

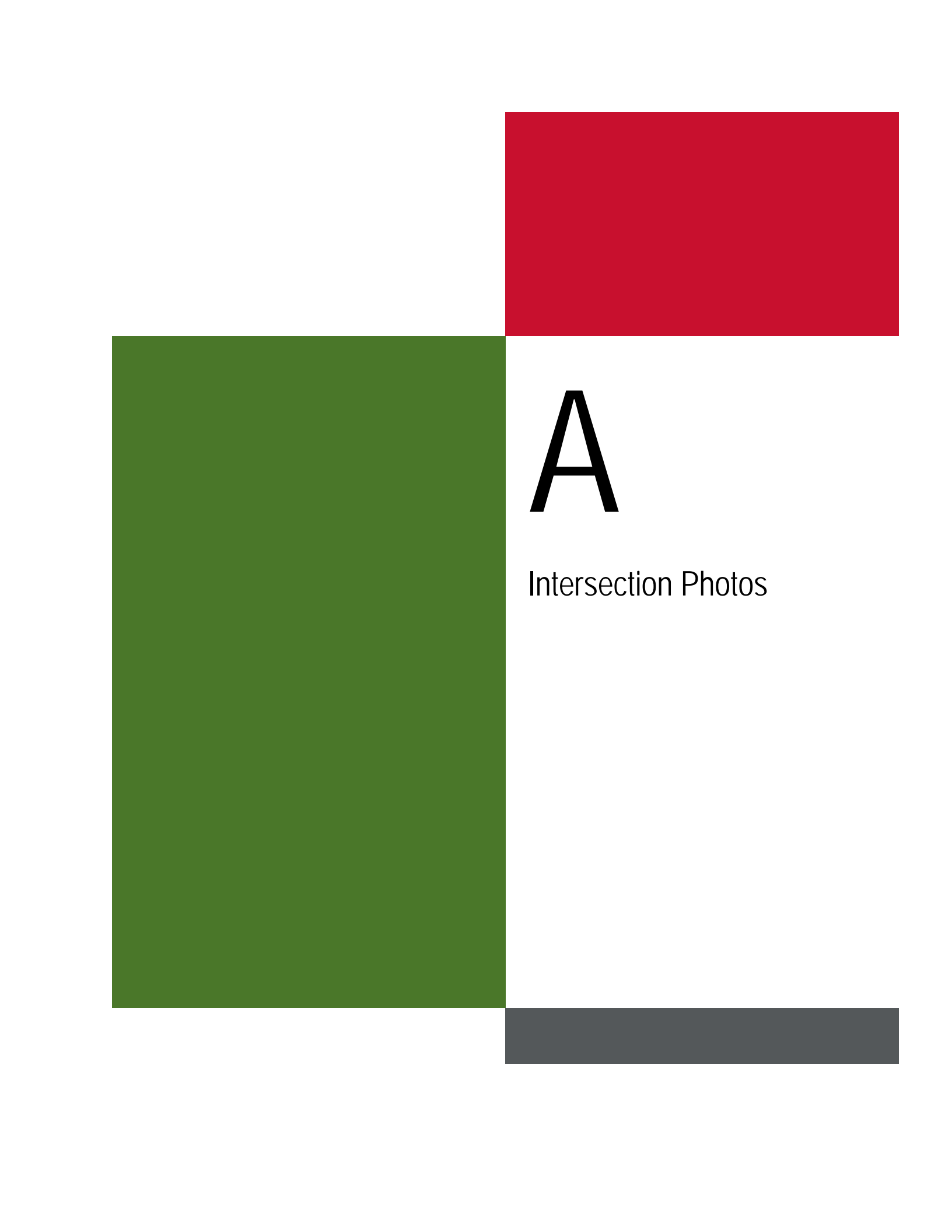


February  
**2016**

**Final Report**  
**Volume II: Appendices**  
**WV 45 in Martinsburg, WV**  
**Traffic Operations and**  
**Safety Study**

State Project: S202-45-14.30  
Federal Project: OCRO-0045(060)





A

Intersection Photos

**I/S #1: WV 45 with Blue Ridge Community College**



View Northbound towards WV 45



View Facing Northwest towards WV 45



View Eastbound on WV 45



View Facing Northeast towards WV 45

I/S #2: WV 45 with Klee Drive



View Northbound across WV 45 towards Klee Drive



View Southbound on Klee Drive at WV 45



View to the Southwest of Klee Drive at WV 45



View Westbound along WV 45

**I/S #3: WV 45 and Proposed Cornerstone Development**



View Northbound towards WV 45



View Eastbound along WV 45



View towards Cornerstone Development across WV 45



View Westbound along WV 45

**I/S #4: WV 45 and Retail Commons Parkway**



View Eastbound on WV 45



View Eastbound on WV 45



View towards the northwest across the RCP intersection with WV 45



View Northbound on Retail Commons Parkway

**I/S #5: WV 45 and I-81 Southbound Interchange Ramps**



View Westbound on WV 45



View Southbound on I-81 Southbound off-ramp



View Eastbound on WV 45



View facing Northeast of the I-81 Southbound Intersection

**I/S #6: WV 45 and I-81 Northbound Interchange Ramps**



View Westbound on WV 45 at I-81 NB Intersection



View Eastbound on WV 45 at I-81 NB Intersection



View Northbound along the I-81 NB off-ramp at WV 45



View Southbound along I-81 on-ramp back towards WV 45



I/S #7: WV 45 and Foxcroft Avenue



View Northbound from McDonald's at WV 45



View Westbound along WV 45 at Foxcroft Avenue



View facing the Southwest of Foxcroft Avenue



View Westbound of Foxcroft Avenue at WV 45

I/S #LS: WV 45 and Lowes / Sheetz Driveways



View Eastbound along WV 45 at Sheetz driveway



View Westbound along WV approaching Lowes Plaza



View Eastbound along WV 45 looking back towards Winchester Avenue



View Westbound along WV 45 at Lowes Plaza

I/S #8: WV45 and Winchester Avenue (US 11)



View Northbound along Winchester Avenue



View Eastbound along WV 45 looking back towards New York Avenue



View Southbound along Winchester Avenue



View Westbound along WV 45 at Winchester Avenue

**I/S #9: WV 45 and New York Avenue**



View Northbound along New York Avenue



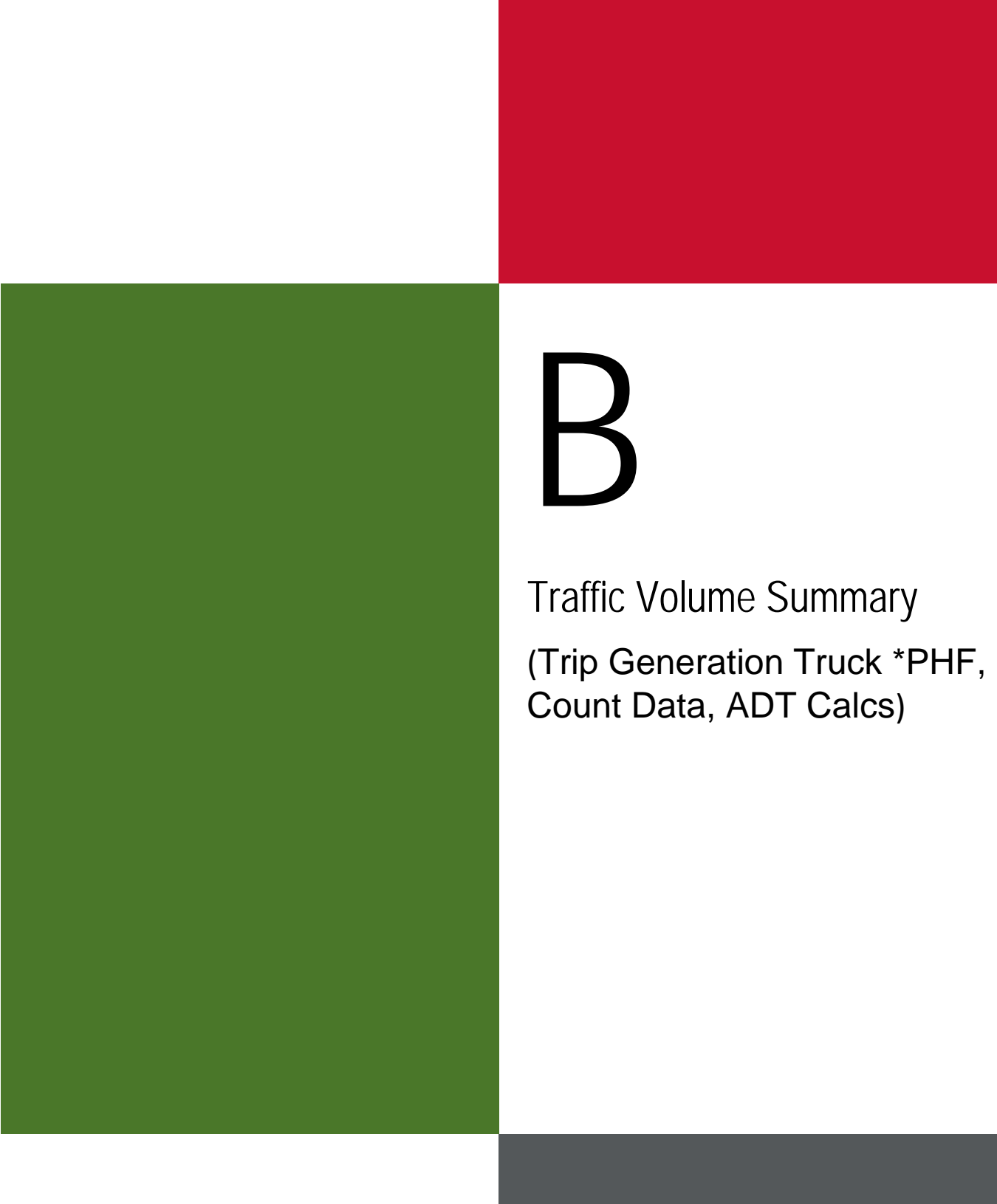
View Westbound along WV 45



View Southbound along New York Avenue



View Eastbound along WV 45.



# B

## Traffic Volume Summary

(Trip Generation Truck \*PHF,  
Count Data, ADT Calcs)





<b>Project:</b> WV 45 Traffic Study	<b>Computed:</b> ABS	<b>Date:</b> 09/22/14
<b>Subject:</b> Cornerstone Trip Gen	<b>Checked:</b> BJB	<b>Date:</b> 09/22/14
<b>Task:</b>	<b>Page:</b> 1	<b>of:</b> 5
<b>Job #:</b>	<b>No:</b>	

Source: ITE Trip Generation, 9th Edition

Land Use	Weekday			AM Peak <sup>1</sup>			PM Peak <sup>1</sup>			SAT Peak		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
<b>Hotel</b>	454	453	907	35	24	59	34	33	67	45	36	81
<b>Motel<sup>2</sup></b>	151	151	302	8	15	23	13	11	24	13	11	24
<b>Apartment</b>	341	340	681	10	39	49	44	24	68	29	28	57
<b>Restaurant</b>	445	445	890	42	34	76	41	28	69	52	46	98
<b>Totals</b>	<b>1391</b>	<b>1389</b>	<b>2780</b>	<b>95</b>	<b>112</b>	<b>207</b>	<b>132</b>	<b>96</b>	<b>228</b>	<b>139</b>	<b>121</b>	<b>260</b>

**Notes:**

- 1 - AM and PM trips are based on Peak Hour of Adjacent Street Traffic
- 2 - No Saturday rate provided, assumed same as PM Peak



<b>Project:</b> WV 45 Traffic Study	<b>Computed:</b> ABS	<b>Date:</b> 09/22/14
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<b>Job #:</b>	<b>No:</b>	

Source: ITE Trip Generation, 9th Edition

#### Land Use 310 - Hotel

Number of Rooms: 111 Hilton Garden Inn

#### Weekday

DD In: 50%

DD Out: 50%

**Average Rate:** 8.17

$$\text{Total Trips} = 8.17 \times 111 = 907 \text{ trip ends}$$

$$\begin{aligned} \text{In} &= 50\% \times 907 = 454 \text{ trips entering} \\ \text{Out} &= 50\% \times 907 = 453 \text{ trips exiting} \end{aligned}$$

**Equation:**  $T = 8.95(X) - 373.16$

$$T = 8.95 \times 111 - 373.16 = 620$$

$$\begin{aligned} \text{In} &= 50\% \times 620 = 310 \text{ trips entering} \\ \text{Out} &= 50\% \times 620 = 310 \text{ trips exiting} \end{aligned}$$

#### Weekday, AM Peak Hour of Adjacent Street Traffic

DD In: 59%

DD Out: 41%

**Average Rate:** 0.53

$$\text{Total Trips} = 0.53 \times 111 = 59 \text{ trip ends}$$

$$\begin{aligned} \text{In} &= 59\% \times 59 = 35 \text{ trips entering} \\ \text{Out} &= 41\% \times 59 = 24 \text{ trips exiting} \end{aligned}$$

**Equation:** Not Given

#### Weekday, PM Peak Hour of Adjacent Street Traffic

DD In: 51%

DD Out: 49%

**Average Rate:** 0.60

$$\text{Total Trips} = 0.60 \times 111 = 67 \text{ trips ends}$$

$$\begin{aligned} \text{In} &= 51\% \times 67 = 34 \text{ trips entering} \\ \text{Out} &= 49\% \times 67 = 33 \text{ trips exiting} \end{aligned}$$

**Equation:** Not Given

#### Saturday, Peak Hour of Generator

DD In: 56%

DD Out: 44%

**Average Rate:** 0.72

$$\text{Total Trips} = 0.72 \times 111 = 80 \text{ trips ends}$$

$$\begin{aligned} \text{In} &= 56\% \times 80 = 45 \text{ trips entering} \\ \text{Out} &= 44\% \times 80 = 35 \text{ trips exiting} \end{aligned}$$

**Equation:**  $T = 0.69(X) + 4.32$

$$T = 0.69 \times 111 + 4.32 = 81$$

$$\begin{aligned} \text{In} &= 56\% \times 81 = 45 \text{ trips entering} \\ \text{Out} &= 44\% \times 81 = 36 \text{ trips exiting} \end{aligned}$$





<b>Project:</b> WV 45 Traffic Study	<b>Computed:</b> ABS	<b>Date:</b> 09/22/14
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Source: ITE Trip Generation, 9th Edition

#### Land Use 320 - Motel

Number of Rooms: 50

#### Weekday

DD In: 50%

DD Out: 50%

**Average Rate:** 5.63

Total Trips = 5.63 x 50 = 282 trip ends

In = 50% x 282 = 141 trips entering

Out = 50% x 282 = 141 trips exiting

**Equation:**  $\ln(T) = 0.92 \ln(X) + 2.11$

$\ln(T) = 0.92 \times \ln(50) + 2.11 = 5.71$  vph  
Trips = Inv. Log 5.71 = 302

In = 50% x 302 = 151 trips entering

Out = 50% x 302 = 151 trips exiting

#### Weekday, AM Peak Hour of Adjacent Street Traffic

DD In: 36%

DD Out: 64%

**Average Rate:** 0.45

Total Trips = 0.45 x 50 = 23 trip ends

In = 36% x 23 = 8 trips entering

Out = 64% x 23 = 15 trips exiting

**Equation:**  $\ln(T) = 0.92 \ln(X) - 0.46$

$\ln(T) = 0.92 \times \ln(50) - 0.46 = 3.14$  vph  
Trips = Inv. Log 3.14 = 23

In = 36% x 23 = 8 trips entering

Out = 64% x 23 = 15 trips exiting

#### Weekday, PM Peak Hour of Adjacent Street Traffic

DD In: 54%

DD Out: 46%

**Average Rate:** 0.47

Total Trips = 0.47 x 50 = 24 trip ends

In = 54% x 24 = 13 trips entering

Out = 46% x 24 = 11 trips exiting

**Equation:**  $\ln(T) = 0.94 \ln(X) - 0.51$

$\ln(T) = 0.94 \times \ln(50) - 0.51 = 3.17$  vph  
Trips = Inv. Log 3.17 = 24

In = 54% x 24 = 13 trips entering

Out = 46% x 24 = 11 trips exiting

#### Saturday, Peak Hour of Generator

No Saturday rates provided



<b>Project:</b> WV 45 Traffic Study	<b>Computed:</b> ABS	<b>Date:</b> 09/22/14
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<b>Job #:</b>	<b>No:</b>	

Source: ITE Trip Generation, 9th Edition

#### Land Use 220 - Apartment

Dwelling Units: 92

#### Weekday

DD In: 50%

DD Out: 50%

**Average Rate:** 6.65

$$\text{Total Trips} = 6.65 \times 92 = 612 \text{ trip ends}$$

$$\text{In} = 50\% \times 612 = 306 \text{ trips entering}$$

$$\text{Out} = 50\% \times 612 = 306 \text{ trips exiting}$$

**Equation:**  $T = 6.06(X) + 123.56$

$$T = 6.06 \times 92 + 123.56 = 681$$

$$\text{In} = 50\% \times 681 = 341 \text{ trips entering}$$

$$\text{Out} = 50\% \times 681 = 340 \text{ trips exiting}$$

#### Weekday, AM Peak Hour of Adjacent Street Traffic

DD In: 20%

DD Out: 80%

**Average Rate:** 0.51

$$\text{Total Trips} = 0.51 \times 92 = 47 \text{ trip ends}$$

$$\text{In} = 20\% \times 47 = 9 \text{ trips entering}$$

$$\text{Out} = 80\% \times 47 = 38 \text{ trips exiting}$$

**Equation:**  $T = 0.49(X) + 3.73$

$$T = 0.49 \times 92 + 3.73 = 49$$

$$\text{In} = 20\% \times 49 = 10 \text{ trips entering}$$

$$\text{Out} = 80\% \times 49 = 39 \text{ trips exiting}$$

#### Weekday, PM Peak Hour of Adjacent Street Traffic

DD In: 65%

DD Out: 35%

**Average Rate:** 0.62

$$\text{Total Trips} = 0.62 \times 92 = 57 \text{ trips ends}$$

$$\text{In} = 65\% \times 57 = 37 \text{ trips entering}$$

$$\text{Out} = 35\% \times 57 = 20 \text{ trips exiting}$$

**Equation:**  $T = 0.55(X) + 17.65$

$$T = 0.55 \times 92 + 17.65 = 68$$

$$\text{In} = 65\% \times 68 = 44 \text{ trips entering}$$

$$\text{Out} = 35\% \times 68 = 24 \text{ trips exiting}$$

#### Saturday, Peak Hour of Generator

DD In: 50% *Not available, assume 50/50*

DD Out: 50%

**Average Rate:** 0.52

$$\text{Total Trips} = 0.52 \times 92 = 48 \text{ trips ends}$$

$$\text{In} = 50\% \times 48 = 24 \text{ trips entering}$$

$$\text{Out} = 50\% \times 48 = 24 \text{ trips exiting}$$

**Equation:**  $T = 0.41(X) + 19.23$

$$T = 0.41 \times 92 + 19.23 = 57$$

$$\text{In} = 50\% \times 57 = 29 \text{ trips entering}$$

$$\text{Out} = 50\% \times 57 = 28 \text{ trips exiting}$$



<b>Project:</b> WV 45 Traffic Study	<b>Computed:</b> ABS	<b>Date:</b> 09/22/14
<b>Subject:</b> Cornerstone Trip Gen	<b>Checked:</b> BJB	<b>Date:</b> 09/22/14
<b>Task:</b>	<b>Page:</b> 5	<b>of:</b> 5
<b>Job #:</b>	<b>No:</b>	

Source: ITE Trip Generation, 9th Edition

### Land Use 932 - High-turnover Sit-down Resturant

Gross Floor Area (1000 SF): 7 Size not provided

#### Weekday

DD In: 50%

DD Out: 50%

**Average Rate:** 127.15

$$\text{Total Trips} = 127.15 \times 7 = 890 \text{ trip ends}$$

$$\text{In} = 50\% \times 890 = 445 \text{ trips entering}$$

$$\text{Out} = 50\% \times 890 = 445 \text{ trips exiting}$$

**Equation:** Not given

#### Weekday, AM Peak Hour of Adjacent Street Traffic

DD In: 55%

DD Out: 45%

**Average Rate:** 10.81

$$\text{Total Trips} = 10.81 \times 7 = 76 \text{ trip ends}$$

$$\text{In} = 55\% \times 76 = 42 \text{ trips entering}$$

$$\text{Out} = 45\% \times 76 = 34 \text{ trips exiting}$$

**Equation:** Not given

#### Weekday, PM Peak Hour of Adjacent Street Traffic

DD In: 60%

DD Out: 40%

**Average Rate:** 9.85

$$\text{Total Trips} = 9.85 \times 7 = 69 \text{ trips ends}$$

$$\text{In} = 60\% \times 69 = 41 \text{ trips entering}$$

$$\text{Out} = 40\% \times 69 = 28 \text{ trips exiting}$$

**Equation:** Not given

#### Saturday, Peak Hour of Generator

DD In: 53%

DD Out: 47%

**Average Rate:** 14.07

$$\text{Total Trips} = 14.07 \times 7 = 98 \text{ trips ends}$$

$$\text{In} = 53\% \times 98 = 52 \text{ trips entering}$$

$$\text{Out} = 47\% \times 98 = 46 \text{ trips exiting}$$

**Equation:** Not Given



**Project:** WV 45 Traffic Study      **Computed:** ESH      **Date:** 06/17/14  
**Subject:** Calcs for Truck %      **Checked:** BJB      **Date:** 6/26/14  
**Task:** Traffic Analyses      **Page:** 2      **of:** 2  
**Job #:** 232057      **No:**

**WV 45 & Blue Ridge CC**

Fri. AM Peak	Blue Ridge CC (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
7:15	0	0	30	1	17	1
7:30	2	1	45	0	14	1
7:45	0	0	44	1	20	0
8:00	2	0	27	0	35	2
Sub-total	4	1	146	2	86	4
% Trucks	25.0%		1.4%		4.7%	
PHF	0.50		0.81		0.61	

I/S  
3.0%

Sat. Mid Peak	Blue Ridge CC (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
11:30	0	0	27	1	29	0
11:45	0	0	25	1	23	0
12:00	0	0	34	0	26	0
12:15	1	0	22	0	18	0
Sub-total	1	0	108	2	96	0
% Trucks	0.0%		1.9%		0.0%	
PHF	0.25		0.79		0.83	

I/S  
1.0%

Fri. PM Peak	Blue Ridge CC (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
4:00	6	0	16	0	56	1
4:15	9	0	24	0	54	0
4:30	20	0	28	0	45	0
4:45	4	0	28	3	49	0
Sub-total	39	0	96	3	204	1
% Trucks	0.0%		3.1%		0.5%	
PHF	0.49		0.86		0.91	

I/S  
1.2%

**WV 45 & Cornerstone**

Fri. AM Peak	WV 45 (E)		Cornerstone (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
7:15	60	1	0	0	22	2
7:30	88	2	0	0	24	2
7:45	67	2	0	0	31	1
8:00	44	0	0	0	43	3
Sub-total	259	5	0	0	120	8
% Trucks	1.9%		0.0%		6.7%	
PHF	0.74		0.00		0.70	

I/S  
3.4%

Sat. Mid Peak	WV 45 (E)		Cornerstone (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
11:30	44	1	0	0	44	0
11:45	53	0	0	0	42	0
12:00	44	0	1	0	47	0
12:15	42	1	0	0	41	1
Sub-total	183	2	1	0	174	1
% Trucks	1.1%		0.0%		0.6%	
PHF	0.86		0.25		0.93	

I/S  
0.8%

Fri. PM Peak	WV 45 (E)		Cornerstone (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
4:00	32	0	0	0	79	1
4:15	54	0	0	0	83	0
4:30	69	0	0	0	71	0
4:45	46	3	0	0	81	1
Sub-total	201	3	0	0	314	2
% Trucks	1.5%		0.0%		0.6%	
PHF	0.73		0.00		0.95	

I/S  
1.0%

**WV 45 & Klee**

Fri. AM Peak	Driveway (N)		WV 45 (E)		Klee Dr (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
7:15	1	0	37	2	27	0	23	1
7:30	1	0	48	4	37	1	21	4
7:45	1	1	37	3	27	1	29	0
8:00	0	0	29	0	17	0	41	2
Sub-total	3	1	151	9	108	2	114	7
% Trucks	33.3%		6.0%		1.9%		6.1%	
PHF	0.75		0.79		0.73		0.70	

I/S  
4.8%

Sat. Mid Peak	Driveway (N)		WV 45 (E)		Klee Dr (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
11:30	0	0	30	0	16	0	47	0
11:45	0	0	30	1	25	0	37	0
12:00	0	0	32	0	18	0	45	0
12:15	0	0	22	0	17	1	43	0
Sub-total	0	0	114	1	76	1	172	0
% Trucks	0.0%		0.90%		1.3%		0.0%	
PHF	0.00		0.89		0.76		0.91	

I/S  
0.6%

Fri. PM Peak	Driveway (N)		WV 45 (E)		Klee Dr (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
4:00	1	1	21	0	15	0	79	2
4:15	0	0	35	0	19	0	76	0
4:30	0	0	49	0	18	0	68	0
4:45	0	0	28	3	18	0	84	0
Sub-total	1	1	133	3	70	0	307	2
% Trucks	100.0%		2.3%		0.0%		0.7%	
PHF	0.25		0.68		0.92		0.91	

I/S  
1.0%

#### WV 45 & NY Avenue

Fri. AM Peak	NY Ave (N)		WV 45 (E)		NY Ave (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
7:15	8	3	315	7	20	0	195	6
7:30	3	1	352	13	30	1	212	10
7:45	13	4	341	17	27	3	237	12
8:00	7	2	233	10	23	4	234	22
Sub-total	31	10	1241	47	100	8	878	50
% Trucks	32.3%		3.8%		8.0%		5.7%	
PHF	0.60		0.88		0.83		0.93	

I/S  
4.7%

Sat. Mid Peak	NY Ave (N)		WV 45 (E)		NY Ave (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
11:30	40	0	241	9	31	0	251	8
11:45	30	0	248	5	20	0	254	7
12:00	39	0	239	3	39	1	236	3
12:15	29	1	271	7	26	1	276	4
Sub-total	138	1	999	24	116	2	1017	22
% Trucks	0.7%		2.4%		1.7%		2.2%	
PHF	0.86		0.92		0.74		0.92	

I/S  
2.3%

Fri. PM Peak	NY Ave (N)		WV 45 (E)		NY Ave (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
4:00	47	0	261	6	36	1	356	12
4:15	22	1	264	10	32	0	356	14
4:30	56	0	252	3	40	0	378	11
4:45	46	3	222	9	26	3	338	7
Sub-total	171	4	999	28	134	4	1428	44
% Trucks	2.3%		2.8%		3.0%		3.1%	
PHF	0.76		0.95		0.84		0.94	

I/S  
3.0%

#### WV 45 & Retail Commons

Fri. AM Peak	Retail Cmns (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
7:15	10	1	66	0	46	2
7:30	10	1	83	2	34	2
7:45	10	1	77	2	60	3
8:00	16	0	43	0	68	3
Sub-total	46	3	269	4	208	10
% Trucks	6.5%		1.5%		4.8%	
PHF	0.72		0.81		0.76	

I/S  
3.3%

Sat. Mid Peak	Retail Cmns (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
11:30	129	0	43	1	158	0
11:45	137	1	54	0	172	0
12:00	110	0	42	0	195	3
12:15	134	1	49	1	151	1
Sub-total	510	2	188	2	676	4
% Trucks	0.4%		1.1%		0.6%	
PHF	0.93		0.87		0.87	

I/S  
0.6%

Fri. PM Peak	Retail Cmns (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
4:00	113	2	36	1	167	3
4:15	133	2	43	0	166	2
4:30	139	0	66	0	196	0
4:45	126	0	49	2	207	0
Sub-total	511	4	194	3	736	5
% Trucks	0.8%		1.5%		0.7%	
PHF	0.92		0.73		0.89	

I/S  
0.8%

**WV 45 & Winchester**

Fri. AM Peak	Winchester (N)		WV 45 (E)		Winchester (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
7:15	143	8	325	6	61	4	189	6
7:30	143	6	366	13	71	1	202	7
7:45	132	3	367	15	72	4	227	15
8:00	135	7	254	10	62	3	197	17
Sub-total	553	24	1312	44	266	12	815	45
% Trucks	4.3%		3.4%		4.5%		5.5%	
PHF	0.97		0.89		0.92		0.9	

I/S  
4.2%

Sat. Mid Peak	Winchester (N)		WV 45 (E)		Winchester (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
11:30	177	2	345	9	125	1	262	8
11:45	176	4	369	4	131	0	238	8
12:00	204	1	350	2	114	1	246	3
12:15	190	1	336	10	111	0	287	5
Sub-total	747	8	1400	25	481	2	1033	24
% Trucks	1.1%		1.8%		0.4%		2.3%	
PHF	0.92		0.95		0.92		0.90	

I/S  
1.8%

Fri. PM Peak	Winchester (N)		WV 45 (E)		Winchester (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
4:00	189	2	339	6	123	1	301	12
4:15	187	2	325	12	122	0	321	8
4:30	148	0	341	6	121	1	348	14
4:45	140	1	326	11	128	1	309	5
Sub-total	664	5	1331	35	494	3	1279	39
% Trucks	0.80%		2.6%		0.6%		3.0%	
PHF	0.88		0.98		0.96		0.92	

I/S  
2.5%

**WV 45 & Foxcroft (Mall)**

Fri. AM Peak	Sheetz (N)		WV 45 (E)		Foxcroft (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
7:15	35	1	338	10	84	1	242	9
7:30	31	0	363	14	77	3	258	7
7:45	47	0	350	16	82	6	249	15
8:00	40	1	243	8	78	1	247	18
Sub-total	153	2	1294	48	321	11	996	49
% Trucks	1.3%		3.7%		3.4%		4.9%	
PHF	0.81		0.89		0.96		0.97	

I/S  
4.1%

Sat. Mid Peak	Sheetz (N)		WV 45 (E)		Foxcroft (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
11:30	37	0	298	10	183	0	344	5
11:45	43	0	313	3	190	2	366	11
12:00	38	0	304	2	213	0	362	4
12:15	46	1	297	9	187	3	338	6
Sub-total	164	1	1212	24	773	5	1410	26
% Trucks	0.6%		2.0%		0.6%		1.8%	
PHF	0.89		0.97		0.91		0.96	

I/S  
1.6%

Fri. Mid Peak	Sheetz (N)		WV 45 (E)		Foxcroft (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
12:00	39	0	332	15	236	3	371	12
12:15	43	0	322	19	216	2	356	18
12:30	50	2	303	17	237	6	338	24
12:45	44	0	288	13	251	3	344	18
Sub-total	176	2	1245	64	940	14	1409	72
% Trucks	1.1%		5.1%		1.5%		5.1%	
PHF	0.88		0.94		0.94		0.95	

I/S  
4.2%

Fri. PM Peak	Sheetz (N)		WV 45 (E)		Foxcroft (S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
4:00	30	0	331	8	178	1	361	13
4:15	26	0	289	12	182	1	433	7
4:30	19	0	338	9	186	1	385	9
4:45	25	0	318	12	188	1	405	5
Sub-total	100	0	1276	41	734	4	1584	34
% Trucks	0.0%		3.2%		0.5%		2.1%	
PHF	0.83		0.94		0.98		0.91	

I/S  
2.2%

**WV 45 & I-81 NB Ramps**

Fri. AM Peak	NB Off-Ramp (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
7:15	75	3	295	6	234	9
7:30	97	3	287	13	233	9
7:45	96	4	263	7	218	13
8:00	79	4	165	3	237	19
Sub-total	347	14	1010	29	922	50
% Trucks	4.0%		2.9%		5.4%	
PHF	0.89		0.86		0.97	

I/S  
4.1%

Fri. Mid Peak	NB Off-Ramp (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
12:00	111	8	287	14	319	11
12:15	97	5	296	13	348	27
12:30	109	8	274	14	385	27
12:45	86	0	296	7	351	19
Sub-total	403	21	1153	48	1403	84
% Trucks	5.2%		4.2%		6.0%	
PHF	0.91		0.97		0.91	

I/S  
5.2%

Fri. PM Peak	NB Off-Ramp (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
4:00	83	1	302	10	336	12
4:15	82	5	254	8	408	12
4:30	109	5	299	1	375	13
4:45	113	2	260	8	395	7
Sub-total	387	13	1115	27	1514	44
% Trucks	3.4%		2.4%		2.9%	
PHF	0.86		0.92		0.93	

I/S  
2.8%

**WV 45 & I-81 SB Ramps**

Fri. AM Peak	WV 45 (E)		SB Off-Ramp(S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
7:15	70	2	218	8	78	2
7:30	85	2	260	14	68	2
7:45	80	2	204	8	90	6
8:00	59	0	151	5	97	7
Sub-total	294	6	833	35	333	17
% Trucks	2.0%		4.2%		5.1%	
PHF	0.86		0.80		0.86	

I/S  
4.0%

Fri. Mid Peak	WV 45 (E)		SB Off-Ramp(S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
12:00	150	1	202	12	194	5
12:15	180	1	198	12	196	5
12:30	190	1	151	13	213	12
12:45	175	1	177	8	213	7
Sub-total	695	4	728	45	816	29
% Trucks	0.6%		6.2%		3.6%	
PHF	0.91		0.90		0.96	

I/S  
3.5%

Fri. PM Peak	WV 45 (E)		SB Off-Ramp(S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
4:00	139	1	226	8	186	2
4:15	152	4	143	4	236	6
4:30	183	0	216	2	223	5
4:45	146	2	204	7	254	5
Sub-total	620	7	789	21	899	18
% Trucks	1.1%		2.7%		2.0%	
PHF	0.85		0.87		0.88	


I/S  
2.0%

Sat. Mid Peak	NB Off-Ramp (N)		WV 45 (E)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
11:30	83	4	269	6	306	7
11:45	94	0	285	4	293	8
12:00	100	1	245	3	284	1
12:15	85	2	265	6	315	6
Sub-total	362	7	1064	19	1198	22
% Trucks	1.9%		1.8%		1.8%	
PHF	0.91		0.93		0.95	

I/S  
1.8%

Sat. Mid Peak	WV 45 (E)		SB Off-Ramp(S)		WV 45 (W)	
	Total	Trucks	Total	Trucks	Total	Trucks
11:30	144	1	185	6	187	2
11:45	169	2	193	4	171	2
12:00	140	0	179	5	211	1
12:15	154	2	195	7	195	2
Sub-total	607	5	752	22	764	7
% Trucks	0.8%		2.9%		0.9%	
PHF	0.90		0.96		0.91	

I/S  
1.6%



# B

Saturation Flow Rate, Initial  
Unmet Demand, and Travel  
Time Studies





<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checker</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 1	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{AverageHeadway}$$

**Location:** Intersection #4 - WV45 & Commons  
**Direction:** WV 45  
**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)  
 Friday, August 15, 2014: PM Peak (4:00 - 5:00)  
 Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Note, could not calculate due to insufficient queue lengths and traffic progression.

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
<b>Average</b>					



<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checked</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 2	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{Average\ Headway}$$

**Location:** Intersection #5: WV 45 and I-81 Southbound Ramps  
**Direction:** WV 45  
**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)  
 Friday, August 15, 2014: PM Peak (4:00 - 5:00)  
 Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1	0	7	5.9	1.97	1,831
2	0	10	12.2	2.03	1,770
3	0	10	12.5	2.08	1,728
4	0	9	9.3	1.86	1,935
5	0	9	9.0	1.80	2,000
6	0	10	12.3	2.05	1,756
7	0	10	14.1	2.35	1,532
8	0	10	12.7	2.12	1,701
9	0	8	12.1	3.03	1,190
10	0	10	12.0	2.00	1,800
11					
12					
13					
14					
15					
<b>Average</b>				<b>2.13</b>	<b>1724</b>



<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checked</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 3	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{Average\ Headway}$$

**Location:** Intersection #6: WV 45 and I-81 Northbound Ramps  
**Direction:** WV 45  
**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)  
 Friday, August 15, 2014: PM Peak (4:00 - 5:00)  
 Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1	0	10	11.0	1.83	1,964
2	0	9	13	2.60	1,385
3	0	9	8.8	1.76	2,045
4	0	8	10.2	2.55	1,412
5	0	7	6.7	2.23	1,612
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
<b>Average</b>				<b>2.20</b>	<b>1684</b>



<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checker</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 4	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{AverageHeadway}$$

**Location:** Intersection #7: WV 45 and Foxcroft Ave.  
**Direction:** WV 45  
**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)  
 Friday, August 15, 2014: PM Peak (4:00 - 5:00)  
 Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1	0	9	11.1	2.22	1,622
2	0	10	14.9	2.48	1,450
3	0	10	12.3	2.05	1,756
4	0	10	13.6	2.27	1,588
5	0	10	10	1.67	2,160
6	0	10	11.4	1.90	1,895
7	0	8	7.7	1.93	1,870
8	0	8	7.1	1.78	2,028
9	0	10	11.7	1.95	1,846
10	0	10	14.4	2.40	1,500
11	0	8	7.6	1.90	1,895
12	0	10	11.1	1.85	1,946
13					
14					
15					
<b>Average</b>				<b>2.03</b>	<b>1796</b>



<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checkec</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 5	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{AverageHeadway}$$

**Location:** Intersection #LS: WV 45 and Lowes / Sheetz  
**Direction:** WV 45  
**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)  
 Friday, August 15, 2014: PM Peak (4:00 - 5:00)  
 Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1	0	7	7	2.33	1,543
2	0	10	12.8	2.13	1,688
3	0	9	12	2.40	1,500
4	0	8	8.8	2.20	1,636
5	0	7	7.2	2.40	1,500
6	0	7	7.5	2.50	1,440
7	0	8	8	2.00	1,800
8					
9					
10					
11					
12					
13					
14					
15					
<b>Average</b>				<b>2.28</b>	<b>1587</b>



<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checked</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 6	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{Average\ Headway}$$

**Location:** Intersection #8: WV 45 and Winchester Ave. (US 11)

**Direction:** WV 45

**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)

Friday, August 15, 2014: PM Peak (4:00 - 5:00)

Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1	0	7	8.2	2.73	1,317
2	0	7	7.5	2.50	1,440
3	0	7	7.2	2.40	1,500
4	0	10	11	1.83	1,964
5	0	10	11.6	1.93	1,862
6	0	9	10.6	2.12	1,698
7	0	10	14.4	2.40	1,500
8	0	9	11.4	2.28	1,579
9	0	9	10.5	2.10	1,714
10	0	8	10	2.50	1,440
11	0	9	9.3	1.86	1,935
12	0	7	5.2	1.73	2,077
13					
14					
15					
<b>Average</b>				<b>2.20</b>	<b>1669</b>



<b>Project:</b> WV 45 Traffic Study	<b>Comput</b> BMC	<b>Date:</b> 08/18/14
<b>Subject:</b> Saturation Flow Study	<b>Checked</b> ABS	<b>Date:</b> 08/20/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 7	<b>of:</b> 7
<b>Job #:</b> 232057	<b>No:</b>	

Source: Manual for Transportation Engineering Studies, ITE, 2000

$$Headway_i = \frac{T_n - T_4}{n - 4}$$

$$SaturationFlow = \frac{3600}{Average\ Headway}$$

**Location:** Intersection #9: WV 45 and New York Ave.  
**Direction:** WV 45  
**Date:** Friday, August 15, 2014: AM Peak (7:15 - 8:15)  
Friday, August 15, 2014: PM Peak (4:00 - 5:00)  
Saturday, August 16, 2014: Midday Peak (11:30 - 12:30)

Cycle	T <sub>4</sub>	n	T <sub>n</sub>	Headway (sec)	Saturation Flow Rate (vh/hr/ln)
1		8	8.1	2.03	1,778
2		8	6.5	1.63	2,215
3		10	10.2	1.70	2,118
4		10	12.3	2.05	1,756
5		7	6.8	2.27	1,588
6		7	8	2.67	1,350
7		8	12.6	3.15	1,143
8		7	9.4	3.13	1,149
9					
10					
11					
12					
13					
14					
15					
<b>Average</b>				<b>2.33</b>	<b>1637</b>



<b>Project:</b>	WV 45 Traffic Study	<b>Computed:</b>	NJP	<b>Date:</b>	08/16/14
<b>Subject:</b>	Initial Unmet Demand	<b>Checked:</b>	BMC	<b>Date:</b>	08/18/14
<b>Task:</b>		<b>Page:</b>	1	<b>of:</b>	1
<b>Job #:</b>	232057	<b>No:</b>			

Methodology: Count the number of vehicles queued during the red phase that do not get through the following green phase.

**Date:** Friday, August 15, 2014 AM Peak (7:15am - 8:15am)  
 Friday, August 15, 2014 PM Peak (4:00pm - 5:00pm)  
 Saturday, July 12, 2014 Sat Peak (11:30am - 12:30pm)

**Location:** Intersection #8: WV 45 and US 11 (Winchester Avenue)

	AM Peak <sup>1</sup>	PM Peak (WB)	SAT Peak <sup>1</sup>
		16	
		9	
		13	
<b>Average:</b>		13	

Notes:

1 - No initial unmet demand observed

**Locations:** Intersections #4, #5, #6, #7, #LS, and #9

	AM Peak <sup>1</sup>	PM Peak <sup>1</sup>	SAT Peak <sup>1</sup>
<b>Average:</b>			

Notes:

1 - No initial unmet demand observed





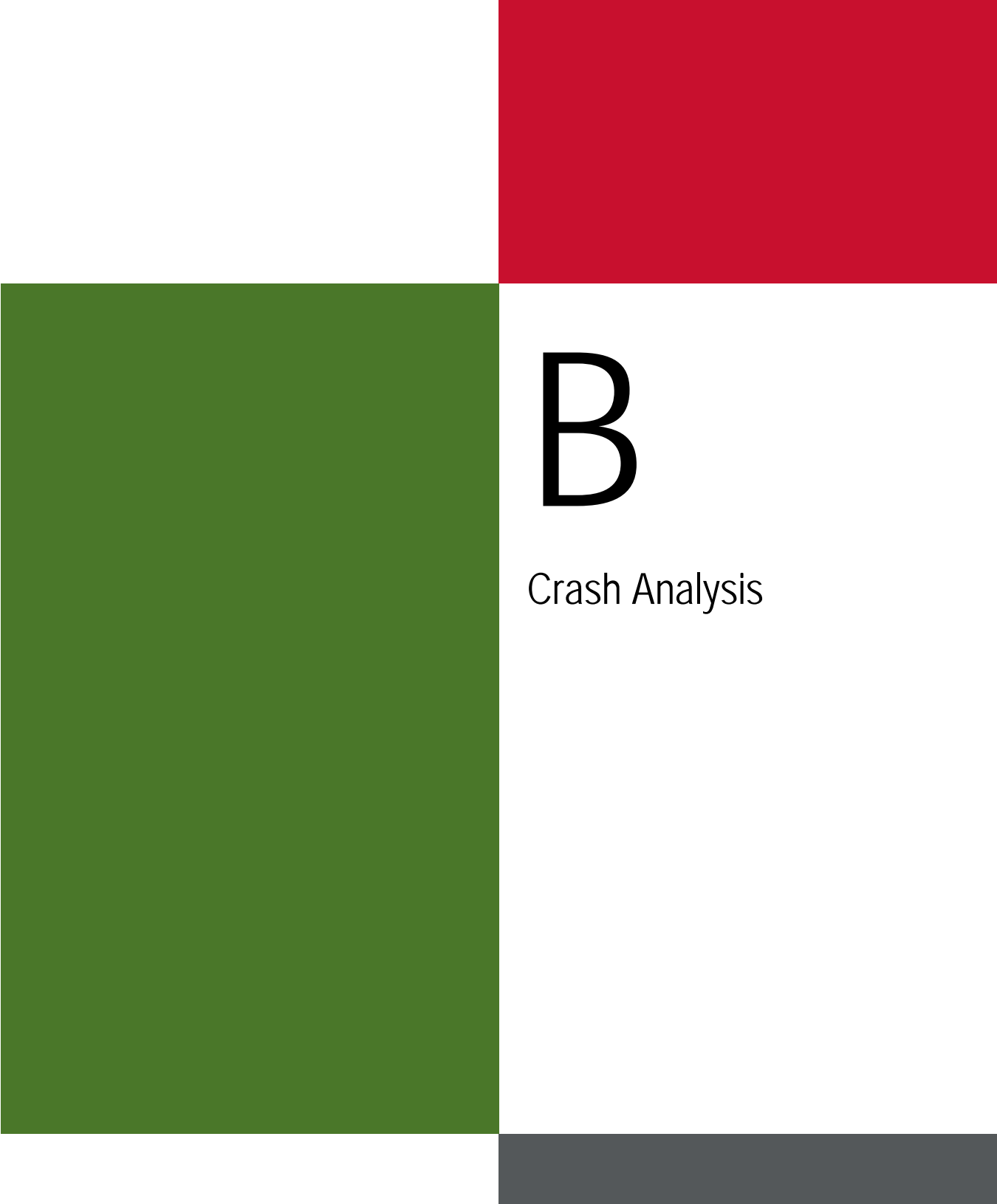
<b>Project:</b> WV 45 Traffic Study	<b>Computer:</b> BMC	<b>Date:</b> 08/22/14
<b>Subject:</b> Travel Time Study	<b>Checked:</b> ABS	<b>Date:</b> 08/22/14
<b>Task:</b> 002 - Traffic Analysis	<b>Page:</b> 1	<b>of:</b> 1
<b>Job #:</b> 232057	<b>No:</b>	

### Eastbound

	UTM 17 Section			UTM 18 Section			Total		
	Length (mi)	Travel Time (sec)	Ave. Speed (mph)	Length (mi)	Travel Time (sec)	Ave. Speed (mph)	Length (mi)	Travel Time (sec)	Ave. Speed (mph)
AM	0.17	17	36.00	1.27	218	20.97	1.44	235	22.06
Noon (Sat)	0.17	18	34.00	1.28	273	16.88	1.45	291	17.94
PM	0.17	16	38.25	1.29	375	12.38	1.46	391	13.44

### Westbound

	UTM 17 Section			UTM 18 Section			Total		
	Length (mi)	Travel Time (sec)	Ave. Speed (mph)	Length (mi)	Travel Time (sec)	Ave. Speed (mph)	Length (mi)	Travel Time (sec)	Ave. Speed (mph)
AM	0.17	17	36.00	1.29	183	25.38	1.46	200	26.28
Noon (Sat)	0.16	16	36.00	1.30	315	14.86	1.46	331	15.88
PM	0.17	16	38.25	1.30	435	10.76	1.47	451	11.73



# B

Crash Analysis



**Project:** WV 45 Corridor Traffic Study    **Computed:** BJB    **Date:** 7/22/14  
**Subject:** Crash Analysis (Not at I/S)    **Checked:** BMC    **Date:** 7/30/14  
**Task:** Traffic Study    **Page:** 1    **of:** 1  
**Job #:** 232057    **No.:**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Weather	Location	Bicyclist/ Pedestrian
No	1	3/9/2013	1823	Single Vehicle Crash	0	0	Dusk	Dry		EB, MP 13.98	No
No	2	3/20/2013	1535	Right Angle	1	0	Daylight	Dry		EB / WB, MP 14.01	No
No	3	4/24/2013	1831	Sideswipe, Same Direction	0	0	Daylight	Dry		WB, MP 14.01	No
No	4	11/17/2011	1135	Single Vehicle Crash	0	0	Daylight	Dry		WB, MP 14.17	No
No	5	1/27/2012	416	Single Vehicle Crash	0	0	Dark - Not Lighted	Dry		WB, MP 14.23	No
No	6	1/10/2012	1345	Angle (Front to Side) Same Direction	0	0	Daylight	Dry		WB, MP 14.23	No
No	7	5/23/2012	1710	Rear End	0	0	Daylight	Dry		WB, MP 14.73	No
No	8	6/23/2012	1200	Single Vehicle Crash	1	0	Daylight	Dry		WB, MP 14.73	No

Total = 8

Single Veh. Crash = 4  
 Sideswipe, Same Direction = 1  
 Sideswipe, Opp Direction = 0  
 Rear-End = 1  
 Head-on = 0  
 Right Angle = 1  
     Angle = 1  
 Right-turn = 0  
 Other = 0  
     8  
  
 Dawn = 0  
 Daylight = 6  
     Dusk = 1  
     Dark = 1  
 Dark, Artificial Lights = 0  
 TOTAL: 8



Project:	WV 45 Corridor Traffic Study	Computed	B.B	Date:	7/22/14
Subject:	Crash Analysis	Checked:	BMC	Date:	7/30/14
Task:	Traffic Study	Page:	1	of:	8
Job #:	232057	No.:			

**Intersection #1 - WV 45 with Blue Ridge Community College Driveway (unsignalized)**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian

Statistic	Total
Total Crashes =	0
Total Crashes w/ Injuries =	0
Total Crashes w/ Fatalities =	0
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	0
Sideswipe, Same Direction =	0
Sideswipe, Opp Direction =	0
Rear-End =	0
Angle (Front to Side) Same Direction =	0
Angle (Front to Side) Opp. Direction =	0
Head-on =	0
Right Angle =	0
Angle - Direction Not Specified =	0
Daylight =	0
Dark - Not Lighted =	0
Dark - Lighted =	0
Dark =	0
Dawn =	0
Dusk =	0
Dry =	0
Wet =	0



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Intersection #2 - WV 45 with Klee Drive (unsignalized)

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Weather	Contributing Circumstance	Bicyclist/Pedestrian

Statistic	Total
Total Crashes =	0
Total Crashes w/ Injuries =	0
Total Crashes w/ Fatalities =	0
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	0
Sideswipe, Same Direction =	0
Sideswipe, Opp Direction =	0
Rear-End =	0
Angle (Front to Side) Same Direction =	0
Angle (Front to Side) Opp. Direction =	0
Head-on =	0
Right Angle =	0
Angle - Direction Not Specified =	0
Daylight =	0
Dark - Not Lighted =	0
Dark - Lighted =	0
Dark =	0
Dawn =	0
Dusk =	0
Dry =	0
Wet =	0



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**Intersection #4 - WV 45 with Retail Commons Parkway (signalized)**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian
yes	1	9/6/2011	900	Single Vehicle Crash	0	0	Daylight	Wet	no
yes	2	2/2/2011	614	Rear End	0	0	Dark - Not Lighted	Wet	no
yes	3	5/10/2012	1005	Single Vehicle Crash	0	0	Daylight	Dry	no
yes	4	8/7/2012	538	Single Vehicle Crash	0	0	Daylight	Dry	no
yes	5	10/1/2012	300	Single Vehicle Crash	0	0	Dark - Not Lighted	Wet	no
yes	6	12/26/2012	1458	Rear End	1	0	Daylight	Snow	no
yes	7	2/2/2013	1849	Rear End	0	0	Dark - Not Lighted	Dry	no
yes	8	6/20/2013	1829	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	9	7/2/2013	640	Single Vehicle Crash	0	0	Daylight	Wet	no
yes	10	7/29/2012	300	Head-On	0	0	Dark - Not Lighted	Dry	no
yes	11	8/20/2012	1035	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	12	10/23/2012	1555	Rear End	0	0	Daylight	Dry	no
yes	13	12/7/2012	1210	Head-On	3	0	Daylight	Wet	no
yes	14	4/10/2013	1716	Single Vehicle Crash	1	1	Daylight	Dry	no
yes	15	11/27/2012	1122	Head-On	4	0	Daylight	Wet	no

Statistic	Total
Total Crashes =	15
Total Crashes w/ Injuries =	6
Total Crashes w/ Fatalities =	1
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	8
Sideswipe, Same Direction =	0
Sideswipe, Opp Direction =	0
Rear-End =	4
Angle (Front to Side) Same Direction =	0
Angle (Front to Side) Opp. Direction =	0
Head-on =	3
Right Angle =	0
Angle - Direction Not Specified =	0
Daylight =	11
Dark - Not Lighted =	4
Dark - Lighted =	0
Dawn =	0
Dusk =	0
Dry =	8
Wet =	6
Snow =	1



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**Intersection #5 - WV 45 with I-81 Southbound Ramps (signalized)**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian
yes	1	5/12/2012	1205	Angle (Front to Side) Same Direction	1	0	Daylight	Dry	no
yes	2	12/4/2012	2010	Sideswipe, Same Direction	0	0	Dark - Not Lighted	Dry	no
yes	3	1/10/2013	1300	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	4	5/24/2013	833	Sideswipe, Opposite Direction	0	0	Daylight	Dry	no
yes	5	10/2/2013	900	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	6	12/11/2013	1325	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	7	9/16/2011	1745	Rear End	0	0	Daylight	Dry	no
yes	8	11/1/2011	1520	Angle - Direction Not Specified	0	0	Daylight	Dry	no
yes	9	1/31/2012	1210	Rear End	0	0	Daylight	Dry	no
yes	10	11/12/2012	1154	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	11	3/2/2012	1051	Angle (Front to Side) Opp. Direction	2	0	Daylight	Dry	no
yes	12	5/17/2013	1148	Angle - Direction Not Specified	0	0	Daylight	Dry	no
yes	13	8/8/2013	1325	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	14	9/3/2013	1915	Rear End	0	0	Dusk	Dry	no
yes	15	9/18/2013	1745	Rear End	1	0	Daylight	Dry	no
yes	16	9/24/2012	1230	Rear End	0	0	Daylight	Dry	no
yes	17	9/26/2012	1940	Angle (Front to Side) Same Direction	0	0	Dark - Not Lighted	Dry	no

Statistic	Total
Total Crashes =	17
Total Crashes w/ Injuries =	6
Total Crashes w/ Fatalities =	0
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	3
Sideswipe, Same Direction =	3
Sideswipe, Opp Direction =	1
Rear-End =	5
Angle (Front to Side) Same Direction =	2
Angle (Front to Side) Opp. Direction =	1
Head-on =	0
Right Angle =	0
Angle - Direction Not Specified =	2
Daylight =	14
Dark - Not Lighted =	2
Dark - Lighted =	0
Dark =	0
Dawn =	0
Dusk =	1
Dry =	17
Wet =	0



**Intersection #6 - WV 45 with I-81 Northbound Ramps (signalized)**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian
yes	1	1/29/2013	1425	Right Angle	0	0	Daylight	Dry	no
yes	2	3/28/2011	530	Single Vehicle Crash	0	0	Dark - Not Lighted	Dry	no
yes	3	8/19/2011	709	Rear End	0	0	Daylight	Dry	no
yes	4	3/21/2013	1906	Rear End	0	0	Dusk	Dry	no
yes	5	5/17/2013	2100	Sideswipe, Same Direction	0	0	Dark - Lighted	Dry	no
yes	6	6/18/2013	1800	Rear End	0	0	Daylight	Dry	no
yes	7	12/22/2013	1811	Right Angle	0	0	Dark - Lighted	Dry	no
yes	8	2/2/2011	1436	Right Angle	0	0	Daylight	Dry	no
yes	9	6/4/2013	2123	Sideswipe, Opposite Direction	3	0	Dusk	Dry	no
yes	10	8/27/2011	1405	Rear End	0	0	Daylight	Dry	no
yes	11	5/5/2011	715	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	12	8/3/2013	2008	Sideswipe, Opposite Direction	0	0	Daylight	Wet	no
yes	13	1/24/2011	1425	Rear End	0	0	Daylight	Dry	no
yes	14	5/26/2011	945	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	15	7/7/2011	1015	Rear End	1	0	Daylight	Dry	no
yes	16	7/28/2011	1150	Right Angle	0	0	Daylight	Dry	no
yes	17	11/1/2011	1234	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	18	11/28/2011	2000	Angle (Front to Side) Same Direction	0	0	Dark - Lighted	Dry	no
yes	19	3/11/2012	1735	Right Angle	1	0	Daylight	Dry	no
yes	20	11/19/2012	927	Right Angle	0	0	Daylight	Dry	no
yes	21	11/24/2012	1038	Rear End	0	0	Daylight	Dry	no
yes	22	1/18/2013	2010	Sideswipe, Opposite Direction	0	0	Dark - Lighted	Dry	no
yes	23	6/10/2013	1507	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	24	9/17/2013	1710	Angle (Front to Side) Opp. Direction	0	0	Daylight	Dry	no
yes	25	10/10/2013	1505	Rear End	0	0	Daylight	Wet	no
yes	26	7/26/2012	2057	Single Vehicle Crash	0	0	Dark - Not Lighted	Wet	no
yes	27	12/13/2011	230	Single Vehicle Crash	1	1	Dark - Not Lighted	Dry	no
yes	28	1/30/2012	1831	Angle (Front to Side) Same Direction	0	0	Dusk	Dry	no
yes	29	8/7/2013	645	Rear End	0	0	Daylight	Wet	no

Statistic	Total
Total Crashes =	29
Total Crashes w/ Injuries =	4
Total Crashes w/ Fatalities =	1
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	3
Sideswipe, Same Direction =	5
Sideswipe, Opp Direction =	3
Rear-End =	9
Angle (Front to Side) Same Direction =	2
Angle (Front to Side) Opp. Direction =	1
Head-on =	0
Right Angle =	6
Angle - Direction Not Specified =	0
Daylight =	19
Dark - Not Lighted =	3
Dark - Lighted =	4
Dark =	0
Dawn =	0
Dusk =	3
Dry =	25
Wet =	4





**Intersection #7 - WV 45 with Foxcroft Avenue (signalized)**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian
yes	1	1/12/2011	1100	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	2	4/11/2011	2010	Angle (Front to Side) Opp. Direction	6	0	Dark - Lighted	Dry	no
yes	3	6/8/2011	748	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	4	6/11/2011	1030	Right Angle	0	0	Daylight	Dry	no
yes	5	6/15/2011	1953	Sideswipe, Opposite Direction	1	0	Daylight	Dry	no
yes	6	8/1/2011	830	Rear End	0	0	Daylight	Dry	no
yes	7	10/9/2011	1508	Angle (Front to Side) Opp. Direction	2	0	Daylight	Dry	no
yes	8	10/21/2011	2145	Right Angle	2	0	Dark - Lighted	Dry	no
yes	9	1/5/2012	1943	Rear End	7	0	Dark - Lighted	Dry	no
yes	10	1/18/2012	2122	Angle (Front to Side) Same Direction	0	0	Dark - Lighted	Dry	no
yes	11	2/19/2012	1815	Right Angle	1	0	Dark - Lighted	Dry	no
yes	12	2/22/2012	1430	Rear End	0	0	Daylight	Dry	no
yes	13	2/19/2012	1715	Head-On	2	0	Daylight	Dry	no
yes	14	3/15/2012	224	Rear End	1	0	Dark - Lighted	Dry	no
yes	15	2/23/2012	1622	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	16	5/3/2012	1640	Rear End	0	0	Daylight	Dry	no
yes	17	5/23/2012	1908	Rear End	1	0	Daylight	Dry	no
yes	18	6/7/2012	1250	Rear End	0	0	Daylight	Dry	no
yes	19	6/8/2012	1659	Rear End	0	0	Daylight	Dry	no
yes	20	6/20/2012	1644	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	21	7/23/2012	603	Rear End	4	0	Dawn	Dry	no
yes	22	7/29/2012	320	Rear End	0	0	Dark - Lighted	Dry	no
yes	23	8/11/2012	2122	Angle (Front to Side) Opp. Direction	1	0	Dark - Lighted	Dry	no
yes	24	8/31/2012	2157	Right Angle	0	0	Daylight	Dry	no
yes	25	1/8/2013	950	Angle (Front to Side) Opp. Direction	1	0	Daylight	Dry	no
yes	26	1/29/2013	1525	Rear End	0	0	Daylight	Dry	no
yes	27	2/8/2013	1850	Angle (Front to Side) Same Direction	1	0	Dark - Lighted	Dry	no
yes	28	2/21/2013	735	Rear End	0	0	Daylight	Dry	no
yes	29	3/30/2013	807	Right Angle	2	0	Daylight	Dry	no
yes	30	5/28/2013	940	Rear End	1	0	Daylight	Wet	no
yes	31	7/9/2013	2129	Sideswipe, Opposite Direction	3	0	Dark - Lighted	Dry	no
yes	32	7/26/2013	1	Angle (Front to Side) Opp. Direction	0	0	Dark - Lighted	Dry	no
yes	33	8/11/2013	1720	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	34	9/28/2013	1350	Rear End	0	0	Daylight	Dry	no
yes	35	10/6/2013	1305	Right Angle	1	0	Daylight	Dry	no
yes	36	11/26/2013	1344	Right Angle	1	0	Daylight	Wet	no
yes	37	12/23/2013	723	Single Vehicle Crash	0	0	Dawn	Wet	no
yes	38	4/26/2013	915	Single Vehicle Crash	0	0	Daylight	Dry	no
yes	39	3/17/2011	1225	Rear End	2	0	Daylight	Dry	no
yes	40	5/5/2011	1748	Rear End	1	0	Daylight	Dry	no
yes	41	5/7/2011	1210	Rear End	0	0	Daylight	Dry	no
yes	42	5/13/2012	18	Rear End	1	0	Dark - Lighted	Dry	no
yes	43	12/10/2012	1552	Rear End	0	0	Daylight	Wet	no
yes	44	1/24/2013	1357	Head-On	2	0	Daylight	Wet	no
yes	45	7/10/2013	1510	Rear End	0	0	Daylight	Dry	no
yes	46	6/10/2011	855	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	47	8/31/2011	1500	Rear End	0	0	Daylight	Dry	no
yes	48	12/3/2013	2015	Rear End	1	0	Dark - Lighted	Dry	no
yes	49	4/7/2011	1009	Rear End	0	0	Daylight	Dry	no
yes	50	5/6/2011	1038	Rear End	0	0	Daylight	Dry	no
yes	51	6/13/2011	1710	Rear End	1	0	Daylight	Dry	no
yes	52	10/21/2011	1043	Rear End	1	0	Daylight	Dry	no
yes	53	10/4/2011	1342	Angle (Front to Side) Same Direction	0	0	Daylight	Dry	no
yes	54	5/26/2012	1348	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	55	7/30/2012	834	Sideswipe, Same Direction	1	0	Daylight	Dry	no
yes	56	8/24/2012	1530	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	57	10/18/2012	1915	Right Angle	1	0	Dark - Lighted	Wet	no
yes	58	11/20/2012	1800	Rear End	0	0	Dark - Lighted	Dry	no
yes	59	1/7/2013	1728	Rear End	0	0	Dusk	Dry	no
yes	60	12/4/2013	1746	Rear End	0	0	Dark - Lighted	Dry	no
yes	61	12/15/2012	1230	Rear End	0	0	Daylight	Dry	no
yes	62	9/28/2013	330	Single Vehicle Crash	0	0	Dark - Not Lighted	Dry	no
yes	63	8/12/2011	1608	Single Vehicle Crash	0	0	Daylight	Dry	no
yes	64	4/13/2013	1511	Right Angle	0	0	Daylight	Dry	no

Statistic	Total
Total Crashes =	64
Total Crashes w/ Injuries =	28
Total Crashes w/ Fatalities =	0
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	5
Sideswipe, Same Direction =	8
Sideswipe, Opp Direction =	2
Rear-End =	30
Angle (Front to Side) Same Direction =	3
Angle (Front to Side) Opp. Direction =	5
Head-On =	2
Right Angle =	9
Angle - Direction Not Specified =	0
Daylight =	44
Dark - Not Lighted =	1
Dark - Lighted =	16
Dark =	0
Dawn =	2
Dusk =	1
Dry =	58
Wet =	6



Intersection #8 - WV 45 with Winchester Avenue (WV 11) (signalized)

At US?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian
yes	1	10/15/2012	1110	Rear End	0	0	Daylight	Wet	no
yes	2	10/7/2013	920	Single Vehicle Crash	0	0	Daylight	Wet	no
yes	3	10/12/2013	1700	Rear End	0	0	Daylight	Wet	no
yes	4	1/4/2011	2012	Sideswipe, Same Direction	0	0	Dark - Lighted	Dry	no
yes	5	3/31/2011	1802	Rear End	0	0	Daylight	Wet	no
yes	6	1/14/2012	1740	Sideswipe, Opposite Direction	0	0	Daylight	Dry	no
yes	7	2/6/2012	1739	Head-On	0	0	Daylight	Dry	no
yes	8	7/15/2013	1148	Single Vehicle Crash	1	0	Daylight	Dry	no
yes	9	4/2/2011	1835	Angle (Front to Side) Opp. Direction	1	0	Daylight	Dry	no
yes	10	4/27/2011	1519	Rear End	0	0	Daylight	Dry	no
yes	11	5/11/2011	1722	Rear End	0	0	Daylight	Dry	no
yes	12	6/11/2011	1204	Rear End	0	0	Daylight	Dry	no
yes	13	6/28/2011	1032	Rear End	0	0	Daylight	Dry	no
yes	14	7/1/2011	1607	Rear End	0	0	Daylight	Dry	no
yes	15	8/1/2011	535	Rear End	0	0	Dawn	Dry	no
yes	16	8/13/2011	405	Single Vehicle Crash	0	0	Dark - Lighted	Dry	no
yes	17	9/14/2011	1512	Angle (Front to Side) Same Direction	1	0	Daylight	Dry	no
yes	18	9/20/2011	1357	Angle (Front to Side) Opp. Direction	2	0	Daylight	Dry	no
yes	19	9/28/2011	2330	Angle (Front to Side) Opp. Direction	1	0	Dark - Lighted	Dry	no
yes	20	11/22/2011	1210	Right Angle	0	0	Daylight	Wet	no
yes	21	11/18/2011	1109	Right Angle	3	0	Daylight	Dry	no
yes	22	12/14/2011	2004	Rear End	0	0	Dark - Not Lighted	Dry	no
yes	23	10/26/2011	1925	Angle - Direction Not Specified	1	0	Dark - Lighted	Wet	no
yes	24	2/9/2012	1514	Rear End	0	0	Daylight	Dry	no
yes	25	3/11/2012	1424	Angle (Front to Side) Opp. Direction	0	0	Daylight	Dry	no
yes	26	4/19/2012	617	Angle (Front to Side) Opp. Direction	2	0	Daylight	Dry	no
yes	27	4/13/2012	2125	Angle (Front to Side) Opp. Direction	1	0	Dark - Lighted	Dry	no
yes	28	5/5/2012	55	Angle (Front to Side) Opp. Direction	0	0	Dark - Lighted	Dry	no
yes	29	5/17/2012	517	Rear End	0	0	Daylight	Dry	no
yes	30	11/1/2012	1657	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	31	4/30/2013	606	Angle (Front to Side) Same Direction	1	0	Dawn	Dry	no
yes	32	5/1/2013	330	Head-On	2	0	Dark - Lighted	Dry	no
yes	33	7/30/2013	1430	Rear End	0	0	Daylight	Dry	no
yes	34	8/8/2013	542	Head-On	0	0	Dawn	Wet	no
yes	35	7/31/2013	1455	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	36	11/22/2013	1245	Angle (Front to Side) Same Direction	0	0	Daylight	Dry	no
yes	37	12/30/2013	1828	Rear End	0	0	Daylight	Dry	no
yes	38	6/20/2012	1225	Angle (Front to Side) Same Direction	0	0	Daylight	Dry	no
yes	39	12/3/2011	1310	Angle (Front to Side) Opp. Direction	0	0	Daylight	Dry	no
yes	40	12/31/2011	2258	Rear End	3	0	Dark - Lighted	Dry	no
yes	41	6/10/2011	1253	Rear End	3	0	Daylight	Dry	no
yes	42	7/8/2011	1600	Rear End	1	0	Daylight	Wet	no
yes	43	12/9/2011	2113	Rear End	0	0	Daylight	Dry	no
yes	44	3/21/2012	2000	Rear End	0	0	Dark - Lighted	Dry	no
yes	45	4/23/2012	1401	Right Angle	1	0	Daylight	Wet	no
yes	46	5/15/2012	1520	Rear End	0	0	Daylight	Dry	no
yes	47	8/13/2012	1215	Rear End	0	0	Daylight	Dry	no
yes	48	8/18/2012	1245	Right Angle	0	0	Daylight	Dry	no
yes	49	10/9/2012	1533	Rear End	0	0	Daylight	Dry	no
yes	50	11/12/2012	1040	Right Angle	0	0	Daylight	Dry	no
yes	51	3/13/2013	1455	Right Angle	0	0	Daylight	Dry	no
yes	52	7/13/2013	1240	Right Angle	0	0	Daylight	Dry	no
yes	53	9/11/2013	2000	Rear End	2	0	Dark - Lighted	Wet	no
yes	54	6/13/2012	1129	Right Angle	1	0	Daylight	Dry	no

Statistic	Total
Total Crashes =	54
Total Crashes w/ Injuries =	17
Total Crashes w/ Fatalities =	0
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	3
Sideswipe, Same Direction =	3
Sideswipe, Opp Direction =	1
Rear-End =	23
Angle (Front to Side) Same Direction =	4
Angle (Front to Side) Opp. Direction =	8
Head-on =	3
Right Angle =	8
Angle - Direction Not Specified =	1
Daylight =	40
Dark - Not Lighted =	1
Dark - Lighted =	10
Dark =	0
Dawn =	3
Dusk =	0
Dry =	44
Wet =	10



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**Intersection #9 - WV 45 with New York Avenue (signalized)**

At I/S?	Crash ID	Date	Time	Type	Injuries	Fatalities	Lighting	Surface	Bicyclist/ Pedestrian
yes	1	6/11/2011	1728	Rear End	0	0	Daylight	Dry	no
yes	2	9/8/2011	2020	Right Angle	2	0	Dark - Lighted	Wet	no
yes	3	12/22/2011	1202	Rear End	0	0	Daylight	Dry	no
yes	4	1/4/2012	1839	Rear End	5	0	Dark - Lighted	Dry	no
yes	5	2/3/2012	1622	Rear End	0	0	Daylight	Dry	no
yes	6	3/2/2012	633	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	7	5/25/2012	1100	Rear End	0	0	Daylight	Dry	no
yes	8	9/4/2012	719	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	9	4/18/2013	1640	Sideswipe, Same Direction	0	0	Daylight	Dry	no
yes	10	4/26/2013	1930	Right Angle	0	0	Daylight	Dry	no
yes	11	5/10/2013	1457	Rear End	0	0	Daylight	Dry	no
yes	12	9/4/2013	952	Right Angle	1	0	Daylight	Dry	no
yes	13	12/18/2013	1517	Angle (Front to Side) Opp. Direction	0	0	Daylight	Dry	no

Statistic	Total
Total Crashes =	13
Total Crashes w/ Injuries =	3
Total Crashes w/ Fatalities =	0
Total Crashes w/ Pedestrians/Bikes =	0
Single Veh. Crash =	0
Sideswipe, Same Direction =	3
Sideswipe, Opp Direction =	0
Rear-End =	6
Angle (Front to Side) Same Direction =	0
Angle (Front to Side) Opp. Direction =	1
Head-on =	0
Right Angle =	3
Angle - Direction Not Specified =	0
Daylight =	11
Dark - Not Lighted =	0
Dark - Lighted =	2
Dark =	0
Dawn =	0
Dusk =	0
Dry =	12
Wet =	1



Project:	WV 45 Corridor Traffic Study	Computed	BJB	Date:	7/22/14
Subject:	Crash Rates	Checked:	BMC	Date:	7/30/14
Task:	Traffic Study	Page:	1	of:	1
Job #:	232057	No.:			

$$\text{Corridor Accident Rate} = \frac{100000000 * A}{365 * T * V * L}$$

Where: A = Number of Reported Crashes  
T = Time Length in Years (3 years)  
V = Corridor ADT  
L = Length of Section in Miles

### Segment Corridor Crash Rate

Segment #1: I/S #1 (13.61 ) to I/S #3 (14.24)

A = 31

V = 4,177 (Average from I/S #1 to I/S #3)

L = 0.74

Rate = 1076 crashes per HMVM

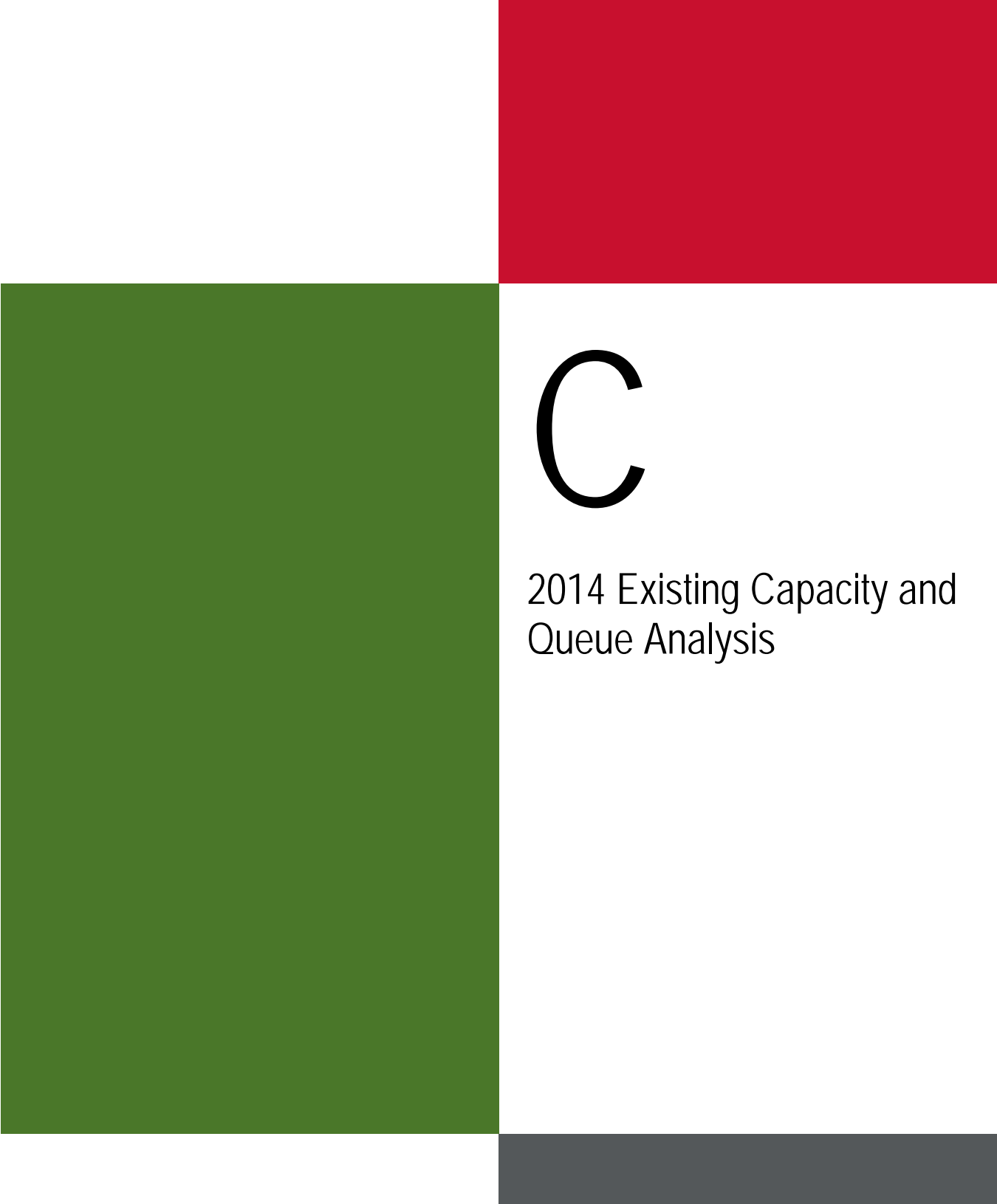
Segment #2: I/S #4 (14.25) to I/S #9 (15.07)

A = 193

V = 24,074 (Average from I/S #4 to I/S #9)

L = 0.82

Rate = 893 crashes per HMVM



# C

2014 Existing Capacity and  
Queue Analysis



<b>Project:</b>	WV 45 Traffic Study	<b>Computed:</b>	BMC	<b>Date:</b>	9/18/14
<b>Subject:</b>	Synchro Model Calibration	<b>Checked:</b>	BJB	<b>Date:</b>	9/18/14
<b>Task:</b>	WV 45 EB	<b>Page:</b>	1	<b>of:</b>	1
<b>Job #:</b>	232057	<b>No:</b>			

WV 45 - Apple Harvest Drive: Eastbound (Blue Ridge CC to New York Ave.)

