

July 9, 2020

Mr. Michael Zuraf, AICP  
Stafford County  
1300 Courthouse Road  
Stafford, Virginia 22554  
Phone: (540) 658-8668

Reference: **Clift Farm Road Residential** – Traffic Impact Analysis (TIA)  
Stafford County, Virginia

Dear Mr. Zuraf,

Ramey Kemp & Associates, Inc. (RKA) has performed this Traffic Impact Analysis (TIA) for the proposed neighborhood on the north side of Leeland Road and both sides of Clift Farm Road. The development plan includes 141 age-restricted homes. The access plan includes three full-movement driveways on Clift Farm Road. Figure 1 shows the site location and study intersections, and Figure 2 shows the preliminary site plan.

The purpose of this letter report is to provide trip generation calculations for the proposed neighborhood and determine if turn lane warrants will be met on Leeland Road and Clift Farm Road.

### **Existing Roadway Conditions**

Leeland Road is a two-lane Major Collector with a current average daily traffic (ADT) volume of approximately 1,800 vehicles per day (vpd), and a posted speed limit of 45 miles per hour (mph) in the vicinity of the site.

Clift Farm Road is a two-lane local roadway with a current ADT volume of approximately 100 vpd and a posted speed limit of 35 mph.

Figure 3 shows the existing lane configurations.

### **Background Traffic Growth**

The 2019 ADT data collected by VDOT was used to estimate the current peak hour volumes at the intersection of Leeland Road and Clift Farm Road. Based on the scoping meeting with the County and VDOT, the 2019 peak hour traffic volumes were grown by an annual rate of 1.0% for one year to estimate the existing 2020 peak hour traffic volumes which are shown in Figure 3. The 2019 turning movement volumes were grown by an annual rate of 1.0% per year for six years to estimate the no-build 2025 peak hour volumes, which are shown in Figure 5.

### Site Traffic Distribution

The following site traffic distribution was assumed based on a review of the existing traffic volumes, the adjacent roadway network, and engineering judgement:

- 90% to / from the west on Leeland Road
- 10% to / from the east on Leeland Road

### Trip Generation

The trip generation potential of the proposed neighborhood during a typical weekday, AM peak hour, and PM peak hour was estimated using the methodologies published by the ITE *Trip Generation Manual – 10<sup>th</sup> Edition*. Table 1 summarizes the trip generation calculations.

**Table 1: ITE Trip Generation – Weekday – 10<sup>th</sup> Edition**

Land Use (ITE Land Use Code)	Size	Weekday Daily Traffic (vpd)		AM Peak Hour (vph)		PM Peak Hour (vph)	
		Enter	Exit	Enter	Exit	Enter	Exit
Senior Adult Housing – Detached (251)	141 homes	381	381	17	36	38	25

Figure 4 shows the site trip distribution and assignment and Figure 5 shows the build 2025 peak hour volumes.

### VDOT Turn Lane Warrant Analysis

The projected build-out AM and PM peak hour traffic volumes at the proposed site driveways and the intersection of Leeland Road at Clift Farm Road were compared to the turn lane warrants in the Virginia Department of Transportation (VDOT) *Access Management Design Standards for Entrances and Intersections*, and no turn lanes are necessary.

The turn lane warrant diagrams are enclosed for reference.

## Traffic Capacity Analysis

Traffic capacity analysis for the study intersection was performed using Synchro 10, which is a comprehensive software package that allows the user to model signalized and unsignalized intersections to determine levels-of-service (LOS) based on the thresholds specified in the Highway Capacity Manual (HCM) – 6<sup>th</sup> Edition.

Table 2 summarizes the capacity analysis results for the unsignalized intersection of Leeland Road at Clift Farm Road, and the Synchro outputs are enclosed for reference.

**Table 2: Level-of-Service Summary for Leeland Road at Clift Farm Road**

CONDITION	LANE GROUP	AM PEAK HOUR				PM PEAK HOUR			
		Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS <sup>3</sup> (Delay)	Lane LOS	Lane Delay (sec)	Queue (ft)	Overall LOS <sup>3</sup> (Delay)
Existing (2020) Traffic Conditions	EBL/T <sup>2</sup>	A	7.6	0	N/A	A	7.4	0	N/A
	WBT/R	-	-	-		-	-	-	
	SBL/R <sup>1</sup>	A	9.3	0		A	8.9	0	
No-Build (2025) Traffic Conditions	EBL/T <sup>2</sup>	A	7.6	0	N/A	A	7.4	0	N/A
	WBT/R	-	-	-		-	-	-	
	SBL/R <sup>1</sup>	A	9.4	0		A	8.9	0	
Build (2025) Traffic Conditions	EBL/T <sup>2</sup>	A	7.7	0	N/A	A	7.4	3	N/A
	WBT/R	-	-	-		-	-	-	
	SBL/R <sup>1</sup>	A	9.7	5		A	9.1	3	

1. Level of service for minor approach

2. Level of service for major street left turn movement

3. HCM methodology does not provide lane group or overall LOS, delay, and queue lengths for major street through movements or right turns at unsignalized intersections

Capacity analysis indicates the minor street left turn movement currently operates with short delays (less than 25 seconds) during the AM and PM peak hours. Under no-build conditions, the minor street left turn movement is expected to continue to operate with short delays (less than 25 seconds) during both peak hours. Under build conditions, the minor street left turn movement is expected to continue to operate with short delays (less than 25 seconds) during both peak hours.

## Recommendations

Clift Farm Road intersects Leeland Road at an angle. The pavement on Clift Farm Road flares out, and should be striped to improve the approach angle for southbound drivers. The existing trees and shrubs along the north side of Leeland Road east of Clift Farm Road should also be cut back to provide at least 555 feet of sight distance, which is the VDOT minimum on a two-lane roadway that is posted 45 mph.

We appreciate your attention to this matter. Please contact me at (804) 217-8560 if you have any questions about this report.

