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February 3, 2023

Mr. Alex Vigliotti  
Vigliotti Construction Co.  
140 North Branford Road  
Branford, CT 06405

**Re: Traffic Study  
Proposed Multifamily Residential Development  
71 South Shore Drive  
East Haven, Connecticut  
SLR #141.12709.00035**

Dear Mr. Vigliotti,

At your request, SLR Consulting US LLC (SLR) has prepared this traffic study for your proposed development of 72 multifamily housing units in a single building to be located at 71 South Shore Drive in East Haven, Connecticut. This development is to be built on a 3.42-acre undeveloped parcel of land. Access to the site will be via a new full-access driveway at South Shore Drive in the middle portion of the parcel, and to be located opposite the first driveway of the 100 South Shore Drive office building. The site location and area roadways are shown in **Figure 1**.

This study involved field reconnaissance and inventory of current roadway and traffic conditions; collection of traffic volume data, crash data, and other pertinent information; estimation of future roadway traffic volumes before the proposed development is anticipated to open; estimation of new site-generated traffic volumes from this proposed development to be added to the area roadways; analysis of intersection traffic flows with and without this development in place; and review of sight line visibility at South Shore Drive from the proposed site access driveway.

#### **Study Area Roadway and Site Environs**

**Silver Sands Road (Route 337)** is classified as a collector road that runs north to south, and changes direction to travel west at the intersection of South Shore Drive/Cosey Beach Road in East Haven. Route 337 is a state highway that connects U.S. Route 1 in New Haven to Route 142 in East Haven. It has a posted speed limit of 25 miles per hour (mph), few sidewalks, and one travel lane in each direction. Turn lanes are additionally present at its intersection with South Shore Drive/Cosey Beach Road. This intersection is a four-way stop-sign-controlled intersection.

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**South Shore Drive** is a short north-south local road. It extends south from Silver Sands Road for only a quarter mile and is not a through road. South Shore Drive has a posted speed limit of 25 mph.

The surrounding area is a mixture of commercial, residential, and institutional uses, with most of the shopping destinations in the center of East Haven a couple miles to the north. The Town Beach is around a half mile to the southeast. Connecticut Transit bus route 204 is noted to travel along Coe Avenue, also around a half mile east of the site.

### **Area Traffic Volumes**

Review was made of available roadway traffic data from the Connecticut Department of Transportation (CTDOT) near the site. The state maintains a traffic monitoring station west of the site on Silver Sands Road near Minor Road. The latest available state data from 2021 at this location found that Silver Sands Road near the site has an Annualized Average Daily Traffic (AADT) count of around 2,000 vehicles.

To supplement the data obtained from CTDOT, manual turning movement counts were undertaken at the intersection of Silver Sands Road at Cosey Beach Road/South Shore Drive on Thursday, November 17, 2022, during the typical commuter peak periods. **Figure 2** shows the overall peak-hour traffic volumes for the weekday morning peak-hour of 8:00 a.m. to 9:00 a.m. and the weekday afternoon peak hour of 4:30 p.m. to 5:30 p.m. CTDOT's Bureau of Policy and Planning advised that no adjustments to the counts were necessary to account for any lingering effects of COVID-19 travel patterns.

### **Area Crash History**

Information on crash data near the site was obtained from the Connecticut Crash Data Repository for the period of November 16, 2019, to November 17, 2022. The data collected for this period is shown in **Table 1**, summarized by location, collision type, and crash severity.

All the crashes near the site within the past three years occurred near the intersection of Silver Sands Road at Cosey Beach Road/South Shore Drive. Four crashes were reported in total, and all four of them resulted in property damage only. Each of these four crashes were a different collision type. Based on this data, there do not appear to be any unusual crash patterns near the site.

**Table 1 Crash Summary**

Location	Type Of Collision					Crash Severity	
	Angle	Fixed Object	Sideswipe Opposite -Direction	Wildlife	Total	Property Damage Only	Total
Silver Sands Road at Cosey Beach Road/South Shore Drive	1	1	1	1	4	4	4

Source: Connecticut Crash Data Repository from November 16, 2019, to November 17, 2022

**Proposed Development and Site Access**

As mentioned above, the proposed development will be located at 71 South Shore Drive in East Haven and is to be a 72-unit multifamily residential building. Vehicle access to/from the proposed development will be via a proposed full access driveway on South Shore Drive to be located opposite the 100 South Shore Drive office building. Site egress to South Shore Drive will be stop-sign controlled. The site will also have a secondary driveway located at the south end of the parcel for trash removal, delivery, and emergency-access purposes.