AM Peak Hour

Eastbound Nodes		Travel Time Description	Distance	SimTraffic					Field Collected		Difference		% Difference		
From	To			Vehicles Exited	Travel Time (hour)	Travel Time (min)	Average Travel Time/Veh (min)	Average Travel Time/Veh (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed
1	2	Blue Ridge CC to Klee	0.16	153	0.6	36	0.24	0.24	40	0.26	36.92	0.02	-3.08	7.7%	-8.3%
2	21	Klee to Retail Commons Pkwy	0.56	260	0.6	36	0.14	0.84	40	1.14	29.47	0.30	-10.53	26.3%	-35.7%
21	22			259	0.8	48	0.19								
22	23			259	0.7	42	0.16								
23	24			259	0.3	18	0.07								
24	25			259	0.3	18	0.07								
25	4			262	0.9	54	0.21								
4	5	RCP to I-81 SB	0.08	274	3.6	216	0.79	0.79	6.08	0.97	4.95	0.18	-1.13	18.6%	-22.8%
5	6	I-81 SB to I-81 NB	0.11	1008	6.1	366	0.36	0.36	18.33	0.2	33	-0.16	14.67	-80.0%	44.5%
6	7	I-81 NB to Foxcroft	0.07	1124	7.6	456	0.41	0.41	10.24	0.21	20	-0.20	9.76	-95.2%	48.8%
7	8	Foxcroft to Winchester	0.28	1272	8	480	0.38	1.03	16.31	0.87	19.31	-0.16	3	-18.4%	15.5%
8	9			1051	11.4	684	0.65								
9	91			1215	3.5	210	0.17								
91	10	Winchester to New York	0.23	1208	5	300	0.25	0.42	32.86	0.33	41.82	-0.09	8.96	-27.3%	21.4%
<b>Totals</b>						<b>2964</b>	<b>4.09</b>	<b>4.09</b>	<b>21.56</b>	<b>3.98</b>	<b>22.16</b>	<b>-0.11</b>	<b>0.6</b>	<b>-2.8%</b>	<b>2.7%</b>

PM Peak Hour

Eastbound Nodes		Travel Time Description	Distance	SimTraffic					Field Collected		Difference		% Difference		
From	To			Vehicles Exited	Travel Time (hour)	Travel Time (min)	Average Travel Time/Veh (min)	Average Travel Time/Veh (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed
1	2	Blue Ridge CC to Klee	0.16	118	0.5	30	0.25	0.25	38.4	0.26	36.92	0.01	-1.48	3.8%	-4.0%
2	21	Klee to Retail Commons Pkwy	0.56	183	0.4	24	0.13	0.98	34.29	1.62	20.74	0.64	-13.55	39.5%	-65.3%
21	22			183	0.5	30	0.16								
22	23			183	0.5	30	0.16								
23	24			183	0.2	12	0.07								
24	25			183	0.2	12	0.07								
25	4			152	1	60	0.39								
4	5	RCP to I-81 SB	0.08	522	10	600	1.15	1.15	4.17	0.59	8.14	-0.56	3.97	-94.9%	48.8%
5	6	I-81 SB to I-81 NB	0.11	942	11.9	714	0.76	0.76	8.68	0.25	26.4	-0.51	17.72	-204.0%	67.1%
6	7	I-81 NB to Foxcroft	0.07	990	9	540	0.55	0.55	7.64	0.43	9.77	-0.12	2.13	-27.9%	21.8%
7	8	Foxcroft to Winchester	0.28	1305	10.7	642	0.49	2.53	6.64	2.61	6.44	0.08	-0.2	3.1%	-3.1%
8	9			831	28.3	1698	2.04								
9	91			997	4.2	252	0.25								
91	10	Winchester to New York	0.23	926	8	480	0.52	0.77	17.92	0.84	16.43	0.07	16.43	8.3%	100.0%
<b>Totals</b>						<b>5124</b>	<b>6.99</b>	<b>6.99</b>	<b>10.39</b>	<b>6.6</b>	<b>11</b>	<b>-0.39</b>	<b>0.61</b>	<b>-5.9%</b>	<b>5.5%</b>

SAT Peak Hour

Eastbound Nodes		Travel Time Description	Distance	SimTraffic					Field Collected		Difference		% Difference		
From	To			Vehicles Exited	Travel Time (hour)	Travel Time (min)	Average Travel Time/Veh (min)	Average Travel Time/Veh (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed
1	2	Blue Ridge CC to Klee	0.16	112	0.4	24	0.21	0.21	45.71	0.28	34.29	0.07	-11.42	25.0%	-33.3%
2	21	Klee to Retail Commons Pkwy	0.56	191	0.4	24	0.13	1.05	32	1.66	20.24	0.61	-11.76	36.7%	-58.1%
21	22			190	0.6	36	0.19								
22	23			190	0.3	18	0.09								
23	24			189	0.2	12	0.06								
24	25			189	0.2	12	0.06								
25	3			190	0.4	24	0.13								
3	4			140	0.9	54	0.39								
4	5	RCP to I-81 SB	0.08	545	7.7	462	0.85	0.85	5.65	0.56	8.57	-0.29	2.92	-51.8%	34.1%
5	6	I-81 SB to I-81 NB	0.11	971	6	360	0.37	0.37	17.84	0.41	16.1	0.04	-1.74	9.8%	-10.8%
6	7	I-81 NB to Foxcroft	0.07	971	7.3	438	0.45	0.45	9.33	0.51	8.24	0.06	-1.09	11.8%	-13.2%
7	8	Foxcroft to Winchester	0.28	1345	8.1	486	0.36	1.01	16.63	0.8	21	-0.21	4.37	-26.3%	20.8%
8	9			843	9.1	546	0.65								
9	91			960	3.3	198	0.21								
91	10	Winchester to New York	0.23	874	4.4	264	0.30	0.51	27.06	0.67	20.6	0.16	20.6	23.9%	100.0%
<b>Totals</b>						<b>2958</b>	<b>4.45</b>	<b>4.45</b>	<b>20.09</b>	<b>4.89</b>	<b>18.28</b>	<b>0.44</b>	<b>-1.81</b>	<b>9.0%</b>	<b>-9.9%</b>



<b>Project:</b>	WV 45 Traffic Study	<b>Computed:</b>	BMC	<b>Date:</b>	9/18/14
<b>Subject:</b>	Synchro Model Calibration	<b>Checked:</b>	BJB	<b>Date:</b>	9/18/14
<b>Task:</b>	WV 45 WB	<b>Page:</b>	1	<b>of:</b>	1
<b>Job #:</b>	232057	<b>No:</b>			

WV 45 - Apple Harvest Drive: Westbound (New York Ave. to Blue Ridge CC)

AM Peak Hour

Westbound Nodes		Travel Time Description	Distance	SimTraffic					Field Collected		Difference		% Difference		
From	To			Vehicles Exited	Travel Time (hour)	Travel Time (min)	Average Travel Time/Veh (min)	Average Travel Time/Veh (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed
10	91	New York to Winchester	0.23	824	3.2	192	0.23	0.65	21.23	0.64	21.56	-0.01	0.33	-1.6%	1.5%
91	9			687	4.8	288	0.42								
9	8	Winchester to Foxcroft	0.28	933	7.3	438	0.47	0.87	19.31	0.85	19.76	-0.02	0.45	-2.4%	2.3%
8	7			736	4.9	294	0.40								
7	6	Foxcroft to I-81 NB	0.07	325	1.1	66	0.20	0.20	21	0.21	20.00	0.01	-1.00	4.8%	-5.0%
6	5	I-81 NB to I-81 SB	0.11	143	1.4	84	0.59	0.59	11.19	0.34	19.41	-0.25	8.22	-73.5%	42.3%
5	4	I-81 SB to RCP	0.08	128	0.5	30	0.23	0.23	20.87	0.16	30.00	-0.07	9.13	-43.8%	30.4%
4	25	Retail Commons Pkwy to Klee	0.56	124	0.4	24	0.19	0.77	43.64	0.88	38.18	0.11	-5.46	12.5%	-14.3%
25	24			124	0.1	6	0.05								
24	23			124	0.1	6	0.05								
23	22			124	0.3	18	0.15								
22	21			123	0.4	24	0.20								
21	2			96	0.2	12	0.13								
2	1	Klee to Blue Ridge CC	0.16	50	0.2	12	0.24	0.24	40	0.25	38.4	0.01	-1.6	4.0%	-4.2%
<b>Totals</b>						<b>1494</b>	<b>3.55</b>	<b>3.55</b>	<b>25.18</b>	<b>3.33</b>	<b>26.85</b>	<b>-0.22</b>	<b>1.67</b>	<b>-6.6%</b>	<b>6.2%</b>

PM Peak Hour

Westbound Nodes		Travel Time Description	Distance	SimTraffic					Field Collected		Difference		% Difference		
From	To			Vehicles Exited	Travel Time (hour)	Travel Time (min)	Average Travel Time/Veh (min)	Average Travel Time/Veh (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed
10	91	New York to Winchester	0.23	1222	32.1	1926	1.58	3.12	4.42	3.61	3.82	0.49	-0.6	13.6%	-15.7%
91	9			938	24.1	1446	1.54								
9	8	Winchester to Foxcroft	0.28	1360	17.8	1068	0.79	1.71	9.82	2.00	8.40	0.29	-1.42	14.5%	-16.9%
8	7			1098	16.9	1014	0.92								
7	6	Foxcroft to I-81 NB	0.07	767	3.7	222	0.29	0.29	14.48	0.16	26.25	-0.13	11.77	-81.3%	44.8%
6	5	I-81 NB to I-81 SB	0.11	531	5.8	348	0.66	0.66	10	0.34	19.41	-0.32	9.41	-94.1%	48.5%
5	4	I-81 SB to RCP	0.08	270	1.3	78	0.29	0.29	16.55	0.61	7.87	0.32	-8.68	52.5%	-110.3%
4	25	Retail Commons Pkwy to Klee	0.56	318	1	60	0.19	0.81	41.48	0.83	40.48	0.02	-1.00	2.4%	-2.5%
25	24			318	0.4	24	0.08								
24	23			317	0.3	18	0.06								
23	22			317	0.9	54	0.17								
22	21			315	1	60	0.19								
21	2			197	0.4	24	0.12								
2	1	Klee to Blue Ridge CC	0.16	195	0.9	54	0.28	0.28	34.29	0.24	40	-0.04	5.71	-16.7%	14.3%
<b>Totals</b>						<b>6396</b>	<b>7.16</b>	<b>7.16</b>	<b>12.49</b>	<b>7.79</b>	<b>11.48</b>	<b>0.63</b>	<b>-1.01</b>	<b>8.1%</b>	<b>-8.8%</b>

SAT Peak Hour

Westbound Nodes		Travel Time Description	Distance	SimTraffic					Field Collected		Difference		% Difference		
From	To			Vehicles Exited	Travel Time (hour)	Travel Time (min)	Average Travel Time/Veh (min)	Average Travel Time/Veh (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed	Travel Time (min)	Speed
10	91	New York to Winchester	0.23	1049	6.4	384	0.37	1.46	9.45	1.20	11.5	-0.26	2.05	-21.7%	17.8%
91	9			826	15	900	1.09								
9	8	Winchester to Foxcroft	0.28	1218	27.4	1644	1.35	2.33	7.21	2.06	8.16	-0.27	0.95	-13.1%	11.6%
8	7			826	13.5	810	0.98								
7	6	Foxcroft to I-81 NB	0.07	675	3.3	198	0.29	0.29	14.48	0.14	30.00	-0.15	15.52	-107.1%	51.7%
6	5	I-81 NB to I-81 SB	0.11	463	4.8	288	0.62	0.62	10.65	0.78	8.46	0.16	-2.19	20.5%	-25.9%
5	4	I-81 SB to RCP	0.08	141	0.6	36	0.26	0.26	18.46	0.17	28.24	-0.09	9.78	-52.9%	34.6%
4	3			168	0.5	30	0.18								
3	25	Retail Commons Pkwy to Klee	0.56	166	0.5	30	0.18	0.99	33.94	1.69	19.88	0.70	-14.06	41.4%	-70.7%
25	24			165	0.2	12	0.07								
24	23			165	0.2	12	0.07								
23	22			165	0.5	30	0.18								
22	21			163	0.5	30	0.18								
21	2			90	0.2	12	0.13								
2	1	Klee to Blue Ridge CC	0.16	93	0.4	24	0.26	0.26	36.92	0.23	41.74	-0.03	4.82	-13.0%	11.5%
<b>Totals</b>						<b>4440</b>	<b>6.21</b>	<b>6.21</b>	<b>14.4</b>	<b>6.27</b>	<b>14.26</b>	<b>0.06</b>	<b>-0.14</b>	<b>1.0%</b>	<b>-1.0%</b>

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:45	6:45	6:45	6:45	6:45	6:45
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	4594	4627	4540	4743	4694	4639
Vehs Exited	4622	4643	4535	4755	4684	4647
Starting Vehs	202	200	187	208	195	190
Ending Vehs	174	184	192	196	205	190
Travel Distance (mi)	3619	3545	3501	3631	3663	3592
Travel Time (hr)	199.6	202.9	194.6	204.9	208.6	202.1
Total Delay (hr)	84.2	89.8	83.2	89.1	92.5	87.7
Total Stops	6410	6499	6093	6493	6886	6481
Fuel Used (gal)	145.9	143.6	140.8	147.3	148.8	145.3

Interval #0 Information Seeding

Start Time	6:45
End Time	7:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1096	1119	1074	1203	1069	1111
Vehs Exited	1127	1132	1093	1172	1064	1117
Starting Vehs	202	200	187	208	195	190
Ending Vehs	171	187	168	239	200	190
Travel Distance (mi)	879	865	832	910	854	868
Travel Time (hr)	47.7	48.4	44.5	51.4	44.5	47.3
Total Delay (hr)	19.7	20.7	18.1	22.4	17.3	19.6
Total Stops	1540	1598	1373	1646	1359	1504
Fuel Used (gal)	35.0	34.6	33.2	37.4	33.2	34.7



**Interval #2 Information**

Start Time 7:15  
End Time 7:30  
Total Time (min) 15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1258	1249	1237	1264	1325	1265
Vehs Exited	1213	1187	1190	1299	1278	1233
Starting Vehs	171	187	168	239	200	190
Ending Vehs	216	249	215	204	247	219
Travel Distance (mi)	967	942	934	984	1006	967
Travel Time (hr)	53.5	55.0	53.3	55.0	59.2	55.2
Total Delay (hr)	22.9	25.1	23.6	23.6	27.5	24.6
Total Stops	1702	1721	1700	1770	1956	1766
Fuel Used (gal)	39.2	38.4	37.5	39.5	41.5	39.2

**Interval #3 Information**

Start Time 7:30  
End Time 7:45  
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1116	1151	1085	1131	1149	1124
Vehs Exited	1131	1171	1121	1129	1182	1145
Starting Vehs	216	249	215	204	247	219
Ending Vehs	201	229	179	206	214	198
Travel Distance (mi)	895	889	885	867	932	894
Travel Time (hr)	50.1	52.1	48.2	48.0	54.9	50.6
Total Delay (hr)	21.6	23.6	20.0	20.4	25.5	22.2
Total Stops	1570	1610	1454	1516	1873	1605
Fuel Used (gal)	36.4	36.2	35.5	34.9	38.4	36.3

**Interval #4 Information**

Start Time 7:45  
End Time 8:00  
Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1124	1108	1144	1145	1151	1135
Vehs Exited	1151	1153	1131	1155	1160	1151
Starting Vehs	201	229	179	206	214	198
Ending Vehs	174	184	192	196	205	190
Travel Distance (mi)	878	849	850	870	872	864
Travel Time (hr)	48.4	47.5	48.6	50.5	50.0	49.0
Total Delay (hr)	20.1	20.4	21.4	22.7	22.1	21.3
Total Stops	1598	1570	1566	1561	1698	1599
Fuel Used (gal)	35.2	34.5	34.6	35.5	35.7	35.1

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	0.2	0.0	0.0	0.1	0.2	0.1
Total Del/Veh (s)	0.2	0.0	1.8	1.8	2.6	2.0	0.8
Travel Time (hr)	0.4	0.0	0.2	0.2	0.0	0.0	0.9
Vehicles Exited	144	5	43	50	1	3	246
Hourly Exit Rate	144	5	43	50	1	3	246
Input Volume	144	4	44	48	1	3	243
% of Volume	100	125	98	105	100	100	101

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.5	0.6	0.7	0.1	5.9	2.0	2.1
Travel Time (hr)	0.0	0.6	0.2	0.1	0.7	0.0	1.6
Vehicles Exited	2	153	96	29	108	4	392
Hourly Exit Rate	2	153	96	29	108	4	392
Input Volume	2	152	96	28	106	3	387
% of Volume	100	100	101	105	102	133	101

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	WBL	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3	1.5	2.7	1.0
Travel Time (hr)	0.6	0.0	0.4	1.0
Vehicles Exited	274	1	126	401
Hourly Exit Rate	274	1	126	401
Input Volume	271	2	124	397
% of Volume	101	50	102	101

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	5.0	0.7	67.5	6.3	5.0	0.5	15.3
Travel Time (hr)	0.9	0.1	2.0	0.5	0.0	0.2	3.6
Vehicles Exited	262	16	85	128	2	36	529
Hourly Exit Rate	262	16	85	128	2	36	529
Input Volume	261	14	90	126	2	45	538
% of Volume	100	112	95	101	100	80	98

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	1.8	3.0	1.1
Total Del/Veh (s)	39.7	8.3	46.4	25.4	16.1	2.2	24.5
Travel Time (hr)	3.6	0.2	3.4	1.4	10.6	0.7	19.9
Vehicles Exited	274	29	204	143	787	74	1511
Hourly Exit Rate	274	29	204	143	787	74	1511
Input Volume	274	34	198	145	777	74	1502
% of Volume	100	85	103	99	101	100	101

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.5	0.4	0.1
Total Del/Veh (s)	7.9	9.1	3.6	4.6	45.7	28.2	10.1
Travel Time (hr)	0.4	6.1	1.1	2.1	0.3	4.9	14.9
Vehicles Exited	52	1008	325	620	17	334	2356
Hourly Exit Rate	52	1008	325	620	17	334	2356
Input Volume	51	995	320	616	20	331	2333
% of Volume	102	101	101	101	84	101	101

7: WV45 & Foxcroft Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.8	4.8	0.0	0.0	0.0
Total Del/Veh (s)	57.2	16.6	5.2	64.9	14.9	2.4	81.4	79.3	84.9	50.8	3.1	10.9
Travel Time (hr)	2.7	7.6	0.4	1.3	4.9	0.9	1.4	0.3	2.4	2.7	1.1	1.0
Vehicles Exited	140	1124	82	60	736	210	54	13	84	157	449	152
Hourly Exit Rate	140	1124	82	60	736	210	54	13	84	157	449	152
Input Volume	126	1112	76	64	730	219	58	15	81	161	450	143
% of Volume	111	101	108	93	101	96	92	85	104	97	100	106

7: WV45 & Foxcroft Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	20.4
Travel Time (hr)	26.7
Vehicles Exited	3261
Hourly Exit Rate	3261
Input Volume	3238
% of Volume	101

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.3	4.0	0.2	0.2	4.0
Total Del/Veh (s)	61.2	11.6	8.8	60.0	8.8	5.7	59.1	58.1	27.0	50.8	62.4	60.8
Travel Time (hr)	0.7	8.0	0.4	1.6	7.3	0.4	0.9	0.3	0.5	0.3	0.3	0.4
Vehicles Exited	31	1272	68	67	933	51	47	15	48	17	15	20
Hourly Exit Rate	31	1272	68	67	933	51	47	15	48	17	15	20
Input Volume	32	1264	61	71	940	51	51	15	51	20	15	20
% of Volume	95	101	112	94	99	100	93	98	95	84	98	99

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	14.7
Travel Time (hr)	21.1
Vehicles Exited	2584
Hourly Exit Rate	2584
Input Volume	2592
% of Volume	100

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.8	1.3	3.9	0.8	3.8
Total Del/Veh (s)	67.5	21.0	9.7	65.8	16.9	5.2	82.2	55.5	13.3	58.6	85.0	7.0
Travel Time (hr)	2.7	11.4	1.5	2.2	4.8	0.2	6.8	3.6	0.9	1.2	2.4	0.7
Vehicles Exited	109	1051	177	100	687	34	251	195	133	57	90	115
Hourly Exit Rate	109	1051	177	100	687	34	251	195	133	57	90	115
Input Volume	110	1045	178	102	695	36	261	192	135	62	95	113
% of Volume	100	101	100	98	99	93	96	102	99	92	94	102

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	31.8
Travel Time (hr)	38.5
Vehicles Exited	2999
Hourly Exit Rate	2999
Input Volume	3022
% of Volume	99

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	4.2	0.4	0.4	3.9
Total Del/Veh (s)	56.7	3.7	2.0	58.1	5.1	2.7	92.6	79.4	19.9	74.6	82.9	21.1
Travel Time (hr)	0.7	5.0	0.1	0.6	5.0	0.5	0.1	0.1	0.2	1.2	0.2	0.5
Vehicles Exited	35	1208	16	28	775	76	5	4	18	49	7	44
Hourly Exit Rate	35	1208	16	28	775	76	5	4	18	49	7	44
Input Volume	39	1219	14	28	793	69	6	6	19	51	7	44
% of Volume	90	99	112	98	98	110	80	64	94	97	97	101

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	8.2
Travel Time (hr)	14.2
Vehicles Exited	2265
Hourly Exit Rate	2265
Input Volume	2296
% of Volume	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	2.1	1.7	2.0	12.8	2.2
Travel Time (hr)	3.5	0.1	3.2	0.2	7.1
Vehicles Exited	1215	23	824	35	2097
Hourly Exit Rate	1215	23	824	35	2097
Input Volume	1222	20	844	38	2124
% of Volume	99	114	98	91	99

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.3	0.2
Total Del/Veh (s)	9.7	3.8	7.1	1.1	0.9	1.1
Travel Time (hr)	0.0	0.0	0.1	1.5	1.5	3.0
Vehicles Exited	10	9	8	362	753	1142
Hourly Exit Rate	10	9	8	362	753	1142
Input Volume	10	10	10	360	745	1135
% of Volume	98	88	78	101	101	101

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.7	3.3	0.0	0.0	0.5
Total Del/Veh (s)	11.0	6.8	1.6	0.3	5.0	1.3	1.8
Travel Time (hr)	0.1	0.1	0.8	0.0	0.1	1.4	2.5
Vehicles Exited	19	18	562	12	15	362	988
Hourly Exit Rate	19	18	562	12	15	362	988
Input Volume	15	15	561	15	15	368	990
% of Volume	125	118	100	79	98	98	100

Total Zone Performance

Denied Del/Veh (s)	1.4
Total Del/Veh (s)	415.6
Travel Time (hr)	154.9
Vehicles Exited	581
Hourly Exit Rate	581
Input Volume	20798
% of Volume	3

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	48	26
Average Queue (ft)	6	3
95th Queue (ft)	28	16
Link Distance (ft)	856	704
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	67
Average Queue (ft)	29
95th Queue (ft)	52
Link Distance (ft)	737
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Cornerstone Dev. & WV 45

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	R
Maximum Queue (ft)	70	66	27	87	117	5	101	8	41
Average Queue (ft)	28	24	2	26	63	0	26	0	2
95th Queue (ft)	56	56	12	67	101	4	70	4	19
Link Distance (ft)	411	411				388	388	668	668
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			142	225	225				
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	L	L
Maximum Queue (ft)	173	193	48	288	175	238	250
Average Queue (ft)	84	86	17	143	73	126	149
95th Queue (ft)	147	153	42	234	140	213	230
Link Distance (ft)	388	388		515	515		1419
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			142			425	
Storage Blk Time (%)		2					
Queuing Penalty (veh)		1					

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	51	214	240	85	76	250	102	349
Average Queue (ft)	12	78	84	20	15	19	17	150
95th Queue (ft)	38	184	195	58	49	120	70	283
Link Distance (ft)		515	515	287	287	287		997
Upstream Blk Time (%)						0		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)		0						11
Queuing Penalty (veh)		0						2



Queuing and Blocking Report  
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Intersection: 7: WV45 & Foxcroft Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	248	317	340	225	136	184	320	73	226	89	152	291
Average Queue (ft)	123	190	215	63	57	71	146	23	111	67	66	120
95th Queue (ft)	220	318	344	209	112	150	279	55	224	107	143	213
Link Distance (ft)		287	287			367	367	367	243			309
Upstream Blk Time (%)		1	2				0		3			0
Queuing Penalty (veh)		8	16				1		0			0
Storage Bay Dist (ft)	229			200	200					64	129	
Storage Blk Time (%)	0	3	8	0		0			19	31	0	7
Queuing Penalty (veh)	1	4	6	0		0			16	23	0	6

Intersection: 7: WV45 & Foxcroft Ave.

Movement	SB
Directions Served	R
Maximum Queue (ft)	150
Average Queue (ft)	59
95th Queue (ft)	115
Link Distance (ft)	309
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	91	162	188	125	101	226	256	99	172	71	97	80
Average Queue (ft)	30	78	104	17	57	66	109	12	70	37	37	25
95th Queue (ft)	68	153	179	75	100	176	229	57	147	82	82	66
Link Distance (ft)		367	367			834	834		191			301
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)		0	8	0	10	3	10	0	27	5	4	3
Queuing Penalty (veh)		0	5	0	46	2	5	0	14	3	1	1

Queuing and Blocking Report  
2014 AM Peak Model

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Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	250	344	368	203	194	259	286	85	377	400	125	164
Average Queue (ft)	101	154	171	44	90	112	138	14	245	176	52	50
95th Queue (ft)	184	277	286	116	156	204	230	57	389	335	154	114
Link Distance (ft)		834	834		370	370	370		398	398		
Upstream Blk Time (%)									2	0		
Queuing Penalty (veh)									6	1		
Storage Bay Dist (ft)	383			333				230			100	212
Storage Blk Time (%)		0	0	0			1			26	0	
Queuing Penalty (veh)		0	1	0			0			35	0	

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	250	127
Average Queue (ft)	96	39
95th Queue (ft)	186	117
Link Distance (ft)	377	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		102
Storage Blk Time (%)	12	0
Queuing Penalty (veh)	20	1

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	86	148	161	64	64	150	160	79	60	47	201	61
Average Queue (ft)	32	29	36	3	25	56	60	13	11	14	75	35
95th Queue (ft)	72	94	107	30	57	128	135	45	41	38	159	72
Link Distance (ft)		663	663			838	838		629		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145		247		30
Storage Blk Time (%)		0	1	0		0	0				60	5
Queuing Penalty (veh)		0	0	0		0	0				26	3

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	18
95th Queue (ft)	44
Link Distance (ft)	214
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	44	31	54	75	114	63
Average Queue (ft)	15	5	4	12	24	11
95th Queue (ft)	40	22	26	48	79	41
Link Distance (ft)	67		309	309	247	247
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	SB
Directions Served	LR	T	L
Maximum Queue (ft)	51	114	36
Average Queue (ft)	21	11	6
95th Queue (ft)	46	71	27
Link Distance (ft)	83	153	
Upstream Blk Time (%)	0	1	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			350
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Zone Summary

Zone wide Queuing Penalty: 255
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6338	6237	6253	6282	6295	6282
Vehs Exited	6231	6151	6121	5977	6151	6126
Starting Vehs	395	330	300	335	308	330
Ending Vehs	502	416	432	640	452	489
Travel Distance (mi)	4789	4714	4700	4634	4737	4715
Travel Time (hr)	555.3	378.3	405.1	498.5	418.1	451.0
Total Delay (hr)	397.6	222.3	250.1	345.7	262.0	295.6
Total Stops	16489	13339	13711	15483	14279	14659
Fuel Used (gal)	255.3	213.7	219.4	238.1	222.2	229.7

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1523	1503	1507	1593	1547	1532
Vehs Exited	1485	1495	1481	1491	1483	1486
Starting Vehs	395	330	300	335	308	330
Ending Vehs	433	338	326	437	372	375
Travel Distance (mi)	1187	1163	1154	1191	1184	1176
Travel Time (hr)	104.8	85.7	83.9	103.7	84.3	92.5
Total Delay (hr)	65.7	47.1	45.6	64.5	45.2	53.6
Total Stops	3574	3191	2923	3507	3014	3238
Fuel Used (gal)	55.8	51.1	50.3	55.8	50.9	52.8

**Interval #2 Information**

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1781	1698	1725	1616	1708	1705
Vehs Exited	1669	1637	1645	1607	1666	1649
Starting Vehs	433	338	326	437	372	375
Ending Vehs	545	399	406	446	414	442
Travel Distance (mi)	1253	1221	1229	1164	1196	1212
Travel Time (hr)	140.1	92.3	99.7	122.4	96.7	110.2
Total Delay (hr)	99.0	52.0	59.2	83.8	57.3	70.3
Total Stops	4335	3240	3534	3929	3630	3730
Fuel Used (gal)	65.7	54.2	56.0	59.3	53.9	57.8

**Interval #3 Information**

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1513	1527	1509	1472	1541	1510
Vehs Exited	1523	1519	1480	1426	1492	1485
Starting Vehs	545	399	406	446	414	442
Ending Vehs	535	407	435	492	463	463
Travel Distance (mi)	1165	1157	1165	1111	1182	1156
Travel Time (hr)	158.8	92.9	108.9	117.9	107.9	117.3
Total Delay (hr)	120.4	54.5	70.6	81.3	69.1	79.2
Total Stops	4204	3128	3650	3673	3656	3665
Fuel Used (gal)	67.2	52.2	56.0	56.9	56.3	57.7

**Interval #4 Information Recording**

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1521	1509	1512	1601	1499	1529
Vehs Exited	1554	1500	1515	1453	1510	1505
Starting Vehs	535	407	435	492	463	463
Ending Vehs	502	416	432	640	452	489
Travel Distance (mi)	1185	1173	1152	1167	1176	1171
Travel Time (hr)	151.6	107.4	112.5	154.5	129.1	131.0
Total Delay (hr)	112.5	68.6	74.6	116.1	90.3	92.4
Total Stops	4376	3780	3604	4374	3979	4023
Fuel Used (gal)	66.6	56.2	57.0	66.1	61.0	61.4

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.2	0.0	2.1	1.8	4.3	2.3	1.4
Travel Time (hr)	0.2	0.0	0.0	0.9	0.0	0.2	1.3
Vehicles Exited	86	1	1	195	3	34	320
Hourly Exit Rate	86	1	1	195	3	34	320
Input Volume	96	1	2	205	3	37	344
% of Volume	89	100	50	95	100	93	93

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.7	0.5	2.0	0.5	6.3	3.7	1.9
Travel Time (hr)	0.0	0.5	0.4	0.3	0.4	0.0	1.7
Vehicles Exited	4	118	197	118	66	5	508
Hourly Exit Rate	4	118	197	118	66	5	508
Input Volume	5	130	208	111	68	3	524
% of Volume	80	91	95	106	97	167	97

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	2.6	1.7
Travel Time (hr)	0.4	1.0	1.5
Vehicles Exited	190	321	511
Hourly Exit Rate	190	321	511
Input Volume	204	321	525
% of Volume	93	100	97

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.4	0.1
Total Del/Veh (s)	16.0	5.2	29.3	8.8	21.1	4.1	15.2
Travel Time (hr)	1.0	0.2	5.5	1.3	0.7	2.7	11.3
Vehicles Exited	152	36	473	270	63	460	1454
Hourly Exit Rate	152	36	473	270	63	460	1454
Input Volume	167	37	490	270	61	459	1484
% of Volume	91	98	97	100	103	100	98

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	2.2	3.2	0.9
Total Del/Veh (s)	57.6	19.7	56.8	29.1	32.8	6.8	38.3
Travel Time (hr)	10.0	0.9	6.8	5.8	10.8	2.4	36.8
Vehicles Exited	522	95	343	531	591	213	2295
Hourly Exit Rate	522	95	343	531	591	213	2295
Input Volume	536	96	370	550	585	213	2350
% of Volume	97	99	93	97	101	100	98

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.5	0.6	0.2
Total Del/Veh (s)	68.4	11.9	8.1	3.8	51.2	34.9	16.0
Travel Time (hr)	4.1	6.7	3.7	2.3	2.1	4.9	23.9
Vehicles Exited	170	942	767	709	100	299	2987
Hourly Exit Rate	170	942	767	709	100	299	2987
Input Volume	182	951	827	735	89	297	3080
% of Volume	94	99	93	96	113	101	97

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.4	1.4	0.0	0.2	0.1	0.3	0.3	4.0	0.0	0.0	0.4
Total Del/Veh (s)	70.2	24.3	9.7	71.3	45.3	4.4	75.1	81.2	83.3	43.4	26.8	14.8
Travel Time (hr)	5.7	9.0	0.3	0.9	16.9	2.0	0.6	0.5	1.2	4.2	0.3	2.0
Vehicles Exited	245	990	46	37	1098	396	27	20	43	316	38	362
Hourly Exit Rate	245	990	46	37	1098	396	27	20	43	316	38	362
Input Volume	243	998	48	41	1164	412	31	26	43	338	38	374
% of Volume	101	99	96	90	94	96	87	77	100	93	100	97

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	34.2
Travel Time (hr)	43.6
Vehicles Exited	3618
Hourly Exit Rate	3618
Input Volume	3757
% of Volume	96

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	0.3	0.3	0.2	0.2	1.3	1.2	5.8	0.4	0.4	3.9
Total Del/Veh (s)	68.6	17.7	11.6	80.8	27.7	21.1	71.8	67.9	40.3	43.5	47.8	53.6
Travel Time (hr)	0.6	10.7	0.2	0.4	17.8	0.2	2.0	0.3	0.3	0.2	0.3	1.7
Vehicles Exited	26	1305	31	14	1360	15	89	13	20	17	16	87
Hourly Exit Rate	26	1305	31	14	1360	15	89	13	20	17	16	87
Input Volume	30	1334	30	15	1442	15	91	15	15	15	15	91
% of Volume	85	98	102	92	94	98	98	85	131	111	105	95

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	26.4
Travel Time (hr)	34.7
Vehicles Exited	2993
Hourly Exit Rate	2993
Input Volume	3111
% of Volume	96

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.2	1.0	1.0	0.1	0.4	0.0	0.1	0.2	0.1	4.7	2.6	4.3
Total Del/Veh (s)	68.7	100.3	58.8	63.8	80.7	35.8	58.4	42.3	13.8	64.1	67.8	26.4
Travel Time (hr)	3.5	28.3	8.3	4.1	24.1	1.0	5.4	4.4	0.8	2.0	5.4	1.9
Vehicles Exited	139	831	360	195	938	76	276	309	121	93	246	159
Hourly Exit Rate	139	831	360	195	938	76	276	309	121	93	246	159
Input Volume	142	852	376	196	1028	84	270	306	120	89	243	164
% of Volume	98	98	96	100	91	90	102	101	101	104	101	97

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	70.4
Travel Time (hr)	89.2
Vehicles Exited	3743
Hourly Exit Rate	3743
Input Volume	3870
% of Volume	97



10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	3.8	0.4	0.3	3.9
Total Del/Veh (s)	67.3	16.9	12.4	93.3	61.0	47.3	63.4	72.0	12.3	53.0	61.5	39.2
Travel Time (hr)	1.6	8.0	0.1	2.6	25.7	3.3	1.3	0.6	0.8	0.9	0.6	0.9
Vehicles Exited	68	926	16	78	1140	167	57	27	88	49	29	55
Hourly Exit Rate	68	926	16	78	1140	167	57	27	88	49	29	55
Input Volume	75	927	14	81	1186	170	59	27	87	52	26	57
% of Volume	91	100	112	97	96	98	97	99	101	93	110	97

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	44.1
Travel Time (hr)	46.3
Vehicles Exited	2700
Hourly Exit Rate	2700
Input Volume	2761
% of Volume	98

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.3	0.1	0.2
Total Del/Veh (s)	5.6	4.4	76.1	16.2	44.4
Travel Time (hr)	4.2	0.2	32.1	0.1	36.6
Vehicles Exited	997	35	1222	9	2263
Hourly Exit Rate	997	35	1222	9	2263
Input Volume	1009	34	1308	10	2360
% of Volume	99	104	93	88	96

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	205.5	218.5	0.0	0.0	86.4	51.4
Total Del/Veh (s)	134.5	128.7	33.5	5.8	33.7	24.3
Travel Time (hr)	2.6	2.4	0.3	2.1	25.4	32.9
Vehicles Exited	25	21	30	648	690	1414
Hourly Exit Rate	25	21	30	648	690	1414
Input Volume	30	30	30	664	714	1470
% of Volume	82	69	98	98	97	96

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.8	3.2	0.0	0.0	0.4
Total Del/Veh (s)	42.7	16.8	1.4	0.5	6.4	1.5	2.0
Travel Time (hr)	0.2	0.1	3.4	0.1	0.1	3.2	7.1
Vehicles Exited	15	15	672	17	12	806	1537
Hourly Exit Rate	15	15	672	17	12	806	1537
Input Volume	15	15	674	15	15	818	1553
% of Volume	98	98	100	111	79	98	99

Total Zone Performance

Denied Del/Veh (s)	17.6
Total Del/Veh (s)	1394.5
Travel Time (hr)	366.9
Vehicles Exited	265
Hourly Exit Rate	265
Input Volume	27190
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	19
95th Queue (ft)	39
Link Distance (ft)	705
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	59
Average Queue (ft)	2	24
95th Queue (ft)	14	45
Link Distance (ft)	856	738
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	98	79	51	202	216	93	111	17	62	172
Average Queue (ft)	38	31	13	111	136	4	43	1	20	40
95th Queue (ft)	74	68	40	199	207	46	91	11	48	111
Link Distance (ft)	411	411				392	392		660	660
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			142	225	225			259		
Storage Blk Time (%)				0	0					
Queuing Penalty (veh)				0	1					

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	370	438	167	436	478	311	318	149
Average Queue (ft)	210	214	86	263	255	169	168	53
95th Queue (ft)	330	365	196	406	431	274	265	119
Link Distance (ft)	392	392		515	515		1422	
Upstream Blk Time (%)	0	2		0	0			
Queuing Penalty (veh)	0	5		1	0			
Storage Bay Dist (ft)			142			425		425
Storage Blk Time (%)		24	0				0	
Queuing Penalty (veh)		23	0				0	

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	TR
Maximum Queue (ft)	282	401	387	148	177	176	356
Average Queue (ft)	161	112	115	60	88	85	144
95th Queue (ft)	261	269	261	120	160	173	321
Link Distance (ft)		515	515	281	281		997
Upstream Blk Time (%)		0	0				
Queuing Penalty (veh)		1	0				
Storage Bay Dist (ft)	261					158	
Storage Blk Time (%)	1	1				1	12
Queuing Penalty (veh)	6	1				4	11

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Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	321	315	125	207	394	397	146	168	88	45	134
Average Queue (ft)	207	218	214	26	64	322	292	35	63	41	14	119
95th Queue (ft)	289	355	346	103	181	438	440	95	144	89	47	126
Link Distance (ft)		281	281			366	366	366	244			46
Upstream Blk Time (%)		6	4			11	6	0	0		1	79
Queuing Penalty (veh)		35	28			59	35	1	0		0	295
Storage Bay Dist (ft)	229			100	183					64	109	
Storage Blk Time (%)	9	6	26	0	0	40			13	14	1	79
Queuing Penalty (veh)	43	15	13	0	0	16			5	8	2	134

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	B702	B702
Directions Served	R	T	T
Maximum Queue (ft)	137	267	233
Average Queue (ft)	112	215	96
95th Queue (ft)	134	286	215
Link Distance (ft)	46	192	192
Upstream Blk Time (%)	35	51	3
Queuing Penalty (veh)	131	187	10
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Sheetz/Lowe's & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	112	299	315	104	75	543	611	82	194	70	185	85
Average Queue (ft)	30	130	163	20	17	182	232	6	100	21	54	62
95th Queue (ft)	85	267	293	89	54	476	578	43	191	67	142	97
Link Distance (ft)		366	366			834	834		190		301	
Upstream Blk Time (%)		0	0						4			
Queuing Penalty (veh)		2	3						0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)		6	21	0	0	18	21	0	50	1	2	21
Queuing Penalty (veh)		2	6	0	0	3	3	0	8	1	2	7

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Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	408	775	813	358	372	420	428	255	364	399	125	237
Average Queue (ft)	214	470	490	284	189	381	386	162	202	209	52	101
95th Queue (ft)	442	792	826	452	312	433	425	345	319	371	153	220
Link Distance (ft)		834	834		378	378	378		398	398		
Upstream Blk Time (%)		1	1		0	37	40		0	1		
Queuing Penalty (veh)		7	10		2	159	173		0	2		
Storage Bay Dist (ft)	383			333				230			100	212
Storage Blk Time (%)	0	24	32	2			60	0		31	0	0
Queuing Penalty (veh)	0	35	120	8			51	1		38	0	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	399	127
Average Queue (ft)	256	82
95th Queue (ft)	438	169
Link Distance (ft)	377	
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		102
Storage Blk Time (%)	41	0
Queuing Penalty (veh)	105	2

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Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	B5000	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	LT	R
Maximum Queue (ft)	169	331	360	112	222	851	850	175	553	543	158	93
Average Queue (ft)	74	169	188	11	102	414	425	97	161	160	71	31
95th Queue (ft)	155	352	381	68	225	977	976	225	696	691	141	68
Link Distance (ft)		663	663			838	838		1264	1264	627	
Upstream Blk Time (%)						19	19				0	
Queuing Penalty (veh)						0	0				0	
Storage Bay Dist (ft)	145			110	197			150				247
Storage Blk Time (%)	1	11	16	0	0	26	31	0				
Queuing Penalty (veh)	3	8	2	0	1	21	53	1				

Intersection: 10: WV45 & New York Ave.

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	186	57
Average Queue (ft)	87	39
95th Queue (ft)	163	71
Link Distance (ft)	429	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		30
Storage Blk Time (%)	52	23
Queuing Penalty (veh)	30	18

Intersection: 91: WV45

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	R
Maximum Queue (ft)	78	142	510	706	688	26
Average Queue (ft)	3	5	323	440	454	6
95th Queue (ft)	57	75	697	883	866	22
Link Distance (ft)	378	378		663	663	214
Upstream Blk Time (%)	0	0		9	8	
Queuing Penalty (veh)	0	0		55	51	
Storage Bay Dist (ft)			485			
Storage Blk Time (%)			4	21		
Queuing Penalty (veh)			17	91		

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	84	104	163	170	258	250
Average Queue (ft)	56	24	71	78	166	137
95th Queue (ft)	94	72	182	193	349	339
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	50	0	0	0	36	20
Queuing Penalty (veh)	0	0	1	1	0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)			1			
Queuing Penalty (veh)			0			

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	77	77	25	31
Average Queue (ft)	25	4	1	7
95th Queue (ft)	59	35	18	27
Link Distance (ft)	83	810		
Upstream Blk Time (%)	1			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)			100	350
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Zone Summary

Zone wide Queuing Penalty: 2170
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	5571	5635	5746	5538	5694	5638
Vehs Exited	5599	5663	5761	5502	5736	5651
Starting Vehs	295	309	321	284	322	307
Ending Vehs	267	281	306	320	280	287
Travel Distance (mi)	4006	3978	4104	3931	4004	4005
Travel Time (hr)	388.6	438.8	386.0	410.6	409.6	406.7
Total Delay (hr)	254.0	304.8	248.2	278.3	274.6	272.0
Total Stops	10949	11578	11485	11152	11514	11335
Fuel Used (gal)	200.9	211.3	203.5	203.6	204.8	204.8

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1324	1379	1414	1288	1334	1347
Vehs Exited	1360	1390	1433	1310	1343	1366
Starting Vehs	295	309	321	284	322	307
Ending Vehs	259	298	302	262	313	285
Travel Distance (mi)	986	998	1030	941	985	988
Travel Time (hr)	76.3	86.1	80.1	79.0	74.9	79.3
Total Delay (hr)	43.0	52.4	45.3	47.2	41.7	45.9
Total Stops	2640	2992	2994	2545	2590	2750
Fuel Used (gal)	45.0	47.7	47.2	44.5	44.5	45.8

**Interval #2 Information**

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1501	1518	1508	1537	1585	1531
Vehs Exited	1441	1463	1519	1461	1565	1488
Starting Vehs	259	298	302	262	313	285
Ending Vehs	319	353	291	338	333	324
Travel Distance (mi)	1032	999	1050	1017	1054	1031
Travel Time (hr)	95.0	101.4	91.7	95.0	103.4	97.3
Total Delay (hr)	60.4	68.0	56.5	60.8	67.8	62.7
Total Stops	2885	2964	2878	2869	3187	2953
Fuel Used (gal)	50.2	51.3	50.2	49.6	52.8	50.8

**Interval #3 Information**

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1370	1350	1369	1352	1349	1359
Vehs Exited	1425	1411	1388	1374	1396	1401
Starting Vehs	319	353	291	338	333	324
Ending Vehs	264	292	272	316	286	281
Travel Distance (mi)	1008	1003	1007	994	985	999
Travel Time (hr)	113.1	124.5	99.5	107.6	116.2	112.2
Total Delay (hr)	79.2	90.7	65.6	74.3	82.9	78.5
Total Stops	2883	2975	2671	2793	2979	2859
Fuel Used (gal)	54.3	56.2	51.2	52.6	53.7	53.6

**Interval #4 Information Recording**

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1376	1388	1455	1361	1426	1400
Vehs Exited	1373	1399	1421	1357	1432	1395
Starting Vehs	264	292	272	316	286	281
Ending Vehs	267	281	306	320	280	287
Travel Distance (mi)	980	978	1015	979	979	986
Travel Time (hr)	104.2	126.8	114.8	129.1	115.2	118.0
Total Delay (hr)	71.4	93.7	80.7	96.0	82.1	84.8
Total Stops	2541	2647	2942	2945	2758	2763
Fuel Used (gal)	51.4	56.1	54.8	56.9	53.7	54.6

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	1.3	1.2	1.2	0.6
Travel Time (hr)	0.3	0.0	0.4	0.0	0.7
Vehicles Exited	113	3	93	1	210
Hourly Exit Rate	113	3	93	1	210
Input Volume	116	3	89	1	210
% of Volume	97	92	104	100	100

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.8	0.7	1.4	0.3	5.3	1.6	1.8
Travel Time (hr)	0.0	0.4	0.2	0.2	0.5	0.0	1.3
Vehicles Exited	3	112	90	74	82	2	363
Hourly Exit Rate	3	112	90	74	82	2	363
Input Volume	4	114	87	75	74	3	357
% of Volume	75	98	103	99	111	67	102

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.0		0.0	0.1	0.0
Total Del/Veh (s)	0.3		2.7	3.8	1.4
Travel Time (hr)	0.4	0.0	0.5	0.0	1.0
Vehicles Exited	190	0	168	1	359
Hourly Exit Rate	190	0	168	1	359
Input Volume	185	1	164	1	351
% of Volume	103	0	103	100	102

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	1.4	3.5	1.3
Total Del/Veh (s)	15.5	4.8	25.3	6.7	24.9	3.6	13.8
Travel Time (hr)	0.9	0.2	5.5	0.6	0.3	3.2	10.8
Vehicles Exited	140	52	525	141	26	496	1380
Hourly Exit Rate	140	52	525	141	26	496	1380
Input Volume	136	52	536	138	26	488	1376
% of Volume	103	99	98	102	99	102	100

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.1	3.1	0.9
Total Del/Veh (s)	40.2	11.6	34.9	25.4	22.5	6.0	27.2
Travel Time (hr)	7.7	0.6	3.5	4.8	8.6	2.2	27.5
Vehicles Exited	545	87	255	463	565	197	2112
Hourly Exit Rate	545	87	255	463	565	197	2112
Input Volume	538	85	263	479	564	190	2118
% of Volume	101	102	97	97	100	104	100

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.6	0.5	0.1
Total Del/Veh (s)	14.8	8.7	8.2	4.2	41.0	20.0	9.9
Travel Time (hr)	1.2	6.0	3.3	1.8	1.0	3.6	16.9
Vehicles Exited	136	971	675	511	52	293	2638
Hourly Exit Rate	136	971	675	511	52	293	2638
Input Volume	138	958	688	535	57	304	2680
% of Volume	98	101	98	96	91	96	98

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.5	4.0	0.0	0.0	0.0
Total Del/Veh (s)	53.3	19.1	5.6	64.2	49.4	8.2	69.9	69.4	71.5	44.8	38.4	14.4
Travel Time (hr)	3.8	7.3	0.4	1.1	13.5	3.0	0.8	0.9	1.9	6.2	0.5	2.6
Vehicles Exited	215	971	87	51	826	510	36	42	80	391	42	348
Hourly Exit Rate	215	971	87	51	826	510	36	42	80	391	42	348
Input Volume	212	969	84	54	859	525	38	45	82	401	42	345
% of Volume	101	100	103	94	96	97	94	93	98	98	99	101

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	31.7
Travel Time (hr)	42.0
Vehicles Exited	3599
Hourly Exit Rate	3599
Input Volume	3657
% of Volume	98

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	6.0	7.2	4.9	0.6	0.3	4.4	0.5	0.2	4.0
Total Del/Veh (s)	60.5	10.0	5.8	73.4	53.8	54.6	54.8	54.4	24.7	40.7	44.2	47.7
Travel Time (hr)	1.7	8.1	0.3	1.2	27.4	1.0	1.3	0.3	0.5	0.6	0.2	1.4
Vehicles Exited	83	1345	43	43	1218	42	73	15	50	43	16	80
Hourly Exit Rate	83	1345	43	43	1218	42	73	15	50	43	16	80
Input Volume	92	1333	46	46	1287	46	76	15	49	46	15	76
% of Volume	90	101	94	94	95	92	96	98	103	94	105	105

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	3.3
Total Del/Veh (s)	33.6
Travel Time (hr)	44.0
Vehicles Exited	3051
Hourly Exit Rate	3051
Input Volume	3126
% of Volume	98

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.2	0.0	5.6	0.7	1.5	4.8	2.5	4.6
Total Del/Veh (s)	64.7	21.0	12.4	47.0	55.8	21.5	204.7	66.3	17.0	48.4	70.6	24.7
Travel Time (hr)	4.3	9.1	3.9	2.5	15.0	0.8	17.2	4.4	0.9	1.5	4.3	2.5
Vehicles Exited	180	843	411	155	826	86	262	203	106	82	187	222
Hourly Exit Rate	180	843	411	155	826	86	262	203	106	82	187	222
Input Volume	171	853	405	155	814	90	363	265	135	90	189	202
% of Volume	105	99	102	100	101	95	72	77	78	91	99	110

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	51.5
Travel Time (hr)	66.2
Vehicles Exited	3563
Hourly Exit Rate	3563
Input Volume	3734
% of Volume	95

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.0	0.0	0.4	0.4	3.9	0.3	0.4	4.0
Total Del/Veh (s)	58.4	3.8	2.4	53.5	9.6	4.1	54.6	61.0	11.5	60.9	58.5	19.5
Travel Time (hr)	1.5	4.4	0.1	1.2	7.1	0.3	1.0	0.6	0.5	0.6	0.5	0.6
Vehicles Exited	73	874	12	60	930	48	50	30	61	28	28	61
Hourly Exit Rate	73	874	12	60	930	48	50	30	61	28	28	61
Input Volume	77	934	13	57	928	44	52	29	59	31	24	62
% of Volume	95	94	91	106	100	110	95	103	104	90	115	99

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	13.2
Travel Time (hr)	18.5
Vehicles Exited	2255
Hourly Exit Rate	2255
Input Volume	2310
% of Volume	98

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	2.7	2.4	7.2	7.0	5.0
Travel Time (hr)	3.3	0.2	6.4	0.0	10.0
Vehicles Exited	960	58	1049	9	2076
Hourly Exit Rate	960	58	1049	9	2076
Input Volume	1019	61	1056	10	2146
% of Volume	94	95	99	88	97

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.4	0.7	0.1	0.0	0.4	0.2	0.2
Total Del/Veh (s)	12.2	7.3	8.0	2.2	2.8	1.2	2.9
Travel Time (hr)	0.1	0.1	0.2	3.3	1.9	0.0	5.6
Vehicles Exited	29	30	28	748	754	6	1595
Hourly Exit Rate	29	30	28	748	754	6	1595
Input Volume	30	30	30	764	754	5	1614
% of Volume	95	98	92	98	100	120	99

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	583.2	634.7	447.2	472.8	0.0	0.0	232.8
Total Del/Veh (s)	259.0	220.7	36.1	8.4	8.6	1.4	22.9
Travel Time (hr)	2.1	11.5	94.0	1.2	0.3	2.8	112.0
Vehicles Exited	6	35	537	8	55	714	1355
Hourly Exit Rate	6	35	537	8	55	714	1355
Input Volume	10	51	707	10	51	713	1542
% of Volume	59	69	76	78	108	100	88

Total Zone Performance

Denied Del/Veh (s)	79.1
Total Del/Veh (s)	1359.9
Travel Time (hr)	356.6
Vehicles Exited	187
Hourly Exit Rate	187
Input Volume	25220
% of Volume	1

# Queuing and Blocking Report

## Baseline

9/19/2014

### Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	5	11
Average Queue (ft)	0	1
95th Queue (ft)	4	8
Link Distance (ft)	856	705
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	5	54
Average Queue (ft)	0	25
95th Queue (ft)	4	42
Link Distance (ft)	856	738
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 3: Cornerstone Dev. & WV 45

Movement	NB
Directions Served	R
Maximum Queue (ft)	25
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	470
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	



Queuing and Blocking Report  
Baseline

9/19/2014

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	R
Maximum Queue (ft)	70	61	68	206	224	66	79	41	133
Average Queue (ft)	35	25	17	110	133	3	25	13	41
95th Queue (ft)	66	57	50	189	204	42	65	34	92
Link Distance (ft)	416	416				392	392	667	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)			142	225	225				253
Storage Blk Time (%)				0	0				
Queuing Penalty (veh)				0	0				

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	300	342	167	293	384	228	240	169
Average Queue (ft)	156	162	62	134	200	122	130	45
95th Queue (ft)	259	279	159	230	349	199	210	117
Link Distance (ft)	392	392		515	515		1422	
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)			142			425		425
Storage Blk Time (%)		13	0					
Queuing Penalty (veh)		11	0					

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	101	200	213	119	216	230	163	243
Average Queue (ft)	44	79	88	41	98	14	39	100
95th Queue (ft)	85	176	195	96	188	102	102	176
Link Distance (ft)		515	515	296	296	296		997
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)							0	3
Queuing Penalty (veh)							0	2

Queuing and Blocking Report  
Baseline

9/19/2014

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	327	327	225	225	395	385	176	243	89	154	314
Average Queue (ft)	168	195	212	56	94	301	241	70	96	65	128	201
95th Queue (ft)	262	314	321	184	234	445	414	133	197	106	191	314
Link Distance (ft)		296	296			367	367	367	244			306
Upstream Blk Time (%)		1	1			8	3	0	1			3
Queuing Penalty (veh)		6	7			39	15	1	0			10
Storage Bay Dist (ft)	229			200	200					64	129	
Storage Blk Time (%)	3	2	8	0	0	39			21	24	3	28
Queuing Penalty (veh)	12	4	7	0	0	21			17	20	7	57

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	259
Average Queue (ft)	121
95th Queue (ft)	213
Link Distance (ft)	306
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	137	317	321	104	102	791	843	99	188	72	171	85
Average Queue (ft)	67	97	128	13	47	360	488	28	73	41	64	58
95th Queue (ft)	116	213	242	67	105	712	835	95	149	86	143	98
Link Distance (ft)		367	367			834	834		190		301	
Upstream Blk Time (%)		0	0			0	2		1			
Queuing Penalty (veh)		0	0			2	12		0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	1	11		2	31	37	0	37	4	6	15
Queuing Penalty (veh)	1	1	5		12	14	17	0	18	3	5	9

Queuing and Blocking Report  
Baseline

9/19/2014

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	257	210	232	160	205	408	424	255	419	413	125	237
Average Queue (ft)	144	121	137	78	118	269	305	145	409	190	44	75
95th Queue (ft)	230	191	206	132	186	417	443	326	419	392	142	191
Link Distance (ft)		834	834		378	378	378		398	398		
Upstream Blk Time (%)						5	10		63	5		
Queuing Penalty (veh)						19	35		238	18		
Storage Bay Dist (ft)	383			333				230			100	212
Storage Blk Time (%)							34	0		33	0	0
Queuing Penalty (veh)							31	0		45	0	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	387	127
Average Queue (ft)	209	101
95th Queue (ft)	388	167
Link Distance (ft)	377	
Upstream Blk Time (%)	5	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		102
Storage Blk Time (%)	31	4
Queuing Penalty (veh)	90	10

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	147	167	169	15	111	212	234	114	180	61	178	55
Average Queue (ft)	62	27	36	1	50	95	109	15	67	23	64	37
95th Queue (ft)	118	98	105	9	100	189	207	76	136	49	148	67
Link Distance (ft)		663	663			838	838		627		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145		247		30
Storage Blk Time (%)	1	0	1			0	4	0			50	10
Queuing Penalty (veh)	2	0	0			0	2	0			31	6

# Queuing and Blocking Report

## Baseline

9/19/2014

### Intersection: 91: WV45

Movement	WB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	55	163	211	22
Average Queue (ft)	2	23	37	5
95th Queue (ft)	28	113	155	20
Link Distance (ft)		663	663	214
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	485			
Storage Blk Time (%)				
Queuing Penalty (veh)				

### Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (ft)	76	47	86	100	159	119
Average Queue (ft)	31	16	22	47	46	34
95th Queue (ft)	59	42	66	94	122	87
Link Distance (ft)	64		306	306	251	251
Upstream Blk Time (%)	1				0	
Queuing Penalty (veh)	0				0	
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

### Intersection: 911:

Movement	WB	NB	NB	SB	SB
Directions Served	LR	T	R	L	T
Maximum Queue (ft)	102	205	100	95	49
Average Queue (ft)	74	174	6	19	2
95th Queue (ft)	119	190	51	58	36
Link Distance (ft)	83	157			398
Upstream Blk Time (%)	64	71			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)			100	350	
Storage Blk Time (%)		69	0		
Queuing Penalty (veh)		7	0		

### Zone Summary

Zone wide Queuing Penalty: 871

Summary of All Intervals

Run Number	2	3	5	7	8	Avg
Start Time	11:50	11:50	11:50	11:50	11:50	11:50
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6243	6217	6167	6282	6398	6265
Vehs Exited	6056	6174	6126	6141	6184	6134
Starting Vehs	358	328	364	313	321	335
Ending Vehs	545	371	405	454	535	460
Travel Distance (mi)	4471	4538	4415	4477	4565	4493
Travel Time (hr)	614.5	449.6	547.5	558.0	567.0	547.3
Total Delay (hr)	466.2	299.2	400.7	409.6	415.4	398.2
Total Stops	13942	12596	14387	12900	14586	13680
Fuel Used (gal)	261.7	226.2	245.5	250.0	251.9	247.1

Interval #0 Information Seeding

Start Time	11:50
End Time	12:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	2	3	5	7	8	Avg
Vehs Entered	1528	1522	1529	1527	1575	1539
Vehs Exited	1476	1458	1499	1470	1474	1476
Starting Vehs	358	328	364	313	321	335
Ending Vehs	410	392	394	370	422	393
Travel Distance (mi)	1118	1076	1086	1114	1122	1103
Travel Time (hr)	99.9	87.9	99.8	92.5	98.8	95.8
Total Delay (hr)	62.6	52.1	63.5	55.7	61.3	59.1
Total Stops	3166	3044	3212	2933	3264	3132
Fuel Used (gal)	53.1	49.5	52.6	51.7	52.9	52.0

**Interval #2 Information**

Start Time 12:15  
 End Time 12:30  
 Total Time (min) 15

Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	5	7	8	Avg
Vehs Entered	1638	1670	1760	1746	1775	1717
Vehs Exited	1587	1653	1664	1665	1684	1652
Starting Vehs	410	392	394	370	422	393
Ending Vehs	461	409	490	451	513	463
Travel Distance (mi)	1103	1192	1193	1180	1203	1174
Travel Time (hr)	130.0	119.3	144.0	134.0	139.4	133.4
Total Delay (hr)	93.3	80.0	104.3	95.0	99.4	94.4
Total Stops	3375	3412	4012	3515	4098	3682
Fuel Used (gal)	59.8	59.2	64.9	62.8	63.7	62.1

**Interval #3 Information**

Start Time 12:30  
 End Time 12:45  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	2	3	5	7	8	Avg
Vehs Entered	1514	1498	1512	1503	1532	1513
Vehs Exited	1454	1567	1549	1529	1571	1535
Starting Vehs	461	409	490	451	513	463
Ending Vehs	521	340	453	425	474	438
Travel Distance (mi)	1093	1127	1111	1098	1155	1117
Travel Time (hr)	171.3	118.8	144.3	148.6	157.0	148.0
Total Delay (hr)	135.2	81.3	107.5	112.0	118.9	111.0
Total Stops	3409	3147	3937	3133	3568	3435
Fuel Used (gal)	68.8	58.2	63.2	63.9	67.0	64.2

