



## AGENDA

### COUNCIL OF THE TOWN OF WARRENTON

### WORKSESSION

Thursday, February 9, 2017

7:00 PM

1. Falmouth/Shirley Roundabout
2. Appleton-Campbell Request for Sewer to New Building Location in Fauquier County
3. Economic Development Report
4. Leash Law
5. Rotary Clock
6. Sign Ordinance Working Group and Urban/Village Area Working Group
7. Review of Regular Council Meeting Agenda
8. **CLOSED SESSION**
  - a. Closed Session, as authorized in Section 2.2-3711(A)(1), for the purpose of interviewing Architectural Review Board applicants.
9. Adjourn



**Town Council Work Session  
February 9, 2017  
Falmouth/Shirley Roundabout**

**Agenda Memorandum  
Submitted by: Brannon Godfrey**

**Discussion:** At its January 5, 2017 Work Session, Town Council decided to continue the discussion of the roundabout at the intersection of Falmouth and Shirley to its February Work Session, and following discussion at the January Committee meetings.

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Town Manager

**ATTACHMENTS:**

Description	Type	Upload Date
Jan. 5 Work Session Memo	Staff Report	2/6/2017
Roundabout LOS Pojections	Backup Material	2/6/2017
Roundabout Traffic Analysis	Backup Material	2/6/2017



**MEMORANDUM**

**TO: Honorable Mayor and Town Council**

**FROM: Brannon Godfrey, Town Manager** *J. Brannon Godfrey, Jr.*

**DATE: January 5, 2016**

**SUBJECT: Falmouth/Shirley Mini Roundabout**

In keeping with VDOT's initiative to study the feasibility of roundabouts as design alternatives to signalized intersections, VDOT engaged its consultant to evaluate a roundabout at the intersection of Shirley Avenue and Falmouth Street in the vicinity of Wal-Mart.

The findings indicate that a mini-roundabout with a 75' diameter circle and bypass lanes would improve levels of service at the intersection and is feasible to construct within the existing right-of-way.

The current VDOT Revenue Sharing project for the intersection improvement is funded for a total of \$434,000. \$180,000 of the Town 50% matching share (\$217,000) would come from the Wal-Mart proffer on hand. Based on the preliminary study, a mini-roundabout has the potential to be constructed for the Revenue Sharing amount budgeted. The advantages of a roundabout over a signalized intersection include reduced future operating costs and improved traffic safety.

I would like to get Council's input on the concept of a roundabout at this intersection before proceeding further with design of the intersection improvements. Nathan Umberger, VDOT Regional Traffic Engineering Manager, will be in attendance to discuss the feasibility and to answer any questions you may have.

## MOVEMENT SUMMARY

 Site: [AM Peak - HCM]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: US 15/17/29 Bus											
6	T1	584	0.0	0.577	9.2	LOS A	5.4	135.8	0.28	0.11	22.6
16	R2	184	0.0	0.577	9.2	LOS A	5.4	135.8	0.28	0.11	22.2
Approach		767	0.0	0.577	9.2	LOS A	5.4	135.8	0.28	0.11	22.5
North: US 15 Bus											
7	L2	82	3.0	0.174	6.8	LOS A	0.7	18.2	0.59	0.56	22.7
14	R2	47	3.0	0.174	6.8	LOS A	0.7	18.2	0.59	0.56	22.3
Approach		128	3.0	0.174	6.8	LOS A	0.7	18.2	0.59	0.56	22.5
West: US 17/29 Bus											
5	L2	37	0.0	0.246	5.0	LOS A	1.3	33.0	0.26	0.12	23.6
2	T1	275	0.0	0.246	5.0	LOS A	1.3	33.0	0.26	0.12	23.5
Approach		312	0.0	0.246	5.0	LOS A	1.3	33.0	0.26	0.12	23.5
All Vehicles		1208	0.3	0.577	7.9	LOS A	5.4	135.8	0.31	0.16	22.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

## MOVEMENT SUMMARY



Site: [AM Peak - SIDRA]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: US 15/17/29 Bus											
6	T1	584	0.0	0.739	16.3	LOS B	9.5	238.2	0.42	0.18	21.1
16	R2	184	0.0	0.739	16.3	LOS B	9.5	238.2	0.42	0.18	20.8
Approach		767	0.0	0.739	16.3	LOS B	9.5	238.2	0.42	0.18	21.0
North: US 15 Bus											
7	L2	82	3.0	0.245	10.3	LOS B	1.4	35.6	0.74	0.69	29.9
14	R2	47	3.0	0.245	10.3	LOS B	1.4	35.6	0.74	0.69	29.6
Approach		128	3.0	0.245	10.3	LOS B	1.4	35.6	0.74	0.69	29.8
West: US 17/29 Bus											
5	L2	37	0.0	0.322	7.1	LOS A	2.1	52.9	0.35	0.18	32.2
2	T1	275	0.0	0.322	7.1	LOS A	2.1	52.9	0.35	0.18	32.4
Approach		312	0.0	0.322	7.1	LOS A	2.1	52.9	0.35	0.18	32.4
All Vehicles		1208	0.3	0.739	13.3	LOS B	9.5	238.2	0.44	0.24	23.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akcelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

 Site: [PM Peak - HCM]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: US 15/17/29 Bus											
6	T1	410	0.0	0.399	6.4	LOS A	2.7	68.7	0.14	0.04	23.2
16	R2	130	0.0	0.399	6.4	LOS A	2.7	68.7	0.14	0.04	22.9
Approach		540	0.0	0.399	6.4	LOS A	2.7	68.7	0.14	0.04	23.1
North: US 15 Bus											
7	L2	273	3.0	0.327	7.7	LOS A	1.6	40.4	0.58	0.52	30.5
14	R2	15	3.0	0.327	7.7	LOS A	1.6	40.4	0.58	0.52	30.2
Approach		288	3.0	0.327	7.7	LOS A	1.6	40.4	0.58	0.52	30.5
West: US 17/29 Bus											
5	L2	20	0.0	0.645	12.8	LOS B	6.0	149.9	0.74	0.67	29.9
2	T1	649	0.0	0.645	12.8	LOS B	6.0	149.9	0.74	0.67	30.1
Approach		668	0.0	0.645	12.8	LOS B	6.0	149.9	0.74	0.67	30.0
All Vehicles		1497	0.6	0.645	9.5	LOS A	6.0	149.9	0.49	0.41	27.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: US HCM 2010.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

## MOVEMENT SUMMARY

 Site: [PM Peak - SIDRA]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
East: US 15/17/29 Bus											
6	T1	410	0.0	0.512	9.5	LOS A	4.8	119.1	0.21	0.07	22.5
16	R2	130	0.0	0.512	9.5	LOS A	4.8	119.1	0.21	0.07	22.2
Approach		540	0.0	0.512	9.5	LOS A	4.8	119.1	0.21	0.07	22.4
North: US 15 Bus											
7	L2	273	3.0	0.444	12.1	LOS B	3.0	75.7	0.73	0.68	28.8
14	R2	15	3.0	0.444	12.1	LOS B	3.0	75.7	0.73	0.68	28.5
Approach		288	3.0	0.444	12.1	LOS B	3.0	75.7	0.73	0.68	28.8
West: US 17/29 Bus											
5	L2	20	0.0	0.860	30.2	LOS C	15.1	377.9	1.00	1.07	24.2
2	T1	649	0.0	0.860	30.2	LOS C	15.1	377.9	1.00	1.07	24.3
Approach		668	0.0	0.860	30.2	LOS C	15.1	377.9	1.00	1.07	24.3
All Vehicles		1497	0.6	0.860	19.2	LOS B	15.1	377.9	0.66	0.63	24.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 2010). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

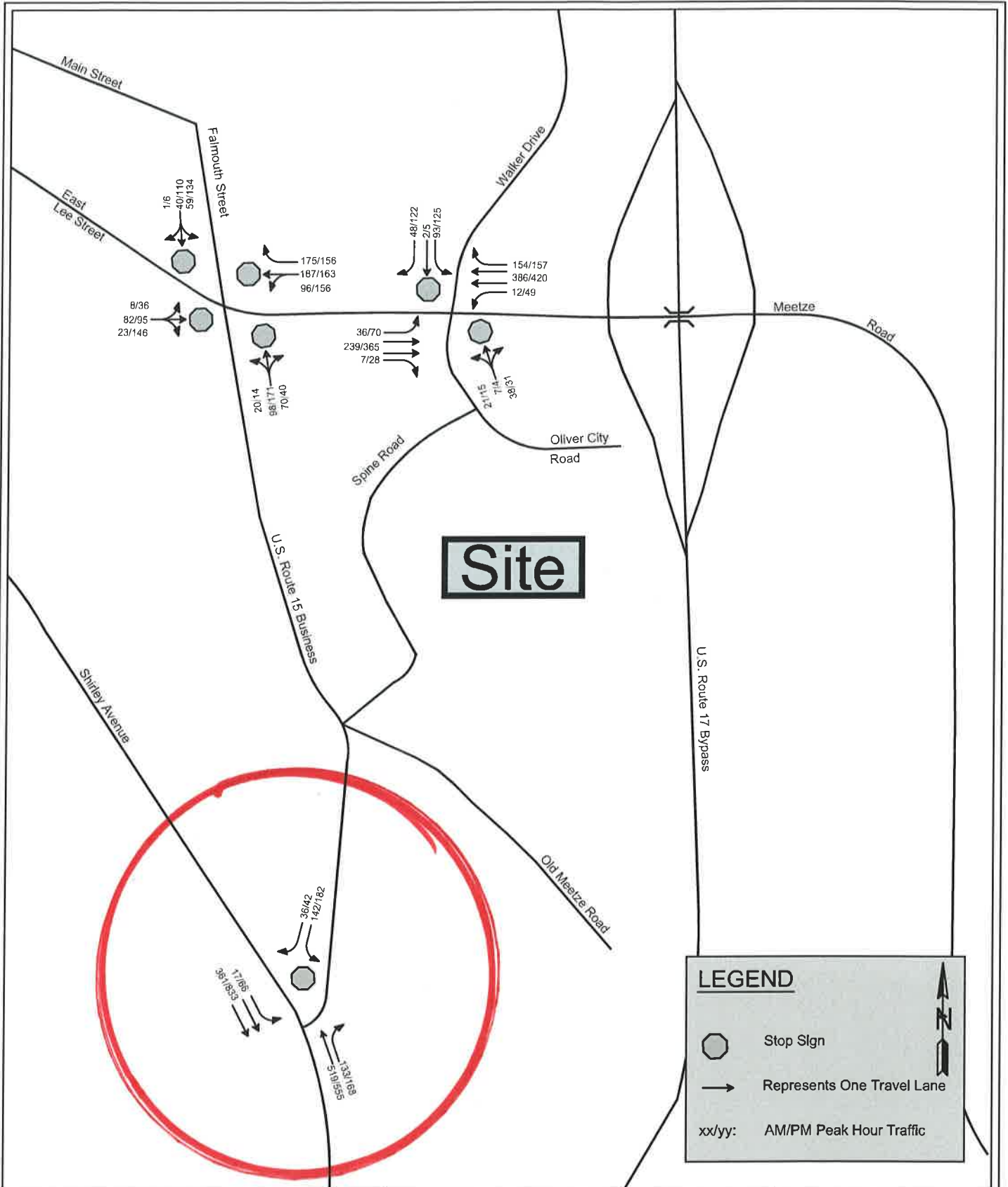
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Start Date: 12/6/2016  
 Start Time: 7:00:00 AM  
 Interseccion: Falmouth St and E Shirley Ave  
 County: Fauquier- Town of Warrenton

Start Time	17/29 Bus E Shirley Ave From North					FALMOUTH 15 BUS From East					17/29 Bus E Shirley Ave From South				
	Right	Thru	Left	Peds		Right	Thru	Left	Peds		Right	Thru	Left	Peds	
07:00 AM	0	67	9	0		16	0	11	0		26	111	0	0	
07:15 AM	0	69	18	0		15	0	19	0		25	128	0	0	
07:30 AM	0	58	4	0		8	0	12	0		52	137	0	0	
07:45 AM	0	59	3	0		4	0	33	0		66	161	0	0	
08:00 AM	1	59	2	0		4	0	26	0		44	108	0	0	
08:15 AM	0	78	4	0		4	0	41	0		37	109	0	0	
08:30 AM	0	81	1	0		3	0	20	0		31	102	0	0	
08:45 AM	0	73	3	0		11	0	27	0		28	111	0	0	
11:00 AM	0	121	4	0		7	0	22	0		20	91	0	0	
11:15 AM	0	95	2	0		7	0	30	0		32	106	0	0	
11:30 AM	0	103	3	0		2	0	28	0		30	103	0	0	
11:45 AM	0	118	3	0		8	0	27	0		29	122	0	0	
12:00 PM	0	134	3	0		6	0	26	0		19	112	0	0	
12:15 PM	0	125	4	0		10	0	36	0		27	121	0	0	
12:30 PM	0	117	1	0		3	0	26	0		23	132	0	0	
12:45 PM	0	128	4	0		7	0	34	0		34	112	0	0	
04:00 PM	0	153	10	0		7	0	50	0		33	101	0	0	
04:15 PM	0	131	9	0		1	0	30	0		35	94	0	0	
04:30 PM	0	155	6	0		5	0	53	0		39	96	0	0	
04:45 PM	0	143	2	0		4	0	50	0		27	84	0	0	
05:00 PM	0	128	7	0		4	0	63	0		26	89	0	0	
05:15 PM	0	171	3	0		1	0	85	0		28	108	0	0	
05:30 PM	0	133	5	0		0	0	37	0		35	114	0	0	
05:45 PM	0	86	3	0		4	0	34	0		22	81	0	0	





## MEMORANDUM

**TO:** Nathan Umberger, PE, PTOE  
VDOT NWRO Regional Traffic Engineering Manager

**FROM:** Andrew Duerr, PE  
Elissa Carron

**DATE:** October 28, 2016

**RE:** Mini-Roundabout Feasibility Study

**WM PROJ. No.:** 214043.0003

**WM PROJ. DESCR.:** US 15 Business at East Shirley Drive (US 17/29 Bus)

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### 1. Introduction

At the request of VDOT's NWRO, Wallace Montgomery (WM) completed a study to evaluate the effectiveness of a mini-roundabout at the intersection of US 15 Business (Falmouth Street) and US 17/29 Business (East Shirley Avenue) in the Town of Warrenton. The study team made the following assumptions at the outset of the project:

- The capacity analyses are based on projected volumes obtained from a recent Traffic Impact Analysis for a nearby development due to time and budget constraints. Current turning movement counts should be obtained to verify the accuracy of the growth projections in the Traffic Impact Analysis.
- Roundabout analyses were completed in accordance with VDOT's *Traffic Operations and Safety Analysis Manual (TOSAM) v1.0*. This procedure is generally understood to provide conservative results compared to other roundabout capacity models.
- This study was constrained to the subject intersection to determine the feasibility of various alternatives. It did not consider the effects of adjacent intersections on the study intersection or vice versa. An additional study is required to determine the interaction of the intersections along the corridor (e.g. the signalized option, as modelled herein, may appear to operate more efficiently without consideration of adjacent intersections).

