0.972				0.950	
Satd. Flow (perm)	1709	0	5085	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	5	1335	4	1	1600
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	1339	0	1	1600
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.7%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
 9: Route 104 & Vineyard Lane






















2025 Combined Conditions - Residential
 AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↑↑↑		↔	↑↑	
Traffic Volume (veh/h)	6	5	1228	4	1	1472	
Future Volume (Veh/h)	6	5	1228	4	1	1472	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	7	5	1335	4	1	1600	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	758			211			
pX, platoon unblocked	0.78						
vC, conflicting volume	2139	447			1339		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1901	447			1339		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	85	99			100		
cM capacity (veh/h)	48	559			511		
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	12	534	534	271	1	800	800
Volume Left	7	0	0	0	1	0	0
Volume Right	5	0	0	4	0	0	0
cSH	77	1700	1700	1700	511	1700	1700
Volume to Capacity	0.16	0.31	0.31	0.16	0.00	0.47	0.47
Queue Length 95th (ft)	13	0	0	0	0	0	0
Control Delay (s)	60.3	0.0	0.0	0.0	12.1	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	60.3	0.0			0.0		
Approach LOS	F						
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			50.7%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Residential
 AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Future Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.850		0.995				
Flt Protected		0.957		0.950						0.950		
Satd. Flow (prot)	0	1783	1583	1770	0	1583	0	5060	0	1770	3539	0
Flt Permitted		0.957		0.950						0.113		
Satd. Flow (perm)	0	1783	1583	1770	0	1583	0	5060	0	210	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			147		6				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		585			436			211				555
Travel Time (s)		13.3			9.9			4.8				12.6
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)	110	11	351	73	0	53	0	1310	43	34	1174	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	351	73	0	53	0	1353	0	34	1174	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
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-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		17.8	17.8	9.6		9.6		41.8		56.0	60.0	
Actuated g/C Ratio		0.18	0.18	0.10		0.10		0.42		0.56	0.60	
v/c Ratio		0.38	0.86	0.43		0.19		0.64		0.11	0.55	
Control Delay		38.7	42.9	50.0		1.4		21.0		12.1	15.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		38.7	42.9	50.0		1.4		21.0		12.1	15.1	

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Residential
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D	D	D		A		C		B	B	
Approach Delay		41.8				29.6		21.0			15.1	
Approach LOS		D				C		C			B	
Queue Length 50th (ft)		66	122	45		0		272		9	251	
Queue Length 95th (ft)		120	#262	87		0		264		25	339	
Internal Link Dist (ft)		505				356		131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		371	451	223		327		2118		307	2122	
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		0.33	0.78	0.33		0.16		0.64		0.11	0.55	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

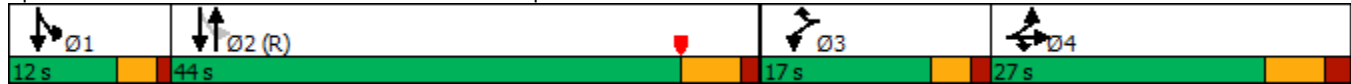
Intersection Signal Delay: 22.2 Intersection LOS: C

Intersection Capacity Utilization 65.6% ICU Level of Service C

Analysis Period (min) 15






















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

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



HCM Signalized Intersection Capacity Analysis
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Residential
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Future Volume (vph)	101	10	323	67	0	49	0	1205	40	31	1080	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		1.00		1.00	1.00	
Flt Protected		0.96	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1782	1583	1770		1583		5061		1770	3539	
Flt Permitted		0.96	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1782	1583	1770		1583		5061		211	3539	
Peak-hour factor, PHF	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)	110	11	351	73	0	53	0	1310	43	34	1174	0
RTOR Reduction (vph)	0	0	126	0	0	49	0	4	0	0	0	0
Lane Group Flow (vph)	0	121	225	73	0	4	0	1349	0	34	1174	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		17.8	17.8	8.2		8.2		40.9		53.1	57.1	
Effective Green, g (s)		17.8	17.8	8.2		8.2		40.9		53.1	57.1	
Actuated g/C Ratio		0.18	0.18	0.08		0.08		0.41		0.53	0.57	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		317	281	145		129		2069		302	2020	
v/s Ratio Prot		0.07	c0.14	c0.04		0.00		c0.27		0.01	c0.33	
v/s Ratio Perm										0.05		
v/c Ratio		0.38	0.80	0.50		0.03		0.65		0.11	0.58	
Uniform Delay, d1		36.2	39.4	44.0		42.3		23.8		12.7	13.8	
Progression Factor		1.00	1.00	1.00		1.00		0.81		1.00	1.00	
Incremental Delay, d2		0.8	15.1	2.7		0.1		1.4		0.2	0.4	
Delay (s)		37.0	54.5	46.7		42.4		20.7		12.9	14.2	
Level of Service		D	D	D		D		C		B	B	
Approach Delay (s)		50.0			44.9			20.7			14.2	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			23.5									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			100.0							20.9		
Intersection Capacity Utilization			65.6%									ICU Level of Service C
Analysis Period (min)			15									











