

TECHNICAL MEMORANDUM

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Date: January 28, 2020

Subject: 3500 Pickett Road Redevelopment – Traffic Impact Assessment

Introduction

This memorandum presents an assessment of the traffic impacts and roadway improvements associated with the redevelopment of the existing Metro Church site located in the City of Fairfax, Virginia. The site is planned to be redeveloped into 50 townhomes with one full access and one partial (right-in/right-out) access along Pickett Road (Rte. 237).

Project Description

The project site is located at 3500 Pickett Road in the City of Fairfax, Virginia. The site is currently occupied by the Metro Church. The Applicant proposes to redevelop the site with 50 townhomes, which are anticipated to be complete by 2022. It should be noted that for the purposes of this traffic assessment, 52 townhomes were assumed per a previous development program. For this reason, this transportation assessment would provide a conservative analysis.

The site is situated on one parcel of land, totaling approximately 3.718 acres, and is currently zoned Residential Low (RL). The parcel can be identified on the City of Fairfax GIS with the following PIN#: 58-1-02-021.

The Metro Church site is currently served by two access points with one full-movement access point to the north of the site, and one right-in/right-out access point to the south of the property along Pickett Road (Rte. 237). With the proposed redevelopment of the site, the northern full-movement access will remain at its existing location. The southern right-in/right-out access is proposed to be shifted approximately 95-feet south of its existing location to accommodate on-site circulation and setbacks from adjacent properties.

A site location map for the proposed development is included on Figure 1.



Figure 1: Site Location Map and Study Intersections

Existing Transportation Network

Existing Roadway Network

Pickett Road (Rte. 237) is a four-lane divided roadway between Main Street (Rte. 236) and Arlington Boulevard (Rte. 50). The roadway consists of left and right turn lanes and marked crosswalks at major intersections. Within the study area, the posted speed limit for the roadway is 35 mph. The City recognizes the roadway as a Boulevard corresponding to its VDOT classification as a “Minor Arterial.” Based on VDOT’s published historical data from 2018, Pickett Road carried approximately 26,000 vehicles per day between Colonial Avenue and Arlington Boulevard.

During the rezoning process for “The Enclave Condominium” development located at 9493 Silver King Court, a digital radar sign along northbound Pickett Road was proffered with the development. The installation of the sign was discussed to address speeding traffic along Pickett Road especially with the heavy truck traffic generated by the CITGO site. The sign does not currently exist, and its location and installation remain to be finalized subject to an approval by the City’s Public Works department.

Existing Pedestrian Facilities

Concrete sidewalks are generally present along Pickett Road. As shown on Figure 2, such sidewalks are located on both sides of the roadway. Marked crosswalks are present at the signalized intersection of Pickett Road and Shelly Krasnow Lane/Barristers Keep Court. Marked crosswalks are also present along residential streets such as Shelly Krasnow Lane. Mid-block crosswalks are also present at certain locations along Pickett Road. For example, a marked crosswalk currently connects the west and east frontage of Pickett Road in front of the U.S. Post Office facility, located just south of the site.

It should be noted that the mid-block crosswalk located across from the U.S. Post Office facility essentially serves the customers of the post office who park in the church parking lot and walk to-and-from the post office (the Post Office currently has a parking agreement with the Church). With the proposed redevelopment of the Metro Church site, the pedestrian traffic is anticipated to be negligible. As such, the mid-block crosswalk may or may not be needed in the future.

Existing Public Transit Facilities

The subject site is served by the City of Fairfax's City University Energysaver (CUE) Bus "Green 1" and "Green 2" routes. The two routes provide service between Vienna/Fairfax-GMU Metrorail Station and George Mason University. The route travels north-south along Pickett Road (Rte. 237) with three bus stops located within close proximity of the site. For the three bus stops, the two north of the site are both sheltered (Pickett Rd + Barrister's Keep; Pickett Rd + Shelley Krasnov Ln). The remaining bus stop location is unsheltered and located in front of the post office (Pickett Rd + Post Office).

The bus stops also serve WMATA's metrobus route 29N which provides connection between the Vienna/Fairfax-GMU Metrorail Station and King Street- Old Town Station in Alexandria, VA.

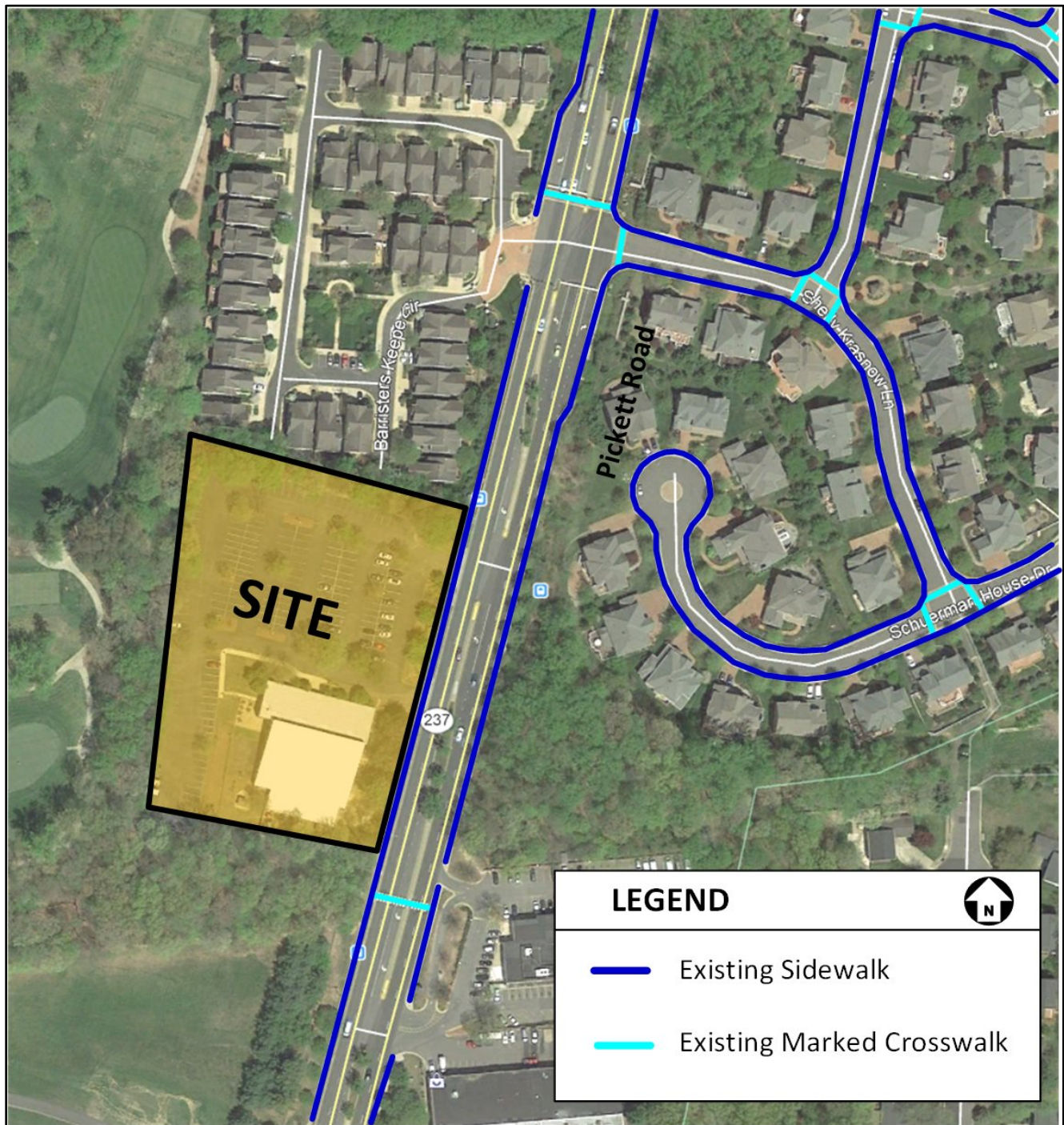


Figure 2: Existing Pedestrian Facilities in the Vicinity of the Site



Figure 3: CUE Bus Routes along Pickett Road

Existing (2019) Conditions Traffic Volumes

Turning movement counts at the existing church entrances were conducted on October 16, 2019 between the hours of 6:00 AM to 9:00 AM and 4:00 PM to 7:00 PM. The raw traffic count data is included in Appendix A. The volumes were balanced between the two intersections. The existing (2019) conditions traffic volumes at the study intersection are illustrated on Figure 4 below.