**Interval #4 Information**

Start Time 12:45  
 End Time 1:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	2	3	5	7	8	Avg
Vehs Entered	1563	1527	1366	1506	1516	1494
Vehs Exited	1539	1496	1414	1477	1455	1476
Starting Vehs	521	340	453	425	474	438
Ending Vehs	545	371	405	454	535	460
Travel Distance (mi)	1157	1143	1025	1084	1084	1099
Travel Time (hr)	213.3	123.5	159.4	182.9	171.7	170.2
Total Delay (hr)	175.0	85.8	125.4	146.9	135.9	133.8
Total Stops	3992	2993	3226	3319	3656	3438
Fuel Used (gal)	80.0	59.3	64.7	71.6	68.3	68.8

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	2.2	3.2	0.8
Total Del/Veh (s)	48.1	15.4	51.4	25.6	30.1	5.9	34.0
Stop/Veh	0.95	1.04	0.83	0.50	0.62	0.28	0.70
Travel Time (hr)	10.1	0.7	4.9	4.7	9.0	2.2	31.6
Vehicles Exited	616	81	269	481	519	200	2166
Hourly Exit Rate	616	81	269	481	519	200	2166
Input Volume	635	80	294	549	530	204	2292
% of Volume	97	101	92	88	98	98	95

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	82.9	78.0	11.6
Total Del/Veh (s)	69.7	13.4	9.3	3.2	150.5	145.6	33.0
Stop/Veh	0.97	0.31	0.24	0.00	0.99	0.80	0.35
Travel Time (hr)	4.4	7.1	3.5	1.8	5.3	22.6	44.6
Vehicles Exited	185	948	669	592	69	299	2762
Hourly Exit Rate	185	948	669	592	69	299	2762
Input Volume	187	983	764	648	74	327	2984
% of Volume	99	96	88	91	94	91	93

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	67.2	76.4	66.2	0.1	0.4	0.2
Total Del/Veh (s)	100.7	19.9	7.3	75.2	29.9	5.1	167.5	169.5	173.1	43.3	35.9	12.4
Stop/Veh	1.16	0.52	0.55	1.09	0.55	0.25	1.05	1.00	1.05	0.24	0.25	0.42
Travel Time (hr)	9.1	6.6	0.4	1.6	9.1	2.5	4.2	2.5	5.7	4.2	0.6	1.7
Vehicles Exited	287	855	82	67	826	482	59	34	80	314	56	352
Hourly Exit Rate	287	855	82	67	826	482	59	34	80	314	56	352
Input Volume	312	904	84	63	868	508	61	34	81	421	78	462
% of Volume	92	95	97	106	95	95	96	100	98	75	72	76

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	3.6
Total Del/Veh (s)	37.0
Stop/Veh	0.54
Travel Time (hr)	48.3
Vehicles Exited	3494
Hourly Exit Rate	3494
Input Volume	3877
% of Volume	90

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	689.5	748.9	0.0	0.0	399.3	227.9
Total Del/Veh (s)	150.7	392.4	46.9	9.2	60.4	38.6
Stop/Veh	0.25	0.33	0.85	0.42	0.65	0.53
Travel Time (hr)	6.6	7.5	0.4	3.4	115.5	133.3
Vehicles Exited	19	13	26	789	698	1545
Hourly Exit Rate	19	13	26	789	698	1545
Input Volume	30	30	30	840	923	1855
% of Volume	62	43	85	94	76	83

Total Zone Performance

Denied Del/Veh (s)	190.1
Total Del/Veh (s)	1198.4
Stop/Veh	17.56
Travel Time (hr)	257.9
Vehicles Exited	140
Hourly Exit Rate	140
Input Volume	11008
% of Volume	1



# Queuing and Blocking Report

2014 PM Friday Midday

9/24/2014

## Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	349	412	167	342	430	271	287	153
Average Queue (ft)	216	205	67	190	207	151	145	44
95th Queue (ft)	336	343	173	313	391	240	244	111
Link Distance (ft)	392	392		515	515		1422	
Upstream Blk Time (%)		0			0			
Queuing Penalty (veh)		1			1			
Storage Bay Dist (ft)			142			425		425
Storage Blk Time (%)		22	0					
Queuing Penalty (veh)		18	0					

## Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	TR
Maximum Queue (ft)	262	347	316	144	215	183	935
Average Queue (ft)	155	136	109	58	89	88	442
95th Queue (ft)	254	293	254	122	168	208	1058
Link Distance (ft)		515	515	281	281		997
Upstream Blk Time (%)		0					23
Queuing Penalty (veh)		1					0
Storage Bay Dist (ft)	261					158	
Storage Blk Time (%)	2	1				0	48
Queuing Penalty (veh)	7	2				1	35

## Queuing and Blocking Report

2014 PM Friday Midday

9/24/2014

### Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	343	311	125	197	372	347	129	270	89	45	141
Average Queue (ft)	241	263	187	32	69	196	175	45	198	79	15	119
95th Queue (ft)	282	383	331	107	154	352	295	95	327	111	48	128
Link Distance (ft)		281	281			366	366	366	244			46
Upstream Blk Time (%)		23	2			1	1		38		3	80
Queuing Penalty (veh)		148	11			5	3		0		0	381
Storage Bay Dist (ft)	229			100	183					64	109	
Storage Blk Time (%)	38	7	15	0	0	13			58	46	3	80
Queuing Penalty (veh)	163	21	13	0	0	8			47	44	7	168

### Intersection: 7: Foxcroft Ave. & WV45

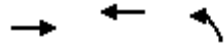
Movement	SB	B702	B702
Directions Served	R	T	T
Maximum Queue (ft)	136	260	248
Average Queue (ft)	106	231	93
95th Queue (ft)	141	272	233
Link Distance (ft)	46	192	192
Upstream Blk Time (%)	29	74	4
Queuing Penalty (veh)	138	354	18
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	B702	SB	SB
Directions Served	LR	L	T	T	T	T	T
Maximum Queue (ft)	96	174	225	233	4	298	281
Average Queue (ft)	65	27	141	149	0	266	243
95th Queue (ft)	95	93	236	245	3	289	340
Link Distance (ft)	67		192	192	46	251	251
Upstream Blk Time (%)	81	0	1	1		74	39
Queuing Penalty (veh)	0	0	4	5		0	0
Storage Bay Dist (ft)		150					
Storage Blk Time (%)			5				
Queuing Penalty (veh)			1				

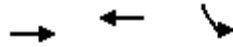
### Zone Summary

Zone wide Queuing Penalty: 1606



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	158	94	4
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 27.1%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	171	129	121
Sign Control	Free	Free	Stop

**Intersection Summary**

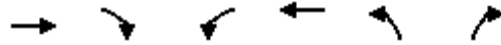
Control Type: Unsignalized	
Intersection Capacity Utilization 23.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	305	2	139
Sign Control	Free		Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 18.6%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	287	16	99	135	2	49
Act Effct Green (s)	20.3	34.8	8.7	30.7	8.1	21.9
Actuated g/C Ratio	0.41	0.71	0.18	0.63	0.17	0.45
v/c Ratio	0.22	0.02	0.22	0.08	0.00	0.08
Control Delay	11.1	2.1	20.1	3.5	19.0	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	2.1	20.1	3.5	19.0	3.7
LOS	B	A	C	A	B	A
Approach Delay	10.6			10.5	4.3	
Approach LOS	B			B	A	
Queue Length 50th (ft)	29	0	16	7	0	0
Queue Length 95th (ft)	52	5	36	15	3	14
Internal Link Dist (ft)	427			358	651	
Turn Bay Length (ft)		142	225		239	
Base Capacity (vph)	3136	1403	1300	2641	1560	1115
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.01	0.08	0.05	0.00	0.04

**Intersection Summary**

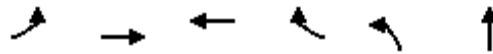
Cycle Length: 130	
Actuated Cycle Length: 49	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.22	
Intersection Signal Delay: 10.0	Intersection LOS: B
Intersection Capacity Utilization 42.5%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	297	38	220	158	864	82
Act Effct Green (s)	19.7	19.7	24.0	49.1	51.0	51.0
Actuated g/C Ratio	0.18	0.18	0.22	0.44	0.46	0.46
v/c Ratio	0.54	0.14	0.65	0.22	0.62	0.12
Control Delay	48.5	15.8	52.6	21.9	25.4	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	15.8	52.6	21.9	25.4	4.6
LOS	D	B	D	C	C	A
Approach Delay	44.8			39.8		
Approach LOS	D			D		
Queue Length 50th (ft)	98	0	140	66	225	0
Queue Length 95th (ft)	189	33	282	144	362	28
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)		142			425	425
Base Capacity (vph)	1486	684	891	1529	2274	1068
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.06	0.25	0.10	0.38	0.08

**Intersection Summary**

Cycle Length: 205	
Actuated Cycle Length: 110.6	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 31.5	Intersection LOS: C
Intersection Capacity Utilization 83.7%	ICU Level of Service E
Analysis Period (min) 15	



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	54	1043	342	660	22	354
Act Effct Green (s)	96.1	96.1	85.7	85.7	23.9	23.9
Actuated g/C Ratio	0.74	0.74	0.66	0.66	0.18	0.18
v/c Ratio	0.08	0.45	0.17	0.58	0.08	0.91
Control Delay	5.2	7.6	5.2	5.2	44.0	54.2
Queue Delay	0.0	0.5	0.0	0.1	0.0	7.4
Total Delay	5.2	8.1	5.2	5.3	44.0	61.5
LOS	A	A	A	A	D	E
Approach Delay		7.9	5.3			60.5
Approach LOS		A	A			E
Queue Length 50th (ft)	11	166	24	91	15	163
Queue Length 95th (ft)	23	204	47	141	41	#342
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	732	2296	2048	1140	298	402
Starvation Cap Reductn	0	744	0	62	0	0
Spillback Cap Reductn	0	559	0	0	0	29
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.67	0.17	0.61	0.07	0.95

**Intersection Summary**

Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 14.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 83.7%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	132	1152	79	67	753	228	77	84	94	94	149
Act Effct Green (s)	15.8	78.9	90.1	8.3	69.6	91.0	10.2	10.2	16.4	16.4	34.2
Actuated g/C Ratio	0.12	0.61	0.69	0.06	0.54	0.70	0.08	0.08	0.13	0.13	0.26
v/c Ratio	0.70	0.61	0.08	0.68	0.45	0.22	0.63	0.40	0.51	0.50	0.31
Control Delay	62.6	18.2	1.7	92.9	16.8	2.0	80.5	10.8	62.0	61.6	5.0
Queue Delay	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.6	18.5	1.7	92.9	17.0	2.0	80.5	10.8	62.0	61.6	5.0
LOS	E	B	A	F	B	A	F	B	E	E	A
Approach Delay		21.8			18.6		44.2			36.7	
Approach LOS		C			B		D			D	
Queue Length 50th (ft)	94	376	8	46	180	50	63	0	78	78	0
Queue Length 95th (ft)	m137	457	m13	#127	290	0	#146	31	136	135	38
Internal Link Dist (ft)		290			428		227			305	
Turn Bay Length (ft)	229		200	200				64	129		
Base Capacity (vph)	274	1886	987	107	1662	1040	124	210	226	229	509
Starvation Cap Reductn	0	233	0	0	214	0	0	0	0	0	0
Spillback Cap Reductn	0	51	0	0	6	0	0	1	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.70	0.08	0.63	0.52	0.22	0.62	0.40	0.42	0.41	0.29

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 12 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 23.6

Intersection LOS: C

Intersection Capacity Utilization 63.0%

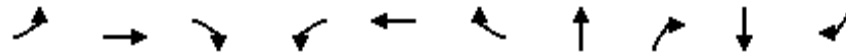
ICU Level of Service B

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	35	1350	65	76	1007	54	70	54	38	22
Act Effct Green (s)	8.7	96.5	96.5	11.2	101.6	101.6	14.0	14.0	14.0	14.0
Actuated g/C Ratio	0.07	0.74	0.74	0.09	0.78	0.78	0.11	0.11	0.11	0.11
v/c Ratio	0.34	0.59	0.06	0.57	0.42	0.05	0.53	0.27	0.27	0.15
Control Delay	69.3	7.3	1.0	62.6	6.9	2.5	68.9	14.2	56.8	53.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.3	7.4	1.0	62.6	6.9	2.5	68.9	14.2	56.8	53.0
LOS	E	A	A	E	A	A	E	B	E	D
Approach Delay		8.6			10.4		45.1		55.4	
Approach LOS		A			B		D		E	
Queue Length 50th (ft)	28	156	1	66	127	1	57	0	30	17
Queue Length 95th (ft)	m54	231	m4	m104	m214	m12	104	35	64	43
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	238	2305	1045	238	2426	1098	235	314	250	267
Starvation Cap Reductn	0	63	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.60	0.06	0.32	0.42	0.05	0.30	0.17	0.15	0.08

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 15 (12%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 12.0

Intersection LOS: B

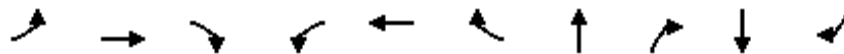
Intersection Capacity Utilization 68.2%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	42	1307	15	31	857	75	14	21	63	47
Act Effect Green (s)	10.3	101.8	101.8	10.0	98.5	98.5	13.2	13.2	13.2	13.2
Actuated g/C Ratio	0.08	0.78	0.78	0.08	0.76	0.76	0.10	0.10	0.10	0.10
v/c Ratio	0.34	0.54	0.01	0.26	0.37	0.07	0.10	0.11	0.52	0.24
Control Delay	71.7	3.0	0.0	62.6	7.9	2.1	52.6	1.2	69.8	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.7	3.0	0.0	62.6	7.9	2.1	52.6	1.2	69.8	11.7
LOS	E	A	A	E	A	A	D	A	E	B
Approach Delay		5.0			9.2		21.7		45.0	
Approach LOS		A			A		C		D	
Queue Length 50th (ft)	37	57	0	25	137	2	11	0	51	0
Queue Length 95th (ft)	m55	49	m0	59	208	19	31	0	97	27
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	236	2409	1090	236	2331	1059	266	312	231	312
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.54	0.01	0.13	0.37	0.07	0.05	0.07	0.27	0.15

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 50 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 8.7

Intersection LOS: A

Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1308	22	893	41
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 47.2%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	22	11	377	338
Act Effct Green (s)	5.9	29.8	29.8	29.8
Actuated g/C Ratio	0.18	0.92	0.92	0.92
v/c Ratio	0.08	0.01	0.13	0.12
Control Delay	10.8	2.0	1.4	1.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.8	2.0	1.4	1.4
LOS	B	A	A	A
Approach Delay	10.8		1.4	1.4
Approach LOS	B		A	A
Queue Length 50th (ft)	1	0	0	0
Queue Length 95th (ft)	16	4	28	26
Internal Link Dist (ft)	33		305	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	1098	913	3167	3167
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.02	0.01	0.12	0.11

**Intersection Summary**

Cycle Length: 130	
Actuated Cycle Length: 32.4	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.13	
Intersection Signal Delay: 1.7	Intersection LOS: A
Intersection Capacity Utilization 25.0%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	601	16	16	386
Sign Control	Stop	Free			Free

**Intersection Summary**

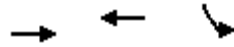
Control Type: Unsignalized	
Intersection Capacity Utilization 42.5%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	146	254	58
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 25.6%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	193	428	101
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	284	89	387	65	39
Sign Control	Free		Free	Stop	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 34.4%	ICU Level of Service A
Analysis Period (min) 15	

2014 PM Peak Model  
 4: Retail Commons Pkwy. & WV45

11/4/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	231	53	606	394	93	568
Act Effct Green (s)	20.0	37.0	25.0	50.0	12.0	42.0
Actuated g/C Ratio	0.28	0.51	0.35	0.69	0.17	0.58
v/c Ratio	0.26	0.07	0.68	0.18	0.22	0.63
Control Delay	21.2	7.2	24.8	4.1	27.5	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.2	7.2	24.8	4.1	27.5	4.3
LOS	C	A	C	A	C	A
Approach Delay	18.6			16.7	7.6	
Approach LOS	B			B	A	
Queue Length 50th (ft)	42	8	141	26	22	0
Queue Length 95th (ft)	69	24	208	40	46	48
Internal Link Dist (ft)	421			358	651	
Turn Bay Length (ft)		142	225		259	
Base Capacity (vph)	2665	1096	888	3198	1065	904
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.05	0.68	0.12	0.09	0.63

**Intersection Summary**

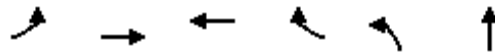
Cycle Length: 130	
Actuated Cycle Length: 72	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 13.8	Intersection LOS: B
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	666	120	444	702	703	275
Act Effct Green (s)	44.1	44.1	55.4	104.6	62.7	62.7
Actuated g/C Ratio	0.25	0.25	0.31	0.59	0.35	0.35
v/c Ratio	0.85	0.31	0.90	0.71	0.65	0.43
Control Delay	76.3	34.9	81.7	32.6	51.8	12.8
Queue Delay	7.8	0.0	10.4	5.2	0.0	0.0
Total Delay	84.0	34.9	92.1	37.8	51.8	12.8
LOS	F	C	F	D	D	B
Approach Delay	76.5			58.8		
Approach LOS	E			E		
Queue Length 50th (ft)	411	65	517	576	379	53
Queue Length 95th (ft)	544	143	#833	891	458	140
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)		142			425	425
Base Capacity (vph)	914	447	548	1107	1419	768
Starvation Cap Reductn	208	0	83	334	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.27	0.95	0.91	0.50	0.36

**Intersection Summary**

Cycle Length: 205  
 Actuated Cycle Length: 177.6  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 57.6  
 Intersection LOS: E  
 Intersection Capacity Utilization 105.7%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	217	1125	970	861	109	348
Act Effct Green (s)	19.3	95.7	71.4	71.4	24.3	24.3
Actuated g/C Ratio	0.15	0.74	0.55	0.55	0.19	0.19
v/c Ratio	0.93	0.49	0.56	0.80	0.37	0.92
Control Delay	98.5	8.0	9.0	11.3	50.1	59.9
Queue Delay	0.0	0.6	1.2	1.6	0.0	9.8
Total Delay	98.5	8.6	10.2	12.9	50.1	69.7
LOS	F	A	B	B	D	E
Approach Delay		23.2	11.5			65.0
Approach LOS		C	B			E
Queue Length 50th (ft)	182	186	113	96	81	179
Queue Length 95th (ft)	#333	227	m102	m557	139	#361
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	241	2308	1722	1078	301	386
Starvation Cap Reductn	0	731	488	92	0	0
Spillback Cap Reductn	0	622	0	0	0	28
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.71	0.79	0.87	0.36	0.97

**Intersection Summary**

Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 22.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 105.7%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	282	1142	56	46	1327	470	65	49	205	208	457
Act Effct Green (s)	24.1	70.5	77.7	8.4	52.7	86.7	8.8	8.8	29.0	29.0	55.7
Actuated g/C Ratio	0.19	0.54	0.60	0.06	0.41	0.67	0.07	0.07	0.22	0.22	0.43
v/c Ratio	0.96	0.66	0.06	0.45	1.03	0.45	0.60	0.25	0.61	0.61	0.69
Control Delay	84.9	23.9	2.8	68.8	63.6	1.7	80.9	3.0	52.2	52.2	31.8
Queue Delay	0.0	0.5	0.0	0.0	25.8	0.6	0.0	0.0	0.0	0.3	0.0
Total Delay	84.9	24.4	2.8	68.8	89.4	2.3	80.9	3.0	52.2	52.5	31.9
LOS	F	C	A	E	F	A	F	A	D	D	C
Approach Delay		35.1			66.7		47.4			41.6	
Approach LOS		D			E		D			D	
Queue Length 50th (ft)	~246	418	5	41	~652	9	54	0	164	166	261
Queue Length 95th (ft)	m#394	m505	m11	m56	#794	13	#115	0	253	257	392
Internal Link Dist (ft)		290			428		227			64	
Turn Bay Length (ft)	229		100	183				64	109		
Base Capacity (vph)	293	1718	864	109	1283	1041	112	199	347	350	660
Starvation Cap Reductn	0	206	0	0	87	259	0	0	0	11	3
Spillback Cap Reductn	0	82	0	0	25	0	0	2	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.76	0.06	0.42	1.11	0.60	0.58	0.25	0.59	0.61	0.70

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 12 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 50.2

Intersection LOS: D

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

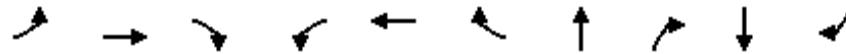
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	1608	37	18	1728	18	129	18	36	111
Act Effct Green (s)	8.8	95.3	95.3	8.1	92.0	92.0	19.4	19.4	19.4	19.4
Actuated g/C Ratio	0.07	0.73	0.73	0.06	0.71	0.71	0.15	0.15	0.15	0.15
v/c Ratio	0.35	0.69	0.04	0.18	0.77	0.02	0.71	0.06	0.17	0.53
Control Delay	78.2	10.0	0.6	78.0	9.4	0.0	72.9	0.4	48.0	59.1
Queue Delay	0.0	0.2	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	10.1	0.6	78.0	10.4	0.0	72.9	0.4	48.0	59.1
LOS	E	B	A	E	B	A	E	A	D	E
Approach Delay		11.4			11.0		64.0		56.4	
Approach LOS		B			B		E		E	
Queue Length 50th (ft)	33	113	0	16	224	0	104	0	27	87
Queue Length 95th (ft)	m54	686	m1	m19	m186	m0	169	0	58	144
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	243	2322	1054	133	2241	1032	234	354	267	272
Starvation Cap Reductn	0	152	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	260	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.74	0.04	0.14	0.87	0.02	0.55	0.05	0.13	0.41

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 15 (12%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 15.0

Intersection LOS: B

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	166	949	437	226	1177	97	317	317	139	103	280	193
Act Effct Green (s)	16.6	34.4	34.4	21.3	39.1	39.1	28.2	41.5	67.8	12.8	26.1	47.6
Actuated g/C Ratio	0.13	0.26	0.26	0.16	0.30	0.30	0.22	0.32	0.52	0.10	0.20	0.37
v/c Ratio	0.83	1.14	0.64	0.88	1.25	0.19	0.93	0.60	0.18	0.67	0.85	0.33
Control Delay	80.1	126.1	23.4	76.4	152.5	3.5	84.4	42.4	3.0	76.6	72.5	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.1	126.1	23.4	76.4	152.5	3.5	84.4	42.4	3.0	76.6	72.5	13.8
LOS	F	F	C	E	F	A	F	D	A	E	E	B
Approach Delay		92.3			131.4			52.6				53.6
Approach LOS		F			F			D				D
Queue Length 50th (ft)	149	~538	116	177	~704	12	259	216	3	85	226	50
Queue Length 95th (ft)	m217	#726	264	#290	#885	m14	#426	326	33	142	#328	103
Internal Link Dist (ft)		834			369			397				357
Turn Bay Length (ft)	383		333			230			100	212		102
Base Capacity (vph)	241	830	687	301	944	522	361	542	830	241	380	612
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	1.14	0.64	0.75	1.25	0.19	0.88	0.58	0.17	0.43	0.74	0.32

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 3 (2%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 93.6

Intersection LOS: F

Intersection Capacity Utilization 97.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

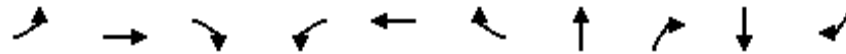
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	90	1106	17	97	1441	202	104	103	94	68
Act Effct Green (s)	12.4	85.2	85.2	12.8	85.6	85.6	17.0	17.0	17.0	17.0
Actuated g/C Ratio	0.10	0.66	0.66	0.10	0.66	0.66	0.13	0.13	0.13	0.13
v/c Ratio	0.60	0.54	0.02	0.63	0.70	0.21	0.71	0.38	0.67	0.29
Control Delay	40.6	39.3	12.4	74.0	17.8	5.4	77.8	12.5	75.5	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	39.3	12.4	74.0	17.8	5.4	77.8	12.5	75.5	17.6
LOS	D	D	B	E	B	A	E	B	E	B
Approach Delay		39.0			19.5		45.3		51.2	
Approach LOS		D			B		D		D	
Queue Length 50th (ft)	55	490	0	80	364	25	85	0	77	7
Queue Length 95th (ft)	m82	m469	m4	135	592	74	142	50	130	48
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		150		247		30
Base Capacity (vph)	241	2056	940	241	2065	962	217	353	206	317
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.54	0.02	0.40	0.70	0.21	0.48	0.29	0.46	0.21

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 84 (65%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 29.8

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1225	43	1607	16
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 44.8%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	802	898
Act Effct Green (s)	9.2	113.9	113.9	113.9
Actuated g/C Ratio	0.07	0.88	0.88	0.88
v/c Ratio	0.54	0.08	0.29	0.32
Control Delay	46.7	2.6	3.1	2.3
Queue Delay	0.0	0.0	0.3	0.0
Total Delay	46.7	2.6	3.4	2.3
LOS	D	A	A	A
Approach Delay	46.7		3.3	2.3
Approach LOS	D		A	A
Queue Length 50th (ft)	33	3	64	59
Queue Length 95th (ft)	82	m13	m170	102
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	366	457	2773	2773
Starvation Cap Reductn	0	0	1233	0
Spillback Cap Reductn	1	0	0	95
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.21	0.08	0.52	0.34

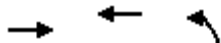
**Intersection Summary**

Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 21 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.54  
 Intersection Signal Delay: 4.7  
 Intersection Capacity Utilization 45.4%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	194	129	1
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 19.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	182	267	121
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	297	72	209	62	67
Sign Control	Free		Free	Stop	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 34.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	209	81	633	233	41	578
Act Effct Green (s)	20.0	37.0	25.0	50.0	12.0	42.0
Actuated g/C Ratio	0.28	0.51	0.35	0.69	0.17	0.58
v/c Ratio	0.24	0.11	0.72	0.13	0.10	0.54
Control Delay	21.0	8.4	26.1	3.9	26.2	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	8.4	26.1	3.9	26.2	2.8
LOS	C	A	C	A	C	A
Approach Delay	17.5			20.1	4.4	
Approach LOS	B			C	A	
Queue Length 50th (ft)	37	15	150	17	10	0
Queue Length 95th (ft)	63	35	221	30	25	38
Internal Link Dist (ft)	425			358	651	
Turn Bay Length (ft)		142	225		239	253
Base Capacity (vph)	2639	1085	879	2667	1055	1067
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.07	0.72	0.09	0.04	0.54

**Intersection Summary**

Cycle Length: 130	
Actuated Cycle Length: 72	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	



2014 Saturday Peak Model  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

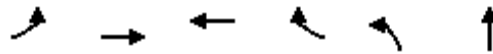
11/4/2014



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	642	104	300	633	649	234
Act Effct Green (s)	35.3	35.3	69.2	69.2	45.9	45.9
Actuated g/C Ratio	0.28	0.28	0.55	0.55	0.37	0.37
v/c Ratio	0.72	0.24	0.64	0.69	0.58	0.35
Control Delay	48.1	24.3	25.7	26.1	35.9	5.4
Queue Delay	0.1	0.0	0.0	0.2	0.0	0.0
Total Delay	48.2	24.3	25.7	26.3	35.9	5.4
LOS	D	C	C	C	D	A
Approach Delay	44.9			26.1		
Approach LOS	D			C		
Queue Length 50th (ft)	243	34	126	348	211	0
Queue Length 95th (ft)	418	103	274	641	363	60
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)		142			425	425
Base Capacity (vph)	1339	627	832	1468	2079	1034
Starvation Cap Reductn	117	0	4	231	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.17	0.36	0.51	0.31	0.23

**Intersection Summary**

Cycle Length: 205	
Actuated Cycle Length: 125.7	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 32.2	Intersection LOS: C
Intersection Capacity Utilization 87.9%	ICU Level of Service E
Analysis Period (min) 15	



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	164	1104	808	615	67	350
Act Effct Green (s)	81.2	81.2	67.4	67.4	23.8	23.8
Actuated g/C Ratio	0.71	0.71	0.59	0.59	0.21	0.21
v/c Ratio	0.40	0.49	0.44	0.57	0.20	0.88
Control Delay	8.8	8.7	9.6	3.2	38.9	49.9
Queue Delay	0.0	0.6	0.5	0.3	0.0	4.4
Total Delay	8.8	9.3	10.1	3.6	38.9	54.3
LOS	A	A	B	A	D	D
Approach Delay		9.3	7.3			51.8
Approach LOS		A	A			D
Queue Length 50th (ft)	37	180	90	0	41	159
Queue Length 95th (ft)	61	224	m131	m57	81	#323
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	520	2235	1856	1085	344	413
Starvation Cap Reductn	0	595	573	118	0	0
Spillback Cap Reductn	0	664	0	0	0	28
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.70	0.63	0.64	0.19	0.91

**Intersection Summary**

Cycle Length: 115  
 Actuated Cycle Length: 115  
 Offset: 100 (87%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.88  
 Intersection Signal Delay: 14.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 87.9%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	1097	100	63	1001	609	98	95	252	250	411
Act Effct Green (s)	20.7	56.5	66.6	8.6	42.2	72.2	9.1	9.1	25.0	25.0	47.7
Actuated g/C Ratio	0.18	0.49	0.58	0.07	0.37	0.63	0.08	0.08	0.22	0.22	0.41
v/c Ratio	0.89	0.71	0.12	0.53	0.86	0.61	0.77	0.42	0.77	0.76	0.63
Control Delay	66.5	25.0	2.2	53.5	43.9	5.7	87.7	10.3	58.8	57.6	16.1
Queue Delay	0.0	0.6	0.0	0.0	0.3	0.4	0.0	0.1	0.0	0.0	0.0
Total Delay	66.5	25.6	2.2	53.5	44.2	6.2	87.7	10.4	58.8	57.6	16.1
LOS	E	C	A	D	D	A	F	B	E	E	B
Approach Delay		31.1			30.7		49.7			39.2	
Approach LOS		C			C		D			D	
Queue Length 50th (ft)	186	368	10	47	342	73	72	0	184	182	116
Queue Length 95th (ft)	m#301	454	m18	m62	#487	87	#164	32	#305	#298	193
Internal Link Dist (ft)		290			428		227			309	
Turn Bay Length (ft)	229		200	200				64	129		
Base Capacity (vph)	302	1556	862	123	1162	1002	128	225	340	343	668
Starvation Cap Reductn	0	165	0	0	15	105	0	0	0	0	0
Spillback Cap Reductn	0	171	0	0	0	0	0	6	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.79	0.12	0.51	0.87	0.68	0.77	0.43	0.74	0.73	0.62

**Intersection Summary**

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 33.5

Intersection LOS: C

Intersection Capacity Utilization 78.5%

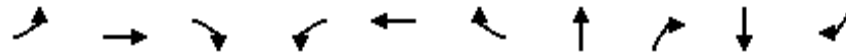
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	112	1609	55	55	1551	55	110	59	73	92
Act Effct Green (s)	12.7	77.2	77.2	9.3	71.2	71.2	16.1	16.1	16.1	16.1
Actuated g/C Ratio	0.11	0.67	0.67	0.08	0.62	0.62	0.14	0.14	0.14	0.14
v/c Ratio	0.64	0.76	0.06	0.43	0.79	0.06	0.67	0.23	0.49	0.46
Control Delay	76.4	10.3	0.5	45.0	18.5	3.9	65.5	10.9	55.7	52.3
Queue Delay	0.0	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	11.0	0.5	45.0	18.7	3.9	65.5	10.9	55.7	52.3
LOS	E	B	A	D	B	A	E	B	E	D
Approach Delay		14.8			19.1		46.4		53.8	
Approach LOS		B			B		D		D	
Queue Length 50th (ft)	88	55	0	41	278	2	78	0	50	63
Queue Length 95th (ft)	m115	612	m1	m51	m318	m4	136	33	97	113
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	275	2126	972	275	1962	902	206	300	186	246
Starvation Cap Reductn	0	224	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	48	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.85	0.06	0.20	0.81	0.06	0.53	0.20	0.39	0.37

**Intersection Summary**

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 11 (10%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	199	959	470	178	915	103	421	286	155	103	216	235
Act Effct Green (s)	17.1	41.0	41.0	15.7	39.7	39.7	20.0	26.7	47.5	11.5	18.3	40.3
Actuated g/C Ratio	0.15	0.36	0.36	0.14	0.35	0.35	0.17	0.23	0.41	0.10	0.16	0.35
v/c Ratio	0.85	0.85	0.58	0.82	0.84	0.18	1.53	0.74	0.23	0.65	0.82	0.44
Control Delay	86.3	36.5	6.0	64.1	51.1	15.3	290.3	53.8	6.1	68.4	70.7	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.3	36.5	6.0	64.1	51.1	15.3	290.3	53.8	6.1	68.4	70.7	21.8
LOS	F	D	A	E	D	B	F	D	A	E	E	C
Approach Delay		33.8			50.0			160.7				49.5
Approach LOS		C			D			F				D
Queue Length 50th (ft)	152	300	26	130	358	15	~437	193	11	75	153	89
Queue Length 95th (ft)	m211	#511	107	204	#495	74	#635	#334	51	129	#264	155
Internal Link Dist (ft)		834			369			397				357
Turn Bay Length (ft)	383		333			230			100	212		102
Base Capacity (vph)	275	1129	807	275	1092	563	275	387	708	206	289	574
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.85	0.58	0.65	0.84	0.18	1.53	0.74	0.22	0.50	0.75	0.41

**Intersection Summary**

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 23 (20%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.53

Intersection Signal Delay: 66.2

Intersection LOS: E

Intersection Capacity Utilization 95.3%

ICU Level of Service F

Analysis Period (min) 15

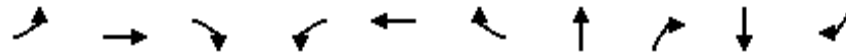
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	93	1112	15	67	1120	52	98	70	66	74
Act Effct Green (s)	11.9	77.5	77.5	10.8	73.4	73.4	14.7	14.7	14.7	14.7
Actuated g/C Ratio	0.10	0.67	0.67	0.09	0.64	0.64	0.13	0.13	0.13	0.13
v/c Ratio	0.57	0.52	0.02	0.45	0.55	0.06	0.60	0.29	0.40	0.30
Control Delay	75.3	5.8	0.5	59.2	13.9	2.1	62.1	13.0	52.1	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	5.8	0.5	59.2	13.9	2.1	62.1	13.0	52.1	12.9
LOS	E	A	A	E	B	A	E	B	D	B
Approach Delay		11.1			15.9		41.6		31.4	
Approach LOS		B			B		D		C	
Queue Length 50th (ft)	73	28	0	48	216	0	70	0	46	0
Queue Length 95th (ft)	m73	488	m0	93	358	13	121	40	87	41
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	275	2135	976	275	2022	928	277	362	281	365
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.52	0.02	0.24	0.55	0.06	0.35	0.19	0.23	0.20

**Intersection Summary**

Cycle Length: 115

Actuated Cycle Length: 115

Offset: 72 (63%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 16.1

Intersection LOS: B

Intersection Capacity Utilization 65.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1243	65	1286	11
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 45.3%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	926	947
Act Effct Green (s)	7.1	32.9	32.9	32.9
Actuated g/C Ratio	0.17	0.78	0.78	0.78
v/c Ratio	0.27	0.10	0.38	0.38
Control Delay	13.4	4.5	4.1	4.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.4	4.5	4.1	4.2
LOS	B	A	A	A
Approach Delay	13.4		4.2	4.2
Approach LOS	B		A	A
Queue Length 50th (ft)	10	3	51	53
Queue Length 95th (ft)	36	13	95	98
Internal Link Dist (ft)	33		309	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	1000	497	3167	3160
Starvation Cap Reductn	0	0	194	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.31	0.30

**Intersection Summary**

Cycle Length: 115	
Actuated Cycle Length: 42.2	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 4.5	Intersection LOS: A
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	81	911	16	65	864
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	

2014 Friday Midday Peak Model  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

11/4/2014



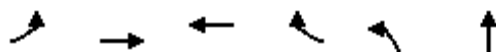
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	780	100	353	692	638	265
Act Effct Green (s)	50.5	50.5	41.4	97.1	54.4	54.4
Actuated g/C Ratio	0.31	0.31	0.26	0.60	0.34	0.34
v/c Ratio	0.79	0.21	0.87	0.69	0.62	0.43
Control Delay	59.9	32.2	81.1	28.6	48.0	10.7
Queue Delay	23.6	0.0	0.2	1.3	0.0	0.0
Total Delay	83.5	32.2	81.3	30.0	48.0	10.7
LOS	F	C	F	C	D	B
Approach Delay	77.7			47.3		
Approach LOS	E			D		
Queue Length 50th (ft)	393	47	356	475	288	34
Queue Length 95th (ft)	#704	128	568	845	409	121
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)	142			425		
Base Capacity (vph)	1007	476	603	1218	1562	827
Starvation Cap Reductn	248	0	27	314	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.21	0.61	0.77	0.41	0.32

**Intersection Summary**

Cycle Length: 205  
 Actuated Cycle Length: 161.8  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 53.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 101.7%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2014 Friday Midday Peak Model  
 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

11/4/2014



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	224	1162	940	759	92	383
Act Effct Green (s)	19.6	95.0	70.4	70.4	25.0	25.0
Actuated g/C Ratio	0.15	0.73	0.54	0.54	0.19	0.19
v/c Ratio	0.95	0.51	0.55	0.71	0.31	1.01
Control Delay	101.8	8.4	13.0	3.5	48.3	83.5
Queue Delay	0.0	0.7	0.9	0.5	0.0	19.3
Total Delay	101.8	9.1	13.9	4.0	48.3	102.8
LOS	F	A	B	A	D	F
Approach Delay		24.1	9.5			92.3
Approach LOS		C	A			F
Queue Length 50th (ft)	189	195	165	19	67	~234
Queue Length 95th (ft)	#347	238	m172	m0	121	#445
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	241	2291	1699	1070	301	378
Starvation Cap Reductn	0	717	451	78	0	0
Spillback Cap Reductn	0	520	0	0	0	21
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.74	0.75	0.77	0.31	1.07

**Intersection Summary**

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 26.2

Intersection LOS: C

Intersection Capacity Utilization 101.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2014 Friday Midday Peak Model  
7: Foxcroft Ave. & WV45

11/4/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	361	987	97	72	992	580	109	93	274	275	537
Act Effct Green (s)	23.0	64.2	73.2	8.8	50.0	85.0	9.0	9.0	30.0	30.0	55.0
Actuated g/C Ratio	0.18	0.49	0.56	0.07	0.38	0.65	0.07	0.07	0.23	0.23	0.42
v/c Ratio	1.29	0.63	0.12	0.68	0.81	0.58	0.98	0.47	0.79	0.78	0.84
Control Delay	187.2	24.8	3.3	92.8	35.0	4.7	140.7	15.2	61.5	60.6	43.3
Queue Delay	0.0	1.1	0.0	0.0	1.7	0.7	0.0	0.1	0.7	0.9	0.0
Total Delay	187.2	25.8	3.3	92.8	36.7	5.5	140.7	15.3	62.2	61.4	43.3
LOS	F	C	A	F	D	A	F	B	E	E	D
Approach Delay		64.6			28.1		82.9			52.7	
Approach LOS		E			C		F			D	
Queue Length 50th (ft)	~392	348	11	59	308	57	93	0	231	231	358
Queue Length 95th (ft)	m#527	m400	m16	m#127	376	50	#216	41	#371	#370	#564
Internal Link Dist (ft)		290			428		227			64	
Turn Bay Length (ft)	229		100	183				64	109		
Base Capacity (vph)	280	1565	824	109	1218	1001	111	199	347	352	641
Starvation Cap Reductn	0	322	0	0	102	170	0	0	8	10	1
Spillback Cap Reductn	0	84	0	0	7	0	0	2	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	0.79	0.12	0.66	0.89	0.70	0.98	0.47	0.81	0.80	0.84

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 12 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.29

Intersection Signal Delay: 48.8

Intersection LOS: D

Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.




Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	86	38	1015	1125
Act Effct Green (s)	10.0	110.0	110.0	110.0
Actuated g/C Ratio	0.08	0.85	0.85	0.85
v/c Ratio	0.58	0.11	0.38	0.42
Control Delay	49.5	2.9	3.8	3.2
Queue Delay	0.0	0.0	0.6	0.1
Total Delay	49.5	2.9	4.3	3.2
LOS	D	A	A	A
Approach Delay	49.5		4.3	3.2
Approach LOS	D		A	A
Queue Length 50th (ft)	41	3	106	88
Queue Length 95th (ft)	93	m11	m216	149
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	366	340	2679	2679
Starvation Cap Reductn	0	0	1140	0
Spillback Cap Reductn	3	0	0	276
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.24	0.11	0.66	0.47

**Intersection Summary**

Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 21 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 5.5  
 Intersection Capacity Utilization 46.1%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



# C

2024 No-Build Capacity and  
Queue Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:00	7:00	7:00	7:00	7:00	7:00
End Time	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	4986	5154	4967	5045	5014	5031
Vehs Exited	5024	5126	4980	5050	5042	5046
Starting Vehs	248	246	244	226	238	233
Ending Vehs	210	274	231	221	210	223
Travel Distance (mi)	4153	4249	4081	4183	4173	4168
Travel Time (hr)	241.0	306.2	239.9	255.7	254.9	259.6
Total Delay (hr)	109.1	171.4	110.1	122.6	122.3	127.1
Total Stops	8525	10596	8479	9397	9348	9263
Fuel Used (gal)	169.9	187.1	168.1	173.8	173.1	174.4

Interval #0 Information Seeding

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1204	1309	1165	1248	1213	1227
Vehs Exited	1233	1250	1200	1207	1169	1211
Starting Vehs	248	246	244	226	238	233
Ending Vehs	219	305	209	267	282	253
Travel Distance (mi)	1041	1063	952	1019	993	1014
Travel Time (hr)	58.7	68.2	56.3	62.7	59.4	61.1
Total Delay (hr)	25.7	34.5	25.9	30.2	27.8	28.8
Total Stops	1960	2397	1925	2332	2150	2155
Fuel Used (gal)	42.3	45.0	39.8	42.6	41.0	42.1

**Interval #2 Information**

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1419	1332	1340	1361	1402	1368
Vehs Exited	1374	1306	1286	1314	1363	1324
Starting Vehs	219	305	209	267	282	253
Ending Vehs	264	331	263	314	321	296
Travel Distance (mi)	1132	1076	1045	1116	1147	1103
Travel Time (hr)	68.9	76.3	61.3	71.9	68.9	69.5
Total Delay (hr)	32.9	41.9	28.0	36.5	32.6	34.4
Total Stops	2621	2747	2183	2758	2635	2587
Fuel Used (gal)	47.1	47.0	42.5	46.6	46.7	46.0

**Interval #3 Information**

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1173	1299	1198	1216	1216	1219
Vehs Exited	1228	1269	1249	1292	1277	1264
Starting Vehs	264	331	263	314	321	296
Ending Vehs	209	361	212	238	260	248
Travel Distance (mi)	985	1080	1041	1048	1026	1036
Travel Time (hr)	56.1	85.4	60.8	63.7	67.4	66.7
Total Delay (hr)	24.6	51.3	27.9	30.4	34.7	33.8
Total Stops	1883	3081	2228	2266	2521	2396
Fuel Used (gal)	39.7	48.6	42.8	43.5	43.6	43.6

**Interval #4 Information**

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1190	1214	1264	1220	1183	1214
Vehs Exited	1189	1301	1245	1237	1233	1243
Starting Vehs	209	361	212	238	260	248
Ending Vehs	210	274	231	221	210	223
Travel Distance (mi)	995	1030	1042	1000	1008	1015
Travel Time (hr)	57.3	76.3	61.5	57.3	59.2	62.3
Total Delay (hr)	25.9	43.8	28.2	25.4	27.2	30.1
Total Stops	2061	2371	2143	2041	2042	2131
Fuel Used (gal)	40.8	46.5	43.0	41.1	41.8	42.7



1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.3	0.3	0.0	0.0	0.1	0.2
Total Del/Veh (s)	0.3	0.1	2.0	2.3	3.3	1.1
Travel Time (hr)	0.5	0.0	0.3	0.3	0.0	1.2
Vehicles Exited	197	5	63	68	3	336
Hourly Exit Rate	197	5	63	68	3	336
Input Volume	202	5	63	68	4	342
% of Volume	98	100	100	101	75	98

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Del/Veh (s)	0.8	0.9	1.0	0.2	8.1	3.6	2.9
Travel Time (hr)	0.0	0.8	0.2	0.1	1.1	0.0	2.3
Vehicles Exited	2	205	139	39	153	3	541
Hourly Exit Rate	2	205	139	39	153	3	541
Input Volume	2	213	137	40	148	3	543
% of Volume	100	96	101	98	103	100	100

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.3	0.4	4.5	3.4	9.7	2.7	2.5
Travel Time (hr)	0.8	0.2	0.1	0.4	0.2	0.3	2.1
Vehicles Exited	303	69	32	141	36	75	656
Hourly Exit Rate	303	69	32	141	36	75	656
Input Volume	308	68	32	140	36	79	664
% of Volume	98	101	101	101	100	95	99

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	1.2	0.1	0.0
Total Del/Veh (s)	5.5	1.5	65.0	7.2	19.2	0.4	14.4
Travel Time (hr)	1.4	0.1	2.3	0.8	0.0	0.2	4.8
Vehicles Exited	356	25	107	174	3	52	717
Hourly Exit Rate	356	25	107	174	3	52	717
Input Volume	371	20	102	172	3	51	719
% of Volume	96	123	105	101	100	102	100

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	2.0	2.9	1.1
Total Del/Veh (s)	25.4	7.9	41.1	16.6	31.1	3.1	27.6
Travel Time (hr)	3.4	0.3	3.4	1.3	15.4	1.0	24.7
Vehicles Exited	366	44	222	185	862	96	1775
Hourly Exit Rate	366	44	222	185	862	96	1775
Input Volume	378	46	225	180	880	94	1804
% of Volume	97	96	99	102	98	102	98

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	3.9	3.7	0.6
Total Del/Veh (s)	12.5	17.2	5.6	5.7	58.1	79.0	21.7
Travel Time (hr)	0.5	9.5	1.5	2.6	0.5	11.4	26.0
Vehicles Exited	60	1152	379	688	23	377	2679
Hourly Exit Rate	60	1152	379	688	23	377	2679
Input Volume	61	1191	379	697	24	374	2726
% of Volume	99	97	100	99	95	101	98

7: WV45 & Foxcroft Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.0	0.0	0.8	0.5	4.0	0.0	0.0	0.0
Total Del/Veh (s)	58.0	29.6	8.6	56.2	19.0	2.8	56.7	62.0	63.6	53.0	36.0	12.4
Travel Time (hr)	2.8	13.3	0.5	1.5	6.4	1.1	1.3	0.4	2.1	3.2	0.4	1.1
Vehicles Exited	147	1273	93	79	822	257	72	18	100	177	32	166
Hourly Exit Rate	147	1273	93	79	822	257	72	18	100	177	32	166
Input Volume	149	1312	90	73	836	248	68	17	92	183	32	166
% of Volume	98	97	104	109	98	104	106	104	109	97	100	100

7: WV45 & Foxcroft Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	28.5
Travel Time (hr)	34.2
Vehicles Exited	3236
Hourly Exit Rate	3236
Input Volume	3266
% of Volume	99

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.4	4.2	0.2	0.2	4.1
Total Del/Veh (s)	61.8	17.1	12.3	51.0	9.4	6.6	49.3	53.4	28.8	51.9	49.6	44.5
Travel Time (hr)	0.7	11.2	0.5	1.5	8.5	0.4	0.9	0.3	0.6	0.4	0.3	0.4
Vehicles Exited	36	1433	72	73	1071	51	58	19	56	21	19	26
Hourly Exit Rate	36	1433	72	73	1071	51	58	19	56	21	19	26
Input Volume	36	1471	69	80	1077	58	57	17	58	23	17	22
% of Volume	99	97	104	91	99	88	102	110	97	90	110	117

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	17.2
Travel Time (hr)	25.9
Vehicles Exited	2935
Hourly Exit Rate	2935
Input Volume	2986
% of Volume	98

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	1.1	0.7	0.0	0.0	0.0	0.1	0.1	0.1	4.1	0.8	3.9
Total Del/Veh (s)	60.9	47.3	22.3	69.6	19.1	6.5	55.1	45.8	7.4	53.2	85.2	11.2
Travel Time (hr)	2.8	22.3	2.4	2.4	6.0	0.2	5.5	3.1	0.8	1.2	2.8	0.9
Vehicles Exited	120	1201	195	108	779	42	295	204	163	65	104	128
Hourly Exit Rate	120	1201	195	108	779	42	295	204	163	65	104	128
Input Volume	128	1224	208	116	796	42	298	201	153	70	108	129
% of Volume	94	98	94	93	98	101	99	102	106	93	97	99

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	38.7
Travel Time (hr)	50.6
Vehicles Exited	3404
Hourly Exit Rate	3404
Input Volume	3472
% of Volume	98

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	4.2	0.4	0.3	4.0
Total Del/Veh (s)	53.3	5.2	2.5	55.1	6.0	3.1	59.1	88.5	19.1	68.4	67.0	21.0
Travel Time (hr)	0.8	6.4	0.1	0.7	5.9	0.6	0.1	0.2	0.2	1.4	0.1	0.6
Vehicles Exited	42	1413	17	32	882	83	6	7	23	60	7	54
Hourly Exit Rate	42	1413	17	32	882	83	6	7	23	60	7	54
Input Volume	45	1428	17	32	906	78	7	7	22	58	8	51
% of Volume	94	99	99	98	97	106	83	97	103	103	85	106

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	9.3
Travel Time (hr)	17.1
Vehicles Exited	2626
Hourly Exit Rate	2626
Input Volume	2660
% of Volume	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.1	2.1	2.3	13.9	2.9
Travel Time (hr)	4.4	0.1	3.8	0.2	8.6
Vehicles Exited	1413	28	946	37	2424
Hourly Exit Rate	1413	28	946	37	2424
Input Volume	1432	25	966	44	2466
% of Volume	99	111	98	85	98

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.2	0.1
Total Del/Veh (s)	22.6	6.1	3.9	1.0	0.9	1.6
Travel Time (hr)	0.1	0.0	0.1	1.7	0.7	2.6
Vehicles Exited	18	16	13	420	352	819
Hourly Exit Rate	18	16	13	420	352	819
Input Volume	15	15	15	410	357	814
% of Volume	118	105	85	102	99	101

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.7	3.0	0.0	0.0	0.4
Total Del/Veh (s)	13.0	5.4	1.0	0.3	4.3	1.4	1.5
Travel Time (hr)	0.1	0.1	0.8	0.0	0.1	1.6	2.7
Vehicles Exited	17	22	621	17	15	401	1093
Hourly Exit Rate	17	22	621	17	15	401	1093
Input Volume	20	20	619	20	20	420	1120
% of Volume	84	109	100	84	74	96	98

Total Zone Performance

Denied Del/Veh (s)	2.0
Total Del/Veh (s)	1069.2
Travel Time (hr)	202.9
Vehicles Exited	225
Hourly Exit Rate	225
Input Volume	23581
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	52	26
Average Queue (ft)	9	3
95th Queue (ft)	34	16
Link Distance (ft)	856	704
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	5	98
Average Queue (ft)	0	39
95th Queue (ft)	0	75
Link Distance (ft)	856	737
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	9	56	50	59
Average Queue (ft)	0	10	19	28
95th Queue (ft)	5	37	42	48
Link Distance (ft)	353	411	464	464
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	84	80	30	105	114	48	104	11	15	28
Average Queue (ft)	32	35	4	35	67	7	32	1	1	1
95th Queue (ft)	68	72	19	78	101	30	79	6	8	13
Link Distance (ft)	411	411				388	388		668	668
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			142	225	225			239		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	168	154	84	292	191	353	376	22
Average Queue (ft)	78	80	21	151	84	203	231	1
95th Queue (ft)	136	139	57	251	163	303	337	10
Link Distance (ft)	388	388		515	515		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			142			425	425	
Storage Blk Time (%)		1						
Queuing Penalty (veh)		0						

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	153	321	315	108	97	300	156	507
Average Queue (ft)	26	137	136	33	27	48	28	313
95th Queue (ft)	105	293	290	85	75	211	114	788
Link Distance (ft)		515	515	287	287	287		997
Upstream Blk Time (%)		0	0			0		6
Queuing Penalty (veh)		0	0			2		0
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)		1						31
Queuing Penalty (veh)		1						8

Queuing and Blocking Report  
2024 AM Peak Model

10/6/2014

Intersection: 7: WV45 & Foxcroft Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	253	324	366	225	169	306	367	68	224	89	153	229
Average Queue (ft)	139	227	263	89	60	95	191	29	101	68	68	118
95th Queue (ft)	252	355	408	256	114	199	336	58	200	106	152	196
Link Distance (ft)		287	287			367	367	367	243			309
Upstream Blk Time (%)		4	14			0	1		1			
Queuing Penalty (veh)		28	109			0	3		0			
Storage Bay Dist (ft)	229			200	200					64	129	
Storage Blk Time (%)	1	14	25	0		1			19	29	1	9
Queuing Penalty (veh)	6	21	23	1		1			18	25	1	8

Intersection: 7: WV45 & Foxcroft Ave.

Movement	SB
Directions Served	R
Maximum Queue (ft)	162
Average Queue (ft)	61
95th Queue (ft)	121
Link Distance (ft)	309
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	151	290	303	125	101	248	255	99	196	73	106	82
Average Queue (ft)	37	136	160	37	56	79	124	14	68	43	36	27
95th Queue (ft)	94	236	261	120	101	176	231	58	149	84	86	71
Link Distance (ft)		367	367			834	834		191		301	
Upstream Blk Time (%)		0	0						1			
Queuing Penalty (veh)		0	0						0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	5	19	0	11	4	11	0	28	8	5	2
Queuing Penalty (veh)	0	2	13	0	60	3	6	0	16	6	1	1



Queuing and Blocking Report  
2024 AM Peak Model

10/6/2014

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	408	644	659	358	206	235	278	135	356	339	125	156
Average Queue (ft)	144	333	348	141	98	135	162	21	207	142	44	52
95th Queue (ft)	333	602	623	373	178	220	256	76	343	277	142	122
Link Distance (ft)		834	834		370	370	370		398	398		
Upstream Blk Time (%)		0	0						0	0		
Queuing Penalty (veh)		0	0						1	0		
Storage Bay Dist (ft)	383			333				230			100	212
Storage Blk Time (%)	0	8	13	0			1	0		19	0	
Queuing Penalty (veh)	0	10	27	0			1	0		30	0	

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	272	127
Average Queue (ft)	110	56
95th Queue (ft)	234	141
Link Distance (ft)	377	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		102
Storage Blk Time (%)	17	0
Queuing Penalty (veh)	33	0

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	121	270	270	38	86	174	186	99	56	49	214	59
Average Queue (ft)	37	49	62	2	28	66	80	13	13	17	80	37
95th Queue (ft)	88	166	183	21	64	146	161	53	41	43	164	70
Link Distance (ft)		663	663			838	838		629		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145		247		30
Storage Blk Time (%)		1	2			0	1	0			62	8
Queuing Penalty (veh)		0	0			0	1	0			31	5

Queuing and Blocking Report  
2024 AM Peak Model

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Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	62
Average Queue (ft)	20
95th Queue (ft)	46
Link Distance (ft)	214
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	67	31	35	56	69	48
Average Queue (ft)	25	5	3	10	12	7
95th Queue (ft)	56	24	19	40	46	31
Link Distance (ft)	67		309	309	247	247
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	59	34	23	31
Average Queue (ft)	23	3	1	5
95th Queue (ft)	50	37	17	24
Link Distance (ft)	83	153		
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	350
Storage Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	

Zone Summary

Zone wide Queuing Penalty: 502
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6853	6833	6865	6584	6790	6786
Vehs Exited	6661	6605	6623	6337	6572	6562
Starting Vehs	429	391	348	365	389	378
Ending Vehs	621	619	590	612	607	604
Travel Distance (mi)	5134	5135	5053	4870	5016	5042
Travel Time (hr)	885.8	870.2	766.9	916.6	968.8	881.7
Total Delay (hr)	717.7	701.6	600.7	756.1	803.6	715.9
Total Stops	18725	18100	16582	17123	17157	17539
Fuel Used (gal)	338.7	335.5	310.9	337.0	354.4	335.3

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1651	1688	1622	1684	1753	1679
Vehs Exited	1577	1633	1545	1566	1623	1590
Starting Vehs	429	391	348	365	389	378
Ending Vehs	503	446	425	483	519	478
Travel Distance (mi)	1253	1287	1228	1232	1302	1260
Travel Time (hr)	147.6	136.0	115.5	131.2	136.7	133.4
Total Delay (hr)	106.5	93.6	75.2	90.6	93.7	91.9
Total Stops	4176	3978	3241	4051	3955	3882
Fuel Used (gal)	67.3	66.3	60.4	63.3	66.2	64.7

**Interval #2 Information**

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1941	1896	1828	1830	1893	1871
Vehs Exited	1784	1769	1736	1662	1722	1737
Starting Vehs	503	446	425	483	519	478
Ending Vehs	660	573	517	651	690	610
Travel Distance (mi)	1352	1358	1301	1288	1297	1319
Travel Time (hr)	213.9	191.3	173.8	206.1	222.8	201.6
Total Delay (hr)	169.7	147.0	130.9	163.8	180.2	158.3
Total Stops	5235	4833	4107	4843	4649	4732
Fuel Used (gal)	84.4	79.9	74.2	79.8	84.8	80.6

**Interval #3 Information**

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1644	1648	1673	1636	1627	1642
Vehs Exited	1681	1575	1672	1603	1660	1640
Starting Vehs	660	573	517	651	690	610
Ending Vehs	623	646	518	684	657	622
Travel Distance (mi)	1282	1239	1275	1220	1233	1250
Travel Time (hr)	246.3	248.7	219.2	254.6	285.4	250.9
Total Delay (hr)	204.4	208.0	177.3	214.5	244.8	209.8
Total Stops	4941	4753	4732	4541	4564	4708
Fuel Used (gal)	90.3	89.4	84.0	90.1	98.2	90.4

**Interval #4 Information**

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1617	1601	1742	1434	1517	1581
Vehs Exited	1619	1628	1670	1506	1567	1600
Starting Vehs	623	646	518	684	657	622
Ending Vehs	621	619	590	612	607	604
Travel Distance (mi)	1248	1251	1249	1131	1184	1213
Travel Time (hr)	278.1	294.2	258.5	324.7	323.8	295.8
Total Delay (hr)	237.1	253.1	217.2	287.2	285.0	255.9
Total Stops	4373	4536	4502	3688	3989	4217
Fuel Used (gal)	96.6	99.9	92.3	103.8	105.3	99.6

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	0.4	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.4	0.1	1.1	1.8	5.8	2.7	1.5
Travel Time (hr)	0.4	0.0	0.0	1.1	0.0	0.3	1.8
Vehicles Exited	137	2	1	245	3	59	447
Hourly Exit Rate	137	2	1	245	3	59	447
Input Volume	139	1	2	271	3	51	467
% of Volume	98	200	50	90	100	116	96

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.4	0.7	2.0	0.5	7.2	4.3	2.1
Travel Time (hr)	0.0	0.9	0.5	0.4	0.6	0.0	2.4
Vehicles Exited	5	191	247	135	92	4	674
Hourly Exit Rate	5	191	247	135	92	4	674
Input Volume	6	184	274	148	94	3	709
% of Volume	83	104	90	91	98	133	95

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.1	0.3	2.6	2.0	12.2	2.2	2.5
Travel Time (hr)	0.6	0.2	0.3	1.0	0.4	0.1	2.6
Vehicles Exited	232	55	72	323	64	35	781
Hourly Exit Rate	232	55	72	323	64	35	781
Input Volume	232	51	83	364	61	36	827
% of Volume	100	108	86	89	105	96	94

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.7	0.4	0.2
Total Del/Veh (s)	20.9	6.3	35.6	5.1	32.6	5.2	17.3
Travel Time (hr)	1.7	0.3	6.4	1.3	1.2	3.3	14.0
Vehicles Exited	214	52	476	323	83	526	1674
Hourly Exit Rate	214	52	476	323	83	526	1674
Input Volume	219	49	555	374	86	520	1803
% of Volume	98	107	86	86	97	101	93

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	2.3	3.0	0.9
Total Del/Veh (s)	37.8	13.8	28.6	7.3	32.5	7.8	24.6
Travel Time (hr)	8.3	1.0	3.9	2.6	12.3	2.9	30.9
Vehicles Exited	624	120	329	548	678	251	2550
Hourly Exit Rate	624	120	329	548	678	251	2550
Input Volume	632	113	418	671	662	259	2756
% of Volume	99	106	79	82	102	97	93

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	3.4	0.7	0.2
Total Del/Veh (s)	57.3	7.1	8.1	4.0	37.3	35.6	14.0
Travel Time (hr)	4.3	6.3	3.6	2.2	1.7	5.7	23.8
Vehicles Exited	209	1110	767	662	96	341	3185
Hourly Exit Rate	209	1110	767	662	96	341	3185
Input Volume	210	1098	989	833	106	336	3571
% of Volume	100	101	78	79	91	101	89

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.0	0.2	0.3	1.0	1.1	0.2	0.4	0.4	3.9	2.2	2.4	0.8
Total Del/Veh (s)	63.9	16.5	7.1	57.2	46.3	6.1	58.2	58.2	51.3	75.3	41.3	21.4
Travel Time (hr)	5.9	7.9	0.3	0.7	18.5	2.2	0.7	0.6	0.8	4.8	0.3	1.8
Vehicles Exited	282	1163	58	37	1161	404	38	32	45	207	21	242
Hourly Exit Rate	282	1163	58	37	1161	404	38	32	45	207	21	242
Input Volume	280	1145	55	46	1343	466	36	29	49	384	36	453
% of Volume	101	102	105	80	86	87	106	110	92	54	58	53

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	33.7
Travel Time (hr)	44.6
Vehicles Exited	3690
Hourly Exit Rate	3690
Input Volume	4321
% of Volume	85

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	0.3	0.7	13.6	4.5	10.9	0.2	0.2	4.3	0.6	0.5	3.9
Total Del/Veh (s)	43.4	19.2	11.7	87.9	61.3	58.5	44.7	44.0	31.5	35.5	38.7	45.0
Travel Time (hr)	0.5	11.6	0.2	0.6	33.2	0.5	1.4	0.2	0.2	0.2	0.2	1.7
Vehicles Exited	29	1374	31	17	1390	20	101	16	14	17	17	101
Hourly Exit Rate	29	1374	31	17	1390	20	101	16	14	17	17	101
Input Volume	34	1522	34	17	1648	17	104	17	17	17	17	104
% of Volume	84	90	90	99	84	116	98	93	81	99	99	98

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	2.5
Total Del/Veh (s)	40.9
Travel Time (hr)	50.6
Vehicles Exited	3127
Hourly Exit Rate	3127
Input Volume	3550
% of Volume	88

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.6	1.8	1.3	7.9	4.8	4.8	20.4	9.4	3.1	219.0	204.3	202.4
Total Del/Veh (s)	263.0	85.2	47.2	177.7	87.1	42.5	166.6	55.1	20.1	78.8	128.7	75.5
Travel Time (hr)	12.3	25.5	7.6	10.3	27.7	1.3	16.5	6.4	1.2	8.4	25.7	15.2
Vehicles Exited	144	859	392	181	977	79	283	304	124	88	247	171
Hourly Exit Rate	144	859	392	181	977	79	283	304	124	88	247	171
Input Volume	164	964	430	222	1176	95	312	330	136	101	275	190
% of Volume	88	89	91	82	83	83	91	92	91	87	90	90

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	34.6
Total Del/Veh (s)	96.5
Travel Time (hr)	158.1
Vehicles Exited	3849
Hourly Exit Rate	3849
Input Volume	4394
% of Volume	88

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	3.8	0.5	0.3	3.9
Total Del/Veh (s)	56.5	4.3	2.9	118.2	115.4	95.6	46.3	51.7	13.9	43.2	48.0	33.4
Travel Time (hr)	1.7	4.9	0.1	3.1	44.9	5.5	1.2	0.5	1.0	0.8	0.4	0.9
Vehicles Exited	85	947	14	79	1154	161	67	28	100	56	26	64
Hourly Exit Rate	85	947	14	79	1154	161	67	28	100	56	26	64
Input Volume	86	1058	16	92	1369	192	68	31	98	60	29	65
% of Volume	99	90	86	86	84	84	99	90	102	94	89	99

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	65.3
Travel Time (hr)	65.1
Vehicles Exited	2781
Hourly Exit Rate	2781
Input Volume	3164
% of Volume	88

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0
Total Del/Veh (s)	5.4	4.4	117.8	10.2	66.7
Travel Time (hr)	4.3	0.2	47.9	0.1	52.5
Vehicles Exited	1029	35	1250	16	2330
Hourly Exit Rate	1029	35	1250	16	2330
Input Volume	1150	40	1502	14	2706
% of Volume	89	86	83	112	86

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	1.2	2.1	0.0	0.0	1048.0	542.2
Total Del/Veh (s)	39.4	27.9	10.2	1.1	103.2	38.6
Travel Time (hr)	0.3	0.3	0.2	1.4	261.8	264.1
Vehicles Exited	29	37	34	700	413	1213
Hourly Exit Rate	29	37	34	700	413	1213
Input Volume	36	36	36	754	814	1674
% of Volume	82	104	96	93	51	72



911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	116.1	103.2	47.3	46.0	0.0	0.0	24.6
Total Del/Veh (s)	99.1	151.3	75.4	71.8	9.8	1.6	37.9
Travel Time (hr)	1.1	1.4	27.9	0.7	0.1	3.3	34.4
Vehicles Exited	17	17	698	17	18	824	1591
Hourly Exit Rate	17	17	698	17	18	824	1591
Input Volume	20	20	749	20	20	928	1758
% of Volume	84	84	93	84	89	89	91

Total Zone Performance

Denied Del/Veh (s)	187.0
Total Del/Veh (s)	1635.4
Travel Time (hr)	744.9
Vehicles Exited	301
Hourly Exit Rate	301
Input Volume	31700
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	45
Average Queue (ft)	25
95th Queue (ft)	44
Link Distance (ft)	705
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	27	68
Average Queue (ft)	3	28
95th Queue (ft)	17	51
Link Distance (ft)	856	738
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	4	44	81	33
Average Queue (ft)	0	14	28	19
95th Queue (ft)	3	39	57	39
Link Distance (ft)	367	411	390	390
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	121	114	64	230	235	194	64	46	89	167
Average Queue (ft)	49	43	17	112	134	11	15	10	30	56
95th Queue (ft)	98	92	50	203	215	94	47	33	74	122
Link Distance (ft)	411	411				392	392		660	660
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)			142	225	225			259		
Storage Blk Time (%)		0		0	1					
Queuing Penalty (veh)		0		0	2					

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	322	312	167	262	162	266	279	158
Average Queue (ft)	162	157	79	133	64	170	169	64
95th Queue (ft)	251	257	180	217	131	250	250	133
Link Distance (ft)	392	392		515	515		1422	
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)			142			425		425
Storage Blk Time (%)		11	0					
Queuing Penalty (veh)		13	0					

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	TR
Maximum Queue (ft)	221	178	178	132	163	183	404
Average Queue (ft)	136	59	61	55	75	81	174
95th Queue (ft)	211	147	151	108	140	181	341
Link Distance (ft)		515	515	281	281		997
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	261					158	
Storage Blk Time (%)	0					0	17
Queuing Penalty (veh)	1					0	18

Queuing and Blocking Report  
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Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	253	317	301	125	208	410	405	135	176	89	46	149
Average Queue (ft)	187	163	160	30	79	358	347	53	65	41	20	121
95th Queue (ft)	280	317	293	108	221	446	437	106	129	87	53	136
Link Distance (ft)		281	281			366	366	366	244			46
Upstream Blk Time (%)		3	2			16	7				4	89
Queuing Penalty (veh)		23	13			96	42				0	380
Storage Bay Dist (ft)	229			100	183					64	109	
Storage Blk Time (%)	9	4	19	0	0	46			17	5	4	89
Queuing Penalty (veh)	51	11	10	0	0	21			8	3	9	171

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	B702	B702
Directions Served	R	T	T
Maximum Queue (ft)	133	265	225
Average Queue (ft)	95	213	60
95th Queue (ft)	152	246	173
Link Distance (ft)	46	192	192
Upstream Blk Time (%)	36	75	2
Queuing Penalty (veh)	155	319	8
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	133	299	329	125	101	662	692	99	182	70	171	85
Average Queue (ft)	29	153	193	20	25	404	449	14	77	17	51	63
95th Queue (ft)	86	287	317	89	82	868	902	70	141	60	131	93
Link Distance (ft)		366	366			834	834		190		301	
Upstream Blk Time (%)		0	0			1	2		0			
Queuing Penalty (veh)		1	3			4	18		0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)		10	23	0	0	49	41	0	39	1	1	20
Queuing Penalty (veh)		3	8	0	0	8	7	0	7	1	1	7

Queuing and Blocking Report  
2024 PM Peak Model

10/6/2014

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	408	782	812	358	395	426	427	255	419	412	125	237
Average Queue (ft)	320	473	478	240	297	391	391	197	383	230	60	168
95th Queue (ft)	509	854	873	416	466	419	414	359	474	400	163	318
Link Distance (ft)		834	834		378	378	378		398	398		
Upstream Blk Time (%)		0	1		22	42	43		41	2		
Queuing Penalty (veh)		3	5		108	206	210		155	8		
Storage Bay Dist (ft)	383			333				230			100	212
Storage Blk Time (%)	26	15	20	0			71	0		42	0	0
Queuing Penalty (veh)	123	25	87	2			67	1		57	0	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	433	127
Average Queue (ft)	379	117
95th Queue (ft)	472	166
Link Distance (ft)	377	
Upstream Blk Time (%)	68	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		102
Storage Blk Time (%)	75	3
Queuing Penalty (veh)	218	11

Queuing and Blocking Report  
2024 PM Peak Model

10/6/2014

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	B5000	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	LT	R
Maximum Queue (ft)	130	103	115	11	222	953	943	175	1264	1236	150	120
Average Queue (ft)	60	30	47	0	151	687	696	143	526	527	65	39
95th Queue (ft)	109	77	93	4	296	1214	1201	245	1442	1441	119	81
Link Distance (ft)		663	663			838	838		1264	1264	627	
Upstream Blk Time (%)						53	54		22	23		
Queuing Penalty (veh)						0	0		0	0		
Storage Bay Dist (ft)	145			110	197			150				247
Storage Blk Time (%)	0	0	0		0	59	63	0				
Queuing Penalty (veh)	1	0	0		0	54	120	3				

Intersection: 10: WV45 & New York Ave.