c Critical Lane Group

Appendix D

Intersection Capacity Analysis Worksheets Weekday Afternoon Peak Hour

Lanes, Volumes, Timings
9: Route 104 & Vineyard Lane

2025 Background Conditions
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	1356	12	8	1345
Future Volume (vph)	5	1	1356	12	8	1345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.977		0.999			
Flt Protected	0.960				0.950	
Satd. Flow (prot)	1747	0	5080	0	1770	3539
Flt Permitted	0.960				0.950	
Satd. Flow (perm)	1747	0	5080	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	1474	13	9	1462
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	1487	0	9	1462
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
 9: Route 104 & Vineyard Lane

2025 Background Conditions
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↑↑↑		↔	↑↑	
Traffic Volume (veh/h)	5	1	1356	12	8	1345	
Future Volume (Veh/h)	5	1	1356	12	8	1345	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	5	1	1474	13	9	1462	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	758			211			
pX, platoon unblocked	0.81						
vC, conflicting volume	2230	498			1487		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2048	498			1487		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	87	100			98		
cM capacity (veh/h)	38	518			448		
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	590	590	308	9	731	731
Volume Left	5	0	0	0	9	0	0
Volume Right	1	0	0	13	0	0	0
cSH	45	1700	1700	1700	448	1700	1700
Volume to Capacity	0.13	0.35	0.35	0.18	0.02	0.43	0.43
Queue Length 95th (ft)	11	0	0	0	2	0	0
Control Delay (s)	96.1	0.0	0.0	0.0	13.2	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	96.1	0.0			0.1		
Approach LOS	F						
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			47.2%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Background Conditions
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Future Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.850		0.988				
Flt Protected		0.983		0.950						0.950		
Satd. Flow (prot)	0	1831	1583	1770	0	1583	0	5024	0	1770	3539	0
Flt Permitted		0.983		0.950						0.108		
Satd. Flow (perm)	0	1831	1583	1770	0	1583	0	5024	0	201	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			147		17				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		585			436			211				555
Travel Time (s)		13.3			9.9			4.8				12.6
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)	137	270	329	53	0	30	0	1470	130	67	971	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	329	53	0	30	0	1600	0	67	971	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
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-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		26.0	26.0	8.7		8.7		38.0		48.7	52.7	
Actuated g/C Ratio		0.26	0.26	0.09		0.09		0.38		0.49	0.53	
v/c Ratio		0.86	0.58	0.35		0.11		0.83		0.29	0.52	
Control Delay		55.7	17.3	48.7		0.8		29.7		15.4	16.8	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		55.7	17.3	48.7		0.8		29.7		15.4	16.8	

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Background Conditions
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		E	B	D		A		C		B	B	
Approach Delay		38.5				31.4		29.7			16.7	
Approach LOS		D				C		C			B	
Queue Length 50th (ft)		252	63	33		0		334		20	205	
Queue Length 95th (ft)		#462	163	69		0		397		42	262	
Internal Link Dist (ft)		505				356		131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		475	565	223		327		1919		235	1865	
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		0.86	0.58	0.24		0.09		0.83		0.29	0.52	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 27.7

Intersection LOS: C

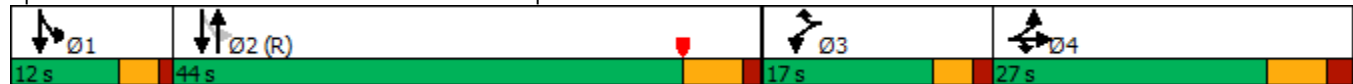
Intersection Capacity Utilization 72.7%

ICU Level of Service C

Analysis Period (min) 15






















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

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



HCM Signalized Intersection Capacity Analysis
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road