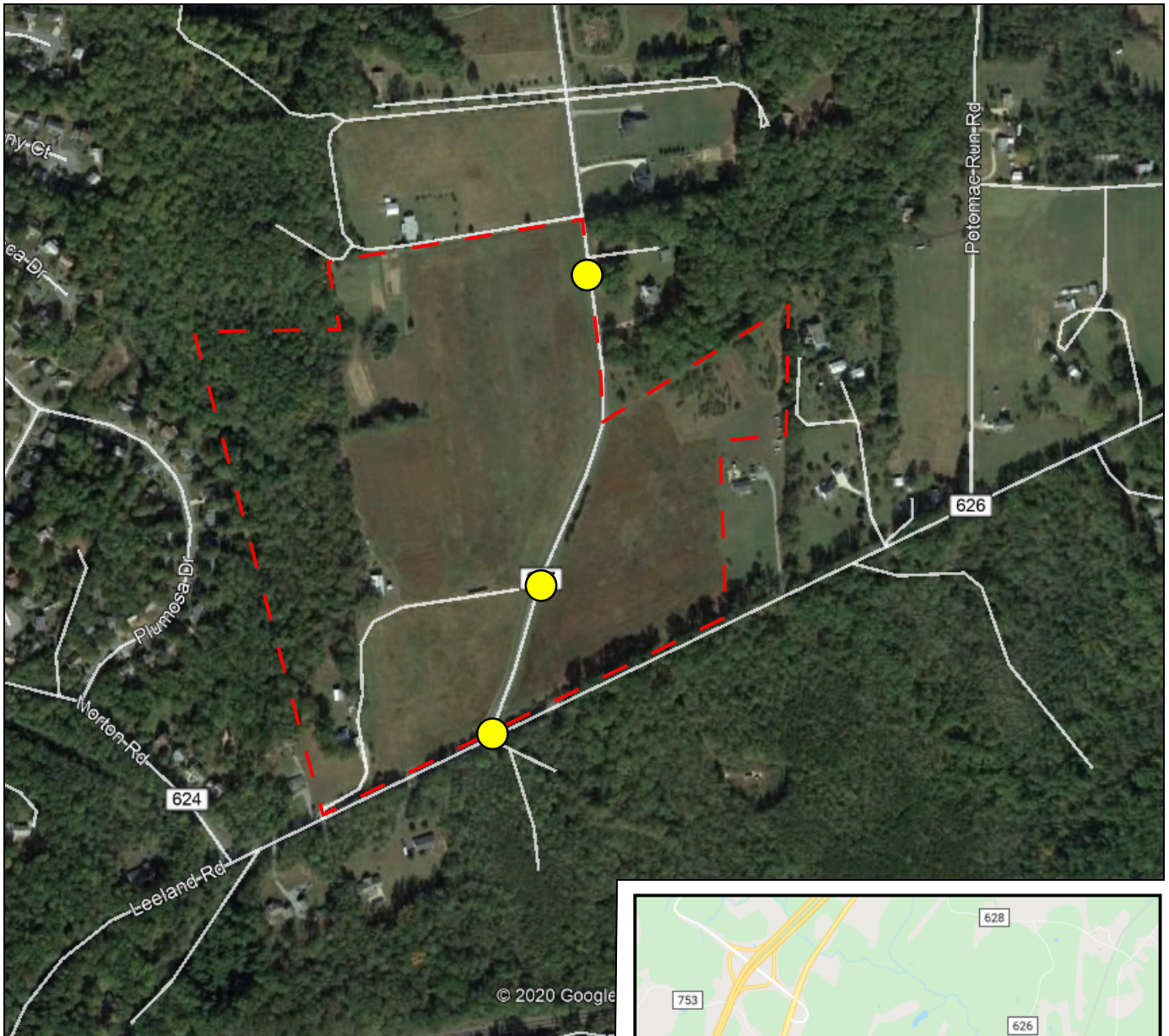
Sincerely yours,  
*Ramey Kemp & Associates, Inc.*



Carl Hultgren, P.E., PTOE  
State Traffic Engineering Lead

Enclosures: Figures, VDOT ADT data, Turn lane warrant diagrams, Synchro output





Inset



**LEGEND**



Study Intersection



Site Boundary



Overview

Moving forward.



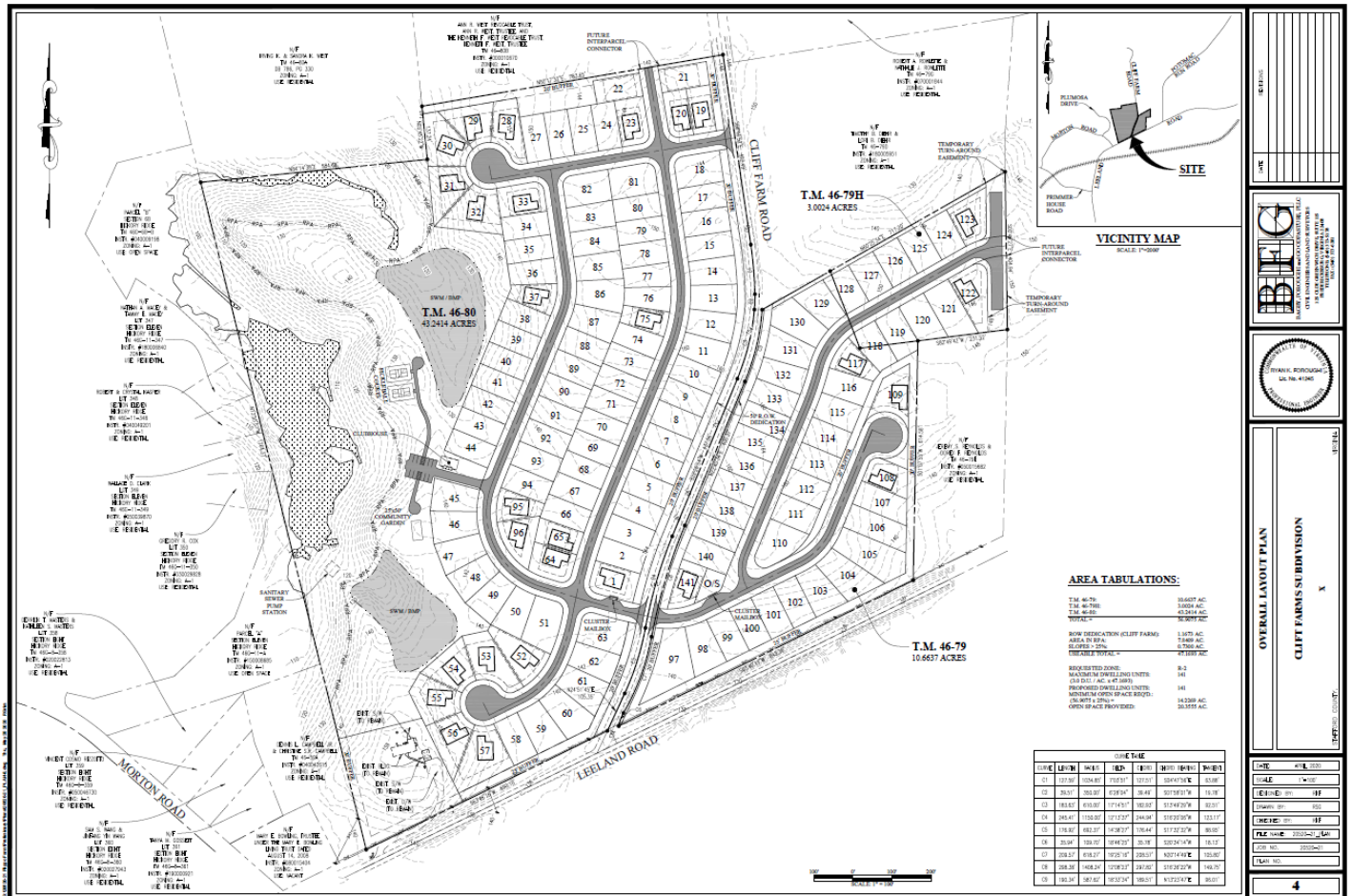
**RAMEY KEMP ASSOCIATES**

**Clift Farm Road**  
Stafford County, Virginia

**Site Location and  
Study Intersections**

Scale: Not to Scale

Figure 1



Moving forward.



