

TECHNICAL MEMORANDUM

To: Huriyet Anaz
Orr Partners

From: Kevin Sitzman, P.E.
Geeta Kharche

Date: March 11, 2019

Subject: Hunter Mill Assisted Living Facility – Roadway Network Assessment

Introduction

The purpose of this memorandum is to assess a shared private entrance for a proposed assisted living facility and an existing church on Hunter Mill Road, located in Oakton, Fairfax County, Virginia. With the approval of SPA 85-C-003-05 for the Church of the Good Shepherd, a condition was imposed that required entrance consolidation with the development of the subject property. The proposed entrance would form the fourth leg of the intersection of Hunter Mill Road (Route 674) and Hunters Valley Road (Route 1537).

The existing property houses a single-family home, under the address 2347 Hunter Mill Road, and is identified on Fairfax County Tax Maps as MAP#0372-01-0026. The existing church located just south of the project site is identified as MAP#0372-01-0026A and the address is listed as 2351 Hunter Mill Road.

Existing Roadway Characteristics

Hunter Mill Road is a two-lane roadway with a 35-mph speed limit in the vicinity of Hunters Valley Road. Fairfax County classifies Hunter Mill Road as a Minor Arterial Type B, and VDOT classifies it as a Minor Arterial. The average daily traffic (ADT) on Hunter Mill Road is 15,000 vpd and average annual weekday daily traffic (AAWDT) is 16,000 vpd according to 2015 VDOT published data. The K-factor is 0.094 and the directional factor is 0.573. Turn lanes are present at major intersections, including a southbound right turn lane and a northbound right turn lane at Hunters Valley Road/Church of the Good Shepherd Entrance.

Hunter Mill Road is a designated Virginia Byway. The *Hunter Mill Road Traffic Calming Study*, sponsored by the Northern Virginia Regional Commission, was published in 2006 in order to provide a traffic calming conceptual plan and context sensitive roadway design techniques. The study recommends a “splitter intersection” which also gives access to the church, which is consistent with the proposed access configuration. The roadway is planned to remain a two-lane roadway in the section near Hunters Valley Road, as shown in the comprehensive plan in **Figure 1**.

Hunters Valley Road is a two-lane unstriped local roadway that serves a residential area. The ADT is 380 vehicles per day according to published 2015 VDOT data. The posted speed limit is 25 mph in both directions near Hunter Mill Road. The approach at Hunter Mill Road is stop controlled with no turn lanes or striping. The existing church entrance across from Hunters Valley Road at Hunter Mill Road is offset to the south by approximately 85 feet.

VIENNA PLANNING DISTRICT OVERVIEW

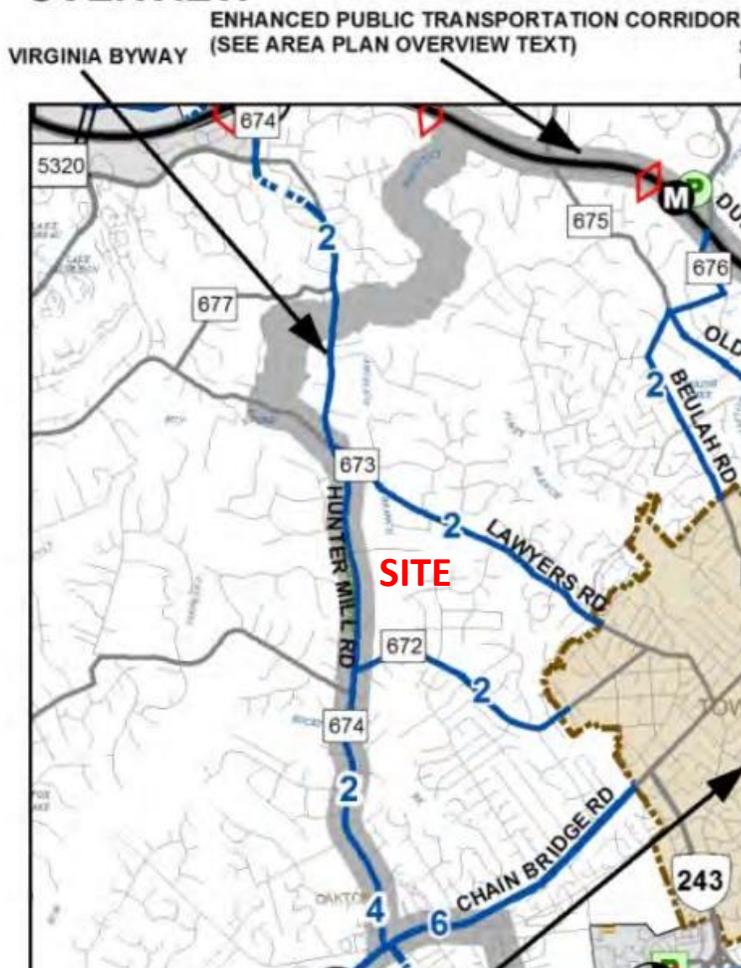


Figure 1: Fairfax County Comprehensive Plan for Hunter Mill Road

The existing intersection and driveway spacings are shown in **Figure 2**. The existing church entrance is located approximately 85 feet south of Hunters Valley Road, and the existing driveway entrance to the project site is located approximately 120 feet north of Hunters Valley Drive. The two full-access entrances are 205 feet apart. The minimum VDOT spacing standards are shown in **Figure 3**. The minimum spacing between a commercial entrance and an unsignalized intersection is 470 feet for a minor arterial with a posted speed limit of 35 mph, according to VDOT's *Road Design Manual* (RDM) Appendix F. The minimum spacing between two full-access commercial entrances is 250 feet. With the consolidation of the entrances, there would be no offset, and thus no spacing between Hunters Valley Road and the combined access.