2025 Background Conditions
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Future Volume (vph)	126	248	303	49	0	28	0	1352	120	62	893	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1583	1770		1583		5023		1770	3539	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1832	1583	1770		1583		5023		201	3539	
Peak-hour factor, PHF	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)	137	270	329	53	0	30	0	1470	130	67	971	0
RTOR Reduction (vph)	0	0	155	0	0	28	0	11	0	0	0	0
Lane Group Flow (vph)	0	407	174	53	0	2	0	1589	0	67	971	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		26.0	26.0	7.3		7.3		37.1		45.8	49.8	
Effective Green, g (s)		26.0	26.0	7.3		7.3		37.1		45.8	49.8	
Actuated g/C Ratio		0.26	0.26	0.07		0.07		0.37		0.46	0.50	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		476	411	129		115		1863		228	1762	
v/s Ratio Prot		c0.22	0.11	c0.03		0.00		c0.32		0.03	c0.27	
v/s Ratio Perm										0.11		
v/c Ratio		0.86	0.42	0.41		0.02		0.85		0.29	0.55	
Uniform Delay, d1		35.2	30.8	44.3		43.0		28.9		18.6	17.4	
Progression Factor		1.00	1.00	1.00		1.00		0.92		1.00	1.00	
Incremental Delay, d2		14.0	0.7	2.1		0.1		4.5		0.7	0.4	
Delay (s)		49.2	31.5	46.4		43.1		31.1		19.3	17.7	
Level of Service		D	C	D		D		C		B	B	
Approach Delay (s)		41.3			45.2			31.1			17.8	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			29.6									C
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			100.0							20.9		
Intersection Capacity Utilization			72.7%									C
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
9: Route 104 & Vineyard Lane

2025 Combined Conditions - Office
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			 
Traffic Volume (vph)	5	1	1535	12	8	1381
Future Volume (vph)	5	1	1535	12	8	1381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.977		0.999			
Flt Protected	0.960				0.950	
Satd. Flow (prot)	1747	0	5080	0	1770	3539
Flt Permitted	0.960				0.950	
Satd. Flow (perm)	1747	0	5080	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	1668	13	9	1501
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	1681	0	9	1501
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 9: Route 104 & Vineyard Lane






















2025 Combined Conditions - Office
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔		↑↑↑		↔	↑↑	
Traffic Volume (veh/h)	5	1	1535	12	8	1381	
Future Volume (Veh/h)	5	1	1535	12	8	1381	
Sign Control	Stop		Free			Free	
Grade	0%		0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	5	1	1668	13	9	1501	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	758			211			
pX, platoon unblocked	0.80						
vC, conflicting volume	2443	562			1681		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2306	562			1681		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	80	100			98		
cM capacity (veh/h)	25	470			377		
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	6	667	667	347	9	750	750
Volume Left	5	0	0	0	9	0	0
Volume Right	1	0	0	13	0	0	0
cSH	30	1700	1700	1700	377	1700	1700
Volume to Capacity	0.20	0.39	0.39	0.20	0.02	0.44	0.44
Queue Length 95th (ft)	16	0	0	0	2	0	0
Control Delay (s)	153.0	0.0	0.0	0.0	14.8	0.0	0.0
Lane LOS	F				B		
Approach Delay (s)	153.0	0.0			0.1		
Approach LOS	F						
Intersection Summary							
Average Delay			0.3				
Intersection Capacity Utilization			48.2%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Office
 PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Future Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.850		0.987				
Flt Protected		0.983		0.950						0.950		
Satd. Flow (prot)	0	1831	1583	1770	0	1583	0	5019	0	1770	3539	0
Flt Permitted		0.983		0.950						0.108		
Satd. Flow (perm)	0	1831	1583	1770	0	1583	0	5019	0	201	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			198			147		17				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		585			436			211				555
Travel Time (s)		13.3			9.9			4.8				12.6
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)	137	270	453	58	0	30	0	1645	150	67	990	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	453	58	0	30	0	1795	0	67	990	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.0		8.0		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.6		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
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-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.9	25.9	9.0		9.0		38.0		48.6	52.6	
Actuated g/C Ratio		0.26	0.26	0.09		0.09		0.38		0.49	0.53	
v/c Ratio		0.86	0.81	0.37		0.11		0.94		0.29	0.53	
Control Delay		56.3	33.8	48.8		0.8		34.0		15.4	17.1	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		56.3	33.8	48.8		0.8		34.0		15.4	17.1	

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Office
 PM Peak Hour

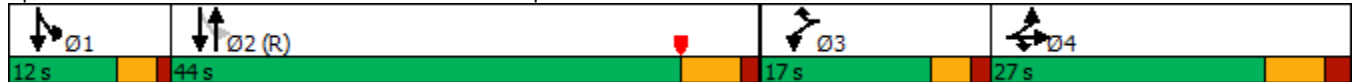


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		E	C	D		A		C		B	B	
Approach Delay		44.5				32.4		34.0			17.0	
Approach LOS		D				C		C			B	
Queue Length 50th (ft)		253	161	36		0		374		20	211	
Queue Length 95th (ft)		#468	#363	73		0		#496		42	268	
Internal Link Dist (ft)		505				356		131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		473	556	223		327		1917		232	1860	
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		0.86	0.81	0.26		0.09		0.94		0.29	0.53	