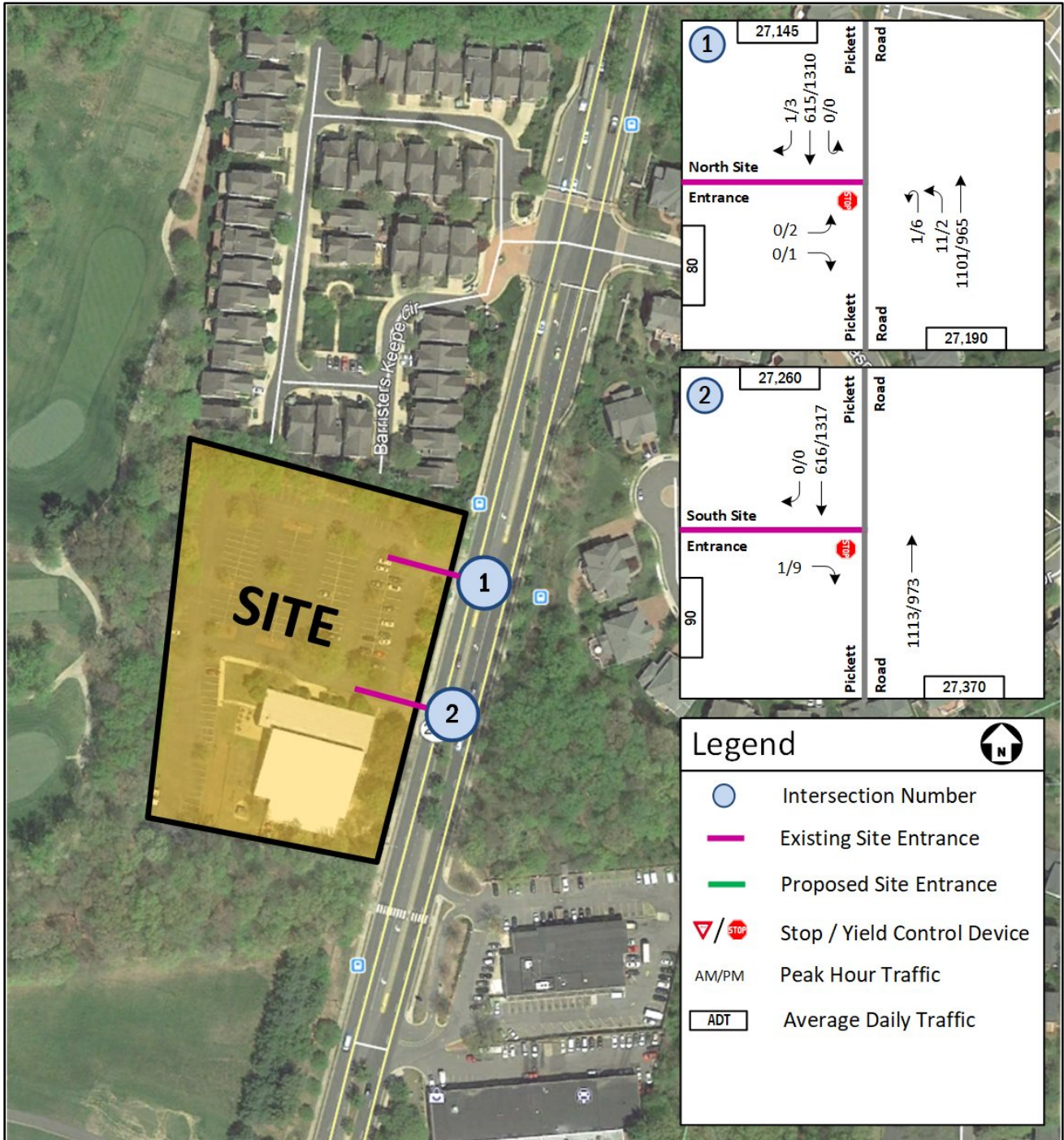


Figure 4: Existing (2019) Conditions Traffic Volumes

Future Conditions Without Development (2022)

As mentioned previously, the proposed development is anticipated to be developed by 2022.

A growth rate of 1.0% (compounded annually) was applied to the existing (2019) conditions through traffic volumes along Pickett Road to account for regional growth for the three years between 2019 and 2022. The growth volumes are shown on Figure 5.

The existing (2019) conditions traffic volumes and the growth volumes were combined to derive the future conditions without development (2022) traffic volumes and are shown on Figure 6.

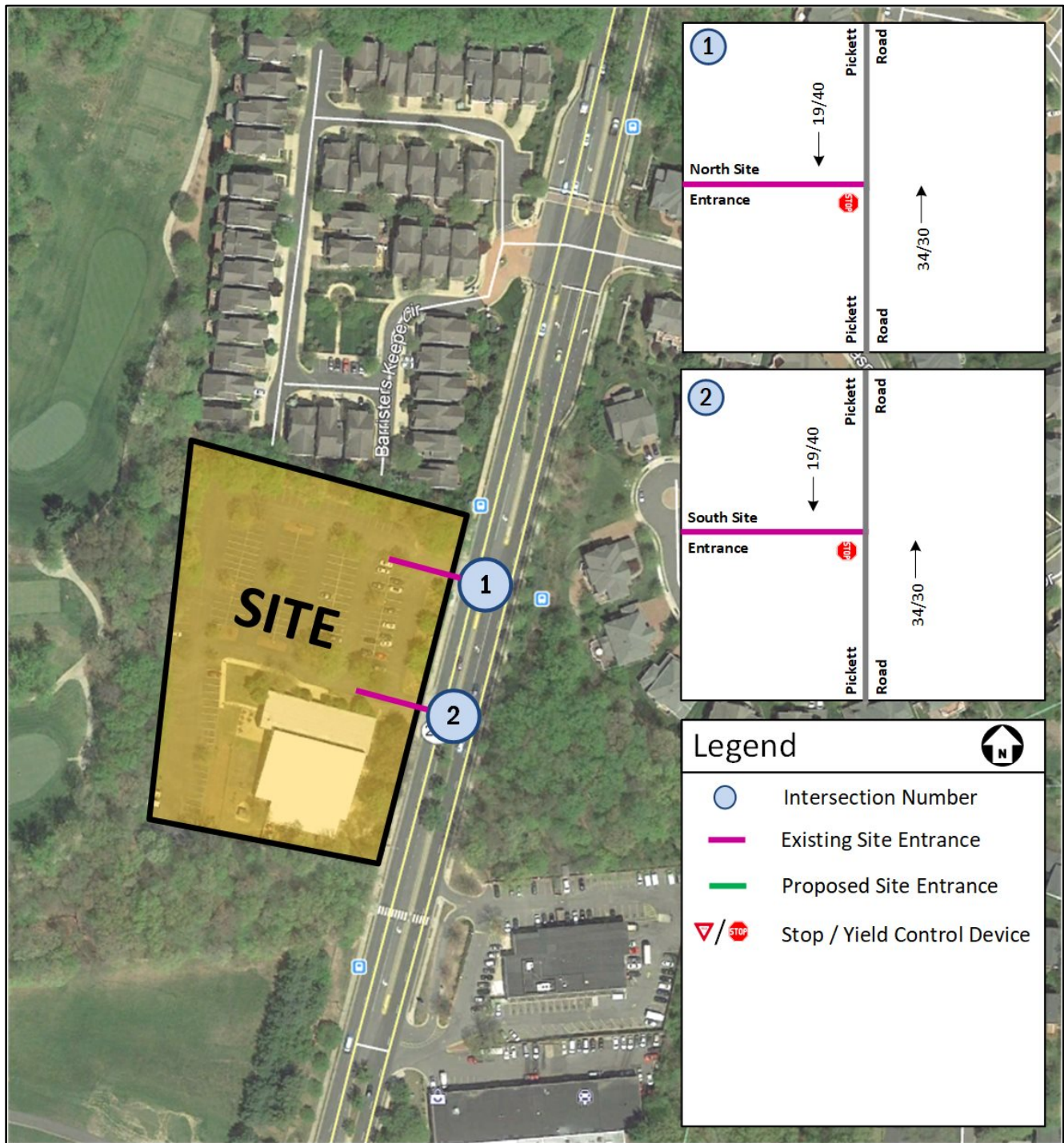


Figure 5: 2022 Growth Volumes

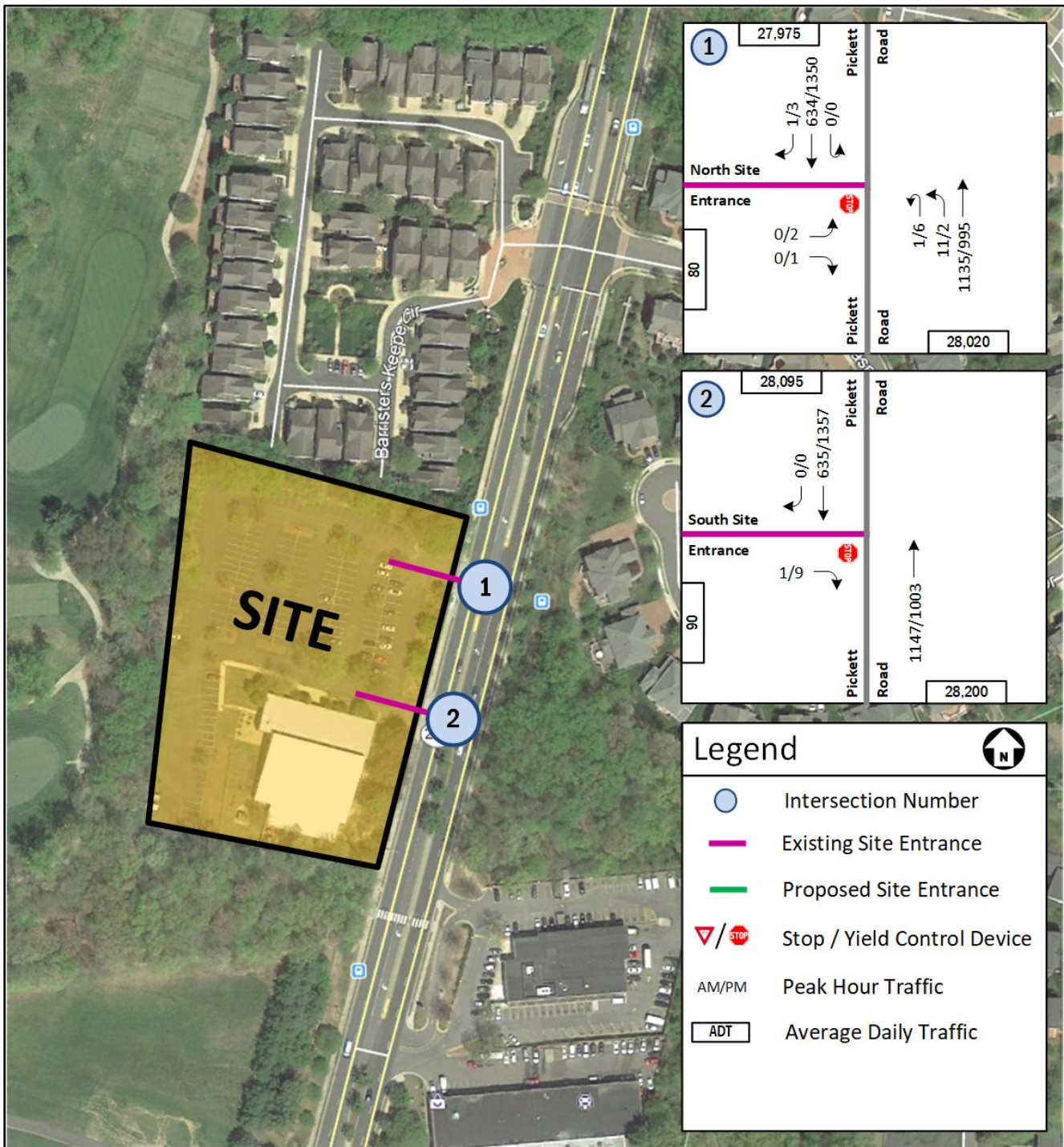


Figure 6: Future Conditions (2022) without Development Traffic Volumes

Future Conditions with Development (2022)

Trips generated by the proposed residential development were derived based on the methodology outlined in the Institute of Transportation Engineers’ (ITE’s) Trip Generation Manual, 10th Edition publication. Table 1 below shows a comparison of the trips generated by the existing Metro Church and the trips anticipated to be generated by the proposed residential development.