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	212	61
Average Queue (ft)	79	41
95th Queue (ft)	159	70
Link Distance (ft)	429	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		30
Storage Blk Time (%)	50	25
Queuing Penalty (veh)	32	22

Intersection: 91: WV45

Movement	EB	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	T	R
Maximum Queue (ft)	145	146	510	734	707	40
Average Queue (ft)	5	5	451	599	596	10
95th Queue (ft)	76	76	694	887	861	30
Link Distance (ft)	378	378		663	663	214
Upstream Blk Time (%)	0	0		8	7	
Queuing Penalty (veh)	0	0		61	50	
Storage Bay Dist (ft)			485			
Storage Blk Time (%)			13	42		
Queuing Penalty (veh)			61	207		

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	90	72	52	86	294	285
Average Queue (ft)	46	13	10	28	268	261
95th Queue (ft)	83	46	37	70	280	314
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	6				89	58
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	97	839	125	44
Average Queue (ft)	44	492	11	8
95th Queue (ft)	94	1084	70	30
Link Distance (ft)	83	810		
Upstream Blk Time (%)	24	33		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	350
Storage Blk Time (%)		41	0	
Queuing Penalty (veh)		8	0	

Zone Summary

Zone wide Queuing Penalty: 3332

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6709	6929	6800	6872	6806	6822
Vehs Exited	6528	6804	6674	6536	6621	6634
Starting Vehs	368	394	297	302	371	339
Ending Vehs	549	519	423	638	556	539
Travel Distance (mi)	4452	4547	4505	4450	4449	4481
Travel Time (hr)	715.9	647.9	506.2	588.9	585.8	608.9
Total Delay (hr)	566.1	494.3	354.8	439.0	435.8	458.0
Total Stops	15314	16802	15314	14936	16446	15762
Fuel Used (gal)	286.7	274.1	240.1	258.2	256.4	263.1

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1649	1741	1629	1690	1640	1667
Vehs Exited	1644	1704	1599	1671	1659	1655
Starting Vehs	368	394	297	302	371	339
Ending Vehs	373	431	327	321	352	357
Travel Distance (mi)	1163	1145	1089	1131	1100	1126
Travel Time (hr)	111.2	114.0	91.8	89.1	103.2	101.9
Total Delay (hr)	72.2	75.2	55.2	51.0	65.9	63.9
Total Stops	3755	3988	3362	3163	3712	3594
Fuel Used (gal)	57.8	58.3	51.3	52.0	54.1	54.7



**Interval #2 Information**

Start Time	11:45
End Time	12:00
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1777	1785	1773	1906	1856	1819
Vehs Exited	1673	1716	1707	1771	1709	1711
Starting Vehs	373	431	327	321	352	357
Ending Vehs	477	500	393	456	499	463
Travel Distance (mi)	1141	1125	1151	1181	1155	1150
Travel Time (hr)	158.2	138.2	120.2	119.9	132.7	133.8
Total Delay (hr)	119.9	100.1	81.6	80.2	93.9	95.1
Total Stops	3789	4211	3802	3955	4230	3998
Fuel Used (gal)	67.8	62.3	59.5	60.3	61.9	62.4

**Interval #3 Information**

Start Time	12:00
End Time	12:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1651	1698	1725	1622	1702	1678
Vehs Exited	1558	1666	1692	1562	1692	1636
Starting Vehs	477	500	393	456	499	463
Ending Vehs	570	532	426	516	509	508
Travel Distance (mi)	1060	1146	1140	1066	1120	1106
Travel Time (hr)	202.5	179.1	136.7	157.5	159.1	167.0
Total Delay (hr)	166.7	140.6	98.4	121.5	121.3	129.7
Total Stops	3790	4158	4113	3754	4320	4027
Fuel Used (gal)	75.5	72.4	62.7	65.5	67.1	68.6

**Interval #4 Information**

Start Time	12:15
End Time	12:30
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1632	1705	1673	1654	1608	1654
Vehs Exited	1653	1718	1676	1532	1561	1625
Starting Vehs	570	532	426	516	509	508
Ending Vehs	549	519	423	638	556	539
Travel Distance (mi)	1088	1131	1125	1073	1074	1098
Travel Time (hr)	244.0	216.5	157.5	222.5	190.7	206.2
Total Delay (hr)	207.3	178.4	119.5	186.3	154.7	169.3
Total Stops	3980	4445	4037	4064	4184	4143
Fuel Used (gal)	85.6	81.1	66.7	80.4	73.3	77.4

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	1.4	1.2	2.4	0.6
Travel Time (hr)	0.5	0.0	0.6	0.0	1.0
Vehicles Exited	169	3	131	1	304
Hourly Exit Rate	169	3	131	1	304
Input Volume	170	4	147	1	322
% of Volume	100	71	89	100	94

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	1.6	0.9	1.6	0.4	6.7	4.5	2.2
Travel Time (hr)	0.0	0.7	0.3	0.3	0.7	0.0	2.0
Vehicles Exited	5	172	130	107	112	4	530
Hourly Exit Rate	5	172	130	107	112	4	530
Input Volume	5	173	147	110	113	3	551
% of Volume	100	100	88	97	99	133	96

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	1.5	0.5	3.1	2.3	8.7	2.6	2.5
Travel Time (hr)	0.6	0.2	0.3	0.5	0.3	0.3	2.2
Vehicles Exited	211	67	65	181	59	66	649
Hourly Exit Rate	211	67	65	181	59	66	649
Input Volume	210	73	69	200	59	64	675
% of Volume	100	92	95	90	100	104	96

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	2.1	3.6	1.3
Total Del/Veh (s)	19.2	8.3	33.8	5.5	33.7	5.9	17.7
Travel Time (hr)	1.6	0.4	7.2	0.8	0.5	4.1	14.7
Vehicles Exited	204	76	559	210	38	565	1652
Hourly Exit Rate	204	76	559	210	38	565	1652
Input Volume	201	78	606	238	39	554	1716
% of Volume	102	98	92	88	97	102	96

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	2.2	3.0	0.9
Total Del/Veh (s)	26.8	11.0	27.1	11.6	25.8	6.8	20.6
Travel Time (hr)	6.8	0.8	3.0	3.5	9.9	2.5	26.5
Vehicles Exited	660	107	261	542	609	225	2404
Hourly Exit Rate	660	107	261	542	609	225	2404
Input Volume	652	102	298	612	638	230	2532
% of Volume	101	105	88	89	95	98	95

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.5	0.6	0.1
Total Del/Veh (s)	21.2	11.6	9.2	4.2	35.4	30.5	13.0
Travel Time (hr)	1.7	7.6	3.7	1.9	1.1	5.4	21.3
Vehicles Exited	161	1084	713	544	67	352	2921
Hourly Exit Rate	161	1084	713	544	67	352	2921
Input Volume	162	1108	816	605	68	344	3103
% of Volume	100	98	87	90	98	102	94

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.5	0.1	1.7	2.1	6.1	0.4	0.0	0.3
Total Del/Veh (s)	66.9	13.6	4.4	57.7	54.5	7.2	62.3	69.0	70.0	68.2	58.4	14.7
Travel Time (hr)	5.2	6.4	0.5	0.9	15.2	2.8	1.0	1.0	2.1	9.9	0.9	2.9
Vehicles Exited	240	1066	104	44	835	496	48	45	88	443	48	390
Hourly Exit Rate	240	1066	104	44	835	496	48	45	88	443	48	390
Input Volume	246	1086	98	61	992	594	44	51	92	454	48	401
% of Volume	97	98	107	72	84	84	108	88	95	98	101	97

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	34.8
Travel Time (hr)	48.7
Vehicles Exited	3847
Hourly Exit Rate	3847
Input Volume	4168
% of Volume	92

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.3	10.8	9.0	1.4	0.4	0.3	3.9	0.5	0.4	3.9
Total Del/Veh (s)	44.8	9.8	6.3	113.3	90.4	91.3	45.0	51.4	23.0	36.2	46.2	46.7
Travel Time (hr)	1.6	8.8	0.3	1.7	40.1	1.3	1.3	0.3	0.5	0.6	0.3	1.6
Vehicles Exited	98	1467	57	41	1185	41	89	18	56	46	18	94
Hourly Exit Rate	98	1467	57	41	1185	41	89	18	56	46	18	94
Input Volume	104	1502	52	52	1478	52	86	17	55	52	17	86
% of Volume	94	98	110	79	80	79	103	104	102	89	104	109

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	3.8
Total Del/Veh (s)	46.6
Travel Time (hr)	58.5
Vehicles Exited	3210
Hourly Exit Rate	3210
Input Volume	3553
% of Volume	90

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	194.6	172.7	153.4	4.0	1.0	2.9	205.9	193.1	198.3
Total Del/Veh (s)	72.5	38.9	22.9	134.0	124.7	53.3	154.2	47.2	14.0	76.1	144.6	82.0
Travel Time (hr)	5.0	14.9	5.8	15.5	66.3	5.2	16.3	3.9	1.0	8.3	20.1	19.5
Vehicles Exited	190	940	468	151	718	78	330	241	127	96	196	223
Hourly Exit Rate	190	940	468	151	718	78	330	241	127	96	196	223
Input Volume	197	974	466	176	915	102	418	300	153	102	214	233
% of Volume	96	96	100	86	78	76	79	80	83	94	91	96

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	76.2
Total Del/Veh (s)	78.6
Travel Time (hr)	181.6
Vehicles Exited	3758
Hourly Exit Rate	3758
Input Volume	4252
% of Volume	88

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.7	0.1	0.6	0.0	0.0	0.0	10.4	7.3	10.0	2.4	1.5	5.3
Total Del/Veh (s)	50.6	6.9	4.2	88.5	92.3	66.5	187.1	165.6	42.9	80.0	81.9	100.9
Travel Time (hr)	1.5	5.8	0.1	1.8	31.3	1.2	3.2	1.8	1.3	0.9	0.7	2.4
Vehicles Exited	82	1012	15	58	959	46	48	32	65	33	24	69
Hourly Exit Rate	82	1012	15	58	959	46	48	32	65	33	24	69
Input Volume	88	1064	14	64	1064	50	60	33	67	35	27	71
% of Volume	93	95	105	91	90	93	80	96	97	94	88	98

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	57.2
Travel Time (hr)	52.0
Vehicles Exited	2443
Hourly Exit Rate	2443
Input Volume	2636
% of Volume	93

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	1.2	0.1	0.6
Total Del/Veh (s)	4.2	3.9	124.0	7.8	62.3
Travel Time (hr)	4.1	0.3	42.3	0.1	46.7
Vehicles Exited	1089	61	1048	12	2210
Hourly Exit Rate	1089	61	1048	12	2210
Input Volume	1154	61	1203	10	2428
% of Volume	94	100	87	117	91

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	6.3	9.1	0.0	0.0	0.6	0.5	0.6
Total Del/Veh (s)	32.7	24.0	10.6	2.6	7.2	2.2	6.0
Travel Time (hr)	0.4	0.3	0.2	3.4	3.2	0.0	7.6
Vehicles Exited	33	33	33	760	841	10	1710
Hourly Exit Rate	33	33	33	760	841	10	1710
Input Volume	36	36	36	868	863	10	1848
% of Volume	93	93	93	88	97	98	93

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	446.8	465.0	258.5	262.1	0.0	0.0	145.0
Total Del/Veh (s)	152.7	190.8	23.5	4.7	8.2	1.5	18.1
Travel Time (hr)	3.4	10.9	62.5	1.5	0.3	3.1	81.8
Vehicles Exited	15	44	657	17	52	782	1567
Hourly Exit Rate	15	44	657	17	52	782	1567
Input Volume	20	61	804	20	61	812	1778
% of Volume	74	72	82	84	86	96	88

Total Zone Performance

Denied Del/Veh (s)	95.8
Total Del/Veh (s)	1116.0
Travel Time (hr)	544.7
Vehicles Exited	479
Hourly Exit Rate	479
Input Volume	29562
% of Volume	2

Queuing and Blocking Report  
Baseline

10/6/2014

Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	16
Average Queue (ft)	1
95th Queue (ft)	9
Link Distance (ft)	705
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	5	67
Average Queue (ft)	0	31
95th Queue (ft)	4	55
Link Distance (ft)	856	738
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	9	55	57	50
Average Queue (ft)	0	14	24	26
95th Queue (ft)	5	41	48	43
Link Distance (ft)	360	416	470	470
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report  
Baseline

10/6/2014

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	R	L	L	T	T	L	L	R
Maximum Queue (ft)	88	102	92	236	250	409	181	38	58	183
Average Queue (ft)	41	43	26	124	142	44	16	6	17	66
95th Queue (ft)	87	91	70	249	257	229	91	24	45	148
Link Distance (ft)	416	416				392	392		667	
Upstream Blk Time (%)						0	0			
Queuing Penalty (veh)						2	0			
Storage Bay Dist (ft)			142	225	225			239		253
Storage Blk Time (%)			0	2	5	0				
Queuing Penalty (veh)			0	2	5	0				

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	246	269	167	266	260	223	225	133
Average Queue (ft)	136	132	54	112	115	136	143	54
95th Queue (ft)	216	219	134	196	222	207	212	114
Link Distance (ft)	392	392		515	515		1422	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			142			425		425
Storage Blk Time (%)		6	0					
Queuing Penalty (veh)		6	0					

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	161	241	263	122	187	222	182	397
Average Queue (ft)	62	114	126	56	84	17	53	157
95th Queue (ft)	119	204	222	109	152	111	142	373
Link Distance (ft)		515	515	296	296	296		997
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)		0					0	11
Queuing Penalty (veh)		0					0	7



Queuing and Blocking Report  
Baseline

10/6/2014

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	248	301	332	163	225	403	395	142	222	89	154	328
Average Queue (ft)	165	152	155	27	110	339	292	49	105	66	146	265
95th Queue (ft)	264	288	266	96	273	463	443	97	210	110	177	372
Link Distance (ft)		296	296			367	367	367	244			306
Upstream Blk Time (%)		5	0			14	3		3			14
Queuing Penalty (veh)		33	2			75	15		0			65
Storage Bay Dist (ft)	229			200	200					64	129	
Storage Blk Time (%)	10	1	1	0	0	55			25	25	12	55
Queuing Penalty (veh)	54	2	1	0	0	34			23	24	31	125

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	306
Average Queue (ft)	137
95th Queue (ft)	253
Link Distance (ft)	306
Upstream Blk Time (%)	1
Queuing Penalty (veh)	4
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	168	254	271	125	101	872	891	99	178	73	203	85
Average Queue (ft)	71	112	151	32	57	589	674	37	79	45	72	63
95th Queue (ft)	139	216	256	111	124	1019	1069	112	156	90	157	100
Link Distance (ft)		367	367			834	834		190		301	
Upstream Blk Time (%)						1	10		0			
Queuing Penalty (veh)						8	77		0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	3	13	0	2	52	42	0	38	5	8	20
Queuing Penalty (veh)	2	3	7	0	12	27	22	1	21	5	7	14

Queuing and Blocking Report  
Baseline

10/6/2014

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	R	L
Maximum Queue (ft)	360	434	503	358	408	419	419	255	418	416	125	237
Average Queue (ft)	158	248	266	186	232	388	391	211	400	188	53	167
95th Queue (ft)	295	375	407	329	421	423	416	365	452	371	155	318
Link Distance (ft)		834	834		378	378	378		398	398		
Upstream Blk Time (%)					5	47	55		47	2		
Queuing Penalty (veh)					19	165	191		204	9		
Storage Bay Dist (ft)	383			333				230			100	212
Storage Blk Time (%)	1	1	2	1			85	0		27	0	0
Queuing Penalty (veh)	3	1	8	4			87	1		42	0	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	427	127
Average Queue (ft)	382	125
95th Queue (ft)	468	146
Link Distance (ft)	377	
Upstream Blk Time (%)	69	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		102
Storage Blk Time (%)	73	12
Queuing Penalty (veh)	245	38

Queuing and Blocking Report  
Baseline

10/6/2014

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	B5000	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	LT	R
Maximum Queue (ft)	129	196	210	88	222	870	867	170	622	612	420	151
Average Queue (ft)	56	61	69	4	106	411	425	70	89	86	149	39
95th Queue (ft)	102	141	165	36	251	977	975	202	437	422	415	139
Link Distance (ft)		663	663			838	838		1264	1264	627	
Upstream Blk Time (%)						22	22					5
Queuing Penalty (veh)						0	0					0
Storage Bay Dist (ft)	145			110	197			145				247
Storage Blk Time (%)		0	2	0	0	41	50	0			12	0
Queuing Penalty (veh)		0	0	0	0	26	25	0			8	0

Intersection: 10: WV45 & New York Ave.

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	333	57
Average Queue (ft)	108	43
95th Queue (ft)	306	68
Link Distance (ft)	429	
Upstream Blk Time (%)	4	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		30
Storage Blk Time (%)	38	43
Queuing Penalty (veh)	27	26

Intersection: 91: WV45

Movement	EB	WB	WB	WB	NB
Directions Served	T	T	T	T	R
Maximum Queue (ft)	72	510	715	702	35
Average Queue (ft)	5	355	484	497	8
95th Queue (ft)	76	709	932	914	28
Link Distance (ft)	378		663	663	214
Upstream Blk Time (%)	0		14	22	
Queuing Penalty (veh)	0		83	131	
Storage Bay Dist (ft)		485			
Storage Blk Time (%)		14	41		
Queuing Penalty (veh)		48	141		

Queuing and Blocking Report  
Baseline

10/6/2014

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (ft)	87	65	100	119	255	244
Average Queue (ft)	43	19	29	47	90	64
95th Queue (ft)	83	49	85	110	220	179
Link Distance (ft)	64		306	306	251	251
Upstream Blk Time (%)	8				2	1
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	109	203	125	53
Average Queue (ft)	81	152	14	14
95th Queue (ft)	118	245	79	46
Link Distance (ft)	83	157		
Upstream Blk Time (%)	76	54		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	350
Storage Blk Time (%)		53	0	
Queuing Penalty (veh)		11	0	

Zone Summary

Zone wide Queuing Penalty: 2261

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:45	11:45	11:45	11:45	11:45	11:45
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6173	6610	6280	6532	6568	6431
Vehs Exited	5967	6386	6025	6244	6375	6199
Starting Vehs	380	337	401	346	329	357
Ending Vehs	586	561	656	634	522	590
Travel Distance (mi)	4344	4681	4466	4598	4690	4556
Travel Time (hr)	1181.5	798.8	909.2	794.2	776.2	892.0
Total Delay (hr)	1037.0	643.3	760.9	641.3	620.7	740.6
Total Stops	15111	16275	15280	15423	15457	15511
Fuel Used (gal)	386.0	308.8	327.2	305.6	305.1	326.5

Interval #0 Information Seeding

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1564	1628	1501	1594	1555	1566
Vehs Exited	1403	1535	1499	1562	1527	1505
Starting Vehs	380	337	401	346	329	357
Ending Vehs	541	430	403	378	357	422
Travel Distance (mi)	1083	1177	1124	1172	1142	1139
Travel Time (hr)	163.5	137.3	127.5	116.7	123.1	133.6
Total Delay (hr)	127.4	98.3	90.3	77.7	85.1	95.7
Total Stops	3681	3631	3556	3349	3171	3480
Fuel Used (gal)	66.1	64.0	59.6	58.8	59.6	61.6

**Interval #2 Information**

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1641	1768	1700	1771	1794	1734
Vehs Exited	1562	1689	1534	1650	1745	1638
Starting Vehs	541	430	403	378	357	422
Ending Vehs	620	509	569	499	406	518
Travel Distance (mi)	1082	1215	1120	1209	1240	1173
Travel Time (hr)	267.9	186.8	198.0	173.2	173.8	200.0
Total Delay (hr)	231.9	146.6	160.9	133.1	133.0	161.1
Total Stops	3755	4299	3857	3674	3922	3905
Fuel Used (gal)	90.0	75.4	75.0	72.5	73.6	77.3

**Interval #3 Information**

Start Time	12:30
End Time	12:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1440	1609	1549	1549	1635	1557
Vehs Exited	1444	1570	1513	1536	1560	1524
Starting Vehs	620	509	569	499	406	518
Ending Vehs	616	548	605	512	481	545
Travel Distance (mi)	1050	1128	1111	1121	1167	1115
Travel Time (hr)	349.5	220.7	266.9	219.6	220.1	255.4
Total Delay (hr)	314.6	183.2	230.1	182.2	181.5	218.3
Total Stops	3599	4072	3941	4057	4112	3965
Fuel Used (gal)	107.8	80.8	90.7	80.3	82.0	88.3

**Interval #4 Information**

Start Time	12:45
End Time	1:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1528	1605	1530	1618	1584	1572
Vehs Exited	1558	1592	1479	1496	1543	1532
Starting Vehs	616	548	605	512	481	545
Ending Vehs	586	561	656	634	522	590
Travel Distance (mi)	1129	1161	1111	1096	1142	1128
Travel Time (hr)	400.6	253.9	316.7	284.7	259.1	303.0
Total Delay (hr)	363.1	215.2	279.7	248.3	221.2	265.5
Total Stops	4076	4273	3926	4343	4252	4177
Fuel Used (gal)	121.9	88.6	101.8	94.1	89.9	99.3

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	2.3	3.0	0.9
Total Del/Veh (s)	36.2	13.1	32.0	9.2	31.7	6.3	24.9
Travel Time (hr)	9.5	0.8	3.3	2.8	10.5	2.7	29.6
Vehicles Exited	729	98	256	534	585	243	2445
Hourly Exit Rate	729	98	256	534	585	243	2445
Input Volume	748	94	332	670	600	249	2695
% of Volume	97	104	77	80	97	97	91

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	3.9	1.0	0.3
Total Del/Veh (s)	52.4	11.1	12.5	3.5	52.5	54.1	19.3
Travel Time (hr)	4.0	7.5	4.2	1.8	1.7	8.3	27.5
Vehicles Exited	211	1106	705	563	79	376	3040
Hourly Exit Rate	211	1106	705	563	79	376	3040
Input Volume	216	1135	908	734	89	370	3453
% of Volume	97	97	78	77	89	101	88

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.0	124.5	144.8	127.8	0.6	1.8	0.7
Total Del/Veh (s)	64.7	16.8	6.8	63.1	60.1	10.3	157.1	145.9	154.9	53.3	35.7	13.8
Travel Time (hr)	7.4	7.0	0.5	1.5	17.2	3.3	6.0	3.4	7.4	4.3	0.6	1.5
Vehicles Exited	346	1023	98	69	877	493	71	39	85	262	54	293
Hourly Exit Rate	346	1023	98	69	877	493	71	39	85	262	54	293
Input Volume	358	1040	96	71	1016	575	70	38	92	477	88	533
% of Volume	97	98	102	97	86	86	101	103	92	55	62	55

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	7.4
Total Del/Veh (s)	41.6
Travel Time (hr)	60.0
Vehicles Exited	3710
Hourly Exit Rate	3710
Input Volume	4454
% of Volume	83

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.5	3.5	0.0	0.0	1030.5	551.9
Total Del/Veh (s)	44.6	31.3	30.4	1.3	73.1	30.2
Travel Time (hr)	0.4	0.4	0.3	1.8	332.4	335.3
Vehicles Exited	31	36	32	871	564	1534
Hourly Exit Rate	31	36	32	871	564	1534
Input Volume	36	36	36	954	1055	2116
% of Volume	87	101	90	91	53	73

Total Zone Performance

Denied Del/Veh (s)	422.3
Total Del/Veh (s)	1187.5
Travel Time (hr)	452.4
Vehicles Exited	148
Hourly Exit Rate	148
Input Volume	12717
% of Volume	1



Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	336	345	167	210	210	262	261	139
Average Queue (ft)	184	169	70	114	75	160	153	55
95th Queue (ft)	282	272	172	188	168	240	229	111
Link Distance (ft)	392	392		515	515		1422	
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (ft)			142			425		425
Storage Blk Time (%)		15	0					
Queuing Penalty (veh)		14	0					

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	TR
Maximum Queue (ft)	233	235	251	178	201	183	562
Average Queue (ft)	135	131	133	71	108	81	253
95th Queue (ft)	216	237	244	146	188	193	584
Link Distance (ft)		515	515	281	281		997
Upstream Blk Time (%)					0		1
Queuing Penalty (veh)					0		0
Storage Bay Dist (ft)	261					158	
Storage Blk Time (%)	0	0				0	27
Queuing Penalty (veh)	0	0				0	24

Queuing and Blocking Report  
2024 PM Peak Model

10/6/2014

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	323	318	125	208	398	400	261	287	89	45	142
Average Queue (ft)	220	208	170	42	114	365	312	106	206	76	16	120
95th Queue (ft)	289	367	314	125	253	442	448	209	339	114	48	129
Link Distance (ft)		281	281			366	366	366	244			46
Upstream Blk Time (%)		9	1			25	6	0	54		3	84
Queuing Penalty (veh)		65	10			139	35	0	0		0	457
Storage Bay Dist (ft)	229			100	183					64	109	
Storage Blk Time (%)	19	3	14	0	0	55			58	40	3	84
Queuing Penalty (veh)	95	10	13	0	0	39			54	44	8	199

Intersection: 7: Foxcroft Ave. & WV45

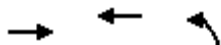
Movement	SB	B702	B702
Directions Served	R	T	T
Maximum Queue (ft)	126	270	226
Average Queue (ft)	88	240	58
95th Queue (ft)	150	284	181
Link Distance (ft)	46	192	192
Upstream Blk Time (%)	28	71	1
Queuing Penalty (veh)	153	388	8
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	82	76	80	91	300	287
Average Queue (ft)	51	17	15	34	269	260
95th Queue (ft)	88	51	53	84	283	314
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	9				85	52
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

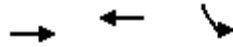
Zone wide Queuing Penalty: 1757



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	221	135	5
Sign Control	Free	Free	Stop

**Intersection Summary**

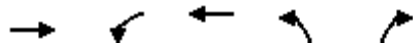
Control Type: Unsignalized	
Intersection Capacity Utilization 32.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	238	185	168
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 29.9%	ICU Level of Service A
Analysis Period (min) 15	



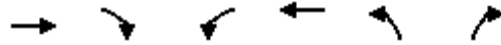
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	423	36	158	41	91
Sign Control	Free		Free	Stop	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 38.4%	ICU Level of Service A
Analysis Period (min) 15	

2024 AM Peak Model  
 4: Retail Commons Pkwy. & WV45

11/4/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	407	22	112	184	3	56
Act Effct Green (s)	26.6	40.6	8.0	37.0	8.0	21.0
Actuated g/C Ratio	0.48	0.74	0.15	0.67	0.15	0.38
v/c Ratio	0.27	0.02	0.31	0.10	0.01	0.10
Control Delay	10.1	1.6	16.4	3.8	20.3	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	1.6	16.4	3.8	20.3	4.4
LOS	B	A	B	A	C	A
Approach Delay	9.6			8.5	5.2	
Approach LOS	A			A	A	
Queue Length 50th (ft)	42	0	19	25	0	0
Queue Length 95th (ft)	67	5	27	4	4	17
Internal Link Dist (ft)	427			358	651	
Turn Bay Length (ft)		142	225		239	
Base Capacity (vph)	1516	1116	364	1776	547	570
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.02	0.31	0.10	0.01	0.10

**Intersection Summary**

Cycle Length: 55  
 Actuated Cycle Length: 55  
 Offset: 12 (22%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.31  
 Intersection Signal Delay: 8.9  
 Intersection Capacity Utilization 42.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

2024 AM Peak Model  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

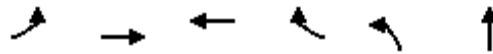
11/4/2014



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	410	51	250	199	978	105
Act Effct Green (s)	29.0	29.0	21.8	55.8	44.2	44.2
Actuated g/C Ratio	0.26	0.26	0.20	0.51	0.40	0.40
v/c Ratio	0.50	0.12	0.81	0.24	0.81	0.17
Control Delay	30.9	10.2	48.2	19.2	35.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	10.2	48.2	19.2	35.3	4.7
LOS	C	B	D	B	D	A
Approach Delay	28.6			35.3		
Approach LOS	C			D		
Queue Length 50th (ft)	93	0	150	99	305	0
Queue Length 95th (ft)	191	24	256	186	376	31
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)		142			425	425
Base Capacity (vph)	819	417	381	829	1232	630
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.12	0.66	0.24	0.79	0.17

**Intersection Summary**

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 70 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 32.2	Intersection LOS: C
Intersection Capacity Utilization 92.2%	ICU Level of Service F
Analysis Period (min) 15	



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	65	1249	403	747	26	401
Act Effct Green (s)	65.5	65.5	55.1	55.1	34.5	34.5
Actuated g/C Ratio	0.60	0.60	0.50	0.50	0.31	0.31
v/c Ratio	0.13	0.68	0.26	0.70	0.05	0.83
Control Delay	3.7	7.7	6.5	8.4	24.8	43.8
Queue Delay	0.0	0.5	0.0	1.1	0.0	0.0
Total Delay	3.7	8.2	6.5	9.5	24.8	43.9
LOS	A	A	A	A	C	D
Approach Delay		8.0	8.4			42.7
Approach LOS		A	A			D
Queue Length 50th (ft)	14	148	29	269	12	210
Queue Length 95th (ft)	m12	169	43	301	32	#343
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	497	1848	1554	1068	536	525
Starvation Cap Reductn	0	237	0	137	0	0
Spillback Cap Reductn	0	64	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.78	0.26	0.80	0.05	0.77

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 108 (98%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 13.3

Intersection LOS: B

Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	1359	94	76	866	259	89	96	107	107	173
Act Effct Green (s)	15.4	62.4	73.8	8.2	53.5	71.3	10.3	10.3	12.8	12.8	30.2
Actuated g/C Ratio	0.14	0.57	0.67	0.07	0.49	0.65	0.09	0.09	0.12	0.12	0.27
v/c Ratio	0.72	0.77	0.10	0.66	0.57	0.26	0.61	0.39	0.63	0.62	0.36
Control Delay	72.8	10.4	0.3	77.9	19.8	1.3	65.3	8.3	61.4	60.8	5.6
Queue Delay	0.0	0.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	11.2	0.3	77.9	19.9	1.3	65.3	8.3	61.4	60.8	5.6
LOS	E	B	A	E	B	A	E	A	E	E	A
Approach Delay		16.5			19.6		35.7			36.3	
Approach LOS		B			B		D			D	
Queue Length 50th (ft)	117	131	0	58	208	8	61	0	76	76	11
Queue Length 95th (ft)	m165	246	m0	m#120	284	0	#117	27	#150	#148	47
Internal Link Dist (ft)		290			428		227			305	
Turn Bay Length (ft)	229		200	200				64	129		
Base Capacity (vph)	282	1762	962	127	1511	991	157	255	174	176	487
Starvation Cap Reductn	0	151	0	0	92	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	21	0	0	0	0	0	4
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.84	0.10	0.60	0.61	0.26	0.57	0.38	0.61	0.61	0.36

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 104 (95%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 20.9

Intersection LOS: C

Intersection Capacity Utilization 69.5%

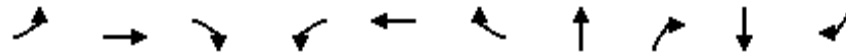
ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	39	1528	74	86	1139	62	79	62	43	24
Act Effct Green (s)	8.0	79.1	79.1	10.5	84.1	84.1	12.1	12.1	12.1	12.1
Actuated g/C Ratio	0.07	0.72	0.72	0.10	0.76	0.76	0.11	0.11	0.11	0.11
v/c Ratio	0.35	0.68	0.07	0.59	0.48	0.06	0.59	0.29	0.31	0.16
Control Delay	55.7	5.3	0.7	51.8	6.7	1.8	65.0	13.1	51.0	46.5
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	5.3	0.7	51.8	6.7	1.8	65.0	13.1	51.0	46.5
LOS	E	A	A	D	A	A	E	B	D	D
Approach Delay		6.3			9.5		42.2		49.4	
Approach LOS		A			A		D		D	
Queue Length 50th (ft)	29	101	1	57	162	1	53	0	28	15
Queue Length 95th (ft)	m40	101	m2	m85	m194	m5	#110	35	65	42
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	112	2233	1018	183	2377	1079	145	226	150	165
Starvation Cap Reductn	0	51	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.70	0.07	0.47	0.48	0.06	0.54	0.27	0.29	0.15

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 94 (85%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	1311	223	124	845	45	320	201	164	75	115	138
Act Effct Green (s)	11.7	48.0	48.0	9.0	45.3	45.3	23.0	26.5	40.5	9.1	10.0	26.7
Actuated g/C Ratio	0.11	0.44	0.44	0.08	0.41	0.41	0.21	0.24	0.37	0.08	0.09	0.24
v/c Ratio	0.83	0.97	0.31	0.98	0.66	0.07	0.99	0.51	0.29	0.59	0.78	0.32
Control Delay	87.5	39.2	4.9	124.4	24.5	0.2	91.4	43.2	14.7	67.3	82.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.5	39.2	4.9	124.4	24.5	0.2	91.4	43.2	14.7	67.3	82.1	10.4
LOS	F	D	A	F	C	A	F	D	B	E	F	B
Approach Delay		38.6			35.6			58.9				48.6
Approach LOS		D			D			E				D
Queue Length 50th (ft)	104	273	14	95	123	0	227	128	39	52	81	10
Queue Length 95th (ft)	m#167	#618	m53	#220	223	0	#408	208	95	101	#176	60
Internal Link Dist (ft)		834			369			397				357
Turn Bay Length (ft)	383		333			230			100	212		102
Base Capacity (vph)	183	1355	731	127	1278	671	324	393	564	141	148	442
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.97	0.31	0.98	0.66	0.07	0.99	0.51	0.29	0.53	0.78	0.31

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 42.4

Intersection LOS: D

Intersection Capacity Utilization 87.5%

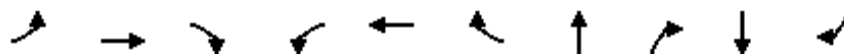
ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	48	1522	19	35	979	85	16	24	72	55
Act Effct Green (s)	10.0	83.0	83.0	10.0	80.0	80.0	12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.09	0.75	0.75	0.09	0.73	0.73	0.11	0.11	0.11	0.11
v/c Ratio	0.35	0.66	0.02	0.25	0.44	0.08	0.11	0.11	0.55	0.26
Control Delay	56.0	4.7	0.0	51.5	9.0	1.8	45.0	1.1	62.2	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	4.7	0.0	51.5	9.0	1.8	45.0	1.1	62.2	10.6
LOS	E	A	A	D	A	A	D	A	E	B
Approach Delay		6.2			9.8		18.7		39.9	
Approach LOS		A			A		B		D	
Queue Length 50th (ft)	35	75	0	23	164	0	10	0	49	0
Queue Length 95th (ft)	m44	m60	m0	57	213	16	32	0	98	29
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	139	2329	1058	139	2245	1027	165	227	145	227
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.65	0.02	0.25	0.44	0.08	0.10	0.11	0.50	0.24

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1534	27	1022	47
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 53.6%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	430	383
Act Effct Green (s)	6.4	48.0	48.0	48.0
Actuated g/C Ratio	0.12	0.87	0.87	0.87
v/c Ratio	0.17	0.02	0.16	0.14
Control Delay	16.9	1.5	1.1	2.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.9	1.5	1.1	2.0
LOS	B	A	A	A
Approach Delay	16.9		1.1	2.0
Approach LOS	B		A	A
Queue Length 50th (ft)	5	0	0	0
Queue Length 95th (ft)	24	m2	18	31
Internal Link Dist (ft)	33		305	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	506	764	2765	2765
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.16	0.14

**Intersection Summary**

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.17

Intersection Signal Delay: 2.1

Intersection LOS: A

Intersection Capacity Utilization 25.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	663	22	22	440
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	152	295	58
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 27.8%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	193	428	101
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	302	89	387	65	39
Sign Control	Free		Free	Stop	

Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 35.6%			ICU Level of Service A		
Analysis Period (min) 15					



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	231	53	606	394	93	568
Act Effct Green (s)	30.2	47.2	32.8	68.0	12.0	49.8
Actuated g/C Ratio	0.34	0.52	0.36	0.76	0.13	0.55
v/c Ratio	0.22	0.07	0.65	0.16	0.27	0.75
Control Delay	24.4	4.9	14.6	1.1	37.5	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	4.9	14.6	1.1	37.5	13.1
LOS	C	A	B	A	D	B
Approach Delay	20.7			9.3	16.5	
Approach LOS	C			A	B	
Queue Length 50th (ft)	48	0	75	7	30	141
Queue Length 95th (ft)	92	22	109	13	58	222
Internal Link Dist (ft)	421			358	651	
Turn Bay Length (ft)		142	225		259	
Base Capacity (vph)	1074	776	1222	2416	341	857
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.07	0.50	0.16	0.27	0.66

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 80 (89%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	

2024 PM Peak Model  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

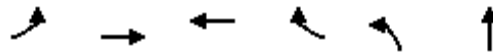
11/4/2014



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	666	120	444	702	703	275
Act Effct Green (s)	23.7	23.7	27.6	56.3	23.7	23.7
Actuated g/C Ratio	0.26	0.26	0.31	0.63	0.26	0.26
v/c Ratio	0.80	0.26	0.92	0.67	0.87	0.49
Control Delay	39.2	11.0	39.3	12.6	45.0	7.9
Queue Delay	0.0	0.0	0.0	1.3	0.0	0.0
Total Delay	39.2	11.0	39.3	13.9	45.0	7.9
LOS	D	B	D	B	D	A
Approach Delay	34.9			23.7		
Approach LOS	C			C		
Queue Length 50th (ft)	155	5	185	301	198	8
Queue Length 95th (ft)	#279	m41	#401	493	#301	71
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)		142			425	425
Base Capacity (vph)	832	460	510	1055	810	563
Starvation Cap Reductn	0	0	0	172	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.26	0.87	0.80	0.87	0.49

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 58 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 30.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 105.7%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	217	1125	970	861	109	348
Act Effct Green (s)	13.6	61.2	42.5	42.5	18.8	18.8
Actuated g/C Ratio	0.15	0.68	0.47	0.47	0.21	0.21
v/c Ratio	0.92	0.53	0.65	0.83	0.33	0.89
Control Delay	66.5	2.6	7.9	9.1	33.5	49.3
Queue Delay	0.0	0.0	0.9	6.4	0.1	0.2
Total Delay	66.5	2.7	8.8	15.5	33.6	49.5
LOS	E	A	A	B	C	D
Approach Delay		13.0	12.0			45.7
Approach LOS		B	B			D
Queue Length 50th (ft)	115	0	82	62	53	129
Queue Length 95th (ft)	m#159	m0	m84	m83	101	#291
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	243	2131	1482	1033	331	392
Starvation Cap Reductn	0	0	253	132	0	0
Spillback Cap Reductn	0	49	5	0	20	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.54	0.79	0.96	0.35	0.89

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 4 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.92  
 Intersection Signal Delay: 16.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 105.7%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	282	1142	56	46	1327	470	65	49	205	208	457
Act Effct Green (s)	17.0	51.0	58.4	8.0	37.6	54.6	8.0	8.0	12.0	12.0	31.6
Actuated g/C Ratio	0.19	0.57	0.65	0.09	0.42	0.61	0.09	0.09	0.13	0.13	0.35
v/c Ratio	0.95	0.64	0.06	0.33	1.00	0.47	0.45	0.18	1.02	1.03	0.79
Control Delay	78.3	7.6	0.3	55.8	40.2	2.1	49.6	1.5	108.8	109.7	23.5
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Total Delay	78.3	7.8	0.3	55.8	40.2	2.6	49.6	1.5	108.8	109.7	23.5
LOS	E	A	A	E	D	A	D	A	F	F	C
Approach Delay		21.0			31.0		28.9			64.2	
Approach LOS		C			C		C			E	
Queue Length 50th (ft)	~138	203	0	28	~437	24	36	0	~132	~134	116
Queue Length 95th (ft)	m#292	m256	m1	m36	#560	m31	77	0	#278	#282	#229
Internal Link Dist (ft)		290			428		227			64	
Turn Bay Length (ft)	229		100	183				64	109		
Base Capacity (vph)	298	1794	940	140	1323	1000	144	269	200	202	580
Starvation Cap Reductn	0	138	0	0	0	195	0	0	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.69	0.06	0.33	1.00	0.58	0.45	0.18	1.02	1.03	0.79

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 4 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 34.2

Intersection LOS: C

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

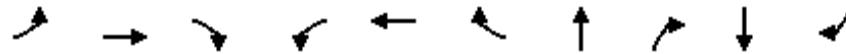
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	1608	37	18	1728	18	129	18	36	111
Act Effct Green (s)	8.0	62.5	62.5	8.0	59.9	59.9	12.3	12.3	12.3	12.3
Actuated g/C Ratio	0.09	0.69	0.69	0.09	0.67	0.67	0.14	0.14	0.14	0.14
v/c Ratio	0.26	0.73	0.04	0.13	0.82	0.02	0.78	0.07	0.19	0.58
Control Delay	32.2	10.5	0.9	48.1	8.2	0.0	69.2	0.5	37.5	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	10.5	0.9	48.1	8.2	0.0	69.2	0.5	37.5	49.4
LOS	C	B	A	D	A	A	E	A	D	D
Approach Delay		10.7			8.6		60.8		46.5	
Approach LOS		B			A		E		D	
Queue Length 50th (ft)	17	201	0	11	74	0	72	0	18	60
Queue Length 95th (ft)	m27	m253	m1	m13	m83	m0	#168	0	47	#125
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	140	2199	1010	140	2107	971	170	270	190	197
Starvation Cap Reductn	0	5	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.73	0.04	0.13	0.82	0.02	0.76	0.07	0.19	0.56

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 72 (80%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 13.1

Intersection LOS: B

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	166	949	437	226	1177	97	317	317	139	103	280	193
Act Effct Green (s)	8.0	29.0	29.0	12.0	33.0	33.0	16.0	21.0	38.0	8.0	13.0	26.0
Actuated g/C Ratio	0.09	0.32	0.32	0.13	0.37	0.37	0.18	0.23	0.42	0.09	0.14	0.29
v/c Ratio	1.19	0.94	0.58	1.08	1.02	0.15	1.14	0.82	0.22	0.74	1.18	0.38
Control Delay	158.9	46.9	14.1	109.6	56.1	1.9	133.4	52.1	8.1	71.6	151.0	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	158.9	46.9	14.1	109.6	56.1	1.9	133.4	52.1	8.1	71.6	151.0	10.1
LOS	F	D	B	F	E	A	F	D	A	E	F	B
Approach Delay		49.6			60.7			77.5				89.6
Approach LOS		D			E			E				F
Queue Length 50th (ft)	~115	203	66	~140	~388	0	~212	172	18	58	~192	20
Queue Length 95th (ft)	m#188	#396	188	m#242	#523	m4	#374	#310	54	#141	#346	74
Internal Link Dist (ft)		834			369			397				357
Turn Bay Length (ft)	383		333			230			100	212		102
Base Capacity (vph)	139	1010	748	209	1149	644	278	385	641	139	238	508
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.94	0.58	1.08	1.02	0.15	1.14	0.82	0.22	0.74	1.18	0.38

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 64 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 63.5

Intersection LOS: E

Intersection Capacity Utilization 97.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

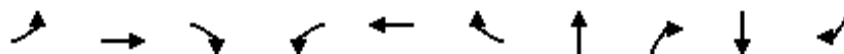
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	90	1106	17	97	1441	202	104	103	94	68
Act Effct Green (s)	10.0	55.6	55.6	10.4	56.0	56.0	12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.11	0.62	0.62	0.12	0.62	0.62	0.13	0.13	0.13	0.13
v/c Ratio	0.52	0.57	0.02	0.54	0.74	0.22	0.64	0.37	0.58	0.26
Control Delay	63.4	7.8	0.2	49.1	16.2	2.6	55.7	11.6	51.4	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.4	7.8	0.2	49.1	16.2	2.6	55.7	11.6	51.4	8.4
LOS	E	A	A	D	B	A	E	B	D	A
Approach Delay		11.9			16.5		33.8		33.4	
Approach LOS		B			B		C		C	
Queue Length 50th (ft)	51	304	0	53	312	6	56	0	50	0
Queue Length 95th (ft)	m63	m333	m0	102	408	34	#121	45	#102	28
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		150		247		30
Base Capacity (vph)	174	1936	898	191	1950	939	175	290	175	275
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.57	0.02	0.51	0.74	0.22	0.59	0.36	0.54	0.25

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 6 (7%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 16.7

Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1225	43	1574	15
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 44.8%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	802	872
Act Effct Green (s)	8.1	75.0	75.0	75.0
Actuated g/C Ratio	0.09	0.83	0.83	0.83
v/c Ratio	0.44	0.09	0.30	0.33
Control Delay	30.2	1.7	1.4	2.9
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	30.2	1.7	1.5	2.9
LOS	C	A	A	A
Approach Delay	30.2		1.5	2.9
Approach LOS	C		A	A
Queue Length 50th (ft)	21	1	16	51
Queue Length 95th (ft)	61	m5	m35	92
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	399	447	2639	2639
Starvation Cap Reductn	0	0	889	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.09	0.46	0.33

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 80 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 3.4

Intersection LOS: A

Intersection Capacity Utilization 45.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



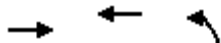
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	802	22	22	982
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 63.1% ICU Level of Service B

Analysis Period (min) 15



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	194	166	1
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 21.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	182	267	121
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	297	72	209	62	67
Sign Control	Free		Free	Stop	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 34.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	209	81	633	233	41	578
Act Effct Green (s)	29.5	46.5	33.5	68.0	12.0	50.5
Actuated g/C Ratio	0.33	0.52	0.37	0.76	0.13	0.56
v/c Ratio	0.20	0.11	0.67	0.12	0.12	0.59
Control Delay	24.6	4.2	12.8	1.5	35.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	4.2	12.8	1.5	35.4	5.3
LOS	C	A	B	A	D	A
Approach Delay	18.9			9.8	7.3	
Approach LOS	B			A	A	
Queue Length 50th (ft)	44	0	65	5	13	44
Queue Length 95th (ft)	84	27	95	6	31	81
Internal Link Dist (ft)	425			358	651	
Turn Bay Length (ft)		142	225		239	253
Base Capacity (vph)	1074	771	1097	2015	337	1037
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.11	0.58	0.12	0.12	0.56

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 84 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	



2024 Saturday Peak Model  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

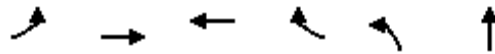
11/4/2014



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	642	104	303	622	649	234
Act Effct Green (s)	30.9	30.9	51.8	51.8	28.2	28.2
Actuated g/C Ratio	0.34	0.34	0.58	0.58	0.31	0.31
v/c Ratio	0.59	0.19	0.68	0.65	0.68	0.39
Control Delay	33.3	10.1	12.1	12.2	31.1	5.4
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	33.3	10.1	12.1	12.7	31.1	5.4
LOS	C	B	B	B	C	A
Approach Delay	30.0			12.5		
Approach LOS	C			B		
Queue Length 50th (ft)	177	3	67	325	156	0
Queue Length 95th (ft)	236	m45	124	457	229	52
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)		142			425	425
Base Capacity (vph)	1085	554	487	991	980	611
Starvation Cap Reductn	0	0	0	109	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.19	0.62	0.71	0.66	0.38

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 50 (56%), Referenced to phase 2:WBTL and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 21.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 87.9%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	164	1104	808	615	69	350
Act Effct Green (s)	54.9	54.9	41.9	41.9	25.1	25.1
Actuated g/C Ratio	0.61	0.61	0.47	0.47	0.28	0.28
v/c Ratio	0.47	0.57	0.55	0.62	0.16	0.77
Control Delay	11.2	11.9	8.1	2.4	23.9	33.7
Queue Delay	0.0	0.0	0.3	0.6	0.0	0.0
Total Delay	11.2	11.9	8.4	3.0	24.0	33.7
LOS	B	B	A	A	C	C
Approach Delay		11.8	6.1			32.1
Approach LOS		B	A			C
Queue Length 50th (ft)	48	180	71	0	28	132
Queue Length 95th (ft)	m64	213	m87	m4	60	236
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	346	1932	1475	988	492	500
Starvation Cap Reductn	0	0	206	116	0	0
Spillback Cap Reductn	0	68	0	0	13	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.59	0.64	0.71	0.14	0.70

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 4 (4%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 11.9

Intersection LOS: B

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	1097	100	63	1001	609	98	95	252	250	411
Act Effect Green (s)	15.0	40.8	49.8	8.0	31.5	54.0	8.0	8.0	17.4	17.4	34.5
Actuated g/C Ratio	0.17	0.45	0.55	0.09	0.35	0.60	0.09	0.09	0.19	0.19	0.38
v/c Ratio	0.96	0.76	0.12	0.45	0.90	0.63	0.68	0.35	0.87	0.85	0.66
Control Delay	89.3	12.0	0.3	60.8	25.7	4.7	64.5	4.9	62.6	60.6	18.0
Queue Delay	0.0	0.7	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Total Delay	89.3	12.7	0.3	60.8	25.7	5.9	64.5	4.9	62.6	60.6	18.0
LOS	F	B	A	E	C	A	E	A	E	E	B
Approach Delay		25.2			19.8		35.2			42.0	
Approach LOS		C			B		D			D	
Queue Length 50th (ft)	147	86	0	39	182	29	55	0	148	147	81
Queue Length 95th (ft)	m#287	175	m1	m51	#390	m32	#130	10	#296	#292	269
Internal Link Dist (ft)		290			428		227			309	
Turn Bay Length (ft)	229		200	200				64	129		
Base Capacity (vph)	264	1435	828	140	1126	965	144	269	291	293	624
Starvation Cap Reductn	0	111	0	0	0	171	0	0	0	0	4
Spillback Cap Reductn	0	10	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.83	0.12	0.45	0.89	0.77	0.68	0.35	0.87	0.85	0.66

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 4 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 27.2

Intersection LOS: C

Intersection Capacity Utilization 78.5%

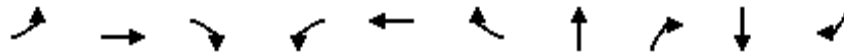
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	112	1609	55	55	1551	55	110	59	73	92
Act Effct Green (s)	8.9	57.9	57.9	8.0	54.4	54.4	11.7	11.7	11.7	11.7
Actuated g/C Ratio	0.10	0.64	0.64	0.09	0.60	0.60	0.13	0.13	0.13	0.13
v/c Ratio	0.72	0.79	0.06	0.39	0.81	0.06	0.71	0.23	0.48	0.50
Control Delay	52.7	10.7	1.6	56.3	12.1	0.6	63.9	6.3	47.4	46.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	10.8	1.6	56.3	12.1	0.6	63.9	6.3	47.4	46.4
LOS	D	B	A	E	B	A	E	A	D	D
Approach Delay		13.1			13.2		43.8		46.9	
Approach LOS		B			B		D		D	
Queue Length 50th (ft)	64	180	1	31	366	1	61	0	39	49
Queue Length 95th (ft)	m86	254	m2	m37	m391	m2	#141	21	83	99
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	159	2041	943	140	1921	893	159	264	158	190
Starvation Cap Reductn	0	23	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.80	0.06	0.39	0.81	0.06	0.69	0.22	0.46	0.48

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 16.0

Intersection LOS: B

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2024 Saturday Peak Model  
 9: WV45 & Winchester Ave.

11/4/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	199	959	470	178	915	103	421	286	155	103	216	235
Act Effct Green (s)	11.0	27.0	27.0	10.0	26.0	26.0	22.0	26.9	41.9	8.7	11.0	27.0
Actuated g/C Ratio	0.12	0.30	0.30	0.11	0.29	0.29	0.24	0.30	0.47	0.10	0.12	0.30
v/c Ratio	1.03	1.01	0.62	1.02	1.00	0.19	1.09	0.57	0.22	0.68	1.06	0.45
Control Delay	95.3	56.2	12.5	105.4	62.8	4.0	106.9	33.6	8.5	62.2	121.6	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.3	56.2	12.5	105.4	62.8	4.0	106.9	33.6	8.5	62.2	121.6	13.1
LOS	F	E	B	F	E	A	F	C	A	E	F	B
Approach Delay		48.4			64.0			64.9				64.5
Approach LOS		D			E			E				E
Queue Length 50th (ft)	~111	~317	127	~105	~298	5	~272	144	23	57	~136	38
Queue Length 95th (ft)	m#189	#441	m211	#231	#418	31	#451	231	61	#130	#275	103
Internal Link Dist (ft)		834			369			397				357
Turn Bay Length (ft)	383		333			230			100	212		102
Base Capacity (vph)	193	950	754	175	914	555	386	498	705	158	203	526
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	1.01	0.62	1.02	1.00	0.19	1.09	0.57	0.22	0.65	1.06	0.45

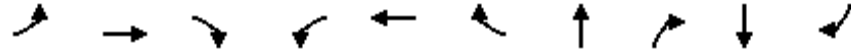
**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 48 (53%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.09  
 Intersection Signal Delay: 58.3  
 Intersection LOS: E  
 Intersection Capacity Utilization 95.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	93	1112	15	67	1120	52	98	70	66	74
Act Effct Green (s)	10.6	59.5	59.5	10.0	58.9	58.9	12.5	12.5	12.5	12.5
Actuated g/C Ratio	0.12	0.66	0.66	0.11	0.65	0.65	0.14	0.14	0.14	0.14
v/c Ratio	0.50	0.53	0.02	0.38	0.54	0.05	0.55	0.26	0.37	0.27
Control Delay	54.4	7.5	0.4	44.1	12.9	1.0	48.0	8.4	40.6	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	7.5	0.4	44.1	12.9	1.0	48.0	8.4	40.6	9.3
LOS	D	A	A	D	B	A	D	A	D	A
Approach Delay		11.0			14.1		31.5		24.0	
Approach LOS		B			B		C		C	
Queue Length 50th (ft)	57	32	0	36	200	0	53	0	35	0
Queue Length 95th (ft)	m51	m328	m0	77	298	7	101	28	73	31
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	211	2093	965	175	2072	956	212	307	214	307
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.53	0.02	0.38	0.54	0.05	0.46	0.23	0.31	0.24

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 86 (96%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.55  
 Intersection Signal Delay: 14.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 65.6%  
 ICU Level of Service C  
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1076	65	1121	11
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 40.6%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	926	936
Act Effct Green (s)	8.1	75.0	75.0	75.0
Actuated g/C Ratio	0.09	0.83	0.83	0.83
v/c Ratio	0.44	0.09	0.35	0.36
Control Delay	30.2	1.1	0.9	3.0
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	30.2	1.1	1.1	3.0
LOS	C	A	A	A
Approach Delay	30.2		1.1	3.0
Approach LOS	C		A	A
Queue Length 50th (ft)	21	1	12	56
Queue Length 95th (ft)	61	m2	m30	102
Internal Link Dist (ft)	33		309	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	382	416	2639	2633
Starvation Cap Reductn	0	0	860	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.09	0.52	0.36

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 30 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 3.1  
 Intersection Capacity Utilization 45.4%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	862	22	65	864
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 65.7%

ICU Level of Service C

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	780	100	353	692	638	265
Act Effct Green (s)	32.9	32.9	25.8	63.7	26.3	26.3
Actuated g/C Ratio	0.33	0.33	0.26	0.64	0.26	0.26
v/c Ratio	0.75	0.19	0.87	0.65	0.79	0.47
Control Delay	30.3	6.9	32.9	14.8	43.0	6.8
Queue Delay	0.0	0.0	0.0	3.4	0.0	0.0
Total Delay	30.4	6.9	32.9	18.2	43.0	6.8
LOS	C	A	C	B	D	A
Approach Delay	27.7			23.1		
Approach LOS	C			C		
Queue Length 50th (ft)	195	7	162	437	198	0
Queue Length 95th (ft)	283	m20	#331	586	#284	62
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)	142			425		
Base Capacity (vph)	1041	522	459	1083	808	568
Starvation Cap Reductn	2	0	0	288	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.19	0.77	0.87	0.79	0.47

**Intersection Summary**

Cycle Length: 100  
Actuated Cycle Length: 100  
Offset: 90 (90%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
Control Type: Actuated-Coordinated  
Maximum v/c Ratio: 0.87  
Intersection Signal Delay: 27.5    Intersection LOS: C  
Intersection Capacity Utilization 101.7%    ICU Level of Service G  
Analysis Period (min) 15  
# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.  
m Volume for 95th percentile queue is metered by upstream signal.



2024 Friday Midday Peak Model  
7: Foxcroft Ave. & WV45

11/4/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	361	987	97	72	992	580	109	93	274	275	537
Act Effct Green (s)	23.0	48.2	57.2	9.0	32.0	56.0	8.0	8.0	19.0	19.0	44.0
Actuated g/C Ratio	0.23	0.48	0.57	0.09	0.32	0.56	0.08	0.08	0.19	0.19	0.44
v/c Ratio	0.99	0.65	0.12	0.51	0.98	0.64	0.84	0.38	0.96	0.95	0.80
Control Delay	79.5	10.4	0.6	66.2	45.4	10.2	93.2	6.8	82.5	80.0	21.5
Queue Delay	0.0	0.7	0.0	0.0	2.9	1.1	0.0	0.0	0.0	0.0	0.0
Total Delay	79.5	11.1	0.6	66.2	48.3	11.3	93.2	6.8	82.5	80.0	21.6
LOS	E	B	A	E	D	B	F	A	F	F	C
Approach Delay		27.5			36.0		53.4			51.7	
Approach LOS		C			D		D			D	
Queue Length 50th (ft)	189	176	1	44	338	263	70	0	185	185	163
Queue Length 95th (ft)	m#387	m231	m2	m64	#462	373	#169	16	#354	#354	#275
Internal Link Dist (ft)		290			428		227			64	
Turn Bay Length (ft)	229		100	183				64	109		
Base Capacity (vph)	364	1527	841	158	1013	911	129	244	285	289	669
Starvation Cap Reductn	0	227	0	0	0	144	0	0	0	0	1
Spillback Cap Reductn	0	0	0	0	15	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.76	0.12	0.46	0.99	0.76	0.84	0.38	0.96	0.95	0.80

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 38 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 37.9

Intersection LOS: D

Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.




Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	1015	1130
Act Effct Green (s)	8.4	84.7	84.7	84.7
Actuated g/C Ratio	0.08	0.85	0.85	0.85
v/c Ratio	0.47	0.11	0.38	0.42
Control Delay	33.9	1.7	1.4	3.1
Queue Delay	0.0	0.0	0.3	0.0
Total Delay	33.9	1.7	1.6	3.1
LOS	C	A	A	A
Approach Delay	33.9		1.6	3.1
Approach LOS	C		A	A
Queue Length 50th (ft)	23	2	25	76
Queue Length 95th (ft)	66	m4	m50	135
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	333	340	2683	2683
Starvation Cap Reductn	0	0	920	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.11	0.58	0.42

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 16 (16%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.47  
 Intersection Signal Delay: 3.5  
 Intersection Capacity Utilization 45.4%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



# D

2024 Alternative 1 Capacity  
and Queue Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:00	7:00	7:00	7:00	7:00	7:00
End Time	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	5020	5076	5052	5092	5045	5054
Vehs Exited	5010	4968	5038	4999	5003	5001
Starting Vehs	196	237	239	218	207	222
Ending Vehs	206	345	253	311	249	269
Travel Distance (mi)	4133	4161	4143	4196	4172	4161
Travel Time (hr)	269.2	302.6	260.3	287.3	263.9	276.7
Total Delay (hr)	138.2	170.7	129.1	154.5	131.8	144.9
Total Stops	10084	10953	9530	10462	9862	10176
Fuel Used (gal)	175.9	184.5	174.4	181.1	175.6	178.3

Interval #0 Information Seeding

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1229	1196	1237	1205	1221	1219
Vehs Exited	1183	1182	1263	1193	1180	1202
Starting Vehs	196	237	239	218	207	222
Ending Vehs	242	251	213	230	248	231
Travel Distance (mi)	982	1007	1013	1021	1010	1006
Travel Time (hr)	54.4	64.1	62.8	55.4	56.7	58.7
Total Delay (hr)	23.1	32.0	30.5	22.9	24.6	26.6
Total Stops	2014	2443	2242	1958	2107	2153
Fuel Used (gal)	39.7	42.8	42.7	40.6	40.8	41.3

**Interval #2 Information**

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1450	1405	1346	1367	1443	1404
Vehs Exited	1346	1359	1290	1279	1382	1331
Starting Vehs	242	251	213	230	248	231
Ending Vehs	346	297	269	318	309	305
Travel Distance (mi)	1119	1139	1064	1091	1146	1112
Travel Time (hr)	78.0	76.1	61.6	71.0	75.5	72.4
Total Delay (hr)	42.5	40.0	27.9	36.5	39.3	37.3
Total Stops	3009	2994	2343	2825	2810	2799
Fuel Used (gal)	48.5	48.7	43.5	46.3	48.8	47.2

**Interval #3 Information**

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1214	1266	1230	1302	1163	1234
Vehs Exited	1243	1234	1246	1295	1217	1245
Starting Vehs	346	297	269	318	309	305
Ending Vehs	317	329	253	325	255	287
Travel Distance (mi)	1026	1010	1044	1096	1015	1038
Travel Time (hr)	75.5	74.6	68.3	77.7	70.9	73.4
Total Delay (hr)	43.1	42.6	35.4	43.2	38.9	40.6
Total Stops	2886	2698	2518	2908	2595	2720
Fuel Used (gal)	45.9	45.0	44.5	47.7	44.4	45.5

**Interval #4 Information**

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1127	1209	1239	1218	1218	1202
Vehs Exited	1238	1193	1239	1232	1224	1226
Starting Vehs	317	329	253	325	255	287
Ending Vehs	206	345	253	311	249	269
Travel Distance (mi)	1006	1006	1021	988	1001	1004
Travel Time (hr)	61.3	87.8	67.5	83.1	60.9	72.1
Total Delay (hr)	29.5	56.1	35.2	51.9	29.0	40.3
Total Stops	2175	2818	2427	2771	2350	2507
Fuel Used (gal)	41.8	48.1	43.6	46.4	41.6	44.3



1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	4.0	0.0	0.0		0.1	0.2
Total Del/Veh (s)	0.3	0.1	2.2	1.6		2.2	0.9
Travel Time (hr)	0.5	0.0	0.3	0.3	0.0	0.0	1.2
Vehicles Exited	195	6	64	70	0	4	339
Hourly Exit Rate	195	6	64	70	0	4	339
Input Volume	202	5	63	68	1	4	342
% of Volume	97	120	102	104	0	100	99

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.3	0.1
Total Del/Veh (s)	1.2	0.8	1.0	0.2	7.5	4.6	2.6
Travel Time (hr)	0.0	0.8	0.2	0.1	1.0	0.0	2.2
Vehicles Exited	1	205	141	40	142	3	532
Hourly Exit Rate	1	205	141	40	142	3	532
Input Volume	2	213	137	40	148	3	543
% of Volume	50	96	103	101	96	100	98

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.2	0.1
Total Del/Veh (s)	0.5	0.3	3.1	3.0	7.0	2.6	1.7
Travel Time (hr)	0.7	0.2	0.1	0.4	0.2	0.4	2.0
Vehicles Exited	305	64	29	144	35	85	662
Hourly Exit Rate	305	64	29	144	35	85	662
Input Volume	308	68	32	140	36	79	664
% of Volume	99	94	91	103	97	107	100

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.9	0.1	0.0
Total Del/Veh (s)	4.4	1.6	79.7	6.6	34.4	0.9	15.3
Travel Time (hr)	1.3	0.1	2.6	0.7	0.0	0.2	5.0
Vehicles Exited	373	19	99	173	2	47	713
Hourly Exit Rate	373	19	99	173	2	47	713
Input Volume	371	20	102	172	3	51	719
% of Volume	100	94	97	101	67	92	99

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.0	2.9	1.2
Total Del/Veh (s)	29.7	5.1	38.7	12.6	48.5	7.1	36.6
Travel Time (hr)	4.0	0.2	3.2	1.1	19.9	1.1	29.5
Vehicles Exited	379	42	222	180	874	94	1791
Hourly Exit Rate	379	42	222	180	874	94	1791
Input Volume	378	46	225	180	880	94	1804
% of Volume	100	91	99	100	99	100	99

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	14.7	10.8	1.6
Total Del/Veh (s)	24.8	46.4	4.3	5.2	114.6	145.0	43.7
Travel Time (hr)	0.6	19.5	1.3	2.5	1.0	18.3	43.2
Vehicles Exited	53	1180	375	685	22	344	2659
Hourly Exit Rate	53	1180	375	685	22	344	2659
Input Volume	61	1191	379	697	24	374	2726
% of Volume	87	99	99	98	91	92	98

7: WV45 & Foxcroft Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.0	0.0	9.4	7.1	8.4	0.1	0.0	0.0
Total Del/Veh (s)	46.1	42.4	13.7	53.9	13.0	3.0	60.0	64.1	67.0	41.6	29.0	12.8
Travel Time (hr)	2.2	18.1	0.6	1.3	5.1	1.1	1.4	0.4	2.2	2.6	0.4	1.1
Vehicles Exited	140	1284	83	71	827	247	66	18	91	178	35	158
Hourly Exit Rate	140	1284	83	71	827	247	66	18	91	178	35	158
Input Volume	149	1312	90	73	836	248	68	17	92	183	32	166
% of Volume	94	98	92	98	99	99	97	104	99	97	109	95

7: WV45 & Foxcroft Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	31.1
Travel Time (hr)	36.4
Vehicles Exited	3198
Hourly Exit Rate	3198
Input Volume	3266
% of Volume	98

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	4.0	0.2	0.2	4.0
Total Del/Veh (s)	45.5	17.9	12.4	47.6	13.5	10.2	44.5	50.9	24.5	43.2	47.1	32.2
Travel Time (hr)	0.6	11.6	0.5	1.5	9.7	0.5	0.8	0.3	0.6	0.3	0.2	0.3
Vehicles Exited	34	1435	73	79	1065	56	57	16	59	19	15	24
Hourly Exit Rate	34	1435	73	79	1065	56	57	16	59	19	15	24
Input Volume	36	1471	69	80	1077	58	57	17	58	23	17	22
% of Volume	93	98	106	98	99	97	100	93	102	82	87	108

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	18.4
Travel Time (hr)	26.9
Vehicles Exited	2932
Hourly Exit Rate	2932
Input Volume	2986
% of Volume	98

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.7	0.3	3.7	0.9	3.6
Total Del/Veh (s)	60.7	24.0	13.7	68.1	15.2	4.1	38.5	65.3	17.7	40.8	74.9	4.5
Travel Time (hr)	2.8	13.9	2.1	2.5	5.3	0.2	4.0	4.4	1.2	1.1	2.8	0.7
Vehicles Exited	125	1187	209	115	798	42	286	212	153	71	119	125
Hourly Exit Rate	125	1187	209	115	798	42	286	212	153	71	119	125
Input Volume	128	1224	208	116	796	42	298	201	153	70	108	129
% of Volume	98	97	100	99	100	101	96	106	100	101	111	97

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	28.8
Travel Time (hr)	41.0
Vehicles Exited	3442
Hourly Exit Rate	3442
Input Volume	3472
% of Volume	99

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.1	4.2	0.4	0.3	3.9
Total Del/Veh (s)	45.0	9.9	5.1	46.9	6.7	3.1	56.5	55.0	15.4	52.1	51.4	17.6
Travel Time (hr)	0.7	8.2	0.1	0.5	6.3	0.5	0.2	0.2	0.2	1.1	0.1	0.5
Vehicles Exited	40	1400	15	27	913	75	7	9	23	64	8	50
Hourly Exit Rate	40	1400	15	27	913	75	7	9	23	64	8	50
Input Volume	45	1428	17	32	906	78	7	7	22	58	8	51
% of Volume	89	98	87	83	101	96	97	124	103	110	97	99

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	11.1
Travel Time (hr)	18.6
Vehicles Exited	2631
Hourly Exit Rate	2631
Input Volume	2660
% of Volume	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.0
Total Del/Veh (s)	3.0	2.1	2.7	15.3	3.1
Travel Time (hr)	4.4	0.1	4.0	0.3	8.8
Vehicles Exited	1395	24	973	49	2441
Hourly Exit Rate	1395	24	973	49	2441
Input Volume	1432	25	966	44	2466
% of Volume	97	95	101	112	99

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.2	0.1
Total Del/Veh (s)	23.4	7.6	3.4	1.0	0.6	1.4
Travel Time (hr)	0.1	0.0	0.1	1.7	0.6	2.5
Vehicles Exited	15	16	13	401	349	794
Hourly Exit Rate	15	16	13	401	349	794
Input Volume	15	15	15	410	357	814
% of Volume	98	105	85	98	98	98

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.2	0.9	3.6	0.0	0.0	0.6
Total Del/Veh (s)	13.6	7.7	1.9	0.4	5.0	1.3	2.0
Travel Time (hr)	0.1	0.1	1.0	0.1	0.1	1.7	3.0
Vehicles Exited	21	18	622	21	18	434	1134
Hourly Exit Rate	21	18	622	21	18	434	1134
Input Volume	20	20	619	20	20	420	1120
% of Volume	104	89	101	104	89	103	101

Total Zone Performance

Denied Del/Veh (s)	2.7
Total Del/Veh (s)	1109.0
Travel Time (hr)	220.4
Vehicles Exited	224
Hourly Exit Rate	224
Input Volume	23581
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	34	18
Average Queue (ft)	9	3
95th Queue (ft)	30	13
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	89
Average Queue (ft)	39
95th Queue (ft)	71
Link Distance (ft)	732
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Cornerstone Dev. & WV 45

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	48	50
Average Queue (ft)	7	19	28
95th Queue (ft)	29	42	45
Link Distance (ft)	412	452	452
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	86	86	53	112	124	40	89	11	28	22
Average Queue (ft)	30	29	13	38	67	5	19	1	2	1
95th Queue (ft)	70	70	40	87	112	25	65	6	12	12
Link Distance (ft)	412	412	412			392	392		668	668
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				225	225			239		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	173	172	59	284	150	397	673	270
Average Queue (ft)	89	90	19	145	66	232	291	32
95th Queue (ft)	154	147	48	253	123	405	603	222
Link Distance (ft)	392	392	392	513	513		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)						2	5	0
Queuing Penalty (veh)						12	24	0

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	286	551	551	105	64	268	183	853
Average Queue (ft)	77	313	320	26	19	46	59	459
95th Queue (ft)	261	639	648	69	52	197	190	935
Link Distance (ft)		513	513	287	287	287		991
Upstream Blk Time (%)		4	5			0		11
Queuing Penalty (veh)		23	32			1		0
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)	0	24						63
Queuing Penalty (veh)	0	15						15

Queuing and Blocking Report  
2024 AM Peak Model OPTION 1

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Intersection: 7: WV45 & Foxcroft Ave.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	LT	R	L
Maximum Queue (ft)	100	275	351	372	225	125	256	346	80	235	89	153
Average Queue (ft)	47	134	275	318	130	56	75	119	24	97	65	62
95th Queue (ft)	90	304	377	432	297	104	178	255	57	212	105	139
Link Distance (ft)			287	287			367	367	367	237		
Upstream Blk Time (%)		0	9	33			0	0		5		
Queuing Penalty (veh)		0	69	252			0	1		0		
Storage Bay Dist (ft)	250	250			200	200					64	129
Storage Blk Time (%)		0	26	47	0		0			20	26	0
Queuing Penalty (veh)		0	38	42	1		0			19	22	0

Intersection: 7: WV45 & Foxcroft Ave.