Intersection Summary






















Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 31.6
 Intersection LOS: C
 Intersection Capacity Utilization 76.2%
 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: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



HCM Signalized Intersection Capacity Analysis
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road











2025 Combined Conditions - Office
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Future Volume (vph)	126	248	417	53	0	28	0	1513	138	62	911	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		6.0		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1583	1770		1583		5022		1770	3539	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1832	1583	1770		1583		5022		201	3539	
Peak-hour factor, PHF	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)	137	270	453	58	0	30	0	1645	150	67	990	0
RTOR Reduction (vph)	0	0	147	0	0	28	0	11	0	0	0	0
Lane Group Flow (vph)	0	407	306	58	0	2	0	1784	0	67	990	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Actuated Green, G (s)		25.9	25.9	7.6		7.6		37.0		45.6	49.6	
Effective Green, g (s)		25.9	25.9	7.6		7.6		37.0		45.6	49.6	
Actuated g/C Ratio		0.26	0.26	0.08		0.08		0.37		0.46	0.50	
Clearance Time (s)		6.5	6.5	4.4		4.4		6.0		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		474	409	134		120		1858		226	1755	
v/s Ratio Prot		c0.22	0.19	c0.03		0.00		c0.36		0.03	c0.28	
v/s Ratio Perm										0.11		
v/c Ratio		0.86	0.75	0.43		0.02		0.96		0.30	0.56	
Uniform Delay, d1		35.3	34.1	44.1		42.8		30.8		20.3	17.6	
Progression Factor		1.00	1.00	1.00		1.00		0.84		1.00	1.00	
Incremental Delay, d2		14.3	7.3	2.2		0.1		11.5		0.7	0.4	
Delay (s)		49.6	41.4	46.4		42.8		37.3		21.0	18.1	
Level of Service		D	D	D		D		D		C	B	
Approach Delay (s)		45.3			45.2			37.3			18.2	
Approach LOS		D			D			D			B	
Intersection Summary												
HCM 2000 Control Delay			34.0									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			100.0								20.9	
Intersection Capacity Utilization			76.2%									ICU Level of Service D
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
9: Route 104 & Vineyard Lane

2025 Combined Conditions - Residential
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	1	1412	12	8	1412
Future Volume (vph)	5	1	1412	12	8	1412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	50	
Storage Lanes	1	0		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	0.95
Frt	0.977		0.999			
Flt Protected	0.960				0.950	
Satd. Flow (prot)	1747	0	5080	0	1770	3539
Flt Permitted	0.960				0.950	
Satd. Flow (perm)	1747	0	5080	0	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	452		758			211
Travel Time (s)	10.3		17.2			4.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	1	1535	13	9	1535
Shared Lane Traffic (%)						
Lane Group Flow (vph)	6	0	1548	0	9	1535
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	49.0%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
 9: Route 104 & Vineyard Lane

2025 Combined Conditions - Residential
 PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	5	1	1412	12	8	1412		
Future Volume (Veh/h)	5	1	1412	12	8	1412		
Sign Control	Stop		Free		Free			
Grade	0%		0%		0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	5	1	1535	13	9	1535		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			None		None			
Median storage (veh)								
Upstream signal (ft)			758		211			
pX, platoon unblocked								
vC, conflicting volume	2327		518		1548			
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	2159		518		1548			
tC, single (s)	6.8		6.9		4.1			
tC, 2 stage (s)								
tF (s)	3.5		3.3		2.2			
p0 queue free %	84		100		98			
cM capacity (veh/h)	32		502		424			
Direction, Lane #	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	
Volume Total	6	614	614	320	9	768	768	
Volume Left	5	0	0	0	9	0	0	
Volume Right	1	0	0	13	0	0	0	
cSH	38	1700	1700	1700	424	1700	1700	
Volume to Capacity	0.16	0.36	0.36	0.19	0.02	0.45	0.45	
Queue Length 95th (ft)	13	0	0	0	2	0	0	
Control Delay (s)	117.8	0.0	0.0	0.0	13.7	0.0	0.0	
Lane LOS	F				B			
Approach Delay (s)	117.8	0.0			0.1			
Approach LOS	F							
Intersection Summary								
Average Delay			0.3					
Intersection Capacity Utilization			49.0%			ICU Level of Service		A
Analysis Period (min)			15					