Table 1: Trip Generation Comparison

Land Use	ITE Code	Size	----- Week day -----						
			AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	Total
Existing Use									
Metro Church (Traffic Counts at Site Driveways)*			12	1	13	5	12	17	170
Proposed Use									
Multifamily Housing (Low-Rise)	220	52 DU	6	20	26	21	12	33	352
New External Trips (Proposed Trips - Existing Trips)			-6	19	13	16	0	16	182

* Trips for the existing Metro Church were obtained from turning movement counts collected at site driveways. The weekday daily trips were calculated as 10 times the PM peak hour trips.

Based on the table above, the proposed residential development is anticipated to generate approximately 13 new external trips during a typical weekday morning peak hour, 16 new trips during afternoon peak hour and 182 new external daily trips on a typical weekday.

Since the site is currently occupied, the existing trips at the site access locations were first removed from the roadway network, before the trips generated by the proposed development were added to the network. The existing trips removed are shown on Figure 7.

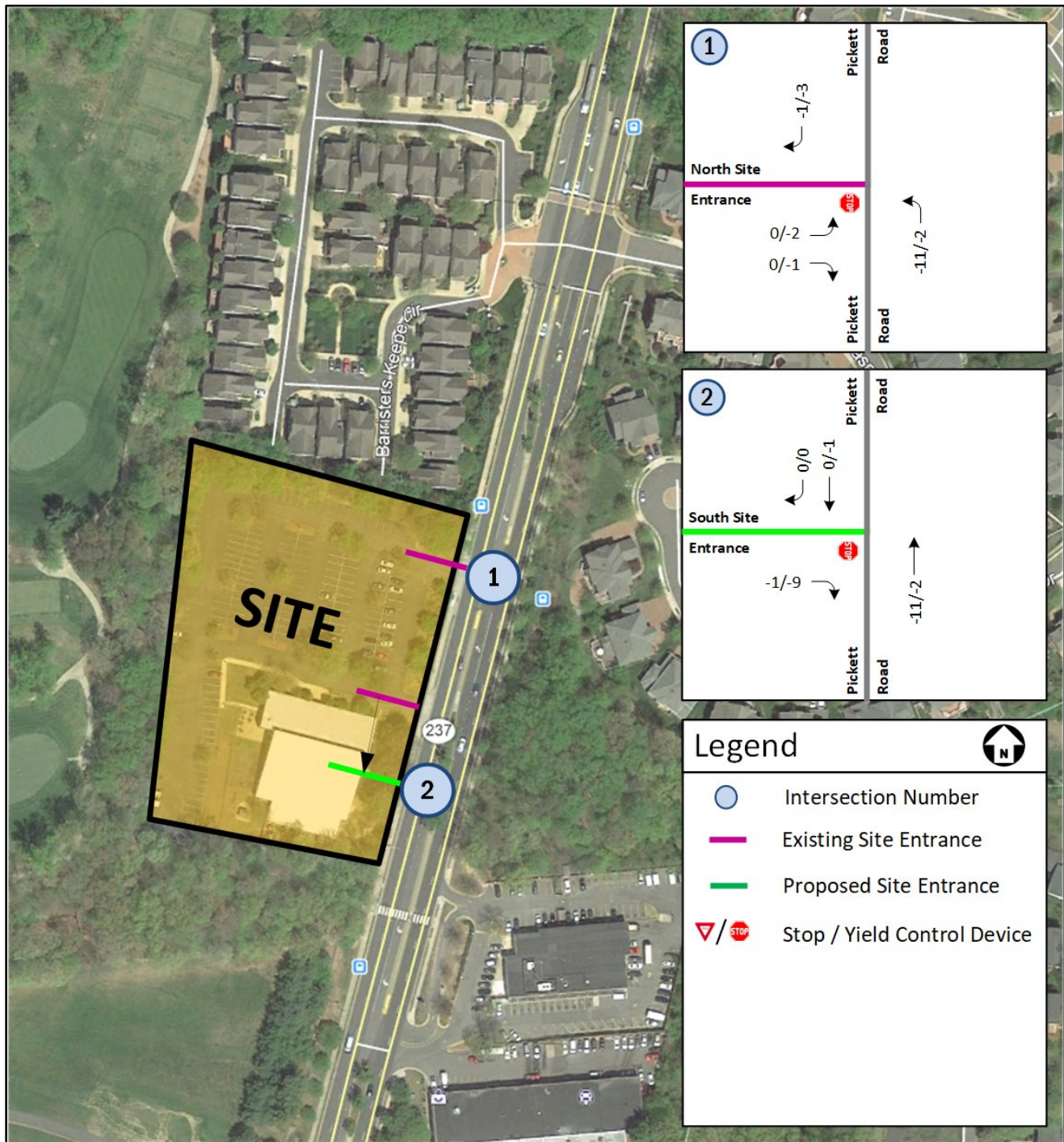


Figure 7: Removal of Existing Church Trips from Site Driveways

It was assumed that approximately 50% of the site generated trips would travel to and from the north, with the remaining 50% from the south along Pickett Road (Rte. 237). This distribution was utilized to assign site generated trips to the roadway network for the proposed site. The site generated trips at the study intersections are shown on Figure 8.

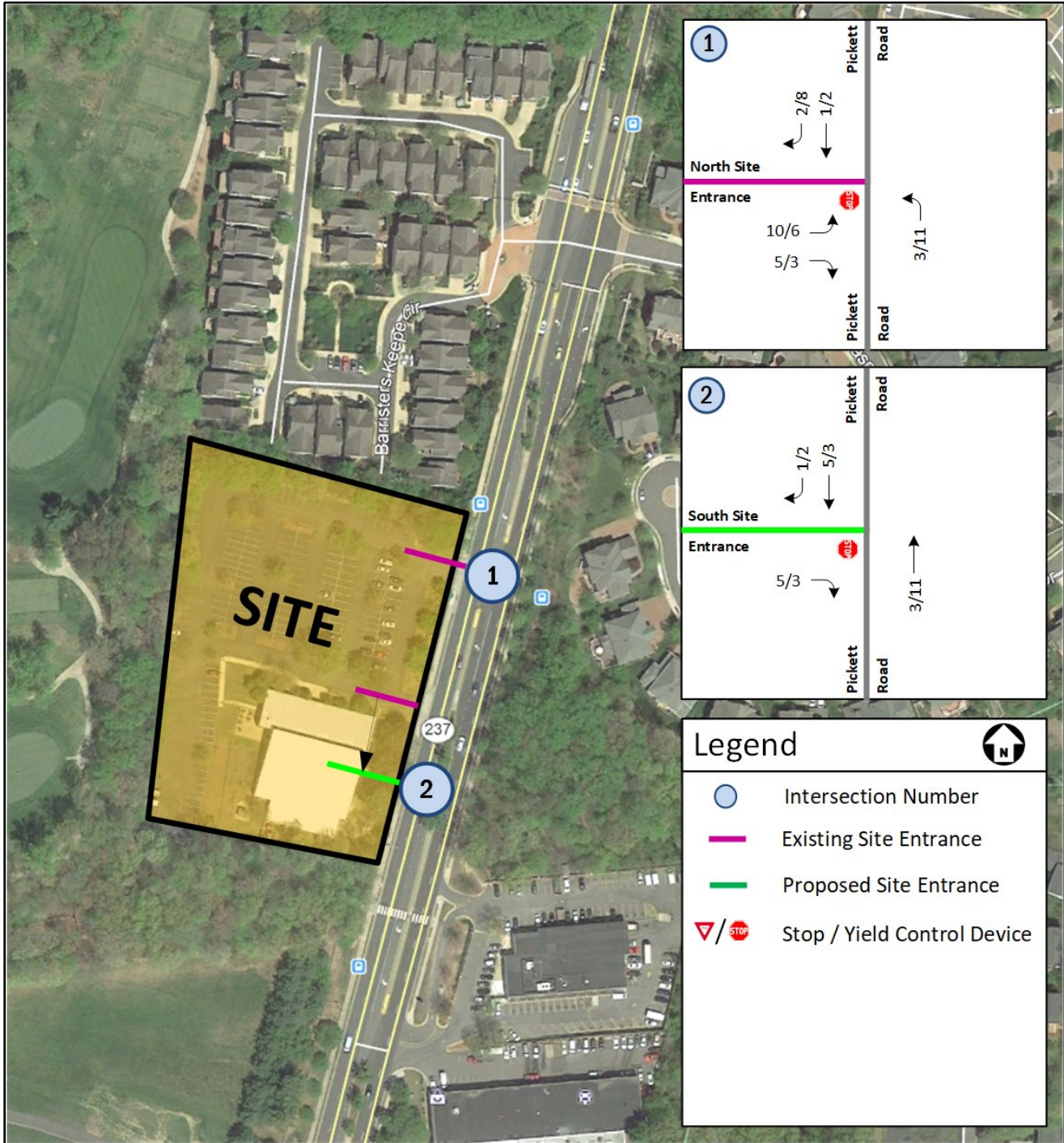


Figure 8: Site Generated Trips

The future conditions without development (2022) traffic volumes, the removal of trips generated by the existing church and trips generated by the proposed residential development were combined to obtain the future conditions with development (2022) traffic volumes at the study intersection and are illustrated graphically on Figure 9.