The spacing between Hunters Valley Road and Hunter Branch Court to the south is approximately 350 feet. Hunter Branch Court provides access to only a few homes, so does not meet the minimum threshold to be subject to the Access Management Regulations (50 vehicles per day).

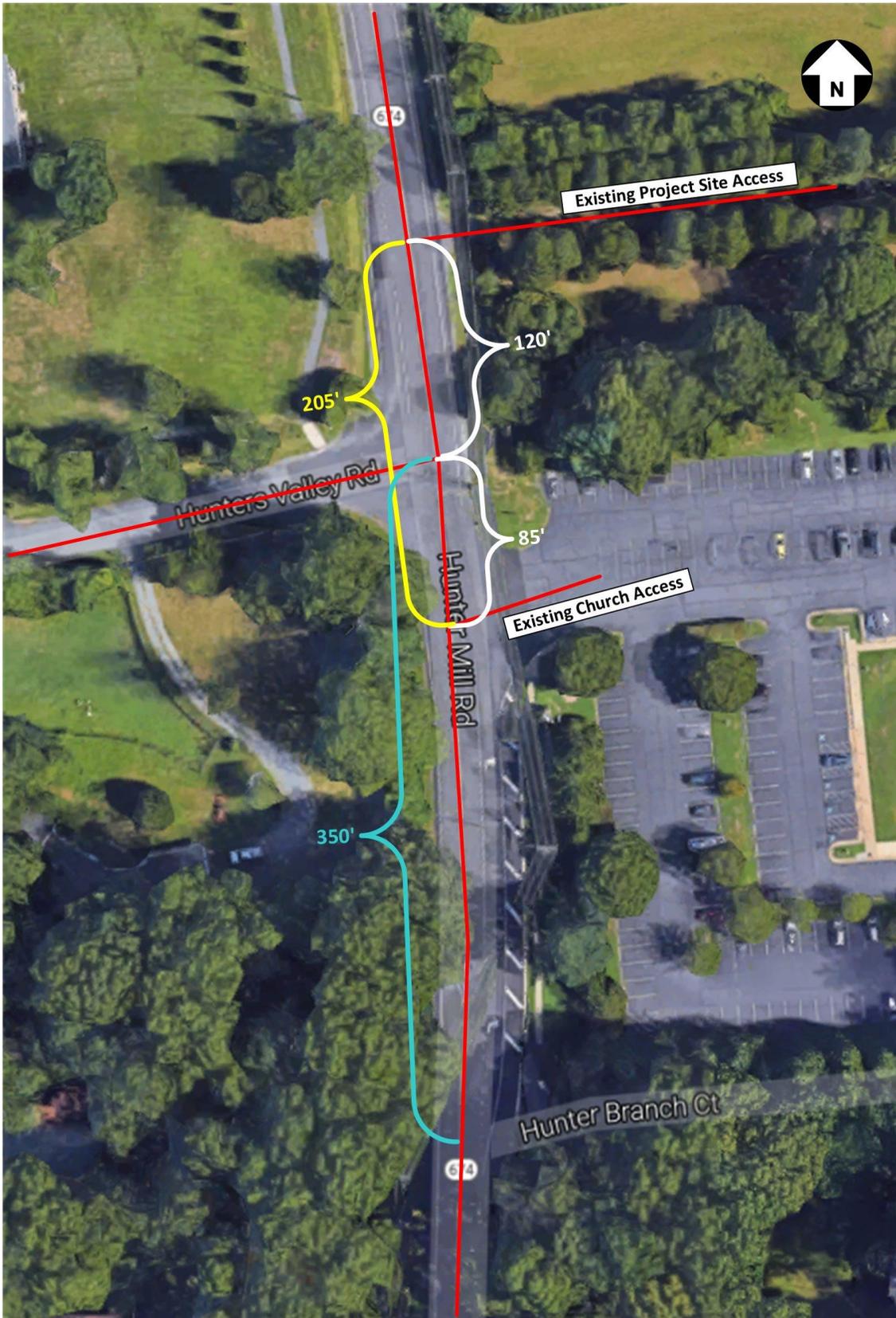


Figure 2: Existing Entrance and Intersection Spacings

Minimum Spacing Standards for Commercial Entrances, Intersections, and Median Crossovers