Lanes, Volumes, Timings
11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Residential
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖		↗		↕↕↕		↖	↕↕	
Traffic Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Future Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		335	100		0	0		0	285		0
Storage Lanes	0		1	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.95	1.00
Frt			0.850			0.850		0.988				
Flt Protected		0.983		0.950						0.950		
Satd. Flow (prot)	0	1831	1583	1770	0	1583	0	5024	0	1770	3539	0
Flt Permitted		0.983		0.950						0.106		
Satd. Flow (perm)	0	1831	1583	1770	0	1583	0	5024	0	197	3539	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191			141		17				
Link Speed (mph)		30			30			30				30
Link Distance (ft)		585			436			211				555
Travel Time (s)		13.3			9.9			4.8				12.6
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)	137	270	467	60	0	30	0	1524	137	67	1008	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	467	60	0	30	0	1661	0	67	1008	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	12	
Permitted Phases										12		
Detector Phase	4	4	4	3		3		2		1	12	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0		25.0		3.0		
Minimum Split (s)	24.5	24.5	24.5	17.0		17.0		44.0		12.0		
Total Split (s)	27.0	27.0	27.0	17.0		17.0		44.0		12.0		
Total Split (%)	27.0%	27.0%	27.0%	17.0%		17.0%		44.0%		12.0%		
Maximum Green (s)	20.5	20.5	20.5	12.6		12.6		38.6		8.0		
Yellow Time (s)	4.4	4.4	4.4	3.0		3.0		4.4		3.0		
All-Red Time (s)	2.1	2.1	2.1	1.4		1.4		1.0		1.0		
Lost Time Adjust (s)		0.0	0.0	0.0		0.0		0.0		0.0		
Total Lost Time (s)		6.5	6.5	4.4		4.4		5.4		4.0		
Lead/Lag	Lag	Lag	Lag	Lead		Lead		Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		Yes		Yes		Yes		
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-Min		None		
Walk Time (s)	7.0	7.0	7.0					7.0				
Flash Dont Walk (s)	11.0	11.0	11.0					11.0				
Pedestrian Calls (#/hr)	0	0	0					0				
Act Effct Green (s)		25.8	25.8	9.0		9.0		38.6		48.6	52.6	
Actuated g/C Ratio		0.26	0.26	0.09		0.09		0.39		0.49	0.53	
v/c Ratio		0.86	0.85	0.38		0.11		0.85		0.29	0.54	
Control Delay		56.7	38.0	49.0		0.8		29.0		15.5	17.2	
Queue Delay		0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay		56.7	38.0	49.0		0.8		29.0		15.5	17.2	

Lanes, Volumes, Timings
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Residential
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		E	D	D		A		C		B	B	
Approach Delay		46.7				33.0		29.0			17.1	
Approach LOS		D				C		C			B	
Queue Length 50th (ft)		253	178	37		0		352		20	216	
Queue Length 95th (ft)		#469	#392	75		0		390		42	274	
Internal Link Dist (ft)		505				356		131			475	
Turn Bay Length (ft)			335	100						285		
Base Capacity (vph)		472	549	223		322		1949		230	1860	
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		0.86	0.85	0.27		0.09		0.85		0.29	0.54	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

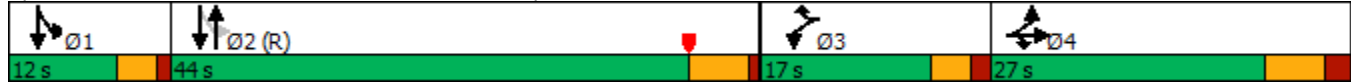
Intersection Signal Delay: 29.8 Intersection LOS: C

Intersection Capacity Utilization 73.3% ICU Level of Service D

Analysis Period (min) 15

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

Splits and Phases: 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road



HCM Signalized Intersection Capacity Analysis
 11: Route 104 & Rte 15 Off-Ramp/Wire Mill Road