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	219	160
Average Queue (ft)	109	61
95th Queue (ft)	176	115
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	6	
Queuing Penalty (veh)	5	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	114	295	312	125	102	280	364	99	172	71	106	82
Average Queue (ft)	32	140	159	29	57	109	170	23	68	39	37	24
95th Queue (ft)	84	240	257	99	103	241	312	80	143	81	86	64
Link Distance (ft)		367	367			834	834		190		301	
Upstream Blk Time (%)			0						0			
Queuing Penalty (veh)			0						0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	5	20	0	9	7	17	0	24	5	5	2
Queuing Penalty (veh)	0	2	14	0	46	5	10	0	14	4	1	1



Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	R
Maximum Queue (ft)	189	302	311	97	212	263	278	48	172	247	393	125
Average Queue (ft)	95	164	179	43	95	119	144	14	77	107	188	64
95th Queue (ft)	162	278	286	81	177	215	241	40	139	187	365	166
Link Distance (ft)		834	834		370	370	370			398	398	
Upstream Blk Time (%)						0						3
Queuing Penalty (veh)						0						9
Storage Bay Dist (ft)	383			333				480	200			100
Storage Blk Time (%)			0						0	0	33	0
Queuing Penalty (veh)			0						0	0	51	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	121	203	70
Average Queue (ft)	47	101	18
95th Queue (ft)	94	173	53
Link Distance (ft)		377	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	262		352
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	136	329	338	114	86	177	205	118	60	50	165	59
Average Queue (ft)	36	122	135	5	23	74	85	13	15	16	70	35
95th Queue (ft)	91	268	282	43	60	147	174	57	44	42	138	68
Link Distance (ft)		663	663			838	838		629		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145		247		30
Storage Blk Time (%)	0	4	9	0		0	1	0			54	8
Queuing Penalty (veh)	1	2	1	0		0	1	0			27	5

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	86
Average Queue (ft)	25
95th Queue (ft)	57
Link Distance (ft)	214
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	62	31	35	61	61	39
Average Queue (ft)	23	5	1	10	7	6
95th Queue (ft)	54	23	13	40	33	26
Link Distance (ft)	67		303	303	247	247
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	62	119	25	31
Average Queue (ft)	24	14	1	7
95th Queue (ft)	53	87	18	29
Link Distance (ft)	83	153		
Upstream Blk Time (%)	0	2		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		2		
Queuing Penalty (veh)		0		

Zone Summary

Zone wide Queuing Penalty: 766
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7007	6989	6959	7017	7165	7024
Vehs Exited	6867	6802	6798	6859	6926	6849
Starting Vehs	395	391	376	423	368	389
Ending Vehs	535	578	537	581	607	564
Travel Distance (mi)	5291	5200	5172	5256	5311	5246
Travel Time (hr)	669.7	775.4	610.3	726.9	741.8	704.8
Total Delay (hr)	496.1	604.5	440.5	553.6	567.6	532.5
Total Stops	17631	17522	16013	17352	18386	17376
Fuel Used (gal)	295.6	315.3	279.4	306.2	310.5	301.4

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1676	1775	1682	1731	1710	1716
Vehs Exited	1654	1672	1704	1733	1630	1676
Starting Vehs	395	391	376	423	368	389
Ending Vehs	417	494	354	421	448	423
Travel Distance (mi)	1309	1306	1292	1316	1311	1307
Travel Time (hr)	118.8	138.2	103.0	130.8	119.3	122.0
Total Delay (hr)	75.8	95.1	60.7	87.4	76.2	79.0
Total Stops	4033	4264	3401	3844	3799	3867
Fuel Used (gal)	63.0	67.3	58.9	65.7	62.2	63.4

**Interval #2 Information**

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1895	1918	1918	1906	1957	1918
Vehs Exited	1841	1812	1754	1788	1844	1810
Starting Vehs	417	494	354	421	448	423
Ending Vehs	471	600	518	539	561	535
Travel Distance (mi)	1387	1368	1350	1364	1401	1374
Travel Time (hr)	156.6	178.9	137.5	167.7	179.3	164.0
Total Delay (hr)	111.3	134.1	93.1	122.7	133.4	118.9
Total Stops	4346	4900	4398	4688	5088	4680
Fuel Used (gal)	73.2	77.0	67.9	74.3	78.1	74.1

**Interval #3 Information**

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1709	1629	1704	1643	1741	1684
Vehs Exited	1695	1623	1707	1650	1760	1688
Starting Vehs	471	600	518	539	561	535
Ending Vehs	485	606	515	532	542	528
Travel Distance (mi)	1315	1239	1286	1283	1312	1287
Travel Time (hr)	181.8	214.2	168.3	198.2	207.9	194.1
Total Delay (hr)	138.5	173.6	125.9	155.8	164.8	151.7
Total Stops	4552	4220	4227	4114	4612	4344
Fuel Used (gal)	76.9	81.5	73.2	79.3	82.2	78.6

**Interval #4 Information**

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1727	1667	1655	1737	1757	1708
Vehs Exited	1677	1695	1633	1688	1692	1673
Starting Vehs	485	606	515	532	542	528
Ending Vehs	535	578	537	581	607	564
Travel Distance (mi)	1279	1287	1244	1292	1287	1278
Travel Time (hr)	212.5	244.1	201.5	230.3	235.4	224.7
Total Delay (hr)	170.5	201.7	160.8	187.7	193.2	182.8
Total Stops	4700	4138	3987	4706	4887	4486
Fuel Used (gal)	82.5	89.5	79.4	86.9	88.0	85.2

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	5.9	0.4	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.4	0.0	2.0	2.0	6.1	2.2	1.5
Travel Time (hr)	0.4	0.0	0.0	1.1	0.0	0.3	1.8
Vehicles Exited	140	1	2	250	4	49	446
Hourly Exit Rate	140	1	2	250	4	49	446
Input Volume	139	1	2	271	3	51	467
% of Volume	101	100	100	92	133	97	95

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	3.1	0.8	2.2	0.5	9.0	3.5	2.4
Travel Time (hr)	0.0	0.8	0.5	0.4	0.7	0.0	2.5
Vehicles Exited	7	182	253	145	94	3	684
Hourly Exit Rate	7	182	253	145	94	3	684
Input Volume	6	184	274	148	94	3	709
% of Volume	117	99	92	98	100	100	96

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.4	0.3	3.2	2.2	13.0	2.1	2.5
Travel Time (hr)	0.6	0.2	0.3	1.0	0.4	0.1	2.6
Vehicles Exited	231	49	68	341	64	36	789
Hourly Exit Rate	231	49	68	341	64	36	789
Input Volume	232	51	83	364	61	36	827
% of Volume	100	97	82	94	105	99	95

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.7	0.4	0.2
Total Del/Veh (s)	16.9	6.8	31.3	5.6	29.3	4.7	15.4
Travel Time (hr)	1.5	0.3	6.0	1.4	1.0	3.1	13.2
Vehicles Exited	212	56	492	339	81	523	1703
Hourly Exit Rate	212	56	492	339	81	523	1703
Input Volume	219	49	555	374	86	520	1803
% of Volume	97	115	89	91	95	100	94

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.3	3.1	0.9
Total Del/Veh (s)	38.1	10.3	24.8	6.8	30.6	7.9	23.3
Travel Time (hr)	8.5	0.8	4.0	2.6	11.5	2.9	30.4
Vehicles Exited	635	109	376	576	650	254	2600
Hourly Exit Rate	635	109	376	576	650	254	2600
Input Volume	632	113	418	671	662	259	2756
% of Volume	101	96	90	86	98	98	94

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	3.5	0.6	0.2
Total Del/Veh (s)	55.9	6.2	8.2	4.0	31.3	26.6	12.1
Travel Time (hr)	4.1	6.0	4.0	2.4	1.6	4.7	22.6
Vehicles Exited	203	1096	845	719	99	328	3290
Hourly Exit Rate	203	1096	845	719	99	328	3290
Input Volume	210	1098	989	833	106	336	3571
% of Volume	97	100	85	86	94	98	92

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.3	0.1	0.4	0.5	0.3	0.3	0.3	4.0	2.5	5.6	1.4
Total Del/Veh (s)	47.9	18.2	7.6	49.7	41.3	5.5	54.1	58.6	44.4	63.8	42.9	21.2
Travel Time (hr)	4.5	8.4	0.3	0.8	17.8	2.3	0.6	0.5	0.8	4.6	0.4	2.2
Vehicles Exited	274	1143	54	46	1240	433	34	30	47	235	29	295
Hourly Exit Rate	274	1143	54	46	1240	433	34	30	47	235	29	295
Input Volume	280	1145	55	46	1343	466	36	29	49	384	36	453
% of Volume	98	100	98	100	92	93	94	103	96	61	81	65

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	30.7
Travel Time (hr)	43.2
Vehicles Exited	3860
Hourly Exit Rate	3860
Input Volume	4321
% of Volume	89

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.2	0.1	13.4	4.1	14.1	0.7	0.9	3.9	0.6	0.5	3.9
Total Del/Veh (s)	42.8	15.1	9.9	75.3	59.9	57.0	46.0	56.1	29.1	31.9	35.4	43.8
Travel Time (hr)	0.4	10.1	0.2	0.5	34.9	0.3	1.6	0.3	0.2	0.2	0.2	1.8
Vehicles Exited	28	1382	30	15	1496	12	105	20	17	16	16	111
Hourly Exit Rate	28	1382	30	15	1496	12	105	20	17	16	16	111
Input Volume	34	1522	34	17	1648	17	104	17	17	17	17	104
% of Volume	81	91	87	87	91	70	101	116	99	93	93	107

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	2.3
Total Del/Veh (s)	39.0
Travel Time (hr)	50.8
Vehicles Exited	3248
Hourly Exit Rate	3248
Input Volume	3550
% of Volume	92

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.7	0.7	0.8	8.9	8.0	2.5	1.3	2.1	1.4	6.7	5.0	7.0
Total Del/Veh (s)	154.0	61.2	36.6	138.9	82.5	19.8	93.1	77.0	38.6	45.4	82.3	12.3
Travel Time (hr)	7.6	19.6	6.5	8.9	28.9	0.8	9.2	8.2	2.0	1.7	7.1	1.6
Vehicles Exited	148	877	395	198	1033	87	303	331	142	99	266	187
Hourly Exit Rate	148	877	395	198	1033	87	303	331	142	99	266	187
Input Volume	164	964	430	222	1176	95	312	330	136	101	275	190
% of Volume	91	91	92	89	88	91	97	100	104	98	97	99

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	4.0
Total Del/Veh (s)	72.3
Travel Time (hr)	102.3
Vehicles Exited	4066
Hourly Exit Rate	4066
Input Volume	4394
% of Volume	93

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	3.9	0.5	0.4	3.9
Total Del/Veh (s)	41.8	3.1	1.7	92.3	88.4	65.4	48.2	52.0	14.2	44.6	50.9	29.0
Travel Time (hr)	1.2	4.7	0.1	2.6	38.4	4.4	1.1	0.5	1.0	0.9	0.5	0.9
Vehicles Exited	75	984	16	80	1244	176	59	27	101	61	30	70
Hourly Exit Rate	75	984	16	80	1244	176	59	27	101	61	30	70
Input Volume	86	1058	16	92	1369	192	68	31	98	60	29	65
% of Volume	87	93	98	87	91	92	87	86	103	102	103	108

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	51.2
Travel Time (hr)	56.4
Vehicles Exited	2923
Hourly Exit Rate	2923
Input Volume	3164
% of Volume	92

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	5.1	4.3	92.5	9.7	53.4
Travel Time (hr)	4.4	0.2	41.2	0.1	45.8
Vehicles Exited	1067	39	1332	10	2448
Hourly Exit Rate	1067	39	1332	10	2448
Input Volume	1150	40	1502	14	2706
% of Volume	93	96	89	70	90

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	1248.6	1295.5	0.0	0.0	726.8	419.4
Total Del/Veh (s)	271.5	332.9	12.6	6.0	85.3	45.1
Travel Time (hr)	12.9	14.0	0.2	2.4	181.7	211.3
Vehicles Exited	14	13	34	718	523	1302
Hourly Exit Rate	14	13	34	718	523	1302
Input Volume	36	36	36	754	814	1674
% of Volume	39	37	96	95	64	78



911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	2.0	3.6	0.2	0.0	0.9
Total Del/Veh (s)	41.8	28.3	16.7	7.9	12.5	1.6	9.2
Travel Time (hr)	0.2	0.2	7.3	0.2	0.1	3.5	11.5
Vehicles Exited	18	19	753	23	15	871	1699
Hourly Exit Rate	18	19	753	23	15	871	1699
Input Volume	20	20	749	20	20	928	1758
% of Volume	89	94	101	114	74	94	97

Total Zone Performance

Denied Del/Veh (s)	125.8
Total Del/Veh (s)	1414.5
Travel Time (hr)	594.3
Vehicles Exited	317
Hourly Exit Rate	317
Input Volume	31700
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	11	46
Average Queue (ft)	0	17
95th Queue (ft)	6	36
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	31	4	79
Average Queue (ft)	2	0	30
95th Queue (ft)	13	3	56
Link Distance (ft)	859	296	733
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	44	69	29
Average Queue (ft)	0	15	28	18
95th Queue (ft)	3	39	54	38
Link Distance (ft)		412	378	378
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	90	78	87	223	231	52	73	43	96	142
Average Queue (ft)	42	33	34	105	124	6	26	12	34	53
95th Queue (ft)	81	68	73	177	187	28	65	36	68	105
Link Distance (ft)	412	412	412			396	396		661	661
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				225	225			259		
Storage Blk Time (%)				0	0					
Queuing Penalty (veh)				0	1					

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	245	246	93	231	169	264	261	172
Average Queue (ft)	152	147	36	121	45	158	155	68
95th Queue (ft)	229	219	71	197	116	241	235	138
Link Distance (ft)	396	396	396	513	513		1422	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	L	TR
Maximum Queue (ft)	250	187	198	142	176	183	316
Average Queue (ft)	129	31	39	60	82	68	137
95th Queue (ft)	213	128	143	116	147	143	252
Link Distance (ft)		513	513	280	280		991
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	261					158	
Storage Blk Time (%)	0	0				0	7
Queuing Penalty (veh)	3	1				1	7

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	LT	R	L
Maximum Queue (ft)	151	247	300	304	124	208	402	401	141	139	89	48
Average Queue (ft)	80	88	137	168	28	85	337	323	42	54	38	17
95th Queue (ft)	129	163	259	295	102	229	454	445	101	112	83	45
Link Distance (ft)			280	280			366	366	366	238		
Upstream Blk Time (%)		0	0	2			9	5				3
Queuing Penalty (veh)		0	3	14			58	29				0
Storage Bay Dist (ft)	250	250			100	183					64	109
Storage Blk Time (%)			1	22	0	0	43			11	4	3
Queuing Penalty (veh)			3	12	0	0	20			5	2	6

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	SB	B702	B702
Directions Served	LT	R	T	T
Maximum Queue (ft)	138	131	232	226
Average Queue (ft)	114	103	200	69
95th Queue (ft)	126	137	217	176
Link Distance (ft)	40	40	192	192
Upstream Blk Time (%)	88	46	74	2
Queuing Penalty (veh)	374	197	314	11
Storage Bay Dist (ft)				
Storage Blk Time (%)	88			
Queuing Penalty (veh)	169			

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	79	257	266	125	101	763	813	99	180	70	171	85
Average Queue (ft)	23	119	153	16	20	460	507	9	85	16	50	65
95th Queue (ft)	59	210	235	75	73	932	975	52	160	58	134	98
Link Distance (ft)		366	366			834	834		190		301	
Upstream Blk Time (%)		0				1	2		1			
Queuing Penalty (veh)		0				7	21		0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)		3	18	0	0	43	39	0	42	1	1	22
Queuing Penalty (veh)		1	6	0	0	7	7	0	7	1	1	7

Queuing and Blocking Report  
 2024 PM Peak Model Option 1

10/15/2014

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	R
Maximum Queue (ft)	382	483	526	350	405	432	429	378	224	357	414	125
Average Queue (ft)	227	304	314	215	298	389	389	182	137	175	313	92
95th Queue (ft)	416	541	571	374	464	447	449	457	240	349	469	182
Link Distance (ft)		834	834		378	378	378			398	398	
Upstream Blk Time (%)			0		10	39	37	1		2	10	
Queuing Penalty (veh)			0		52	192	180	0		9	40	
Storage Bay Dist (ft)	383			333				480	200			100
Storage Blk Time (%)	3	8	10	0			37	1	7	17	59	0
Queuing Penalty (veh)	16	12	45	2			35	3	11	26	81	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	262	381	325
Average Queue (ft)	104	222	100
95th Queue (ft)	258	385	285
Link Distance (ft)		377	
Upstream Blk Time (%)		7	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	262		352
Storage Blk Time (%)	0	16	0
Queuing Penalty (veh)	0	48	0

Queuing and Blocking Report  
 2024 PM Peak Model Option 1

10/15/2014

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	B5000	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	LT	R
Maximum Queue (ft)	103	90	91	20	222	952	938	175	1105	1060	151	92
Average Queue (ft)	51	19	35	1	134	577	583	132	362	360	63	38
95th Queue (ft)	93	57	71	8	278	1161	1153	242	1152	1144	128	75
Link Distance (ft)		663	663			838	838		1264	1264	627	
Upstream Blk Time (%)						41	43		10	10		
Queuing Penalty (veh)						0	0		0	0		
Storage Bay Dist (ft)	145			110	197			150				247
Storage Blk Time (%)		0	0		0	43	47	0				
Queuing Penalty (veh)		0	0		0	40	90	2				

Intersection: 10: WV45 & New York Ave.

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	184	60
Average Queue (ft)	86	42
95th Queue (ft)	161	73
Link Distance (ft)	429	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		30
Storage Blk Time (%)	55	22
Queuing Penalty (veh)	36	19

Intersection: 91: WV45

Movement	WB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	510	727	694	31
Average Queue (ft)	389	515	516	6
95th Queue (ft)	704	881	865	22
Link Distance (ft)		663	663	214
Upstream Blk Time (%)		5	3	
Queuing Penalty (veh)		34	24	
Storage Bay Dist (ft)	485			
Storage Blk Time (%)	10	27		
Queuing Penalty (veh)	48	129		

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	89	57	134	140	290	298
Average Queue (ft)	64	18	56	82	268	265
95th Queue (ft)	92	47	115	140	278	306
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	83				90	59
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	81	482	49	43
Average Queue (ft)	28	134	1	11
95th Queue (ft)	63	535	18	36
Link Distance (ft)	83	810		
Upstream Blk Time (%)	0	3		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		12	0	
Queuing Penalty (veh)		2	0	

Zone Summary

Zone wide Queuing Penalty: 2473

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6886	6879	6855	6873	6974	6895
Vehs Exited	6748	6809	6800	6587	6952	6779
Starting Vehs	380	381	351	300	365	354
Ending Vehs	518	451	406	586	387	464
Travel Distance (mi)	4578	4602	4557	4496	4692	4585
Travel Time (hr)	633.1	596.1	601.0	610.4	516.0	591.3
Total Delay (hr)	479.4	441.3	447.9	459.2	358.6	437.3
Total Stops	16330	15841	15229	15746	15361	15703
Fuel Used (gal)	271.6	264.4	264.1	264.1	249.7	262.8

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1733	1721	1735	1706	1705	1718
Vehs Exited	1715	1677	1689	1620	1649	1668
Starting Vehs	380	381	351	300	365	354
Ending Vehs	398	425	397	386	421	403
Travel Distance (mi)	1170	1156	1139	1124	1133	1144
Travel Time (hr)	103.7	116.9	108.0	94.3	98.9	104.4
Total Delay (hr)	64.4	78.0	69.7	56.5	61.0	65.9
Total Stops	3826	3866	3564	3626	3601	3693
Fuel Used (gal)	56.9	58.7	56.2	53.2	54.6	55.9



**Interval #2 Information**

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1891	1764	1794	1774	1802	1800
Vehs Exited	1785	1797	1769	1687	1795	1765
Starting Vehs	398	425	397	386	421	403
Ending Vehs	504	392	422	473	428	440
Travel Distance (mi)	1218	1189	1180	1122	1199	1182
Travel Time (hr)	154.0	146.2	135.9	135.8	136.0	141.6
Total Delay (hr)	113.3	106.3	96.3	98.1	95.8	101.9
Total Stops	4499	4066	4225	3784	4116	4139
Fuel Used (gal)	69.1	66.8	63.3	62.1	64.6	65.2

**Interval #3 Information**

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1619	1712	1576	1653	1734	1658
Vehs Exited	1667	1709	1627	1617	1778	1681
Starting Vehs	504	392	422	473	428	440
Ending Vehs	456	395	371	509	384	419
Travel Distance (mi)	1113	1136	1079	1097	1196	1124
Travel Time (hr)	173.2	155.0	164.0	173.8	146.5	162.5
Total Delay (hr)	135.7	116.7	127.7	136.8	106.4	124.7
Total Stops	4130	4019	3540	4058	3890	3932
Fuel Used (gal)	70.0	66.6	67.8	70.1	67.2	68.3

**Interval #4 Information**

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1643	1682	1750	1740	1733	1708
Vehs Exited	1581	1626	1715	1663	1730	1662
Starting Vehs	456	395	371	509	384	419
Ending Vehs	518	451	406	586	387	464
Travel Distance (mi)	1077	1121	1158	1152	1164	1135
Travel Time (hr)	202.2	178.0	193.1	206.5	134.6	182.9
Total Delay (hr)	165.9	140.3	154.2	167.7	95.4	144.7
Total Stops	3875	3890	3900	4278	3754	3936
Fuel Used (gal)	75.6	72.2	76.7	78.7	63.4	73.3

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	1.3	1.2	1.3	0.6
Travel Time (hr)	0.5	0.0	0.6	0.0	1.1
Vehicles Exited	181	3	140	1	325
Hourly Exit Rate	181	3	140	1	325
Input Volume	170	4	147	1	322
% of Volume	107	71	95	100	101

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	1.6	1.0	1.5	0.4	7.2	2.6	2.2
Travel Time (hr)	0.0	0.7	0.3	0.3	0.7	0.0	2.0
Vehicles Exited	5	183	140	105	107	3	543
Hourly Exit Rate	5	183	140	105	107	3	543
Input Volume	5	173	147	110	113	3	551
% of Volume	100	106	95	95	95	100	99

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.6	0.4	3.3	2.3	9.0	2.5	2.2
Travel Time (hr)	0.5	0.3	0.3	0.5	0.3	0.3	2.2
Vehicles Exited	211	75	68	189	59	67	669
Hourly Exit Rate	211	75	68	189	59	67	669
Input Volume	210	73	69	200	59	64	675
% of Volume	100	103	99	94	100	105	99

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.1	3.5	1.2
Total Del/Veh (s)	16.6	7.5	32.4	5.1	29.6	5.2	16.5
Travel Time (hr)	1.4	0.4	7.1	0.9	0.4	3.8	14.1
Vehicles Exited	204	79	562	228	34	556	1663
Hourly Exit Rate	204	79	562	228	34	556	1663
Input Volume	201	78	606	238	39	554	1716
% of Volume	102	102	93	96	87	100	97

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	2.2	3.0	0.9
Total Del/Veh (s)	24.4	7.6	24.4	10.0	26.1	6.9	19.3
Travel Time (hr)	6.4	0.6	2.8	3.4	10.6	2.6	26.4
Vehicles Exited	660	102	264	567	648	228	2469
Hourly Exit Rate	660	102	264	567	648	228	2469
Input Volume	652	102	298	612	638	230	2532
% of Volume	101	100	89	93	102	99	97

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.4	0.6	0.1
Total Del/Veh (s)	23.2	10.1	9.6	3.8	24.3	20.1	11.1
Travel Time (hr)	1.8	7.3	3.9	1.8	1.0	4.3	20.1
Vehicles Exited	166	1119	736	539	70	349	2979
Hourly Exit Rate	166	1119	736	539	70	349	2979
Input Volume	162	1108	816	605	68	344	3103
% of Volume	103	101	90	89	103	101	96

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.6	0.3	0.5	0.7	3.8	0.0	0.0	0.0
Total Del/Veh (s)	43.2	18.6	5.2	53.4	57.0	8.0	49.0	47.8	49.4	49.7	40.5	11.7
Travel Time (hr)	3.9	8.1	0.4	0.9	15.7	3.0	0.7	0.8	1.7	7.5	0.7	2.7
Vehicles Exited	256	1092	97	50	838	508	43	51	95	441	47	409
Hourly Exit Rate	256	1092	97	50	838	508	43	51	95	441	47	409
Input Volume	246	1086	98	61	992	594	44	51	92	454	48	401
% of Volume	104	101	99	82	84	86	97	100	103	97	98	102

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	31.7
Travel Time (hr)	46.0
Vehicles Exited	3927
Hourly Exit Rate	3927
Input Volume	4168
% of Volume	94

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	4.4	25.4	22.5	0.4	0.3	3.9	0.4	0.5	3.9
Total Del/Veh (s)	45.5	10.0	6.5	109.9	110.7	118.6	38.9	45.3	22.3	37.0	44.2	40.7
Travel Time (hr)	1.8	9.1	0.3	1.6	53.4	2.0	1.1	0.3	0.5	0.7	0.3	1.4
Vehicles Exited	106	1495	52	42	1211	43	82	20	51	50	18	89
Hourly Exit Rate	106	1495	52	42	1211	43	82	20	51	50	18	89
Input Volume	104	1502	52	52	1478	52	86	17	55	52	17	86
% of Volume	101	100	100	81	82	83	95	116	93	97	104	103

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	10.1
Total Del/Veh (s)	54.4
Travel Time (hr)	72.3
Vehicles Exited	3259
Hourly Exit Rate	3259
Input Volume	3553
% of Volume	92

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	181.7	211.7	258.1	0.2	0.3	0.3	10.5	6.3	9.0
Total Del/Veh (s)	55.9	25.4	17.9	66.3	126.9	20.6	230.4	58.7	19.6	44.2	117.5	16.0
Travel Time (hr)	4.0	11.7	5.2	12.2	79.6	7.9	22.8	4.7	1.1	1.6	8.0	2.4
Vehicles Exited	188	961	475	154	744	87	314	246	122	90	215	234
Hourly Exit Rate	188	961	475	154	744	87	314	246	122	90	215	234
Input Volume	197	974	466	176	915	102	418	300	153	102	214	233
% of Volume	95	99	102	87	81	85	75	82	80	88	100	100

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	61.0
Total Del/Veh (s)	72.2
Travel Time (hr)	161.2
Vehicles Exited	3830
Hourly Exit Rate	3830
Input Volume	4252
% of Volume	90

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.1	0.7	0.0	0.0	0.0	0.4	0.4	4.0	0.3	0.4	3.9
Total Del/Veh (s)	44.5	7.1	4.4	69.2	57.7	49.0	60.3	56.8	12.3	37.9	47.2	30.2
Travel Time (hr)	1.4	5.8	0.1	1.6	22.2	1.0	1.2	0.6	0.7	0.5	0.4	0.9
Vehicles Exited	85	1030	11	60	1030	50	54	32	74	35	25	68
Hourly Exit Rate	85	1030	11	60	1030	50	54	32	74	35	25	68
Input Volume	88	1064	14	64	1064	50	60	33	67	35	27	71
% of Volume	97	97	77	94	97	101	90	96	111	99	92	96

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	34.7
Travel Time (hr)	36.4
Vehicles Exited	2554
Hourly Exit Rate	2554
Input Volume	2636
% of Volume	97

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.1	0.2
Total Del/Veh (s)	4.0	3.7	98.6	6.4	51.2
Travel Time (hr)	4.0	0.3	36.5	0.0	40.9
Vehicles Exited	1095	61	1123	11	2290
Hourly Exit Rate	1095	61	1123	11	2290
Input Volume	1154	61	1203	10	2428
% of Volume	95	100	93	107	94

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.6	0.2	0.0	0.0	0.4	0.4	0.2
Total Del/Veh (s)	26.2	9.7	12.1	2.6	3.5	1.0	3.8
Travel Time (hr)	0.3	0.1	0.2	3.6	2.3	0.0	6.6
Vehicles Exited	34	36	29	799	862	12	1772
Hourly Exit Rate	34	36	29	799	862	12	1772
Input Volume	36	36	36	868	863	10	1848
% of Volume	96	101	82	92	100	117	96

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	204.1	198.9	373.2	361.9	0.1	0.0	183.1
Total Del/Veh (s)	92.9	114.7	26.3	6.3	8.2	1.5	16.4
Travel Time (hr)	1.4	4.8	88.7	1.9	0.4	3.2	100.3
Vehicles Exited	15	49	640	14	61	799	1578
Hourly Exit Rate	15	49	640	14	61	799	1578
Input Volume	20	61	804	20	61	812	1778
% of Volume	74	81	80	69	100	98	89

Total Zone Performance

Denied Del/Veh (s)	100.3
Total Del/Veh (s)	1073.0
Travel Time (hr)	529.7
Vehicles Exited	497
Hourly Exit Rate	497
Input Volume	29562
% of Volume	2

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	10	11
Average Queue (ft)	1	1
95th Queue (ft)	7	6
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	16	60
Average Queue (ft)	1	30
95th Queue (ft)	8	52
Link Distance (ft)	859	733
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	15	59	56	49
Average Queue (ft)	1	16	24	26
95th Queue (ft)	9	46	46	44
Link Distance (ft)		418	458	458
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	81	87	108	236	248	375	116	41	60	188
Average Queue (ft)	40	34	36	123	142	17	11	7	21	58
95th Queue (ft)	76	72	74	237	240	122	36	29	52	135
Link Distance (ft)	418	418	418			396	396		668	
Upstream Blk Time (%)						0	0			
Queuing Penalty (veh)						1	0			
Storage Bay Dist (ft)				225	225			239		253
Storage Blk Time (%)				1	3					0
Queuing Penalty (veh)				1	3					0

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	243	230	73	211	224	254	270	168
Average Queue (ft)	126	126	32	102	96	140	148	63
95th Queue (ft)	211	210	58	177	200	221	224	130
Link Distance (ft)	396	396	396	513	513		1422	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	155	209	200	134	169	103	150	258
Average Queue (ft)	64	95	102	57	90	6	41	123
95th Queue (ft)	119	175	178	113	152	56	101	215
Link Distance (ft)		513	513	296	296	296		991
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)		0					0	4
Queuing Penalty (veh)		0					0	3



Queuing and Blocking Report  
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Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	LT	R	L
Maximum Queue (ft)	153	274	310	324	223	225	403	388	146	212	89	154
Average Queue (ft)	82	98	153	179	41	124	333	284	55	83	61	134
95th Queue (ft)	132	185	264	286	132	285	460	447	107	170	102	190
Link Distance (ft)			296	296			367	367	367	238		
Upstream Blk Time (%)			0	1			11	2		0		
Queuing Penalty (veh)			3	5			58	11		0		
Storage Bay Dist (ft)	250	250			200	200					64	129
Storage Blk Time (%)			1	5	0	0	60			16	17	6
Queuing Penalty (veh)			3	5	0	0	37			15	16	15

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	309	269
Average Queue (ft)	224	122
95th Queue (ft)	336	227
Link Distance (ft)	300	300
Upstream Blk Time (%)	4	0
Queuing Penalty (veh)	16	1
Storage Bay Dist (ft)		
Storage Blk Time (%)	39	
Queuing Penalty (veh)	87	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	155	253	251	125	102	891	904	99	175	71	205	85
Average Queue (ft)	70	114	146	28	57	801	847	40	72	37	66	58
95th Queue (ft)	129	203	226	102	128	955	949	117	148	78	153	96
Link Distance (ft)		367	367			834	834		190		301	
Upstream Blk Time (%)						4	20		0		0	
Queuing Penalty (veh)						31	160		0		0	
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	1	2	13	0	1	56	47	0	30	5	7	13
Queuing Penalty (veh)	9	3	7	0	6	29	24	0	17	5	6	9

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Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	R
Maximum Queue (ft)	248	315	343	329	395	420	430	378	225	430	430	125
Average Queue (ft)	128	187	200	153	192	393	395	250	220	401	235	65
95th Queue (ft)	213	294	315	269	385	425	424	518	252	464	446	167
Link Distance (ft)		834	834		378	378	378			398	398	
Upstream Blk Time (%)					2	51	55	1		51	6	
Queuing Penalty (veh)					5	180	191	0		220	26	
Storage Bay Dist (ft)	383			333				480	200			100
Storage Blk Time (%)		0	1	0			55	1	35	88	33	0
Queuing Penalty (veh)		1	4	0			56	4	74	184	51	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	286	380	336
Average Queue (ft)	111	225	141
95th Queue (ft)	283	406	353
Link Distance (ft)		377	
Upstream Blk Time (%)		10	1
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)	262		352
Storage Blk Time (%)	0	23	0
Queuing Penalty (veh)	0	76	0

Queuing and Blocking Report  
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Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	B5000	NB	NB
Directions Served	L	T	T	R	L	T	T	R	T	T	LT	R
Maximum Queue (ft)	134	218	216	60	165	550	572	170	180	182	151	65
Average Queue (ft)	57	72	79	1	72	307	317	48	42	41	67	28
95th Queue (ft)	107	164	176	20	192	823	827	164	233	225	137	53
Link Distance (ft)		663	663			838	838		1264	1264	627	
Upstream Blk Time (%)						15	15					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	145			110	197			145				247
Storage Blk Time (%)	0	1	3	0	0	22	28	0			0	
Queuing Penalty (veh)	0	1	0	0	0	14	14	0			0	

Intersection: 10: WV45 & New York Ave.

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	211	59
Average Queue (ft)	61	42
95th Queue (ft)	136	68
Link Distance (ft)	429	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		30
Storage Blk Time (%)	39	27
Queuing Penalty (veh)	27	17

Intersection: 91: WV45

Movement	WB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	510	699	674	22
Average Queue (ft)	330	451	471	7
95th Queue (ft)	651	817	820	23
Link Distance (ft)		663	663	214
Upstream Blk Time (%)		7	10	
Queuing Penalty (veh)		41	61	
Storage Bay Dist (ft)	485			
Storage Blk Time (%)	5	22		
Queuing Penalty (veh)	18	76		

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (ft)	76	52	98	130	191	176
Average Queue (ft)	39	18	30	53	55	43
95th Queue (ft)	69	47	82	113	144	114
Link Distance (ft)	64		300	300	251	251
Upstream Blk Time (%)	3				1	0
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	108	206	125	56
Average Queue (ft)	64	156	16	20
95th Queue (ft)	115	248	84	52
Link Distance (ft)	83	157		
Upstream Blk Time (%)	44	61		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		59	0	
Queuing Penalty (veh)		12	0	

Zone Summary

Zone wide Queuing Penalty: 1940
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:45	11:45	11:45	11:45	11:45	11:45
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6751	6565	6614	6630	6891	6687
Vehs Exited	6691	6354	6439	6569	6694	6549
Starting Vehs	348	313	350	382	351	350
Ending Vehs	408	524	525	443	548	487
Travel Distance (mi)	4918	4743	4771	4778	4946	4831
Travel Time (hr)	704.1	818.3	691.0	687.0	670.7	714.2
Total Delay (hr)	540.9	661.1	532.8	528.0	506.6	553.9
Total Stops	15377	15577	16157	15477	17179	15956
Fuel Used (gal)	295.1	316.0	287.2	287.4	287.3	294.6

Interval #0 Information Seeding

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1602	1630	1666	1556	1623	1617
Vehs Exited	1624	1577	1624	1575	1592	1599
Starting Vehs	348	313	350	382	351	350
Ending Vehs	326	366	392	363	382	363
Travel Distance (mi)	1208	1186	1215	1139	1217	1193
Travel Time (hr)	123.8	129.4	117.1	118.3	106.5	119.0
Total Delay (hr)	83.7	90.0	76.8	80.3	66.2	79.4
Total Stops	3075	3440	3585	3380	3492	3392
Fuel Used (gal)	61.7	62.2	60.2	58.4	57.8	60.1

**Interval #2 Information**

Start Time	12:15
End Time	12:30
Total Time (min)	15
Volumes adjusted by PHF, Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1935	1762	1716	1762	1912	1818
Vehs Exited	1809	1705	1682	1693	1825	1742
Starting Vehs	326	366	392	363	382	363
Ending Vehs	452	423	426	432	469	440
Travel Distance (mi)	1305	1242	1218	1229	1307	1260
Travel Time (hr)	164.3	181.7	154.9	164.4	160.0	165.0
Total Delay (hr)	120.9	140.6	114.6	123.4	116.7	123.2
Total Stops	4131	3894	3816	3746	4361	3993
Fuel Used (gal)	73.3	75.3	68.6	70.7	72.0	72.0

**Interval #3 Information**

Start Time	12:30
End Time	12:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1595	1611	1589	1619	1726	1629
Vehs Exited	1625	1550	1602	1659	1697	1629
Starting Vehs	452	423	426	432	469	440
Ending Vehs	422	484	413	392	498	438
Travel Distance (mi)	1198	1175	1189	1220	1247	1206
Travel Time (hr)	192.0	224.5	195.4	190.7	188.3	198.2
Total Delay (hr)	152.3	185.6	156.1	150.3	147.0	158.3
Total Stops	4144	4016	4657	4022	4884	4346
Fuel Used (gal)	76.4	82.8	76.6	76.9	76.8	77.9

**Interval #4 Information**

Start Time	12:45
End Time	1:00
Total Time (min)	15
Volumes adjusted by Growth Factors, Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1619	1562	1643	1693	1630	1626
Vehs Exited	1633	1522	1531	1642	1580	1583
Starting Vehs	422	484	413	392	498	438
Ending Vehs	408	524	525	443	548	487
Travel Distance (mi)	1208	1140	1149	1190	1174	1172
Travel Time (hr)	224.0	282.7	223.6	213.6	215.8	232.0
Total Delay (hr)	184.1	244.9	185.3	173.9	176.7	193.0
Total Stops	4027	4227	4099	4329	4442	4227
Fuel Used (gal)	83.6	95.8	81.8	81.4	80.7	84.7

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.3	3.0	0.9
Total Del/Veh (s)	37.4	10.1	27.3	7.5	31.4	8.3	24.1
Travel Time (hr)	9.8	0.7	3.3	2.8	10.8	3.1	30.5
Vehicles Exited	736	96	285	588	603	266	2574
Hourly Exit Rate	736	96	285	588	603	266	2574
Input Volume	748	94	332	670	600	249	2695
% of Volume	98	102	86	88	100	107	96

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	3.3	0.7	0.2
Total Del/Veh (s)	50.2	10.1	14.4	3.5	30.4	30.1	15.6
Travel Time (hr)	4.0	7.3	5.1	1.9	1.3	5.8	25.4
Vehicles Exited	217	1118	783	602	86	381	3187
Hourly Exit Rate	217	1118	783	602	86	381	3187
Input Volume	216	1135	908	734	89	370	3453
% of Volume	100	99	86	82	97	103	92

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.3	0.1	1.8	1.8	5.1	0.1	0.0	0.3
Total Del/Veh (s)	53.9	22.7	10.3	67.6	57.8	8.2	70.2	73.5	77.0	44.2	32.4	15.5
Travel Time (hr)	6.5	8.8	0.6	1.6	18.1	3.2	1.6	1.0	2.2	4.0	0.6	1.9
Vehicles Exited	358	1036	96	70	951	528	70	42	85	298	64	345
Hourly Exit Rate	358	1036	96	70	951	528	70	42	85	298	64	345
Input Volume	358	1040	96	71	1016	575	70	38	92	477	88	533
% of Volume	100	100	100	98	94	92	100	111	92	63	73	65

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	36.4
Travel Time (hr)	50.2
Vehicles Exited	3943
Hourly Exit Rate	3943
Input Volume	4454
% of Volume	89

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	1424.7	1502.6	0.0	0.0	797.0	467.1
Total Del/Veh (s)	354.6	601.3	33.3	6.2	60.2	35.4
Travel Time (hr)	15.2	18.5	0.4	3.1	258.7	296.0
Vehicles Exited	8	10	35	913	689	1655
Hourly Exit Rate	8	10	35	913	689	1655
Input Volume	36	36	36	954	1055	2116
% of Volume	23	28	99	96	65	78

Total Zone Performance

Denied Del/Veh (s)	353.3
Total Del/Veh (s)	1138.2
Travel Time (hr)	402.2
Vehicles Exited	156
Hourly Exit Rate	156
Input Volume	12717
% of Volume	1



Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	316	317	226	204	176	296	253	175
Average Queue (ft)	184	169	40	97	47	158	148	72
95th Queue (ft)	280	259	127	169	130	238	231	143
Link Distance (ft)	396	396	396	513	513		1422	
Upstream Blk Time (%)			0					
Queuing Penalty (veh)			1					
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	244	284	272	199	248	87	183	434
Average Queue (ft)	142	97	99	80	124	3	58	170
95th Queue (ft)	228	235	229	158	213	48	144	329
Link Distance (ft)		513	513	280	280	280		991
Upstream Blk Time (%)		0	0		0	0		
Queuing Penalty (veh)		1	1		0	0		
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)	0	1						14
Queuing Penalty (veh)	1	1						12

Queuing and Blocking Report  
 2024 Friday Peak Model Option 1

10/15/2014

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	R	L	T	T	R	LT	R	L
Maximum Queue (ft)	189	274	307	302	125	208	407	398	250	245	89	40
Average Queue (ft)	108	125	170	195	59	132	370	327	84	126	70	13
95th Queue (ft)	164	216	300	317	153	269	435	457	186	239	108	40
Link Distance (ft)			280	280			366	366	366	238		
Upstream Blk Time (%)		0	1	2			23	7	0	4		4
Queuing Penalty (veh)		0	7	17			126	40	0	0		0
Storage Bay Dist (ft)	250	250			100	183					64	109
Storage Blk Time (%)		0	2	25	0	0	62			36	24	4
Queuing Penalty (veh)		0	6	24	0	0	44			33	26	12

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	SB	B702	B702
Directions Served	LT	R	T	T
Maximum Queue (ft)	146	123	272	199
Average Queue (ft)	115	96	227	54
95th Queue (ft)	128	138	279	144
Link Distance (ft)	40	40	192	192
Upstream Blk Time (%)	82	38	72	1
Queuing Penalty (veh)	445	210	390	3
Storage Bay Dist (ft)				
Storage Blk Time (%)	82			
Queuing Penalty (veh)	194			

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	82	85	161	163	290	293
Average Queue (ft)	64	26	82	105	268	264
95th Queue (ft)	78	72	136	148	278	296
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	98		0	0	84	51
Queuing Penalty (veh)	0		1	0	0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		1	0			

Zone Summary

Zone wide Queuing Penalty: 1599



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	216	5	67	68	5
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	28.9% ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	238	185	168
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 29.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	345	78	36	158	41	91
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 33.9% ICU Level of Service A

Analysis Period (min) 15

2024 AM Peak Model ALT 1  
 4: Retail Commons Pkwy. & WV45

11/4/2014



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	429	112	184	3	56
Act Effct Green (s)	59.2	10.4	72.0	8.0	23.4
Actuated g/C Ratio	0.66	0.12	0.80	0.09	0.26
v/c Ratio	0.15	0.38	0.09	0.01	0.14
Control Delay	6.6	22.2	1.8	37.7	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	22.2	1.8	37.7	7.9
LOS	A	C	A	D	A
Approach Delay	6.6		9.6	9.4	
Approach LOS	A		A	A	
Queue Length 50th (ft)	32	16	3	1	0
Queue Length 95th (ft)	49	28	5	6	26
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	2942	613	2112	446	579
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.18	0.09	0.01	0.10

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 78 (87%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.38  
 Intersection Signal Delay: 7.9  
 Intersection Capacity Utilization 42.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	410	51	250	199	978	105
Act Effct Green (s)	20.6	20.6	18.5	44.2	35.8	35.8
Actuated g/C Ratio	0.23	0.23	0.21	0.49	0.40	0.40
v/c Ratio	0.58	0.13	0.78	0.25	0.81	0.17
Control Delay	29.9	1.7	37.0	13.3	30.9	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	1.7	37.0	13.3	30.9	4.4
LOS	C	A	D	B	C	A
Approach Delay	26.8			26.5		
Approach LOS	C			C		
Queue Length 50th (ft)	73	0	145	94	248	0
Queue Length 95th (ft)	100	5	#206	137	318	29
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	711	383	362	802	1205	618
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.13	0.69	0.25	0.81	0.17

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 42 (47%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 27.5

Intersection LOS: C

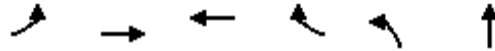
Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	65	1249	403	747	26	401
Act Effct Green (s)	52.7	52.7	42.3	42.3	27.3	27.3
Actuated g/C Ratio	0.59	0.59	0.47	0.47	0.30	0.30
v/c Ratio	0.13	0.69	0.28	0.71	0.06	0.84
Control Delay	2.9	6.3	6.3	8.9	21.6	39.2
Queue Delay	0.0	0.3	0.0	1.4	0.0	0.1
Total Delay	2.9	6.7	6.3	10.3	21.6	39.3
LOS	A	A	A	B	C	D
Approach Delay		6.5	8.9			38.3
Approach LOS		A	A			D
Queue Length 50th (ft)	10	121	25	355	10	165
Queue Length 95th (ft)	m9	141	50	446	28	#318
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	497	1819	1460	1049	500	505
Starvation Cap Reductn	0	158	0	141	0	0
Spillback Cap Reductn	0	109	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.75	0.28	0.82	0.05	0.80

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 78 (87%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	1359	94	76	866	259	89	96	107	107	173
Act Effct Green (s)	8.7	47.0	56.0	6.8	43.3	60.3	8.0	8.0	12.0	12.0	22.7
Actuated g/C Ratio	0.10	0.52	0.62	0.08	0.48	0.67	0.09	0.09	0.13	0.13	0.25
v/c Ratio	0.54	0.84	0.10	0.65	0.58	0.25	0.64	0.41	0.55	0.54	0.38
Control Delay	52.7	12.5	0.4	72.4	10.5	1.2	61.7	10.3	46.6	46.1	6.2
Queue Delay	0.0	1.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	13.7	0.4	72.4	10.6	1.2	61.7	10.3	46.6	46.1	6.2
LOS	D	B	A	E	B	A	E	B	D	D	A
Approach Delay		16.7			12.5		35.1			28.4	
Approach LOS		B			B		D			C	
Queue Length 50th (ft)	47	114	0	48	71	0	50	0	61	61	9
Queue Length 95th (ft)	m66	#304	m0	m#112	62	0	#117	31	117	117	47
Internal Link Dist (ft)		290			428		227			305	
Turn Bay Length (ft)	250		200	200				64	129		
Base Capacity (vph)	301	1622	899	120	1495	1016	139	233	196	199	457
Starvation Cap Reductn	0	105	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	81	0	0	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.90	0.10	0.63	0.61	0.25	0.64	0.41	0.55	0.54	0.38

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 68 (76%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 17.6

Intersection LOS: B

Intersection Capacity Utilization 69.5%

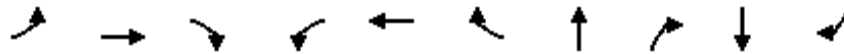
ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	39	1528	74	86	1139	62	79	62	43	24
Act Effct Green (s)	8.0	63.0	63.0	8.6	66.2	66.2	10.0	10.0	10.0	10.0
Actuated g/C Ratio	0.09	0.70	0.70	0.10	0.74	0.74	0.11	0.11	0.11	0.11
v/c Ratio	0.28	0.70	0.07	0.58	0.50	0.06	0.58	0.27	0.30	0.15
Control Delay	44.9	4.6	0.4	46.4	15.6	4.1	56.6	8.0	43.1	38.9
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	4.7	0.4	46.4	15.6	4.1	56.6	8.0	43.1	38.9
LOS	D	A	A	D	B	A	E	A	D	D
Approach Delay		5.4			17.1		35.3		41.6	
Approach LOS		A			B		D		D	
Queue Length 50th (ft)	24	70	0	40	285	3	43	0	23	13
Queue Length 95th (ft)	m32	86	m1	m67	m383	m11	#103	24	56	37
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	138	2172	997	155	2283	1043	136	230	141	155
Starvation Cap Reductn	0	62	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.72	0.07	0.55	0.50	0.06	0.58	0.27	0.30	0.15

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 66 (73%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 12.4

Intersection LOS: B

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	1311	223	124	845	45	320	201	164	75	115	138
Act Effct Green (s)	11.4	41.6	41.6	8.0	38.3	38.3	10.4	15.0	28.0	8.0	10.0	26.4
Actuated g/C Ratio	0.13	0.46	0.46	0.09	0.43	0.43	0.12	0.17	0.31	0.09	0.11	0.29
v/c Ratio	0.70	0.91	0.29	0.90	0.64	0.06	0.92	0.74	0.31	0.54	0.64	0.30
Control Delay	63.8	18.7	1.2	91.4	20.4	0.2	73.7	56.4	7.8	54.9	55.4	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	18.7	1.2	91.4	20.4	0.2	73.7	56.4	7.8	54.9	55.4	11.9
LOS	E	B	A	F	C	A	E	E	A	D	E	B
Approach Delay		20.1			28.2			52.9				37.0
Approach LOS		C			C			D				D
Queue Length 50th (ft)	74	165	1	77	117	0	94	115	8	42	64	22
Queue Length 95th (ft)	m105	#487	m6	#184	175	m0	#177	#245	55	#96	#135	64
Internal Link Dist (ft)		834			369			397				357
Turn Bay Length (ft)	383		333			480	200		100	262		352
Base Capacity (vph)	241	1449	767	138	1320	708	347	272	531	138	181	505
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.90	0.29	0.90	0.64	0.06	0.92	0.74	0.31	0.54	0.64	0.27

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 10 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 29.9

Intersection LOS: C

Intersection Capacity Utilization 78.7%

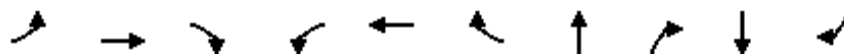
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	48	1522	19	35	979	85	16	24	72	55
Act Effct Green (s)	10.0	65.0	65.0	10.0	65.0	65.0	10.0	10.0	10.0	10.0
Actuated g/C Ratio	0.11	0.72	0.72	0.11	0.72	0.72	0.11	0.11	0.11	0.11
v/c Ratio	0.28	0.69	0.02	0.21	0.44	0.08	0.11	0.11	0.54	0.24
Control Delay	41.0	6.0	0.0	39.7	8.4	1.9	38.0	0.9	54.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	6.0	0.0	39.7	8.4	1.9	38.0	0.9	54.1	6.4
LOS	D	A	A	D	A	A	D	A	D	A
Approach Delay		7.0			8.9		15.7		33.5	
Approach LOS		A			A		B		C	
Queue Length 50th (ft)	29	56	0	18	152	0	8	0	39	0
Queue Length 95th (ft)	m37	m86	m0	47	201	17	28	0	#92	18
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	170	2221	1017	170	2221	1017	148	228	133	228
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.69	0.02	0.21	0.44	0.08	0.11	0.11	0.54	0.24

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 8 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 9.0

Intersection LOS: A

Intersection Capacity Utilization 72.0%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1534	27	1022	47
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 53.6% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	430	383
Act Effct Green (s)	6.3	41.4	41.4	41.4
Actuated g/C Ratio	0.14	0.92	0.92	0.92
v/c Ratio	0.14	0.02	0.15	0.13
Control Delay	13.3	0.5	0.4	1.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.3	0.5	0.4	1.5
LOS	B	A	A	A
Approach Delay	13.3		0.4	1.5
Approach LOS	B		A	A
Queue Length 50th (ft)	4	0	0	0
Queue Length 95th (ft)	20	m2	13	32
Internal Link Dist (ft)	33		305	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	549	806	2916	2916
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.15	0.13

**Intersection Summary**

Cycle Length: 45  
 Actuated Cycle Length: 45  
 Offset: 18 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.15  
 Intersection Signal Delay: 1.4  
 Intersection Capacity Utilization 25.6%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	663	22	22	440
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	151	1	2	293	58
Sign Control	Free			Free	Stop

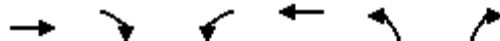
Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 26.0%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	193	428	101
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	248	54	89	387	65	39
Sign Control	Free		Free		Stop	

**Intersection Summary**

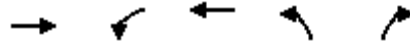
Control Type: Unsignalized

Intersection Capacity Utilization 32.2% ICU Level of Service A

Analysis Period (min) 15

2024 PM Peak Model ALT 1  
 4: Retail Commons Pkwy. & WV45

11/4/2014



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	284	606	394	93	568
Act Effct Green (s)	24.8	28.2	58.0	12.0	45.2
Actuated g/C Ratio	0.31	0.35	0.72	0.15	0.56
v/c Ratio	0.20	0.67	0.17	0.24	0.72
Control Delay	18.2	19.3	1.7	31.9	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	19.3	1.7	31.9	10.1
LOS	B	B	A	C	B
Approach Delay	18.2		12.4	13.2	
Approach LOS	B		B	B	
Queue Length 50th (ft)	31	81	8	26	80
Queue Length 95th (ft)	55	145	23	51	202
Internal Link Dist (ft)	421		358	651	
Turn Bay Length (ft)		225		259	
Base Capacity (vph)	1418	1055	2318	383	839
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.57	0.17	0.24	0.68

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 64 (80%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 13.5

Intersection LOS: B

Intersection Capacity Utilization 60.4%

ICU Level of Service B

Analysis Period (min) 15

2024 PM Peak Model ALT 1  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

11/4/2014



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	666	120	444	702	703	275
Act Effct Green (s)	20.2	20.2	24.2	49.5	20.5	20.5
Actuated g/C Ratio	0.25	0.25	0.30	0.62	0.26	0.26
v/c Ratio	0.83	0.27	0.93	0.68	0.89	0.50
Control Delay	35.0	6.2	40.6	10.3	44.8	8.2
Queue Delay	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay	35.0	6.2	40.6	10.8	44.8	8.2
LOS	C	A	D	B	D	A
Approach Delay	30.6			22.3		
Approach LOS	C			C		
Queue Length 50th (ft)	160	3	171	229	176	9
Queue Length 95th (ft)	#233	m26	#377	444	#278	70
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	801	448	494	1041	789	551
Starvation Cap Reductn	0	0	0	86	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.27	0.90	0.74	0.89	0.50

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 54 (68%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 28.6

Intersection LOS: C

Intersection Capacity Utilization 105.7%

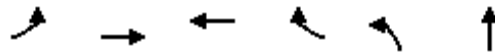
ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	217	1125	970	861	109	348
Act Effct Green (s)	12.5	54.0	36.5	36.5	16.0	16.0
Actuated g/C Ratio	0.16	0.68	0.46	0.46	0.20	0.20
v/c Ratio	0.89	0.53	0.68	0.85	0.35	0.92
Control Delay	55.8	2.2	8.5	9.2	31.2	53.5
Queue Delay	0.0	0.0	0.7	10.9	0.0	0.9
Total Delay	55.8	2.2	9.2	20.0	31.3	54.4
LOS	E	A	A	C	C	D
Approach Delay		10.9	14.3			48.9
Approach LOS		B	B			D
Queue Length 50th (ft)	85	0	72	33	47	115
Queue Length 95th (ft)	m110	m0	m82	m72	93	#277
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	254	2116	1432	1013	313	377
Starvation Cap Reductn	0	0	182	140	0	0
Spillback Cap Reductn	0	81	0	0	5	3
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.55	0.78	0.99	0.35	0.93

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 8 (10%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 17.4

Intersection LOS: B

Intersection Capacity Utilization 105.7%

ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	282	1142	56	46	1327	470	65	49	205	208	457
Act Effect Green (s)	8.4	41.0	48.4	8.0	36.2	53.2	8.0	8.0	12.0	12.0	23.0
Actuated g/C Ratio	0.10	0.51	0.60	0.10	0.45	0.66	0.10	0.10	0.15	0.15	0.29
v/c Ratio	0.87	0.70	0.06	0.29	0.93	0.44	0.40	0.19	0.91	0.92	0.90
Control Delay	67.0	10.2	0.5	46.3	24.6	1.0	41.7	1.6	73.7	74.4	33.7
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	10.4	0.5	46.3	24.6	1.0	41.7	1.6	73.7	74.4	33.7
LOS	E	B	A	D	C	A	D	A	E	E	C
Approach Delay		20.8			19.1		24.5			52.9	
Approach LOS		C			B		C			D	
Queue Length 50th (ft)	71	195	0	26	230	0	31	0	108	109	110
Queue Length 95th (ft)	m#127	m231	m1	m31	#483	m4	70	0	#230	#233	#262
Internal Link Dist (ft)		290			428		227			64	
Turn Bay Length (ft)	250		100	183				64	109		
Base Capacity (vph)	323	1622	884	158	1431	1072	162	264	225	227	510
Starvation Cap Reductn	0	73	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	25	0	0	0	0	0	1	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.74	0.06	0.29	0.93	0.44	0.40	0.19	0.91	0.92	0.90

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 4 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 26.7

Intersection LOS: C

Intersection Capacity Utilization 90.2%

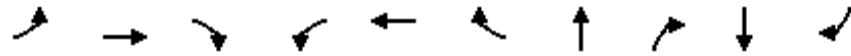
ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	1608	37	18	1728	18	129	18	36	111
Act Effct Green (s)	8.0	56.8	56.8	8.0	51.6	51.6	10.6	10.6	10.6	10.6
Actuated g/C Ratio	0.10	0.71	0.71	0.10	0.64	0.64	0.13	0.13	0.13	0.13
v/c Ratio	0.23	0.71	0.04	0.11	0.85	0.02	0.81	0.07	0.20	0.59
Control Delay	29.4	8.7	0.6	42.6	7.7	0.0	71.1	0.5	34.5	47.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	8.7	0.6	42.6	7.7	0.0	71.1	0.5	34.5	47.9
LOS	C	A	A	D	A	A	E	A	C	D
Approach Delay		9.0			8.0		62.4		44.6	
Approach LOS		A			A		E		D	
Queue Length 50th (ft)	17	160	0	10	48	0	64	0	16	54
Queue Length 95th (ft)	m25	m225	m0	m13	m56	m0	#162	0	44	#122
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	158	2250	1034	158	2044	948	160	269	177	187
Starvation Cap Reductn	0	3	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.72	0.04	0.11	0.85	0.02	0.81	0.07	0.20	0.59

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 74 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 12.0

Intersection LOS: B

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	166	949	437	226	1177	97	317	317	139	103	280	193
Act Effct Green (s)	8.0	26.0	26.0	12.0	30.0	30.0	8.0	16.6	33.6	8.0	14.0	27.0
Actuated g/C Ratio	0.10	0.32	0.32	0.15	0.38	0.38	0.10	0.21	0.42	0.10	0.18	0.34
v/c Ratio	1.06	0.93	0.61	0.96	1.00	0.15	1.04	0.93	0.22	0.66	0.97	0.36
Control Delay	110.3	41.2	13.4	70.6	45.2	3.1	101.1	70.0	7.3	56.6	82.4	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	110.3	41.2	13.4	70.6	45.2	3.1	101.1	70.0	7.3	56.6	82.4	12.5
LOS	F	D	B	E	D	A	F	E	A	E	F	B
Approach Delay		40.8			46.3			71.5			54.4	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	~89	202	77	97	~330	5	~89	~182	14	51	140	34
Queue Length 95th (ft)	m#162	#381	206	m#188	#466	m8	#168	#336	49	#122	#290	86
Internal Link Dist (ft)		834			369			397			357	
Turn Bay Length (ft)	383		333			480	200		100	262		352
Base Capacity (vph)	156	1019	720	235	1176	628	304	342	644	156	288	536
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.93	0.61	0.96	1.00	0.15	1.04	0.93	0.22	0.66	0.97	0.36

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 64 (80%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 49.8

Intersection LOS: D

Intersection Capacity Utilization 88.4%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

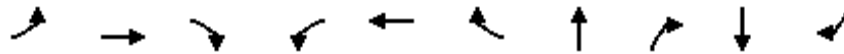
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	90	1106	17	97	1441	202	104	103	94	68
Act Effct Green (s)	10.0	47.5	47.5	10.4	47.8	47.8	10.2	10.2	10.2	10.2
Actuated g/C Ratio	0.12	0.59	0.59	0.13	0.60	0.60	0.13	0.13	0.13	0.13
v/c Ratio	0.46	0.59	0.02	0.48	0.77	0.22	0.68	0.38	0.61	0.26
Control Delay	55.6	5.6	0.1	40.7	16.7	2.2	57.0	11.9	52.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	5.6	0.1	40.7	16.7	2.2	57.0	11.9	52.1	6.7
LOS	E	A	A	D	B	A	E	B	D	A
Approach Delay		9.2			16.3		34.5		33.0	
Approach LOS		A			B		C		C	
Queue Length 50th (ft)	49	22	0	46	283	2	51	0	45	0
Queue Length 95th (ft)	m62	m32	m0	92	381	29	#126	43	#111	22
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		150		247		30
Base Capacity (vph)	196	1861	871	215	1882	918	154	268	154	261
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.59	0.02	0.45	0.77	0.22	0.68	0.38	0.61	0.26

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 10 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 15.7

Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1225	43	1574	15
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 44.8%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	802	872
Act Effct Green (s)	7.8	65.3	65.3	65.3
Actuated g/C Ratio	0.10	0.82	0.82	0.82
v/c Ratio	0.42	0.09	0.31	0.34
Control Delay	26.3	2.5	2.3	3.1
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	26.3	2.5	2.5	3.1
LOS	C	A	A	A
Approach Delay	26.3		2.5	3.1
Approach LOS	C		A	A
Queue Length 50th (ft)	18	3	37	50
Queue Length 95th (ft)	55	m7	m62	92
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	425	438	2583	2583
Starvation Cap Reductn	0	0	788	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.09	0.45	0.34

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 42 (53%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 3.8

Intersection LOS: A

Intersection Capacity Utilization 45.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



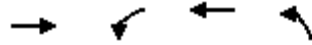
Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	802	22	22	982
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 63.1% ICU Level of Service B

Analysis Period (min) 15



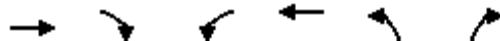
Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	194	5	161	1
Sign Control	Free		Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 19.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	182	267	121
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	220	77	72	209	62	67
Sign Control	Free		Free		Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	30.0% ICU Level of Service A
Analysis Period (min)	15

2024 Saturday Peak Model ALT 1  
 4: Retail Commons Pkwy. & WV45

11/4/2014



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	290	633	233	41	578
Act Effct Green (s)	24.3	28.7	58.0	12.0	45.7
Actuated g/C Ratio	0.30	0.36	0.72	0.15	0.57
v/c Ratio	0.21	0.70	0.12	0.11	0.59
Control Delay	16.4	13.5	1.5	30.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	13.5	1.5	30.3	5.1
LOS	B	B	A	C	A
Approach Delay	16.4		10.3	6.8	
Approach LOS	B		B	A	
Queue Length 50th (ft)	28	68	5	11	36
Queue Length 95th (ft)	52	126	6	28	90
Internal Link Dist (ft)	425		358	651	
Turn Bay Length (ft)		225		239	253
Base Capacity (vph)	1424	1006	1933	379	1023
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.63	0.12	0.11	0.57

**Intersection Summary**

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 66 (83%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	





Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	642	104	303	622	649	234
Act Effct Green (s)	25.6	25.6	46.2	46.2	23.8	23.8
Actuated g/C Ratio	0.32	0.32	0.58	0.58	0.30	0.30
v/c Ratio	0.63	0.20	0.66	0.65	0.71	0.40
Control Delay	29.7	8.3	9.7	9.3	30.2	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	8.3	9.7	9.3	30.2	5.6
LOS	C	A	A	A	C	A
Approach Delay	26.7			9.4		
Approach LOS	C			A		
Queue Length 50th (ft)	152	1	5	188	147	0
Queue Length 95th (ft)	215	m39	14	414	210	50
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1018	525	497	981	918	587
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.20	0.61	0.63	0.71	0.40

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 40 (50%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 19.4

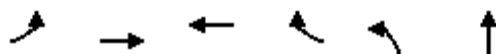
Intersection LOS: B

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	164	1104	808	615	69	350
Act Effct Green (s)	48.0	48.0	35.0	35.0	22.0	22.0
Actuated g/C Ratio	0.60	0.60	0.44	0.44	0.28	0.28
v/c Ratio	0.47	0.58	0.58	0.64	0.16	0.76
Control Delay	9.3	9.0	8.2	2.7	21.9	31.0
Queue Delay	0.0	0.2	0.2	0.8	0.0	0.1
Total Delay	9.3	9.1	8.4	3.5	21.9	31.1
LOS	A	A	A	A	C	C
Approach Delay		9.2	6.3			29.5
Approach LOS		A	A			C
Queue Length 50th (ft)	41	160	63	0	25	112
Queue Length 95th (ft)	m41	192	m76	m9	56	#219
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	346	1901	1386	965	474	491
Starvation Cap Reductn	0	0	131	125	0	0
Spillback Cap Reductn	0	167	0	0	0	4
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.64	0.64	0.73	0.15	0.72

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 10.6

Intersection LOS: B

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	1097	100	63	1001	609	98	95	252	250	411
Act Effct Green (s)	9.6	32.0	41.0	8.0	28.2	49.4	8.0	8.0	16.2	16.2	27.8
Actuated g/C Ratio	0.12	0.40	0.51	0.10	0.35	0.62	0.10	0.10	0.20	0.20	0.35
v/c Ratio	0.69	0.87	0.13	0.40	0.90	0.61	0.60	0.36	0.83	0.81	0.69
Control Delay	54.7	19.0	0.5	48.8	27.7	2.3	51.4	6.8	51.6	49.7	12.1
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.1
Total Delay	54.7	19.9	0.5	48.8	27.7	2.9	51.4	6.8	51.6	49.7	12.2
LOS	D	B	A	D	C	A	D	A	D	D	B
Approach Delay		24.7			19.5		29.5			33.3	
Approach LOS		C			B		C			C	
Queue Length 50th (ft)	69	175	0	35	156	7	48	0	129	127	70
Queue Length 95th (ft)	m106	#390	m1	m44	m#352	m12	#110	22	#247	#244	43
Internal Link Dist (ft)		290			428		227			309	
Turn Bay Length (ft)	250		200	200				64	129		
Base Capacity (vph)	384	1265	774	158	1115	994	163	264	304	307	599
Starvation Cap Reductn	0	44	0	0	0	132	0	0	0	0	8
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.90	0.13	0.40	0.90	0.71	0.60	0.36	0.83	0.81	0.70

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 78 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 24.7

Intersection LOS: C

Intersection Capacity Utilization 75.9%

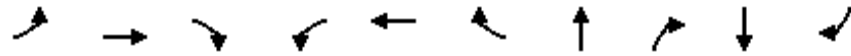
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	112	1609	55	55	1551	55	110	59	73	92
Act Effct Green (s)	8.0	51.9	51.9	8.0	46.7	46.7	10.3	10.3	10.3	10.3
Actuated g/C Ratio	0.10	0.65	0.65	0.10	0.58	0.58	0.13	0.13	0.13	0.13
v/c Ratio	0.71	0.78	0.06	0.35	0.84	0.06	0.72	0.22	0.48	0.51
Control Delay	48.1	10.0	1.0	49.9	11.6	0.4	61.9	5.1	44.1	43.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	10.0	1.0	49.9	11.6	0.4	61.9	5.1	44.1	43.1
LOS	D	A	A	D	B	A	E	A	D	D
Approach Delay		12.1			12.5		42.1		43.6	
Approach LOS		B			B		D		D	
Queue Length 50th (ft)	61	153	0	28	292	0	54	0	35	44
Queue Length 95th (ft)	m76	199	m1	m37	m480	m1	#136	16	#78	#91
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	158	2054	952	158	1860	871	152	265	151	182
Starvation Cap Reductn	0	14	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.79	0.06	0.35	0.83	0.06	0.72	0.22	0.48	0.51

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 68 (85%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 15.0

Intersection LOS: B

Intersection Capacity Utilization 77.8%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2024 Saturday Peak Model ALT 1  
9: WV45 & Winchester Ave.