Initial analyses indicated that a single-lane mini-roundabout would operate poorly during current year peak periods. Therefore, WM completed analyses for the following alternatives:

- 75' Diameter Mini-Roundabout with Bypass Lanes,
  - 100' Diameter Single Lane Roundabout, and a
  - Signalized Alternative (no widening).
-

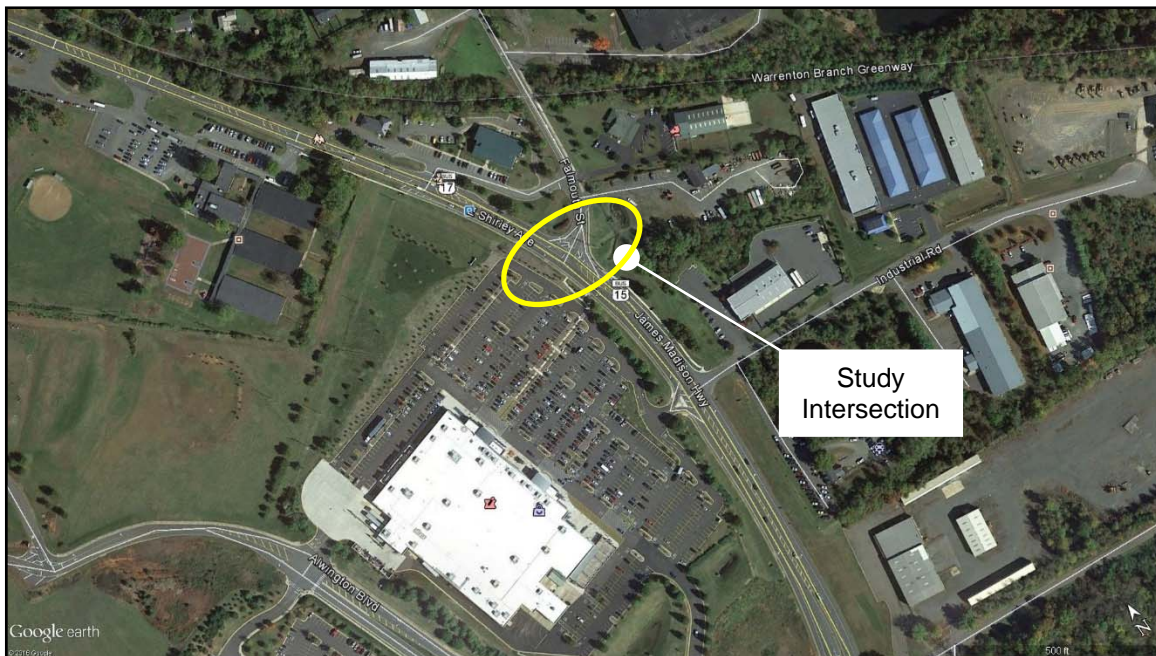


### 1.1 Location & Context

US 15 Business and US 17/29 Business are classified as minor arterial roadways in the vicinity of the study intersection. US 17 begins at I-66 to the north and continues to SR 342 near Culpepper. Approximately 1 mile south of the study intersection, US 17 intersects US 15 and continues as US 15/17/29 (James Madison Highway). At the study intersection, southbound East Shirley Avenue (US 17/29 Bus) is uncontrolled with one 12-foot through lane, one 11-foot left turn lane and one 11-foot lane that terminates as a right turn into Walmart just south of the intersection. US 15 Business consists of a channelized, stop-controlled, 15-foot right-turn lane, and an 11-foot left-turn lane. East Shirley Avenue has a posted speed limit of 40 mph, and Falmouth Street is posted at 25 mph.

The land use immediately surrounding the intersection is a mix of commercial, institutional, light industrial, and residential.

A location map is provided in **Figure 1**.



**Figure 1. Location Map**

### 1.2 Traffic Volumes

Peak hour volumes forecasted for 2017 were provided in the Mosby's Crossing Traffic Impact Analysis (TIA) Supplement dated August 2013. The TIA Supplement assumed 1.5% annual traffic growth from 2013 to 2017 for all movements. The Peak Hour Volumes for 2017 are included in **Appendix A**.



### 1.3 Future Traffic Conditions – No-Build Scenario

The TIA included analyses of the study intersection for both the 2017 AM and PM peak periods. As **Table 1** indicates, the westbound US 15 Business approach is expected to experience significant delay during the PM peak period.

Table 1. Mosby's Crossing TIA Supplement Total Future Traffic Conditions								
			NB US 15/17/29		SB Shirley Ave		WB US 15 Business	
			TH	RT	LT	TH	LT	RT
<b>No-Build (Unsignalized)</b>	AM	LOS	A		A		C	
		v/c	0.33	0.09	0.02	0.12	0.49	0.49
		Queue	0		2		65	
		Delay	0.0		0.4		24.0	
	PM	LOS	A		A		F	
		v/c	0.35	0.11	0.09	0.27	1.28	1.28
		Queue	0		7		338	
		Delay	0.0		0.7		210.8	

### 1.4 Signal Warrant Analysis

An abbreviated signal warrant analysis was completed using the peak hour volumes from the TIA supplement. Because we were limited to peak hour volumes, the warrant analysis could only be completed for warrant 3. Although the intersection met warrant 3 conditions using 100% values, we recommend that crash data, 12-hour volumes, and pedestrian volumes be collected to complete a full warrant analysis. The abbreviated Signal Warrant Analysis is included in **Appendix B**.

## 2. Operational Analyses

An operational analyses was completed for a 75' mini-roundabout, a compact (100') single lane roundabout, and a signalized alternative using the 2017 peak hour traffic volumes in accordance with VDOT policy and guidance. Concept plans for the roundabout alternatives were also developed, which are included in **Appendix C**. Each roundabout can accommodate the anticipated design vehicles (WB-67's and buses) and 2017 traffic volumes.

### 2.1 Mini-Roundabout

Capacity formulas for mini-roundabouts in the US are in their infancy. FHWA personnel studied the capacity of several mini-roundabouts, developed capacity formulas, and published their findings in the November 2012 ITE Journal ("Mini-Roundabouts for the United States and Traffic Capacity Models"). Using these capacity equations, volume to capacity ratios (v/c) were calculated for the mini-roundabout options with and without a bypass lane (see **Table 2**). To simulate the effects of installing bypass lanes, the northbound right turns were removed and reduced the southbound through movement by 80 percent (assuming 20% turn right into the Walmart parking lot).



Table 2. 2017 Mini-Roundabout Capacity Analyses					
			NB US 15/17/29 TH/RT	SB Shirley Avenue LT/TH	WB US 15 Bus LT/RT
Without Bypass Lanes	AM	LOS			
		v/c	0.65	0.43	0.35
		Queue (ft)			
		Delay (sec/veh)			
	PM	LOS			
		v/c	0.76	1.06	0.46
		Queue (ft)			
		Delay (sec/veh)			
With Bypass Lanes	AM	LOS			
		v/c	0.52	0.43	0.35
		Queue (ft)			
		Delay (sec/veh)			
	PM	LOS			
		v/c	0.58	0.86	0.46
		Queue (ft)			
		Delay (sec/veh)			

## 2.2 Compact Single-Lane Roundabout

LOS, delay, and 95<sup>th</sup> percentile queue length values for a compact single-lane roundabout are summarized in **Table 3**. The analysis for the single-lane roundabout was completed using SIDRA analysis software with criteria and assumptions listed in VDOT's "Traffic Operations and Safety Analysis Manual (TOSAM) v1.0". Detailed reports are included in **Appendix D**. A full-size roundabout with bypass lanes was not considered due to right-of-way constraints.

A supplemental analyses was also performed using a spreadsheet based on forthcoming HCM 2015 roundabout capacity formulas (see **Table 4**). The new formulas are based on recent research sponsored by FHWA to improve the accuracy of the HCM 2010 roundabout capacity models. The study is available at: <http://safety.fhwa.dot.gov/intersection/innovative/roundabouts/docs/fhwasa15070.pdf>.

## 2.1 Signalized Intersection (No Widening)

LOS, delay values and 95<sup>th</sup> percentile queue lengths for the signal controlled intersection are also summarized in **Table 3**. The analysis for the Signal Controlled option was completed using Synchro HCM Analysis Software. Detailed reports are included in **Appendix D**. It should be noted that analysis was not completed for the adjacent signal at US 17 Business and Alwington Blvd which is less than a quarter mile down the road and may impact the results of the analysis.





Table 3. 2017 Capacity Analyses – Alternatives Comparison								
			NB US 15/17/29		SB Shirley Ave		WB US 15 Business	
			TH	RT	LT	TH	LT	RT
Signal	AM	LOS	A		A		C	
		v/c	0.42	0.09	0.03	0.18	0.56	0.02
		Queue (ft)	145		107		125	
		Delay (sec/veh)	5		4		32	
	PM	LOS	A		A		C	
		v/c	0.46	0.12	0.14	0.36	0.64	0.03
		Queue (ft)	197		158		116	
		Delay (sec/veh)	6		5		35	
Single Lane Roundabout	AM	LOS	B		A		A	
		v/c	0.65		0.45		0.28	
		Queue (ft)	160		260		40	
		Delay (sec/veh)	13		9		9	
	PM	LOS	C		F		B	
		v/c	0.77		1.08		0.393	
		Queue (ft)	260		1340		60	
		Delay (sec/veh)	18		75		11.5	

Table 4. Alternative Roundabout Capacity (HCM 2015)								
			NB US 15/17/29		SB Shirley Ave		WB US 15 Business	
			TH	RT	LT	TH	LT	RT
Single Lane Roundabout	AM	LOS	A		A		A	
		v/c	0.53		0.36		0.26	
		Queue (ft)	84		42		26	
		Delay (sec/veh)	8		8		7	
	PM	LOS	B		D		A	
		v/c	0.63		0.89		0.34	
		Queue (ft)	119		329		38	
		Delay (sec/veh)	11		26		9	

### 3. Findings & Observations

As a general rule of thumb, roundabouts usually provide more capacity than similarly sized signalized intersections. In this case, the signalized alternative is larger (i.e. provides more lanes) than the competing roundabout alternatives – and, therefore, the signalized alternative provides superior operations during peak hours. Additional findings and observations are as follows:

- The intersection meets traffic signal warrant 3 based on the information in the TIA. We recommend that crash data, 12-hour counts, and pedestrian counts be collected to complete a full warrant analysis. If warrants are not met, it is likely more appropriate to compare the unsignalized (no-build) alternative to the roundabout alternatives.



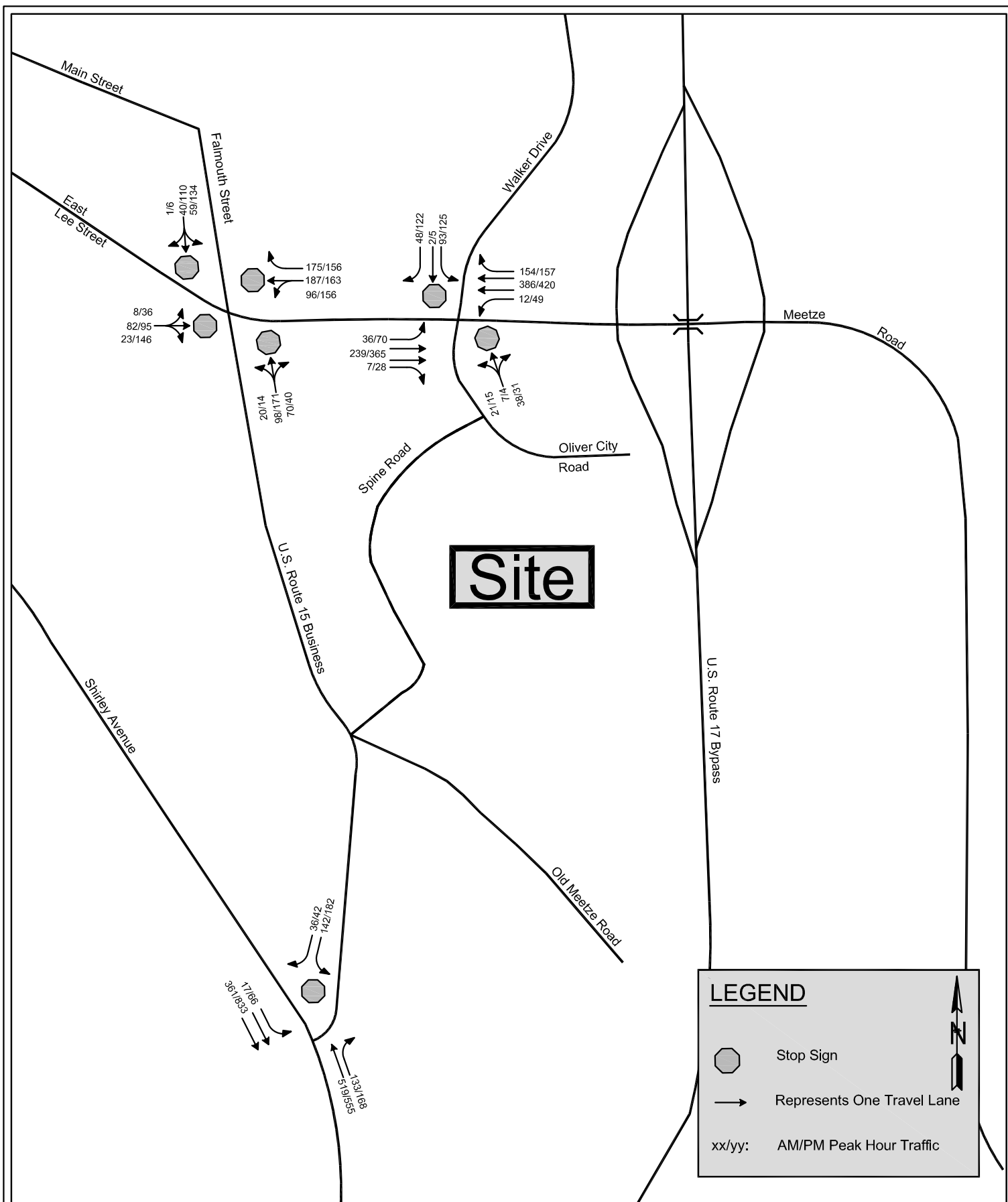
- Further study is required to assess the impacts of adjacent intersections on the operations for the signalized and roundabout alternatives.
- As the data indicates, both the mini-roundabout (with bypass lanes) and signal controlled intersections are expected to provide acceptable operations during peak hour conditions – although one approach on the mini-roundabout is close to the threshold v/c ratio (0.90) during the 2017 PM peak hour.
- SIDRA analyses suggest that the southbound approach to the single lane roundabout will operate poorly during the PM peak period in 2017. WM performed supplement analyses using a spreadsheet based on forthcoming HCM 2015 roundabout capacity formulas. These analyses suggest better operation than does SIDRA, although the v/c ratio on the critical leg (SB approach) is 0.89. Roundabout capacity declines rapidly at v/c ratios above 0.90.
- The mini-roundabout option is complicated by the need for bypass lanes. Although more common in Europe, there are no similar mini-roundabouts in the US. This option may be undesirable due to driver unfamiliarity and the potential for improper lane use leading to weaving conflicts between the roundabout and the Walmart entrance.
- The compact single-lane roundabout is a viable alternative if the District and the Town are comfortable with less than desirable operations during the PM peak hour. Beyond operations, there are a number of reasons to consider the single lane roundabout.
  - First, it simplifies the intersection and reduces potential conflict points.
  - Second, it is likely to operate more safely than signalized and unsignalized alternatives.
  - Third, it is likely to operate more efficiently than signalized and unsignalized alternatives during the majority of the day (i.e. all but the peak hours).
  - Fourth, it would provide traffic calming along the corridor, reducing vehicular speeds and facilitating access management north and south of the roundabout.
  - And fifth, it is more aesthetically pleasing and could serve as a gateway to the Town.
- Both roundabout alternatives, as currently drawn, result in pavement widening – although the widening occurs within VDOT right-of-way.
- VDOT and/or the Town could obtain current turning movement counts to improve the accuracy of these analyses.