2025 Combined Conditions - Residential
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖		↗		↕↕↕		↖	↕↕	
Traffic Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Future Volume (vph)	126	248	430	55	0	28	0	1402	126	62	927	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5	6.5	4.4		4.4		5.4		4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.91		1.00	0.95	
Frt		1.00	0.85	1.00		0.85		0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1583	1770		1583		5022		1770	3539	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.11	1.00	
Satd. Flow (perm)		1832	1583	1770		1583		5022		198	3539	
Peak-hour factor, PHF	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)	137	270	467	60	0	30	0	1524	137	67	1008	0
RTOR Reduction (vph)	0	0	142	0	0	28	0	11	0	0	0	0
Lane Group Flow (vph)	0	407	325	60	0	2	0	1650	0	67	1008	0
Turn Type	Split	NA	Prot	Prot		Prot		NA		pm+pt	NA	
Protected Phases	4	4	4	3		3		2		1	1 2	
Permitted Phases										1 2		
Actuated Green, G (s)		25.8	25.8	7.6		7.6		37.7		46.3	50.3	
Effective Green, g (s)		25.8	25.8	7.6		7.6		37.7		46.3	50.3	
Actuated g/C Ratio		0.26	0.26	0.08		0.08		0.38		0.46	0.50	
Clearance Time (s)		6.5	6.5	4.4		4.4		5.4		4.0		
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0		
Lane Grp Cap (vph)		472	408	134		120		1893		226	1780	
v/s Ratio Prot		c0.22	0.21	c0.03		0.00		c0.33		0.03	c0.28	
v/s Ratio Perm										0.11		
v/c Ratio		0.86	0.80	0.45		0.02		0.87		0.30	0.57	
Uniform Delay, d1		35.4	34.7	44.2		42.8		28.9		18.9	17.3	
Progression Factor		1.00	1.00	1.00		1.00		0.88		1.00	1.00	
Incremental Delay, d2		14.9	10.4	2.4		0.1		5.0		0.7	0.4	
Delay (s)		50.3	45.0	46.6		42.8		30.4		19.6	17.7	
Level of Service		D	D	D		D		C		B	B	
Approach Delay (s)		47.5			45.3			30.4			17.8	
Approach LOS		D			D			C			B	

Intersection Summary		
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.81	
Actuated Cycle Length (s)	100.0	Sum of lost time (s) 20.3
Intersection Capacity Utilization	73.3%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

Appendix E

Turning Movement Count (TMC) Data



New England Traffic Counts

(413) 579-8366

emayboroda@netrafficcounts.com

www.netrafficcounts.com

CLIENT	Fuss & O'Neill,
CITY/TOWN	Stamford, CT
WEATHER	Cloudy
INTERSECTION #	3

STREET 1	Wire Mill Road and the Route 15 NB Off Ramp
STREET 2	Long Ridge Road
DATE	04/11/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	116	2	2	0	237	0	0	10	0	27	0	19	0	7
7:15 AM	0	0	205	4	2	3	244	0	0	8	3	41	0	9	0	4
7:30 AM	0	0	268	8	2	5	226	0	0	10	0	34	0	13	0	4
7:45 AM	0	0	279	4	2	5	286	0	0	15	2	51	0	17	0	4
8:00 AM	0	0	276	5	5	2	265	0	0	28	5	61	0	8	0	15
8:15 AM	0	0	264	3	2	4	263	0	0	20	2	87	0	19	0	9
8:30 AM	0	0	251	7	3	7	256	0	0	20	3	69	0	13	0	12
8:45 AM	0	0	272	9	4	4	255	0	0	32	0	78	0	20	0	13
4:00 PM	0	0	251	16	1	14	177	0	0	29	66	109	0	10	0	5
4:15 PM	0	0	249	24	5	7	174	0	0	31	50	74	0	9	0	10
4:30 PM	0	0	266	19	1	11	188	0	0	33	41	107	0	7	0	3
4:45 PM	0	0	257	26	5	13	197	0	0	31	23	89	0	5	0	5
5:00 PM	0	0	329	23	7	16	209	0	0	25	57	93	0	12	0	8
5:15 PM	0	0	368	38	1	11	213	0	0	26	74	82	0	5	0	8
5:30 PM	0	0	304	28	2	16	235	0	0	36	57	112	0	11	0	7
5:45 PM	0	0	314	26	0	9	204	0	0	38	58	93	0	15	0	5

AM PEAK HOURS 8:00 AM	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	1063	24	14	17	1039	0	0	100	10	295	0	60	0	49
PHF	0.97				0.98				0.92				0.83			
HV%	#DIV/0!	#DIV/0!	2.4%	29.2%	0.0%	5.9%	2.7%	#DIV/0!	#DIV/0!	1.0%	0.0%	0.3%	#DIV/0!	5.0%	#DIV/0!	6.1%

PM PEAK HOURS 5:00 PM	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	1315	115	10	52	861	0	0	125	246	380	0	43	0	28
PHF	0.88				0.91				0.92				0.89			
HV%	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	0.0%	0.0%	#DIV/0!	#DIV/0!	0.0%	0.0%	0.0%	#DIV/0!	0.0%	#DIV/0!	0.0%



New England Traffic Counts

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www.netrafficcounts.com

CLIENT	Fuss & O'Neill,
CITY/TOWN	Stamford, CT
WEATHER	Cloudy
INTERSECTION #	3

STREET 1	Wire Mill Road and the Route 15 NB Off Ramp
STREET 2	Long Ridge Road
DATE	04/11/2024