Motorist sightlines were reviewed from the proposed site driveway locations. An Automatic Traffic Recorder (ATR) speed count was conducted South Shore Drive on Thursday, November 17, 2022, south of the site where it was found that the 85th percentile speed of northbound vehicles was 28 mph. The 85<sup>th</sup> percentile speed is the speed at which or below 85 percent of motorists were recorded to travel and is often used in engineering and roadway design. Southbound vehicles approaching from the intersection of Silver Sands Road at Cosey Beach Road/South Shore Drive are traveling at a lower speed from that point, less than the 25-mph speed limit, because this intersection is an all-way-stop.

To see northbound approaching vehicles on South Shore Drive traveling at 28 mph, a motorist at the site’s stop-sign egress looking to the left should have an Intersection Sight Distance (ISD) of 315 feet according to state criteria. The available ISDs looking left (south) from the site driveway locations to see northbound approaching vehicles exceed this state criteria.

A motorist at the proposed main site driveway egress looking right (north), to see southbound approaching vehicles, can see 280 feet to the all-way-stop-controlled intersection of Silver Sands Road at Cosey Beach Road/South Shore Drive. A 280-foot ISD satisfies state criteria for the 25-mph speed limit. And again, motorists are traveling slower at this point because this intersection is an all-way stop. From the secondary garbage/delivery/emergency-access site driveway location, the available ISD is over 425 feet.

All ISDs at the proposed site driveways were found to be sufficient. While this is the case, periodic trimming of vegetation along the site frontage and within the South Shore Drive right-of-way near the site will need to be done to maintain adequate sight lines.

### Estimated Future Site Traffic

Future site traffic from the proposed multifamily housing development was estimated based on review of statistical data published by the Institute of Transportation Engineers (ITE) in their *Trip Generation Manual*. Based on ITE Land Use Code #221, Multifamily Housing (Mid-Rise), the amount of peak-hour traffic that is estimated to be generated by 72 multifamily housing units is relatively minor at less than 30 total peak-hour vehicle trips, as shown in **Table 2**.

**Table 2 Trip Generation Estimate**

Land Use	Number Of Vehicle Trips					
	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise), 72 Units	6	21	27	18	11	29

*Trip Generation, 11th Edition. Institute of Transportation Engineers, 2021 (ITE Land Use Code #252)*

The geographic distribution of this site-generated traffic was estimated based on review of Census Journey-to-Work data and our understanding of the surrounding roadway system. It is estimated that approximately two-thirds of the new site traffic will access the site via Silver Sands Road from the north, one-quarter via Silver Sands Road to/from the west, and around 10 percent to/from the east via Cosey Beach Road.

**Figures 3 and 4** illustrate the estimated site traffic distribution and peak-hour site-generated trips for the proposed development, respectively.

### Estimated Future Roadway Traffic

For the purpose of this study and our traffic analysis, it is estimated that this proposed development will be built and opened in year 2024. The existing roadway traffic volumes were projected to year 2024 using an annual growth rate of 1 percent, which was suggested by CTDOT's Bureau of Policy and Planning. Discussions with CTDOT and Town of East Haven indicate that there are no other significant approved or expected developments directly near the site in the next couple years that would add further traffic. The 2024 background (no-build) traffic volumes for the weekday morning and afternoon peak-hour periods, which do not include site-generated traffic, are shown in **Figure 5**.

The future estimated site-generated traffic volumes from the proposed development were then added to the 2024 background traffic volumes to derive the future 2024 combined (build) traffic volumes. The combined traffic volumes reflect future roadway traffic volumes with the proposed development in place and are used in analyses to determine roadway adequacy. **Figure 6** depicts the 2024 combined traffic volumes for the weekday morning and weekday afternoon peak hours at the study intersections.