## **Appendix A**

# **Peak Hour Volumes**







## **Appendix B**

# **Signal Warrant Analysis**

## MUTCD Signal Warrant Analysis Summary: Warrenton Roundabout

2017 Volumes

MUTCD Warrant		Description	Met?	Notes
1	Eight-Hour Vehicular Volume	The volumes of traffic on the major and minor streets meet specified minimum amounts for at least 8 hours of an average weekday. Either of two sets of minimum criteria may be used.	Not Enough Data	
2	Four-Hour Vehicular Volume	For any four hours of an average day, the points representing major and minor street volumes plot above a specified curve.	Not Enough Data	
3	Peak Hour	For at least one hour of an average day, minor street traffic exceeds a minimum volume and suffers at least a specified amount of total delay, or the points representing major and minor street volumes plot above a specified curve. This warrant only applies to unusual cases involving large traffic generators.	Met	
4	Pedestrian Volume	The volume of pedestrian traffic crossing a major street at an intersection or mid-block location must meet minimum values for either a single hour or any four hours of an average weekday.	N/A	
5	School Crossing	The frequency and adequacy of gaps in the traffic stream must not otherwise be sufficient for the number of children crossing.	N/A	
6	Coordinated Signal System	Signalized control is required to maintain proper grouping of vehicles in a coordinated, progressive signal system.	N/A	
7	Crash Experience	Five or more reported crashes of type susceptible to control by a traffic signal have occurred at the location within a 12-month period. Other less restrictive remedies and enforcement have failed to reduce accidents. Either Warrant 1 or Warrant 2 is at least 80% met. A signal will not seriously disrupt traffic flow.	Need crash data	
8	Roadway Network	An intersection of two major routes has either high five-year projected peak-hour traffic volumes or high volumes for at least five hours on an average Saturday and/or Sunday.	N/A	
9	Intersection Near Grade Crossing	The intersection is within 140 feet of a grade crossing on and intersection approach controlled by a STOP or YIELD sign and the points representing major and minor street volumes plot above a specified curve.	N/A	

Location: US 15 Bus at Shirley Ave  
Date: 2017 Volumes  
County: Fauquier  
Town: Warrenton

Warrant 1 Analysis Summary

AM Peak  
PM Peak

100% Condition A	
Minor	Major
150	600
Y	Y
Y	Y

100% Condition B	
Minor	Major
75	900
Y	Y
Y	Y

80% Condition A	
Minor	Major
120	480
Y	Y
Y	Y

80% Condition B	
Minor	Major
60	720
Y	Y
Y	Y

VOLUMES			
Minor Street	Major Street	Total Analysis	RANK
178	1030		
224	1622		

70% Condition A	
Minor	Major
105	420
Y	Y
Y	Y

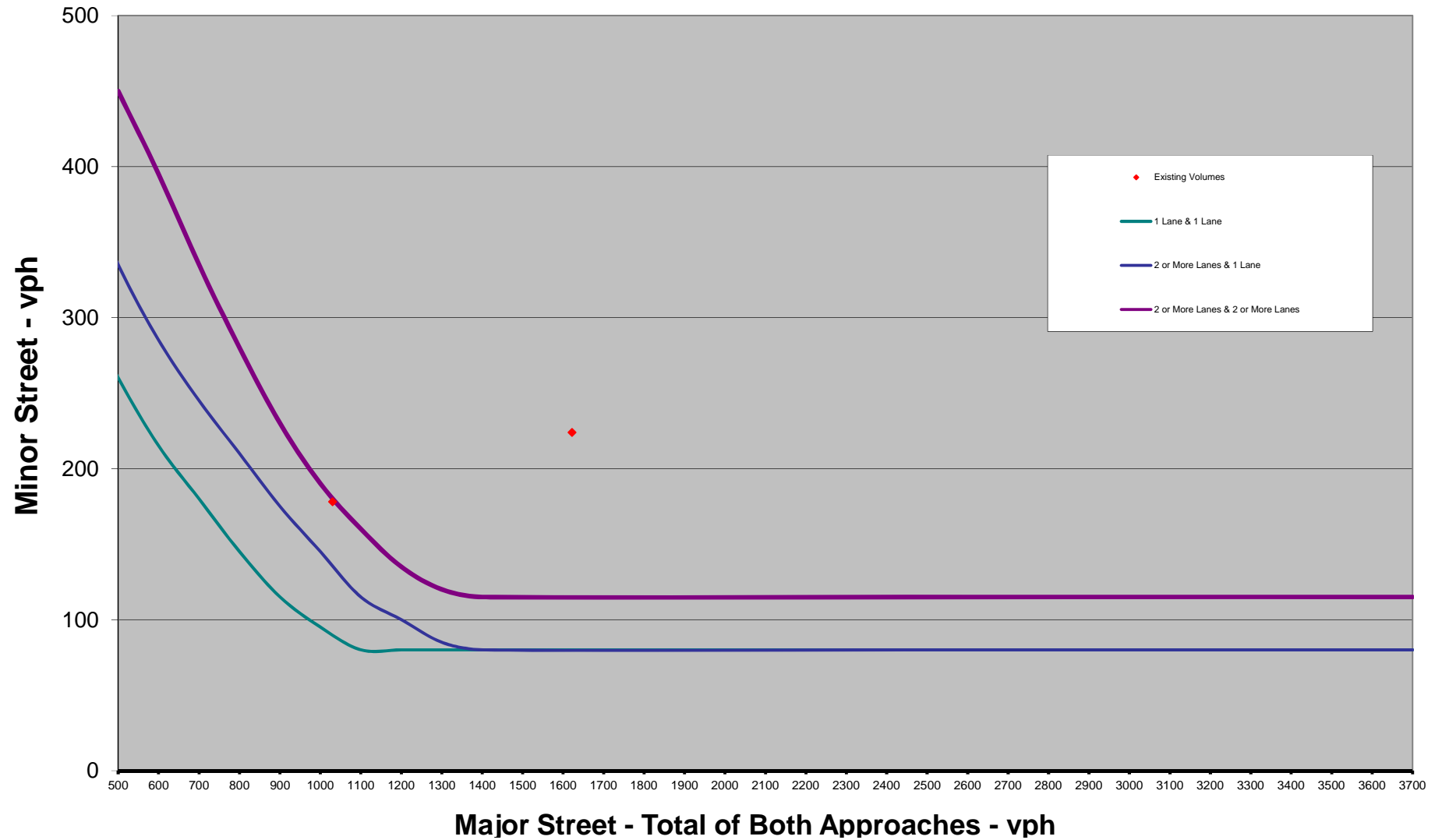
70% Condition B	
Minor	Major
53	630
Y	Y
Y	Y

56% Condition A	
Minor	Major
84	336
Y	Y
Y	Y

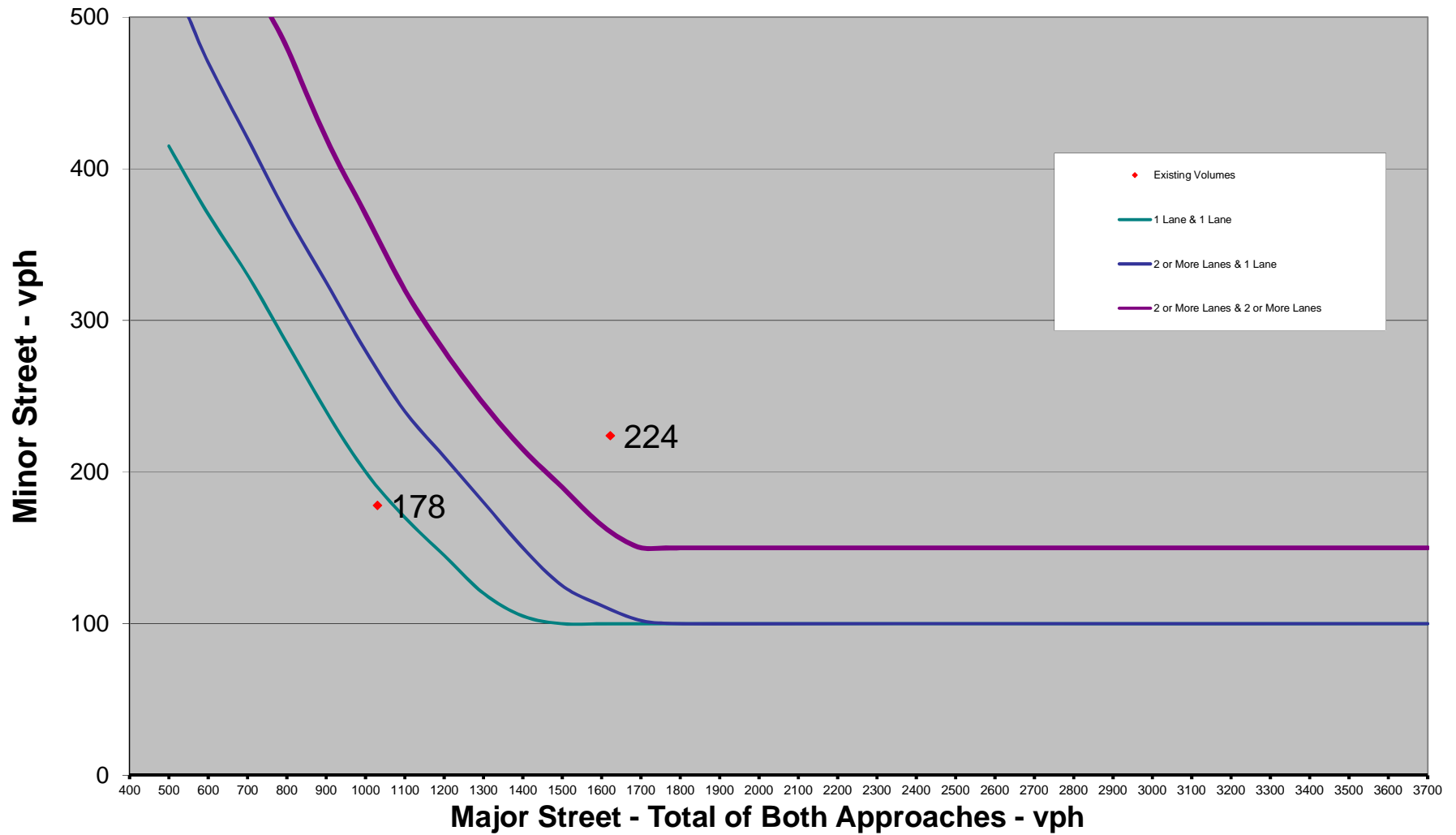
56% Condition B	
Minor	Major
42	504
Y	Y
Y	Y


- Warrant 1 100% Condition A
- Warrant 1 100% Condition B
- Warrant 1 80% Combination A and B
  