11/4/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	199	959	470	178	915	103	421	286	155	103	216	235
Act Effct Green (s)	10.9	27.1	27.1	9.9	26.1	26.1	12.0	17.6	32.5	8.0	11.0	26.9
Actuated g/C Ratio	0.14	0.34	0.34	0.12	0.33	0.33	0.15	0.22	0.41	0.10	0.14	0.34
v/c Ratio	0.93	0.89	0.62	0.92	0.89	0.18	0.92	0.78	0.25	0.65	0.94	0.44
Control Delay	66.7	33.0	12.2	78.3	32.6	3.3	60.8	48.8	8.6	55.7	83.9	14.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.7	33.0	12.2	78.3	32.6	3.3	60.8	48.8	8.6	55.7	83.9	14.9
LOS	E	C	B	E	C	A	E	D	A	E	F	B
Approach Delay		31.1			36.9			47.4			49.4	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	88	271	129	75	252	10	108	142	19	51	109	51
Queue Length 95th (ft)	m#155	#367	m93	#199	#347	m22	#191	#285	58	#121	#238	113
Internal Link Dist (ft)		834			369			397			357	
Turn Bay Length (ft)	383		333			480	200		100	262		352
Base Capacity (vph)	217	1074	752	197	1032	572	460	366	633	158	229	541
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.89	0.63	0.90	0.89	0.18	0.92	0.78	0.24	0.65	0.94	0.43

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 42 (53%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 38.5

Intersection LOS: D

Intersection Capacity Utilization 82.8%

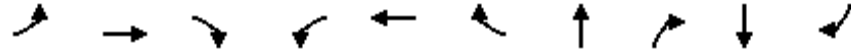
ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	93	1112	15	67	1120	52	98	70	66	74
Act Effct Green (s)	10.0	50.6	50.6	10.0	50.6	50.6	11.4	11.4	11.4	11.4
Actuated g/C Ratio	0.12	0.63	0.63	0.12	0.63	0.63	0.14	0.14	0.14	0.14
v/c Ratio	0.47	0.56	0.02	0.34	0.56	0.06	0.54	0.25	0.36	0.26
Control Delay	47.4	10.1	0.2	37.3	13.0	0.7	43.2	6.4	36.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	10.1	0.2	37.3	13.0	0.7	43.2	6.4	36.6	7.2
LOS	D	B	A	D	B	A	D	A	D	A
Approach Delay		12.8			13.8		27.9		21.1	
Approach LOS		B			B		C		C	
Queue Length 50th (ft)	48	270	0	31	194	0	46	0	30	0
Queue Length 95th (ft)	m48	m331	m0	69	263	5	94	23	68	26
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	197	2013	935	197	2013	935	196	298	198	298
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.55	0.02	0.34	0.56	0.06	0.50	0.23	0.33	0.25

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 14.6

Intersection LOS: B

Intersection Capacity Utilization 65.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1076	65	1121	11
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 40.6%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	926	936
Act Effct Green (s)	7.8	65.3	65.3	65.3
Actuated g/C Ratio	0.10	0.82	0.82	0.82
v/c Ratio	0.42	0.09	0.36	0.36
Control Delay	26.3	4.2	4.6	3.2
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	26.3	4.2	4.8	3.2
LOS	C	A	A	A
Approach Delay	26.3		4.8	3.2
Approach LOS	C		A	A
Queue Length 50th (ft)	18	6	97	55
Queue Length 95th (ft)	55	m8	101	101
Internal Link Dist (ft)	33		309	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	389	406	2583	2578
Starvation Cap Reductn	0	0	848	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.09	0.53	0.36

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 54 (68%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	862	22	65	864
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

2024 Friday Midday Peak Model ALT 1  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

11/4/2014



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	780	100	353	692	638	265
Act Effct Green (s)	28.8	28.8	23.0	56.9	23.1	23.1
Actuated g/C Ratio	0.32	0.32	0.26	0.63	0.26	0.26
v/c Ratio	0.77	0.19	0.87	0.66	0.81	0.47
Control Delay	29.5	5.1	31.2	10.9	41.3	6.8
Queue Delay	0.0	0.0	0.0	1.5	0.0	0.0
Total Delay	29.5	5.1	31.2	12.4	41.3	6.8
LOS	C	A	C	B	D	A
Approach Delay	26.7			18.8		
Approach LOS	C			B		
Queue Length 50th (ft)	183	4	65	393	178	0
Queue Length 95th (ft)	265	m12	m#279	526	#268	60
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1014	521	439	1074	789	561
Starvation Cap Reductn	0	0	0	208	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.19	0.80	0.80	0.81	0.47

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 72 (80%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 25.2

Intersection LOS: C

Intersection Capacity Utilization 101.7%

ICU Level of Service G

Analysis Period (min) 15

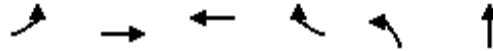
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2024 Friday Midday Peak Model ALT 1  
 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

11/4/2014



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	224	1162	940	759	92	383
Act Effct Green (s)	15.2	55.8	35.6	35.6	24.2	24.2
Actuated g/C Ratio	0.17	0.62	0.40	0.40	0.27	0.27
v/c Ratio	0.85	0.60	0.76	0.76	0.22	0.87
Control Delay	53.5	7.1	17.6	4.9	26.8	45.6
Queue Delay	0.0	0.1	0.9	2.6	0.1	0.1
Total Delay	53.5	7.1	18.5	7.5	26.8	45.7
LOS	D	A	B	A	C	D
Approach Delay		14.6	13.6			42.0
Approach LOS		B	B			D
Queue Length 50th (ft)	124	168	143	14	40	162
Queue Length 95th (ft)	m151	246	m210	m21	80	#323
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	296	1944	1240	1004	435	452
Starvation Cap Reductn	0	0	108	140	0	0
Spillback Cap Reductn	0	69	5	0	29	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.62	0.83	0.88	0.23	0.85

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 28 (31%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 17.8

Intersection LOS: B

Intersection Capacity Utilization 101.7%

ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2024 Friday Midday Peak Model ALT 1  
7: Foxcroft Ave. & WV45

11/4/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	361	987	97	72	992	580	109	93	274	275	537
Act Effct Green (s)	12.0	38.2	47.2	8.0	32.0	57.0	8.0	8.0	20.0	20.0	34.0
Actuated g/C Ratio	0.13	0.42	0.52	0.09	0.36	0.63	0.09	0.09	0.22	0.22	0.38
v/c Ratio	0.88	0.73	0.12	0.51	0.88	0.57	0.76	0.35	0.82	0.81	0.90
Control Delay	63.5	13.4	0.9	62.1	27.1	2.9	73.4	4.5	50.6	49.4	31.4
Queue Delay	0.0	0.8	0.0	0.0	1.5	0.8	0.0	0.0	0.0	0.0	1.1
Total Delay	63.5	14.2	0.9	62.1	28.6	3.7	73.4	4.5	50.6	49.4	32.4
LOS	E	B	A	E	C	A	E	A	D	D	C
Approach Delay		25.6			21.3		41.7			41.3	
Approach LOS		C			C		D			D	
Queue Length 50th (ft)	95	210	1	45	199	0	62	0	157	157	165
Queue Length 95th (ft)	m#168	m251	m2	m63	#386	9	#149	9	#286	#286	#199
Internal Link Dist (ft)		290			428		227			64	
Turn Bay Length (ft)	250		100	183				64	109		
Base Capacity (vph)	409	1343	778	140	1126	1011	143	269	334	339	595
Starvation Cap Reductn	0	135	0	0	0	186	0	0	0	0	9
Spillback Cap Reductn	0	2	0	0	44	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.82	0.12	0.51	0.92	0.70	0.76	0.35	0.82	0.81	0.92

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 24 (27%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 28.6

Intersection LOS: C

Intersection Capacity Utilization 85.5%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	1015	1130
Act Effct Green (s)	8.1	75.0	75.0	75.0
Actuated g/C Ratio	0.09	0.83	0.83	0.83
v/c Ratio	0.44	0.11	0.38	0.43
Control Delay	30.2	3.3	3.4	3.4
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	30.2	3.3	3.6	3.4
LOS	C	A	A	A
Approach Delay	30.2		3.6	3.4
Approach LOS	C		A	A
Queue Length 50th (ft)	21	4	81	75
Queue Length 95th (ft)	61	m8	m109	133
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	350	333	2639	2639
Starvation Cap Reductn	0	0	802	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.22	0.11	0.55	0.43

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 60 (67%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 4.4


Intersection LOS: A

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



# D

2024 Alternative 2 Capacity  
and Queue Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:00	7:00	7:00	7:00	7:00	7:00
End Time	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	4949	5006	4795	4973	5001	4951
Vehs Exited	4959	5011	4809	4977	5013	4957
Starting Vehs	207	202	227	223	213	208
Ending Vehs	197	197	213	219	201	196
Travel Distance (mi)	4134	4160	4062	4155	4197	4142
Travel Time (hr)	211.3	215.9	209.0	217.6	218.2	214.4
Total Delay (hr)	80.3	84.1	80.3	85.9	85.0	83.1
Total Stops	7696	7890	7647	8075	8017	7866
Fuel Used (gal)	165.7	167.6	163.2	167.3	167.5	166.2

Interval #0 Information Seeding

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1227	1251	1177	1165	1239	1212
Vehs Exited	1247	1234	1217	1194	1237	1227
Starting Vehs	207	202	227	223	213	208
Ending Vehs	187	219	187	194	215	193
Travel Distance (mi)	1028	1026	1023	1010	1061	1029
Travel Time (hr)	52.0	52.6	52.5	50.8	55.9	52.8
Total Delay (hr)	19.4	20.0	20.4	18.9	22.1	20.2
Total Stops	1845	1855	1923	1789	2085	1896
Fuel Used (gal)	41.0	41.2	41.4	40.4	42.2	41.2

**Interval #2 Information**

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1254	1227	1191	1233	1292	1234
Vehs Exited	1214	1246	1161	1211	1287	1223
Starting Vehs	187	219	187	194	215	193
Ending Vehs	227	200	217	216	220	204
Travel Distance (mi)	1018	1052	1004	1003	1098	1035
Travel Time (hr)	54.1	55.8	51.5	50.7	57.0	53.8
Total Delay (hr)	21.7	22.5	19.5	18.9	22.3	21.0
Total Stops	2011	2110	1815	1825	2007	1957
Fuel Used (gal)	41.4	43.0	40.2	39.8	43.4	41.6

**Interval #3 Information**

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1220	1265	1183	1276	1243	1236
Vehs Exited	1247	1249	1178	1249	1269	1240
Starting Vehs	227	200	217	216	220	204
Ending Vehs	200	216	222	243	194	208
Travel Distance (mi)	1031	1041	1005	1054	1045	1035
Travel Time (hr)	51.5	52.7	51.3	56.8	53.6	53.2
Total Delay (hr)	18.9	19.9	19.5	23.5	20.4	20.4
Total Stops	1842	1875	1916	2165	1965	1954
Fuel Used (gal)	41.1	41.4	40.2	42.7	41.9	41.5

**Interval #4 Information**

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1248	1263	1244	1299	1227	1254
Vehs Exited	1251	1282	1253	1323	1220	1270
Starting Vehs	200	216	222	243	194	208
Ending Vehs	197	197	213	219	201	196
Travel Distance (mi)	1058	1042	1030	1088	993	1042
Travel Time (hr)	53.7	54.8	53.7	59.3	51.7	54.7
Total Delay (hr)	20.3	21.7	20.9	24.7	20.1	21.5
Total Stops	1998	2050	1993	2296	1960	2060
Fuel Used (gal)	42.1	42.0	41.4	44.4	39.9	42.0



1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	2.9	0.0	0.0		0.1	0.2
Total Del/Veh (s)	0.2	0.0	2.2	1.5		1.6	0.9
Travel Time (hr)	0.6	0.0	0.4	0.3	0.0	0.0	1.2
Vehicles Exited	204	4	63	67	0	5	343
Hourly Exit Rate	204	4	63	67	0	5	343
Input Volume	199	5	62	65	1	4	336
% of Volume	103	80	102	103	0	125	102

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.3	0.1
Total Del/Veh (s)	1.2	0.9	0.9	0.1	7.6	4.1	2.7
Travel Time (hr)	0.0	0.9	0.2	0.1	1.0	0.0	2.3
Vehicles Exited	1	215	133	42	149	5	545
Hourly Exit Rate	1	215	133	42	149	5	545
Input Volume	2	208	133	39	145	3	530
% of Volume	50	103	100	108	103	167	103

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	0.5	0.3	2.9	2.1	8.1	2.7	1.6
Travel Time (hr)	0.7	0.2	0.1	0.4	0.2	0.4	2.0
Vehicles Exited	313	66	31	135	36	85	666
Hourly Exit Rate	313	66	31	135	36	85	666
Input Volume	299	66	31	136	35	77	644
% of Volume	105	100	100	99	103	110	103

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.4	0.1	0.0
Total Del/Veh (s)	4.6	2.0	76.6	4.2	37.5	1.0	14.4
Travel Time (hr)	1.4	0.1	2.5	0.6	0.0	0.2	4.8
Vehicles Exited	382	20	100	168	3	49	722
Hourly Exit Rate	382	20	100	168	3	49	722
Input Volume	362	20	100	167	3	50	702
% of Volume	106	100	100	101	100	98	103

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.9	2.8	1.1
Total Del/Veh (s)	25.7	5.9	48.4	8.1	24.0	2.7	24.3
Travel Time (hr)	3.6	0.2	3.9	0.8	13.5	1.0	23.0
Vehicles Exited	384	48	223	169	858	98	1780
Hourly Exit Rate	384	48	223	169	858	98	1780
Input Volume	370	45	220	175	861	92	1763
% of Volume	104	107	101	97	100	107	101

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.3	0.4	0.1
Total Del/Veh (s)	10.2	7.2	3.9	5.1	25.2	14.9	7.5
Travel Time (hr)	0.5	6.4	1.3	2.4	0.3	3.9	14.7
Vehicles Exited	61	1171	375	660	21	368	2656
Hourly Exit Rate	61	1171	375	660	21	368	2656
Input Volume	60	1162	372	687	24	369	2674
% of Volume	102	101	101	96	88	100	99

7: WV45 & Foxcroft Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	3.9	0.0	0.0	0.0
Total Del/Veh (s)	44.7	11.7	10.6	47.1	13.4	3.6	39.5	39.1	42.2	36.2	29.7	10.1
Travel Time (hr)	2.2	7.1	0.6	1.2	5.0	1.1	0.9	0.3	1.4	2.3	0.3	1.0
Vehicles Exited	141	1301	91	71	800	238	66	20	92	176	30	162
Hourly Exit Rate	141	1301	91	71	800	238	66	20	92	176	30	162
Input Volume	148	1291	89	72	823	246	67	17	91	181	30	164
% of Volume	95	101	102	99	97	97	99	118	101	97	100	99

7: WV45 & Foxcroft Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	16.8
Travel Time (hr)	23.2
Vehicles Exited	3188
Hourly Exit Rate	3188
Input Volume	3219
% of Volume	99

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	3.9	0.2	0.2	4.0
Total Del/Veh (s)	37.6	9.9	10.4	43.8	9.6	5.4	42.3	47.0	14.3	40.5	46.7	36.0
Travel Time (hr)	0.4	8.6	0.5	1.5	8.4	0.5	0.7	0.3	0.4	0.3	0.3	0.3
Vehicles Exited	30	1475	67	79	1039	59	53	18	62	18	17	19
Hourly Exit Rate	30	1475	67	79	1039	59	53	18	62	18	17	19
Input Volume	36	1459	68	79	1062	57	56	17	57	23	17	22
% of Volume	83	101	99	100	98	104	95	106	109	78	100	86

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	12.4
Travel Time (hr)	22.0
Vehicles Exited	2936
Hourly Exit Rate	2936
Input Volume	2953
% of Volume	99

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.1	3.8	0.9	3.7
Total Del/Veh (s)	52.2	15.4	19.2	57.3	12.2	5.9	36.8	49.6	10.6	38.0	64.8	5.3
Travel Time (hr)	2.6	11.2	2.4	2.2	4.4	0.2	3.9	3.2	0.9	1.0	2.3	0.7
Vehicles Exited	127	1216	211	114	766	42	294	197	151	71	111	129
Hourly Exit Rate	127	1216	211	114	766	42	294	197	151	71	111	129
Input Volume	126	1206	205	114	785	41	294	198	151	69	106	127
% of Volume	101	101	103	100	98	102	100	99	100	103	105	102

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	22.9
Travel Time (hr)	35.0
Vehicles Exited	3429
Hourly Exit Rate	3429
Input Volume	3422
% of Volume	100

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	4.0	0.3	0.3	4.0
Total Del/Veh (s)	36.8	7.8	4.8	39.7	5.9	3.1	68.1	74.0	8.7	52.5	65.6	12.9
Travel Time (hr)	0.6	7.5	0.1	0.4	5.8	0.6	0.1	0.1	0.2	0.9	0.2	0.4
Vehicles Exited	44	1424	17	27	869	82	6	5	21	53	8	52
Hourly Exit Rate	44	1424	17	27	869	82	6	5	21	53	8	52
Input Volume	44	1407	17	32	891	77	7	7	22	57	8	50
% of Volume	100	101	100	84	98	106	86	71	95	93	100	104

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	9.3
Travel Time (hr)	17.0
Vehicles Exited	2608
Hourly Exit Rate	2608
Input Volume	2619
% of Volume	100

11: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.3	0.3
Travel Time (hr)	0.0	0.0
Vehicles Exited	13	13
Hourly Exit Rate	13	13
Input Volume	15	15
% of Volume	87	87

21: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.5	0.5
Travel Time (hr)	0.5	0.8	1.3
Vehicles Exited	170	365	535
Hourly Exit Rate	170	365	535
Input Volume	169	353	522
% of Volume	101	103	102

22: Bend Performance by approach

Approach	NB	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.2	0.2
Travel Time (hr)	1.1	0.5	1.5
Vehicles Exited	364	169	533
Hourly Exit Rate	364	169	533
Input Volume	353	169	522
% of Volume	103	100	102

23: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.1	0.5
Travel Time (hr)	1.0	0.2	1.2
Vehicles Exited	364	169	533
Hourly Exit Rate	364	169	533
Input Volume	353	169	522
% of Volume	103	100	102

24: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	1.1	0.8
Travel Time (hr)	0.2	0.4	0.6
Vehicles Exited	169	364	533
Hourly Exit Rate	169	364	533
Input Volume	169	353	522
% of Volume	100	103	102

25: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.3	0.1
Travel Time (hr)	0.5	0.6	1.0
Vehicles Exited	364	169	533
Hourly Exit Rate	364	169	533
Input Volume	353	169	522
% of Volume	103	100	102

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.1	3.1	1.9	7.4	2.7
Travel Time (hr)	4.5	0.1	3.6	0.2	8.4
Vehicles Exited	1425	25	929	42	2421
Hourly Exit Rate	1425	25	929	42	2421
Input Volume	1411	25	950	43	2429
% of Volume	101	100	98	98	100

101: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.3	0.3
Travel Time (hr)	0.4	0.4
Vehicles Exited	67	67
Hourly Exit Rate	67	67
Input Volume	67	67
% of Volume	100	100

202: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.3	0.3
Vehicles Exited	43	43
Hourly Exit Rate	43	43
Input Volume	41	41
% of Volume	105	105

302: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.4	0.4
Vehicles Exited	98	98
Hourly Exit Rate	98	98
Input Volume	97	97
% of Volume	101	101

401: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Time (hr)	0.7	0.7
Vehicles Exited	119	119
Hourly Exit Rate	119	119
Input Volume	120	120
% of Volume	99	99

501: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	2.3	2.3
Travel Time (hr)	2.3	2.3
Vehicles Exited	271	271
Hourly Exit Rate	271	271
Input Volume	265	265
% of Volume	102	102

602: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	7.0	7.0
Travel Time (hr)	9.9	9.9
Vehicles Exited	720	720
Hourly Exit Rate	720	720
Input Volume	747	747
% of Volume	96	96

701: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.6	0.6
Vehicles Exited	185	185
Hourly Exit Rate	185	185
Input Volume	183	183
% of Volume	101	101

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.2	0.1
Total Del/Veh (s)	26.5	5.2	3.6	1.0	0.7	1.4
Travel Time (hr)	0.1	0.0	0.1	1.6	0.6	2.5
Vehicles Exited	14	17	13	396	342	782
Hourly Exit Rate	14	17	13	396	342	782
Input Volume	15	15	15	405	352	802
% of Volume	93	113	87	98	97	98

704: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.8	0.8
Vehicles Exited	399	399
Hourly Exit Rate	399	399
Input Volume	411	411
% of Volume	97	97

801: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.4	0.4
Vehicles Exited	163	163
Hourly Exit Rate	163	163
Input Volume	164	164
% of Volume	99	99

802: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.3	0.3
Vehicles Exited	106	106
Hourly Exit Rate	106	106
Input Volume	110	110
% of Volume	96	96



901: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.6	0.6
Vehicles Exited	436	436
Hourly Exit Rate	436	436
Input Volume	425	425
% of Volume	103	103

902: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.5	1.5
Travel Time (hr)	1.4	1.4
Vehicles Exited	354	354
Hourly Exit Rate	354	354
Input Volume	352	352
% of Volume	101	101

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.6	3.1	0.1	0.0	0.4
Total Del/Veh (s)	11.4	4.4	0.9	0.3	4.5	1.2	1.3
Travel Time (hr)	0.1	0.1	0.8	0.0	0.1	1.7	2.7
Vehicles Exited	19	22	606	19	20	426	1112
Hourly Exit Rate	19	22	606	19	20	426	1112
Input Volume	20	20	610	20	20	414	1104
% of Volume	95	110	99	95	100	103	101

912: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.1	0.1
Vehicles Exited	39	39
Hourly Exit Rate	39	39
Input Volume	40	40
% of Volume	98	98

913: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.1	0.1
Vehicles Exited	25	25
Hourly Exit Rate	25	25
Input Volume	25	25
% of Volume	100	100

1000: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.3	0.3
Vehicles Exited	65	65
Hourly Exit Rate	65	65
Input Volume	64	64
% of Volume	102	102

1001: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Time (hr)	0.3	0.3
Vehicles Exited	52	52
Hourly Exit Rate	52	52
Input Volume	57	57
% of Volume	91	91

1002: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.6	0.6
Travel Time (hr)	0.5	0.5
Vehicles Exited	132	132
Hourly Exit Rate	132	132
Input Volume	128	128
% of Volume	103	103

5000: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.2	0.1
Total Del/Veh (s)	1.6	1.0	1.4
Travel Time (hr)	9.3	8.3	17.6
Vehicles Exited	1471	980	2451
Hourly Exit Rate	1471	980	2451
Input Volume	1464	1000	2464
% of Volume	100	98	99

5001: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.5	1.5
Travel Time (hr)	13.0	13.0
Vehicles Exited	1470	1470
Hourly Exit Rate	1470	1470
Input Volume	1464	1464
% of Volume	100	100

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	57.1
Travel Time (hr)	214.4
Vehicles Exited	4957
Hourly Exit Rate	4957
Input Volume	33046
% of Volume	15

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6603	6720	6776	6985	6677	6751
Vehs Exited	6506	6529	6593	6761	6545	6585
Starting Vehs	455	293	375	317	404	358
Ending Vehs	552	484	558	541	536	529
Travel Distance (mi)	5120	5086	5174	5294	5155	5166
Travel Time (hr)	777.8	578.3	689.5	566.5	714.0	665.2
Total Delay (hr)	609.8	411.1	519.6	392.2	544.5	495.4
Total Stops	15623	14193	15634	15967	15189	15317
Fuel Used (gal)	317.9	271.4	299.3	274.3	304.5	293.5

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1647	1622	1703	1680	1673	1666
Vehs Exited	1668	1586	1681	1615	1673	1645
Starting Vehs	455	293	375	317	404	358
Ending Vehs	434	329	397	382	404	383
Travel Distance (mi)	1312	1229	1303	1278	1263	1277
Travel Time (hr)	137.9	94.6	123.8	102.6	110.2	113.8
Total Delay (hr)	94.8	54.2	80.9	60.6	68.5	71.8
Total Stops	3923	2878	3829	3561	3526	3544
Fuel Used (gal)	67.7	55.7	64.2	58.5	59.9	61.2

**Interval #2 Information**

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1712	1672	1708	1772	1769	1722
Vehs Exited	1659	1603	1651	1724	1680	1663
Starting Vehs	434	329	397	382	404	383
Ending Vehs	487	398	454	430	493	449
Travel Distance (mi)	1295	1268	1296	1310	1350	1304
Travel Time (hr)	162.7	130.6	146.6	124.2	153.2	143.5
Total Delay (hr)	120.2	88.9	104.1	80.8	108.8	100.6
Total Stops	4129	3476	3896	3858	3918	3857
Fuel Used (gal)	72.9	64.7	69.0	64.3	72.2	68.6

**Interval #3 Information**

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1603	1725	1684	1816	1660	1694
Vehs Exited	1572	1684	1637	1743	1652	1656
Starting Vehs	487	398	454	430	493	449
Ending Vehs	518	439	501	503	501	489
Travel Distance (mi)	1245	1290	1281	1355	1297	1294
Travel Time (hr)	213.8	155.9	179.9	150.8	198.3	179.7
Total Delay (hr)	172.9	113.5	138.0	106.1	155.9	137.3
Total Stops	3800	3806	3886	4348	3934	3953
Fuel Used (gal)	82.7	70.9	76.5	71.5	81.2	76.6

**Interval #4 Information**

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1641	1701	1681	1717	1575	1662
Vehs Exited	1607	1656	1624	1679	1540	1621
Starting Vehs	518	439	501	503	501	489
Ending Vehs	552	484	558	541	536	529
Travel Distance (mi)	1268	1299	1294	1351	1245	1292
Travel Time (hr)	263.5	197.2	239.2	188.8	252.3	228.2
Total Delay (hr)	221.9	154.5	196.7	144.6	211.3	185.8
Total Stops	3771	4033	4023	4200	3811	3963
Fuel Used (gal)	94.6	80.0	89.6	79.9	91.3	87.1

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	4.2	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.4	0.0	2.1	2.0	4.4	2.1	1.5
Travel Time (hr)	0.4	0.0	0.0	1.1	0.0	0.3	1.7
Vehicles Exited	134	1	1	241	3	51	431
Hourly Exit Rate	134	1	1	241	3	51	431
Input Volume	137	1	2	267	3	50	460
% of Volume	98	100	50	90	100	102	94

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	2.9	0.7	2.2	0.5	8.4	4.1	2.3
Travel Time (hr)	0.0	0.8	0.5	0.4	0.7	0.0	2.4
Vehicles Exited	4	181	242	145	95	3	670
Hourly Exit Rate	4	181	242	145	95	3	670
Input Volume	6	181	269	147	93	3	699
% of Volume	67	100	90	99	102	100	96

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.4	0.2	2.6	2.0	11.6	2.1	2.3
Travel Time (hr)	0.5	0.2	0.3	1.0	0.4	0.1	2.5
Vehicles Exited	229	51	71	329	63	34	777
Hourly Exit Rate	229	51	71	329	63	34	777
Input Volume	228	50	82	357	60	36	813
% of Volume	100	102	87	92	105	94	96

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.7	0.4	0.2
Total Del/Veh (s)	19.1	8.1	34.2	5.3	34.8	4.9	17.0
Travel Time (hr)	1.6	0.3	6.6	1.3	1.1	3.0	13.9
Vehicles Exited	211	51	510	334	74	513	1693
Hourly Exit Rate	211	51	510	334	74	513	1693
Input Volume	216	48	545	364	84	511	1768
% of Volume	98	106	94	92	88	100	96

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.5	3.1	0.9
Total Del/Veh (s)	39.2	10.8	30.1	6.7	31.9	8.7	24.5
Travel Time (hr)	8.5	0.8	4.3	2.7	11.7	3.1	31.0
Vehicles Exited	618	111	353	585	640	262	2569
Hourly Exit Rate	618	111	353	585	640	262	2569
Input Volume	619	112	413	663	654	256	2717
% of Volume	100	99	85	88	98	102	95

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	3.5	0.6	0.2
Total Del/Veh (s)	58.6	6.9	8.6	3.9	32.7	17.0	12.1
Travel Time (hr)	4.5	6.0	4.1	2.3	1.7	3.7	22.3
Vehicles Exited	216	1057	840	692	105	328	3238
Hourly Exit Rate	216	1057	840	692	105	328	3238
Input Volume	208	1080	992	827	105	334	3546
% of Volume	104	98	85	84	100	98	91

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.7	0.1	0.4	0.4	4.0	4.9	11.7	4.6
Total Del/Veh (s)	56.4	6.5	4.6	61.0	49.8	7.6	63.6	65.9	50.5	64.6	59.9	21.0
Travel Time (hr)	5.0	4.4	0.3	0.7	19.9	2.5	0.6	0.7	0.8	5.0	0.4	2.5
Vehicles Exited	265	1114	60	36	1178	425	29	32	45	242	18	305
Hourly Exit Rate	265	1114	60	36	1178	425	29	32	45	242	18	305
Input Volume	279	1143	55	46	1314	465	36	29	49	383	26	452
% of Volume	95	97	109	78	90	91	81	110	92	63	69	67

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	31.0
Travel Time (hr)	42.8
Vehicles Exited	3749
Hourly Exit Rate	3749
Input Volume	4277
% of Volume	88

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	4.0	0.4	0.6	3.9
Total Del/Veh (s)	45.6	9.9	10.9	226.2	131.7	51.9	36.1	43.9	15.9	34.1	38.0	35.4
Travel Time (hr)	0.5	7.9	0.2	1.0	62.9	0.4	1.2	0.3	0.1	0.2	0.2	1.5
Vehicles Exited	30	1331	31	14	1433	17	99	19	19	17	16	105
Hourly Exit Rate	30	1331	31	14	1433	17	99	19	19	17	16	105
Input Volume	34	1495	34	17	1619	17	102	17	17	17	17	102
% of Volume	88	89	91	82	89	100	97	112	112	100	94	103

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	70.8
Travel Time (hr)	76.3
Vehicles Exited	3131
Hourly Exit Rate	3131
Input Volume	3488
% of Volume	90

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	8.0	4.0	2.5	1.1	1.9	2.2	31.2	34.3	34.5
Total Del/Veh (s)	57.1	41.2	61.6	137.9	76.7	60.9	229.3	75.6	36.9	64.9	81.8	40.6
Travel Time (hr)	3.2	13.7	9.0	9.9	27.9	1.9	16.9	6.1	1.4	3.1	9.6	4.5
Vehicles Exited	147	828	383	219	1093	92	227	252	105	101	275	186
Hourly Exit Rate	147	828	383	219	1093	92	227	252	105	101	275	186
Input Volume	163	938	428	221	1153	95	311	318	136	101	274	189
% of Volume	90	88	89	99	95	97	73	79	77	100	100	98

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	6.7
Total Del/Veh (s)	77.0
Travel Time (hr)	107.3
Vehicles Exited	3908
Hourly Exit Rate	3908
Input Volume	4327
% of Volume	90



10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	3.8	0.4	0.4	4.0
Total Del/Veh (s)	56.4	3.8	3.0	44.8	15.2	8.3	46.3	51.5	10.7	45.5	58.0	17.9
Travel Time (hr)	1.5	4.6	0.1	1.6	12.7	1.6	1.1	0.6	0.8	0.9	0.6	0.6
Vehicles Exited	76	917	14	87	1370	194	62	30	94	56	31	64
Hourly Exit Rate	76	917	14	87	1370	194	62	30	94	56	31	64
Input Volume	85	1040	16	91	1355	190	67	31	97	59	29	64
% of Volume	89	88	88	96	101	102	93	97	97	95	107	100

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	15.1
Travel Time (hr)	26.6
Vehicles Exited	2995
Hourly Exit Rate	2995
Input Volume	3124
% of Volume	96

11: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.5	0.5
Travel Time (hr)	0.0	0.0
Vehicles Exited	31	31
Hourly Exit Rate	31	31
Input Volume	35	35
% of Volume	89	89

21: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.7	0.5	0.6
Travel Time (hr)	1.2	0.6	1.8
Vehicles Exited	388	271	659
Hourly Exit Rate	388	271	659
Input Volume	416	271	687
% of Volume	93	100	96

22: Bend Performance by approach

Approach	NB	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.3	0.3
Travel Time (hr)	0.8	1.1	1.8
Vehicles Exited	271	388	659
Hourly Exit Rate	271	388	659
Input Volume	271	416	687
% of Volume	100	93	96

23: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.1	0.3
Travel Time (hr)	0.7	0.3	1.1
Vehicles Exited	271	389	660
Hourly Exit Rate	271	389	660
Input Volume	271	416	687
% of Volume	100	94	96

24: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	1.1	0.5
Travel Time (hr)	0.5	0.3	0.7
Vehicles Exited	389	271	660
Hourly Exit Rate	389	271	660
Input Volume	416	271	687
% of Volume	94	100	96

25: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.3	0.2
Travel Time (hr)	0.3	1.3	1.7
Vehicles Exited	271	390	661
Hourly Exit Rate	271	390	661
Input Volume	271	416	687
% of Volume	100	94	96

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	4.0	3.8	23.0	5.3	15.2
Travel Time (hr)	3.8	0.2	15.6	0.0	19.7
Vehicles Exited	990	36	1458	13	2497
Hourly Exit Rate	990	36	1458	13	2497
Input Volume	1127	40	1486	14	2667
% of Volume	88	90	98	93	94

101: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.0	0.0
Vehicles Exited	2	2
Hourly Exit Rate	2	2
Input Volume	3	3
% of Volume	67	67

202: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.9	0.9
Vehicles Exited	149	149
Hourly Exit Rate	149	149
Input Volume	153	153
% of Volume	97	97

302: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.4	0.4
Vehicles Exited	122	122
Hourly Exit Rate	122	122
Input Volume	132	132
% of Volume	92	92

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401: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.6	0.6
Travel Time (hr)	3.2	3.2
Vehicles Exited	561	561
Hourly Exit Rate	561	561
Input Volume	593	593
% of Volume	95	95

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501: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.9	1.9
Travel Time (hr)	3.9	3.9
Vehicles Exited	464	464
Hourly Exit Rate	464	464
Input Volume	525	525
% of Volume	88	88

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602: External Performance by approach

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Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.4	5.4
Travel Time (hr)	12.2	12.2
Vehicles Exited	908	908
Hourly Exit Rate	908	908
Input Volume	1035	1035
% of Volume	88	88

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701: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.4	0.4
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	127	127
% of Volume	90	90

702: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	59.0	25.7
Travel Time (hr)	1.7	9.9	11.6
Vehicles Exited	722	541	1263
Hourly Exit Rate	722	541	1263
Input Volume	773	837	1610
% of Volume	93	65	78

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	2.3	2.4	0.0	0.0	719.7	362.4
Total Del/Veh (s)	37.5	28.6	26.7	1.2	85.3	36.6
Travel Time (hr)	0.4	0.3	0.3	1.4	173.2	175.6
Vehicles Exited	33	35	31	690	504	1293
Hourly Exit Rate	33	35	31	690	504	1293
Input Volume	35	35	35	738	802	1645
% of Volume	94	100	89	93	63	79

704: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.3	0.3
Travel Time (hr)	1.5	1.5
Vehicles Exited	723	723
Hourly Exit Rate	723	723
Input Volume	773	773
% of Volume	94	94

801: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.2	0.2
Vehicles Exited	60	60
Hourly Exit Rate	60	60
Input Volume	68	68
% of Volume	88	88

802: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Time (hr)	0.2	0.2
Vehicles Exited	65	65
Hourly Exit Rate	65	65
Input Volume	68	68
% of Volume	96	96

901: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.1	1.1
Travel Time (hr)	5.1	5.1
Vehicles Exited	881	881
Hourly Exit Rate	881	881
Input Volume	923	923
% of Volume	95	95

902: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Time (hr)	1.8	1.8
Vehicles Exited	483	483
Hourly Exit Rate	483	483
Input Volume	569	569
% of Volume	85	85

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	37.5	8.9	173.2	131.2	0.0	0.0	78.3
Total Del/Veh (s)	53.1	45.4	101.5	65.2	7.8	1.5	42.4
Travel Time (hr)	0.6	0.3	55.4	1.1	0.1	3.5	61.0
Vehicles Exited	22	20	568	16	18	869	1513
Hourly Exit Rate	22	20	568	16	18	869	1513
Input Volume	20	20	738	20	20	913	1731
% of Volume	110	100	77	80	90	95	87

912: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.1	0.1
Vehicles Exited	34	34
Hourly Exit Rate	34	34
Input Volume	40	40
% of Volume	85	85

913: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.1	0.1
Vehicles Exited	36	36
Hourly Exit Rate	36	36
Input Volume	40	40
% of Volume	90	90

1000: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.3	0.3
Travel Time (hr)	1.0	1.0
Vehicles Exited	243	243
Hourly Exit Rate	243	243
Input Volume	270	270
% of Volume	90	90

1001: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Time (hr)	0.7	0.7
Vehicles Exited	134	134
Hourly Exit Rate	134	134
Input Volume	136	136
% of Volume	99	99

1002: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	1.2	1.2
Vehicles Exited	301	301
Hourly Exit Rate	301	301
Input Volume	306	306
% of Volume	98	98

5000: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.4	0.2
Total Del/Veh (s)	1.1	1.9	1.6
Travel Time (hr)	6.7	14.4	21.1
Vehicles Exited	1068	1649	2717
Hourly Exit Rate	1068	1649	2717
Input Volume	1196	1636	2832
% of Volume	89	101	96

5001: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.3	1.3
Travel Time (hr)	9.4	9.4
Vehicles Exited	1066	1066
Hourly Exit Rate	1066	1066
Input Volume	1196	1196
% of Volume	89	89

Total Network Performance

Denied Del/Veh (s)	103.3
Total Del/Veh (s)	146.0
Travel Time (hr)	665.2
Vehicles Exited	6585
Hourly Exit Rate	6585
Input Volume	46131
% of Volume	14



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6759	6871	6945	6825	7000	6881
Vehs Exited	6639	6769	6802	6680	6888	6758
Starting Vehs	340	344	302	311	303	320
Ending Vehs	460	446	445	456	415	443
Travel Distance (mi)	4510	4596	4640	4514	4612	4575
Travel Time (hr)	503.1	452.4	453.0	458.7	357.2	444.9
Total Delay (hr)	351.3	298.3	297.4	306.5	201.9	291.1
Total Stops	14588	15439	14804	14869	14417	14819
Fuel Used (gal)	242.3	234.1	234.2	232.5	212.7	231.2

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1785	1715	1788	1744	1675	1740
Vehs Exited	1728	1714	1701	1653	1644	1687
Starting Vehs	340	344	302	311	303	320
Ending Vehs	397	345	389	402	334	367
Travel Distance (mi)	1169	1147	1168	1123	1091	1139
Travel Time (hr)	95.1	85.9	85.5	91.1	77.0	86.9
Total Delay (hr)	55.6	47.4	46.4	53.2	40.1	48.5
Total Stops	3744	3714	3691	3750	3323	3641
Fuel Used (gal)	54.9	52.5	53.0	52.6	48.2	52.2

**Interval #2 Information**

Start Time 11:45  
End Time 12:00  
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1691	1729	1681	1686	1747	1702
Vehs Exited	1637	1649	1703	1684	1747	1686
Starting Vehs	397	345	389	402	334	367
Ending Vehs	451	425	367	404	334	395
Travel Distance (mi)	1118	1119	1151	1114	1165	1133
Travel Time (hr)	115.0	104.2	110.6	104.2	84.6	103.7
Total Delay (hr)	77.5	66.7	72.0	66.7	45.3	65.7
Total Stops	3615	3933	3653	3718	3583	3703
Fuel Used (gal)	57.6	55.5	57.7	55.2	52.5	55.7

**Interval #3 Information**

Start Time 12:00  
End Time 12:15  
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1650	1655	1726	1688	1791	1703
Vehs Exited	1675	1677	1722	1670	1741	1696
Starting Vehs	451	425	367	404	334	395
Ending Vehs	426	403	371	422	384	397
Travel Distance (mi)	1114	1129	1157	1135	1164	1140
Travel Time (hr)	136.0	126.5	123.6	119.3	87.9	118.7
Total Delay (hr)	98.5	88.6	84.8	81.0	48.8	80.3
Total Stops	3637	3730	3749	3719	3606	3689
Fuel Used (gal)	62.6	61.1	60.8	59.5	53.7	59.5

**Interval #4 Information**

Start Time 12:15  
End Time 12:30  
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1633	1772	1750	1707	1787	1724
Vehs Exited	1599	1729	1676	1673	1756	1688
Starting Vehs	426	403	371	422	384	397
Ending Vehs	460	446	445	456	415	443
Travel Distance (mi)	1110	1202	1164	1143	1192	1162
Travel Time (hr)	157.0	135.9	133.3	144.1	107.7	135.6
Total Delay (hr)	119.7	95.7	94.2	105.6	67.7	96.6
Total Stops	3592	4062	3711	3682	3905	3789
Fuel Used (gal)	67.2	64.9	62.7	65.2	58.3	63.7

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	WBL	WBT	NBR	All
Denied Del/Veh (s)	0.2	0.0	0.0		0.1
Total Del/Veh (s)	0.1	2.4	1.2		0.7
Travel Time (hr)	0.4	0.0	0.6	0.0	1.0
Vehicles Exited	152	2	138	0	292
Hourly Exit Rate	152	2	138	0	292
Input Volume	165	4	143	1	313
% of Volume	92	50	97	0	93

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.3	0.9	1.5	0.4	6.7	5.7	2.3
Travel Time (hr)	0.0	0.6	0.3	0.3	0.8	0.0	2.0
Vehicles Exited	6	153	139	98	116	3	515
Hourly Exit Rate	6	153	139	98	116	3	515
Input Volume	5	168	145	109	112	3	542
% of Volume	120	91	96	90	104	100	95

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.6	0.4	3.0	2.6	8.5	2.8	2.4
Travel Time (hr)	0.5	0.2	0.3	0.5	0.3	0.3	2.1
Vehicles Exited	203	65	63	179	62	65	637
Hourly Exit Rate	203	65	63	179	62	65	637
Input Volume	208	72	68	198	58	63	667
% of Volume	98	90	93	90	107	103	96

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.2	3.5	1.2
Total Del/Veh (s)	18.1	8.6	31.3	5.7	31.3	5.2	16.6
Travel Time (hr)	1.4	0.5	6.9	0.9	0.5	3.7	13.9
Vehicles Exited	193	81	555	213	39	545	1626
Hourly Exit Rate	193	81	555	213	39	545	1626
Input Volume	199	77	601	238	39	549	1703
% of Volume	97	105	92	89	100	99	95

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	2.1	2.9	0.8
Total Del/Veh (s)	23.0	7.7	25.1	9.6	26.5	7.2	18.9
Travel Time (hr)	5.8	0.7	2.9	3.3	10.2	2.5	25.3
Vehicles Exited	631	109	268	551	615	221	2395
Hourly Exit Rate	631	109	268	551	615	221	2395
Input Volume	646	102	297	610	636	229	2520
% of Volume	98	107	90	90	97	97	95

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	3.5	0.5	0.1
Total Del/Veh (s)	18.6	8.3	9.5	4.3	26.8	14.8	9.5
Travel Time (hr)	1.4	6.5	3.9	1.9	0.9	3.7	18.4
Vehicles Exited	149	1080	734	563	63	347	2936
Hourly Exit Rate	149	1080	734	563	63	347	2936
Input Volume	161	1104	811	603	68	343	3090
% of Volume	93	98	91	93	93	101	95

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.6	1.5	0.6	0.6	0.6	3.9	0.0	0.0	0.0
Total Del/Veh (s)	56.9	12.3	10.5	60.9	71.4	9.6	50.9	56.3	52.6	60.0	62.8	13.1
Travel Time (hr)	4.4	6.1	0.6	1.1	19.9	3.5	0.7	0.9	1.8	9.0	0.8	2.8
Vehicles Exited	235	1074	98	55	860	541	40	52	98	446	36	398
Hourly Exit Rate	235	1074	98	55	860	541	40	52	98	446	36	398
Input Volume	245	1083	97	61	972	591	44	51	92	452	35	399
% of Volume	96	99	101	90	88	92	91	102	107	99	103	100

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	36.3
Travel Time (hr)	51.5
Vehicles Exited	3933
Hourly Exit Rate	3933
Input Volume	4122
% of Volume	95

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.5	3.9	0.4	0.5	4.0
Total Del/Veh (s)	39.6	8.7	8.2	276.7	152.7	83.8	36.2	43.3	13.7	33.7	35.7	32.8
Travel Time (hr)	1.6	8.4	0.3	4.4	64.3	1.4	1.1	0.2	0.4	0.6	0.2	1.1
Vehicles Exited	104	1468	52	49	1278	46	91	13	55	49	15	83
Hourly Exit Rate	104	1468	52	49	1278	46	91	13	55	49	15	83
Input Volume	103	1480	51	51	1454	51	85	17	54	51	17	85
% of Volume	101	99	102	96	88	90	107	76	102	96	88	98

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	74.3
Travel Time (hr)	83.9
Vehicles Exited	3303
Hourly Exit Rate	3303
Input Volume	3499
% of Volume	94

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	25.5	25.5	23.7	0.0	0.0	0.0	65.1	60.8	64.3
Total Del/Veh (s)	44.8	22.8	38.0	75.9	74.5	65.0	151.4	57.2	19.3	66.0	121.7	62.8
Travel Time (hr)	3.3	10.9	7.7	5.3	26.9	2.8	16.8	4.6	1.1	3.8	11.8	8.9
Vehicles Exited	184	955	461	167	857	100	348	243	127	95	215	225
Hourly Exit Rate	184	955	461	167	857	100	348	243	127	95	215	225
Input Volume	197	949	465	176	913	102	417	283	153	102	214	233
% of Volume	93	101	99	95	94	98	83	86	83	93	100	97

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	16.0
Total Del/Veh (s)	62.5
Travel Time (hr)	103.9
Vehicles Exited	3977
Hourly Exit Rate	3977
Input Volume	4204
% of Volume	95

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.5	4.0	0.4	0.4	4.0
Total Del/Veh (s)	45.3	5.0	3.6	38.7	11.3	5.1	44.3	43.3	8.7	44.8	44.3	12.6
Travel Time (hr)	1.5	5.2	0.1	1.0	8.6	0.4	1.0	0.5	0.5	0.5	0.4	0.6
Vehicles Exited	88	1025	14	61	1052	50	62	34	68	30	28	70
Hourly Exit Rate	88	1025	14	61	1052	50	62	34	68	30	28	70
Input Volume	87	1052	14	63	1053	49	59	33	66	35	27	70
% of Volume	101	97	100	97	100	102	105	103	103	86	104	100

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	12.4
Travel Time (hr)	20.3
Vehicles Exited	2582
Hourly Exit Rate	2582
Input Volume	2608
% of Volume	99

11: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.5	0.5
Travel Time (hr)	0.1	0.1
Vehicles Exited	46	46
Hourly Exit Rate	46	46
Input Volume	45	45
% of Volume	102	102

21: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.6	0.5	0.6
Travel Time (hr)	0.7	0.6	1.3
Vehicles Exited	238	269	507
Hourly Exit Rate	238	269	507
Input Volume	254	280	534
% of Volume	94	96	95

22: Bend Performance by approach

Approach	NB	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.3	0.3
Travel Time (hr)	0.8	0.7	1.5
Vehicles Exited	268	238	506
Hourly Exit Rate	268	238	506
Input Volume	280	254	534
% of Volume	96	94	95

23: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.7	0.1	1.0
Travel Time (hr)	0.8	0.3	1.1
Vehicles Exited	268	238	506
Hourly Exit Rate	268	238	506
Input Volume	280	254	534
% of Volume	96	94	95

24: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.0	0.1
Travel Time (hr)	0.3	0.4	0.7
Vehicles Exited	238	268	506
Hourly Exit Rate	238	268	506
Input Volume	254	280	534
% of Volume	94	96	95

25: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.3	0.2
Travel Time (hr)	0.3	0.8	1.2
Vehicles Exited	268	238	506
Hourly Exit Rate	268	238	506
Input Volume	280	254	534
% of Volume	96	94	95

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.8	4.0	4.0	4.4	3.9
Travel Time (hr)	4.0	0.3	6.0	0.0	10.3
Vehicles Exited	1123	63	1187	9	2382
Hourly Exit Rate	1123	63	1187	9	2382
Input Volume	1152	60	1190	10	2412
% of Volume	97	105	100	90	99

101: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.0	0.0
Vehicles Exited	3	3
Hourly Exit Rate	3	3
Input Volume	4	4
% of Volume	75	75

202: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.6	0.6
Vehicles Exited	104	104
Hourly Exit Rate	104	104
Input Volume	114	114
% of Volume	91	91

302: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.5	0.5
Vehicles Exited	128	128
Hourly Exit Rate	128	128
Input Volume	140	140
% of Volume	91	91



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401: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.8	0.8
Travel Time (hr)	3.7	3.7
Vehicles Exited	635	635
Hourly Exit Rate	635	635
Input Volume	678	678
% of Volume	94	94

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501: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Time (hr)	3.1	3.1
Vehicles Exited	377	377
Hourly Exit Rate	377	377
Input Volume	399	399
% of Volume	94	94

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602: External Performance by approach

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Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	6.9	6.9
Travel Time (hr)	9.8	9.8
Vehicles Exited	712	712
Hourly Exit Rate	712	712
Input Volume	764	764
% of Volume	93	93

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701: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.6	0.6
Vehicles Exited	189	189
Hourly Exit Rate	189	189
Input Volume	193	193
% of Volume	98	98

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	1.8	2.9	0.0	0.0	0.7	0.3	0.4
Total Del/Veh (s)	29.0	14.4	11.4	2.5	5.7	1.8	5.0
Travel Time (hr)	0.3	0.2	0.3	3.6	2.9	0.0	7.3
Vehicles Exited	35	36	34	796	851	11	1763
Hourly Exit Rate	35	36	34	796	851	11	1763
Input Volume	35	35	35	852	851	10	1818
% of Volume	100	103	97	93	100	110	97

704: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.5	0.5
Travel Time (hr)	1.8	1.8
Vehicles Exited	832	832
Hourly Exit Rate	832	832
Input Volume	887	887
% of Volume	94	94

801: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.6	0.6
Travel Time (hr)	0.3	0.3
Vehicles Exited	116	116
Hourly Exit Rate	116	116
Input Volume	119	119
% of Volume	97	97

802: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.5	0.5
Vehicles Exited	162	162
Hourly Exit Rate	162	162
Input Volume	171	171
% of Volume	95	95

901: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	1.1	1.1
Vehicles Exited	798	798
Hourly Exit Rate	798	798
Input Volume	815	815
% of Volume	98	98

902: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Time (hr)	2.0	2.0
Vehicles Exited	528	528
Hourly Exit Rate	528	528
Input Volume	582	582
% of Volume	91	91

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	85.7	98.7	156.2	139.7	0.0	0.0	77.4
Total Del/Veh (s)	80.0	95.7	15.4	3.5	8.0	1.6	11.5
Travel Time (hr)	0.8	3.1	38.1	0.7	0.4	3.2	46.2
Vehicles Exited	16	51	685	16	60	783	1611
Hourly Exit Rate	16	51	685	16	60	783	1611
Input Volume	20	60	793	20	60	795	1748
% of Volume	80	85	86	80	100	98	92

912: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.4	0.4
Travel Time (hr)	0.1	0.1
Vehicles Exited	76	76
Hourly Exit Rate	76	76
Input Volume	80	80
% of Volume	95	95

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913: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.2	0.2
Vehicles Exited	63	63
Hourly Exit Rate	63	63
Input Volume	60	60
% of Volume	105	105

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1000: External Performance by approach

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Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.6	0.6
Vehicles Exited	130	130
Hourly Exit Rate	130	130
Input Volume	137	137
% of Volume	95	95

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1001: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.2	1.2
Travel Time (hr)	0.6	0.6
Vehicles Exited	103	103
Hourly Exit Rate	103	103
Input Volume	104	104
% of Volume	99	99

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1002: External Performance by approach

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Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Travel Time (hr)	0.7	0.7
Vehicles Exited	173	173
Hourly Exit Rate	173	173
Input Volume	169	169
% of Volume	102	102

5000: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.3	0.1
Total Del/Veh (s)	1.3	1.2	1.3
Travel Time (hr)	7.0	9.9	16.8
Vehicles Exited	1114	1162	2276
Hourly Exit Rate	1114	1162	2276
Input Volume	1146	1165	2311
% of Volume	97	100	98

5001: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.5	1.5
Travel Time (hr)	9.9	9.9
Vehicles Exited	1113	1113
Hourly Exit Rate	1113	1113
Input Volume	1146	1146
% of Volume	97	97

Total Network Performance

Denied Del/Veh (s)	29.6
Total Del/Veh (s)	116.6
Travel Time (hr)	444.9
Vehicles Exited	6758
Hourly Exit Rate	6758
Input Volume	40834
% of Volume	17

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:45	11:45	11:45	11:45	11:45	11:45
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	6229	6466	6231	6433	6293	6332
Vehs Exited	6132	6335	5953	6328	6112	6170
Starting Vehs	400	356	336	315	307	344
Ending Vehs	497	487	614	420	488	498
Travel Distance (mi)	4645	4760	4545	4761	4583	4659
Travel Time (hr)	796.5	711.3	794.0	623.4	751.6	735.4
Total Delay (hr)	642.6	553.6	643.4	465.1	599.3	580.8
Total Stops	15409	15304	14606	13777	14686	14758
Fuel Used (gal)	309.6	294.2	305.7	274.0	297.7	296.2

Interval #0 Information Seeding

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1565	1626	1552	1616	1575	1586
Vehs Exited	1533	1587	1529	1600	1494	1549
Starting Vehs	400	356	336	315	307	344
Ending Vehs	432	395	359	331	388	375
Travel Distance (mi)	1164	1195	1153	1171	1137	1164
Travel Time (hr)	128.2	127.6	128.2	111.0	112.6	121.5
Total Delay (hr)	89.6	87.9	90.2	71.8	75.0	82.9
Total Stops	3708	3554	3482	3385	3329	3489
Fuel Used (gal)	61.2	62.5	61.0	57.7	57.1	59.9

**Interval #2 Information**

Start Time 12:15  
 End Time 12:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1590	1545	1607	1600	1670	1604
Vehs Exited	1562	1483	1527	1582	1578	1546
Starting Vehs	432	395	359	331	388	375
Ending Vehs	460	457	439	349	480	437
Travel Distance (mi)	1170	1144	1154	1212	1195	1175
Travel Time (hr)	176.4	161.7	168.8	136.1	165.8	161.8
Total Delay (hr)	137.8	123.8	130.4	95.8	126.0	122.8
Total Stops	3961	3778	3796	3124	3988	3730
Fuel Used (gal)	72.2	68.3	70.0	64.5	70.2	69.0

**Interval #3 Information**

Start Time 12:30  
 End Time 12:45  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1469	1663	1582	1605	1509	1564
Vehs Exited	1459	1647	1532	1571	1486	1540
Starting Vehs	460	457	439	349	480	437
Ending Vehs	470	473	489	383	503	462
Travel Distance (mi)	1115	1238	1181	1204	1083	1164
Travel Time (hr)	216.0	195.7	208.9	171.3	212.7	200.9
Total Delay (hr)	179.2	154.7	169.9	131.4	176.6	162.4
Total Stops	3662	4075	3855	3556	3593	3749
Fuel Used (gal)	80.0	79.1	80.3	72.6	78.9	78.2

**Interval #4 Information**

Start Time 12:45  
 End Time 1:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1605	1632	1490	1612	1539	1571
Vehs Exited	1578	1618	1365	1575	1554	1539
Starting Vehs	470	473	489	383	503	462
Ending Vehs	497	487	614	420	488	498
Travel Distance (mi)	1196	1184	1056	1174	1169	1156
Travel Time (hr)	275.9	226.4	288.0	205.0	260.4	251.1
Total Delay (hr)	236.1	187.3	252.9	166.0	221.6	212.8
Total Stops	4078	3897	3473	3712	3776	3785
Fuel Used (gal)	96.1	84.2	94.4	79.2	91.6	89.1

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	5.8	0.8	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.3	0.1	0.9	1.6	4.7	1.9	1.3
Travel Time (hr)	0.3	0.0	0.0	0.8	0.0	0.2	1.2
Vehicles Exited	94	1	1	178	3	35	312
Hourly Exit Rate	94	1	1	178	3	35	312
Input Volume	95	1	2	202	3	36	339
% of Volume	99	100	50	88	100	97	92

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.2	0.6	1.6	0.4	6.1	2.2	1.7
Travel Time (hr)	0.0	0.6	0.4	0.2	0.4	0.0	1.6
Vehicles Exited	4	125	195	95	66	2	487
Hourly Exit Rate	4	125	195	95	66	2	487
Input Volume	5	128	220	110	67	3	533
% of Volume	80	98	89	86	99	67	91

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	WBT	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.2	2.5	1.6
Travel Time (hr)	0.5	0.9	1.4
Vehicles Exited	197	290	487
Hourly Exit Rate	197	290	487
Input Volume	201	331	532
% of Volume	98	88	92

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.5	0.2
Total Del/Veh (s)	20.7	7.0	23.5	7.5	26.8	5.8	14.0
Travel Time (hr)	1.6	0.2	5.3	1.1	0.6	3.9	12.6
Vehicles Exited	203	36	527	249	49	627	1691
Hourly Exit Rate	203	36	527	249	49	627	1691
Input Volume	200	36	620	279	60	618	1813
% of Volume	102	100	85	89	82	101	93



5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.3	2.9	0.8
Total Del/Veh (s)	35.1	9.3	33.4	8.0	32.1	6.2	24.5
Travel Time (hr)	9.4	0.6	3.4	2.7	10.5	2.7	29.4
Vehicles Exited	742	96	260	538	584	244	2464
Hourly Exit Rate	742	96	260	538	584	244	2464
Input Volume	734	93	328	662	593	246	2656
% of Volume	101	103	79	81	98	99	93

6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	7.0	4.0	0.7
Total Del/Veh (s)	56.5	12.5	12.7	3.7	65.7	66.1	21.7
Travel Time (hr)	4.3	8.0	4.3	1.9	2.3	9.3	30.2
Vehicles Exited	212	1112	711	602	86	349	3072
Hourly Exit Rate	212	1112	711	602	86	349	3072
Input Volume	215	1116	902	729	88	368	3418
% of Volume	99	100	79	83	98	95	90

7: Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	43.9	56.4	52.1	0.0	0.0	0.0
Total Del/Veh (s)	67.9	9.8	7.6	70.6	80.0	13.3	144.7	140.9	149.1	47.3	51.3	14.8
Travel Time (hr)	7.8	5.0	0.5	1.5	22.4	4.0	4.1	2.2	5.5	4.1	0.6	1.7
Vehicles Exited	351	1014	95	63	885	535	73	35	85	288	39	313
Hourly Exit Rate	351	1014	95	63	885	535	73	35	85	288	39	313
Input Volume	357	1031	96	71	983	574	70	38	92	476	67	532
% of Volume	98	98	99	89	90	93	104	92	92	61	58	59

7: Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	2.8
Total Del/Veh (s)	44.3
Travel Time (hr)	59.3
Vehicles Exited	3776
Hourly Exit Rate	3776
Input Volume	4387
% of Volume	86

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	6.5	1.1	3.4	5.5	7.0	9.1	0.5	0.4	4.0
Total Del/Veh (s)	44.0	11.2	11.3	272.1	143.8	57.1	80.7	73.1	44.5	33.6	46.7	59.1
Travel Time (hr)	0.4	8.2	0.2	1.2	63.0	0.3	2.3	0.4	0.2	0.2	0.2	1.9
Vehicles Exited	23	1283	30	13	1323	13	90	15	14	15	12	91
Hourly Exit Rate	23	1283	30	13	1323	13	90	15	14	15	12	91
Input Volume	30	1485	30	15	1462	15	90	15	15	15	15	90
% of Volume	77	86	100	87	90	87	100	100	93	100	80	101

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	78.8
Travel Time (hr)	78.5
Vehicles Exited	2922
Hourly Exit Rate	2922
Input Volume	3277
% of Volume	89

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	1.8	2.5	0.7	0.9	0.2	0.4	5.6	3.4	5.5
Total Del/Veh (s)	44.6	37.1	50.7	95.4	60.4	47.1	234.5	64.2	27.2	48.7	66.7	25.2
Travel Time (hr)	2.6	12.5	7.3	5.9	20.2	1.3	16.0	5.3	1.0	1.8	5.4	2.0
Vehicles Exited	144	819	363	193	984	74	208	255	95	99	244	173
Hourly Exit Rate	144	819	363	193	984	74	208	255	95	99	244	173
Input Volume	170	950	410	195	1045	84	269	297	120	89	242	163
% of Volume	85	86	89	99	94	88	77	86	79	111	101	106

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	64.0
Travel Time (hr)	81.3
Vehicles Exited	3651
Hourly Exit Rate	3651
Input Volume	4034
% of Volume	91

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	3.9	0.3	0.3	4.1
Total Del/Veh (s)	42.3	2.9	1.2	41.4	12.2	6.0	45.9	50.7	8.9	42.0	48.8	14.8
Travel Time (hr)	1.0	3.8	0.1	1.3	9.9	1.3	1.0	0.5	0.7	0.7	0.4	0.4
Vehicles Exited	58	803	11	78	1166	174	56	28	88	48	25	52
Hourly Exit Rate	58	803	11	78	1166	174	56	28	88	48	25	52
Input Volume	74	912	14	80	1174	168	58	27	86	52	26	56
% of Volume	78	88	79	98	99	104	97	104	102	92	96	93

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	12.4
Travel Time (hr)	21.1
Vehicles Exited	2587
Hourly Exit Rate	2587
Input Volume	2727
% of Volume	95

11: External Performance by approach

Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.5	0.5
Travel Time (hr)	0.0	0.0
Vehicles Exited	29	29
Hourly Exit Rate	29	29
Input Volume	35	35
% of Volume	83	83

21: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.4	0.5
Travel Time (hr)	0.9	0.4	1.3
Vehicles Exited	290	191	481
Hourly Exit Rate	290	191	481
Input Volume	330	195	525
% of Volume	88	98	92

22: Bend Performance by approach

Approach	NB	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.3	0.2
Travel Time (hr)	0.6	0.8	1.3
Vehicles Exited	191	290	481
Hourly Exit Rate	191	290	481
Input Volume	195	330	525
% of Volume	98	88	92

23: Bend Performance by approach

Approach	NE	SW	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.1	0.3
Travel Time (hr)	0.5	0.3	0.8
Vehicles Exited	191	290	481
Hourly Exit Rate	191	290	481
Input Volume	195	330	525
% of Volume	98	88	92

24: Bend Performance by approach

Approach	WB	NE	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.1	1.0	0.5
Travel Time (hr)	0.3	0.2	0.5
Vehicles Exited	290	191	481
Hourly Exit Rate	290	191	481
Input Volume	330	195	525
% of Volume	88	98	92

25: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.2	0.1
Travel Time (hr)	0.2	0.9	1.2
Vehicles Exited	191	290	481
Hourly Exit Rate	191	290	481
Input Volume	195	330	525
% of Volume	98	88	92

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	4.0	3.6	11.1	4.4	8.0
Travel Time (hr)	3.6	0.1	9.2	0.0	12.9
Vehicles Exited	970	30	1252	8	2260
Hourly Exit Rate	970	30	1252	8	2260
Input Volume	1111	33	1288	10	2442
% of Volume	87	91	97	80	93

101: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.0	0.0
Vehicles Exited	3	3
Hourly Exit Rate	3	3
Input Volume	3	3
% of Volume	100	100

202: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.6	0.6
Vehicles Exited	100	100
Hourly Exit Rate	100	100
Input Volume	115	115
% of Volume	87	87

401: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	3.2	3.2
Vehicles Exited	561	561
Hourly Exit Rate	561	561
Input Volume	656	656
% of Volume	86	86

501: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.7	1.7
Travel Time (hr)	3.0	3.0
Vehicles Exited	357	357
Hourly Exit Rate	357	357
Input Volume	421	421
% of Volume	85	85

602: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	5.4	5.4
Travel Time (hr)	10.9	10.9
Vehicles Exited	814	814
Hourly Exit Rate	814	814
Input Volume	944	944
% of Volume	86	86

701: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.6	0.6
Vehicles Exited	197	197
Hourly Exit Rate	197	197
Input Volume	234	234
% of Volume	84	84

702: Bend Performance by approach

Approach	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	0.5	48.3	20.2
Travel Time (hr)	2.2	9.7	11.9
Vehicles Exited	921	638	1559
Hourly Exit Rate	921	638	1559
Input Volume	969	1075	2044
% of Volume	95	59	76

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	2.8	2.1	0.0	0.0	898.9	471.8
Total Del/Veh (s)	42.1	29.8	36.2	1.3	67.2	28.7
Travel Time (hr)	0.4	0.4	0.4	1.8	285.1	288.2
Vehicles Exited	32	35	29	892	604	1592
Hourly Exit Rate	32	35	29	892	604	1592
Input Volume	35	35	35	935	1040	2080
% of Volume	91	100	83	95	58	77

704: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.4	0.4
Travel Time (hr)	1.9	1.9
Vehicles Exited	924	924
Hourly Exit Rate	924	924
Input Volume	969	969
% of Volume	95	95

801: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	0.1	0.1
Vehicles Exited	56	56
Hourly Exit Rate	56	56
Input Volume	60	60
% of Volume	93	93

802: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.9	0.9
Travel Time (hr)	0.2	0.2
Vehicles Exited	51	51
Hourly Exit Rate	51	51
Input Volume	60	60
% of Volume	85	85

901: External Performance by approach

Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Travel Time (hr)	4.4	4.4
Vehicles Exited	763	763
Hourly Exit Rate	763	763
Input Volume	812	812
% of Volume	94	94

902: External Performance by approach

Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.4	1.4
Travel Time (hr)	1.7	1.7
Vehicles Exited	454	454
Hourly Exit Rate	454	454
Input Volume	529	529
% of Volume	86	86

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	21.4	17.3	134.0	91.9	0.0	0.0	60.8
Total Del/Veh (s)	34.0	59.3	79.8	52.0	4.9	1.4	35.0
Travel Time (hr)	0.2	0.4	40.7	0.7	0.1	3.1	45.1
Vehicles Exited	12	15	558	14	13	787	1399
Hourly Exit Rate	12	15	558	14	13	787	1399
Input Volume	15	15	664	15	15	832	1556
% of Volume	80	100	84	93	87	95	90

912: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.0	0.0
Vehicles Exited	27	27
Hourly Exit Rate	27	27
Input Volume	30	30
% of Volume	90	90



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913: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Travel Time (hr)	0.1	0.1
Vehicles Exited	30	30
Hourly Exit Rate	30	30
Input Volume	33	33
% of Volume	91	91

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1000: External Performance by approach

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Approach	WB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Travel Time (hr)	0.8	0.8
Vehicles Exited	180	180
Hourly Exit Rate	180	180
Input Volume	205	205
% of Volume	88	88

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1001: External Performance by approach

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Approach	SB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.3	1.3
Travel Time (hr)	0.6	0.6
Vehicles Exited	114	114
Hourly Exit Rate	114	114
Input Volume	120	120
% of Volume	95	95

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1002: External Performance by approach

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Approach	NB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	0.7	0.7
Travel Time (hr)	1.1	1.1
Vehicles Exited	261	261
Hourly Exit Rate	261	261
Input Volume	269	269
% of Volume	97	97

5000: Bend Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.3	0.2
Total Del/Veh (s)	0.8	1.6	1.3
Travel Time (hr)	5.8	12.2	18.0
Vehicles Exited	938	1422	2360
Hourly Exit Rate	938	1422	2360
Input Volume	1049	1422	2471
% of Volume	89	100	96

5001: External Performance by approach

Approach	EB	All
Denied Del/Veh (s)	0.0	0.0
Total Del/Veh (s)	1.0	1.0
Travel Time (hr)	8.2	8.2
Vehicles Exited	938	938
Hourly Exit Rate	938	938
Input Volume	1049	1049
% of Volume	89	89

Total Network Performance

Denied Del/Veh (s)	158.3
Total Del/Veh (s)	148.8
Travel Time (hr)	735.4
Vehicles Exited	6170
Hourly Exit Rate	6170
Input Volume	43478
% of Volume	14

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	43	18
Average Queue (ft)	9	3
95th Queue (ft)	33	13
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	SB
Directions Served	LR
Maximum Queue (ft)	93
Average Queue (ft)	38
95th Queue (ft)	68
Link Distance (ft)	732
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	4	42	42	59
Average Queue (ft)	0	8	18	30
95th Queue (ft)	3	31	38	49
Link Distance (ft)		412	452	452
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	
Directions Served	T	T	TR	L	L	T	T	L	L	R	
Maximum Queue (ft)	86	86	59	98	119	25	49	5	34	30	
Average Queue (ft)	29	31	13	36	68	1	9	0	2	2	
95th Queue (ft)	71	73	44	84	108	10	35	5	16	16	
Link Distance (ft)	412	412	412			392	392		668	668	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)					225	225			239		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	158	154	58	268	101	262	298	5
Average Queue (ft)	77	80	21	141	36	154	182	0
95th Queue (ft)	136	132	47	228	81	234	266	3
Link Distance (ft)	392	392	392	515	515		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB	
Directions Served	L	T	T	T	T	R	L	TR	
Maximum Queue (ft)	62	159	169	76	74	248	133	260	
Average Queue (ft)	19	54	66	23	17	23	18	115	
95th Queue (ft)	47	124	135	57	51	137	66	198	
Link Distance (ft)		515	515	287	287	287		995	
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)	261							158	
Storage Blk Time (%)								3	
Queuing Penalty (veh)								1	

Intersection: 7: WV45 & Foxcroft Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	188	178	199	218	127	224	304	91	186	89	146	190
Average Queue (ft)	96	75	103	133	50	68	138	30	76	60	51	101
95th Queue (ft)	164	146	167	194	99	167	269	71	152	101	126	168
Link Distance (ft)		287	287	287		366	366	366	244			309
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	229				200					64	129	
Storage Blk Time (%)	0					0			10	15	0	4
Queuing Penalty (veh)	1					0			9	13	0	3

Intersection: 7: WV45 & Foxcroft Ave.