Highway Functional Classification	Legal Speed Limit (mph) ^①	Minimum Centerline to Centerline Spacing (Distance) in Feet			
		Spacing from Signalized Intersections to Other Signalized Intersections ^②	Spacing from Unsignalized Intersections & Full Median Crossovers to Signalized or Unsignalized Intersections & Full Median Crossovers ^③	Spacing from Full Access Entrances or Directional Median to Other Full Access Entrances and Any Intersection or Median Crossover ^④	Spacing from Partial Access One or Two Way Entrances to Any Type of Entrance, Intersection or Median Crossover ^⑤
Principal Arterial	≤ 30 mph	1,050	880	440	250
	35 to 45 mph	1,320	1,050	565	305
	≥ 50 mph	2,640	1,320	750	495
Minor Arterial	≤ 30 mph	880	660	355	200
	35 to 45 mph	1,050	660	470	250
	≥ 50 mph	1,320	1,050	555	425
Collector	≤ 30 mph	660	440	225	200
	35 to 45 mph	660	440	335	250
	≥ 50 mph	1,050	660	445	360
Local Street ^⑥	Commercial entrance spacing: See Figure 4-11.				

TABLE 2-2 MINIMUM SPACING STANDARDS FOR COMMERCIAL ENTRANCES, INTERSECTIONS AND MEDIAN CROSSEVERS ⑦

Figure 3: VDOT Road Design Manual Appendix F: Spacing Standards

The nearest intersection north of Hunters Valley Road is at East Hunter Valley Road, which is approximately 920 feet north and therefore meets the minimum 660-foot spacing.

The nearest signalized intersection on Hunter Mill Road is located at Vale Road, approximately 2,470 feet south of Hunters Valley Road. The nearest signal to the north is at Lawyers Road, which is approximately 4,020 feet north of Hunters Valley Road. The minimum spacing between a signalized intersection and any other type of intersection or commercial entrance is 1,050 feet, therefore this spacing standard is met in both directions.

Therefore, the proposed entrance configuration would reduce the number of turning movements along this segment of Hunter Mill Road and would meet the Access Management requirements.

Existing Traffic Volumes

Weekday turning movement counts were performed by Gorove Slade Associates on Thursday, April 6, 2017 at the intersection of Hunter Mill Road and Hunter Valley Road from 6:00 to 9:00 AM and from 4:00 to 7:00 PM. The weekday peak hours were determined to be from 7:45 to 8:45 AM and from 4:45 to 5:45 PM. **Figure 4** shows the weekday AM and PM peak hour volumes.

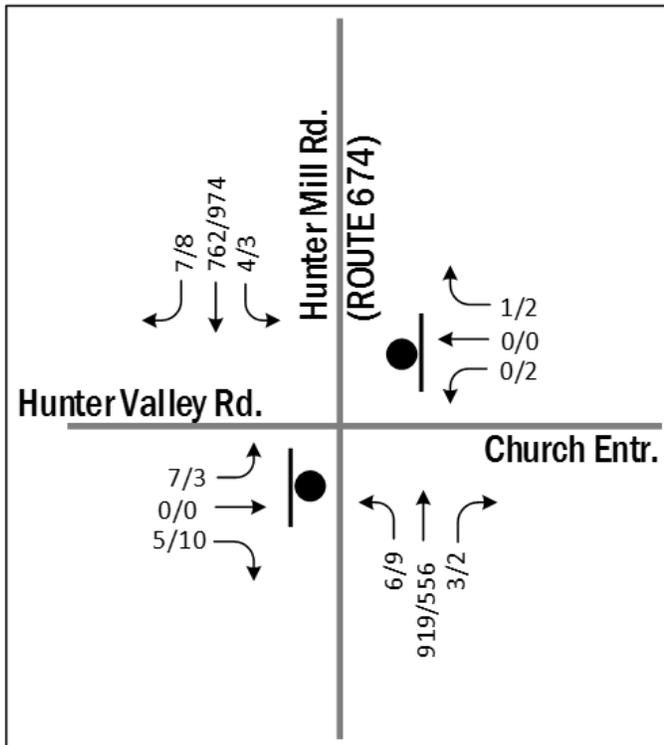


Figure 4: 2017 Traffic Volumes

Additionally, extensive vehicular queuing on northbound Hunter Mill Road were noted in field observations at Hunters Valley Road in the period between 8:25 AM and 8:50 AM on a typical weekday, resulting from the signal at Lawyers Road.

Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition was used to calculate the trips generated by the proposed assisted 86-bed living facility, based on the peak hour of the adjacent street traffic.

Table 1: Site Trip Generation

Land Use	ITE Code	Size	----- Weekday -----						
			AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	Total
Assisted Living	254	86 Beds	10	6	16	8	14	22	224

As shown above, the proposed use is expected to generate 16 trips in the AM peak hour and 22 trips in the PM peak hour. It was assumed that 50% of the trips would be to/from the north along Hunter Mill Road and 50% would be to/from the south

along Hunter Mill Road, based on current traffic patterns. The site trips were assigned to the road network and are shown graphically in **Figure 5**.