- Warrant 1 70% Condition B
- Warrant 1 56% Combination A and B

## Warrant 2 - Four Hour Vehicular Volume - 100%



### Warrant 3 - Peak Hour Vehicular Volume - 100%

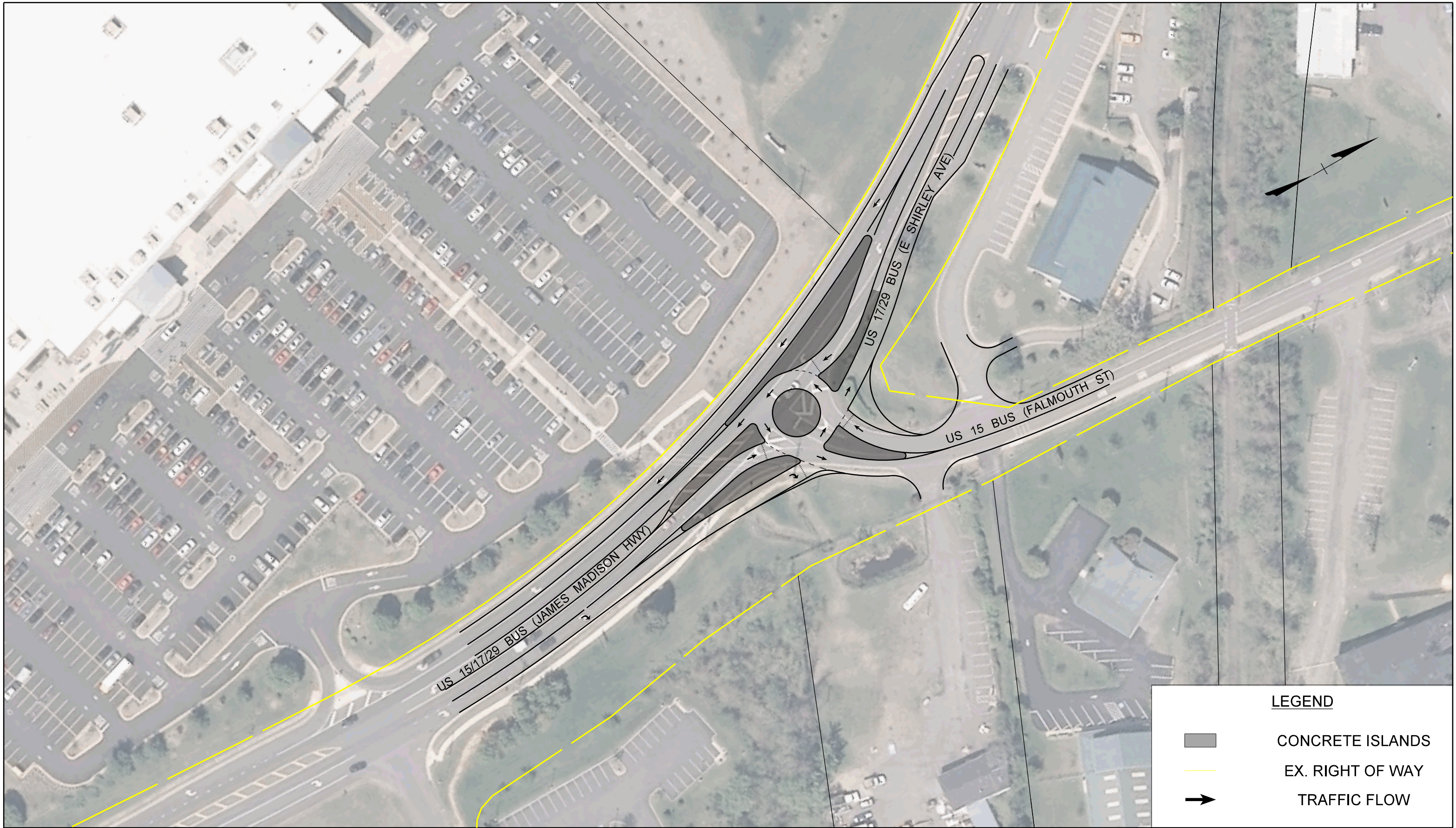




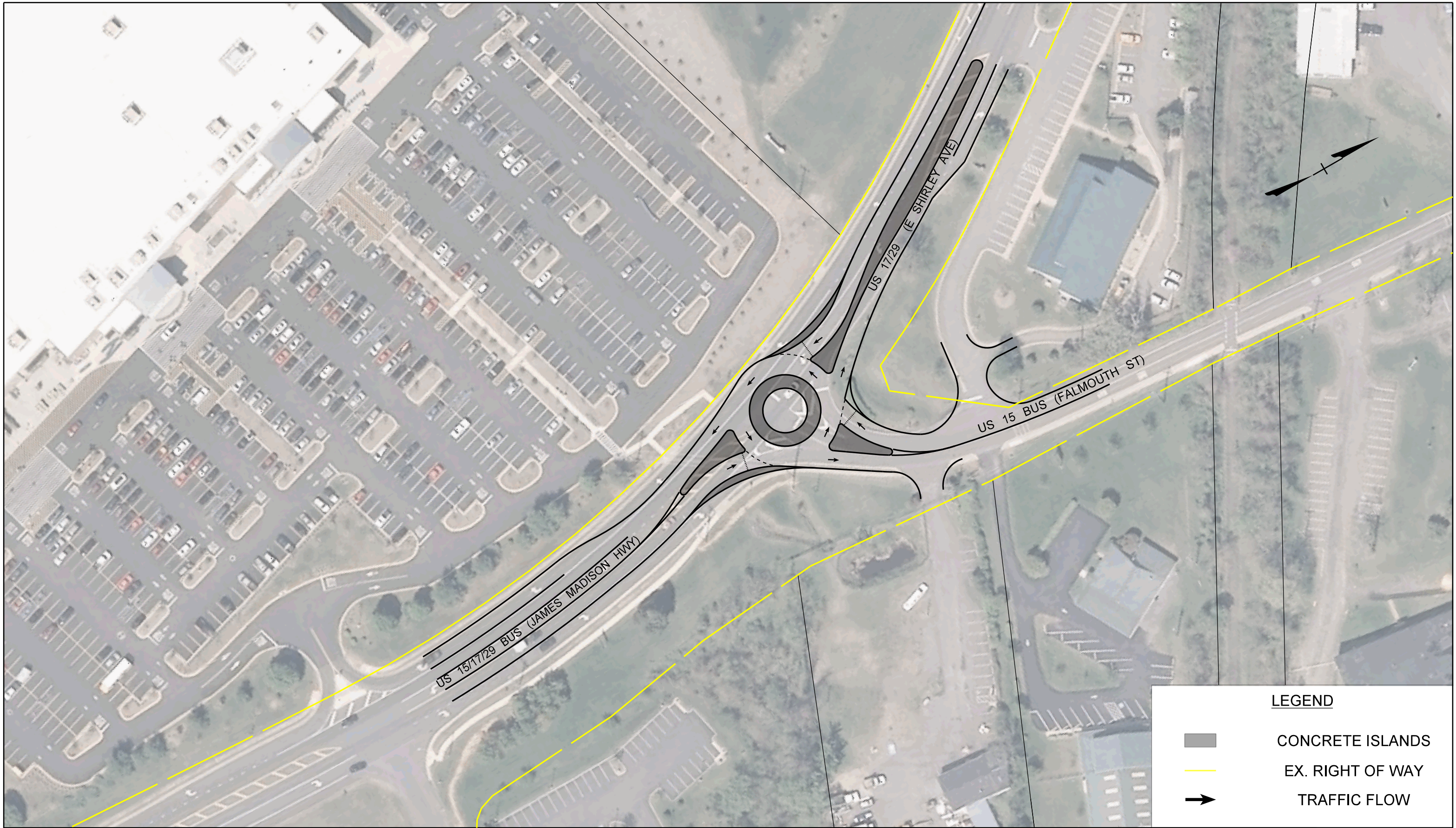
## **Appendix C**

# **Roundabout Concept Plans**













## **Appendix D**

# **Detailed Analysis Reports**

Intersection: **US 15 Business at East Shirley Avenue**  
Condition: **2017 without Bypass**  
Peak Hour : **AM Peak Hour**

Vehicle Group	Start Time	N/A						US 15 Business						Shirley Avenue						Shirley Avenue					
		Eastbound			Westbound			Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Cars	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	142	0	36	0	142	0	36	0	0	519	133	0	17	361	0	0	17	361	0	0
sub-total cars		0	0	0	0	142	0	36	0	142	0	36	0	0	519	133	0	17	361	0	0	17	361	0	0
Trucks	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
sub-total trucks		0	0	0	0	1	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	142	0	37	0	142	0	37	0	0	519	133	0	17	361	0	0	17	361	0	0
combined total		0	0	0	0	143	0	38	0	143	0	38	0	0	519	133	0	17	361	0	0	17	361	0	0
$V_e$		0			184			652			378														
$V_{CAR}$		520			519			17			142														
$V_C$		522			519			19			142														
$C_{75ICD}$		528			531			1003			886														
$V/C$		<b>0.00</b>			<b>0.35</b>			<b>0.65</b>			<b>0.43</b>														

Entry Flow Rate ( $V_e$ )

$$Entering Volume = V_{e, Car} + 1.7 * V_{e, HGV}$$

Volume of Circulating and Conflicting Passenger Cars ( $V_{C, CAR}$ )

$$Eastbound (V_{C, CAR, WBL} + V_{C, CAR, SBL} + V_{C, CAR, SBT})$$

$$Westbound (V_{C, CAR, EBL} + V_{C, CAR, NBL} + V_{C, CAR, NBT})$$

$$Northbound (V_{C, CAR, SBL} + V_{C, CAR, EBL} + V_{C, CAR, EBT})$$

$$Southbound (V_{C, CAR, NBL} + V_{C, CAR, WBL} + V_{C, CAR, WBT})$$

Circulating Flow Rate ( $V_C$ )

$$Eastbound Circulating Volume = V_{C, Car, EB} + 1.7 * (V_{C, HGV, NBL} + V_{C, HGV, WBL} + V_{C, HGV, SBT})$$

$$Westbound Circulating Volume = V_{C, Car, WB} + 1.7 * (V_{C, HGV, SBL} + V_{C, HGV, EBL} + V_{C, HGV, NBT})$$

$$Northbound Circulating Volume = V_{C, Car, NB} + 1.7 * (V_{C, HGV, WBL} + V_{C, HGV, SBL} + V_{C, HGV, EBT})$$

$$Southbound Circulating Volume = V_{C, Car, SB} + 1.7 * (V_{C, HGV, EBL} + V_{C, HGV, NBL} + V_{C, HGV, WBT})$$

$$C_{75ICD} = 1020 - 0.944 * V_C$$

$$R^2 = 0.967$$

Source: Taylor, W.P. et. al. "Mini-Roundabouts for the United States and Traffic Capacity Models." ITE Journal, November 2012: p20-24.

Intersection: **US 15 Business at East Shirley Avenue**  
Condition: **2017 without Bypass**  
Peak Hour : **PM Peak Hour**

Vehicle Group	Start Time	N/A			US 15 Business						Shirley Avenue					
		Eastbound			Westbound			Northbound			Southbound					
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Peds
Cars	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	182	0	42	0	0	555	168	0	66	833	0
sub-total cars		0	0	0	0	182	0	42	0	0	555	168	0	66	833	0
Trucks	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
sub-total trucks		0	0	0	0	1	0	2	0	0	0	0	0	0	0	0
Total	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	182	0	43	0	0	555	168	0	66	833	0
combined total		0	0	0	0	183	0	44	0	0	555	168	0	66	833	0
$V_e$		0			230			723			899					
$V_{CAR}$		1081			555			66			182					
$V_C$		1083			555			68			182					
$C_{75ICD}$		-3			497			956			849					
$V/C$		<b>0.00</b>			<b>0.46</b>			<b>0.76</b>			<b>1.06</b>					

Entry Flow Rate ( $V_e$ )

$$Entering\ Volume = V_{e,CAR} + 1.7 * V_{e,HGV}$$

Volume of Circulating and Conflicting Passenger Cars ( $V_{C,CAR}$ )

$$Eastbound (V_{C,CAR,WBL} + V_{C,CAR,SBL} + V_{C,CAR,SBT})$$

$$Westbound (V_{C,CAR,EBL} + V_{C,CAR,NBL} + V_{C,CAR,NBT})$$

$$Northbound (V_{C,CAR,SBL} + V_{C,CAR,EBL} + V_{C,CAR,EBT})$$

$$Southbound (V_{C,CAR,NBL} + V_{C,CAR,WBL} + V_{C,CAR,WBT})$$

Circulating Flow Rate ( $V_C$ )

$$Eastbound\ Circulating\ Volume = V_{C,CAR,EB} + 1.7 * (V_{C,HGV,NBL} + V_{C,HGV,WBL} + V_{C,HGV,SBT})$$

$$Westbound\ Circulating\ Volume = V_{C,CAR,WB} + 1.7 * (V_{C,HGV,SBL} + V_{C,HGV,EBL} + V_{C,HGV,NBT})$$

$$Northbound\ Circulating\ Volume = V_{C,CAR,NB} + 1.7 * (V_{C,HGV,WBL} + V_{C,HGV,SBL} + V_{C,HGV,EBT})$$

$$Southbound\ Circulating\ Volume = V_{C,CAR,SB} + 1.7 * (V_{C,HGV,EBL} + V_{C,HGV,NBL} + V_{C,HGV,WBT})$$

$$C_{75ICD} = 1020 - 0.944 * V_C$$

$$R^2 = 0.967$$

Source: Taylor, W.P. et. al. "Mini-Roundabouts for the United States and Traffic Capacity Models." ITE Journal, November 2012: p20-24.

Intersection: **US 15 Business at East Shirley Avenue**  
Condition: **2017 with Bypass**  
Peak Hour : **AM Peak Hour**

Vehicle Group	Start Time	N/A						US 15 Business						Shirley Avenue						Shirley Avenue					
		Eastbound			Westbound			Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Cars	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	142	0	36	0	142	0	36	0	0	0	0	0	17	289	0	0	17	289	0	0
sub-total cars		0	0	0	0	142	0	36	0	142	0	36	0	0	0	0	0	17	289	0	0	17	289	0	0
Trucks	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
sub-total trucks		0	0	0	0	1	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	142	0	37	0	142	0	37	0	0	0	0	0	17	289	0	0	17	289	0	0
combined total		0	0	0	0	143	0	38	0	143	0	38	0	0	0	0	0	17	289	0	0	17	289	0	0
$V_e$		0						184			519									306					
$V_{CAR}$		448						519			17									142					
$V_C$		450						519			19									142					
$C_{75ICD}$		596						531			1003									886					
$V/C$		<b>0.00</b>						<b>0.35</b>			<b>0.52</b>						<b>0.35</b>								

Entry Flow Rate ( $V_e$ )

$$Entering\ Volume = V_{e,CAR} + 1.7 * V_{e,HGV}$$

Volume of Circulating and Conflicting Passenger Cars ( $V_{C,CAR}$ )

$$Eastbound (V_{C,CAR,WBL} + V_{C,CAR,SBL} + V_{C,CAR,SBT})$$

$$Westbound (V_{C,CAR,EBL} + V_{C,CAR,NBL} + V_{C,CAR,NBT})$$

$$Northbound (V_{C,CAR,SBL} + V_{C,CAR,EBL} + V_{C,CAR,EBT})$$

$$Southbound (V_{C,CAR,NBL} + V_{C,CAR,WBL} + V_{C,CAR,WBT})$$

Circulating Flow Rate ( $V_C$ )

$$Eastbound\ Circulating\ Volume = V_{C,CAR,EB} + 1.7 * (V_{C,HGV,NBL} + V_{C,HGV,WBL} + V_{C,HGV,SBT})$$

$$Westbound\ Circulating\ Volume = V_{C,CAR,WB} + 1.7 * (V_{C,HGV,SBL} + V_{C,HGV,EBL} + V_{C,HGV,NBT})$$

$$Northbound\ Circulating\ Volume = V_{C,CAR,NB} + 1.7 * (V_{C,HGV,WBL} + V_{C,HGV,SBL} + V_{C,HGV,EBT})$$

$$Southbound\ Circulating\ Volume = V_{C,CAR,SB} + 1.7 * (V_{C,HGV,EBL} + V_{C,HGV,NBL} + V_{C,HGV,WBT})$$

$$C_{75ICD} = 1020 - 0.944 * V_C$$

$$R^2 = 0.967$$

Source: Taylor, W.P. et. al. "Mini-Roundabouts for the United States and Traffic Capacity Models." ITE Journal, November 2012: p20-24.