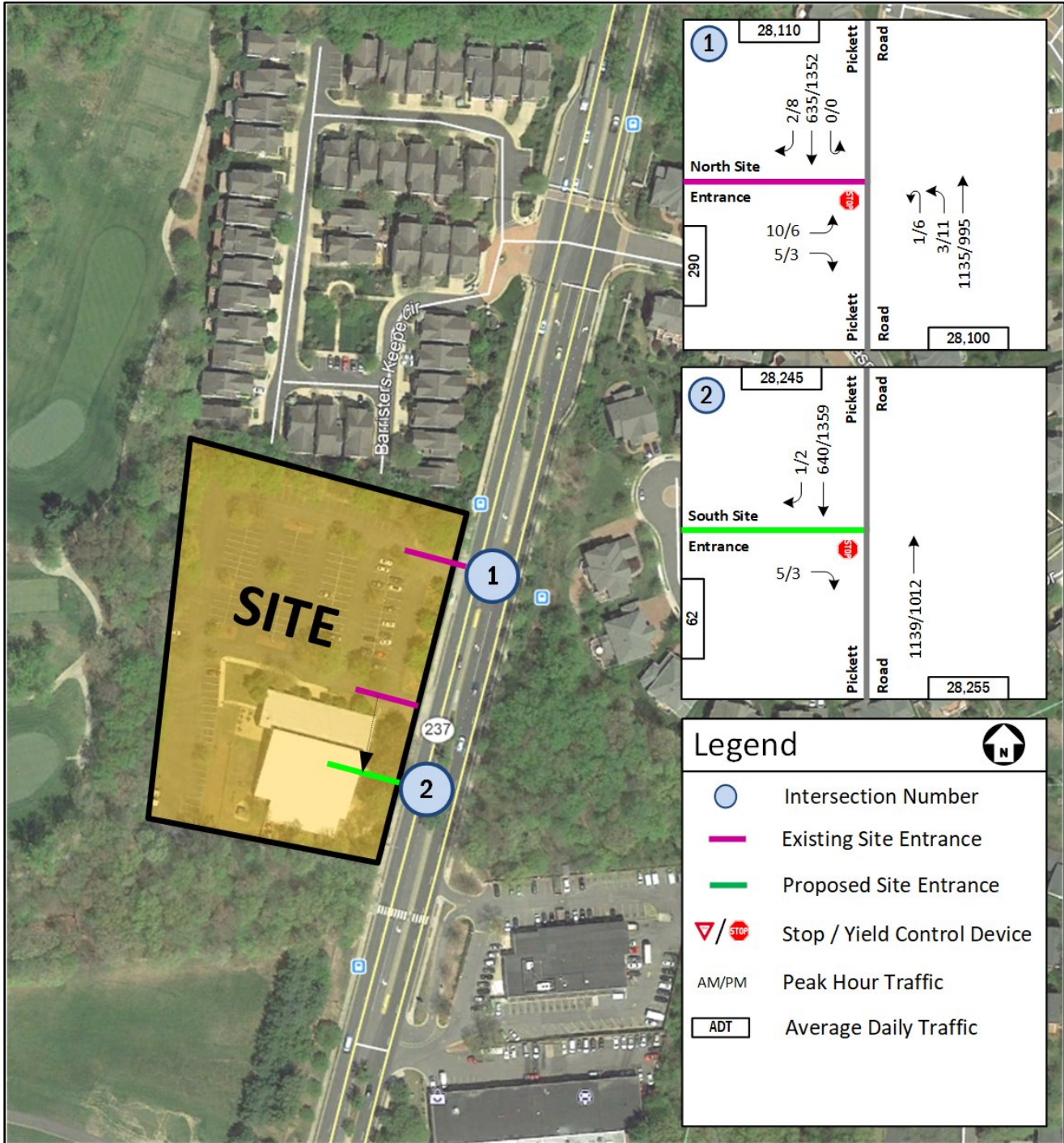


Figure 9: Future with Development (2022) Traffic Volumes

Existing, Future without Development, and Future with Development (2022) - Capacity Analyses

Capacity analyses were conducted at the study intersections for the weekday morning (AM) and weekday afternoon (PM) peak hours for the following scenarios:

- Existing (2019) conditions
 - Includes traffic generated by the existing Church.
- Future conditions without development (2022)
 - Includes traffic generated by the existing Church and increase in traffic due to regional growth.
- Future conditions with development (2022)
 - Includes existing (2019) traffic, increase in traffic due to regional growth, removal of traffic generated by the existing Church and the trips generated by the proposed development.

Synchro, version 10, was used to analyze the study intersections based on the Highway Capacity Manual (HCM) methodology. The peak hour factors, by intersection were obtained from the 2019 traffic count data collected at the study intersections. The heavy vehicle percentages were also determined from the existing traffic counts. The results of the intersection capacity and queuing analyses are presented in Table 2 for the existing (2019) conditions, in Table 3 for future conditions without development (2022) and in Table 4 for the future conditions with development (2022) and are expressed in level of service (LOS), delay (seconds per vehicle) and 95th percentile queues expressed in feet.

The detailed capacity analysis worksheets are included in Appendix B.

Table 2: Existing (2019) Conditions Capacity Analysis Results

No.	Intersection (Movement)	Effective Storage Length (ft.) ^[1]	AM Peak Hour			PM Peak Hour		
			LOS (s/veh)	Delay (s/veh)	95th % Queue (ft.)	LOS (s/veh)	Delay (s/veh)	95th % Queue (ft.)
1	Pickett Road and North Site Entrance (full-movement access)							
	Eastbound Approach		A	0		F	51.3	
	Eastbound Left/Right ^[2]		A	0	0	F	51.3	3
	Northbound Approach							
	Northbound Left/U-turn	135	A	9.1	0	C	21.8	3
	Southbound Approach							
	Southbound U-turn	125	A	0	0	A	0	0
2	Pickett Road and South Entrance (Right-in/Right-out access)							
	Eastbound Approach		B	10.3		B	14.5	
	Eastbound Right		B	10.3	0	B	14.5	3

Notes:

^[1] Effective storage length is based on the storage length plus one-half of the taper length per TOSAM guidelines.

^[2] The delay and LOS associated with the eastbound left/right movement during the afternoon peak hour is primarily caused by the exiting left turning vehicles that have to wait to find gaps simultaneously along northbound and southbound Pickett Road (Rte. 237) to enter the intersection.

Table 3: Future Conditions without Development (2022) Capacity Analysis Results

No.	Intersection (Movement)	Effective Storage Length (ft.) ^[1]	AM Peak Hour			PM Peak Hour		
			LOS	Delay	95th % Queue	LOS	Delay	95th % Queue
			(s/veh)	(s/veh)	(ft.)	(s/veh)	(s/veh)	(ft.)
1	Pickett Road and North Site Entrance (full-movement access)							
	Eastbound Approach		A	0		F	55.8	
	Eastbound Left/Right ^[2]		A	0	0	F	55.8	3
	Northbound Approach	135	A	9.2	0	C	23	3
	Southbound Approach	125	A	0	0	A	0	0
2	Pickett Road and South Entrance (Right-in/Right-out access)							
	Eastbound Approach		B	10.4		B	14.8	
	Eastbound Right		B	10.4	0	B	14.8	3

Notes:

^[1] Effective storage length is based on the storage length plus one-half of the taper length per TOSAM guidelines.

^[2] The delay and LOS associated with the eastbound left/right movement during the afternoon peak hour is primarily caused by the exiting left turning vehicles that have to wait to find gaps simultaneously along northbound and southbound Pickett Road (Rte. 237) to enter the intersection.

Table 4: Future Conditions with Development (2022) Capacity Analysis Results

No.	Intersection (Movement)	Effective Storage Length (ft.) ^[1]	AM Peak Hour			PM Peak Hour		
			LOS	Delay	95th % Queue	LOS	Delay	95th % Queue
			(s/veh)	(s/veh)	(ft.)	(s/veh)	(s/veh)	(ft.)
1	Pickett Road and North Site Entrance (full-movement access)							
	Eastbound Approach		C	23.4		F	64.4	
	Eastbound Left/Right ^[2]		C	23.4	5	F	64.4	10
	Northbound Approach	135	A	9.6	0	C	18.1	5
	Southbound Approach	125	A	0	0	A	0	0
2	Pickett Road and South Entrance (Right-in/Right-out access)							
	Eastbound Approach		B	10.5		B	14.6	
	Eastbound Right		B	10.5	0	B	14.6	0

Notes:

^[1] Effective storage length is based on the storage length plus one-half of the taper length per TOSAM guidelines.

^[2] The delay and LOS associated with the eastbound left/right movement during the afternoon peak hour is primarily caused by the exiting left turning vehicles that have to wait to find gaps simultaneously along northbound and southbound Pickett Road (Rte. 237) to enter the intersection.

The north site entrance currently consists of a northbound turn lane with a storage length of approximately 100' and a taper of approximately 70'. Similarly, a southbound left turn lane with a storage length of approximately 100' and taper length of approximately 50' also currently exists at the intersection. The 95th percentile queue results for the north site entrance under

the future conditions with development (2022) indicate that the northbound left turning queues and queueing due to southbound U-turns at the north site access would be shorter than one standard car length, and would continue to be accommodated within the available storage lengths with no spillbacks to the adjacent intersections. Similarly, there are, no significant queueing anticipated for the eastbound left/right movement at the north site entrance.

Of note, a Church typically experiences its heaviest traffic during its Sunday service times. With the proposed residential development replacing the Church, it is anticipated that the Sunday traffic at the site entrance locations would be reduced significantly.

Turn-Lane Warrant Assessment

Left and right turn lane warrants are based on VDOT’s Road Design Manual (RDM), Appendix F. The future with development (2022) conditions traffic volumes, illustrated on Figure 9, were evaluated to determine the need for a left and right turn lane at the proposed full-movement entrance and the right-in/right-out entrance along Pickett Road.

Left Turn Lane Warrant

Warrants for left-turn storage lanes on four-lane roadways at unsignalized intersections are based on Figure 3-3 in Appendix F of VDOT’s RDM. The figure provides a graphical representation for determining the necessity of a left turn lane by comparing the advancing volumes of a given approach and the respective opposing volumes.

Table 5 below summarizes the volumes utilized in the evaluation of left turn warrants for the morning and afternoon peak hours at the north site entrance. Figure 10 below represents Figure 3-3 per VDOT’s Appendix F with respect to a northbound left turn lane at the north site entrance location for the morning and afternoon peak hours.