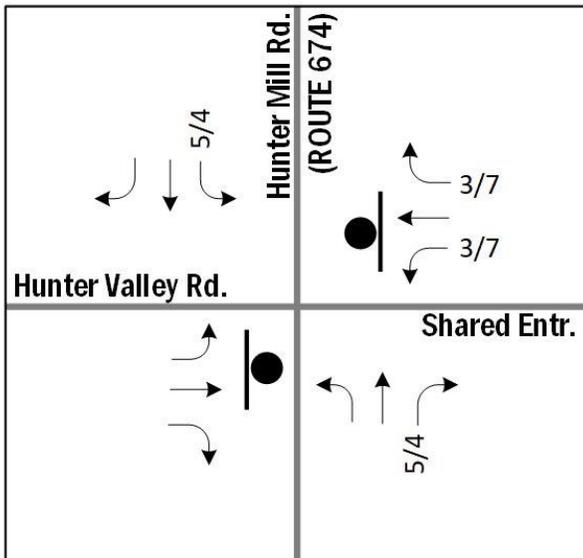


Figure 5: Site-Generated Traffic Volumes

The site trips were added to the existing volumes to obtain the future volumes with the site development, shown below in **Figure 6**.

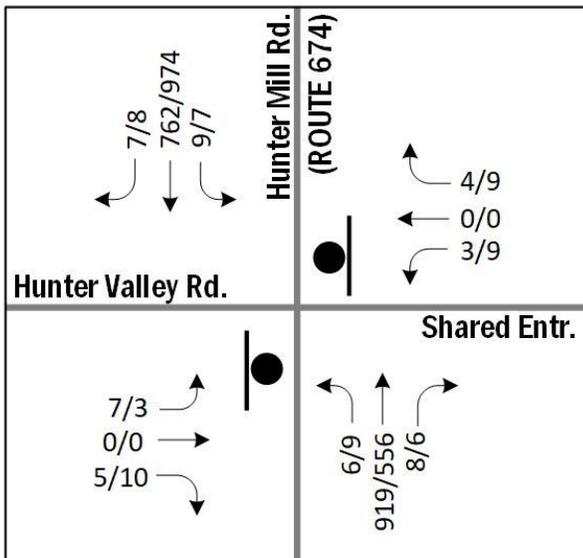


Figure 6: Future Traffic Volumes

The 2017 traffic volumes and total future projections were evaluated using Synchro software and the Highway Capacity Manual methodology for unsignalized intersections to determine the vehicular delay and level of service for both conditions. **Table 2** indicates that the side street approaches currently experience delays during peak commuter periods. As shown in

Table 3, this condition would continue in the future with the proposed assisted living facility. While the westbound approach delay increases from 17.2 seconds to 43.1 seconds under total future AM peak hour conditions shown in Table 3, there are only 3 vehicles forecasted to perform the westbound left turn maneuver. The lower delay under existing conditions reflected in Table 2 is attributable only to the right turning vehicles; whereas had a single car turned left from the church, this would have resulted in Level of Service E conditions.

It is noted that the proposed development would add 11 or fewer peak hour trips to either direction on Hunter Mill Road, which currently carries approximately 1,000 peak-hour, peak-direction trips. Thus, the impact of the assisted living facility on the local road network would be minimal.

Table 2: Existing (2017) Conditions Capacity Analysis Results

No.	Intersection (Movement)	Storage Length (ft)	AM Peak			PM Peak		
			LOS	Delay	95th % Queue (ft)	LOS	Delay	95th % Queue (ft)
1	Intersection of Hunter Mill Road and Hunters Valley Road/Shared Entrance							
	Overall Intersection (Unsignalized)							
	Eastbound Approach		F	54.9		D	28.7	
	Eastbound Left/Thru/Right		F	54.9	13	D	28.7	8
	Westbound Approach		C	17.2		E	36.1	
	Westbound Left/Thru/Right		C	17.2	0	E	36.1	3
	Northbound Approach							
Northbound Left	100	A	9.5	0	B	10.6	0	
Southbound Approach								
Southbound Left	200	B	10.2	0	A	8.7	0	

* Effective storage length is calculated as storage length plus one-half of the taper length per TOSAM guidelines.

Table 3: Future Conditions Capacity Analysis Results

No.	Intersection (Movement)	Storage Length (ft)	AM Peak			PM Peak		
			LOS	Delay	95th % Queue (ft)	LOS	Delay	95th % Queue (ft)
1	Intersection of Hunter Mill Road and Hunters Valley Road/Shared Entrance							
	Overall Intersection (Unsignalized)							
	Eastbound Approach		F	57		D	29.3	
	Eastbound Left/Thru/Right		F	57	13	D	29.3	8
	Westbound Approach		E	43.1		E	39.5	
	Westbound Left/Thru		F	77.3	5	F	66.6	13
	Westbound Right		C	17.4	0	B	12.4	3
Northbound Approach								
Northbound Left	100	A	9.5	0	B	10.6	0	
Southbound Approach								
Southbound Left	200	B	10.3	0	A	8.7	0	

* Effective storage length is calculated as storage length plus one-half of the taper length per TOSAM guidelines.