Clift Farm Road  
Stafford County, Virginia

Preliminary Site Plan

Scale: Not to Scale

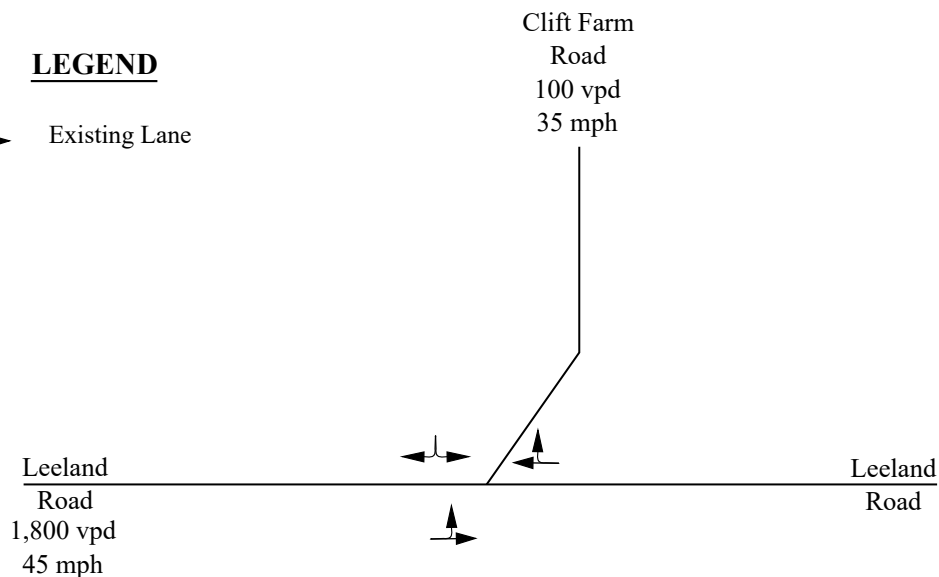
Figure 2



### Existing Lanes

#### LEGEND

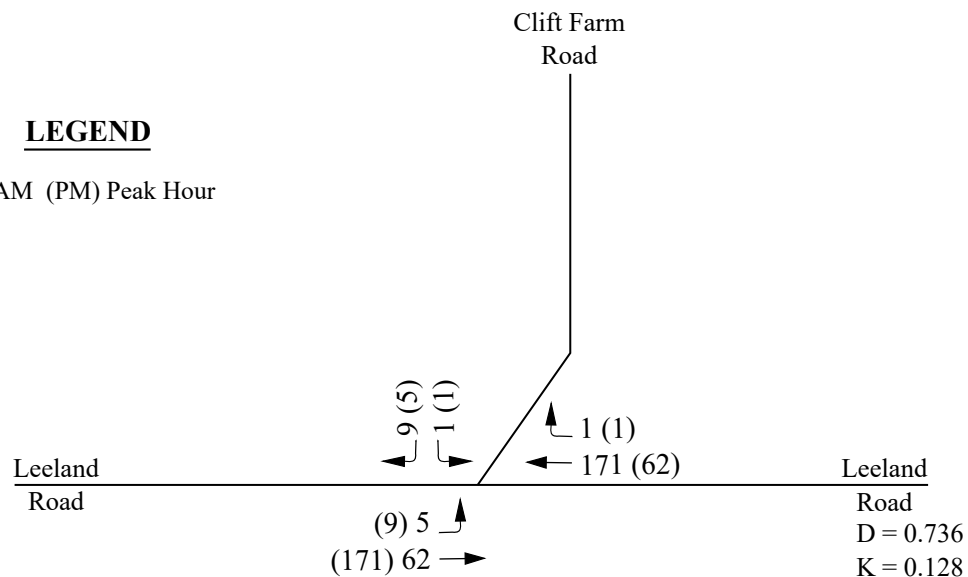
→ Existing Lane



### Existing (2020) Peak Hour Traffic Volumes

#### LEGEND

X (Y) AM (PM) Peak Hour



Moving forward.