Table 5: Future with Development Volumes for Left Turn Assessment

Study Period	Left Turning Volumes (VPH)	Advancing Volume (VPH)	Opposing Volumes (VPH)
North Site (Full-movement) Entrance – Intersection 1			
TF AM 2022	4	1139	637
TF PM 2022	17	1012	1360

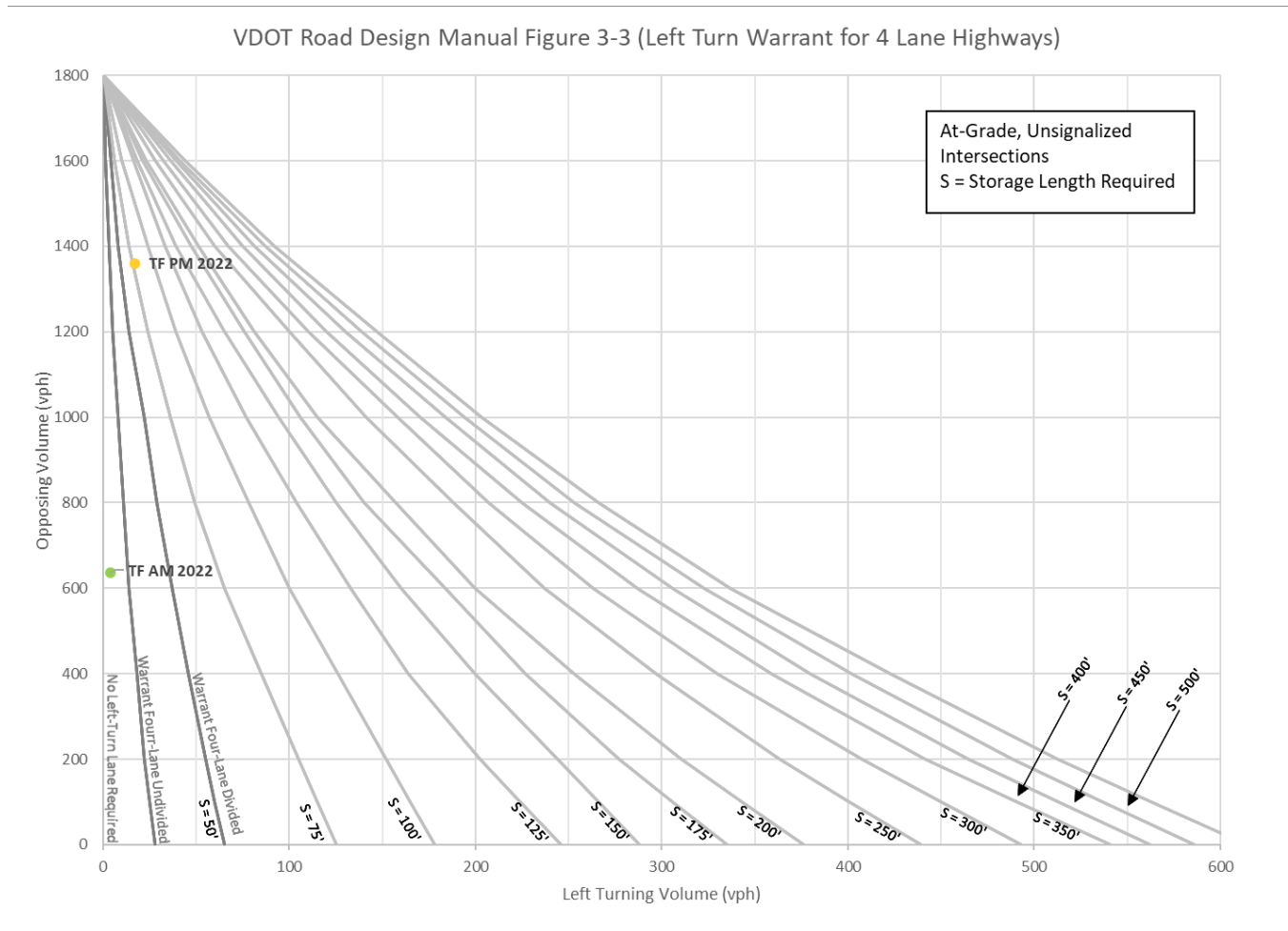


Figure 10: Northbound Left Turn Lane Assessment for the Morning Peak Hour at Proposed North Site Entrance

As can be seen from Figure 10, a left turn lane along Pickett Road and turning into the north site entrance would be warranted during the afternoon peak hour only. Such a turn lane would require a minimum storage length of 75'. Based on VDOT's RDM Appendix F Table 3-1, a taper length with a minimum of 100' would also be required. Thus, an effective storage length (measured as storage plus one half taper) of approximately 125' would be required at this location. A left turn lane with approximately 100' storage length and 70' taper currently exists at this location. Thus, an effective storage length of approximately 135' is currently available for vehicles to stack at this location which is 10' over the required effective storage length by VDOT. A shorter taper than the VDOT standard for turn lanes is not uncommon along Pickett Road. As such, no change is proposed to the existing northbound left turn lane with the redevelopment. However, a design waiver may be required to be submitted to VDOT in support of maintaining the short taper.

A southbound left turn lane with approximately 100' storage length and 50' taper currently exists along Pickett Road at the intersection. With no site access to a development located west of Pickett Road, this lane is currently utilized as a dedicated u-turn lane or as an emergency vehicle staging location. With no u-turns permitted at the signalized intersection of Pickett Road and Shelly Krasnow Lane/Barristers Keep Court, the median break at the location allows for southbound U-turns, especially for emergency and law enforcement services.

Right Turn Lane Warrant

Warrants for right-turn storage lanes on four-lane roadway at intersections are based on Figure 3-27 in Appendix F of VDOT’s RDM. This figure provides a graphical representation for determining the necessity of a right turn lane by comparing the total volumes of a given approach with their respective right turn volumes. Table 6 below represents RDM Appendix F Figure 3-26 with respect to southbound right turn movements at each of the two proposed site entrances along Pickett Road (Rte. 237).

Table 6: Future with Development Volumes for Right Turn Assessment

Study Scenario	Approach Volume	Right Turn Volume
North Site (Full-movement) Entrance – Intersection 1		
TF AM 2022	637	2
TF PM 2022	1360	8
North Site (RIRO) Entrance – Intersection 2		
TF AM 2022	641	1
TF PM 2022	1361	2

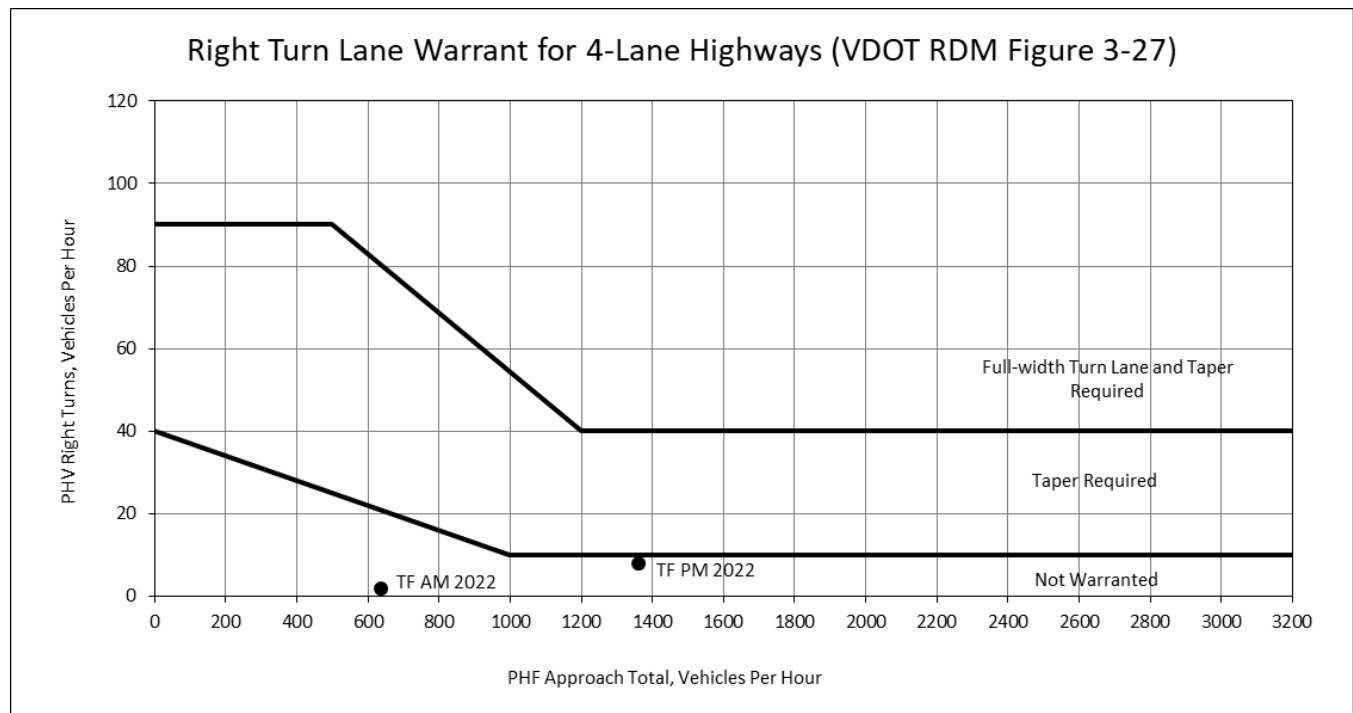


Figure 11: Southbound Right Turn Lane Assessment for Proposed North Site Entrance