Right Turn Lane Assessment

There is an existing right turn lane into the Church of the Good Shepherd, which is anticipated to be extended to the shared entrance. **Figure 7** below shows the right turn lane warrant chart for a two-lane highway, which was taken from VDOT's *Road Design Manual*, Appendix F, which covers Access Management. The future volumes have been plotted to show whether or not a full-width right turn lane or taper is warranted for the northbound right turning movement into the proposed shared entrance.

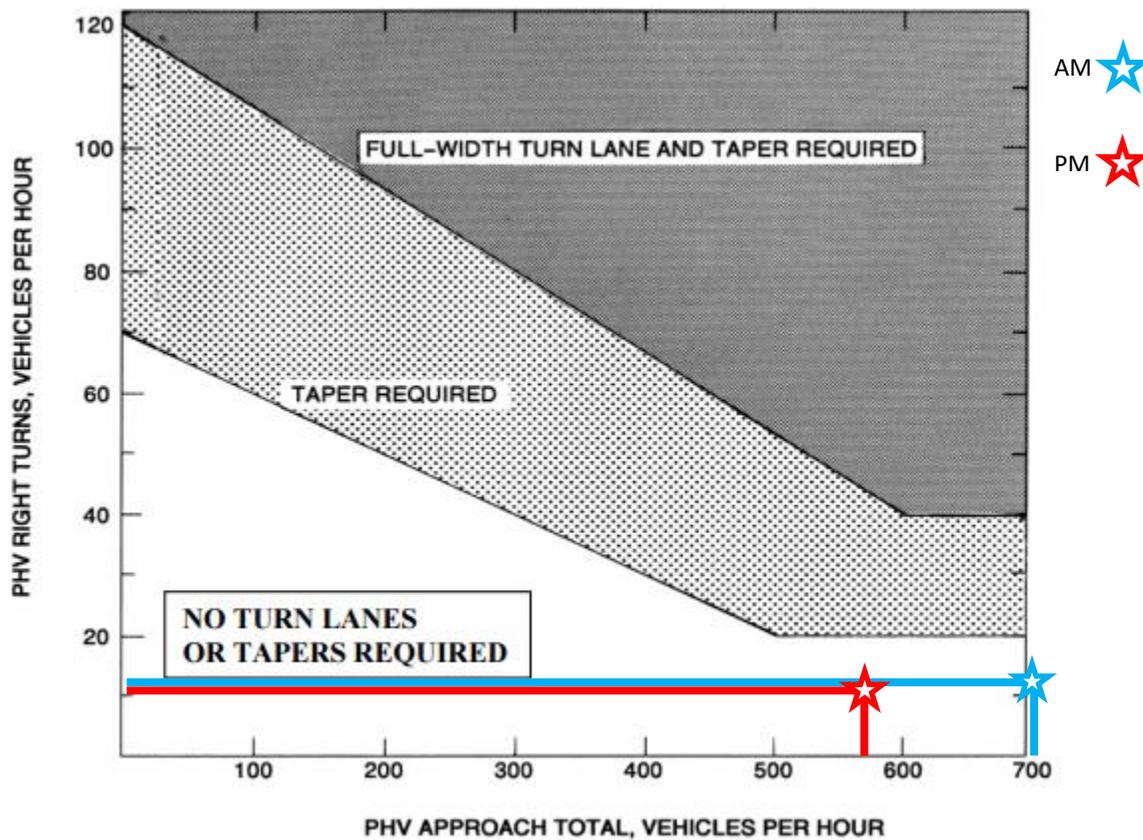


Figure 7: 2-Lane Right Turn Lane Warrant (from VDOT RDM Appendix F)

As seen in the previous figure, the entrance is not expected to require a full width right turn lane, nor a taper, for weekday peak hour conditions. However, a turn lane would be appropriate as there is already one existing. Furthermore, Sunday peak hour traffic volumes associated with the existing church would likely warrant a right turn lane.

Left Turn Lane Assessment

There is no existing left turn lane into the church entrance. To evaluate whether a left turn lane is warranted, the warrant for left turn storage lanes on two-lane highways was used from the VDOT RDM Appendix F. The left turn percentage is approximately 1% to 2%, so the smallest left turn percentage of 5% was used. The design speed is assumed to be 40 mph. **Figure 8** below shows the warrant with the future AM and PM volumes plotted.

WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAY

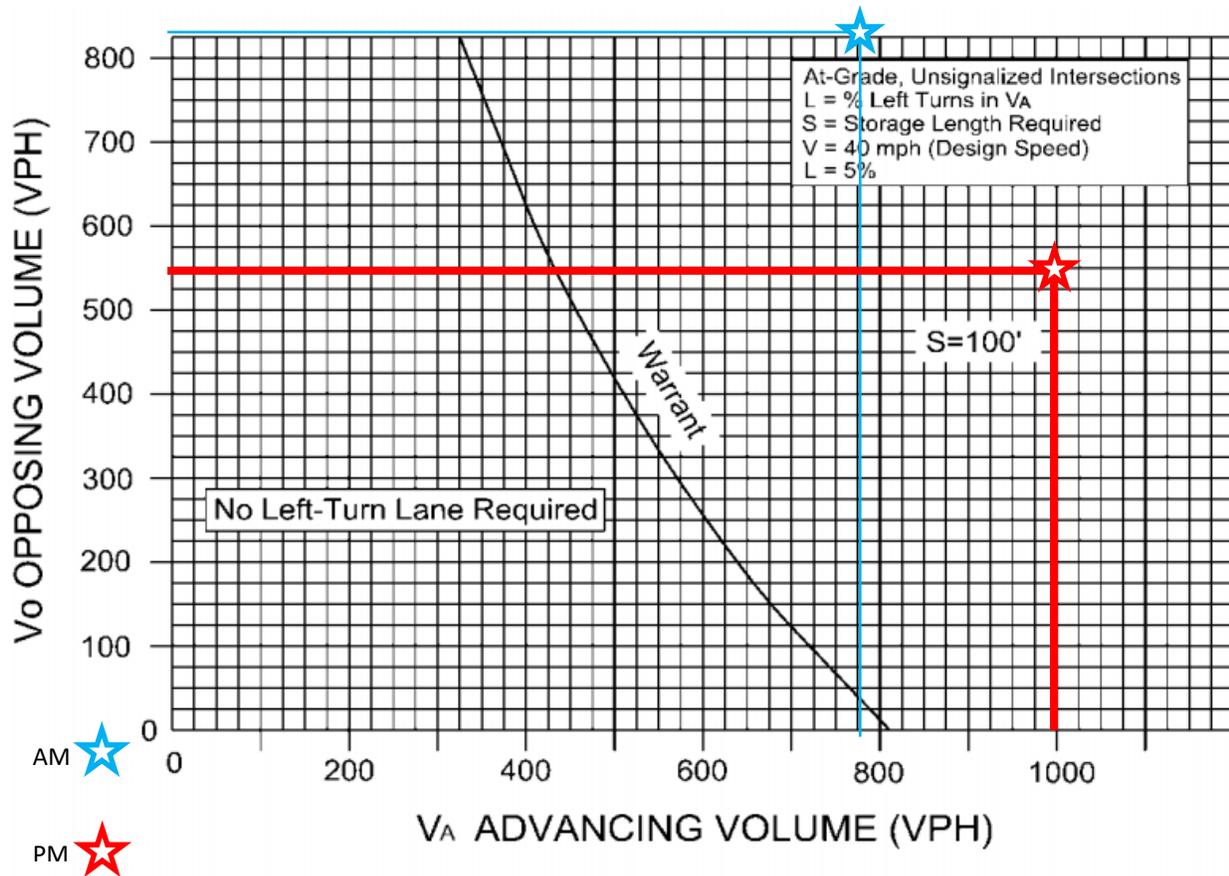


FIGURE 3-5

Figure 8: Two-Lane Left Turn Lane Warrant – 5% Left Turns – 40 MPH Design Speed (from VDOT RDM Appendix F)

As shown, both peak hours warrant a left turn lane for the southbound approach to the proposed shared entrance. Note that the opposing volume in the AM has been truncated to 800 VPH. Per the RDM, the storage length and taper length required are 100 feet each. A left turn lane has been shown on the conceptual development plan for the site that meets or exceeds these requirements.

Bicycle and Pedestrian Accommodations

There is an existing sidewalk on the west side of Hunter Mill Road north of Hunters Valley Road. However, the sidewalk ends only 375 feet north of Hunters Valley Road. There is another sidewalk on the east side of Hunter Mill Road south of the existing church entrance. This sidewalk extends 200 feet south and then ends before reaching Hunter Branch Court. Sidewalks are not typical on Hunter Mill Road near the project site; in places where they are constructed, they are often only short segments. It is anticipated that a sidewalk would be required along the Hunter Mill Road frontage, further increasing the width of the required roadway improvements.

No bicycle infrastructure exists near the project site. However, the Fairfax County Recommended Bicycle Network Map shows Hunter Mill Road with striped shoulders for bicyclists. An excerpt of this map and legend is shown in **Figure 9**. The

Recommended Bicycle Network was adopted by the Board of Supervisors in October 2014 and does not include provision for a bike trail in the area, only a striped shoulder.