RAMEY KEMP ASSOCIATES

Clift Farm Road  
Stafford County, Virginia

Existing Lanes and Peak Hour  
Traffic Volumes

Scale: Not to Scale

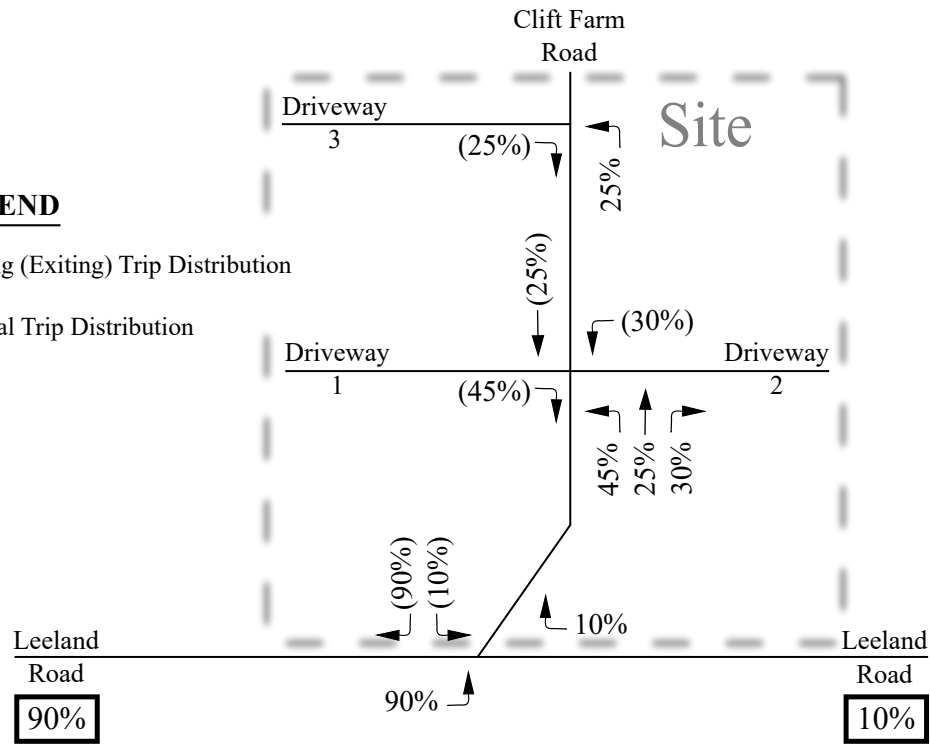
Figure 3

### Site Trip Distribution

**LEGEND**

X% (Y%) Entering (Exiting) Trip Distribution

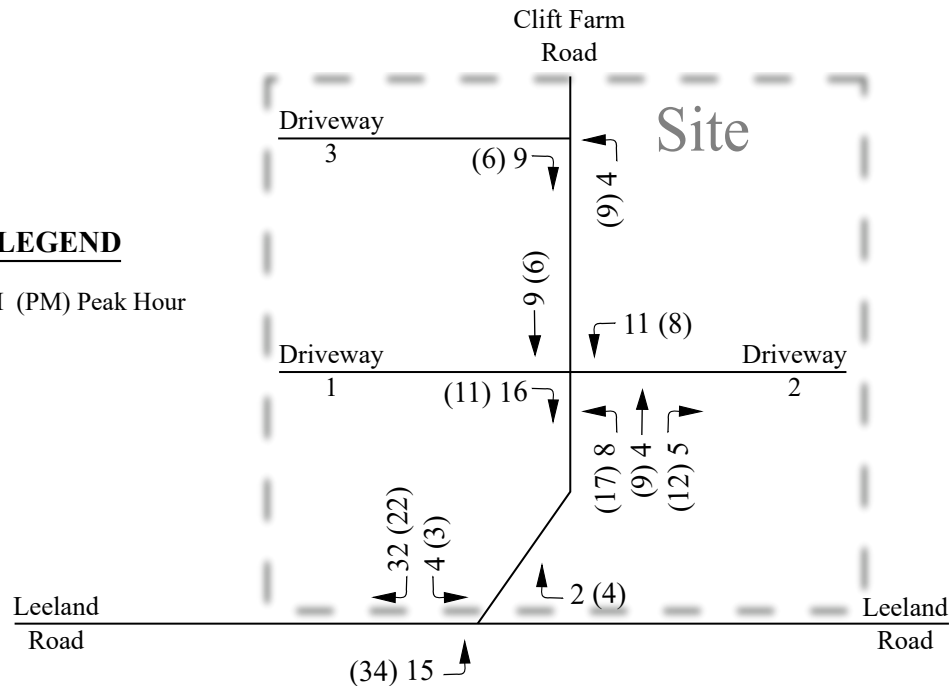
XX% Regional Trip Distribution



### Site Trip Assignment

**LEGEND**

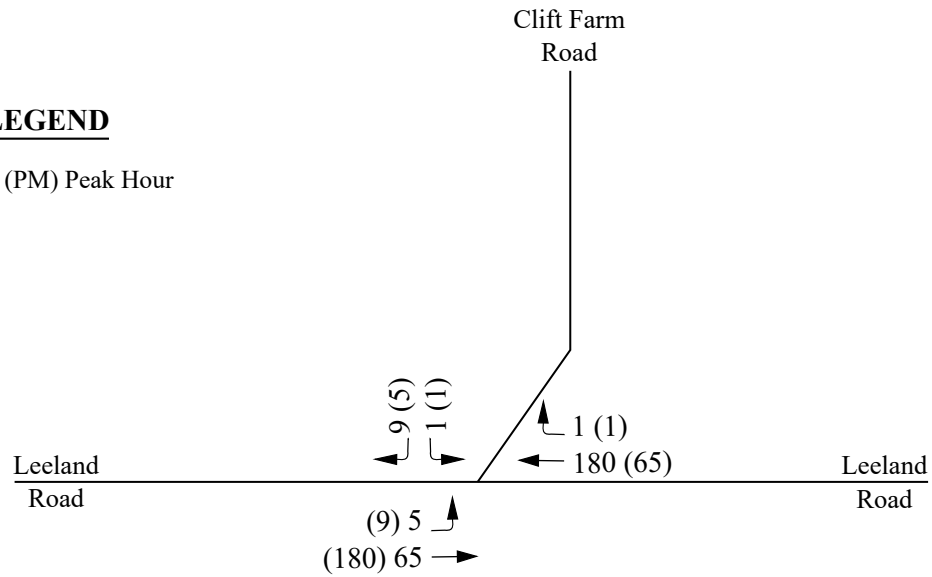
X (Y) AM (PM) Peak Hour





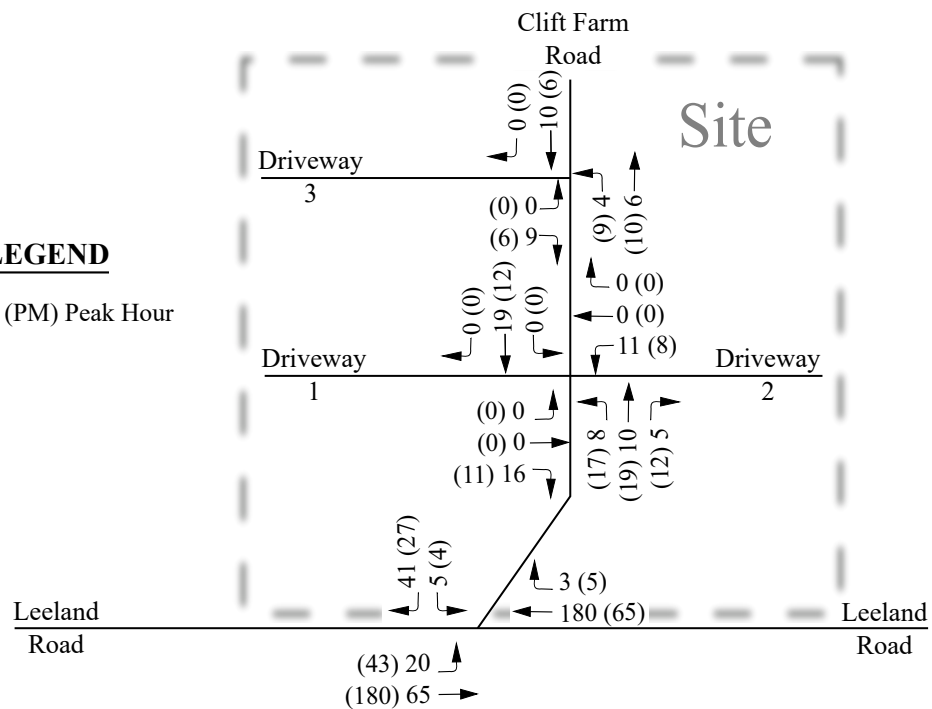
## No-Build (2025) Peak Hour Volumes

**LEGEND**  
X (Y) AM (PM) Peak Hour



## Build (2025) Peak Hour Volumes

**LEGEND**  
X (Y) AM (PM) Peak Hour



Virginia Department of Transportation  
Traffic Engineering Division  
2019  
Annual Average Daily Traffic Volume Estimates By Section of Route  
Stafford Maintenance Area