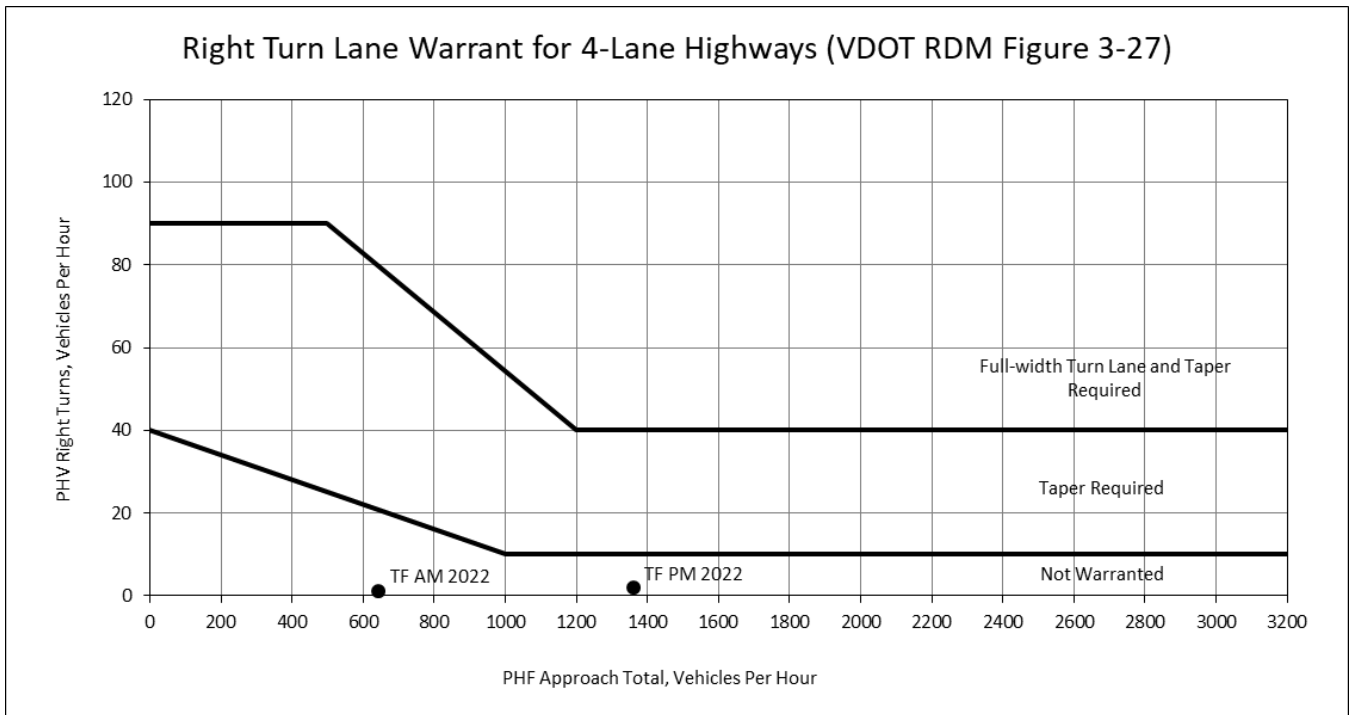


Figure 12: Southbound Right Turn Lane Assessment for Proposed South Site Entrance

As can be seen from Figure 11 and Figure 12 above, a southbound right turn lane along Pickett Road would not be warranted at either of the proposed the site entrance locations, from a volume stand-point.

Intersection Spacing Assessment (Based on VDOT’s Access Management Guidelines)

As mentioned previously, Pickett Road (Rte. 237) is classified as a minor arterial between Main Street (Rte. 236) and Arlington boulevard (Rte. 50) and has a posted speed limit of 35 mph in the vicinity of the subject site.

The guidelines for intersection spacings are specified in VDOT’s Roadway Design Manual (RDM), Appendix F, Table 2-2, and are based on a roadway’s speed limits and functional classification. Table 7 below summarizes the VDOT intersection spacing criteria per Table 2-2 of VDOT’s Appendix F that would be required along Pickett Road. Figure 13 represents the existing (2019) conditions intersection spacings graphically.

Table 7: VDOT RDM Intersection Spacing Requirements Along Pickett Road

Roadway in Study Area	Route Number	Highway Functional Class	Legal Speed Limit (mph)	Minimum Centerline to Centerline Spacing (Feet)			
				Signalized Intersection to other Signalized Intersection	Unsignalized Intersection & Full Median Crossover to Signalized or Unsignalized Intersection & Full Median Crossover	Spacing From Full Access Entrance or Directional Median to Other Full Access Entrance and Any Intersection or Median Crossover	Partial Access One or Two Way Entrance to Any Type of Entrance, Intersection, or Median Crossover
Pickett Road	237	Minor Arterial	35	1050	660	470	250



Figure 13: Existing (2019) Conditions Intersection Spacing with respect to Existing Site Entrance Locations

As can be seen from Figure 13 above, minimum intersection spacing requirements are not currently met between the two site access locations along Pickett Road (Rte. 237). Similarly, the spacing is also not currently met with respect to the signalized intersection of Pickett Road and Shelly Krasnow Lane/Barristers Keep Court. However, the intersection spacing is met with respect to the north site access and the full-median break at the U.S. Post Office facility entrance.

As has been mentioned previously, the south site entrance is planned to be shifted with the proposed redevelopment. The south site entrance is proposed to be shifted by approximately 95' south of its existing location. Figure 14 below graphically illustrates the change in intersection spacing under the future conditions with development (2022).

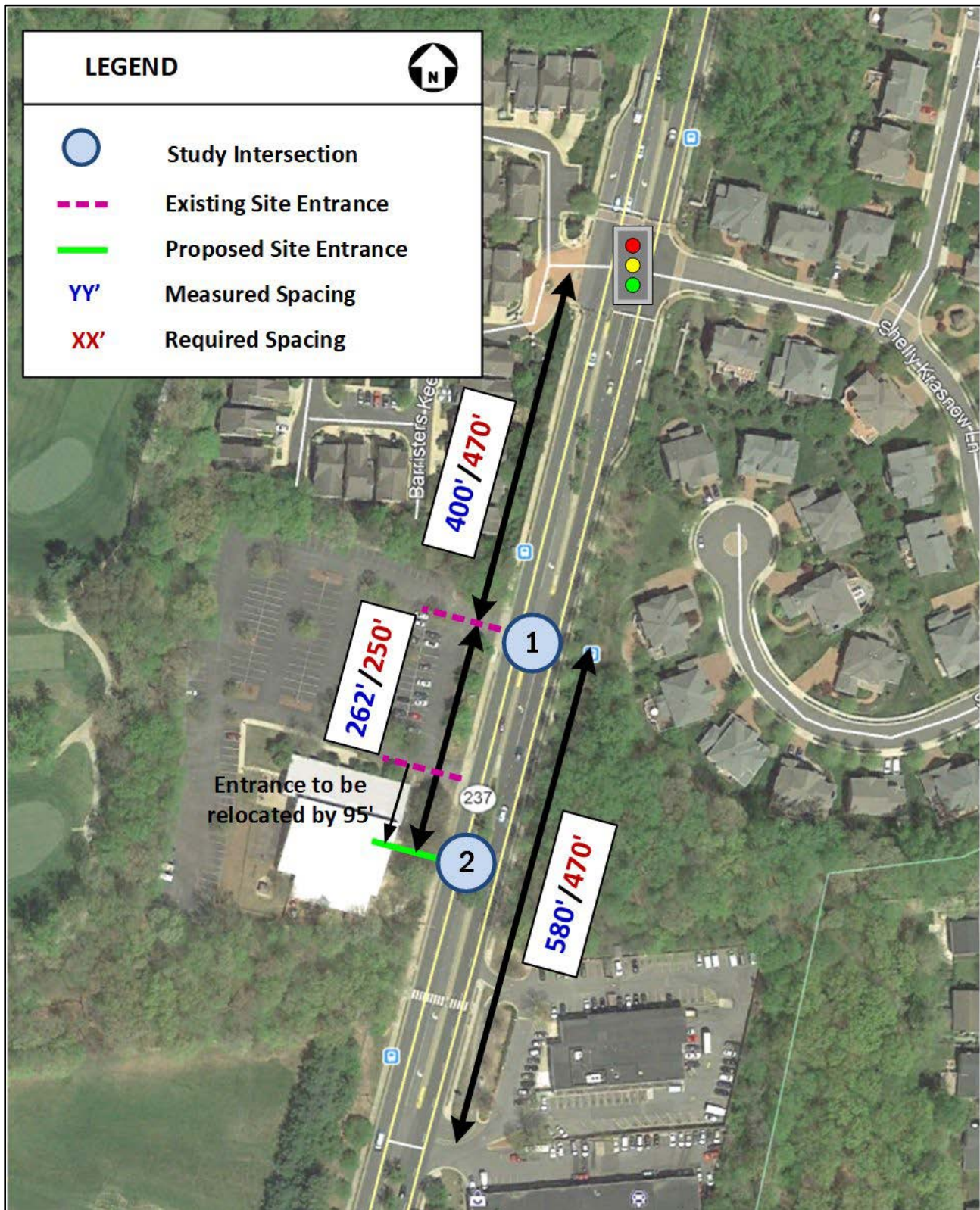


Figure 14: Proposed Intersection Spacing under Future Conditions with Development (2022)

As can be seen from Figure 14 above, with the proposed relocation of the south site access, the separation between the two site entrance location would increase by approximately 95', and would meet VDOT's minimum spacing criteria under the future conditions with development (2022).

The spacing between the north site entrance and the signalized intersection of Pickett Road and Shelly Krasnow Lane/Barristers Keep Court would continue to fall short of meeting VDOT's spacing criteria. As such, an Access Management Exception (AME) may be required to be submitted to VDOT for the north site entrance location. Table 8 below provides a summary of the intersection spacings with respect to the site entrance locations under the existing (2019) and future with development (2022) conditions.

Table 8: Summary of Intersection Spacing at Site Entrance Locations

Intersection	Type of Traffic Control	Adjacent Intersection	Type of Traffic Control	Measured Distance (ft.)	Required Distance (ft.)	Met the Standard (Yes/No)
Existing (2019) Conditions						
North Site (Full-movement) Entrance	Stop-Control	Towards North Pickett Road and Shelly Krasnow Lane/Barristers Keep Court	Signal Control	400	470	No
		Towards South South Site (RIRO) Entrance	Stop Control (RIRO) Entrance	167	250	No
		U.S. Post Office (Full-movement) Entrance	Stop Control (Full-access)	580	470	Yes
South Site (RIRO) Entrance	Stop-Control	Towards North North Site (Full-movement) Entrance	Stop Control (Full-access)	167	250	No
Future with Development (2022) Conditions						
North Site (Full-movement) Entrance	Stop-Control	Towards North Pickett Road and Shelly Krasnow Lane/Barristers Keep Court	Signal Control	400	470	No
		Towards South South Site (RIRO) Entrance	Stop Control (RIRO) Entrance	262	250	Yes
		U.S. Post Office (Full-movement) Entrance	Stop Control (Full-access)	580	470	Yes
South Site (RIRO) Entrance	Stop-Control	Towards North North Site (Full-movement) Entrance	Stop Control (Full-access)	262	250	Yes

Intersection Sight Distance

The VDOT Road Design Manual (RDM) includes requirements for intersection sight distance in Appendix F. For a roadway with a posted speed limit of 35 mph and a design speed of 40 mph, the required sight distance to the left (in order to turn right) is 475 feet, while the required sight distance to the right (in order to turn left) is 545 feet.