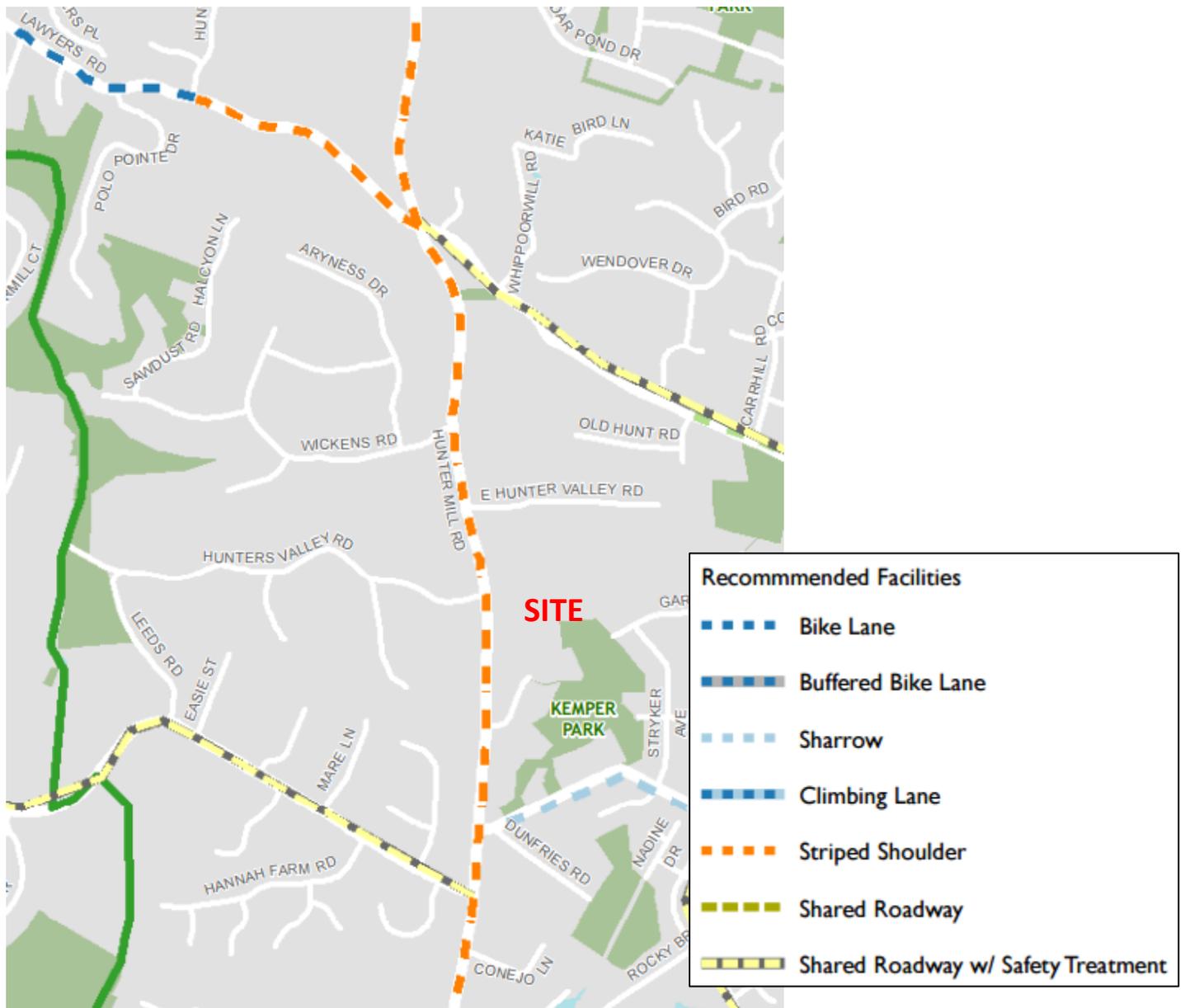


Figure 9: Fairfax County Recommended Bicycle Network Map

Conclusions

This memorandum evaluates the traffic operations and geometric requirements for a shared access between the existing Church of the Good Shepherd and a proposed 86-bed assisted living facility. This assessment has found that the existing entrances and intersections do not meet VDOT's minimum spacing criteria. Combining the access points for the church and the proposed assisted living center would minimize turning movement conflicts in the area and would satisfy the spacing criteria.

The assisted living facility would add 16 to 22 new peak hour trips to the road network. While delays are common for side streets and driveways along the corridor, the additional trips would represent a small proportion of the current traffic in the area and would not significantly impact traffic operations on Hunter Mill Road.

There is an existing northbound right turn lane into the church access road which is anticipated to be extended to the proposed shared entrance. This turn lane is not warranted in the AM nor the PM peak, but was likely constructed to accommodate traffic into the church on Sundays.

A southbound left turn lane will be warranted into the shared entrance. The required length of the turn bay is 100 feet, with a 100-foot taper and appropriate lane transition also required. A left turn lane has been shown on the conceptual development plan for the site that meets or exceeds these requirements.

Pedestrian facilities are scattered and segmented in the vicinity. A sidewalk is proposed along the property frontage.

Overall, the proposed assisted living facility will add a minimal number of trips to the road network and improve the configuration of entrances in the area.