Route	Length	AADT	QA	4Tire	Bus	-----Truck-----				QC	K Factor	QK	Dir Factor	AAWDT	QW	Year	
						2Axle	3+Axle	1Trail	2Trail								
Stafford County																	
(626) Leeland Rd	0.54	1800	From: 89-624 Morton Rd	G	95%	1%	1%	4%	0%	0%	C	0.128	F	0.736	1900	G	2019
			To: 89-625 Leeland Rd														
(626) Potomac Run Rd	2.33	1700	From: 89-625 Leeland Rd	G	94%	1%	1%	4%	0%	0%	C	0.138	F	0.764	1600	G	2019
			To: 89-628 Eskimo Hill Rd														
(627) Forbes St	2.08	5200	From: US 1 S, Jefferson Davis Hwy	G	99%	0%	0%	0%	0%	0%	C	0.136	F	0.747	5500	G	2019
			To: 89-624 Morton Rd														
(627) Mountain View Rd	0.75	70	From: Cul-de-Sac	G	100%	0%	0%	0%	0%	0%	C	0.194	F	0.583	70	G	2019
			To: 89-8900 Centreport Pkwy														
(627) Mountain View Rd	2.57	6200	From: 89-8900 Centreport Pkwy	G	99%	0%	0%	0%	0%	0%	F	0.103	F	0.656	6100	G	2019
			To: 89-651 Kellogg Mill Rd														
(627) Mountain View Rd	2.27	7200	From: 89-651 Kellogg Mill Rd	G	99%	0%	0%	0%	0%	0%	F	0.101	F	0.622	7100	G	2019
			To: 89-648 N, Shelton Shop Rd														
(627) Mountain View Rd	2.54	3800	From: 89-648 N, Shelton Shop Rd	G	99%	0%	0%	0%	0%	0%	F	0.127	F	0.783	4100	G	2019
			To: 89-643 Joshua Rd														
(627) Mountain View Rd	1.76	4000	From: 89-643 Joshua Rd	G	98%	0%	1%	1%	0%	0%	C	0.096	F	0.642	4300	G	2019
			To: 89-616 Poplar Rd														
(628) Winding Creek Rd	0.14	2700	From: 89-648 Shelton Shop Rd	R								NA			NA		08/20/2018
			To: 89-1282 Glenwood Ave														
(628) Winding Creek Rd	0.13	1800	From: 89-1282 Glenwood Ave	R								NA			NA		08/20/2018
			To: 89-1284 Oaklawn Rd														
(628) Winding Creek Rd	0.49	1600	From: 89-1284 Oaklawn Rd	R								NA			NA		08/20/2018
			To: 89-709 Flatford Rd														
(628) Winding Creek Rd	0.56	2100	From: 89-709 Flatford Rd	R								NA			NA		09/12/2012
			To: 89-733 Embrey Mill Rd														
(628) Winding Creek Rd	0.60	3900	From: 89-733 Embrey Mill Rd	R								NA			NA		09/12/2012
			To: 89-630 E, Courthouse Rd														
(628) Ramoth Church Rd	1.76	2600	From: 89-630 E, Courthouse Rd	G	98%	0%	1%	1%	0%	0%	C	0.161	F	0.809	2600	G	2019
			To: 89-630 W, Courthouse Rd														
(628) Ramoth Church Rd	3.10	2900	From: 89-630 W, Courthouse Rd	G	97%	0%	1%	1%	0%	0%	C	0.136	F	0.918	2800	G	2019
			To: US 1 Jefferson Davis Hwy														
(628) Eskimo Hill Rd	1.77	3000	From: US 1 Jefferson Davis Hwy	G	93%	1%	2%	4%	1%	0%	C	0.122	F	0.737	2900	G	2019
			To: 89-632 Southern View Dr														
(628) Eskimo Hill Rd	1.20	1800	From: 89-632 Southern View Dr	G	97%	1%	1%	1%	0%	0%	C	0.127	F	0.573	1800	G	2019
			To: 89-608 Brooke Rd														
(629) Andrew Chapel Rd	0.89	4800	From: 89-608 Brooke Rd	G	99%	0%	1%	0%	0%	0%	C	0.106	F	0.636	5100	G	2019
			To: 89-648 Shelton Shop Rd														
(630) Courthouse Rd	4.02	11000	From: 89-648 Shelton Shop Rd	G	99%	0%	1%	0%	0%	0%	F	0.102	F	0.661	12000	G	2019
			To: I-95														
(630) Courthouse Rd	0.84	16000	From: I-95	G	97%	1%	1%	1%	1%	0%	C	0.085	F	0.575	18000	G	2019
			To: US 1 Jefferson Davis Hwy														
(630) Courthouse Rd	0.93	8200	From: US 1 Jefferson Davis Hwy	G	99%	0%	1%	0%	0%	0%	F	0.099	F	0.678	8900	G	2019
			To: 89-1345; 89-1557														
(630) Courthouse Rd	1.63	6000	From: 89-1345; 89-1557	G	99%	0%	1%	0%	0%	0%	C	0.107	F	0.653	6400	G	2019
			To: 89-629 Andrew Chapel Rd														
(630) Courthouse Rd	0.96	620	From: 89-629 Andrew Chapel Rd	G	98%	1%	0%	0%	0%	0%	C	0.105	F	0.507	660	G	2019
			To: 89-666 Aquia Creek Rd														

Leeland Road at Clift Farm Road  
Eastbound Left-turn Lane Warrant  
Build (2025) Volumes