Intersection: **US 15 Business at East Shirley Avenue**  
Condition: **2017 with Bypass**  
Peak Hour : **PM Peak Hour**

Vehicle Group	Start Time	N/A						US 15 Business						Shirley Avenue						Shirley Avenue					
		Eastbound			Westbound			Northbound			Southbound			Northbound			Southbound			Northbound			Southbound		
		Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Cars	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	182	0	42	0	182	0	42	0	0	555	0	0	66	667	0	0	66	667	0	0
sub-total cars		0	0	0	0	182	0	42	0	182	0	42	0	0	555	0	0	66	667	0	0	66	667	0	0
Trucks	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
sub-total trucks		0	0	0	0	1	0	2	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	182	0	43	0	182	0	43	0	0	555	0	0	66	667	0	0	66	667	0	0
combined total		0	0	0	0	183	0	44	0	183	0	44	0	0	555	0	0	66	667	0	0	66	667	0	0
$V_e$		0						230			555			555			733								
$V_{C,CAR}$		915						555			66						182								
$V_C$		917						555			68						182								
$C_{75ICD}$		155						497			956						849								
$V/C$		<b>0.00</b>						<b>0.46</b>			<b>0.58</b>						<b>0.86</b>								

Entry Flow Rate ( $V_e$ )

$$Entering\ Volume = V_{e,CAR} + 1.7 * V_{e,HGV}$$

Volume of Circulating and Conflicting Passenger Cars ( $V_{C,CAR}$ )

$$Eastbound (V_{C,CAR,WBL} + V_{C,CAR,SBL} + V_{C,CAR,SBT})$$

$$Westbound (V_{C,CAR,EBL} + V_{C,CAR,NBL} + V_{C,CAR,NBT})$$

$$Northbound (V_{C,CAR,SBL} + V_{C,CAR,EBL} + V_{C,CAR,EBT})$$

$$Southbound (V_{C,CAR,NBL} + V_{C,CAR,WBL} + V_{C,CAR,WBT})$$

Circulating Flow Rate ( $V_C$ )

$$Eastbound\ Circulating\ Volume = V_{C,CAR,EB} + 1.7 * (V_{C,HGV,NBL} + V_{C,HGV,WBL} + V_{C,HGV,SBT})$$

$$Westbound\ Circulating\ Volume = V_{C,CAR,WB} + 1.7 * (V_{C,HGV,SBL} + V_{C,HGV,EBL} + V_{C,HGV,NBT})$$

$$Northbound\ Circulating\ Volume = V_{C,CAR,NB} + 1.7 * (V_{C,HGV,WBL} + V_{C,HGV,SBL} + V_{C,HGV,EBT})$$

$$Southbound\ Circulating\ Volume = V_{C,CAR,SB} + 1.7 * (V_{C,HGV,EBL} + V_{C,HGV,NBL} + V_{C,HGV,WBT})$$

$$C_{75ICD} = 1020 - 0.944 * V_C$$

$$R^2 = 0.967$$

Source: Taylor, W.P. et. al. "Mini-Roundabouts for the United States and Traffic Capacity Models." ITE Journal, November 2012: p20-24.

# MOVEMENT SUMMARY



Site: US 15 at Shirley Ave AM 2016

New Site  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Shirley Ave											
8	T1	564	2.4	0.655	12.7	LOS B	6.4	162.4	0.24	0.08	30.6
18	R2	145	0.7	0.655	12.5	LOS B	6.4	162.4	0.24	0.08	30.0
Approach		709	2.1	0.655	12.7	LOS B	6.4	162.4	0.24	0.08	30.5
East: Falmouth St											
1	L2	154	0.8	0.280	8.5	LOS A	1.5	37.5	0.64	0.58	30.8
16	R2	39	8.6	0.280	9.2	LOS A	1.5	37.5	0.64	0.58	30.0
Approach		193	2.3	0.280	8.6	LOS A	1.5	37.5	0.64	0.58	30.6
North: Shirley Ave											
7	L2	18	22.9	0.446	11.5	LOS B	2.8	73.1	0.46	0.31	31.3
4	T1	392	3.4	0.446	9.1	LOS A	2.8	73.1	0.46	0.31	32.0
Approach		411	4.2	0.446	9.2	LOS A	2.8	73.1	0.46	0.31	32.0
All Vehicles		1313	2.8	0.655	11.0	LOS B	6.4	162.4	0.36	0.23	30.9

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

 Site: US 15 at Shirley Ave PM 2016

New Site  
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: Shirley Ave											
8	T1	603	2.3	0.770	18.2	LOS C	10.2	259.8	0.61	0.33	28.5
18	R2	183	0.6	0.770	17.9	LOS C	10.2	259.8	0.61	0.33	28.0
Approach		786	1.9	0.770	18.1	LOS C	10.2	259.8	0.61	0.33	28.4
East: Falmouth St											
1	L2	198	0.6	0.393	11.3	LOS B	2.4	60.3	0.75	0.73	29.6
16	R2	46	7.4	0.393	12.1	LOS B	2.4	60.3	0.75	0.73	29.0
Approach		243	1.9	0.393	11.5	LOS B	2.4	60.3	0.75	0.73	29.5
North: Shirley Ave											
7	L2	72	5.9	1.080	75.3	LOS F	52.9	1340.6	1.00	1.62	16.5
4	T1	905	1.5	1.080	74.5	LOS F	52.9	1340.6	1.00	1.62	16.6
Approach		977	1.8	1.080	74.6	LOS F	52.9	1340.6	1.00	1.62	16.6
All Vehicles		2007	1.8	1.080	44.8	LOS E	52.9	1340.6	0.82	1.01	21.1

Level of Service (LOS) Method: Delay & v/c (HCM 2010).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 2010).

Roundabout Capacity Model: SIDRA Standard.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).













HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# HCM Signalized Intersection Capacity Analysis

## 3: Shirley Ave & US 15 Bus

10/3/2016

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	142	36	519	133	17	361
Future Volume (vph)	142	36	519	133	17	361
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	*0.80
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	2980
Flt Permitted	0.95	1.00	1.00	1.00	0.41	1.00
Satd. Flow (perm)	1770	1583	1863	1583	767	2980
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	39	564	145	18	392
RTOR Reduction (vph)	0	33	0	41	0	0
Lane Group Flow (vph)	154	6	564	104	18	392
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	11.9	11.9	55.1	55.1	55.1	55.1
Effective Green, g (s)	11.9	11.9	55.1	55.1	55.1	55.1
Actuated g/C Ratio	0.15	0.15	0.72	0.72	0.72	0.72
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	273	244	1333	1132	548	2132
v/s Ratio Prot	c0.09		c0.30			0.13
v/s Ratio Perm		0.00		0.07	0.02	
v/c Ratio	0.56	0.02	0.42	0.09	0.03	0.18
Uniform Delay, d1	30.1	27.6	4.5	3.3	3.2	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	0.0	1.0	0.2	0.1	0.2
Delay (s)	32.8	27.7	5.5	3.5	3.3	3.8
Level of Service	C	C	A	A	A	A
Approach Delay (s)	31.8		5.1			3.8
Approach LOS	C		A			A
Intersection Summary						
HCM 2000 Control Delay			8.6	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			77.0	Sum of lost time (s)		10.0
Intersection Capacity Utilization			43.5%	ICU Level of Service		A
Analysis Period (min)			15			
c Critical Lane Group						

## Summary of All Intervals

Run Number	10	11	12	13	14		Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:10	7:10	7:10	7:10	7:10	7:10	7:10
Total Time (min)	13	13	13	13	13	13	13
Time Recorded (min)	10	10	10	10	10	10	10
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	189	184	216	195	191	214	199
Vehs Exited	182	184	208	193	197	214	197
Starting Vehs	18	14	15	19	22	20	17
Ending Vehs	25	14	23	21	16	20	19
Travel Distance (mi)	56	55	65	60	58	62	59
Travel Time (hr)	2.7	2.6	3.2	3.0	2.7	2.9	2.8
Total Delay (hr)	0.5	0.4	0.6	0.6	0.4	0.4	0.5
Total Stops	70	60	77	76	58	48	64
Fuel Used (gal)	1.9	1.9	2.3	2.1	2.0	2.1	2.1

## Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

## Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10
Volumes adjusted by Growth Factors.	

Run Number	10	11	12	13	14		Avg
Vehs Entered	189	184	216	195	191	214	199
Vehs Exited	182	184	208	193	197	214	197
Starting Vehs	18	14	15	19	22	20	17
Ending Vehs	25	14	23	21	16	20	19
Travel Distance (mi)	56	55	65	60	58	62	59
Travel Time (hr)	2.7	2.6	3.2	3.0	2.7	2.9	2.8
Total Delay (hr)	0.5	0.4	0.6	0.6	0.4	0.4	0.5
Total Stops	70	60	77	76	58	48	64
Fuel Used (gal)	1.9	1.9	2.3	2.1	2.0	2.1	2.1

## Queuing and Blocking Report

### Baseline

10/3/2016

#### Intersection: 3: Shirley Ave & US 15 Bus

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	R	L	T	T
Maximum Queue (ft)	117	17	141	50	26	92	53
Average Queue (ft)	65	3	78	21	13	48	21
95th Queue (ft)	125	24	145	55	38	107	73
Link Distance (ft)	1464	1464	427	427		589	589
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					230		
Storage Blk Time (%)							
Queuing Penalty (veh)							

#### Intersection: 4: Shirley Ave & Industrial Rd

Movement	SB
Directions Served	L
Maximum Queue (ft)	17
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	275
Storage Blk Time (%)	
Queuing Penalty (veh)	













#### Network Summary

Network wide Queuing Penalty: 0
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# HCM Signalized Intersection Capacity Analysis

## 3: Shirley Ave & US 15 Bus

9/23/2016

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	182	42	555	168	66	833
Future Volume (vph)	182	42	555	168	66	833
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.38	1.00
Satd. Flow (perm)	1770	1583	1863	1583	711	3539
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	46	603	183	72	905
RTOR Reduction (vph)	0	38	0	54	0	0
Lane Group Flow (vph)	198	8	603	129	72	905
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	14.4	14.4	58.3	58.3	58.3	58.3
Effective Green, g (s)	14.4	14.4	58.3	58.3	58.3	58.3
Actuated g/C Ratio	0.17	0.17	0.70	0.70	0.70	0.70
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	308	275	1313	1115	501	2494
v/s Ratio Prot	c0.11		c0.32			0.26
v/s Ratio Perm		0.01		0.08	0.10	
v/c Ratio	0.64	0.03	0.46	0.12	0.14	0.36
Uniform Delay, d1	31.8	28.3	5.3	3.9	4.0	4.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	0.0	1.2	0.2	0.6	0.4
Delay (s)	36.3	28.4	6.5	4.1	4.6	5.2
Level of Service	D	C	A	A	A	A
Approach Delay (s)	34.8		5.9			5.2
Approach LOS	C		A			A
<b>Intersection Summary</b>						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			82.7		Sum of lost time (s)	10.0
Intersection Capacity Utilization			56.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

### Summary of All Intervals

Run Number	10	11	12	13	14		Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:10	7:10	7:10	7:10	7:10	7:10	7:10
Total Time (min)	13	13	13	13	13	13	13
Time Recorded (min)	10	10	10	10	10	10	10
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	316	305	322	305	322	334	317
Vehs Exited	326	299	323	301	317	347	319
Starting Vehs	29	23	25	18	31	31	23
Ending Vehs	19	29	24	22	36	18	25
Travel Distance (mi)	94	92	97	89	97	101	95
Travel Time (hr)	4.6	4.5	4.7	4.5	4.8	5.0	4.7
Total Delay (hr)	0.9	0.8	0.9	0.9	0.9	1.0	0.9
Total Stops	121	133	122	134	140	147	132
Fuel Used (gal)	3.3	3.3	3.5	3.2	3.5	3.7	3.4

### Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

### Interval #1 Information Recording

Start Time	7:00
End Time	7:10
Total Time (min)	10
Volumes adjusted by Growth Factors.	