Sight distance profile exhibits for each site entrance have been included in Appendix C.

Based on the sight distance profiles (included in the appendix), the sight distance to the right (SDR) - turning left from the north site entrance - would be adequate. Similarly, the required intersection sight distance triangle for the sight distance to the left (SDL) - turning right from the north site entrance - would be adequate. However, to provide a clear sight distance the existing vegetation may be required to be trimmed in a manner to not obstruct the view of the drivers exiting the entrance. Similarly, drivers turning right from the south site entrance would have clear sight distance provided no vegetation or other obstacles are placed along the property's frontage surrounding the site entrance locations.

Conclusion

The proposed redevelopment of the Metro Church site at 3500 Pickett Road in the City Of Fairfax is planned to consist of approximately 52 townhomes. The development is anticipated to generate approximately 13 new trips during a typical weekday morning peak hour, 16 new trips during afternoon peak hour and 182 new daily trips on a typical weekday.

This traffic impact assessment supports the following conclusions:

- Typically, a Church experiences its heaviest traffic during its Sunday service times. With the proposed residential development, the Sunday traffic is anticipated to reduce significantly.
- Based on the 95th percentile queue results for the future conditions with development (2022) at the north site entrance, the northbound and southbound queues are anticipated to be accommodated within the available storage bays, causing no queue spillbacks along Pickett Road (Rte. 237).
- No significant queuing is anticipated due to the exiting traffic at either of the proposed site entrance locations.
- With the proposed redevelopment, the northbound left turn lane at the north site entrance would maintain the same effective storage length as existing which is approximately 135'. It should be noted that VDOT requires an effective storage length of 125'. Thus, the northbound left turn lane would continue to be 10' over the required effective storage length.
- Southbound right turn lanes are not warranted at either of the proposed site entrance locations from a volume-standpoint. Based on the capacity analysis results, with no queuing issues at the site entrances, such a right turn lane would also not be warranted from a capacity stand-point.
- With the proposed shift in south site access location, an AME may be required to be submitted to VDOT for the existing spacing between the north site entrance and the signalized intersection of Pickett Road and Shelly Krasnow Lane/Barristers Keep Court.
- Based on the proposed site entrance locations, the north site entrance would have the required 545' of sight distance to the right. Each of the site entrance locations would also have the required 475' of sight distance to the left. However, the existing vegetation may have to be trimmed to provide a clear line of sight without obstruction. Similarly, placement of any vegetation along the site's Pickett Road frontage would have to be in a manner as to not obstruct exiting drivers view at the south site entrance.

TECHNICAL APPENDIX

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Appendix B: Capacity Analysis Worksheets

Appendix C: Sight Distance Profile Exhibits

Appendix A: 2019 Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pickett Rd & Metro Church Entrance N
 City: Fairfax
 Control: No Control

Project ID: 19-11135-001
 Date: 10/16/2019

Total

NS/EW Streets:	Pickett Rd				Pickett Rd				Metro Church Entrance N				Metro Church Entrance N				TOTAL
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:00 AM	1	84	0	0	0	51	0	0	0	0	1	0	0	0	0	0	137
6:15 AM	1	88	0	0	0	45	0	1	0	0	0	0	0	0	0	0	135
6:30 AM	0	140	0	0	0	63	0	0	0	0	0	0	0	0	0	0	203
6:45 AM	1	161	0	0	0	82	1	0	0	0	0	0	0	0	0	0	245
7:00 AM	0	221	0	0	0	91	0	1	0	0	0	0	0	0	0	0	313
7:15 AM	2	275	0	0	0	118	1	0	0	0	0	0	0	0	0	0	396
7:30 AM	5	295	0	0	0	145	1	0	0	0	0	0	0	0	0	0	446
7:45 AM	9	289	0	0	0	160	1	0	0	0	0	0	0	0	0	0	459
8:00 AM	1	287	0	1	0	122	0	0	0	0	0	0	0	0	0	0	411
8:15 AM	0	255	0	0	0	148	0	0	0	0	0	0	0	0	0	0	403
8:30 AM	1	270	0	0	0	181	0	0	0	0	0	0	0	0	0	0	452
8:45 AM	1	251	0	0	0	198	0	0	0	0	0	0	0	0	0	0	450
TOTAL VOLUMES :	22	2616	0	1	0	1404	4	2	0	0	1	0	0	0	0	0	4050
APPROACH %'s :	0.83%	99.13%	0.00%	0.04%	0.00%	99.57%	0.28%	0.14%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	11	1101	0	1	0	611	1	0	0	0	0	0	0	0	0	0	1725
PEAK HR FACTOR :	0.306	0.952	0.000	0.250	0.000	0.844	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.940
	0.934				0.845				0.375								
PM	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	TOTAL
4:00 PM	1	205	0	1	0	313	0	0	0	0	0	0	0	0	0	0	520
4:15 PM	1	267	0	1	0	261	0	0	1	0	0	0	0	0	0	0	531
4:30 PM	2	267	0	3	0	326	0	1	0	0	1	0	0	0	0	0	600
4:45 PM	0	237	0	1	0	314	0	0	1	0	1	0	0	0	0	0	554
5:00 PM	1	246	0	2	0	313	0	0	0	0	0	0	0	0	0	0	562
5:15 PM	0	229	0	3	0	332	1	0	0	0	0	0	0	0	0	0	565
5:30 PM	1	253	0	0	0	348	2	0	1	0	0	0	0	0	0	0	605
5:45 PM	2	235	0	0	0	301	0	0	1	0	1	0	0	0	0	0	540
6:00 PM	1	234	0	2	0	307	1	0	0	0	0	0	0	0	0	0	545
6:15 PM	0	209	0	3	0	297	0	0	0	0	0	0	0	0	0	0	509
6:30 PM	0	258	0	1	0	264	0	0	0	0	0	0	0	0	0	0	523
6:45 PM	1	195	0	1	0	263	0	0	0	0	0	0	0	0	0	0	460
TOTAL VOLUMES :	10	2835	0	18	0	3639	4	1	4	0	3	0	0	0	0	0	6514
APPROACH %'s :	0.35%	99.02%	0.00%	0.63%	0.00%	99.86%	0.11%	0.03%	57.14%	0.00%	42.86%	0.00%	0.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	2	965	0	6	0	1307	3	0	2	0	1	0	0	0	0	0	2286
PEAK HR FACTOR :	0.500	0.954	0.000	0.500	0.000	0.939	0.375	0.000	0.500	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.945
	0.958				0.936				0.375								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pickett Rd & Metro Church Entrance N
City: Fairfax
Control: No Control

Project ID: 19-11135-001
Date: 10/16/2019

HT

NS/EW Streets:	Pickett Rd				Pickett Rd				Metro Church Entrance N				Metro Church Entrance N				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
6:00 AM	1	14	0	0	0	1	0	0	0	0	1	0	0	0	0	0	
6:15 AM	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	10	0	0	0	8	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	8	0	0	0	9	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	18	0	0	0	13	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	9	0	0	0	13	0	0	0	0	0	0	0	0	0	0	
7:30 AM	1	11	0	0	0	11	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	15	0	0	0	14	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	12	0	0	0	8	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	11	0	0	0	18	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	132	0	0	0	117	0	0	0	0	1	0	0	0	0	0	252
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	42	0	0	0	35	0	0	0	0	0	0	0	0	0	0	77
PEAK HR FACTOR :	0.000	0.700	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.664
	0.700				0.625												
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	4	0	0	0	6	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	5	0	0	0	10	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	
6:00 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	
6:15 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	
6:30 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	
6:45 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	57	0	0	0	82	0	0	0	0	0	0	0	0	0	0	139
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	14	0	0	0	29	0	0	0	0	0	0	0	0	0	0	43
PEAK HR FACTOR :	0.00	0.700	0.000	0.000	0.000	0.725	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.717
	0.700				0.725												

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pickett Rd & Metro Church Entrance S
City: Fairfax
Control: No Control

Project ID: 19-11135-002
Date: 10/16/2019

HT

NS/EW Streets:	Pickett Rd				Pickett Rd				Metro Church Entrance S				Metro Church Entrance S					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
6:00 AM	0	15	0	0	0	2	0	0	0	0	0	0	0	0	0	0	17	
6:15 AM	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	18	
6:30 AM	0	10	0	0	0	8	0	0	0	0	0	0	0	0	0	0	18	
6:45 AM	0	8	0	0	0	9	0	0	0	0	0	0	0	0	0	0	17	
7:00 AM	0	18	0	0	0	13	0	0	0	0	0	0	0	0	0	0	31	
7:15 AM	0	9	0	0	0	13	0	0	0	0	0	0	0	0	0	0	22	
7:30 AM	0	12	0	0	0	11	0	0	0	0	0	0	0	0	0	0	23	
7:45 AM	0	15	0	0	0	13	0	0	0	0	0	0	0	0	0	0	28	
8:00 AM	0	7	0	0	0	7	0	0	0	0	0	0	0	0	0	0	14	
8:15 AM	0	8	0	0	0	7	0	0	0	0	0	0	0	0	0	0	15	
8:30 AM	0	12	0	0	0	8	0	0	0	0	0	0	0	0	0	0	20	
8:45 AM	0	11	0	0	0	18	0	0	0	0	0	0	0	0	0	0	29	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	134	0	0	0	118	0	0	0	0	0	0	0	0	0	0	252	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL :	0	42	0	0	0	35	0	0	0	0	0	0	0	0	0	0	77	
PEAK HR FACTOR :	0.000	0.700	0.000	0.000	0.000	0.673	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.688	
		0.700				0.673												
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	20	
4:15 PM	0	8	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	
4:30 PM	0	5	0	0	0	10	0	0	0	0	0	0	0	0	0	0	15	
4:45 PM	0	4	0	0	0	5	0	0	0	0	0	0	0	0	0	0	9	
5:00 PM	0	5	0	0	0	9	0	0	0	0	0	0	0	0	0	0	14	
5:15 PM	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	0	8	
5:30 PM	0	4	0	0	0	7	0	0	0	0	0	0	0	0	0	0	11	
5:45 PM	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9	
6:00 PM	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	6	
6:15 PM	0	5	0	0	0	7	0	0	0	0	0	0	0	0	0	0	12	
6:30 PM	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	8	
6:45 PM	0	5	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	57	0	0	0	82	0	0	0	0	0	0	0	0	0	0	139	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL	
PEAK HR VOL :	0	14	0	0	0	28	0	0	0	0	0	0	0	0	0	0	42	
PEAK HR FACTOR :	0.00	0.700	0.000	0.000	0.000	0.778	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	
		0.700				0.778												