F-65

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

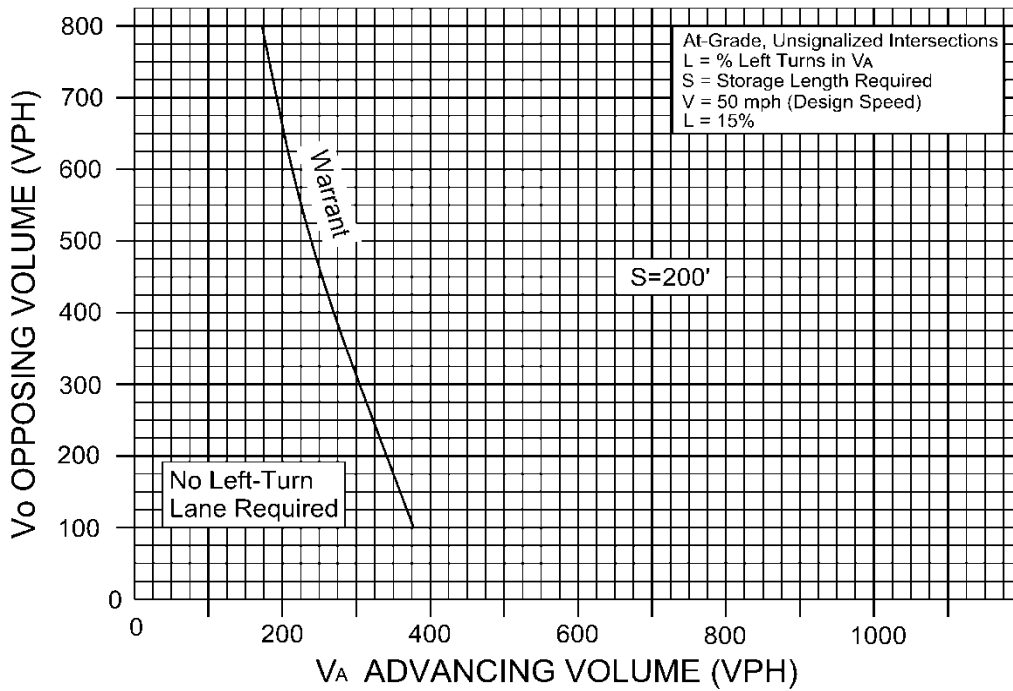


FIGURE 3-13

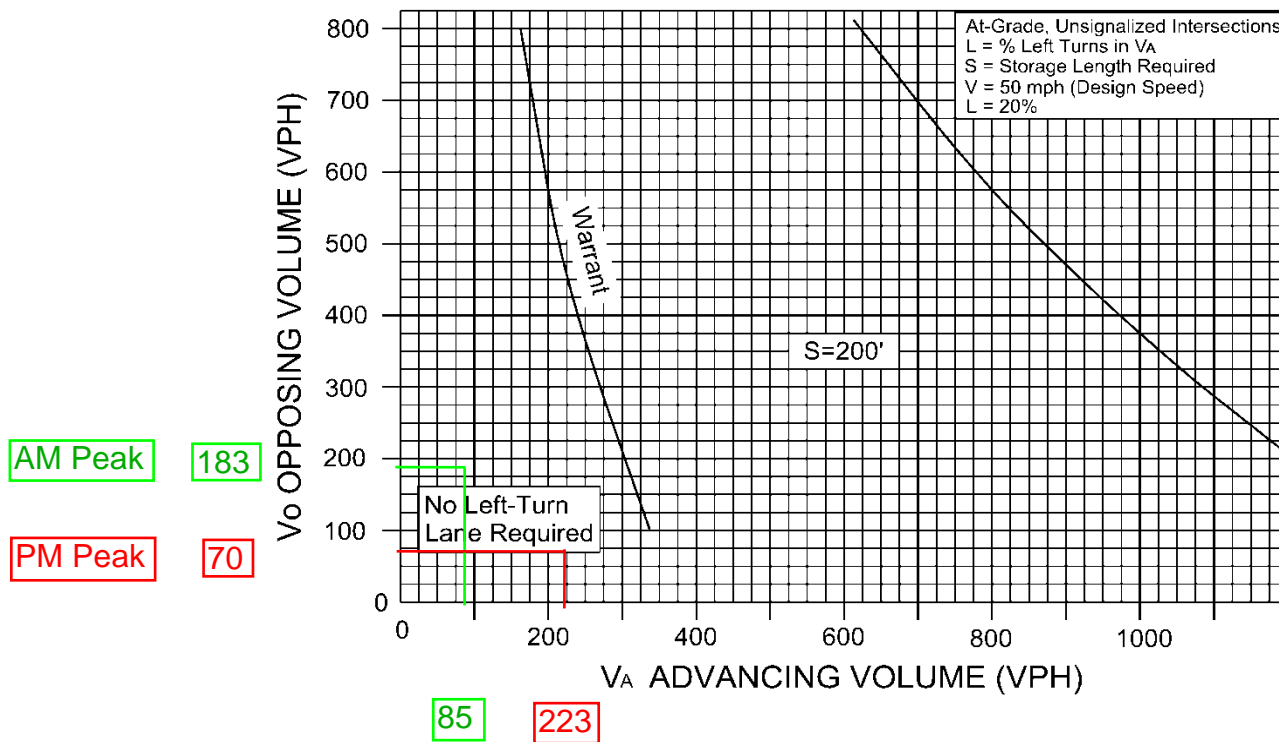
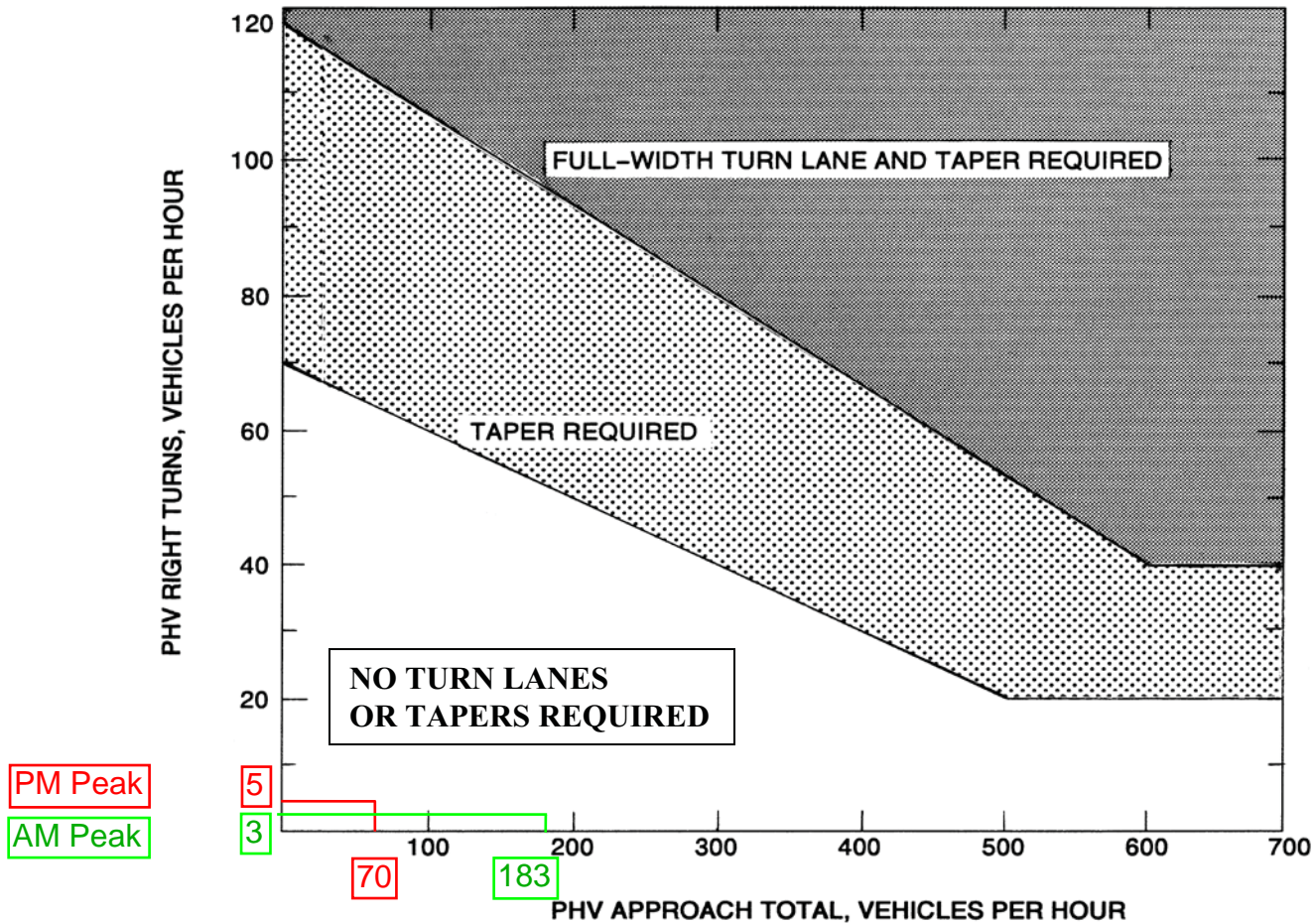


FIGURE 3-14



Appropriate Radius required at all Intersections and Entrances (Commercial or Private).