Movement	SB
Directions Served	R
Maximum Queue (ft)	139
Average Queue (ft)	59
95th Queue (ft)	108
Link Distance (ft)	309
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	72	140	164	187	101	218	228	168	142	71	94	79
Average Queue (ft)	24	54	70	100	57	90	98	60	64	41	34	21
95th Queue (ft)	58	113	136	170	102	187	191	135	122	80	77	62
Link Distance (ft)		366	366	366		834	834	834	191			301
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			6	5			23	4	4	1
Queuing Penalty (veh)		0			20	4			13	3	1	1

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	190	203	250	287	200	166	162	132	178	228	314	125
Average Queue (ft)	94	80	108	141	87	86	88	69	81	108	155	79
95th Queue (ft)	160	152	194	230	161	151	147	121	149	170	281	170
Link Distance (ft)		834	834	834	370	370	370	370		399	399	
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)										1	28	1
Queuing Penalty (veh)										1	43	3

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	141	216	127
Average Queue (ft)	56	104	45
95th Queue (ft)	106	172	131
Link Distance (ft)		377	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)		10	0
Queuing Penalty (veh)		20	0

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	103	193	195	211	67	189	181	65	46	60	156	61
Average Queue (ft)	31	69	85	93	21	64	70	13	10	15	63	37
95th Queue (ft)	75	159	171	187	52	146	149	45	33	41	124	70
Link Distance (ft)		662	662	662		838	838		614		424	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			145		247		30
Storage Blk Time (%)	0	1				0	1	0			55	6
Queuing Penalty (veh)	0	0				0	0	0			27	4

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	27
95th Queue (ft)	56
Link Distance (ft)	215
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	48	31	35	47	56	49
Average Queue (ft)	21	4	4	8	8	8
95th Queue (ft)	47	21	21	32	35	33
Link Distance (ft)	67		309	309	247	247
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	SB
Directions Served	LR	T	L
Maximum Queue (ft)	58	16	35
Average Queue (ft)	26	1	8
95th Queue (ft)	52	12	31
Link Distance (ft)	83	153	
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 168
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Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	17
95th Queue (ft)	31
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	75
Average Queue (ft)	2	29
95th Queue (ft)	14	54
Link Distance (ft)	859	733
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	50	56	37
Average Queue (ft)	14	28	19
95th Queue (ft)	39	51	39
Link Distance (ft)	412	378	378
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			



Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	95	83	83	236	244	212	64	53	105	190
Average Queue (ft)	40	32	35	117	135	15	15	9	38	53
95th Queue (ft)	80	71	74	226	227	109	47	32	84	126
Link Distance (ft)	412	412	412			396	396		661	661
Upstream Blk Time (%)						0				
Queuing Penalty (veh)						0				
Storage Bay Dist (ft)				225	225			259		
Storage Blk Time (%)				1	2					
Queuing Penalty (veh)				1	3					

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	275	261	74	236	189	266	276	175
Average Queue (ft)	163	151	37	137	48	165	164	66
95th Queue (ft)	242	228	66	224	128	241	245	143
Link Distance (ft)	396	396	396	515	515		1422	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	250	232	263	169	183	99	182	240
Average Queue (ft)	141	70	79	63	89	3	66	104
95th Queue (ft)	228	188	190	130	157	42	132	185
Link Distance (ft)		515	515	280	280	280		995
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)	1						0	3
Queuing Penalty (veh)	7						1	3

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	249	275	213	152	208	411	419	299	144	89	49	146
Average Queue (ft)	158	46	45	69	86	373	367	78	60	43	20	120
95th Queue (ft)	239	155	122	132	235	435	455	198	122	89	53	132
Link Distance (ft)		280	280	280		366	366	366	244			46
Upstream Blk Time (%)		0	0			21	15	0			8	86
Queuing Penalty (veh)		2	0			128	90	1			0	362
Storage Bay Dist (ft)	229				183					64	109	
Storage Blk Time (%)	3	0			0	48			13	6	8	86
Queuing Penalty (veh)	10	0			0	22			6	4	18	165

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	B702	B702
Directions Served	R	T	T
Maximum Queue (ft)	141	268	251
Average Queue (ft)	107	227	91
95th Queue (ft)	144	272	227
Link Distance (ft)	46	192	192
Upstream Blk Time (%)	44	74	4
Queuing Penalty (veh)	184	308	15
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	74	134	176	213	102	876	886	890	170	71	172	85
Average Queue (ft)	23	54	72	111	33	712	714	684	81	18	44	60
95th Queue (ft)	56	107	138	189	104	1106	1110	1148	145	59	123	92
Link Distance (ft)		366	366	366		834	834	834	191		301	
Upstream Blk Time (%)						11	9	9	0			
Queuing Penalty (veh)						63	52	47	0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			0	73			32	1	2	16
Queuing Penalty (veh)		0			0	12			6	1	2	5

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	243	381	481	554	450	472	476	471	228	418	410	125
Average Queue (ft)	113	185	241	328	284	320	316	307	178	294	257	71
95th Queue (ft)	204	274	392	481	478	509	512	509	275	506	474	170
Link Distance (ft)		834	834	834	378	378	378	378		399	399	
Upstream Blk Time (%)				0	19	31	31	29		36	9	
Queuing Penalty (veh)				0	68	113	114	106		137	34	
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)									40	57	49	0
Queuing Penalty (veh)									62	88	66	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	412	127
Average Queue (ft)	143	312	101
95th Queue (ft)	281	485	175
Link Distance (ft)		377	
Upstream Blk Time (%)		30	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	0	54	2
Queuing Penalty (veh)	0	157	8

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	123	61	88	121	210	344	337	175	139	97	182	59
Average Queue (ft)	54	18	26	42	66	164	184	78	70	42	81	39
95th Queue (ft)	104	48	65	94	149	287	308	197	124	77	156	71
Link Distance (ft)		662	662	662		838	838		627		424	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			150		247		30
Storage Blk Time (%)	0					3	10	0			58	12
Queuing Penalty (veh)	1					3	19	0			37	11

Intersection: 91: WV45

Movement	WB	WB	WB	WB	NB
Directions Served	T	T	T	T	R
Maximum Queue (ft)	350	408	392	360	40
Average Queue (ft)	72	87	87	78	11
95th Queue (ft)	272	330	332	310	36
Link Distance (ft)		662	662	662	215
Upstream Blk Time (%)		0	0	0	
Queuing Penalty (veh)		2	0	0	
Storage Bay Dist (ft)	485				
Storage Blk Time (%)	1	2			
Queuing Penalty (veh)	3	6			

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	90	81	44	73	291	284
Average Queue (ft)	47	21	7	26	269	265
95th Queue (ft)	87	60	30	69	280	279
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	7				89	60
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	82	855	100	35
Average Queue (ft)	35	493	10	6
95th Queue (ft)	78	1111	64	25
Link Distance (ft)	83	810		
Upstream Blk Time (%)	7	43		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		48	0	
Queuing Penalty (veh)		10	0	

Network Summary

Network wide Queuing Penalty: 2566

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	11	7
Average Queue (ft)	0	0
95th Queue (ft)	6	4
Link Distance (ft)	686	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	32	4	62
Average Queue (ft)	2	0	30
95th Queue (ft)	15	3	51
Link Distance (ft)	859	296	733
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	9	40	57	53
Average Queue (ft)	0	11	24	26
95th Queue (ft)	7	35	44	44
Link Distance (ft)	418		458	458
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	90	88	103	236	248	392	58	48	61	155
Average Queue (ft)	42	32	42	119	138	33	13	9	25	63
95th Queue (ft)	76	70	84	230	233	195	41	33	58	127
Link Distance (ft)	418	418	418			396	396		668	
Upstream Blk Time (%)						0				
Queuing Penalty (veh)						1				
Storage Bay Dist (ft)				225	225			239		253
Storage Blk Time (%)				1	2	0				
Queuing Penalty (veh)				1	2	1				

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	214	219	81	206	236	256	246	165
Average Queue (ft)	113	114	32	106	100	134	144	55
95th Queue (ft)	183	189	64	182	195	216	220	124
Link Distance (ft)	396	396	396	515	515		1422	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	114	171	173	180	184	126	128	222
Average Queue (ft)	50	75	96	57	92	6	42	109
95th Queue (ft)	97	150	171	122	148	60	99	191
Link Distance (ft)		515	515	295	295	295		995
Upstream Blk Time (%)				0				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)								3
Queuing Penalty (veh)								2

Queuing and Blocking Report  
 2024 Saturday Peak Model ALT 2

8/18/2015

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	239	230	202	209	225	407	430	202	232	89	154	337
Average Queue (ft)	149	83	93	121	159	382	368	72	101	66	145	248
95th Queue (ft)	236	187	168	182	313	416	442	151	196	107	180	354
Link Distance (ft)		295	295	295		367	367	367	244			306
Upstream Blk Time (%)		1	0			25	11	0	0			9
Queuing Penalty (veh)		6	0			132	60	0	0			38
Storage Bay Dist (ft)	229				200					64	129	
Storage Blk Time (%)	5	0			0	76			18	21	9	48
Queuing Penalty (veh)	16	0			1	47			17	19	23	109

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	328
Average Queue (ft)	135
95th Queue (ft)	261
Link Distance (ft)	306
Upstream Blk Time (%)	1
Queuing Penalty (veh)	6
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	143	138	149	201	102	867	897	890	182	72	155	85
Average Queue (ft)	70	73	77	120	78	717	716	693	75	37	51	54
95th Queue (ft)	126	129	138	195	143	1063	1094	1128	146	79	111	91
Link Distance (ft)		367	367	367		834	834	834	191		301	
Upstream Blk Time (%)						10	10	13	1			
Queuing Penalty (veh)						54	51	65	0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)	0	0			3	86			29	2	4	8
Queuing Penalty (veh)	2	0			12	44			16	2	4	6

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	203	242	394	509	312	389	391	393	225	428	416	125
Average Queue (ft)	112	128	206	299	148	242	249	267	191	306	242	79
95th Queue (ft)	182	203	351	471	270	448	454	470	269	497	429	172
Link Distance (ft)		834	834	834	378	378	378	378		399	399	
Upstream Blk Time (%)						10	10	15		30	5	
Queuing Penalty (veh)						26	25	38		127	21	
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)									20	55	39	1
Queuing Penalty (veh)									42	115	60	2

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	419	127
Average Queue (ft)	169	353	120
95th Queue (ft)	315	487	158
Link Distance (ft)		377	
Upstream Blk Time (%)		51	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	0	69	9
Queuing Penalty (veh)	0	230	29

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	122	126	133	138	141	223	259	121	153	64	155	57
Average Queue (ft)	58	44	41	44	45	108	128	19	70	30	62	40
95th Queue (ft)	102	98	106	109	98	191	221	87	129	57	127	69
Link Distance (ft)		662	662	662		838	838		627		424	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			145		247		30
Storage Blk Time (%)	0	0				1	4	0			43	10
Queuing Penalty (veh)	0	0				0	2	0			30	6



Intersection: 91: WV45

Movement	WB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	102	105	100	31
Average Queue (ft)	9	8	11	9
95th Queue (ft)	58	57	61	31
Link Distance (ft)	662	662	662	215
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	TR
Maximum Queue (ft)	78	53	95	105	192	190
Average Queue (ft)	44	20	32	53	64	54
95th Queue (ft)	78	47	81	104	173	155
Link Distance (ft)	64		306	306	251	251
Upstream Blk Time (%)	5				2	2
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB	SB
Directions Served	LR	T	R	L	T
Maximum Queue (ft)	111	165	73	65	88
Average Queue (ft)	63	92	6	22	2
95th Queue (ft)	117	234	51	53	28
Link Distance (ft)	83	157			399
Upstream Blk Time (%)	40	36			
Queuing Penalty (veh)	0	0			
Storage Bay Dist (ft)			100	150	
Storage Blk Time (%)		36	0		0
Queuing Penalty (veh)		7	0		0

Network Summary

Network wide Queuing Penalty: 1500

Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	26
Average Queue (ft)	13
95th Queue (ft)	28
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	25	4	47
Average Queue (ft)	1	0	23
95th Queue (ft)	12	3	39
Link Distance (ft)	859	296	733
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Cornerstone Dev. & WV 45

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	101	82	77	198	205	21	106	16	84	158
Average Queue (ft)	51	34	28	106	128	1	39	1	28	61
95th Queue (ft)	89	70	64	183	193	14	86	9	65	123
Link Distance (ft)	412	412	412			396	396		661	661
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				225	225			259		
Storage Blk Time (%)				0	0					
Queuing Penalty (veh)				0	0					

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	326	324	260	229	192	253	270	140
Average Queue (ft)	187	173	42	113	59	156	157	55
95th Queue (ft)	294	278	148	199	148	235	239	115
Link Distance (ft)	396	396	396	515	515		1422	
Upstream Blk Time (%)			0					
Queuing Penalty (veh)			0					
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	281	370	348	209	217	29	183	713
Average Queue (ft)	155	151	148	75	114	1	75	271
95th Queue (ft)	263	305	278	159	197	21	180	708
Link Distance (ft)		515	515	280	280	280		995
Upstream Blk Time (%)		0						2
Queuing Penalty (veh)		0						0
Storage Bay Dist (ft)	261						158	
Storage Blk Time (%)	1	1					0	28
Queuing Penalty (veh)	8	3					1	25

Intersection: 7: Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	335	232	197	208	407	415	383	283	89	45	153
Average Queue (ft)	219	166	66	91	121	380	371	159	212	83	13	121
95th Queue (ft)	289	390	154	170	267	402	431	327	313	109	44	136
Link Distance (ft)		280	280	280		366	366	366	244			46
Upstream Blk Time (%)		12	0			44	28	1	41		2	81
Queuing Penalty (veh)		62	0			238	150	7	0		0	435
Storage Bay Dist (ft)	229				183					64	109	
Storage Blk Time (%)	25	0			0	62			61	43	2	81
Queuing Penalty (veh)	80	1			0	44			56	46	5	192

Intersection: 7: Foxcroft Ave. & WV45

Movement	SB	B702	B702
Directions Served	R	T	T
Maximum Queue (ft)	143	281	242
Average Queue (ft)	98	248	68
95th Queue (ft)	149	289	194
Link Distance (ft)	46	192	192
Upstream Blk Time (%)	31	69	2
Queuing Penalty (veh)	169	373	11
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	68	190	194	228	101	870	886	902	210	71	228	85
Average Queue (ft)	19	63	82	118	27	698	687	667	111	16	57	60
95th Queue (ft)	51	137	158	202	93	1093	1123	1174	208	57	167	98
Link Distance (ft)		366	366	366		834	834	834	191		301	
Upstream Blk Time (%)		0				17	13	11	8			
Queuing Penalty (veh)		0				84	65	55	0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			0	78			53	0	1	24
Queuing Penalty (veh)		0			0	12			8	0	1	7

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	195	250	357	431	372	455	459	459	230	381	405	125
Average Queue (ft)	101	158	203	282	192	250	255	253	162	275	227	66
95th Queue (ft)	173	236	306	396	345	431	431	430	279	511	412	166
Link Distance (ft)		834	834	834	378	378	378	378		399	399	
Upstream Blk Time (%)					1	10	9	8		33	3	
Queuing Penalty (veh)					4	33	28	27		113	11	
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)									31	55	45	0
Queuing Penalty (veh)									42	74	54	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	236	413	127
Average Queue (ft)	105	242	101
95th Queue (ft)	228	425	173
Link Distance (ft)		377	
Upstream Blk Time (%)		8	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	0	42	2
Queuing Penalty (veh)	0	105	7

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	105	66	90	96	118	271	270	175	133	80	170	60
Average Queue (ft)	41	10	17	24	53	119	134	50	66	37	65	36
95th Queue (ft)	81	42	57	66	102	216	225	147	115	68	130	70
Link Distance (ft)		662	662	662		838	838		627		424	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			150		247		30
Storage Blk Time (%)	0					1	5	0			50	9
Queuing Penalty (veh)	0					1	8	0			28	7

Queuing and Blocking Report  
 2024 Friday Midday Peak Model ALT 2

8/18/2015

Intersection: 91: WV45

Movement	WB	WB	WB	WB	NB
Directions Served	T	T	T	T	R
Maximum Queue (ft)	114	211	215	208	31
Average Queue (ft)	17	23	24	22	9
95th Queue (ft)	151	186	190	183	31
Link Distance (ft)		662	662	662	215
Upstream Blk Time (%)		0	0	0	
Queuing Penalty (veh)		2	1	2	
Storage Bay Dist (ft)	485				
Storage Blk Time (%)	1	2			
Queuing Penalty (veh)	3	6			

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	86	80	89	101	292	287
Average Queue (ft)	50	21	15	38	268	260
95th Queue (ft)	87	59	55	92	276	321
Link Distance (ft)	67		192	192	251	251
Upstream Blk Time (%)	8				86	45
Queuing Penalty (veh)	0				0	0
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	82	690	75	35
Average Queue (ft)	26	363	4	3
95th Queue (ft)	66	1002	43	20
Link Distance (ft)	83	810		
Upstream Blk Time (%)	5	30		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		37		
Queuing Penalty (veh)		5		

Network Summary

Network wide Queuing Penalty: 2704



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	216	5	67	68	5
Sign Control	Free			Free	Stop

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 28.9% ICU Level of Service A

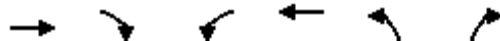
Analysis Period (min) 15



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	238	185	168
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 29.9%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	345	78	36	158	41	91
Sign Control	Free			Free	Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 33.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	429	112	184	3	56
Act Effct Green (s)	49.6	10.0	62.0	8.0	23.0
Actuated g/C Ratio	0.62	0.12	0.78	0.10	0.29
v/c Ratio	0.15	0.36	0.09	0.01	0.13
Control Delay	7.3	20.9	1.4	32.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	20.9	1.4	32.7	6.7
LOS	A	C	A	C	A
Approach Delay	7.3		8.8	8.0	
Approach LOS	A		A	A	
Queue Length 50th (ft)	31	15	3	1	0
Queue Length 95th (ft)	49	28	5	5	24
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	2773	564	2046	439	577
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.20	0.09	0.01	0.10

**Intersection Summary**

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 10 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.36	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 42.5%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	410	51	250	199	978	105
Act Effct Green (s)	17.2	17.2	16.8	39.0	31.0	31.0
Actuated g/C Ratio	0.22	0.22	0.21	0.49	0.39	0.39
v/c Ratio	0.61	0.14	0.77	0.25	0.84	0.17
Control Delay	29.2	1.2	29.2	7.6	30.3	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.2	1.2	29.2	7.6	30.3	4.4
LOS	C	A	C	A	C	A
Approach Delay	26.1			19.6		
Approach LOS	C			B		
Queue Length 50th (ft)	64	0	71	38	222	0
Queue Length 95th (ft)	95	3	#202	98	292	28
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	669	373	349	797	1167	602
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.14	0.72	0.25	0.84	0.17

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 62 (78%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 25.6

Intersection LOS: C

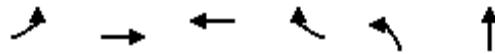
Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	65	1249	403	747	26	401
Act Effct Green (s)	46.2	46.2	35.8	35.8	23.8	23.8
Actuated g/C Ratio	0.58	0.58	0.45	0.45	0.30	0.30
v/c Ratio	0.13	0.70	0.29	0.72	0.06	0.84
Control Delay	2.1	5.0	7.7	10.8	19.8	36.7
Queue Delay	0.0	0.0	0.0	2.1	0.0	0.0
Total Delay	2.1	5.1	7.7	12.9	19.8	36.7
LOS	A	A	A	B	B	D
Approach Delay		4.9	11.1			35.7
Approach LOS		A	B			D
Queue Length 50th (ft)	6	107	22	126	9	141
Queue Length 95th (ft)	m6	127	51	416	26	#293
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	496	1793	1389	1033	485	499
Starvation Cap Reductn	0	0	0	159	0	0
Spillback Cap Reductn	0	14	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.70	0.29	0.85	0.05	0.80

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 16 (20%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 11.9

Intersection LOS: B

Intersection Capacity Utilization 92.2%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	156	1453	76	866	259	89	96	107	107	173
Act Effct Green (s)	11.0	39.1	7.3	33.6	50.6	8.0	8.0	12.0	12.0	25.6
Actuated g/C Ratio	0.14	0.49	0.09	0.42	0.63	0.10	0.10	0.15	0.15	0.32
v/c Ratio	0.74	0.67	0.54	0.66	0.27	0.57	0.32	0.48	0.48	0.32
Control Delay	57.0	9.5	59.2	9.5	1.4	49.7	3.0	38.5	38.2	4.9
Queue Delay	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	9.6	59.2	9.6	1.4	49.7	3.0	38.5	38.2	4.9
LOS	E	A	E	A	A	D	A	D	D	A
Approach Delay		14.2		11.0		25.5			23.4	
Approach LOS		B		B		C			C	
Queue Length 50th (ft)	76	140	42	24	0	43	0	52	52	9
Queue Length 95th (ft)	m109	183	86	32	0	#101	3	105	105	37
Internal Link Dist (ft)		290		428		227			305	
Turn Bay Length (ft)	229		200				64	129		
Base Capacity (vph)	232	2165	155	1305	973	157	298	221	224	533
Starvation Cap Reductn	0	143	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	36	0	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.72	0.49	0.68	0.27	0.57	0.32	0.48	0.48	0.33

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 18 (23%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 59.7%

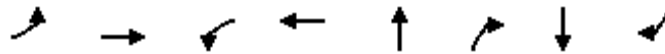
ICU Level of Service B

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	39	1602	86	1201	79	62	43	24
Act Effct Green (s)	8.0	51.6	9.0	55.1	11.1	11.1	11.1	11.1
Actuated g/C Ratio	0.10	0.64	0.11	0.69	0.14	0.14	0.14	0.14
v/c Ratio	0.25	0.56	0.49	0.39	0.47	0.23	0.25	0.12
Control Delay	40.1	4.3	36.5	12.9	41.4	5.2	34.2	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	4.3	36.5	12.9	41.4	5.2	34.2	31.5
LOS	D	A	D	B	D	A	C	C
Approach Delay		5.2		14.4	25.5		33.2	
Approach LOS		A		B	C		C	
Queue Length 50th (ft)	21	52	37	166	37	0	19	11
Queue Length 95th (ft)	m35	58	m68	m263	79	17	49	32
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	155	2860	194	3055	182	289	190	208
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.56	0.44	0.39	0.43	0.21	0.23	0.12

**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 14 (18%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 10.5  
 Intersection Capacity Utilization 62.4%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	1534	124	890	320	201	164	75	115	138
Act Effct Green (s)	10.8	35.4	8.0	32.6	9.6	11.2	24.2	8.0	10.0	22.8
Actuated g/C Ratio	0.14	0.44	0.10	0.41	0.12	0.14	0.30	0.10	0.12	0.28
v/c Ratio	0.66	0.78	0.80	0.49	0.89	0.89	0.31	0.48	0.56	0.30
Control Delay	58.7	9.8	71.8	17.2	64.1	72.8	5.5	45.3	44.6	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	9.8	71.8	17.2	64.1	72.8	5.5	45.3	44.6	8.9
LOS	E	A	E	B	E	E	A	D	D	A
Approach Delay		13.8		23.9		52.6			29.8	
Approach LOS		B		C		D			C	
Queue Length 50th (ft)	68	62	69	39	83	100	0	36	55	15
Queue Length 95th (ft)	115	107	#161	120	#160	#220	42	78	#110	51
Internal Link Dist (ft)		834		369		397			357	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	271	1961	155	1811	359	227	533	155	204	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.78	0.80	0.49	0.89	0.89	0.31	0.48	0.56	0.27

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 48 (60%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 25.2

Intersection LOS: C

Intersection Capacity Utilization 72.6%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	48	1541	35	979	85	16	24	72	55
Act Effct Green (s)	10.0	57.9	10.0	54.9	54.9	10.1	10.1	10.1	10.1
Actuated g/C Ratio	0.12	0.72	0.12	0.69	0.69	0.13	0.13	0.13	0.13
v/c Ratio	0.25	0.48	0.18	0.46	0.09	0.09	0.09	0.47	0.21
Control Delay	29.9	8.7	34.0	9.6	1.9	32.5	0.7	43.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	8.7	34.0	9.6	1.9	32.5	0.7	43.7	4.5
LOS	C	A	C	A	A	C	A	D	A
Approach Delay		9.3		9.8		13.4		26.7	
Approach LOS		A		A		B		C	
Queue Length 50th (ft)	24	179	16	155	0	7	0	34	0
Queue Length 95th (ft)	m37	120	42	206	16	25	0	76	13
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		145		247		30
Base Capacity (vph)	192	3192	192	2115	975	170	257	152	257
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.48	0.18	0.46	0.09	0.09	0.09	0.47	0.21

**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 40 (50%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 10.3  
 Intersection Capacity Utilization 59.9%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1561	1022	47
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 41.1%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	430	383
Act Effct Green (s)	6.7	72.8	72.8	72.8
Actuated g/C Ratio	0.08	0.91	0.91	0.91
v/c Ratio	0.23	0.02	0.15	0.13
Control Delay	25.8	0.2	0.2	1.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.8	0.2	0.2	1.4
LOS	C	A	A	A
Approach Delay	25.8		0.2	1.4
Approach LOS	C		A	A
Queue Length 50th (ft)	8	0	0	0
Queue Length 95th (ft)	33	m0	2	30
Internal Link Dist (ft)	33		305	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	447	796	2881	2881
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.07	0.02	0.15	0.13

**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 48 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.23  
 Intersection Signal Delay: 1.7  
 Intersection Capacity Utilization 25.6%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	663	22	22	440
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	151	1	2	293	58
Sign Control	Free			Free	Stop

Intersection Summary					
Control Type: Unsignalized					
Intersection Capacity Utilization 26.0%			ICU Level of Service A		
Analysis Period (min) 15					



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	193	428	101
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	248	54	89	387	65	39
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 32.2% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	284	606	394	93	568
Act Effct Green (s)	30.2	32.8	68.0	12.0	49.8
Actuated g/C Ratio	0.34	0.36	0.76	0.13	0.55
v/c Ratio	0.19	0.65	0.16	0.27	0.75
Control Delay	19.4	14.6	1.2	37.5	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	14.6	1.2	37.5	13.1
LOS	B	B	A	D	B
Approach Delay	19.4		9.3	16.5	
Approach LOS	B		A	B	
Queue Length 50th (ft)	32	90	7	30	141
Queue Length 95th (ft)	63	109	10	58	222
Internal Link Dist (ft)	421		358	651	
Turn Bay Length (ft)		225		259	
Base Capacity (vph)	1535	1222	2416	341	857
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.50	0.16	0.27	0.66

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 84 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 13.2  
 Intersection Capacity Utilization 60.4%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

2024 PM Peak Model ALT 2  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

2/25/2016



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	666	120	444	702	703	275
Act Effct Green (s)	23.7	23.7	27.6	56.3	23.7	23.7
Actuated g/C Ratio	0.26	0.26	0.31	0.63	0.26	0.26
v/c Ratio	0.80	0.26	0.92	0.67	0.87	0.49
Control Delay	39.0	9.9	40.8	9.5	45.0	7.9
Queue Delay	0.0	0.0	0.0	1.1	0.0	0.0
Total Delay	39.0	9.9	40.8	10.6	45.0	7.9
LOS	D	A	D	B	D	A
Approach Delay	34.6			22.3		
Approach LOS	C			C		
Queue Length 50th (ft)	168	6	185	201	198	8
Queue Length 95th (ft)	#278	m38	#401	491	#301	71
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	832	460	510	1055	810	563
Starvation Cap Reductn	0	0	0	160	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.26	0.87	0.78	0.87	0.49

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 60 (67%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 29.7

Intersection LOS: C

Intersection Capacity Utilization 105.7%

ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

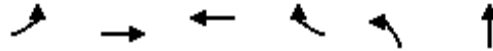
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



2024 PM Peak Model ALT 2  
 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

2/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	217	1125	970	861	109	348
Act Effct Green (s)	13.6	61.2	42.5	42.5	18.8	18.8
Actuated g/C Ratio	0.15	0.68	0.47	0.47	0.21	0.21
v/c Ratio	0.92	0.53	0.65	0.83	0.33	0.89
Control Delay	65.9	4.6	8.0	9.1	33.5	49.3
Queue Delay	0.0	0.0	0.9	6.4	0.1	0.0
Total Delay	65.9	4.6	8.9	15.5	33.6	49.3
LOS	E	A	A	B	C	D
Approach Delay		14.5	12.0			45.6
Approach LOS		B	B			D
Queue Length 50th (ft)	120	149	83	62	53	129
Queue Length 95th (ft)	m#161	m157	m85	m83	101	#291
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	243	2131	1482	1033	331	392
Starvation Cap Reductn	0	0	253	132	0	0
Spillback Cap Reductn	0	0	6	0	9	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.53	0.79	0.96	0.34	0.89

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 10 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 17.2

Intersection LOS: B

Intersection Capacity Utilization 105.7%

ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	282	1198	46	1327	470	65	49	205	208	457
Act Effct Green (s)	17.0	51.0	8.0	37.6	37.6	8.0	8.0	12.0	12.0	31.6
Actuated g/C Ratio	0.19	0.57	0.09	0.42	0.42	0.09	0.09	0.13	0.13	0.35
v/c Ratio	0.95	0.47	0.33	1.00	0.54	0.45	0.18	1.02	1.03	0.79
Control Delay	79.7	5.3	62.6	44.0	4.6	49.6	1.5	108.8	109.7	23.5
Queue Delay	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Total Delay	79.7	5.4	62.6	44.0	5.0	49.6	1.5	108.8	109.7	23.5
LOS	E	A	E	D	A	D	A	F	F	C
Approach Delay		19.5		34.5		28.9			64.2	
Approach LOS		B		C		C			E	
Queue Length 50th (ft)	~138	90	27	~426	39	36	0	~132	~134	116
Queue Length 95th (ft)	m#292	m106	m49	#559	44	77	0	#278	#282	#229
Internal Link Dist (ft)		290		428		227			64	
Turn Bay Length (ft)	229		183				64	109		
Base Capacity (vph)	298	2565	140	1323	865	144	269	200	202	580
Starvation Cap Reductn	0	370	0	0	99	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.55	0.33	1.00	0.61	0.45	0.18	1.02	1.03	0.79

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 10 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 35.2

Intersection LOS: D

Intersection Capacity Utilization 90.2%

ICU Level of Service E

Analysis Period (min) 15

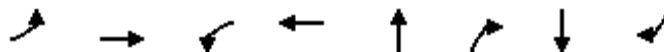
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	1645	18	1746	129	18	36	111
Act Effct Green (s)	8.0	59.9	8.0	57.3	14.9	14.9	14.9	14.9
Actuated g/C Ratio	0.09	0.67	0.09	0.64	0.17	0.17	0.17	0.17
v/c Ratio	0.26	0.54	0.13	0.60	0.64	0.06	0.16	0.47
Control Delay	36.4	8.6	53.8	4.7	49.2	0.4	32.3	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	8.6	53.8	4.7	49.2	0.4	32.3	40.0
LOS	D	A	D	A	D	A	C	D
Approach Delay		9.2		5.2	43.2		38.1	
Approach LOS		A		A	D		D	
Queue Length 50th (ft)	18	100	11	39	69	0	18	57
Queue Length 95th (ft)	m36	m170	m16	m50	125	0	43	106
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	140	3019	140	2890	243	351	278	283
Starvation Cap Reductn	0	38	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.55	0.13	0.60	0.53	0.05	0.13	0.39

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 80 (89%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 9.8

Intersection LOS: A

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	166	1386	226	1274	317	317	139	103	280	193
Act Effct Green (s)	11.7	30.2	13.8	32.3	10.0	18.0	36.8	8.0	16.0	32.7
Actuated g/C Ratio	0.13	0.34	0.15	0.36	0.11	0.20	0.41	0.09	0.18	0.36
v/c Ratio	0.82	0.90	0.95	0.79	0.94	0.96	0.22	0.74	0.96	0.34
Control Delay	56.6	38.8	71.1	26.1	77.0	78.4	8.5	71.6	81.3	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.6	38.8	71.1	26.1	77.0	78.4	8.5	71.6	81.3	13.0
LOS	E	D	E	C	E	E	A	E	F	B
Approach Delay		40.7		32.9		65.2			56.7	
Approach LOS		D		C		E			E	
Queue Length 50th (ft)	91	179	110	272	93	180	18	58	159	41
Queue Length 95th (ft)	#190	#362	m#220	322	#174	#343	55	#141	#314	93
Internal Link Dist (ft)		834		369		397			357	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	226	1534	243	1610	338	330	626	139	293	582
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.90	0.93	0.79	0.94	0.96	0.22	0.74	0.96	0.33

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 64 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 44.5

Intersection LOS: D

Intersection Capacity Utilization 87.2%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	90	1123	97	1441	202	104	103	94	68
Act Effect Green (s)	10.0	55.6	10.4	56.0	56.0	12.0	12.0	12.0	12.0
Actuated g/C Ratio	0.11	0.62	0.12	0.62	0.62	0.13	0.13	0.13	0.13
v/c Ratio	0.52	0.40	0.54	0.74	0.22	0.64	0.37	0.58	0.26
Control Delay	60.0	5.5	49.1	16.2	2.6	55.7	11.6	51.4	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	5.5	49.1	16.2	2.6	55.7	11.6	51.4	8.4
LOS	E	A	D	B	A	E	B	D	A
Approach Delay		9.6		16.5		33.8		33.4	
Approach LOS		A		B		C		C	
Queue Length 50th (ft)	48	120	53	312	6	56	0	50	0
Queue Length 95th (ft)	m62	m144	102	408	34	#121	45	#102	28
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		150		247		30
Base Capacity (vph)	174	2778	191	1950	939	175	290	175	275
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.40	0.51	0.74	0.22	0.59	0.36	0.54	0.25

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 8 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.9

Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1268	1574	15
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 35.3%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	802	872
Act Effct Green (s)	8.1	75.0	75.0	75.0
Actuated g/C Ratio	0.09	0.83	0.83	0.83
v/c Ratio	0.44	0.09	0.30	0.33
Control Delay	30.2	1.1	0.9	2.9
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	30.2	1.1	1.1	2.9
LOS	C	A	A	A
Approach Delay	30.2		1.1	2.9
Approach LOS	C		A	A
Queue Length 50th (ft)	21	1	16	51
Queue Length 95th (ft)	61	m2	m21	92
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	399	447	2639	2639
Starvation Cap Reductn	0	0	856	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.09	0.45	0.33

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 86 (96%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 3.2  
 Intersection Capacity Utilization 45.2%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

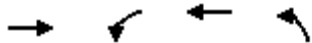


Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	802	22	22	982
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 63.1%	ICU Level of Service B
Analysis Period (min) 15	





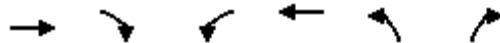
Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	194	5	161	1
Sign Control	Free		Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 19.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	182	267	121
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	220	77	72	209	62	67
Sign Control	Free			Free	Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	30.0% ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	290	633	233	41	578
Act Effct Green (s)	24.3	28.7	58.0	12.0	45.7
Actuated g/C Ratio	0.30	0.36	0.72	0.15	0.57
v/c Ratio	0.21	0.70	0.12	0.11	0.59
Control Delay	16.4	14.5	2.3	30.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	14.5	2.3	30.3	5.1
LOS	B	B	A	C	A
Approach Delay	16.4		11.2	6.8	
Approach LOS	B		B	A	
Queue Length 50th (ft)	28	108	11	11	36
Queue Length 95th (ft)	52	145	15	28	90
Internal Link Dist (ft)	425		358	651	
Turn Bay Length (ft)		225		239	253
Base Capacity (vph)	1424	1006	1933	379	1023
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.63	0.12	0.11	0.57

**Intersection Summary**

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 78 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 63.0%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	642	104	303	622	649	234
Act Effct Green (s)	25.6	25.6	46.2	46.2	23.8	23.8
Actuated g/C Ratio	0.32	0.32	0.58	0.58	0.30	0.30
v/c Ratio	0.63	0.20	0.66	0.65	0.71	0.40
Control Delay	29.0	7.6	9.8	7.5	30.2	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	7.6	9.8	7.5	30.2	5.6
LOS	C	A	A	A	C	A
Approach Delay	26.0			8.3		
Approach LOS	C			A		
Queue Length 50th (ft)	152	1	14	100	147	0
Queue Length 95th (ft)	215	m35	22	415	210	50
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1018	525	497	981	918	587
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.20	0.61	0.63	0.71	0.40

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 48 (60%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 18.8

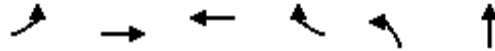
Intersection LOS: B

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	164	1104	808	615	69	350
Act Effct Green (s)	48.0	48.0	35.0	35.0	22.0	22.0
Actuated g/C Ratio	0.60	0.60	0.44	0.44	0.28	0.28
v/c Ratio	0.47	0.58	0.58	0.64	0.16	0.76
Control Delay	10.3	10.7	9.2	3.1	21.9	31.0
Queue Delay	0.0	0.0	0.2	0.8	0.0	0.0
Total Delay	10.3	10.7	9.4	3.8	21.9	31.0
LOS	B	B	A	A	C	C
Approach Delay		10.6	7.0			29.5
Approach LOS		B	A			C
Queue Length 50th (ft)	42	160	64	0	25	112
Queue Length 95th (ft)	m50	192	m89	m11	56	#219
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	346	1901	1386	965	474	491
Starvation Cap Reductn	0	0	131	125	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.58	0.64	0.73	0.15	0.71

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 10 (13%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 11.5

Intersection LOS: B

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	253	1197	63	1001	609	98	95	252	250	411
Act Effct Green (s)	13.7	36.4	8.0	28.5	47.9	8.0	8.0	14.4	14.4	30.7
Actuated g/C Ratio	0.17	0.46	0.10	0.36	0.60	0.10	0.10	0.18	0.18	0.38
v/c Ratio	0.93	0.58	0.40	0.89	0.62	0.60	0.32	0.93	0.92	0.64
Control Delay	80.8	7.3	53.3	23.9	5.7	51.4	2.9	72.1	69.0	11.2
Queue Delay	0.0	0.1	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.1
Total Delay	80.8	7.3	53.3	23.9	6.5	51.4	2.9	72.1	69.0	11.3
LOS	F	A	D	C	A	D	A	E	E	B
Approach Delay		20.2		18.6		27.5			43.9	
Approach LOS		C		B		C			D	
Queue Length 50th (ft)	~138	54	35	54	0	48	0	133	131	79
Queue Length 95th (ft)	m#276	97	m62	#349	50	#110	3	#278	#275	58
Internal Link Dist (ft)		290		428		227			309	
Turn Bay Length (ft)	229		200				64	129		
Base Capacity (vph)	271	2056	158	1127	977	163	301	270	272	639
Starvation Cap Reductn	0	124	0	0	137	0	0	0	0	6
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.62	0.40	0.89	0.72	0.60	0.32	0.93	0.92	0.65

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 10 (13%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 25.0

Intersection LOS: C

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

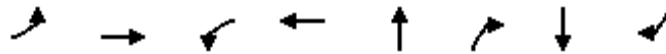
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	112	1664	55	1606	110	59	73	92
Act Effct Green (s)	9.6	53.3	8.0	49.0	12.9	12.9	12.9	12.9
Actuated g/C Ratio	0.12	0.67	0.10	0.61	0.16	0.16	0.16	0.16
v/c Ratio	0.59	0.55	0.35	0.58	0.58	0.19	0.38	0.40
Control Delay	40.9	8.1	41.5	12.0	43.0	4.1	35.4	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	8.1	41.5	12.0	43.0	4.1	35.4	35.0
LOS	D	A	D	B	D	A	D	C
Approach Delay		10.1		12.9	29.4		35.2	
Approach LOS		B		B	C		D	
Queue Length 50th (ft)	58	118	20	222	51	0	33	41
Queue Length 95th (ft)	m97	m163	m32	m331	100	15	70	83
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	217	3016	158	2777	222	342	221	265
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.55	0.35	0.58	0.50	0.17	0.33	0.35

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 2 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 13.3

Intersection LOS: B

Intersection Capacity Utilization 65.3%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	199	1429	178	1018	421	286	155	103	216	235
Act Effct Green (s)	11.9	27.1	9.9	25.1	12.0	17.6	32.5	8.0	11.0	27.9
Actuated g/C Ratio	0.15	0.34	0.12	0.31	0.15	0.22	0.41	0.10	0.14	0.35
v/c Ratio	0.84	0.91	0.92	0.72	0.92	0.78	0.25	0.65	0.94	0.42
Control Delay	60.9	27.6	78.3	22.6	60.8	48.8	8.6	55.7	83.9	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	27.6	78.3	22.6	60.8	48.8	8.6	55.7	83.9	13.8
LOS	E	C	E	C	E	D	A	E	F	B
Approach Delay		31.7		30.9		47.4			48.9	
Approach LOS		C		C		D			D	
Queue Length 50th (ft)	93	265	75	183	108	142	19	51	109	49
Queue Length 95th (ft)	#196	#327	#199	221	#191	#285	58	#121	#238	108
Internal Link Dist (ft)		834		369		397			357	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	257	1578	197	1421	460	366	633	158	229	574
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.91	0.90	0.72	0.92	0.78	0.24	0.65	0.94	0.41

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 44 (55%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 36.9

Intersection LOS: D

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	93	1127	67	1120	52	98	70	66	74
Act Effct Green (s)	10.0	50.6	10.0	50.6	50.6	11.4	11.4	11.4	11.4
Actuated g/C Ratio	0.12	0.63	0.12	0.63	0.63	0.14	0.14	0.14	0.14
v/c Ratio	0.47	0.39	0.34	0.56	0.06	0.54	0.25	0.36	0.26
Control Delay	46.5	7.1	37.3	13.0	0.7	43.2	6.4	36.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	7.1	37.3	13.0	0.7	43.2	6.4	36.6	7.2
LOS	D	A	D	B	A	D	A	D	A
Approach Delay		10.1		13.8		27.9		21.1	
Approach LOS		B		B		C		C	
Queue Length 50th (ft)	48	69	31	194	0	46	0	30	0
Queue Length 95th (ft)	m49	m201	69	263	5	94	23	68	26
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		145		247		30
Base Capacity (vph)	197	2888	197	2013	935	196	298	198	298
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.39	0.34	0.56	0.06	0.50	0.23	0.33	0.25

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 65.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1141	1121	11
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 32.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	926	936
Act Effct Green (s)	7.8	65.3	65.3	65.3
Actuated g/C Ratio	0.10	0.82	0.82	0.82
v/c Ratio	0.42	0.09	0.36	0.36
Control Delay	26.3	3.9	4.1	3.2
Queue Delay	0.0	0.0	0.3	0.0
Total Delay	26.3	3.9	4.3	3.2
LOS	C	A	A	A
Approach Delay	26.3		4.3	3.2
Approach LOS	C		A	A
Queue Length 50th (ft)	18	4	74	55
Queue Length 95th (ft)	55	m8	m110	101
Internal Link Dist (ft)	33		309	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	389	406	2583	2578
Starvation Cap Reductn	0	0	868	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.09	0.54	0.36

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 62 (78%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 4.6

Intersection LOS: A

Intersection Capacity Utilization 45.4%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	87	862	22	65	864
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 65.7% ICU Level of Service C

Analysis Period (min) 15

2024 Friday Midday Peak Model ALT 2  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

2/25/2016



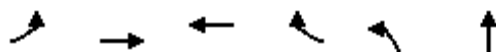
Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	780	100	353	692	638	265
Act Effct Green (s)	32.9	32.9	25.8	63.7	26.3	26.3
Actuated g/C Ratio	0.33	0.33	0.26	0.64	0.26	0.26
v/c Ratio	0.75	0.19	0.87	0.65	0.79	0.47
Control Delay	35.8	6.2	34.5	13.0	43.0	6.8
Queue Delay	0.0	0.0	0.0	3.1	0.0	0.0
Total Delay	35.9	6.2	34.5	16.0	43.0	6.8
LOS	D	A	C	B	D	A
Approach Delay	32.5			22.3		
Approach LOS	C			C		
Queue Length 50th (ft)	233	0	162	437	198	0
Queue Length 95th (ft)	312	37	#331	584	#284	62
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1041	533	459	1083	808	568
Starvation Cap Reductn	6	0	0	280	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.19	0.77	0.86	0.79	0.47

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 94 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 28.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 101.7%  
 ICU Level of Service G  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

2024 Friday Midday Peak Model ALT 2  
 6: I-81 NB Off-Ramp/I-81 NB On-Ramp & WV45

2/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	224	1162	940	759	92	383
Act Effct Green (s)	16.4	63.9	42.5	42.5	26.1	26.1
Actuated g/C Ratio	0.16	0.64	0.42	0.42	0.26	0.26
v/c Ratio	0.87	0.58	0.70	0.74	0.22	0.88
Control Delay	61.7	8.2	14.9	5.4	30.3	49.2
Queue Delay	0.0	0.8	1.1	1.8	0.0	0.1
Total Delay	61.7	9.0	16.0	7.2	30.3	49.3
LOS	E	A	B	A	C	D
Approach Delay		17.6	12.1			45.6
Approach LOS		B	B			D
Queue Length 50th (ft)	147	224	133	18	45	180
Queue Length 95th (ft)	m#187	271	m152	m45	88	#347
Internal Link Dist (ft)		515	290			969
Turn Bay Length (ft)	261				158	
Base Capacity (vph)	282	2004	1334	1022	423	447
Starvation Cap Reductn	0	494	187	129	0	0
Spillback Cap Reductn	0	51	30	0	18	1
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.77	0.82	0.85	0.23	0.86

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 42 (42%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 18.7

Intersection LOS: B

Intersection Capacity Utilization 101.7%

ICU Level of Service G

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	361	1084	72	992	580	109	93	274	275	537
Act Effct Green (s)	23.0	48.2	9.0	32.0	56.0	8.0	8.0	19.0	19.0	44.0
Actuated g/C Ratio	0.23	0.48	0.09	0.32	0.56	0.08	0.08	0.19	0.19	0.44
v/c Ratio	0.99	0.50	0.51	0.98	0.64	0.84	0.38	0.96	0.95	0.80
Control Delay	79.7	7.5	56.2	58.3	11.2	93.2	6.8	82.5	80.0	21.5
Queue Delay	0.0	0.3	0.0	2.9	0.6	0.0	0.0	0.0	0.0	0.0
Total Delay	79.7	7.8	56.2	61.2	11.8	93.2	6.8	82.5	80.0	21.6
LOS	E	A	E	E	B	F	A	F	F	C
Approach Delay		25.8		43.5		53.4			51.7	
Approach LOS		C		D		D			D	
Queue Length 50th (ft)	189	89	45	327	121	70	0	185	185	163
Queue Length 95th (ft)	m#386	m119	90	#467	234	#169	16	#354	#354	#275
Internal Link Dist (ft)		290		428		227			64	
Turn Bay Length (ft)	229		183				64	109		
Base Capacity (vph)	364	2176	158	1013	911	129	244	285	289	669
Starvation Cap Reductn	0	427	0	0	99	0	0	0	0	1
Spillback Cap Reductn	0	0	0	15	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.62	0.46	0.99	0.71	0.84	0.38	0.96	0.95	0.80

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 44 (44%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 40.2  
 Intersection LOS: D  
 Intersection Capacity Utilization 87.5%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.






Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	76	38	1015	1130
Act Effct Green (s)	8.4	84.7	84.7	84.7
Actuated g/C Ratio	0.08	0.85	0.85	0.85
v/c Ratio	0.47	0.11	0.38	0.42
Control Delay	33.9	1.8	1.5	3.1
Queue Delay	0.0	0.0	0.3	0.0
Total Delay	33.9	1.8	1.8	3.1
LOS	C	A	A	A
Approach Delay	33.9		1.8	3.1
Approach LOS	C		A	A
Queue Length 50th (ft)	23	2	34	76
Queue Length 95th (ft)	66	m4	m47	135
Internal Link Dist (ft)	33		162	202
Turn Bay Length (ft)		150		
Base Capacity (vph)	333	340	2683	2683
Starvation Cap Reductn	0	0	920	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.11	0.58	0.42

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 22 (22%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.47  
 Intersection Signal Delay: 3.5  
 Intersection Capacity Utilization 45.4%  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.



# D

2024 Alternative 3 Capacity  
and Queue Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:00	7:00	7:00	7:00	7:00	7:00
End Time	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	5203	5238	5214	5293	5116	5211
Vehs Exited	5189	5210	5215	5253	5147	5206
Starting Vehs	257	244	255	266	235	244
Ending Vehs	271	272	254	306	204	252
Travel Distance (mi)	4463	4471	4425	4450	4392	4440
Travel Time (hr)	269.9	272.7	260.8	265.6	277.2	269.2
Total Delay (hr)	125.8	128.2	117.7	121.2	135.3	125.6
Total Stops	10272	10083	9488	10068	10082	10000
Fuel Used (gal)	184.6	186.6	182.6	184.0	185.0	184.5

Interval #0 Information Seeding

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1254	1336	1330	1287	1287	1295
Vehs Exited	1261	1307	1341	1280	1234	1285
Starting Vehs	257	244	255	266	235	244
Ending Vehs	250	273	244	273	288	256
Travel Distance (mi)	1093	1126	1128	1098	1069	1103
Travel Time (hr)	64.8	67.7	64.1	65.0	64.1	65.1
Total Delay (hr)	29.5	31.3	27.7	29.4	29.5	29.5
Total Stops	2374	2477	2362	2445	2437	2420
Fuel Used (gal)	44.5	47.4	45.9	45.3	44.1	45.4

**Interval #2 Information**

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1322	1312	1262	1300	1318	1299
Vehs Exited	1295	1312	1248	1316	1295	1294
Starting Vehs	250	273	244	273	288	256
Ending Vehs	277	273	258	257	311	271
Travel Distance (mi)	1130	1122	1072	1091	1118	1107
Travel Time (hr)	62.5	70.2	62.5	62.6	79.3	67.4
Total Delay (hr)	26.1	33.8	27.8	27.1	43.2	31.6
Total Stops	2323	2498	2323	2324	2853	2463
Fuel Used (gal)	45.5	46.8	43.9	45.0	48.9	46.0

**Interval #3 Information**

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1284	1284	1276	1328	1252	1285
Vehs Exited	1281	1316	1291	1354	1313	1313
Starting Vehs	277	273	258	257	311	271
Ending Vehs	280	241	243	231	250	238
Travel Distance (mi)	1096	1108	1092	1116	1085	1100
Travel Time (hr)	70.7	66.1	65.7	66.2	67.2	67.2
Total Delay (hr)	35.5	30.2	30.5	29.8	32.3	31.7
Total Stops	2902	2538	2332	2527	2407	2542
Fuel Used (gal)	46.6	45.8	45.5	46.2	45.6	45.9

**Interval #4 Information**

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1343	1306	1346	1378	1259	1325
Vehs Exited	1352	1275	1335	1303	1305	1314
Starting Vehs	280	241	243	231	250	238
Ending Vehs	271	272	254	306	204	252
Travel Distance (mi)	1144	1115	1133	1144	1119	1131
Travel Time (hr)	71.9	68.7	68.5	71.8	66.6	69.5
Total Delay (hr)	34.7	32.9	31.7	34.9	30.2	32.9
Total Stops	2673	2570	2471	2772	2385	2572
Fuel Used (gal)	48.0	46.6	47.3	47.5	46.4	47.2

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	3.6	0.0	0.0		0.1	0.2
Total Del/Veh (s)	0.3	0.1	2.1	1.3		1.8	0.8
Travel Time (hr)	0.5	0.0	0.3	0.3	0.0	0.0	1.2
Vehicles Exited	198	6	60	60	0	4	328
Hourly Exit Rate	198	6	60	60	0	4	328
Input Volume	199	5	62	65	1	4	336
% of Volume	99	120	97	92	0	100	98

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.1
Total Del/Veh (s)	2.4	0.9	0.8	0.2	7.6	4.2	2.8
Travel Time (hr)	0.0	0.9	0.2	0.1	1.1	0.0	2.2
Vehicles Exited	1	208	122	38	154	5	528
Hourly Exit Rate	1	208	122	38	154	5	528
Input Volume	2	208	133	39	145	3	530
% of Volume	50	100	92	97	106	167	100

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	0.5	0.3	3.4	2.5	9.1	2.7	1.7
Travel Time (hr)	0.7	0.2	0.1	0.4	0.2	0.4	2.0
Vehicles Exited	306	68	34	129	32	85	654
Hourly Exit Rate	306	68	34	129	32	85	654
Input Volume	299	66	31	136	35	77	644
% of Volume	102	103	110	95	91	110	102

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.9	0.1	0.0
Total Del/Veh (s)	4.1	1.3	78.3	4.7	28.1	1.0	13.9
Travel Time (hr)	1.3	0.1	2.4	0.6	0.0	0.2	4.7
Vehicles Exited	372	24	93	162	4	52	707
Hourly Exit Rate	372	24	93	162	4	52	707
Input Volume	362	20	100	167	3	50	702
% of Volume	103	120	93	97	133	104	101

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.9	2.9	1.1
Total Del/Veh (s)	28.8	5.2	54.0	7.6	26.2	3.1	26.6
Travel Time (hr)	3.8	0.3	4.0	0.8	14.0	0.9	23.8
Vehicles Exited	375	52	210	167	860	88	1752
Hourly Exit Rate	375	52	210	167	860	88	1752
Input Volume	370	45	220	175	861	92	1763
% of Volume	101	116	95	95	100	96	99

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.7	17.3	2.4	5.6	46.2	31.3	11.7
Travel Time (hr)	0.4	9.8	1.1	2.6	0.4	0.0	14.2
Vehicles Exited	58	1166	352	684	24	2	2286
Hourly Exit Rate	58	1166	352	684	24	2	2286
Input Volume	60	1162	371	687	24	1	2305
% of Volume	97	100	95	100	100	200	99

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.8	2.5	0.3	0.0	0.1	0.0	0.8	1.4	5.4	0.0	0.0	0.0
Total Del/Veh (s)	34.5	46.6	15.3	37.3	32.4	9.3	31.7	32.6	23.0	39.7	25.1	18.2
Travel Time (hr)	2.0	15.3	0.5	0.9	9.1	0.9	0.7	0.6	4.4	1.8	0.4	1.6
Vehicles Exited	160	975	73	64	775	153	62	50	442	127	40	195
Hourly Exit Rate	160	975	73	64	775	153	62	50	442	127	40	195
Input Volume	159	977	68	72	783	146	67	54	423	120	38	204
% of Volume	101	100	107	89	99	105	93	93	104	106	105	96

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	1.7
Total Del/Veh (s)	33.5
Travel Time (hr)	38.1
Vehicles Exited	3116
Hourly Exit Rate	3116
Input Volume	3111
% of Volume	100

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	3.8	0.3	0.2	4.0
Total Del/Veh (s)	57.0	21.1	15.7	50.3	9.5	6.9	51.3	51.7	26.6	45.2	49.0	42.2
Travel Time (hr)	0.7	13.4	0.6	1.5	7.3	0.4	0.9	0.2	0.6	0.2	0.3	0.3
Vehicles Exited	36	1437	69	77	910	52	56	15	57	16	17	18
Hourly Exit Rate	36	1437	69	77	910	52	56	15	57	16	17	18
Input Volume	34	1418	68	79	921	51	56	17	57	17	17	18
% of Volume	106	101	101	97	99	102	100	88	100	94	100	100

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	19.5
Travel Time (hr)	26.5
Vehicles Exited	2760
Hourly Exit Rate	2760
Input Volume	2753
% of Volume	100

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2
Total Del/Veh (s)	65.5	40.3	18.7	57.8	12.1	4.8	36.2	55.1	8.6	53.6	78.2	6.2
Travel Time (hr)	1.6	20.6	2.3	2.1	3.9	0.5	3.8	3.7	0.8	2.9	2.8	0.6
Vehicles Exited	65	1257	203	108	693	120	281	203	147	136	102	68
Hourly Exit Rate	65	1257	203	108	693	120	281	203	147	136	102	68
Input Volume	65	1245	205	114	691	116	294	198	151	135	106	66
% of Volume	100	101	99	95	100	103	96	103	97	101	96	103

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	33.3
Travel Time (hr)	45.5
Vehicles Exited	3383
Hourly Exit Rate	3383
Input Volume	3386
% of Volume	100

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.3	0.0	0.5	0.0	0.0	0.0	0.1	0.2	4.1	0.4	0.3	3.9
Total Del/Veh (s)	47.0	9.8	6.4	47.4	6.5	2.9	52.4	40.9	19.1	55.8	61.3	13.9
Travel Time (hr)	0.8	8.6	0.1	0.5	6.0	0.5	0.1	0.1	0.3	1.2	0.2	0.4
Vehicles Exited	45	1481	17	27	880	79	7	5	26	63	8	52
Hourly Exit Rate	45	1481	17	27	880	79	7	5	26	63	8	52
Input Volume	44	1490	17	32	891	77	7	7	22	57	8	50
% of Volume	102	99	100	84	99	103	100	71	118	111	100	104

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	11.1
Travel Time (hr)	18.8
Vehicles Exited	2690
Hourly Exit Rate	2690
Input Volume	2702
% of Volume	100

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.0	2.1	2.3	14.6	2.8
Travel Time (hr)	4.7	0.1	3.7	0.2	8.7
Vehicles Exited	1509	32	941	24	2506
Hourly Exit Rate	1509	32	941	24	2506
Input Volume	1506	25	948	25	2504
% of Volume	100	128	99	96	100

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.3	0.0	0.0	0.0
Total Del/Veh (s)	22.7	5.8	3.9	1.2	1.1	1.7
Travel Time (hr)	0.1	0.0	0.1	1.4	1.6	3.2
Vehicles Exited	12	13	17	379	342	763
Hourly Exit Rate	12	13	17	379	342	763
Input Volume	15	15	15	381	340	766
% of Volume	80	87	113	99	101	100



750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1
Total Del/Veh (s)	23.8	0.4	1.1	2.0	1.4	5.6	2.7	3.4
Travel Time (hr)	0.8	0.0	1.3	1.7	0.3	0.3	0.7	5.1
Vehicles Exited	42	5	102	345	55	76	287	912
Hourly Exit Rate	42	5	102	345	55	76	287	912
Input Volume	40	6	100	350	52	83	284	915
% of Volume	105	83	102	99	106	92	101	100

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.6	3.2	0.0	0.0	0.4
Total Del/Veh (s)	13.6	3.9	0.9	0.3	5.1	1.4	1.4
Travel Time (hr)	0.1	0.0	0.8	0.1	0.1	1.6	2.6
Vehicles Exited	21	22	599	22	21	397	1082
Hourly Exit Rate	21	22	599	22	21	397	1082
Input Volume	20	20	610	20	20	414	1104
% of Volume	105	110	98	110	105	96	98

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.1
Total Del/Veh (s)	26.7	0.3	11.8	8.4	6.8	3.3	1.7	7.5
Travel Time (hr)	1.3	0.0	1.0	0.8	2.6	0.8	0.3	6.6
Vehicles Exited	64	5	63	79	297	232	69	809
Hourly Exit Rate	64	5	63	79	297	232	69	809
Input Volume	65	4	66	75	294	232	71	807
% of Volume	98	125	95	105	101	100	97	100

Total Zone Performance

Denied Del/Veh (s)	2.5
Total Del/Veh (s)	792.7
Travel Time (hr)	203.2
Vehicles Exited	317
Hourly Exit Rate	317
Input Volume	24328
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	43	22
Average Queue (ft)	9	3
95th Queue (ft)	32	13
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	10	87
Average Queue (ft)	0	38
95th Queue (ft)	6	69
Link Distance (ft)	858	732
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	9	48	52	62
Average Queue (ft)	0	10	18	30
95th Queue (ft)	5	35	40	51
Link Distance (ft)		412	452	452
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	80	78	60	90	107	40	73	18	30	21
Average Queue (ft)	28	24	12	37	66	5	16	1	3	1
95th Queue (ft)	65	64	42	82	104	24	52	9	17	9
Link Distance (ft)	412	412	412			392	392		668	668
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				225	225			239		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	L	L
Maximum Queue (ft)	167	167	64	265	95	306	309
Average Queue (ft)	84	87	21	138	31	167	194
95th Queue (ft)	139	146	49	234	75	257	284
Link Distance (ft)	392	392	392	529	529		1419
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)						425	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	150	372	380	64	52	261	81
Average Queue (ft)	32	115	128	11	7	32	26
95th Queue (ft)	133	357	378	42	33	157	63
Link Distance (ft)		529	529	292	292	292	556
Upstream Blk Time (%)		1	2			0	
Queuing Penalty (veh)		7	10			0	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)	0	5					
Queuing Penalty (veh)	0	3					

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	337	334	225	176	371	395	166	131	243	129	163
Average Queue (ft)	149	248	248	93	47	166	267	53	55	171	45	67
95th Queue (ft)	298	369	377	257	104	328	408	120	111	247	100	127
Link Distance (ft)		292	292			378	378	378	128	128		309
Upstream Blk Time (%)		14	16			1	3	0	1	38		
Queuing Penalty (veh)		81	93			3	9	0	2	97		
Storage Bay Dist (ft)	229			200	200							129
Storage Blk Time (%)	0	27	35	0		1					0	1
Queuing Penalty (veh)	0	42	24	0		1					0	1

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	166
Average Queue (ft)	83
95th Queue (ft)	141
Link Distance (ft)	309
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	177	333	358	125	101	262	306	99	171	71	94	76
Average Queue (ft)	41	155	179	46	56	77	99	19	63	39	30	19
95th Queue (ft)	109	251	272	130	101	190	207	74	136	81	74	55
Link Distance (ft)		378	378			834	834		191		301	
Upstream Blk Time (%)		0	0						0			
Queuing Penalty (veh)		0	1						0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	7	21	0	10	3	10	0	25	7	2	1
Queuing Penalty (veh)	0	2	14	0	47	2	5	0	14	5	0	0

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	R
Maximum Queue (ft)	179	485	506	358	184	238	254	161	158	191	299	125
Average Queue (ft)	77	284	296	123	83	92	112	35	77	99	162	66
95th Queue (ft)	210	465	472	336	144	173	199	101	138	164	267	168
Link Distance (ft)		834	834		371	371	371			398	398	
Upstream Blk Time (%)						0	0					0
Queuing Penalty (veh)						0	0					0
Storage Bay Dist (ft)	383			333				230	200			100
Storage Blk Time (%)		4	8	0			0	0	0	0	28	0
Queuing Penalty (veh)		2	17	1			1	0	0	0	42	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	215	229	127
Average Queue (ft)	96	97	30
95th Queue (ft)	175	183	111
Link Distance (ft)		907	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	1	12	0
Queuing Penalty (veh)	1	24	0

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	118	308	351	134	68	189	206	88	59	64	150	60
Average Queue (ft)	36	120	134	9	23	74	77	12	12	19	75	36
95th Queue (ft)	84	262	280	60	55	156	161	40	41	47	137	69
Link Distance (ft)		663	663			838	838		629		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145		247		30
Storage Blk Time (%)	0	5	9	0		0	1	0			57	7
Queuing Penalty (veh)	0	2	1	0		0	1	0			29	4

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	49
Average Queue (ft)	14
95th Queue (ft)	36
Link Distance (ft)	214
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	50	31	44	66	42	44
Average Queue (ft)	19	5	4	13	4	5
95th Queue (ft)	45	24	25	48	23	26
Link Distance (ft)	67		309	309	622	622
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	60	44	74	78	107	88
Average Queue (ft)	23	3	22	22	41	20
95th Queue (ft)	48	20	55	57	84	59
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	59	38
Average Queue (ft)	26	8
95th Queue (ft)	51	31
Link Distance (ft)	83	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 950: Winchester Ave. & Connector Rd.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	134	187	104
Average Queue (ft)	60	70	35
95th Queue (ft)	108	149	82
Link Distance (ft)	1689	907	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 595
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7656	7650	7467	7612	7604	7596
Vehs Exited	7555	7486	7470	7486	7568	7516
Starting Vehs	420	354	437	352	426	403
Ending Vehs	521	518	434	478	462	483
Travel Distance (mi)	5828	5771	5827	5767	5871	5813
Travel Time (hr)	537.0	480.3	526.6	491.8	529.3	513.0
Total Delay (hr)	345.6	290.7	336.0	302.7	336.9	322.4
Total Stops	18739	18823	18357	17920	18577	18487
Fuel Used (gal)	286.3	272.3	283.3	273.8	285.9	280.3