### **Intersection Capacity Analysis**

The study intersections were finally evaluated by means of capacity analysis techniques. Levels of Service (LOS) were then determined, which are qualitative measures of the efficiency of operations in terms of delay and inconvenience to motorists. A description of the various LOS designations, A through F, is given in the Appendix. LOS A describes operations with very low average control delay per vehicle while LOS F describes operations with long average delays. Peak hour LOS D, or even LOS E, and better are considered acceptable in many suburban communities. **Table 3** summarizes the findings of future anticipated LOS at the study intersections without (background conditions) and with (combined conditions) the estimated future traffic from this proposed residential development.

As can be seen in Table 3, all the lane movements at the intersection of Silver Sands Road at South Shore Drive/Cosey Beach Road are expected to continue to operate at excellent peak-hour LOS A in the future regardless of this proposed development. The site driveways are also expected to operate at LOS A.

**Table 3 Capacity Analysis Summary**

Intersection	Level Of Service			
	Weekday Morning Peak Hour		Weekday Afternoon Peak Hour	
	Background	Combined	Background	Combined
<b>Stop-Sign-Controlled</b>				
<b>Silver Sands Road at South Shore Drive and Cosey Beach Road</b>				
Eastbound Left/Through	A	A	A	A
Eastbound Right	A	A	A	A
Westbound Left/Through/Right	A	A	A	A
Northbound Left/Through/Right	A	A	A	A
Southbound Left/Through	A	A	A	A
Southbound Right				
<b>South Shore Drive at Site Driveway</b>				
Southbound Left/Through on South Shore Drive	-	A	-	A
Westbound Left/Right Egress from site driveway	-	A	-	A

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## Summary

This study was conducted to assess the anticipated traffic aspects of a 72-unit multifamily residential building that is proposed to be built at 71 South Shore Drive in East Haven, Connecticut. Study of existing traffic conditions was undertaken through a detailed field reconnaissance and data assembly effort. Traffic generated by the proposed development was estimated based on review of industry standard data. Future traffic conditions were estimated with and without the development in place, and capacity analysis of future scenarios was performed. Peak-hour Levels of Service at the intersection of Silver Sands Road at Cosey Beach Road and South Shore Drive, as well as at the proposed site driveway intersections with South Shore Drive, are expected to be very good at LOS A. **This development is not expected to have a traffic impact. Sightlines from the proposed site driveways will also be adequate but will require periodic trimming of vegetation along the site frontage and within the South Shore Drive right-of-way near the site to maintain proper visibility.**

We hope this study is useful to you and the Town of East Haven in assessing the traffic aspects of this proposed development. If you have any questions or need any further information, please do not hesitate to contact us.

Sincerely,

**SLR Consulting US LLC**



David G. Sullivan, PE  
U.S. Manager of Traffic & Transportation Planning



Neil C. Olinski, MS, PTP  
Principal Transportation Planner

## **Figures**

- Figure 1 – Site Location Map
- Figure 2 – Existing Peak-Hour Traffic Volumes
- Figure 3 – Proposed Development Site-Generated Traffic Volume Distribution
- Figure 4 – Proposed Development Site-Generated Trips Assignment
- Figure 5 – Background (2024) Conditions Peak-Hour Traffic Volumes
- Figure 6 – Combined (2024) Conditions Peak-Hour Traffic Volumes

## **Appendix**

- Peak Hour Traffic Counts
- LOS Designation Descriptions
- *Synchro* Analysis Worksheets