### LEGEND

**PHV** - Peak Hour Volume (also Design Hourly Volume equivalent)

### Adjustment for Right Turns

For posted speeds at or under 45 mph, PHV right turns > 40, and PHV total < 300.

Adjusted right turns = PHV Right Turns - 20

If PHV is not known use formula:  $PHV = ADT \times K \times D$

K = the percent of AADT occurring in the peak hour

D = the percent of traffic in the peak direction of flow

Note: An average of 11% for K x D will suffice.

When right turn facilities are warranted, see Figure 3-1 for design criteria.\*

**FIGURE 3-26 WARRANTS FOR RIGHT TURN TREATMENT (2-LANE HIGHWAY)**

Cliff Farm Road at Driveway 1  
Northbound Left-turn Lane Warrant  
Build (2025) Volumes

F-63

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

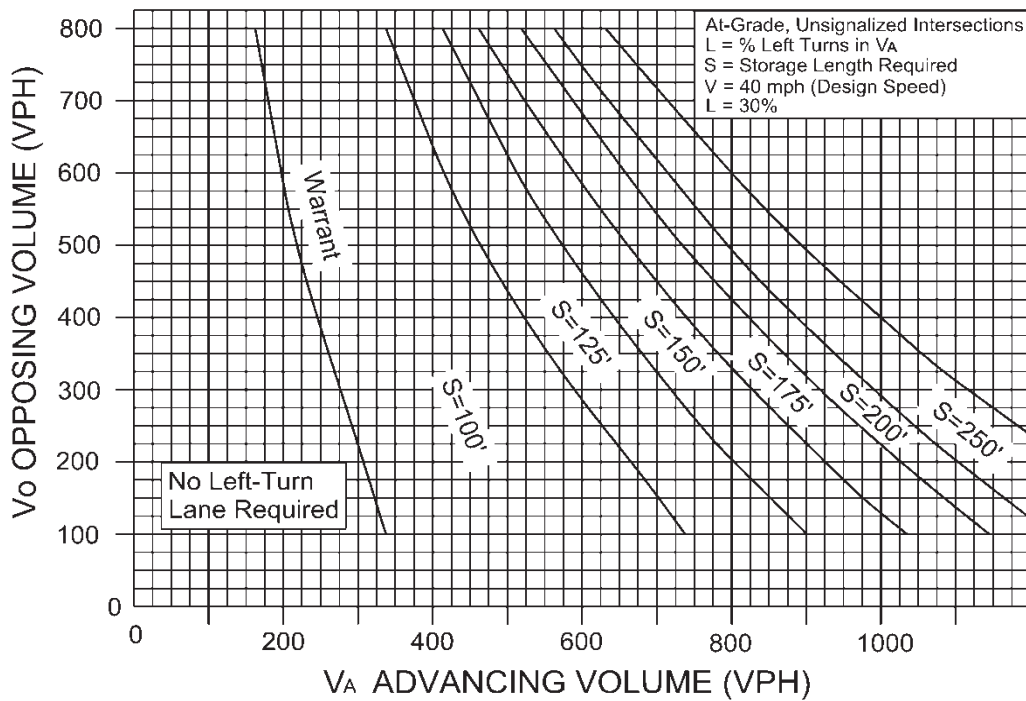
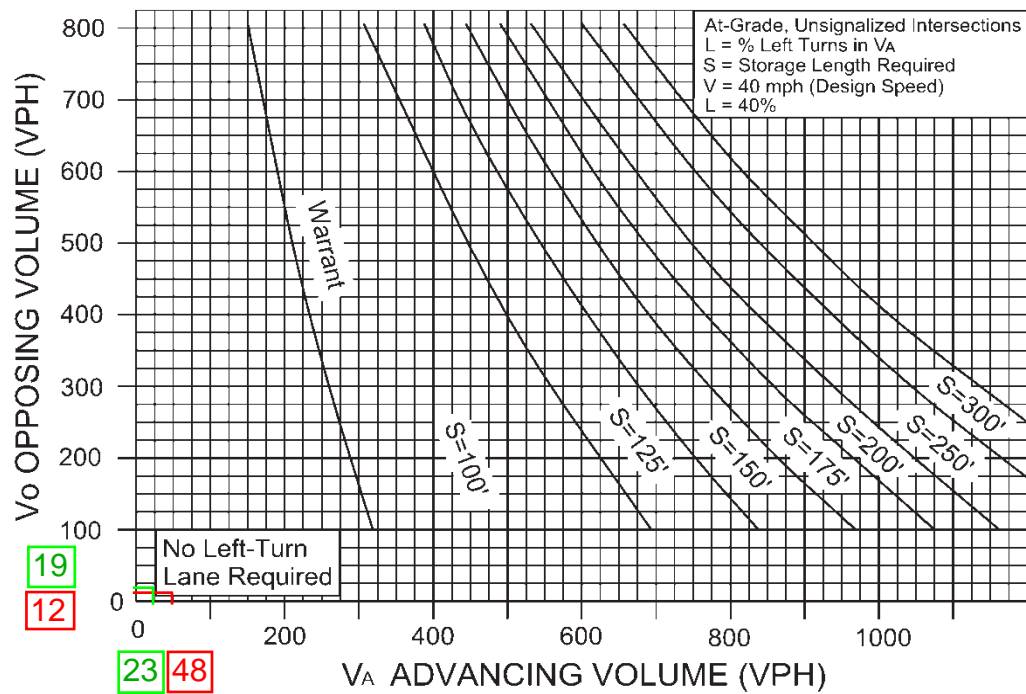


FIGURE 3-9



AM Peak  
PM Peak

19  
12

23 48

FIGURE 3-10



Cliff Farm Road at Driveway 3  
Northbound Left-turn Lane Warrant  
Build (2025) Volumes