Heavy Vehicles

Start Time	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	15	1	0	0	6	0	0	0	0	0	0	2	0	0
7:15 AM	0	0	11	0	0	1	8	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	5	0	0	3	2	0	0	0	0	1	0	0	0	1
7:45 AM	0	0	8	5	0	1	3	0	0	0	0	1	0	2	0	2
8:00 AM	0	0	4	4	0	0	6	0	0	1	0	1	0	1	0	2
8:15 AM	0	0	11	1	0	1	5	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	8	1	0	0	10	0	0	0	0	0	0	1	0	0
8:45 AM	0	0	3	1	0	0	7	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	2	0	0	0	6	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	4	0	0	2	5	0	0	0	0	0	0	2	0	0
4:30 PM	0	0	2	0	0	1	8	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	2	0	1
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

AM PEAK HOURS 8:00 AM	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	26	7	0	1	28	0	0	1	0	1	0	3	0	3

PM PEAK HOURS 5:00 PM	Long Ridge Road - Northbound				Long Ridge Road - Southbound				Wire Mill Road - Eastbound				Route 15 NB Off Ramp - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	5	0	0	0	9	0	0	0	0	0	0	3	0	2

CLIENT	Fuss & O'Neill,
CITY/TOWN	Stamford, CT
WEATHER	Cloudy
INTERSECTION #	4

STREET 1	Vineyard Lane
STREET 2	Long Ridge Road
DATE	04/11/2024

Heavy Vehicles

Start Time	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
7:00 AM	0	15	0	0	0	8	0	0	0
7:15 AM	0	11	0	0	0	8	0	0	0
7:30 AM	0	5	0	0	0	3	0	0	0
7:45 AM	0	6	2	0	0	6	0	0	0
8:00 AM	0	4	0	0	0	8	0	0	0
8:15 AM	0	11	0	0	0	6	0	0	0
8:30 AM	0	8	0	0	0	11	0	0	0
8:45 AM	0	3	0	0	0	7	0	0	0
4:00 PM	0	2	0	0	0	7	0	0	0
4:15 PM	0	4	0	0	0	7	0	0	0
4:30 PM	0	2	0	0	0	8	0	0	0
4:45 PM	0	8	0	0	0	1	0	0	0
5:00 PM	0	1	0	0	0	3	0	0	0
5:15 PM	0	2	0	0	0	3	0	0	0
5:30 PM	0	2	0	0	0	3	0	0	0
5:45 PM	0	0	0	0	0	3	0	0	0

AM PEAK HOURS 7:45 AM	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	29	2	0	0	31	0	0	0

PM PEAK HOURS 5:00 PM	Long Ridge Road - Northbound			Long Ridge Road - Southbound			Vineyard Lane - Westbound		
	U-Turn	Thru	Right	U-Turn	Left	Thru	U-Turn	Left	Right
	0	5	0	0	0	12	0	0	0



New England Traffic Counts

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www.netrafficcounts.com

CLIENT	Fuss & O'Neill,
CITY/TOWN	Norwalk, CT
WEATHER	Cloudy/Rainy
INTERSECTION #	5

STREET 1	Northern Site Driveway
STREET 2	Glover Avenue
DATE	04/11/2024

Pedestrians and Bicycles

Start Time	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
7:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
7:15 AM	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0
7:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
4:00 PM	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	2	0	0	0	2	0	0	0	0	0	0	0	4	0	0	0
5:00 PM	1	0	0	0	3	0	0	0	0	0	0	0	4	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
5:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0

AM PEAK HOURS 8:00 AM	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	0	0	0	0	1	0	0	0	0	0	0	0	12	0	0	0

PM PEAK HOURS 5:00 PM	Glover Avenue - Northbound				Glover Avenue - Southbound				Northern Site Driveway - Eastbound				Northern Surface Lot - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	3	0	0	0	3	0	0	0	0	0	0	0	17	0	0	0



New England Traffic Counts

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emayboroda@netrafficcounts.com

www.netrafficcounts.com

CLIENT	Fuss & O'Neill,
CITY/TOWN	Norwalk, CT
WEATHER	Cloudy/Rainy
INTERSECTION #	6

STREET 1	Southern Site Driveway
STREET 2	Glover Avenue
DATE	04/11/2024

Heavy Vehicles

Start Time	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
5:30 PM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	0	0

AM PEAK HOURS 8:00 AM	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	10	0	0	0	1	0	0	0	0	0	0	0	0	0