**Figure 2**  
 Existing Weekday Peak Hour Vehicular Traffic Volumes (2022)







**Figure 3**  
Site Traffic Distribution





**Figure 4**  
 Site Generated Traffic Volumes





**Figure 5**  
 Background Weekday Peak Hour Vehicular Traffic Volumes (2024)





**Figure 6**  
 Future Combined Weekday Peak Hour Vehicular Traffic Volumes (2024)



# **APPENDIX**

**Intersection**

Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕			↕			↕	↕
Traffic Vol, veh/h	80	18	2	2	13	33	1	11	1	29	52	34
Future Vol, veh/h	80	18	2	2	13	33	1	11	1	29	52	34
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	2	2	2	2	2	2
Mvmt Flow	87	20	2	2	14	36	1	12	1	32	57	37
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	9.1	8	8.2	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	82%	0%	4%	36%	0%
Vol Thru, %	85%	18%	0%	27%	64%	0%
Vol Right, %	8%	0%	100%	69%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	98	2	48	81	34
LT Vol	1	80	0	2	29	0
Through Vol	11	18	0	13	52	0
RT Vol	1	0	2	33	0	34
Lane Flow Rate	14	107	2	52	88	37
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.02	0.158	0.003	0.067	0.126	0.044
Departure Headway (Hd)	5.077	5.334	4.223	4.616	5.149	4.267
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	707	674	850	777	698	841
Service Time	3.096	3.049	1.937	2.634	2.863	1.981
HCM Lane V/C Ratio	0.02	0.159	0.002	0.067	0.126	0.044
HCM Control Delay	8.2	9.1	6.9	8	8.6	7.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.6	0	0.2	0.4	0.1

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	13	0	0	56	0
Future Vol, veh/h	0	0	0	0	0	0	0	13	0	0	56	0
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	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	14	0	0	61	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	75	75	61	75	75	14	61	0	0	14	0	0
Stage 1	61	61	-	14	14	-	-	-	-	-	-	-
Stage 2	14	14	-	61	61	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	915	815	1004	915	815	1066	1542	-	-	1604	-	-
Stage 1	950	844	-	1006	884	-	-	-	-	-	-	-
Stage 2	1006	884	-	950	844	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	915	815	1004	915	815	1066	1542	-	-	1604	-	-
Mov Cap-2 Maneuver	915	815	-	915	815	-	-	-	-	-	-	-
Stage 1	950	844	-	1006	884	-	-	-	-	-	-	-
Stage 2	1006	884	-	950	844	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1542	-	-	-	-	1604	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔			↔			↖	↗
Traffic Vol, veh/h	67	27	4	1	21	19	9	52	3	30	14	112
Future Vol, veh/h	67	27	4	1	21	19	9	52	3	30	14	112
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	2	2	2	2	2	2
Mvmt Flow	73	29	4	1	23	21	10	57	3	33	15	122
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	9.1	8.3	8.7	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	14%	71%	0%	2%	68%	0%
Vol Thru, %	81%	29%	0%	51%	32%	0%
Vol Right, %	5%	0%	100%	46%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	94	4	41	44	112
LT Vol	9	67	0	1	30	0
Through Vol	52	27	0	21	14	0
RT Vol	3	0	4	19	0	112
Lane Flow Rate	70	102	4	45	48	122
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.099	0.156	0.005	0.062	0.071	0.146
Departure Headway (Hd)	5.133	5.503	4.442	4.975	5.354	4.309
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	699	653	806	720	671	834
Service Time	3.156	3.228	2.166	3.002	3.072	2.027
HCM Lane V/C Ratio	0.1	0.156	0.005	0.063	0.072	0.146
HCM Control Delay	8.7	9.2	7.2	8.3	8.5	7.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0	0.2	0.2	0.5



Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	64	0	0	19	0
Future Vol, veh/h	0	0	0	0	0	0	0	64	0	0	19	0
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	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	70	0	0	21	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	91	91	21	91	91	70	21	0	0	70	0	0
Stage 1	21	21	-	70	70	-	-	-	-	-	-	-
Stage 2	70	70	-	21	21	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	893	799	1056	893	799	993	1595	-	-	1531	-	-
Stage 1	998	878	-	940	837	-	-	-	-	-	-	-
Stage 2	940	837	-	998	878	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	893	799	1056	893	799	993	1595	-	-	1531	-	-
Mov Cap-2 Maneuver	893	799	-	893	799	-	-	-	-	-	-	-
Stage 1	998	878	-	940	837	-	-	-	-	-	-	-
Stage 2	940	837	-	998	878	-	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1595	-	-	-	-	1531	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	0	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	0	-	-