APPENDIX

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	↕
Traffic Vol, veh/h	7	0	5	0	0	1	6	919	3	4	762	7
Future Vol, veh/h	7	0	5	0	0	1	6	919	3	4	762	7
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									
Storage Length	-	-	-	-	-	-	-	-	263	-	-	110
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	8	0	5	0	0	1	7	999	3	4	828	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1851	1852	828	1856	1857	999	836	0	0	1002	0	0
Stage 1	836	836	-	1013	1013	-	-	-	-	-	-	-
Stage 2	1015	1016	-	843	844	-	-	-	-	-	-	-
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	57	74	371	56	74	295	798	-	-	691	-	-
Stage 1	362	382	-	288	316	-	-	-	-	-	-	-
Stage 2	287	315	-	358	379	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	55	72	371	54	72	295	798	-	-	691	-	-
Mov Cap-2 Maneuver	55	72	-	54	72	-	-	-	-	-	-	-
Stage 1	355	378	-	282	310	-	-	-	-	-	-	-
Stage 2	280	309	-	349	375	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	54.9		17.2		0.1		0.1	
HCM LOS	F		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	798	-	-	85	295	691	-
HCM Lane V/C Ratio	0.008	-	-	0.153	0.004	0.006	-
HCM Control Delay (s)	9.5	0	-	54.9	17.2	10.2	0
HCM Lane LOS	A	A	-	F	C	B	A
HCM 95th %tile Q(veh)	0	-	-	0.5	0	0	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	↕
Traffic Vol, veh/h	3	0	10	2	0	2	9	556	2	3	974	8
Future Vol, veh/h	3	0	10	2	0	2	9	556	2	3	974	8
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									
Storage Length	-	-	-	-	-	-	-	-	263	-	-	110
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	3	0	11	2	0	2	10	604	2	3	1059	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1691	1691	1059	1699	1698	604	1068	0	0	606	0	0
Stage 1	1065	1065	-	624	624	-	-	-	-	-	-	-
Stage 2	626	626	-	1075	1074	-	-	-	-	-	-	-
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	74	93	273	73	92	498	653	-	-	972	-	-
Stage 1	269	299	-	473	478	-	-	-	-	-	-	-
Stage 2	472	477	-	266	296	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	72	90	273	68	89	498	653	-	-	972	-	-
Mov Cap-2 Maneuver	72	90	-	68	89	-	-	-	-	-	-	-
Stage 1	263	297	-	462	467	-	-	-	-	-	-	-
Stage 2	459	466	-	253	294	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	28.7		36.1		0.2		0	
HCM LOS	D		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	166	120	972	-	-
HCM Lane V/C Ratio	0.015	-	-	0.085	0.036	0.003	-	-
HCM Control Delay (s)	10.6	0	-	28.7	36.1	8.7	0	-
HCM Lane LOS	B	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0	-	-

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	7	0	5	3	0	4	6	919	8	9	762	7
Future Vol, veh/h	7	0	5	3	0	4	6	919	8	9	762	7
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									
Storage Length	-	-	-	-	-	0	100	-	263	200	-	110
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	8	0	5	3	0	4	7	999	9	10	828	8

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1868	1870	828	1868	1869	999	836	0	0	1008	0	0
Stage 1	848	848	-	1013	1013	-	-	-	-	-	-	-
Stage 2	1020	1022	-	855	856	-	-	-	-	-	-	-
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	55	72	371	55	72	295	798	-	-	687	-	-
Stage 1	356	378	-	288	316	-	-	-	-	-	-	-
Stage 2	285	313	-	353	374	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	53	70	371	53	70	295	798	-	-	687	-	-
Mov Cap-2 Maneuver	53	70	-	53	70	-	-	-	-	-	-	-
Stage 1	353	372	-	285	313	-	-	-	-	-	-	-
Stage 2	278	310	-	343	368	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	57		43.1		0.1		0.1	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	798	-	-	82	53	295	687	-	-
HCM Lane V/C Ratio	0.008	-	-	0.159	0.062	0.015	0.014	-	-
HCM Control Delay (s)	9.5	-	-	57	77.3	17.4	10.3	-	-
HCM Lane LOS	A	-	-	F	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0	0	-	-

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	3	0	10	9	0	9	9	556	6	7	974	8
Future Vol, veh/h	3	0	10	9	0	9	9	556	6	7	974	8
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									
Storage Length	-	-	-	-	-	0	100	-	263	200	-	110
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	3	0	11	10	0	10	10	604	7	8	1059	9

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1708	1706	1059	1709	1708	604	1068	0	0	611	0	0
Stage 1	1075	1075	-	624	624	-	-	-	-	-	-	-
Stage 2	633	631	-	1085	1084	-	-	-	-	-	-	-
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	72	91	273	72	91	498	653	-	-	968	-	-
Stage 1	266	296	-	473	478	-	-	-	-	-	-	-
Stage 2	468	474	-	262	293	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	69	89	273	68	89	498	653	-	-	968	-	-
Mov Cap-2 Maneuver	69	89	-	68	89	-	-	-	-	-	-	-
Stage 1	262	294	-	466	471	-	-	-	-	-	-	-
Stage 2	452	467	-	249	291	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Control Delay, s	29.3		39.5		0.2		0.1			
HCM LOS	D		E							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	653	-	-	162	68	498	968	-	-
HCM Lane V/C Ratio	0.015	-	-	0.087	0.144	0.02	0.008	-	-
HCM Control Delay (s)	10.6	-	-	29.3	66.6	12.4	8.7	-	-
HCM Lane LOS	B	-	-	D	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.5	0.1	0	-	-