Run Number	10	11	12	13	14		Avg
Vehs Entered	316	305	322	305	322	334	317
Vehs Exited	326	299	323	301	317	347	319
Starting Vehs	29	23	25	18	31	31	23
Ending Vehs	19	29	24	22	36	18	25
Travel Distance (mi)	94	92	97	89	97	101	95
Travel Time (hr)	4.6	4.5	4.7	4.5	4.8	5.0	4.7
Total Delay (hr)	0.9	0.8	0.9	0.9	0.9	1.0	0.9
Total Stops	121	133	122	134	140	147	132
Fuel Used (gal)	3.3	3.3	3.5	3.2	3.5	3.7	3.4

## Queuing and Blocking Report

### Baseline

9/23/2016

#### Intersection: 3: Shirley Ave & US 15 Bus

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	R	L	T	T
Maximum Queue (ft)	107	23	180	52	64	149	94
Average Queue (ft)	67	5	109	28	37	104	44
95th Queue (ft)	116	27	197	64	75	158	107
Link Distance (ft)	1464	1464	427	427		589	589
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					230		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

#### Intersection: 4: Shirley Ave & Industrial Rd

Movement	SB
Directions Served	L
Maximum Queue (ft)	21
Average Queue (ft)	9
95th Queue (ft)	32
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	275
Storage Blk Time (%)	
Queuing Penalty (veh)	

#### Network Summary

Network wide Queuing Penalty: 0
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General & Site Information		v3.1
Analyst:	ATD	
Agency/Co:	Wallace Montgomery	
Date:	9/16/2016	
Project or PI#:	US Route 15 (Bus) at Shirley Avenue	
Year, Peak Hour:	2017 AM Peak	
County/District:	NWRO	
Intersection Name:	US Route 15 (Bus) at Shirley Avenue	

Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			36		519			
	NE (2), vph								
	E (3), vph	17				133			
	SE (4), vph								
	S (5), vph	361		142					
	SW (6), vph								
	W (7), vph								
	NW (8), vph								
Output	Total Vehicles	378	0	178	0	652	0	0	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
% Heavy Vehicles	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F <sub>HV</sub>	0.980	1.000	0.980	1.000	0.980	1.000	1.000	1.000
F <sub>ped</sub>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	40	0	575	0	0	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	19	0	0	0	147	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	400	0	157	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	0	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	419	0	197	0	723	0	0	0
Conflicting flow, pcu/h	157	0	575	0	19	0	0	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1152	NA	752	NA	1327	NA	NA	NA

Entry Flow Rates, vph	411	NA	193	NA	709	NA	NA	NA
V/C ratio	0.36		0.26		0.53			
Control Delay, sec/pcu	7		8		8			
LOS	A		A		A			
95th % Queue (ft)	42		26		84			

v3.1

## Notes:

Unit Legend:

vph = vehicles per hour

PHF = peak hour factor

F<sub>HV</sub> = heavy vehicle factor

pcu = passenger car unit

**Bypass Lane Merge Point Analysis (if applicable)**

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F <sub>HV</sub>						
F <sub>ped</sub>						
<b>NOTE: Volume Characteristics for Exit Leg are already taken into account</b>						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
<b>Bypass Lane Results (HCM 6th Edition)</b>						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						



General & Site Information		v3.1
Analyst:	ATD	
Agency/Co:	Wallace Montgomery	
Date:	9/16/2016	
Project or PI#:	US Route 15 (Bus) at Shirley Avenue	
Year, Peak Hour:	2017 PM Peak	
County/District:	NWRO	
Intersection Name:	US Route 15 (Bus) at Shirley Avenue	

Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph			42		555			
	NE (2), vph								
	E (3), vph	66				168			
	SE (4), vph								
	S (5), vph	833		182					
	SW (6), vph								
	W (7), vph								
	NW (8), vph								
Output	Total Vehicles	899	0	224	0	723	0	0	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
% Heavy Vehicles	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	0	0	0	0	0	0	0	0
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
F <sub>HV</sub>	0.980	1.000	0.980	1.000	0.980	1.000	1.000	1.000
F <sub>ped</sub>	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	47	0	615	0	0	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	73	0	0	0	186	0	0	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	924	0	202	0	0	0	0	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	0	0	0	0	0	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	997	0	248	0	802	0	0	0
Conflicting flow, pcu/h	202	0	615	0	73	0	0	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1101	NA	722	NA	1256	NA	NA	NA

Entry Flow Rates, vph	977	NA	243	NA	786	NA	NA	NA
V/C ratio	0.89		0.34		0.63			
Control Delay, sec/pcu	26		9		11			
LOS	D		A		B			
95th % Queue (ft)	329		38		119			

v3.1

Notes:

Unit Legend:

vph = vehicles per hour

PHF = peak hour factor

F<sub>HV</sub> = heavy vehicle factor

pcu = passenger car unit

**Bypass Lane Merge Point Analysis (if applicable)**

Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F <sub>HV</sub>						
F <sub>ped</sub>						
<b>NOTE: Volume Characteristics for Exit Leg are already taken into account</b>						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
<b>Bypass Lane Results (HCM 6th Edition)</b>						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						



**Town Council Work Session  
February 9, 2017  
Appleton-Campbell Request for Sewer to New Building Location in Fauquier County  
Agenda Memorandum  
Submitted by: Brannon Godfrey**

**Discussion:** The Public Works & Utilities Committee considered the out-of-town sewer request by Appleton-Campbell at its January 5 meeting. The Committee suggested that a representative of the company attend the Council Work Session in February to provide an update on its development plans.

In keeping with Council's policy, the extension of sewer to an out-of-town, out-of-service area property would require the developer to pay three times the in-town availability fee, if approved.

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Town Manager

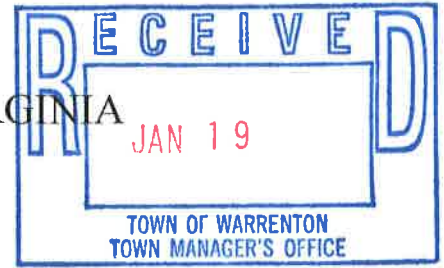
**ATTACHMENTS:**

Description	Type	Upload Date
Appleton-Campbell Request Letter	Backup Material	2/6/2017

PRIME CONSTRUCTION CO. OF VIRGINIA

5232 REPASS ROAD  
P O DRAWER 460  
SUMERDUCK, VA 22742  
(540)439-1673

VA Class "A" Contractor License # 2705020254  
JPRIMECO@AOL.COM



01/12/17.

Project Name: Appleton Campbell, Inc.  
DBA: VABFT, LLC  
Project Address: Alwington Blvd  
Warrenton, VA 20187  
Pin # 6983-43-6542-000

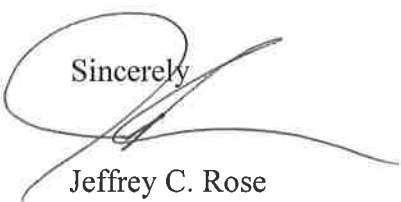
Town Manager  
Mr. Brannon Godfrey  
C/O Town of Warrenton  
18 Court Street  
Warrenton, VA 20186  
Attn: Town Manager Godfrey

This is a **formal request** for the Town of Warrenton to grant VABFT, LLC access to tap into the sewer at Brumfield Elementary School and we would install the required ditches and pipes at our expense.

VABFT, LLC **agrees to pay the out of service district fee** for sewer tap only.

Should you have any questions or concerns regarding this matter, please do not hesitate to contact us, at your earliest convenience; at the numbers above.

Sincerely



Jeffrey C. Rose  
President

CC: Appleton Campbell Plumbing, Inc.  
ATTN: Mike Appleton & Scott Wayland



**Town Council Work Session  
February 9, 2017  
Economic Development Report**

**Agenda Memorandum**

**Submitted by: Heather Stinson, Economic Development Manager**

**Discussion:** Heather Stinson will present an update of economic development activities and summary of prospects.

---

Town Manager

**ATTACHMENTS:**

Description	Type	Upload Date
Economic Development Presentation	Presentation	2/9/2017

# Economic Development Program

---

## Year 2 Update

(2/2016 – 2/2017)

Town of Warrenton, VA  
Town Council Worksession

*February 9, 2017*



# RELATIONSHIPS

- 
- Fauquier County
  - Economic Development Authority
  - Virginia Economic Development Partnership
  - Virginia Department of Housing & Community Development
  - Virginia Main Street Program
  - Warrenton Regional Chamber
  - Fauquier Chamber of Commerce
  - George Mason Enterprise Center
  - People Inc.
  - Lord Fairfax Community College
  - Commercial Realtors
  - Commercial Property Owners
  - Commercial Banks
  - Developers (Local & Regional)
  - Old Town Property Owners
  - Old Town Merchants
  - Local & Regional Media

# RELATIONSHIPS

## ***Business Community***

- **Town Point of Contact**
- **Advisor & Sounding Board for Business and Community Issues**
- **Welcoming Starting Place for New Businesses and Entrepreneurs**
- **Ombudsman for Complaints & Challenges**



# INITIATIVES

## ➤ Business Recruitment

- Incentive Programs (Defense, Tourism and Technology Zones)
- Advertising
- Business Consultations & Location Assistance

## ➤ Business Climate Improvements Started

- B&Bs, Inns, & Hotels to CBD Zoning
- Mobile Food Vendor Policy & Regulations



# INITIATIVES

## ***Creating an Entrepreneurial Ecosystem***

- **George Mason Enterprise Center**
  - Small Business Incubator
  - Co-working Space
  - FREE Business Advisory Services (SBDC and SCORE)
- **Monthly Small Business Workshops**
- **Entrepreneur Express** *(How to Start a Business)*
- **Ignite Fauquier** *(Local businesses solving challenges together)*



# INITIATIVES

- **Department Webpages**
  - **Economic Development Training for Government Officials**
  - **Funding for Old Town Revitalization (State IRF)**
  - **CGI Community Videos (May – Aug)**
  - **Marketing Old Town**
    - Holiday Advertising
    - Co-operative Advertising Opportunities
- 

# INITIATIVES

## *Main Street Program*

### ➤ Training & Collaboration

- Director's Training Retreat
- Local Rev-Up Sessions
- How to Apply for Funding Workshops

### ➤ Program Evaluation

- August Visioning Session
- Old Town Warrenton Planning Group (Sept – Dec)

### ➤ Program Reboot

- Reboot Group
- Logistics & Direction
- Facilitation & Training
- Communications & Research
- **Timeline:**
  - Jan – Mar: Reboot Effort
  - Apr: New organization launched, presented to stakeholders



# NEW BUSINESSES

Industry	2016 Leads	Open for Business	Active/ Pending	No
Food/Beverage	17	3	11	3
Grocery	4	0	3	1
Health Care	4	3	0	1
Hotel	3	0	3	0
Industrial	11	0	3	8
Arts/Non-Profit	2	0	2	0
Personal Service	4	3	1	0
Professional Services	4	1	1	2
Recreation	3	1	1	1
Retail	10	3	6	1
<b>Total</b>	<b>62</b>	<b>14</b>	<b>31</b>	<b>17</b>

*\*Does not include auto sales & related industry*

# EXPANSIONS

Industry	2016 Leads	Open for Business	Active/ Pending	No
Food/Beverage	7	0	7	0
Health Care	1	0	1	0
Arts/Non-Profit	3	0	3	0
Personal Service	2	0	2	0
Other	3	0	3	0
Retail	2	1	1	0
<b>Total</b>	<b>18</b>	<b>1</b>	<b>17</b>	<b>0</b>

*\*Does not include auto sales & related industry*

# FUNDING PARTNERS

Entity	Amount	Agency	Type	Fund
Fauquier History Museum	\$ 1,512	County/EDA	Grant	Tourism
Deja Brew Café	\$ 909	County/EDA	Grant	Tourism
Deja Brew Café	\$ 450	County/EDA	Grant	Technology
Enlightened Styles	\$ 2,000	County/EDA	Grant	Tourism
Enlightened Styles	\$ 2,000	County/EDA	Grant	Technology
Wort Hog Brewery	\$ 600,000	Virginia DHCD	Loan	Industrial Revitalization

**Total 2016 Partner  
Funding**

**\$ 606,871**

**Total 2016 Town  
Funding:**

**\$ 78,000 Infrastructure Investment**

# CASE STUDY: Wort Hog Brewery

- 40+ Jobs
- \$2 mil + private investment
- \$600,000 state investment

## Benefits:



- More visitors in Old Town Warrenton
- Encourages foot traffic on side streets and Lee Street
- Meals Tax Revenue
- Revitalization of small block
- **Catalyst Project**



# LOOKING FORWARD: Years 3 - 5

## ***PRIORITIES***

1. Existing Business & Entrepreneurs
2. Business & Tourism Prospects
3. **Economic Development Strategy**
4. Business Climate Improvements
  - Complete Lodging & Mobile Food Initiatives
  - Regulatory Review
  - One-Stop Permitting
5. Partnerships

## **STRATEGY**

➤ Engagement

➤ Guidance

➤ Targeting

➤ Prioritization

★ **Allocation of Resources**

➤ Performance Measures



**Town Council Work Session  
February 9, 2017  
Leash Law**

**Agenda Memorandum  
Submitted by: Whit Robinson, Town Attorney**

**Discussion:**

At its January 25, 2017 meeting, the Public Safety & Transportation Committee considered an amendment to Chapter 3 "Animals and Fowl", Section 11 "Running At Large Prohibited." The proposed amendment would require dog owners or custodians to keep dogs on a leash.

The draft text amendment is attached. The Committee recommends that the Public Hearing for the amendment be set for the March 14 Council Meeting.

---

Town Manager

**ATTACHMENTS:**

Description	Type	Upload Date
Draft Amendment to §3-11 Running At Large Prohibited	Backup Material	2/6/2017



## Sec. 3-11. - Running at large prohibited.

(a) It shall be unlawful for any owner or custodian of a dog to permit the same to run at large at any time within the town limits and off of the property of the owner or custodian while not under leash control. For the purpose of this section, a dog shall be deemed running at large while roaming, running or self-hunting off the property of its owner or custodian and not under its owner or custodian's immediate control by leash.

(b) When dogs to be impounded. The officials charged with the enforcement of this chapter shall cause to be impounded (a) any dog found running at large in the town, (b) any dog which has not been inoculated with a rabies vaccine in accordance with the requirements of state law, and (c) any vicious dog which is found not controlled or confined as required by the provisions of section 3-10 of this article.

For the purposes of this section, a dog not wearing a valid and current county dog license may be presumed to have not been inoculated with a rabies vaccine in accordance with State law, unless the owner or custodian of the dog can be immediately ascertained and located, and the owner or custodian promptly presents a valid rabies certificate for the dog.

(c) Any person who permits his dog or dogs to run at large, and not under leash control, shall be deemed to have violated the provisions of this section and shall be guilty of a Class 4 misdemeanor and shall be fined not more than \$100.00 ~~liable for a fine of not less than twenty-five dollars (\$25.00) nor more than one hundred dollars (\$100.00)~~ for each such violation.

(Ord. No. 1990-1, 6-12-90)

**State Law reference**— Authority to prohibit dogs running at large, Code of Virginia, § ~~3-1-796.933.2-6539~~; ~~impoundment of dogs, Code of Virginia, § 3-1-796.96~~



**Town Council Work Session  
February 9, 2017  
Rotary Clock**

**Agenda Memorandum**

**Submitted by: Brannon Godfrey, Town Manager**

**Discussion:**

At its January 10, 2017 meeting, Town Council accepted the donation of a town clock from the Rotary Club of Warrenton and approved of its placement in front of the Post Office. Council requested to see scale images of the clock on street view photographs.

The images are attached. The image identified at westbound Main Street actually shows the clock adjacent to the street lamp for comparison. The clock is proposed to be centered in front of the brick stair wall.