**Intersection**

Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↔			↔			↖	↗
Traffic Vol, veh/h	80	18	3	3	13	33	6	25	3	29	56	34
Future Vol, veh/h	80	18	3	3	13	33	6	25	3	29	56	34
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	2	2	2	2	2	2
Mvmt Flow	87	20	3	3	14	36	7	27	3	32	61	37
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	9.1	8.1	8.4	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	18%	82%	0%	6%	34%	0%
Vol Thru, %	74%	18%	0%	27%	66%	0%
Vol Right, %	9%	0%	100%	67%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	98	3	49	85	34
LT Vol	6	80	0	3	29	0
Through Vol	25	18	0	13	56	0
RT Vol	3	0	3	33	0	34
Lane Flow Rate	37	107	3	53	92	37
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.052	0.16	0.004	0.07	0.133	0.044
Departure Headway (Hd)	5.105	5.406	4.294	4.703	5.172	4.298
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	703	665	835	763	695	835
Service Time	3.127	3.125	2.013	2.724	2.889	2.015
HCM Lane V/C Ratio	0.053	0.161	0.004	0.069	0.132	0.044
HCM Control Delay	8.4	9.2	7	8.1	8.7	7.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0	0.2	0.5	0.1

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	21	0	13	0	6	56	0
Future Vol, veh/h	0	0	0	0	0	21	0	13	0	6	56	0
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	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	23	0	14	0	7	61	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	101	89	61	89	89	14	61	0	0	14	0	0
Stage 1	75	75	-	14	14	-	-	-	-	-	-	-
Stage 2	26	14	-	75	75	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	880	801	1004	896	801	1066	1542	-	-	1604	-	-
Stage 1	934	833	-	1006	884	-	-	-	-	-	-	-
Stage 2	992	884	-	934	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	858	797	1004	892	797	1066	1542	-	-	1604	-	-
Mov Cap-2 Maneuver	858	797	-	892	797	-	-	-	-	-	-	-
Stage 1	934	829	-	1006	884	-	-	-	-	-	-	-
Stage 2	971	884	-	929	829	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.5	0	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1542	-	-	-	-	1066	1604	-
HCM Lane V/C Ratio	-	-	-	-	-	0.021	0.004	-
HCM Control Delay (s)	0	-	-	0	8.5	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔			↔			↔	↔
Traffic Vol, veh/h	67	27	8	3	21	19	12	59	4	30	26	112
Future Vol, veh/h	67	27	8	3	21	19	12	59	4	30	26	112
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	2	2	2	2	2	2
Mvmt Flow	73	29	9	3	23	21	13	64	4	33	28	122
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	2
HCM Control Delay	9.1	8.5	8.9	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	16%	71%	0%	7%	54%	0%
Vol Thru, %	79%	29%	0%	49%	46%	0%
Vol Right, %	5%	0%	100%	44%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	94	8	43	56	112
LT Vol	12	67	0	3	30	0
Through Vol	59	27	0	21	26	0
RT Vol	4	0	8	19	0	112
Lane Flow Rate	82	102	9	47	61	122
Geometry Grp	6	7	7	6	7	7
Degree of Util (X)	0.117	0.158	0.011	0.066	0.09	0.147
Departure Headway (Hd)	5.166	5.57	4.508	5.066	5.311	4.339
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	695	645	794	707	676	827
Service Time	3.195	3.299	2.237	3.1	3.034	2.062
HCM Lane V/C Ratio	0.118	0.158	0.011	0.066	0.09	0.148
HCM Control Delay	8.9	9.3	7.3	8.5	8.6	7.8
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.6	0	0.2	0.3	0.5

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	11	0	64	0	18	19	0
Future Vol, veh/h	0	0	0	0	0	11	0	64	0	18	19	0
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	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	12	0	70	0	20	21	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	137	131	21	131	131	70	21	0	0	70	0	0
Stage 1	61	61	-	70	70	-	-	-	-	-	-	-
Stage 2	76	70	-	61	61	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	834	760	1056	841	760	993	1595	-	-	1531	-	-
Stage 1	950	844	-	940	837	-	-	-	-	-	-	-
Stage 2	933	837	-	950	844	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	816	750	1056	833	750	993	1595	-	-	1531	-	-
Mov Cap-2 Maneuver	816	750	-	833	750	-	-	-	-	-	-	-
Stage 1	950	833	-	940	837	-	-	-	-	-	-	-
Stage 2	922	837	-	938	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.7	0	3.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1595	-	-	-	-	993	1531	-
HCM Lane V/C Ratio	-	-	-	-	0.012	0.013	-	-
HCM Control Delay (s)	0	-	-	0	8.7	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-