F-63

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

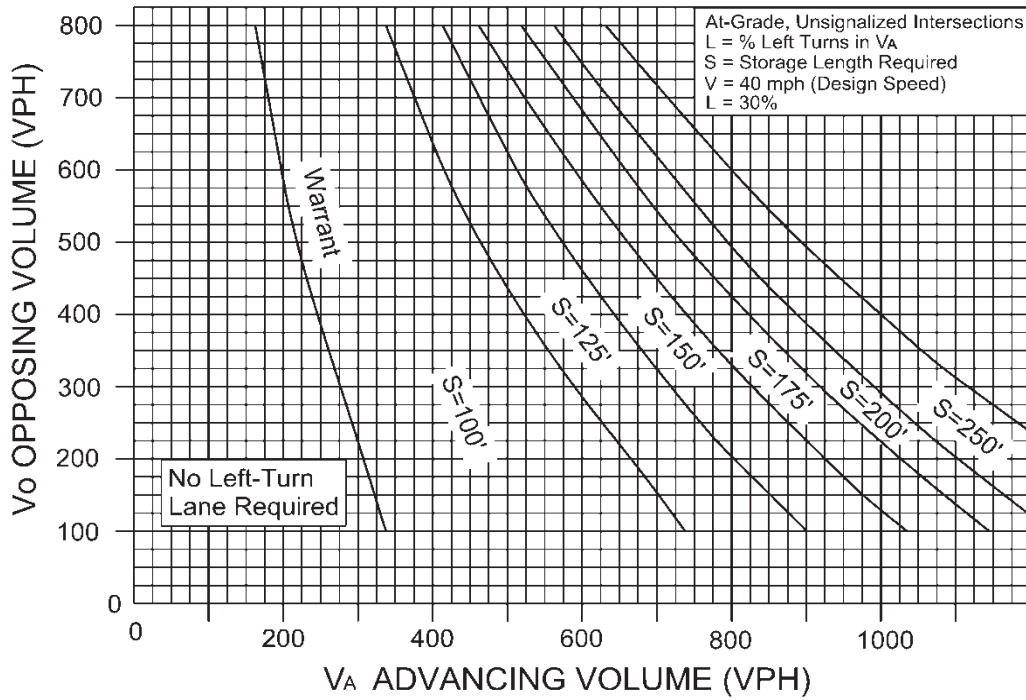
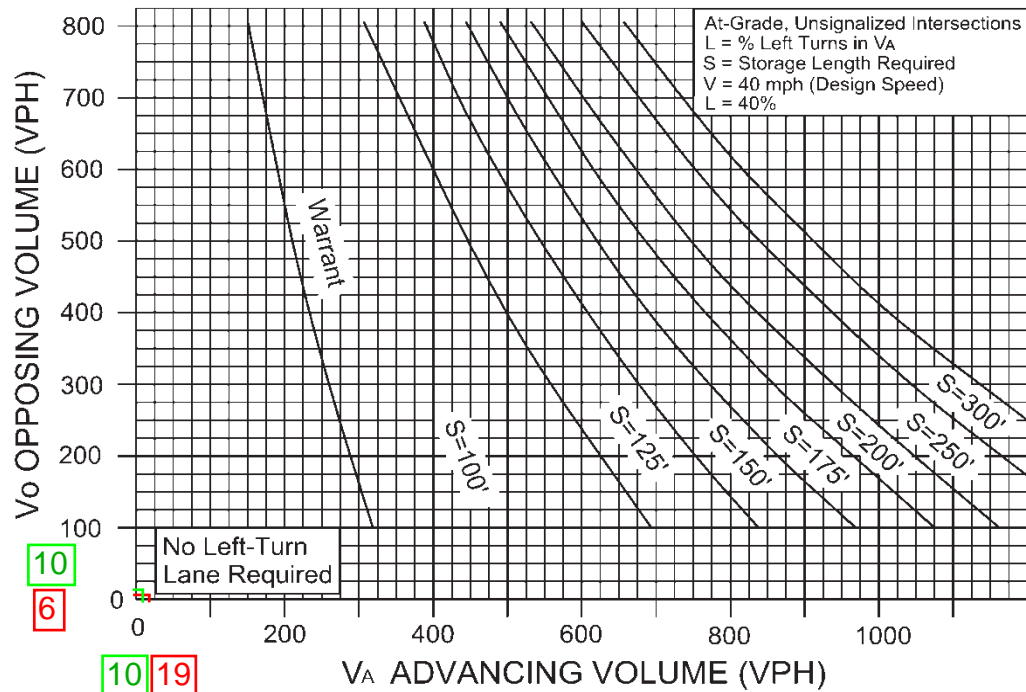


FIGURE 3-9



AM Peak

PM Peak

10

6

10 19

FIGURE 3-10




Clift Farm Road - Stafford, VA  
1: Leeland Road & Clift Farm Road

Existing (2020) Conditions  
Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	5	62	171	1	1	9
Future Vol, veh/h	5	62	171	1	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	67	186	1	1	10

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	187	0	-	0	264	187
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	77	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1387	-	-	-	725	855
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1387	-	-	-	722	855
Mov Cap-2 Maneuver	-	-	-	-	722	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	946	-

Approach EB WB SB

HCM Control Delay, s	0.6	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1387	-	-	-	840
HCM Lane V/C Ratio	0.004	-	-	-	0.013
HCM Control Delay (s)	7.6	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA  
1: Leeland Road & Clift Farm Road

Existing (2020) Conditions  
Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	9	171	62	1	1	5
Future Vol, veh/h	9	171	62	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	186	67	1	1	5

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	68	0	-	0	274	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	206	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1533	-	-	-	716	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	711	995
Mov Cap-2 Maneuver	-	-	-	-	711	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	829	-

Approach EB WB SB

HCM Control Delay, s	0.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1533	-	-	-	933
HCM Lane V/C Ratio	0.006	-	-	-	0.007
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA  
1: Leeland Road & Clift Farm Road

No-Build (2025) Conditions  
Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	5	65	180	1	1	9
Future Vol, veh/h	5	65	180	1	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	71	196	1	1	10

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	197	0	-	0	278	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1376	-	-	-	712	844
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1376	-	-	-	709	844
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	942	-

Approach EB WB SB

HCM Control Delay, s	0.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1376	-	-	-	828
HCM Lane V/C Ratio	0.004	-	-	-	0.013
HCM Control Delay (s)	7.6	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0




Clift Farm Road - Stafford, VA  
1: Leeland Road & Clift Farm Road

No-Build (2025) Conditions  
Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	9	180	65	1	1	5
Future Vol, veh/h	9	180	65	1	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	196	71	1	1	5

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	72	0	-	0	288	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1528	-	-	-	702	990
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1528	-	-	-	697	990
Mov Cap-2 Maneuver	-	-	-	-	697	-
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	820	-

Approach EB WB SB

HCM Control Delay, s	0.4	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1528	-	-	-	925
HCM Lane V/C Ratio	0.006	-	-	-	0.007
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0






Clift Farm Road - Stafford, VA  
1: Leeland Road & Clift Farm Road

Build (2025) Conditions  
Timing Plan: AM Peak Hour

Intersection

Int Delay, s/veh 1.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	20	65	180	3	5	41
Future Vol, veh/h	20	65	180	3	5	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	71	196	3	5	45

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	199	0	-	0	313	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	115	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1373	-	-	-	680	843
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1373	-	-	-	668	843
Mov Cap-2 Maneuver	-	-	-	-	668	-
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	910	-

Approach EB WB SB

HCM Control Delay, s	1.8	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1373	-	-	-	820
HCM Lane V/C Ratio	0.016	-	-	-	0.061
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2




Clift Farm Road - Stafford, VA  
1: Leeland Road & Clift Farm Road

Build (2025) Conditions  
Timing Plan: PM Peak Hour

Intersection

Int Delay, s/veh 1.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	43	180	65	5	4	27
Future Vol, veh/h	43	180	65	5	4	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	194	70	5	4	29

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	75	0	-	0	359	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1524	-	-	-	640	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1524	-	-	-	618	989
Mov Cap-2 Maneuver	-	-	-	-	618	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	763	-

Approach EB WB SB

HCM Control Delay, s	1.4	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1524	-	-	-	918
HCM Lane V/C Ratio	0.03	-	-	-	0.036
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1