PM PEAK HOURS 5:00 PM	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	0	6	1	0	1	1	0	0	0	0	0	0	1	0	0



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www.netrafficcunts.com

CLIENT	Fuss & O'Neill,
CITY/TOWN	Norwalk, CT
WEATHER	Cloudy/Rainy
INTERSECTION #	6

STREET 1	Southern Site Driveway
STREET 2	Glover Avenue
DATE	04/11/2024

Pedestrians and Bicycles

Start Time	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
7:00 AM	1	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0
7:15 AM	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
8:30 AM	2	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0
8:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
4:45 PM	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
5:00 PM	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0
5:15 PM	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
5:45 PM	1	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0

AM PEAK HOURS 8:00 AM	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	2	0	0	0	4	0	0	0	1	0	0	0	6	0	0	0

PM PEAK HOURS 5:00 PM	Glover Avenue - Northbound				Glover Avenue - Southbound				Southern Site Driveway - Eastbound				Southern Surface Lot - Westbound			
	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right
	10	0	0	0	2	0	0	0	6	0	0	0	2	0	0	0

CLIENT	Fuss & O'Neill,
CITY/TOWN	Stamford, CT
WEATHER	Cloudy/Rainy
INTERSECTION #	7a

STREET 1	Glover Avenue
LOCATION	North of North Driveway
DATE	4/11/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	East Side of Glover Avenue		West Side of Glover Avenue	
	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
7:00 AM	1	1	0	0
7:15 AM	0	0	0	0
7:30 AM	0	1	0	0
7:45 AM	0	1	0	0
8:00 AM	1	1	0	0
8:15 AM	1	0	0	0
8:30 AM	1	1	0	2
8:45 AM	0	0	2	0
4:00 PM	0	1	2	1
4:15 PM	1	1	1	1
4:30 PM	1	0	4	3
4:45 PM	1	0	1	0
5:00 PM	2	3	0	0
5:15 PM	0	0	1	2
5:30 PM	0	0	0	0
5:45 PM	1	1	0	0

AM PEAK HOURS	East Side of Glover Avenue		West Side of Glover Avenue	
	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
7:00 AM	3	2	2	2

PM PEAK HOURS	East Side of Glover Avenue		West Side of Glover Avenue	
	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
4:00 PM	5	4	6	4

CLIENT	Fuss & O'Neill,
CITY/TOWN	Stamford, CT
WEATHER	Cloudy/Rainy
INTERSECTION #	7b

STREET 1	Glover Avenue
STREET 2	Between North and South Driveway
DATE	4/11/2024

Passenger Cars & Heavy Vehicles Combined

Start Time	East Side of Glover Avenue		West Side of Glover Avenue	
	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
7:00 AM	0	0	0	1
7:15 AM	0	0	1	0
7:30 AM	0	0	1	0
7:45 AM	0	1	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	1
8:45 AM	0	0	0	0
4:00 PM	1	0	1	0
4:15 PM	1	0	0	0
4:30 PM	1	1	0	1
4:45 PM	3	1	2	0
5:00 PM	1	3	0	0
5:15 PM	0	0	1	0
5:30 PM	0	0	0	0
5:45 PM	3	2	0	0

AM PEAK HOURS 7:00 AM	East Side of Glover Avenue		West Side of Glover Avenue	
	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
	0	1	2	1

PM PEAK HOURS 4:00 PM	East Side of Glover Avenue		West Side of Glover Avenue	
	Vehicle Parking	Vehicle Leaving	Vehicle Parking	Vehicle Leaving
	6	5	2	1

CLIENT	Fuss & O'Neill,
CITY/TOWN	Stamford, CT
WEATHER	Cloudy/Rainy
INTERSECTION #	7c

STREET 1	Glover Avenue
LOCATION	South of South Driveway
DATE	4/11/2024

Passenger Cars & Heavy Vehicles Combined

East Side of Glover Avenue		
Start Time	Vehicle Parking	Vehicle Leaving
7:00 AM	0	1
7:15 AM	0	0
7:30 AM	0	1
7:45 AM	0	0
8:00 AM	0	0
8:15 AM	1	0
8:30 AM	1	0
8:45 AM	0	0
4:00 PM	0	0
4:15 PM	1	0
4:30 PM	0	1
4:45 PM	2	1
5:00 PM	0	0
5:15 PM	0	0
5:30 PM	0	0
5:45 PM	0	0

East Side of Glover Avenue		
AM PEAK HOURS	Vehicle Parking	Vehicle Leaving
7:00 AM	0	2

East Side of Glover Avenue		
PM PEAK HOURS	Vehicle Parking	Vehicle Leaving
4:00 PM	3	2