Appendix B: Capacity Analysis Worksheets

Intersection								
Int Delay, s/veh	0.1							
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	Y			Y	↑↑	Y	↑↑	
Traffic Vol, veh/h	0	0	1	11	1101	0	615	1
Future Vol, veh/h	0	0	1	11	1101	0	615	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	135	-	125	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	4	0	6	0
Mvmt Flow	0	0	1	12	1171	0	654	1

Major/Minor	Minor2	Major1			Major2		
Conflicting Flow All	1267	328	655	655	0	1171	0
Stage 1	655	-	-	-	-	-	-
Stage 2	612	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	4.1	-	6.4	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	2.2	-	2.5	-
Pot Cap-1 Maneuver	163	674	559	942	-	262	-
Stage 1	484	-	-	-	-	-	-
Stage 2	509	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	161	674	891	891	-	262	-
Mov Cap-2 Maneuver	161	-	-	-	-	-	-
Stage 1	477	-	-	-	-	-	-
Stage 2	509	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	891	-	-	262	-	-
HCM Lane V/C Ratio	0.014	-	-	-	-	-
HCM Control Delay (s)	9.1	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	1	0	1113	616	0
Future Vol, veh/h	0	1	0	1113	616	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	6	0
Mvmt Flow	0	1	0	1172	648	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	324	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	678	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	678	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	678	-	-
HCM Lane V/C Ratio	-	0.002	-	-
HCM Control Delay (s)	-	10.3	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection								
Int Delay, s/veh	0.2							
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↵			↵	↑↑	↵	↑↑	
Traffic Vol, veh/h	2	1	6	2	965	0	1310	3
Future Vol, veh/h	2	1	6	2	965	0	1310	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	135	-	125	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	4	0	6	0
Mvmt Flow	2	1	6	2	1027	0	1394	3

Major/Minor	Minor2	Major1		Major2				
Conflicting Flow All	1926	699	1397	1397	0	1027	-	0
Stage 1	1396	-	-	-	-	-	-	-
Stage 2	530	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	60	387	188	496	-	324	-	-
Stage 1	198	-	-	-	-	-	-	-
Stage 2	560	-	-	-	-	-	-	-
Platoon blocked, %					-	-	-	-
Mov Cap-1 Maneuver	58	387	223	223	-	324	-	-
Mov Cap-2 Maneuver	58	-	-	-	-	-	-	-
Stage 1	190	-	-	-	-	-	-	-
Stage 2	560	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	51.3	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	223	-	81	324	-	-
HCM Lane V/C Ratio	0.038	-	0.039	-	-	-
HCM Control Delay (s)	21.8	-	51.3	0	-	-
HCM Lane LOS	C	-	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	9	0	973	1317	0
Future Vol, veh/h	0	9	0	973	1317	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	6	0
Mvmt Flow	0	9	0	1024	1386	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	693	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	390	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	390	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	390	-	-
HCM Lane V/C Ratio	-	0.024	-	-
HCM Control Delay (s)	-	14.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection								
Int Delay, s/veh	0.1							
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	Y			Y	↑↑	Y	↑↑	
Traffic Vol, veh/h	0	0	1	11	1135	0	634	1
Future Vol, veh/h	0	0	1	11	1135	0	634	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	155	-	120	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	4	0	6	0
Mvmt Flow	0	0	1	12	1207	0	674	1

Major/Minor	Minor2	Major1			Major2		
Conflicting Flow All	1305	338	676	675	0	1207	0
Stage 1	675	-	-	-	-	-	-
Stage 2	630	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	4.1	-	6.4	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	2.2	-	2.5	-
Pot Cap-1 Maneuver	154	664	542	926	-	249	-
Stage 1	473	-	-	-	-	-	-
Stage 2	498	-	-	-	-	-	-
Platoon blocked, %					-	-	-
Mov Cap-1 Maneuver	152	664	874	874	-	249	-
Mov Cap-2 Maneuver	152	-	-	-	-	-	-
Stage 1	466	-	-	-	-	-	-
Stage 2	498	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	874	-	-	249	-	-
HCM Lane V/C Ratio	0.015	-	-	-	-	-
HCM Control Delay (s)	9.2	-	0	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	1	0	1147	635	0
Future Vol, veh/h	0	1	0	1147	635	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	6	0
Mvmt Flow	0	1	0	1207	668	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	334	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	668	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	668	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	668	-	-
HCM Lane V/C Ratio	-	0.002	-	-
HCM Control Delay (s)	-	10.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection								
Int Delay, s/veh	0.2							
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↖			↗	↑↑	↘	↑↑	
Traffic Vol, veh/h	2	1	6	2	995	0	1350	3
Future Vol, veh/h	2	1	6	2	995	0	1350	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	135	-	125	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	4	0	6	0
Mvmt Flow	2	1	6	2	1059	0	1436	3

Major/Minor	Minor2	Major1		Major2				
Conflicting Flow All	1984	720	1439	1439	0	1059	-	0
Stage 1	1438	-	-	-	-	-	-	-
Stage 2	546	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	55	375	176	478	-	310	-	-
Stage 1	188	-	-	-	-	-	-	-
Stage 2	550	-	-	-	-	-	-	-
Platoon blocked, %					-	-	-	-
Mov Cap-1 Maneuver	53	375	209	209	-	310	-	-
Mov Cap-2 Maneuver	53	-	-	-	-	-	-	-
Stage 1	180	-	-	-	-	-	-	-
Stage 2	550	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	55.8	0.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	209	-	74	310	-	-
HCM Lane V/C Ratio	0.041	-	0.043	-	-	-
HCM Control Delay (s)	23	-	55.8	0	-	-
HCM Lane LOS	C	-	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	9	0	1003	1357	0
Future Vol, veh/h	0	9	0	1003	1357	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	6	0
Mvmt Flow	0	9	0	1056	1428	0

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	714	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	378	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	378	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	378	-	-
HCM Lane V/C Ratio	-	0.025	-	-
HCM Control Delay (s)	-	14.8	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Intersection								
Int Delay, s/veh	0.2							
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↔			↔	↑↑	↔	↑↑	
Traffic Vol, veh/h	10	5	1	3	1135	0	635	2
Future Vol, veh/h	10	5	1	3	1135	0	635	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	135	-	175	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	4	0	6	0
Mvmt Flow	11	5	1	3	1207	0	676	2

Major/Minor	Minor2	Major1		Major2				
Conflicting Flow All	1289	339	678	678	0	1207	-	0
Stage 1	677	-	-	-	-	-	-	-
Stage 2	612	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	158	663	541	923	-	249	-	-
Stage 1	472	-	-	-	-	-	-	-
Stage 2	509	-	-	-	-	-	-	-
Platoon blocked, %					-	-	-	-
Mov Cap-1 Maneuver	157	663	782	782	-	249	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-	-	-
Stage 1	470	-	-	-	-	-	-	-
Stage 2	509	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	782	-	211	249	-	-
HCM Lane V/C Ratio	0.005	-	0.076	-	-	-
HCM Control Delay (s)	9.6	-	23.5	0	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	5	0	1139	640	1
Future Vol, veh/h	0	5	0	1139	640	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	6	0
Mvmt Flow	0	5	0	1199	674	1

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	338	-	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	664	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	664	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	664	-	-
HCM Lane V/C Ratio	-	0.008	-	-
HCM Control Delay (s)	-	10.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Intersection								
Int Delay, s/veh	0.4							
Movement	EBL	EBR	NBU	NBL	NBT	SBU	SBT	SBR
Lane Configurations	↵			↵	↑↑	↵	↑↑	
Traffic Vol, veh/h	6	3	6	11	995	0	1352	8
Future Vol, veh/h	6	3	6	11	995	0	1352	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	-	None
Storage Length	0	-	-	135	-	175	-	-
Veh in Median Storage, #	0	-	-	-	0	-	0	-
Grade, %	0	-	-	-	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	0	4	0	6	0
Mvmt Flow	6	3	6	12	1059	0	1438	9

Major/Minor	Minor2	Major1		Major2				
Conflicting Flow All	2009	724	1447	1447	0	1059	-	0
Stage 1	1443	-	-	-	-	-	-	-
Stage 2	566	-	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	4.1	-	6.4	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	2.2	-	2.5	-	-
Pot Cap-1 Maneuver	53	373	174	474	-	310	-	-
Stage 1	187	-	-	-	-	-	-	-
Stage 2	537	-	-	-	-	-	-	-
Platoon blocked, %					-	-	-	-
Mov Cap-1 Maneuver	50	373	294	294	-	310	-	-
Mov Cap-2 Maneuver	50	-	-	-	-	-	-	-
Stage 1	176	-	-	-	-	-	-	-
Stage 2	537	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.4	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	294	-	70	310	-	-
HCM Lane V/C Ratio	0.062	-	0.137	-	-	-
HCM Control Delay (s)	18.1	-	64.4	0	-	-
HCM Lane LOS	C	-	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	3	0	1012	1359	2
Future Vol, veh/h	0	3	0	1012	1359	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	4	6	0
Mvmt Flow	0	3	0	1065	1431	2

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	717	-	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-
Pot Cap-1 Maneuver	0	377	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	377	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	377	-	-
HCM Lane V/C Ratio	-	0.008	-	-
HCM Control Delay (s)	-	14.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix C: Sight Distance Profile Exhibits