---

Town Manager

**ATTACHMENTS:**

Description

Type

Upload Date

Scale Clock Images

Backup  
Material

2/6/2017



## Proposed Clock Site View To Scale from Eastbound Main Street





## Proposed Clock View Scaled to Street Light from Westbound Main Street





**Town Council Work Session**

**February 9, 2017**

**Sign Ordinance Working Group and Urban/Village Area Working Group**

**Agenda Memorandum**

**Submitted by: Brandie Schaeffer, Director of Planning & Community Development**

**Discussion:** The process to comprehensively update our sign ordinances is at a point where the consultant is ready to work with stakeholders. The request is that Council appoint a working group for this purpose.

The Urban/Village Development Area consultant will be ready to begin working with stakeholders in March.

---

Town Manager

**ATTACHMENTS:**

Description	Type	Upload Date
Memo on Working Groups for Sign Ordinance and U/V Development Area Working Groups	Staff Report	2/7/2017



## TOWN OF WARRENTON

POST OFFICE DRAWER 341  
WARRENTON, VIRGINIA 20188-0341  
<http://www.warrentonva.gov>  
TELEPHONE (540) 347-1101  
FAX (540) 349-2414  
TDD 1-800-828-1120

### MEMORANDUM

**TO:** Town Council  
**FROM:** Brandie Schaeffer, Director planning and Community Development  
**DATE:** February 9, 2017  
**SUBJECT:** Requested Signage Steering Group Appointment

---

#### BACKGROUND

During the May 24, 2016 Planning Commission Work Session, a presentation was given by David Hickey from the International Sign Association (ISA). It included an overview of the U.S. Supreme Court ruling on *Reed v. Gilbert*. In addition, an overview of the City of Norfolk's role in the ruling, plus the City's subsequent update of its own ordinance bringing it into compliance with *Reed v. Gilbert*, was discussed. At the conclusion of the meeting, staff was directed to begin reviewing the Town of Warr17 02 14 Working Groups Memo to TCO:\Town Council\Packet\2017\February\17 02 14 Working Groups Memo to TC.docenton's Zoning Ordinance as it relates to signs and designated two Planning Commission members to work with staff.

Staff researched the *Reed v. Gilbert*, reviewed the approaches of several jurisdictions, and attended multiple workshops on the impact of the ruling. Jurisdictions across the country will need to review their ordinances and remove all language related to "content."

As the U.S. Supreme Court ruling directed localities to become "content neutral," the first step included reviewing Article 12 - Definitions of the Zoning Ordinance as it relates to signs. A matrix of the current Town of Warrenton definitions compared to the Model Ordinance of the Local Government Attorney's of Virginia, the City of Norfolk, and the ISA's Best Practices in Temporary Signage definitions was developed by Town staff and reviewed by the Town Attorney. Highlighted sections representing staff recommendations were presented to the Planning Commission for consideration.



In September, 2016, the Town Council determined it was important to procure professional services to help with the signage code update. The result was Compass Point Planning, was hired under The Berkley Group to fulfill this task. Wendy Moeller, of Compass Point Planning has worked across the country updating sign codes for localities. She also serves on The Sign Foundation Board of Directors.

## **STATUS**

During the week of January 23<sup>rd</sup>, Ms. Moeller presented to the Planning Commission and met with key stakeholders for three days. The consultant is working on a summary memo of the comments; however generally it was found there was a general sense of consistency across stakeholder opinions.

## **NEXT STEPS**

To ensure this initiative is fully vetted as it is developed, staff requests the Town Council appoint a steering group. Staff suggests representation from the Planning Commission, Architectural Review Board, Board of Zoning Appeals, chambers of commerce, and County staff. In addition, staff would request each member of Town Council appoint one.

The next steps will be for the consultant team to work with a steering group and Town Attorney to receive guidance on core questions related to on-site vs. off-site signs, size, materials, acceptable design, and a myriad of other details. The deliverable will be a draft update to Article 6 and Article 12, as it relates to sign definitions, for consideration before the Planning Commission and adoption by the Town Council.

Attachment A: Signage Committee

	<b>Article 6 – Signage Steering Group</b>
<b>Mayor</b>	
<b>Vice Mayor</b>	
<b>At-Large</b>	
<b>Ward 1</b>	
<b>Ward 2</b>	
<b>Ward 3</b>	
<b>Ward 4</b>	
<b>Ward 5</b>	
<b>Planning Commission</b>	
<b>Planning Commission</b>	
<b>ARB</b>	
<b>BZA</b>	
<b>Greater Warrenton Chamber of Commerce</b>	
<b>Fauquier Chamber of Commerce</b>	
<b>County Staff</b>	



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TELEPHONE (540) 347-1101  
FAX (540) 349-2414  
TDD 1-800-828-1120

### MEMORANDUM

**TO:** Town Council  
**FROM:** Brandie Schaeffer, Director planning and Community Development  
**DATE:** February 9, 2017  
**SUBJECT:** Requested Urban/Village Development Area Steering Group Appointment

---

### BACKGROUND

Urban/Village Development Areas (UDA) cover a wide range of community types, including small towns like Warrenton. Developed by the General Assembly as part of an ongoing effort to promote the coordination between transportation and land use planning, UDAs are designated in comprehensive plans to incorporate the principles of walkable neighborhood centers. According to the Office of Intermodal Planning and Investment website, Virginia currently has 77 designated UDAs with several more in development. At least 16 towns, 7 cities, and 54 counties participate. The average size of a UDA is 3.41 square miles and the average population is 3,921. Currently, Fauquier County has three designated UDAs, including the central area of Bealeton, Marshall, and the recently designated Alwington Farm property located adjacent to the Town behind Home Depot.

The Town was awarded a \$65,000 technical assistance Tier I Urban/Village Development Area Planning grant by the Virginia Office of Intermodal Planning and Investment last year (Attachment). The final scoping of the project was approved by the state just before the New Year. The consultant team of Michael Baker and Renaissance Planning Group are assigned by the state to the Town. The primary purpose of the UDA grant program is to help maximize transportation investment dollars by fostering focused activity centers in communities. Localities that designate a UDA become eligible to submit transportation improvement projects through the SMART SCALE cycle of the Virginia Commonwealth Transportation Board.

There are two important components to UDA designation. First, as mentioned above the adopted areas are to incorporate traditional neighborhood design. Second, the designated areas are to absorb 10-20 years of the projected growth of a locality. This work dovetails directly into the both the existing Comprehensive Plan goals (Attachment) and the Comprehensive Plan update by taking into consideration population projections, transportation, and community design. In addition, the scope of work includes a high level market analysis to enable decisions to be guided by market trends.

## **STATUS**

The Town of Warrenton hosted a public open house visioning meeting on Thursday, January 19<sup>th</sup> in the Warrenton – Fauquier Visitor Center. During this meeting over 40 participants broke into small groups to communicate which parts of Warrenton they viewed as potential UDAs. The participants also expressed how they envisioned the UDAs would feel from a design standpoint. Preliminary analysis of the feedback from the participants revolved around 4 themes:

### **1. Old Town**

- Infill surface parking
- Use quality materials in downtown, maintain character
- The future is walkable and green
- Connect Main Street to 3<sup>rd</sup> Street (move the “Center” to 3<sup>rd</sup> Street)
- Expanding Main Street to Lee Street (new area for redevelopment)
- Catalyst is needed

### **2. Broadview Revitalization**

- Development potential
- Address Broadview and Shirley
- Redevelopment should include sidewalk improvements, pedestrian safety and biking
- Redevelopment of Sears/Food Lion Lot

### **3. Improve General Connectivity**

- Address the “Moat Effect”
- Reconnect: streets (walkable connections, bike paths, etc.) between neighborhoods
- Add and prioritize sidewalks (where they are missing) especially at all street crossings
- Prioritize the Greenway

### **4. Improve and beautify all gateways into Town as possible catalysts**

- Walker Drive –catalyst
- Southern Gateway – New Development

## **NEXT STEPS**

To ensure this initiative is fully vetted as it is developed, staff requests the Town Council begin the next steps in appointing a steering group. Unlike other steering groups the UDA steering group will require special attention by council on member time commitments as well as conflicts and diverse representation. This steering group will set the foundation for the Comprehensive Plan update as it pertains to one of the most important components of future growth and design. Staff suggests representation from the Planning Commission, Architectural Review Board, Board of Zoning Appeals, chambers of commerce, and County staff. In addition, staff would request each member of Town Council appoint one stakeholder.

The next steps will be for a steering group to identify the criteria for evaluating candidate UDA boundaries, develop draft UDA boundaries, and refine the boundaries based on public feedback. Deliverables will be a recommended Comprehensive Plan UDA designation and a draft Zoning Ordinance text for Town Council consideration. The work will include Traditional Neighborhood Guidelines and 3D Massing Model Studies in two key locations.

Attachment A: UDA

	<b>Urban/Village Development Area Steering Group</b>
<b>Mayor</b>	
<b>Vice Mayor</b>	
<b>At-Large</b>	
<b>Ward 1</b>	
<b>Ward 2</b>	
<b>Ward 3</b>	
<b>Ward 4</b>	
<b>Ward 5</b>	
<b>Planning Commission</b>	
<b>Planning Commission</b>	
<b>ARB</b>	
<b>BZA</b>	
<b>Greater Warrenton Chamber of Commerce</b>	
<b>Fauquier Chamber of Commerce</b>	
<b>County Staff</b>	



*Town of Warrenton Comprehensive Plan 2000 – 2025 – Chapter 3 Analysis and Plan*

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**Major Community Design Issues**

1. Design Standards

*Within Historic District*

Are the architectural review standards and procedures adequate to ensure that new development is both practical yet compatible?

*Outside of Historic District*

How can the Town ensure that new development outside the historic district reinforces the traditional, pedestrian scale and character of the Town's historic center?

2. Open Space

With regard to open space, the primary issue identified is the continued loss of open space in Town as development occurs. Both the loss of environmental open space (floodplains, steep slopes, woodlands) and visual open space is of concern. Scenic vistas at the edge of Town that help define "town and country" are seen as particularly vulnerable.

The preservation of open space to define neighborhoods and buffer incompatible uses is also an issue that should be addressed in the Comprehensive Plan and in implementation strategies. Such open space acts as green infrastructure offering visual relief from the man-made environment and adding to neighborhood character.

**Town Design Objectives and Policies**

1. To establish design review standards based on articulated design principles for all development in Town addressing such issues as:

- Building size, height, character, materials, relationship to the street
- Parking amount, location, landscaping and screening
- Roadway function, width, streetscape treatment and street furniture
- Sign size, number, materials, style
- Lighting levels

The standards may vary for different areas of Town.

2. To maintain the visual variety and unique character of Warrenton by encouraging a mix of development types and styles which are compatible with Warrenton's historic, small Town

character. The mix should be fine-grained so as to avoid large areas of single uses and so as to create human-scaled neighborhoods.

3. To encourage creative urban design through zoning and subdivision regulations, including flexible design standards, incentives and bonuses. The regulations should be written to implement the Town's articulated design principles.
4. To provide special planning and design attention to the gateways to Warrenton in order to ensure that they convey a sense of the Town's character and scale to travelers.
5. To require landscaping in all new developments to provide attractive land use buffering and to prevent soil erosion.
6. To improve public spaces with landscaping, particularly tree planting.
7. To cooperate with utility companies in the undergrounding of existing and future utility lines, particularly within the historic district and new subdivisions.
8. To enhance the aesthetic quality of downtown, while improving its function, through:
  - Streetscape improvements (landscape treatments, lighting, street furniture, coordinated signage, underground utility lines)
  - Attractive parking facilities compatible with downtown character
  - Improvements to traffic patterns
9. Adopt corridor design standards to ensure that new development along major corridors is compatible with the Town's historic character

#### Additional Design Objectives

1. To preserve Warrenton's visual identity, character and sense of place.
2. To preserve, maintain and enhance Warrenton's traditional pedestrian scale of streets, buildings and public spaces.
3. To preserve Warrenton's rural setting.
4. Encourage the preservation, restoration and adaptive re-use of historic structures, through zoning, subdivision and development regulations.
5. Encourage a mix of land uses to continue in the historic district, including residential, business and government activities and promote first floor retail uses.
6. Ensure that local government actions, including land development regulations, economic development efforts, land acquisition and infrastructure provision, support rather than undermine the Town's goals for historic preservation and pedestrian scale development.

7. Encourage new development to be designed with pedestrian access as an equal priority to motor vehicle access.
8. Encourage the design of new development to be visually compatible with the Town's architectural and urban design traditions.
9. Protect the visual integrity and historic compatibility of the entrances to the historic district.
10. Identify and designate "gateway" entry points to the Town and enhance these with urban design features that provide a sense of arrival as one enters the Town.

#### Traditional Urban Design Policies and Guidelines

1. The citizens of Warrenton have an affection for the historic fabric of the Town in part because it has what is called a "human scale" - that is, the size of outdoor spaces created by streets, buildings and vegetation relates to the size of a human being, thereby making the Town's streets comfortable and pleasing places to walk. Thus, when larger open parcels in the Town are developed, the pattern of such new development should be consistent with the features of the Town's traditional design and development patterns that have created Warrenton's "human scale" environment. These features include:

- relatively narrow street widths,
- a grid of interconnected streets,
- sidewalks along the streets,
- a mix of lot widths (some narrow, some wide),
- on-street parallel parking, and
- buildings located relatively close to the front street.

2. New residential neighborhoods should incorporate the features listed in #1. above, as well as garages located toward the rear of the lot rather than the front.

3. New commercial development should incorporate the features listed in #1. above, as well as other elements that produce street frontages that are comfortable for people. These elements include sidewalks, street trees, street furniture and rear yard parking areas.

4. In general, similar uses should face each other across a street. Where dissimilar uses are contiguous, they should connect at the rear of the lot where buffers can be easily established, rather than the side or front of the lot.

5. New roads should be well connected to the Town's existing street network. All streets should terminate in other streets, not cul-de-sacs, in order to achieve maximum traffic capacity, flexibility and safety. The engineering design elements of new streets, including pavement widths, slopes and curve radii, should be compatible with the historic fabric and pedestrian scale of the Town.

6. Parking lots should be located to the rear of structures so that main buildings can be located near the front street, and the sidewalk space can be a pleasant place for people to walk.

On-site parking should be combined with parallel parking along the frontage of the site to provide adequate space for the expected demand produced by the on-site use. The Town should examine its parking standards to ensure that requirements and incentives are adequate to allow human-scaled developments to be built in areas in and around the historic downtown.

7. New neighborhoods should establish public spaces such as greens or squares, which can be used for a range of community functions. Such greens and squares need not be large in area, but should be well defined spatially, with adjacent buildings or vegetation providing a strong sense of enclosure to the outdoor space.

Attachment C: Town Council Resolution

RESOLUTION

A RESOLUTION DIRECTING THE TOWN MANAGER TO EXECUTE THE COMMONWEALTH OF VIRGINIA OFFICE OF INTERMODAL PLANNING AND INVESTMENT AGREEMENT FOR CONSULTANT SUPPORT TO FACILITATE THE DESIGNATION OF URBAN DEVELOPMENT AREA AND APPROPRIATE ORDINANCE

WHEREAS, the Commonwealth of Virginia Secretary of Transportation informed the Town of Warrenton that it had been awarded a Tier I Urban Development Area Planning Grant in the amount of \$65,000 for on-call consultant support services on January 29, 2016; and

WHEREAS, the Commonwealth of Virginia Secretary of Transportation provided the Town of Warrenton with an Agreement to execute the Tier I Urban Development Area Planning Grant; and

WHEREAS, the Town of Warrenton Planning Commission unanimously recommended the Town Council accept the Tier I Urban Development Area Planning Grant on February 16, 2016; and

WHEREAS, the Town of Warrenton agrees to the terms outlined within the referenced agreement; now, therefore, be it

RESOLVED by the Town of Warrenton Town Council on this 8th day of March 2016, That the Town Manager is directed to execute two copies of the agreement between the Commonwealth of Virginia, Office of Intermodal Planning and Investment, and the Town of Warrenton.

Voting for: Reynolds, Wood, Lubowsky, Kravetz, Lewis

Voting against: \_\_\_\_\_

Adopted: March 8, 2016



Evelyn J. Weimer, Town Recorder



**Town Council Work Session  
February 9, 2017  
Review of Regular Council Meeting Agenda**

**ATTACHMENTS:**

Description	Type	Upload Date
2/14/2017 Agenda	Cover Memo	2/7/2017



## AGENDA

### COUNCIL OF THE TOWN OF WARRENTON

Tuesday, February 14, 2017

7:00 PM

1. Call to order.
2. Invocation
3. Approval of the agenda.
4. Citizens Time.
  - **Introduction of Police Officers Michael Mawdsley and Christopher Nixon**
  - **Proclamation - February 2017 - Black History Month**

**Comments should not be directed to Public Hearing items.**

**Citizens wishing to address the Council should provide their name and residential address. Citizens' comments are limited to five (5) minutes unless a large number of citizens wish to address the Council, in which case, the time limit must be reduced to accommodate all who wish to address the Council.**

5. Hear from Center District Supervisor
6. Public Hearing
  - a. Saint James' Episcopal Church and School-Special Use Permit 2016-05
7. Consent Agenda.
  - a. Approval of Council Minutes
  - b. Staff reports and Board and Commission Minutes
  - c. PATH Foundation Grant Acceptance
  - d. Request for full release of Public Improvements Bond (No. 104433492) for Home Depot U.S.A., Inc.
  - e. Special Event Permit Request for Molly's Irish Pub 5K, Sunday, March 19, 2017
  - f. December Financial Statements



8. New Business.
  - a. Resolution Appropriating Up to \$44,336 for Warrenton Town Limits 2017 and Amending the FY17 General Fund Budget
  - b. Add Auxiliary Officers to Worker's Compensation Coverage
  - c. Real Estate Tax Relief for the Elderly
9. Unfinished Business.
10. Reports and Communications.
  - a. Report from Town Attorney.
  - b. Report from Finance Committee.
  - c. Report from the Public Safety and Transportation Committee.
  - d. Report from the Public Works and Utilities Committee.
  - e. Report from Planning District 9 representative.
  - f. Report from Recreation Committee.
  - g. Report from Liaison Committee representative.
  - h. Report from Town Manager.
11. Councilmembers' time.
12. Adjourn.



**Town Council Work Session**

**February 9, 2017**

**Closed Session, as authorized in Section 2.2-3711(A)(1), for the purpose of interviewing Architectural Review Board applicants.**

**ATTACHMENTS:**

Description	Type	Upload Date
Historic District Background	Backup Material	2/8/2017
ARB Description, Charge and Application Form	Backup Material	2/8/2017

## **Warrenton Historic District Background**

The Town of Warrenton contains a local Historic District overlay and a larger historic district designated by the National Register of Historic Places (NRHP). The first is governed by the Zoning Ordinance standards. The second designation is honorary, but is required for certain grants, tax credits, and other incentives.

### **U.S. SECRETARY OF THE INTERIOR**

The U.S. Secretary of Interior is responsible for establishing standards for all properties under the Department's authority. This includes advising Federal agencies on the preservation of properties listed in or eligible for listing in the National register of Historic Places. The department publishes standards and guidelines for the preservation and rehabilitation of historic structures. Since property owners of "Certified Historic Structures" may be eligible for Rehabilitation Tax Credits, it is important for localities to follow the Department of Interior's standards.

### **VIRGINIA DEPARTMENT OF HISTORIC RESOURCES - CERTIFIED LOCAL GOVERNMENT REQUIREMENTS**

The Town of Warrenton became a Certified Local Government (CLG) in 1996, which requires the Town to:

- adopt a historic district ordinance that --
  - (a) defines district boundaries,
  - (b) establishes a review board in accordance with state statutes,
  - (c) identifies actions that must be reviewed and standards for review, and
  - (d) in general provides for the protection of local historic resources.
- The CLG's preservation commission or review board must administer its ordinance and work as an advocate for preservation in the locality.
- The CLG must continue to survey its local heritage resources.
- The CLG must promote public participation in its local heritage stewardship program.
- The CLG must annually report on the performance of its CLG responsibilities.

### **PROGRAM**

In addition to the CLG structure requirements, there are also program requirements.

1. A local historic preservation ordinance for the designation and protection of historic properties, containing, among others, provisions for:
  - a. a statement of purpose;
  - b. criteria and procedures for identifying and establishing historic districts; clearly delineated boundaries for districts; and
  - c. review by a review board of all exterior alterations, relocations, or new construction visible from a public right-of-way and any proposed demolition within the district boundaries.
2. A local review board meeting, among others, these requirements:
  - a. all members having a demonstrated interest, competence, or knowledge in historic preservation;
  - b. at least one architect or architectural historian in the membership, (unless this requirement is specifically waived by DHR); and

- c. at least one additional member with professional training or equivalent experience in architecture, history, architectural history, archaeology, or planning (unless this requirement is specifically waived by DHR).
3. Maintenance of a system for survey and inventory of historic and cultural resources, which is coordinated with that of the Department of Historic Resources.
4. Provision for adequate public participation in the local historic preservation program.
5. Satisfactory performance of those responsibilities delegated.

## BENEFITS

The CLG program establishes a working relationship between the local government and the State Historic Preservation Office while encouraging local involvement in preservation concerns. In addition, certified local governments:

1. assume a formal role in the identification, evaluation, and protection of the community's historic resources;
2. review National Register nominations for properties in their jurisdictions before those nominations are considered by the Department of Historic Resources;
3. receive technical assistance from the Department of Historic Resources and the National Park Service, and
4. are eligible to apply for matching grants from a 10% share of Virginia's annual federal appropriation which must be set aside specifically for certified local governments. Funds awarded may be used for survey of historic and archaeological resources, preparation of National Register nominations, developing design review guidelines, amending preservation ordinance, preparing preservation plans, testing archaeological sites to determine their significance, and public education programs in historic preservation.

## COMPREHENSIVE PLAN

The 2002 Comprehensive Plan provides a detailed analysis of the Historic District in Chapter 3 Analysis and Plan – Section B. In this section, historic district background, current status and major issues, objectives and policies, and goals are discussed. One policy is to maintain the Certified Local Government designation and require annual training for the Architectural Review Board. Last year three members of the ARB attended training conducted at the Preservation for Virginia conference sponsored by the Department of Historic Resources (DHR).

As part of the 2009 Comprehensive Plan update (adopted in 2013), the Architectural Review Board reviewed the Historic District and proposed an expansion to *“protect areas adjacent to the designated District and create new Guidelines for the review of development application in the District.”* Additionally, the ARB proposed the Town consider development of a Corridor Overlay District for the arterials leading in to the Historic District. Page 54 of the 2009 Comprehensive Plan Supplement speaks to the thoughts behind the Corridor Overlay District.

## ZONING ORDINANCE

The Town of Warrenton updated its Zoning Ordinance in 2006. Article 3-5. 3 outlines the Historic District legislative intent and regulations. This includes the creation and composition of the Architectural Review Board, their powers and duties, and organizational rules. Specifically, the Zoning Ordinance states the ARB membership shall be comprised of 5 members of which a majority shall be Town residents and have a reasonable knowledge and demonstrated interest in historic and/or architectural development in Town. In addition, the Zoning Ordinance speaks to the Historic District boundaries and regulations. The Historic District is also governed in other Articles of the Zoning Ordinance in regards to zoning, signage, definitions, and other applicable sections.

## WARRENTON HISTORIC DISTRICT DESIGN GUIDELINES

The Warrenton Historic District Guidelines flow from the above-related guidance to serve as the foundation for review of historic structures to be granted a Certificate of Appropriateness (COA) prior to building and/or permit issuance. The Architectural Review Process takes into consideration contributing and non-contributing structures as part of the determination for a COA. In addition, there is a mechanism outlined in the Zoning Ordinance that allows for certain types of COAs to be granted administratively.



## DEPARTMENT OF PLANNING & COMMUNITY DEVELOPMENT

# WARRENTON ARCHITECTURAL REVIEW BOARD

## BACKGROUND

### Warrenton Historic District

In the early 1980's, a survey to inventory and assess the historic and architectural value of properties central, "Old Town" portion of the Town was conducted. Following a series of public hearings, the Town Council created the Warrenton Historic District and Article 22 of the Zoning Ordinance entitled, "HD-Historic District" in 1982. The Historic District was established as an "overlay zoning district" whereby the existing zoning designations (e.g. Residential 6 or Central Business District) and their regulations remain in place, while additional review procedures and regulations apply due to the secondary overlay designation. The Historic District (HD) regulations are now found in Section 3-5.3 of the Town Zoning Ordinance. The Historic District zoning regulations are intended to protect against deterioration, destruction of, or encroachment upon such areas, structures and premises; to encourage uses which will lead to their continuance, conservation and improvement in an appropriate manner and to assure that new structures and uses within such districts will be in keeping with the character to be preserved and enhanced.

In 1990 and 1996 the Historic District was expanded. The first expansion took place to bring into the district several historically significant properties on the crossroad perimeters. Although these resources were considered noteworthy in a 1977 survey by the Virginia Department of Historic Landmarks, they were excluded from the initial boundary for the preliminary management ease of a more confined district. A second alteration in the district evolved in 1996 when it was determined that the boundary line of the district cut through lots and even some buildings. Therefore, a minor expansion to the district eliminated this problem. However, these revisions to the original National Register District have not yet been nominated to the Virginia Department of Historic Resources or National Park Service for approval in the National Register of Historic Places. The Comprehensive Plan has the nomination of the expansion area as a future objective.

The Warrenton Historic District is characterized by a variety of building types and styles representing the Town's importance as the county seat. The focus of the Historic District is the central business district and its five surrounding residential neighborhoods. Within these boundaries are the Fauquier County Courthouse, the County and Town government buildings, an example of an early jail, churches, and many other architecturally significant buildings. Also included are the homes of a former Virginia Governor, and three prominent figures from the Civil War era.

## ORGANIZATION

### Architectural Review Board (ARB)

The ARB consists of five Town Council appointed citizen volunteers who must have specialized knowledge and interest in history, historic preservation and/or architecture. Members are appointed for a term of four (4) years. Initial appointments are three (3) members for four (4) years, and remaining

members for two (2) years. The ARB elects from its own membership a chairman and vice-chairman to serve annual terms and may succeed themselves. The Planning Director or designee serves as Secretary to the ARB.

The Board meets on the fourth Thursday of each month at 7:00 P.M at Town Hall. Applications for a Certificate of Appropriateness must be submitted by 4:30 P.M. on the first day of the month or the business day immediately following in order to be reviewed during that month's meeting.

#### **ARB CHARGE**

The Architectural Review Board is charged by the Town Council with the review of most exterior alteration on all elevations of buildings, additions, demolitions, relocations, reconstruction, repairs using dissimilar materials, new building construction, walls and fences exceeding three-and-one-half-feet in height, signs, awnings, skylights, HVAC units (except for window air conditioners on residences), exhaust fans and any other major actions which would have a substantial effect on the character of the historic district. With approval, the ARB issues a Certificate of Appropriateness to be displayed on the front of the property during the undertaking. The annually-trained ARB meets once a month as needed. Special meetings are called upon request. Council appoints members who have demonstrated knowledge or interest in historic or architectural development in the Town



## BOARDS AND COMMISSION CANDIDATE INFORMATION SHEET

NAME: \_\_\_\_\_

HOME ADDRESS: \_\_\_\_\_

ZIP: \_\_\_\_\_

HOME TELEPHONE: \_\_\_\_\_

OCCUPATION OR TITLE: \_\_\_\_\_

PLACE OF BUSINESS: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_

BUSINESS TELEPHONE: \_\_\_\_\_

HOW LONG RESIDENT? \_\_\_\_\_

WARD NO: \_\_\_\_\_

Residency within the Town of Warrenton is a requirement for most boards and commissions.

**CANDIDATE FOR POSITION ON:** \_\_\_\_\_

Why do you wish to serve the Town:

What experience or education have you had relative to this field of concern?

What are your major interests or concerns in the Town's programs?

What other interests or concerns do you have regarding the community?

Please list any previous or present involvement such as Town Council, board or commission members, citizens committee, etc. in Warrenton or elsewhere.

Are you are registered voter? Yes \_\_\_\_\_ No \_\_\_\_\_

Date \_\_\_\_\_

Signature \_\_\_\_\_

**SEND APPLICATION TO: Town Manager's Office, P.O. Box 341, Warrenton, VA 20188**

**FAX: 540-349-2414**

**For questions call: 540-347-4505**

**Via email: [eweimer@warrentonva.gov](mailto:eweimer@warrentonva.gov)**

The Town of Warrenton volunteer positions are open to all persons without regard to race, sex, age, handicap, religion, ethnic background or national origin.