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1878	1949	1885	1908	1907	1904
Vehs Exited	1895	1881	1875	1823	1856	1866
Starting Vehs	420	354	437	352	426	403
Ending Vehs	403	422	447	437	477	436
Travel Distance (mi)	1446	1451	1448	1439	1447	1446
Travel Time (hr)	113.8	100.3	110.4	102.2	108.9	107.1
Total Delay (hr)	66.1	52.5	63.1	55.1	61.5	59.7
Total Stops	4753	4111	4492	3922	4429	4339
Fuel Used (gal)	66.6	64.2	66.0	63.8	65.5	65.2



**Interval #2 Information**

Start Time 4:15  
 End Time 4:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2044	1903	1897	1880	1962	1935
Vehs Exited	1920	1859	1852	1879	1908	1886
Starting Vehs	403	422	447	437	477	436
Ending Vehs	527	466	492	438	531	489
Travel Distance (mi)	1504	1422	1468	1434	1499	1465
Travel Time (hr)	120.2	108.9	126.3	122.5	133.7	122.3
Total Delay (hr)	71.0	62.0	78.3	75.4	84.7	74.3
Total Stops	4559	4276	4877	4493	5086	4663
Fuel Used (gal)	69.5	64.8	69.6	67.9	72.5	68.9

**Interval #3 Information**

Start Time 4:30  
 End Time 4:45  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1831	1922	1799	1926	1839	1863
Vehs Exited	1880	1907	1888	1892	1936	1904
Starting Vehs	527	466	492	438	531	489
Ending Vehs	478	481	403	472	434	453
Travel Distance (mi)	1419	1455	1467	1448	1491	1456
Travel Time (hr)	140.6	122.8	145.3	131.7	149.4	138.0
Total Delay (hr)	94.0	75.2	97.5	84.2	100.8	90.3
Total Stops	4463	5067	4988	4630	4784	4785
Fuel Used (gal)	72.4	69.0	74.1	71.0	76.3	72.5

**Interval #4 Information**

Start Time 4:45  
 End Time 5:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1903	1876	1886	1898	1896	1891
Vehs Exited	1860	1839	1855	1892	1868	1863
Starting Vehs	478	481	403	472	434	453
Ending Vehs	521	518	434	478	462	483
Travel Distance (mi)	1459	1442	1444	1447	1434	1445
Travel Time (hr)	162.4	148.3	144.7	135.5	137.3	145.6
Total Delay (hr)	114.4	101.0	97.2	88.0	89.9	98.1
Total Stops	4964	5369	4000	4875	4278	4694
Fuel Used (gal)	77.8	74.2	73.6	71.0	71.6	73.7

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	5.9	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.3	0.1	2.9	2.2	8.7	2.2	1.6
Travel Time (hr)	0.4	0.0	0.0	1.2	0.0	0.3	1.8
Vehicles Exited	132	1	1	268	2	46	450
Hourly Exit Rate	132	1	1	268	2	46	450
Input Volume	137	1	2	272	3	50	465
% of Volume	96	100	50	99	67	92	97

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.7	0.7	2.4	0.6	8.8	2.5	2.5
Travel Time (hr)	0.0	0.8	0.6	0.4	0.7	0.0	2.4
Vehicles Exited	5	176	270	141	92	4	688
Hourly Exit Rate	5	176	270	141	92	4	688
Input Volume	6	184	276	147	93	3	709
% of Volume	83	96	98	96	99	133	97

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.5	0.2	3.1	2.3	13.6	2.4	2.6
Travel Time (hr)	0.5	0.1	0.4	1.1	0.4	0.1	2.7
Vehicles Exited	236	42	87	345	63	35	808
Hourly Exit Rate	236	42	87	345	63	35	808
Input Volume	233	50	82	357	60	36	818
% of Volume	101	84	106	97	105	97	99

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.8	0.4	0.2
Total Del/Veh (s)	16.0	8.7	34.7	5.7	45.3	5.5	17.8
Travel Time (hr)	1.4	0.3	7.1	1.4	1.4	3.1	14.7
Vehicles Exited	216	51	543	357	84	516	1767
Hourly Exit Rate	216	51	543	357	84	516	1767
Input Volume	216	48	545	364	84	511	1768
% of Volume	100	106	100	98	100	101	100

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	2.4	3.0	0.9
Total Del/Veh (s)	35.4	11.5	45.9	9.5	39.0	3.2	27.7
Travel Time (hr)	7.9	0.8	6.8	3.3	13.1	2.7	34.7
Vehicles Exited	623	110	407	634	654	263	2691
Hourly Exit Rate	623	110	407	634	654	263	2691
Input Volume	619	112	413	653	654	256	2707
% of Volume	101	98	99	97	100	103	99

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	20.5	14.9	4.5	8.2	47.5	17.7	11.5
Travel Time (hr)	2.1	8.0	3.4	3.6	1.8	0.0	19.0
Vehicles Exited	215	1079	949	810	102	3	3158
Hourly Exit Rate	215	1079	949	810	102	3	3158
Input Volume	208	1080	975	827	105	2	3197
% of Volume	103	100	97	98	97	150	99

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	80.6	75.4	76.4	0.0	0.7	0.4	1.7	6.4	3.3	6.8	9.3	14.6
Total Del/Veh (s)	63.2	27.5	7.0	44.9	52.3	8.2	105.8	98.0	25.8	49.9	48.3	58.0
Travel Time (hr)	13.6	32.9	1.0	0.8	21.5	1.6	1.1	3.0	3.2	4.7	0.5	12.0
Vehicles Exited	312	1047	40	48	1223	268	34	97	314	246	28	504
Hourly Exit Rate	312	1047	40	48	1223	268	34	97	314	246	28	504
Input Volume	339	1098	42	46	1247	271	36	101	320	252	26	519
% of Volume	92	95	95	104	98	99	94	96	98	98	108	97

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	29.4
Total Del/Veh (s)	43.6
Travel Time (hr)	95.9
Vehicles Exited	4161
Hourly Exit Rate	4161
Input Volume	4297
% of Volume	97

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.0	4.1	0.4	0.5	4.0
Total Del/Veh (s)	64.5	24.0	19.1	87.9	70.6	76.6	56.5	50.6	33.0	39.3	46.3	43.0
Travel Time (hr)	0.4	15.4	0.3	0.4	34.0	0.4	1.8	0.2	0.2	0.2	0.3	1.6
Vehicles Exited	18	1556	30	11	1338	15	104	14	18	15	17	98
Hourly Exit Rate	18	1556	30	11	1338	15	104	14	18	15	17	98
Input Volume	27	1609	34	17	1362	15	102	17	17	15	17	97
% of Volume	67	97	88	65	98	100	102	82	106	100	100	101

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	46.1
Travel Time (hr)	55.3
Vehicles Exited	3234
Hourly Exit Rate	3234
Input Volume	3329
% of Volume	97

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.8	1.0	0.2	0.2	0.0	1.4	7.0	9.1	0.4	0.1	0.2
Total Del/Veh (s)	83.6	107.2	67.9	67.9	35.4	15.9	100.9	76.1	34.9	66.9	58.3	22.9
Travel Time (hr)	1.8	31.8	10.2	4.9	12.5	1.9	9.4	8.1	2.1	5.3	6.1	1.0
Vehicles Exited	61	871	397	219	1010	244	283	311	134	210	278	81
Hourly Exit Rate	61	871	397	219	1010	244	283	311	134	210	278	81
Input Volume	69	897	428	221	1003	236	311	325	136	211	279	80
% of Volume	88	97	93	99	101	103	91	96	99	100	100	101

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	66.1
Travel Time (hr)	95.2
Vehicles Exited	4099
Hourly Exit Rate	4099
Input Volume	4196
% of Volume	98

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.3	0.0	0.0	0.0	0.5	0.7	3.8	0.5	0.4	4.0
Total Del/Veh (s)	57.6	10.3	6.5	47.9	15.0	9.5	44.1	49.5	16.9	43.4	48.8	22.2
Travel Time (hr)	1.7	6.5	0.1	1.7	12.6	1.7	1.1	0.6	1.0	0.9	0.4	0.7
Vehicles Exited	84	1095	16	90	1375	196	65	35	97	57	26	68
Hourly Exit Rate	84	1095	16	90	1375	196	65	35	97	57	26	68
Input Volume	85	1117	16	91	1355	190	67	31	97	59	29	64
% of Volume	99	98	100	99	101	103	97	113	100	97	90	106

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	17.1
Travel Time (hr)	29.1
Vehicles Exited	3204
Hourly Exit Rate	3204
Input Volume	3201
% of Volume	100

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.0	1.8	6.5	8.4	5.0
Travel Time (hr)	3.9	0.1	7.8	0.1	11.9
Vehicles Exited	1193	24	1505	25	2747
Hourly Exit Rate	1193	24	1505	25	2747
Input Volume	1219	25	1486	25	2755
% of Volume	98	96	101	100	100

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	32.0	24.8	9.7	1.8	30.5	17.4
Travel Time (hr)	0.1	0.1	0.1	2.7	9.9	13.0
Vehicles Exited	13	13	10	659	761	1456
Hourly Exit Rate	13	13	10	659	761	1456
Input Volume	15	15	15	687	771	1503
% of Volume	87	87	67	96	99	97

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.9	0.6	0.3
Total Del/Veh (s)	26.9	0.5	1.8	3.5	2.8	12.5	8.6	6.9
Travel Time (hr)	1.3	0.0	2.5	3.2	0.3	0.9	3.0	11.1
Vehicles Exited	63	2	188	614	56	152	705	1780
Hourly Exit Rate	63	2	188	614	56	152	705	1780
Input Volume	67	2	187	641	58	157	704	1816
% of Volume	94	100	101	96	97	97	100	98

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.4	1.7	68.0	72.0	0.0	0.0	30.3
Total Del/Veh (s)	44.0	30.3	10.3	1.5	9.3	1.7	6.3
Travel Time (hr)	0.3	0.2	16.6	0.4	0.1	3.6	21.2
Vehicles Exited	23	18	704	19	17	891	1672
Hourly Exit Rate	23	18	704	19	17	891	1672
Input Volume	20	20	738	20	20	922	1740
% of Volume	115	90	95	95	85	97	96

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.2
Total Del/Veh (s)	28.9	0.6	16.8	29.1	23.9	6.6	4.3	16.8
Travel Time (hr)	1.9	0.1	1.9	2.2	6.3	1.9	0.5	14.7
Vehicles Exited	93	8	106	144	468	457	110	1386
Hourly Exit Rate	93	8	106	144	468	457	110	1386
Input Volume	97	8	110	141	484	449	115	1404
% of Volume	96	100	96	102	97	102	96	99

Total Zone Performance

Denied Del/Veh (s)	34.1
Total Del/Veh (s)	913.2
Travel Time (hr)	422.8
Vehicles Exited	589
Hourly Exit Rate	589
Input Volume	33905
% of Volume	2

Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	44
Average Queue (ft)	16
95th Queue (ft)	34
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	26	81
Average Queue (ft)	2	30
95th Queue (ft)	15	59
Link Distance (ft)	858	732
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	44	70	49
Average Queue (ft)	17	30	19
95th Queue (ft)	45	54	44
Link Distance (ft)	412	452	452
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	98	83	91	237	248	445	362	67	117	178
Average Queue (ft)	39	30	32	128	148	71	46	18	56	64
95th Queue (ft)	83	72	69	252	259	317	208	50	101	138
Link Distance (ft)	412	412	412			392	392		668	668
Upstream Blk Time (%)						2	0			
Queuing Penalty (veh)						7	1			
Storage Bay Dist (ft)				225	225			239		
Storage Blk Time (%)				1	7	0				
Queuing Penalty (veh)				2	12	0				

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	274	266	85	368	210	334	292	32
Average Queue (ft)	162	147	40	240	110	182	176	3
95th Queue (ft)	246	228	71	345	190	281	267	19
Link Distance (ft)	392	392	392	529	529		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	176	271	284	108	164	309	151
Average Queue (ft)	82	108	123	40	62	86	77
95th Queue (ft)	174	292	310	91	130	278	133
Link Distance (ft)		529	529	283	283	283	556
Upstream Blk Time (%)		0	0		0	1	
Queuing Penalty (veh)		1	1		0	7	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)			2				
Queuing Penalty (veh)			4				



Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	329	316	225	224	422	421	373	183	190	153	314
Average Queue (ft)	216	225	202	34	73	376	368	78	109	121	95	154
95th Queue (ft)	299	367	343	155	211	456	455	223	185	207	161	277
Link Distance (ft)		283	283			378	378	378	85	85		309
Upstream Blk Time (%)		7	7			17	18	1	47	41		1
Queuing Penalty (veh)		38	40			85	91	5	105	92		3
Storage Bay Dist (ft)	229			200	200							129
Storage Blk Time (%)	12	11	19	0	0	46						2
Queuing Penalty (veh)	64	39	8	0	0	21						3

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	342
Average Queue (ft)	289
95th Queue (ft)	392
Link Distance (ft)	309
Upstream Blk Time (%)	26
Queuing Penalty (veh)	102
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	147	374	444	125	100	793	808	97	203	71	181	85
Average Queue (ft)	25	184	234	21	16	508	534	12	88	18	49	62
95th Queue (ft)	89	370	435	92	64	1040	1063	59	177	60	137	96
Link Distance (ft)		378	378			834	834		191			301
Upstream Blk Time (%)		1	4			2	5		2			
Queuing Penalty (veh)		7	30			16	32		0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	14	29	0	0	44	45	0	46	1	2	18
Queuing Penalty (veh)	0	4	10	0	1	8	7	0	8	1	2	6

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	R
Maximum Queue (ft)	408	797	817	358	387	432	465	255	224	323	420	125
Average Queue (ft)	175	548	572	308	181	283	306	178	138	181	296	70
95th Queue (ft)	457	945	975	448	329	440	482	334	240	368	483	172
Link Distance (ft)		834	834		371	371	371			398	398	
Upstream Blk Time (%)		1	2		1	5	8			9	14	
Queuing Penalty (veh)		9	13		4	24	40			33	51	
Storage Bay Dist (ft)	383			333				230	200			100
Storage Blk Time (%)	0	37	40	2			18	0	14	19	53	0
Queuing Penalty (veh)	1	26	172	10			42	1	21	30	72	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	551	127
Average Queue (ft)	162	252	50
95th Queue (ft)	265	513	145
Link Distance (ft)		907	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	6	36	0
Queuing Penalty (veh)	22	106	0

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	T	LT	R	LT
Maximum Queue (ft)	153	309	337	84	221	376	448	170	19	150	120	209
Average Queue (ft)	65	90	109	6	82	189	221	84	1	74	47	77
95th Queue (ft)	123	212	238	41	171	321	372	200	13	130	90	158
Link Distance (ft)		663	663			838	838		1264	629		429
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145			247	
Storage Blk Time (%)	1	1	4	0	0	5	12	0				49
Queuing Penalty (veh)	3	1	1	0	0	4	23	1				32

Intersection: 10: WV45 & New York Ave.

Movement	SB
Directions Served	R
Maximum Queue (ft)	67
Average Queue (ft)	43
95th Queue (ft)	70
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	30
Storage Blk Time (%)	17
Queuing Penalty (veh)	15

Intersection: 91: WV45

Movement	WB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	62	130	169	39
Average Queue (ft)	4	18	30	14
95th Queue (ft)	47	126	167	35
Link Distance (ft)		663	663	214
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	485			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	58	40	70	88	356	441
Average Queue (ft)	22	7	17	30	128	191
95th Queue (ft)	51	29	54	81	465	521
Link Distance (ft)	67		309	309	622	622
Upstream Blk Time (%)	0				1	4
Queuing Penalty (veh)	0				5	15
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	94	61	113	125	228	190
Average Queue (ft)	34	13	45	51	105	81
95th Queue (ft)	73	44	91	102	202	180
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					2	2
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	78	185	75	35
Average Queue (ft)	33	76	4	8
95th Queue (ft)	69	210	37	31
Link Distance (ft)	83	153		
Upstream Blk Time (%)	2	23		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		24	0	
Queuing Penalty (veh)		5	0	

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Intersection: 950: Winchester Ave. & Connector Rd.

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Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	204	574	203
Average Queue (ft)	89	218	87
95th Queue (ft)	156	452	173
Link Distance (ft)	1689	907	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Zone Summary

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Zone wide Queuing Penalty: 1662

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7180	7336	7152	7207	7137	7200
Vehs Exited	7218	7288	7174	7136	7143	7194
Starting Vehs	354	326	398	293	344	339
Ending Vehs	316	374	376	364	338	352
Travel Distance (mi)	5282	5348	5188	5184	5222	5245
Travel Time (hr)	471.2	422.8	473.8	385.3	416.2	433.9
Total Delay (hr)	295.8	245.1	301.3	212.6	242.3	259.5
Total Stops	14873	15439	14908	14853	14655	14947
Fuel Used (gal)	259.1	250.0	256.7	235.4	245.5	249.3

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1776	1840	1790	1812	1786	1799
Vehs Exited	1784	1778	1833	1784	1775	1788
Starting Vehs	354	326	398	293	344	339
Ending Vehs	346	388	355	321	355	347
Travel Distance (mi)	1313	1333	1320	1300	1308	1315
Travel Time (hr)	97.4	95.5	103.2	80.5	88.6	93.0
Total Delay (hr)	53.8	51.2	59.3	37.3	44.9	49.3
Total Stops	3560	4037	4058	3342	3588	3718
Fuel Used (gal)	60.0	60.4	61.7	55.2	57.4	58.9

### Interval #2 Information

Start Time 11:45  
 End Time 12:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1810	1800	1753	1785	1786	1783
Vehs Exited	1801	1849	1773	1775	1814	1800
Starting Vehs	346	388	355	321	355	347
Ending Vehs	355	339	335	331	327	332
Travel Distance (mi)	1319	1354	1282	1293	1305	1311
Travel Time (hr)	119.4	100.8	111.2	88.2	100.5	104.0
Total Delay (hr)	75.6	55.9	68.6	45.3	57.0	60.5
Total Stops	3847	3671	3734	3500	3733	3696
Fuel Used (gal)	65.1	61.9	62.1	57.0	60.5	61.3

### Interval #3 Information

Start Time 12:00  
 End Time 12:15  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1772	1864	1760	1800	1813	1798
Vehs Exited	1821	1861	1758	1768	1771	1798
Starting Vehs	355	339	335	331	327	332
Ending Vehs	306	342	337	363	369	338
Travel Distance (mi)	1329	1333	1286	1291	1321	1312
Travel Time (hr)	127.9	108.9	126.1	102.4	109.8	115.0
Total Delay (hr)	83.8	64.4	83.4	59.3	66.2	71.4
Total Stops	3674	3875	3519	4049	3660	3756
Fuel Used (gal)	67.6	63.3	65.9	60.2	63.5	64.1

### Interval #4 Information

Start Time 12:15  
 End Time 12:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1822	1832	1849	1810	1752	1817
Vehs Exited	1812	1800	1810	1809	1783	1800
Starting Vehs	306	342	337	363	369	338
Ending Vehs	316	374	376	364	338	352
Travel Distance (mi)	1321	1328	1299	1300	1288	1307
Travel Time (hr)	126.5	117.6	133.3	114.3	117.3	121.8
Total Delay (hr)	82.7	73.6	90.0	70.7	74.3	78.3
Total Stops	3792	3856	3597	3962	3674	3778
Fuel Used (gal)	66.4	64.4	67.1	63.0	64.0	65.0

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	4.6	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.1	0.0	1.5	1.5	2.5	2.0	0.8
Travel Time (hr)	0.4	0.0	0.0	0.6	0.0	0.0	1.1
Vehicles Exited	161	1	3	141	1	1	308
Hourly Exit Rate	161	1	3	141	1	1	308
Input Volume	165	1	4	143	1	1	315
% of Volume	98	100	75	99	100	100	98

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Del/Veh (s)	3.4	0.7	1.5	0.3	7.1	4.7	2.3
Travel Time (hr)	0.0	0.7	0.3	0.3	0.8	0.0	2.0
Vehicles Exited	4	165	146	99	118	2	534
Hourly Exit Rate	4	165	146	99	118	2	534
Input Volume	5	168	149	109	112	3	546
% of Volume	80	98	98	91	105	67	98

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.5	0.3	3.1	2.3	9.1	2.6	2.2
Travel Time (hr)	0.5	0.3	0.3	0.6	0.3	0.3	2.2
Vehicles Exited	209	79	66	189	54	67	664
Hourly Exit Rate	209	79	66	189	54	67	664
Input Volume	213	72	68	196	58	63	670
% of Volume	98	110	97	96	93	106	99

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.0	0.4	0.2
Total Del/Veh (s)	15.6	8.0	25.7	6.2	30.2	5.7	14.7
Travel Time (hr)	1.3	0.5	6.5	0.9	0.5	3.3	13.0
Vehicles Exited	192	81	612	230	38	552	1705
Hourly Exit Rate	192	81	612	230	38	552	1705
Input Volume	199	77	601	238	39	549	1703
% of Volume	96	105	102	97	97	101	100



5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	2.3	3.0	0.9
Total Del/Veh (s)	26.2	10.1	41.7	8.9	30.3	2.8	22.1
Travel Time (hr)	6.6	0.7	4.4	3.0	11.4	2.4	28.5
Vehicles Exited	652	98	289	610	648	231	2528
Hourly Exit Rate	652	98	289	610	648	231	2528
Input Volume	653	102	297	610	636	229	2527
% of Volume	100	96	97	100	102	101	100

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	15.8	16.6	3.7	4.8	41.0	19.7	10.7
Travel Time (hr)	1.4	8.7	2.8	2.2	0.9	0.0	16.0
Vehicles Exited	161	1107	806	612	59	3	2748
Hourly Exit Rate	161	1107	806	612	59	3	2748
Input Volume	161	1104	811	603	68	2	2749
% of Volume	100	100	99	101	87	150	100

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	172.6	177.7	161.7	0.0	0.0	0.0	0.3	0.6	1.6	41.1	33.6	42.8
Total Del/Veh (s)	61.4	54.6	16.7	40.1	23.9	5.8	39.9	39.4	30.5	47.3	49.7	72.5
Travel Time (hr)	15.3	69.5	4.0	0.8	8.5	1.7	0.5	1.5	4.2	7.8	1.0	16.5
Vehicles Exited	213	975	70	57	921	339	37	115	372	276	37	456
Hourly Exit Rate	213	975	70	57	921	339	37	115	372	276	37	456
Input Volume	244	1056	74	61	906	332	44	119	377	290	35	464
% of Volume	87	92	95	93	102	102	84	97	99	95	106	98

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	68.9
Total Del/Veh (s)	41.3
Travel Time (hr)	131.3
Vehicles Exited	3868
Hourly Exit Rate	3868
Input Volume	4002
% of Volume	97

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5	3.9	0.4	0.3	3.9
Total Del/Veh (s)	43.8	20.5	16.0	49.6	10.2	7.6	37.8	44.1	25.9	34.1	35.9	31.4
Travel Time (hr)	1.1	13.6	0.5	1.0	9.9	0.3	1.0	0.3	0.5	0.5	0.2	0.8
Vehicles Exited	70	1504	51	49	1228	41	82	19	47	44	18	64
Hourly Exit Rate	70	1504	51	49	1228	41	82	19	47	44	18	64
Input Volume	82	1590	51	51	1209	44	85	17	54	44	17	62
% of Volume	85	95	100	96	102	93	96	112	87	100	106	103

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	18.5
Travel Time (hr)	29.8
Vehicles Exited	3217
Hourly Exit Rate	3217
Input Volume	3306
% of Volume	97

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.2	0.7	0.2	0.3	0.1	0.2	1.5	0.2	0.1	0.1
Total Del/Veh (s)	65.5	47.3	25.9	83.1	20.9	10.1	36.5	62.6	26.2	50.9	60.3	17.9
Travel Time (hr)	2.2	16.2	5.8	4.8	6.5	1.6	5.8	6.1	1.6	4.5	4.8	1.1
Vehicles Exited	91	875	438	179	789	260	432	301	148	221	215	95
Hourly Exit Rate	91	875	438	179	789	260	432	301	148	221	215	95
Input Volume	92	945	465	176	793	254	417	300	153	223	214	94
% of Volume	99	93	94	102	99	102	104	100	97	99	100	101

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	38.9
Travel Time (hr)	61.1
Vehicles Exited	4044
Hourly Exit Rate	4044
Input Volume	4126
% of Volume	98

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.2	0.0	0.0	0.0	0.5	0.4	3.9	0.4	0.4	3.9
Total Del/Veh (s)	43.6	5.9	2.4	38.9	11.3	5.2	44.8	45.7	13.5	47.0	47.0	15.3
Travel Time (hr)	1.3	5.3	0.1	1.0	8.6	0.4	0.9	0.5	0.6	0.6	0.4	0.6
Vehicles Exited	77	1108	12	60	1058	51	55	27	64	34	27	70
Hourly Exit Rate	77	1108	12	60	1058	51	55	27	64	34	27	70
Input Volume	87	1161	14	63	1053	49	59	33	66	35	27	70
% of Volume	89	95	86	95	100	104	93	82	97	97	100	100

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	12.6
Travel Time (hr)	20.2
Vehicles Exited	2643
Hourly Exit Rate	2643
Input Volume	2717
% of Volume	97

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.2	2.3	3.6	9.0	3.5
Travel Time (hr)	4.0	0.1	5.2	0.1	9.5
Vehicles Exited	1222	22	1183	25	2452
Hourly Exit Rate	1222	22	1183	25	2452
Input Volume	1296	25	1182	25	2528
% of Volume	94	88	100	100	97

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	32.5	23.2	10.5	1.5	20.4	12.1
Travel Time (hr)	0.1	0.1	0.1	2.7	7.7	10.7
Vehicles Exited	15	16	12	645	757	1445
Hourly Exit Rate	15	16	12	645	757	1445
Input Volume	15	15	15	670	754	1469
% of Volume	100	107	80	96	100	98

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.6	0.4	0.2
Total Del/Veh (s)	27.2	2.3	3.3	2.3	17.4	7.8	6.9
Travel Time (hr)	1.2	3.3	3.2	0.3	1.4	2.7	12.2
Vehicles Exited	63	257	658	57	192	697	1924
Hourly Exit Rate	63	257	658	57	192	697	1924
Input Volume	65	259	686	58	197	689	1954
% of Volume	97	99	96	98	97	101	98

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	1.4	1.8	3.6	0.2	0.0	0.9
Total Del/Veh (s)	37.7	14.3	2.1	0.7	8.3	1.5	2.4
Travel Time (hr)	0.2	0.1	1.6	0.1	0.1	3.3	5.4
Vehicles Exited	19	19	844	18	18	831	1749
Hourly Exit Rate	19	19	844	18	18	831	1749
Input Volume	20	20	833	20	20	853	1766
% of Volume	95	95	101	90	90	97	99

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2
Total Del/Veh (s)	30.8	1.1	18.2	24.6	21.2	7.2	4.3	16.0
Travel Time (hr)	2.2	0.2	2.2	2.1	6.2	1.7	0.7	15.2
Vehicles Exited	105	25	119	149	489	395	148	1430
Hourly Exit Rate	105	25	119	149	489	395	148	1430
Input Volume	113	21	121	152	482	397	150	1436
% of Volume	93	119	98	98	101	99	99	100

Total Zone Performance

Denied Del/Veh (s)	50.8
Total Del/Veh (s)	632.1
Travel Time (hr)	358.2
Vehicles Exited	665
Hourly Exit Rate	665
Input Volume	31814
% of Volume	2

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	11	19
Average Queue (ft)	0	1
95th Queue (ft)	6	7
Link Distance (ft)	686	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	88
Average Queue (ft)	2	36
95th Queue (ft)	12	68
Link Distance (ft)	858	732
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	9	48	57	59
Average Queue (ft)	0	14	26	28
95th Queue (ft)	5	41	49	49
Link Distance (ft)	412		452	452
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	102	85	92	237	249	464	393	51	60	183
Average Queue (ft)	40	31	39	117	141	54	37	8	22	67
95th Queue (ft)	81	71	78	233	241	265	165	32	51	140
Link Distance (ft)	412	412	412			392	392		668	668
Upstream Blk Time (%)						1	0			
Queuing Penalty (veh)						3	0			
Storage Bay Dist (ft)				225	225			239		
Storage Blk Time (%)				1	3	0				
Queuing Penalty (veh)				1	3	0				

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	243	217	86	279	187	272	299	12
Average Queue (ft)	134	136	36	147	87	150	158	1
95th Queue (ft)	203	203	69	232	163	232	250	8
Link Distance (ft)	392	392	392	529	529		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)							0	
Queuing Penalty (veh)							0	

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	252	322	353	64	116	227	129
Average Queue (ft)	63	109	125	23	55	22	47
95th Queue (ft)	141	251	270	61	106	122	97
Link Distance (ft)		529	529	282	282	282	556
Upstream Blk Time (%)			0			0	
Queuing Penalty (veh)			0			0	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)		1					
Queuing Penalty (veh)		2					

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	325	317	225	224	387	339	150	173	217	153	322
Average Queue (ft)	207	278	280	137	60	185	145	50	73	149	95	173
95th Queue (ft)	319	333	333	303	169	351	295	110	143	221	154	330
Link Distance (ft)		282	282			378	378	378	108	108		309
Upstream Blk Time (%)		15	20			0	0		6	47		2
Queuing Penalty (veh)		82	109			2	1		17	124		7
Storage Bay Dist (ft)	229			200	200							129
Storage Blk Time (%)	4	30	47	0	0	8					4	10
Queuing Penalty (veh)	19	74	35	1	0	5					7	14

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	355
Average Queue (ft)	308
95th Queue (ft)	377
Link Distance (ft)	309
Upstream Blk Time (%)	31
Queuing Penalty (veh)	116
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	177	295	343	125	101	242	288	97	171	72	132	85
Average Queue (ft)	56	150	196	36	43	91	113	10	73	40	49	47
95th Queue (ft)	124	243	302	119	88	195	233	53	144	83	105	90
Link Distance (ft)		378	378			834	834		191		301	
Upstream Blk Time (%)			0						0			
Queuing Penalty (veh)			0						0			
Storage Bay Dist (ft)	153			100	77			74		46		60
Storage Blk Time (%)	0	6	25	0	4	5	8	0	30	5	7	7
Queuing Penalty (veh)	0	5	13	0	20	3	3	0	16	5	4	4

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	T	R	L	L	T	R
Maximum Queue (ft)	327	403	458	306	295	289	323	254	222	270	408	125
Average Queue (ft)	97	251	268	186	161	164	181	96	123	144	254	85
95th Queue (ft)	236	414	457	364	273	248	276	211	199	233	430	180
Link Distance (ft)		834	834		371	371	371			398	398	
Upstream Blk Time (%)					0	0					4	
Queuing Penalty (veh)					0	0					16	
Storage Bay Dist (ft)	383			333				230	200			100
Storage Blk Time (%)	0	3	6	1			1	0	0	2	47	0
Queuing Penalty (veh)	0	3	26	5			4	1	0	3	71	0

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	498	127
Average Queue (ft)	152	190	69
95th Queue (ft)	243	391	165
Link Distance (ft)		907	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	2	30	0
Queuing Penalty (veh)	6	96	1

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	114	135	150	26	102	216	269	170	143	74	141	63
Average Queue (ft)	52	41	50	1	44	113	139	23	61	34	59	41
95th Queue (ft)	99	98	108	11	85	194	226	99	115	65	119	70
Link Distance (ft)		663	663			838	838		629		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145			110	197			145		247		30
Storage Blk Time (%)	0	0	0			0	5	0			47	13
Queuing Penalty (veh)	0	0	0			0	3	0			33	8



Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	41
Average Queue (ft)	14
95th Queue (ft)	37
Link Distance (ft)	214
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	64	31	57	82	336	346
Average Queue (ft)	24	8	12	20	92	138
95th Queue (ft)	55	29	42	63	279	317
Link Distance (ft)	67		309	309	622	622
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	93	78	98	103	267	236
Average Queue (ft)	34	22	46	47	137	82
95th Queue (ft)	73	62	86	87	247	191
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					2	1
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	77	128	25	42
Average Queue (ft)	27	19	1	9
95th Queue (ft)	60	99	18	34
Link Distance (ft)	83	153		
Upstream Blk Time (%)	1	2		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		3		
Queuing Penalty (veh)		1		

Intersection: 950: Winchester Ave. & Connector Rd.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	194	485	219
Average Queue (ft)	103	214	86
95th Queue (ft)	171	401	161
Link Distance (ft)	1689	907	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 973

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:45	11:45	11:45	11:45	11:45	11:45
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7982	7876	7845	7865	7831	7880
Vehs Exited	7806	7715	7773	7700	7704	7736
Starting Vehs	364	368	422	382	376	380
Ending Vehs	540	529	494	547	503	517
Travel Distance (mi)	5697	5623	5590	5638	5584	5626
Travel Time (hr)	526.1	675.4	589.8	671.8	652.4	623.1
Total Delay (hr)	338.3	490.3	405.2	486.0	468.1	437.6
Total Stops	18409	19085	18030	19834	19452	18960
Fuel Used (gal)	281.4	313.1	291.6	310.4	306.1	300.5

Interval #0 Information Seeding

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1935	2007	1991	2028	2016	1996
Vehs Exited	1930	1915	1972	1942	1923	1936
Starting Vehs	364	368	422	382	376	380
Ending Vehs	369	460	441	468	469	437
Travel Distance (mi)	1403	1404	1403	1415	1421	1409
Travel Time (hr)	105.0	110.4	115.0	120.2	108.7	111.9
Total Delay (hr)	58.6	64.1	68.5	73.5	61.7	65.3
Total Stops	4051	4342	4277	4433	4491	4313
Fuel Used (gal)	64.5	64.8	65.8	67.6	64.8	65.5

### Interval #2 Information

Start Time 12:15  
 End Time 12:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2084	1943	1969	1951	2003	1990
Vehs Exited	1967	1924	1916	1896	1972	1939
Starting Vehs	369	460	441	468	469	437
Ending Vehs	486	479	494	523	500	493
Travel Distance (mi)	1462	1375	1418	1363	1436	1411
Travel Time (hr)	124.8	147.4	133.0	147.9	138.4	138.3
Total Delay (hr)	76.7	102.2	86.2	103.1	90.9	91.8
Total Stops	4699	4739	4139	4782	5074	4688
Fuel Used (gal)	69.9	72.5	70.5	72.0	71.6	71.3

### Interval #3 Information

Start Time 12:30  
 End Time 12:45  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1951	2017	1957	1955	1886	1949
Vehs Exited	1983	1984	1968	1947	1868	1950
Starting Vehs	486	479	494	523	500	493
Ending Vehs	454	512	483	531	518	500
Travel Distance (mi)	1430	1464	1385	1440	1359	1416
Travel Time (hr)	141.5	188.2	156.3	188.3	187.9	172.4
Total Delay (hr)	94.5	140.0	110.3	140.7	143.4	125.8
Total Stops	4992	5112	4590	5455	4905	5008
Fuel Used (gal)	72.5	85.0	74.8	82.6	81.4	79.3

### Interval #4 Information

Start Time 12:45  
 End Time 1:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2012	1909	1928	1931	1926	1939
Vehs Exited	1926	1892	1917	1915	1941	1917
Starting Vehs	454	512	483	531	518	500
Ending Vehs	540	529	494	547	503	517
Travel Distance (mi)	1402	1381	1383	1420	1368	1391
Travel Time (hr)	154.8	229.4	185.5	215.4	217.4	200.5
Total Delay (hr)	108.6	184.0	140.1	168.8	172.0	154.7
Total Stops	4667	4892	5024	5164	4982	4946
Fuel Used (gal)	74.5	90.8	80.4	88.3	88.2	84.4

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	2.4	3.1	0.9
Total Del/Veh (s)	30.1	9.3	49.2	6.9	40.1	3.0	25.8
Travel Time (hr)	8.1	0.6	5.4	2.8	11.8	2.5	31.2
Vehicles Exited	730	94	307	614	577	244	2566
Hourly Exit Rate	730	94	307	614	577	244	2566
Input Volume	725	93	328	662	593	246	2647
% of Volume	101	101	94	93	97	99	97

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.3	0.0	0.1	0.2	0.0	0.0	0.1
Total Del/Veh (s)	19.0	23.5	5.1	6.1	46.8	9.1	14.6
Travel Time (hr)	2.1	10.7	3.1	2.6	1.5	0.0	20.0
Vehicles Exited	221	1089	835	673	87	2	2907
Hourly Exit Rate	221	1089	835	673	87	2	2907
Input Volume	215	1116	902	729	88	2	3052
% of Volume	103	98	93	92	99	100	95

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	174.4	156.7	171.7	1.9	2.3	1.5	0.0	0.2	0.7	107.1	105.7	94.2
Total Del/Veh (s)	59.7	47.7	12.3	49.9	49.4	15.4	54.5	37.4	26.8	138.9	139.2	34.9
Travel Time (hr)	26.8	55.0	4.0	1.3	15.5	3.2	0.2	2.5	3.8	23.7	4.4	19.9
Vehicles Exited	362	868	68	72	904	392	9	208	373	314	59	485
Hourly Exit Rate	362	868	68	72	904	392	9	208	373	314	59	485
Input Volume	417	965	72	71	915	379	10	199	368	383	67	599
% of Volume	87	90	94	101	99	103	90	105	101	82	88	81

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	76.3
Total Del/Veh (s)	50.1
Travel Time (hr)	160.2
Vehicles Exited	4114
Hourly Exit Rate	4114
Input Volume	4445
% of Volume	93

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	135.8	125.3	62.7
Total Del/Veh (s)	44.6	0.7	2.0	5.9	4.5	50.2	37.7	22.5
Travel Time (hr)	1.6	0.0	2.3	4.8	0.3	8.5	41.9	59.5
Vehicles Exited	62	2	177	812	53	147	814	2067
Hourly Exit Rate	62	2	177	812	53	147	814	2067
Input Volume	67	2	187	845	58	157	915	2231
% of Volume	93	100	95	96	91	94	89	93

Total Zone Performance

Denied Del/Veh (s)	178.5
Total Del/Veh (s)	1330.1
Travel Time (hr)	270.9
Vehicles Exited	111
Hourly Exit Rate	111
Input Volume	12375
% of Volume	1

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	317	298	151	304	178	318	286	41
Average Queue (ft)	185	155	36	182	73	176	154	2
95th Queue (ft)	277	240	95	274	147	268	247	16
Link Distance (ft)	392	392	392	529	529		1419	
Upstream Blk Time (%)			0					
Queuing Penalty (veh)			0					
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	285	500	503	98	218	265	159
Average Queue (ft)	107	187	179	34	64	59	67
95th Queue (ft)	243	419	410	80	137	211	127
Link Distance (ft)		529	529	273	273	273	556
Upstream Blk Time (%)		1	1		0	0	
Queuing Penalty (veh)		6	4		0	1	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)	0	7					
Queuing Penalty (veh)	0	15					

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	R	L	T	T	R	LT	R	L	LT
Maximum Queue (ft)	254	328	306	225	225	412	420	304	178	195	154	325
Average Queue (ft)	232	267	237	89	110	322	275	145	81	125	146	311
95th Queue (ft)	300	359	358	257	259	479	446	262	163	200	186	349
Link Distance (ft)		273	273			378	378	378	102	102		309
Upstream Blk Time (%)	0	18	17			15	5	0	13	35		60
Queuing Penalty (veh)	0	101	92			65	20	1	36	99		301
Storage Bay Dist (ft)	229			200	200							129
Storage Blk Time (%)	18	21	36	0	0	40						31
Queuing Penalty (veh)	85	88	26	1	0	28						79

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB
Directions Served	R
Maximum Queue (ft)	338
Average Queue (ft)	228
95th Queue (ft)	383
Link Distance (ft)	309
Upstream Blk Time (%)	8
Queuing Penalty (veh)	42
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	124	71	183	196	295	298
Average Queue (ft)	42	16	67	78	210	190
95th Queue (ft)	95	49	145	158	342	353
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					46	39
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

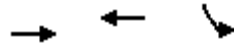
Zone wide Queuing Penalty: 1244





Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	216	5	67	68	5
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 28.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	238	185	168
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 29.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	345	78	36	158	41	91
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 33.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	429	112	184	3	56
Act Effct Green (s)	59.2	10.4	72.0	8.0	23.4
Actuated g/C Ratio	0.66	0.12	0.80	0.09	0.26
v/c Ratio	0.15	0.38	0.09	0.01	0.14
Control Delay	6.6	27.8	1.8	37.7	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	27.8	1.8	37.7	7.9
LOS	A	C	A	D	A
Approach Delay	6.6		11.6	9.4	
Approach LOS	A		B	A	
Queue Length 50th (ft)	32	18	3	1	0
Queue Length 95th (ft)	49	40	5	6	26
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	2942	613	2112	446	579
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.18	0.09	0.01	0.10

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 84 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.38  
 Intersection Signal Delay: 8.7  
 Intersection Capacity Utilization 42.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	410	51	250	199	978	105
Act Effct Green (s)	20.6	20.6	17.8	43.4	36.6	36.6
Actuated g/C Ratio	0.23	0.23	0.20	0.48	0.41	0.41
v/c Ratio	0.58	0.13	0.82	0.25	0.80	0.17
Control Delay	30.0	1.8	46.6	7.5	29.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	1.8	46.6	7.5	29.3	4.2
LOS	C	A	D	A	C	A
Approach Delay	26.9			29.3		
Approach LOS	C			C		
Queue Length 50th (ft)	75	0	116	37	243	0
Queue Length 95th (ft)	101	5	#230	73	311	28
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	711	383	327	788	1238	632
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.13	0.76	0.25	0.79	0.17

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 46 (51%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 27.4

Intersection LOS: C

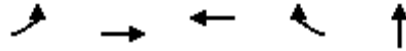
Intersection Capacity Utilization 73.4%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	65	1249	403	747	27
Act Effct Green (s)	79.0	82.0	69.6	69.6	10.0
Actuated g/C Ratio	0.88	0.91	0.77	0.77	0.11
v/c Ratio	0.09	0.44	0.17	0.60	0.16
Control Delay	0.9	1.4	1.6	7.2	38.6
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	0.9	1.5	1.6	7.7	38.6
LOS	A	A	A	A	D
Approach Delay		1.5	5.5		38.6
Approach LOS		A	A		D
Queue Length 50th (ft)	0	0	4	198	14
Queue Length 95th (ft)	m5	89	m24	217	39
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	754	2830	2402	1243	173
Starvation Cap Reductn	0	226	0	176	0
Spillback Cap Reductn	0	212	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.48	0.17	0.70	0.16

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 78 (87%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 3.7  
 Intersection Capacity Utilization 73.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service D

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	1028	72	76	824	154	128	445	74	75	215
Act Effct Green (s)	44.0	34.0	53.6	36.8	32.4	49.4	19.6	29.0	12.0	12.0	18.0
Actuated g/C Ratio	0.49	0.38	0.60	0.41	0.36	0.55	0.22	0.32	0.13	0.13	0.20
v/c Ratio	0.63	0.88	0.08	0.50	0.74	0.19	0.37	0.86	0.38	0.38	0.48
Control Delay	20.5	22.3	1.3	29.3	26.0	1.5	33.4	39.4	40.5	40.3	5.6
Queue Delay	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	25.7	1.3	29.3	26.0	1.5	33.4	39.4	40.5	40.3	5.6
LOS	C	C	A	C	C	A	C	D	D	D	A
Approach Delay		23.7			22.7		38.0			19.9	
Approach LOS		C			C		D			B	
Queue Length 50th (ft)	30	267	0	12	205	0	62	184	41	42	0
Queue Length 95th (ft)	#72	#390	9	m#52	285	1	114	#361	80	81	20
Internal Link Dist (ft)		290			428		169			305	
Turn Bay Length (ft)	229		200	200					129		
Base Capacity (vph)	263	1173	867	151	1118	831	353	511	196	200	449
Starvation Cap Reductn	0	83	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.94	0.08	0.50	0.74	0.19	0.36	0.87	0.38	0.38	0.48

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 25.5

Intersection LOS: C

Intersection Capacity Utilization 82.0%

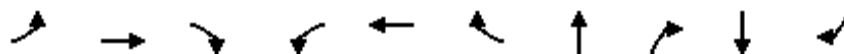
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	1504	74	86	986	55	79	62	36	20
Act Effct Green (s)	6.0	62.8	62.8	8.4	67.4	67.4	10.0	10.0	10.0	10.0
Actuated g/C Ratio	0.07	0.70	0.70	0.09	0.75	0.75	0.11	0.11	0.11	0.11
v/c Ratio	0.36	0.69	0.07	0.60	0.42	0.05	0.58	0.27	0.25	0.13
Control Delay	48.0	5.2	0.2	41.4	9.5	2.8	56.2	8.0	41.3	38.3
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.0	5.2	0.2	41.4	9.5	2.8	56.2	8.0	41.3	38.3
LOS	D	A	A	D	A	A	E	A	D	D
Approach Delay		6.0			11.6		35.0		40.2	
Approach LOS		A			B		D		D	
Queue Length 50th (ft)	22	141	0	40	177	2	43	0	19	10
Queue Length 95th (ft)	m28	146	m0	m75	m199	m7	#103	24	49	32
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	104	2168	995	155	2324	1060	137	230	146	155
Starvation Cap Reductn	0	59	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.71	0.07	0.55	0.42	0.05	0.58	0.27	0.25	0.13

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 77 (86%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 10.2

Intersection LOS: B

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	1353	223	124	751	126	320	201	164	147	115	72
Act Effct Green (s)	8.7	41.0	41.0	8.0	42.9	42.9	10.9	12.0	25.0	9.0	10.1	23.8
Actuated g/C Ratio	0.10	0.46	0.46	0.09	0.48	0.48	0.12	0.13	0.28	0.10	0.11	0.26
v/c Ratio	0.47	0.96	0.30	0.90	0.51	0.17	0.88	0.92	0.37	0.95	0.63	0.17
Control Delay	51.8	37.4	5.5	94.0	17.6	4.1	64.9	84.6	15.7	103.0	54.7	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	37.4	5.5	94.0	17.6	4.1	64.9	84.6	15.7	103.0	54.7	5.7
LOS	D	D	A	F	B	A	E	F	B	F	D	A
Approach Delay		33.7			25.4			58.9			65.4	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	44	333	18	76	108	0	93	115	34	85	64	0
Queue Length 95th (ft)	m66	#525	m47	#182	167	30	#167	#245	88	#201	#135	25
Internal Link Dist (ft)		834			369			397			915	
Turn Bay Length (ft)	383		333			230	200		100	212		102
Base Capacity (vph)	172	1414	754	138	1480	738	368	218	447	155	183	449
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.96	0.30	0.90	0.51	0.17	0.87	0.92	0.37	0.95	0.63	0.16

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 88 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 81.4%

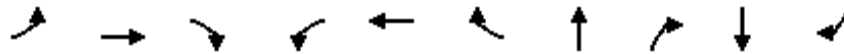
ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	48	1637	19	35	979	85	16	24	72	55
Act Effct Green (s)	10.0	65.0	65.0	10.0	65.0	65.0	10.0	10.0	10.0	10.0
Actuated g/C Ratio	0.11	0.72	0.72	0.11	0.72	0.72	0.11	0.11	0.11	0.11
v/c Ratio	0.28	0.74	0.02	0.21	0.44	0.08	0.11	0.11	0.54	0.24
Control Delay	39.5	6.5	0.0	39.7	8.4	1.9	38.0	0.9	54.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	6.5	0.0	39.7	8.4	1.9	38.0	0.9	54.1	6.4
LOS	D	A	A	D	A	A	D	A	D	A
Approach Delay		7.3			8.9		15.7		33.5	
Approach LOS		A			A		B		C	
Queue Length 50th (ft)	28	95	0	18	152	0	8	0	39	0
Queue Length 95th (ft)	m35	m107	m0	47	201	17	28	0	#92	18
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	170	2221	1017	170	2221	1017	148	228	133	228
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.74	0.02	0.21	0.44	0.08	0.11	0.11	0.54	0.24

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 9.1

Intersection LOS: A

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1555	27	943	27
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 54.2%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	408	370
Act Effct Green (s)	6.3	41.4	41.4	41.4
Actuated g/C Ratio	0.14	0.92	0.92	0.92
v/c Ratio	0.14	0.02	0.14	0.13
Control Delay	13.3	2.1	1.4	1.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.3	2.1	1.4	1.5
LOS	B	A	A	A
Approach Delay	13.3		1.4	1.5
Approach LOS	B		A	A
Queue Length 50th (ft)	4	0	0	0
Queue Length 95th (ft)	20	m6	48	31
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	549	817	2916	2916
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.14	0.13

**Intersection Summary**

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 40 (89%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.14

Intersection Signal Delay: 1.9

Intersection LOS: A

Intersection Capacity Utilization 25.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	43	109	437	399
Act Effct Green (s)	7.3	7.3	58.4	58.4
Actuated g/C Ratio	0.10	0.10	0.81	0.81
v/c Ratio	0.24	0.42	0.15	0.18
Control Delay	32.1	11.9	2.3	2.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.1	11.9	2.3	2.6
LOS	C	B	A	A
Approach Delay	17.6		2.3	2.6
Approach LOS	B		A	A
Queue Length 50th (ft)	18	0	18	18
Queue Length 95th (ft)	44	40	34	34
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	744	730	2839	2261
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.15	0.15	0.18

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 72.5	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 4.8	Intersection LOS: A
Intersection Capacity Utilization 40.0%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	663	22	22	440
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	143	394	329
Act Effct Green (s)	10.0	62.6	62.6
Actuated g/C Ratio	0.12	0.76	0.76
v/c Ratio	0.58	0.32	0.24
Control Delay	29.8	4.5	3.5
Queue Delay	0.0	0.0	0.0
Total Delay	29.8	4.5	3.5
LOS	C	A	A
Approach Delay	29.8	4.5	3.5
Approach LOS	C	A	A
Queue Length 50th (ft)	42	50	34
Queue Length 95th (ft)	90	107	75
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	532	1243	1392
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.27	0.32	0.24

**Intersection Summary**

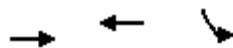
Cycle Length: 90	
Actuated Cycle Length: 82.6	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 8.3	Intersection LOS: A
Intersection Capacity Utilization 61.0%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	149	1	2	290	57
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	26.0%
Analysis Period (min)	15
	ICU Level of Service A





Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	209	461	109
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	268	59	96	419	71	42
Sign Control	Free		Free		Stop	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 32.2%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	288	612	399	94	574
Act Effct Green (s)	39.1	35.7	79.8	10.2	50.9
Actuated g/C Ratio	0.39	0.36	0.80	0.10	0.51
v/c Ratio	0.17	0.68	0.19	0.37	0.66
Control Delay	18.7	18.1	1.1	45.5	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	18.1	1.1	45.5	10.7
LOS	B	B	A	D	B
Approach Delay	18.7		11.4	15.6	
Approach LOS	B		B	B	
Queue Length 50th (ft)	35	116	6	35	113
Queue Length 95th (ft)	66	161	18	63	153
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	1741	1179	2107	351	989
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.52	0.19	0.27	0.58

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 98 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 13.9  
 Intersection Capacity Utilization 60.4%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	703	127	469	742	743	291
Act Effct Green (s)	26.6	26.6	31.4	63.0	27.0	27.0
Actuated g/C Ratio	0.27	0.27	0.31	0.63	0.27	0.27
v/c Ratio	0.85	0.27	0.96	0.72	0.91	0.53
Control Delay	45.8	10.6	57.2	16.1	52.7	11.1
Queue Delay	0.0	0.0	0.0	3.4	0.0	0.0
Total Delay	45.8	10.6	57.2	19.5	52.7	11.1
LOS	D	B	E	B	D	B
Approach Delay	40.4			34.1		
Approach LOS	D			C		
Queue Length 50th (ft)	197	7	251	340	236	27
Queue Length 95th (ft)	#315	53	#464	551	#332	97
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	826	462	496	1030	813	546
Starvation Cap Reductn	0	0	0	195	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.27	0.95	0.89	0.91	0.53

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 64 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 38.1

Intersection LOS: D

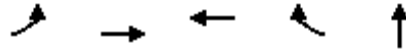
Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	226	1174	1012	899	115
Act Effct Green (s)	78.0	78.0	64.4	64.4	12.0
Actuated g/C Ratio	0.78	0.78	0.64	0.64	0.12
v/c Ratio	0.59	0.48	0.51	0.78	0.62
Control Delay	7.3	2.7	4.1	6.4	57.3
Queue Delay	0.0	0.8	0.6	1.8	0.0
Total Delay	7.3	3.5	4.7	8.2	57.3
LOS	A	A	A	A	E
Approach Delay		4.1	6.3		57.3
Approach LOS		A	A		E
Queue Length 50th (ft)	15	4	62	60	71
Queue Length 95th (ft)	m20	m2	m60	m35	#141
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	425	2422	2000	1153	186
Starvation Cap Reductn	0	847	542	123	0
Spillback Cap Reductn	0	284	46	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.75	0.69	0.87	0.62

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 96 (96%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 7.1  
 Intersection LOS: A  
 Intersection Capacity Utilization 89.3%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	357	1156	44	48	1313	285	135	337	146	146	546
Act Effect Green (s)	61.0	49.0	57.0	45.0	40.0	63.0	8.0	18.0	18.0	18.0	32.0
Actuated g/C Ratio	0.61	0.49	0.57	0.45	0.40	0.63	0.08	0.18	0.18	0.18	0.32
v/c Ratio	1.13	0.76	0.05	0.25	1.06	0.31	1.05	0.99	0.55	0.54	1.05
Control Delay	117.6	17.2	1.1	11.0	62.5	1.5	141.1	76.9	46.8	46.5	74.1
Queue Delay	0.0	0.8	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	2.2
Total Delay	117.6	18.0	1.1	11.0	63.8	1.5	141.1	76.9	46.8	46.5	76.3
LOS	F	B	A	B	E	A	F	E	D	D	E
Approach Delay		40.3			51.4		95.2			65.9	
Approach LOS		D			D		F			E	
Queue Length 50th (ft)	~221	313	1	7	~476	8	~94	153	95	95	~208
Queue Length 95th (ft)	#386	465	m7	m18	#612	14	#214	#337	160	160	#408
Internal Link Dist (ft)		290			428		126			305	
Turn Bay Length (ft)	229		200	200					129		
Base Capacity (vph)	316	1521	824	189	1242	932	128	339	265	268	518
Starvation Cap Reductn	0	132	0	0	4	0	0	0	0	0	1
Spillback Cap Reductn	0	8	0	0	0	0	0	0	0	0	3
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.83	0.05	0.25	1.06	0.31	1.05	0.99	0.55	0.54	1.06

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 11 (11%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 54.9

Intersection LOS: D

Intersection Capacity Utilization 94.6%

ICU Level of Service F

Analysis Period (min) 15

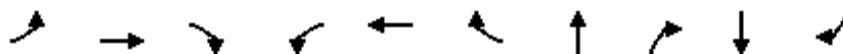
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	29	1470	37	18	1449	16	129	18	34	105
Act Effct Green (s)	8.0	69.4	69.4	8.0	66.8	66.8	15.4	15.4	15.4	15.4
Actuated g/C Ratio	0.08	0.69	0.69	0.08	0.67	0.67	0.15	0.15	0.15	0.15
v/c Ratio	0.23	0.68	0.04	0.15	0.70	0.02	0.70	0.06	0.16	0.49
Control Delay	51.0	7.4	0.1	53.8	5.7	0.0	60.2	0.5	37.2	46.2
Queue Delay	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	51.0	7.5	0.1	53.8	6.0	0.0	60.2	0.5	37.2	46.2
LOS	D	A	A	D	A	A	E	A	D	D
Approach Delay		8.2			6.5		52.9		44.0	
Approach LOS		A			A		D		D	
Queue Length 50th (ft)	20	98	0	12	92	0	78	0	19	61
Queue Length 95th (ft)	m26	m191	m0	m14	m45	m0	#141	0	47	113
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	124	2156	987	124	2075	953	215	312	248	250
Starvation Cap Reductn	0	125	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	149	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.72	0.04	0.15	0.75	0.02	0.60	0.06	0.14	0.42

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	975	465	240	1090	257	338	338	148	229	298	87
Act Effct Green (s)	8.0	30.0	30.0	15.0	37.0	37.0	12.0	20.0	40.0	15.0	23.0	36.0
Actuated g/C Ratio	0.08	0.30	0.30	0.15	0.37	0.37	0.12	0.20	0.40	0.15	0.23	0.36
v/c Ratio	0.60	1.05	0.64	1.03	0.95	0.38	0.94	1.03	0.25	0.99	0.79	0.15
Control Delay	55.0	82.6	18.3	96.8	40.4	7.1	78.5	99.5	11.2	100.1	53.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	82.6	18.3	96.8	40.4	7.1	78.5	99.5	11.2	100.1	53.1	1.9
LOS	D	F	B	F	D	A	E	F	B	F	D	A
Approach Delay		61.5			43.5			75.0			63.4	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	52	~363	102	~150	386	53	111	~233	28	148	180	0
Queue Length 95th (ft)	m77	#475	202	m#272	#498	m69	#196	#405	71	#298	#311	12
Internal Link Dist (ft)		834			369			397			915	
Turn Bay Length (ft)	383		333			230	200		100	212		102
Base Capacity (vph)	124	931	723	232	1149	675	361	327	601	232	376	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	1.05	0.64	1.03	0.95	0.38	0.94	1.03	0.25	0.99	0.79	0.15

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 95 (95%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 57.9

Intersection LOS: E

Intersection Capacity Utilization 89.4%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

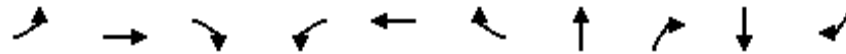
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	93	1227	18	100	1489	209	108	107	97	70
Act Effct Green (s)	10.4	63.4	63.4	11.2	64.2	64.2	13.4	13.4	13.4	13.4
Actuated g/C Ratio	0.10	0.63	0.63	0.11	0.64	0.64	0.13	0.13	0.13	0.13
v/c Ratio	0.58	0.63	0.02	0.58	0.75	0.22	0.68	0.39	0.63	0.28
Control Delay	52.8	17.5	1.4	55.9	17.3	3.3	62.5	12.1	59.7	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	17.5	1.4	55.9	17.3	3.3	62.5	12.1	59.7	11.1
LOS	D	B	A	E	B	A	E	B	E	B
Approach Delay		19.7			17.8		37.4		39.4	
Approach LOS		B			B		D		D	
Queue Length 50th (ft)	46	415	0	62	359	12	65	0	58	0
Queue Length 95th (ft)	m51	m411	m0	114	476	43	#134	47	#117	36
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	169	1949	900	199	1973	940	178	297	171	271
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.63	0.02	0.50	0.75	0.22	0.61	0.36	0.57	0.26

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 38 (38%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 20.8

Intersection LOS: C

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1262	27	1549	27
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 45.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	712	826
Act Effct Green (s)	6.9	89.3	89.3	89.3
Actuated g/C Ratio	0.07	0.89	0.89	0.89
v/c Ratio	0.27	0.03	0.25	0.29
Control Delay	33.1	0.9	0.7	1.8
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	33.1	0.9	0.9	1.8
LOS	C	A	A	A
Approach Delay	33.1		0.9	1.8
Approach LOS	C		A	A
Queue Length 50th (ft)	10	0	11	43
Queue Length 95th (ft)	39	m1	m19	71
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	331	507	2827	2827
Starvation Cap Reductn	0	0	1176	0
Spillback Cap Reductn	21	0	0	34
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.03	0.43	0.30

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 42 (42%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.29  
 Intersection Signal Delay: 2.0  
 Intersection Capacity Utilization 35.1%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	73	203	760	936
Act Effct Green (s)	8.3	8.3	53.2	53.2
Actuated g/C Ratio	0.12	0.12	0.74	0.74
v/c Ratio	0.35	0.56	0.29	0.51
Control Delay	32.3	11.0	3.4	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.3	11.0	3.4	5.3
LOS	C	B	A	A
Approach Delay	16.6		3.4	5.3
Approach LOS	B		A	A
Queue Length 50th (ft)	29	0	41	67
Queue Length 95th (ft)	64	53	72	122
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	754	793	2641	1820
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.26	0.29	0.51

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 71.6	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	802	22	22	982
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 63.1%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	225	666	613
Act Effct Green (s)	13.2	58.5	58.5
Actuated g/C Ratio	0.16	0.72	0.72
v/c Ratio	0.68	0.69	0.46
Control Delay	33.2	12.5	6.8
Queue Delay	0.0	0.0	0.0
Total Delay	33.2	12.5	6.8
LOS	C	B	A
Approach Delay	33.2	12.5	6.8
Approach LOS	C	B	A
Queue Length 50th (ft)	74	155	102
Queue Length 95th (ft)	143	374	217
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	568	965	1322
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	0.69	0.46

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 81.7	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 96.8%	ICU Level of Service F
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	179	1	4	149	2
Sign Control	Free			Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 19.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	197	288	130
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	244	85	80	231	68	74
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 30.0% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	311	675	248	44	617
Act Effct Green (s)	27.1	29.5	61.6	8.4	42.9
Actuated g/C Ratio	0.34	0.37	0.77	0.10	0.54
v/c Ratio	0.20	0.73	0.12	0.17	0.67
Control Delay	14.7	15.8	2.3	34.0	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	15.8	2.3	34.0	8.7
LOS	B	B	A	C	A
Approach Delay	14.7		12.2	10.4	
Approach LOS	B		B	B	
Queue Length 50th (ft)	29	128	13	13	65
Queue Length 95th (ft)	50	183	m19	30	155
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	1520	1003	2033	376	952
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.67	0.12	0.12	0.65

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 2 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 12.0

Intersection LOS: B

Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	715	116	338	693	723	260
Act Effct Green (s)	22.8	22.8	19.2	47.0	23.0	23.0
Actuated g/C Ratio	0.28	0.28	0.24	0.59	0.29	0.29
v/c Ratio	0.81	0.24	0.91	0.72	0.83	0.46
Control Delay	35.2	6.5	50.3	14.4	37.0	7.5
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	35.2	6.5	50.3	14.7	37.0	7.5
LOS	D	A	D	B	D	A
Approach Delay	31.2			26.3		
Approach LOS	C			C		
Queue Length 50th (ft)	184	4	129	295	173	9
Queue Length 95th (ft)	#260	m19	#291	436	#253	60
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	885	479	388	960	866	566
Starvation Cap Reductn	0	0	0	32	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.24	0.87	0.75	0.83	0.46

**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 48 (60%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 28.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 70.9%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	175	1176	861	655	75
Act Effct Green (s)	63.0	64.0	49.9	49.9	10.0
Actuated g/C Ratio	0.79	0.80	0.62	0.62	0.12
v/c Ratio	0.39	0.47	0.44	0.59	0.39
Control Delay	3.3	3.9	4.7	2.1	38.7
Queue Delay	0.0	0.1	0.3	0.9	0.0
Total Delay	3.3	4.0	4.9	3.0	38.7
LOS	A	A	A	A	D
Approach Delay		3.9	4.1		38.7
Approach LOS		A	A		D
Queue Length 50th (ft)	14	165	48	6	35
Queue Length 95th (ft)	m14	202	m59	m10	76
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	480	2484	1936	1112	194
Starvation Cap Reductn	0	0	445	212	0
Spillback Cap Reductn	0	245	0	0	1
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.53	0.58	0.73	0.39

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 2 (3%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 4.9

Intersection LOS: A

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	257	1112	78	64	954	349	161	397	171	171	488
Act Effct Green (s)	40.0	30.0	42.0	32.0	28.0	47.0	12.0	21.0	14.0	14.0	20.0
Actuated g/C Ratio	0.50	0.38	0.52	0.40	0.35	0.59	0.15	0.26	0.18	0.18	0.25
v/c Ratio	1.06	0.96	0.10	0.40	0.88	0.37	0.67	0.91	0.66	0.66	0.93
Control Delay	98.2	31.0	1.2	15.0	23.5	1.3	47.4	50.5	43.4	42.8	38.6
Queue Delay	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total Delay	98.2	34.1	1.2	15.0	23.5	1.3	47.4	50.5	43.4	42.8	39.2
LOS	F	C	A	B	C	A	D	D	D	D	D
Approach Delay		43.7			17.4		49.6			40.8	
Approach LOS		D			B		D			D	
Queue Length 50th (ft)	~86	250	3	7	57	0	77	150	84	84	70
Queue Length 95th (ft)	#231	#413	8	m22	#333	m2	#159	#321	#173	#171	#266
Internal Link Dist (ft)		290			428		151			305	
Turn Bay Length (ft)	229		200	200					129		
Base Capacity (vph)	242	1164	774	159	1087	953	241	434	258	261	527
Starvation Cap Reductn	0	27	0	0	0	0	0	0	0	0	3
Spillback Cap Reductn	0	2	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.98	0.10	0.40	0.88	0.37	0.67	0.91	0.66	0.66	0.93

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 7 (9%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 35.4

Intersection LOS: D

Intersection Capacity Utilization 81.7%

ICU Level of Service D

Analysis Period (min) 15

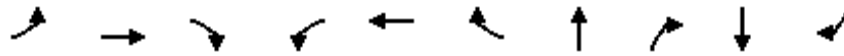
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	89	1498	55	55	1226	48	110	59	66	67
Act Effct Green (s)	9.0	51.7	51.7	8.0	48.1	48.1	10.5	10.5	10.5	10.5
Actuated g/C Ratio	0.11	0.65	0.65	0.10	0.60	0.60	0.13	0.13	0.13	0.13
v/c Ratio	0.51	0.75	0.06	0.35	0.66	0.05	0.72	0.22	0.43	0.37
Control Delay	38.6	8.7	0.2	49.7	7.9	0.9	61.5	5.1	41.9	38.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	8.8	0.2	49.7	7.9	0.9	61.5	5.1	41.9	38.4
LOS	D	A	A	D	A	A	E	A	D	D
Approach Delay		10.1			9.4		41.8		40.1	
Approach LOS		B			A		D		D	
Queue Length 50th (ft)	48	144	0	25	233	1	54	0	31	31
Queue Length 95th (ft)	m53	m170	m0	m32	m262	m1	#137	16	71	70
Internal Link Dist (ft)		428			834		170		280	
Turn Bay Length (ft)	153		100	77		74		46		60
Base Capacity (vph)	194	2007	931	155	1872	874	153	264	153	182
Starvation Cap Reductn	0	46	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.76	0.06	0.35	0.65	0.05	0.72	0.22	0.43	0.37

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 78 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 12.7

Intersection LOS: B

Intersection Capacity Utilization 74.7%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	1027	505	191	862	276	453	308	166	242	233	102
Act Effct Green (s)	8.0	25.0	25.0	9.0	26.0	26.0	13.0	14.0	28.0	12.0	13.0	26.0
Actuated g/C Ratio	0.10	0.31	0.31	0.11	0.32	0.32	0.16	0.18	0.35	0.15	0.16	0.32
v/c Ratio	0.65	1.06	0.66	1.10	0.85	0.43	0.93	1.08	0.30	1.04	0.88	0.20
Control Delay	48.4	69.0	11.7	124.2	32.1	9.5	61.0	109.9	10.4	107.5	66.8	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	69.0	11.7	124.2	32.1	9.5	61.0	109.9	10.4	107.5	66.8	6.3
LOS	D	E	B	F	C	A	E	F	B	F	E	A
Approach Delay		50.0			40.6			68.2				73.2
Approach LOS		D			D			E				E
Queue Length 50th (ft)	45	~314	100	~108	236	56	116	~174	24	~133	115	2
Queue Length 95th (ft)	m65	#438	m245	#231	#321	133	#203	#326	68	#271	#241	35
Internal Link Dist (ft)		834			369			397				915
Turn Bay Length (ft)	383		333			230	200		100	212		102
Base Capacity (vph)	155	970	770	174	1009	637	489	286	547	232	265	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.06	0.66	1.10	0.85	0.43	0.93	1.08	0.30	1.04	0.88	0.20

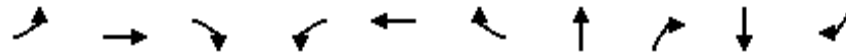
**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 48 (60%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.10  
 Intersection Signal Delay: 54.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 87.2%  
 ICU Level of Service E  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	96	1276	15	69	1157	54	101	73	68	77
Act Effct Green (s)	10.4	50.4	50.4	10.0	50.0	50.0	11.6	11.6	11.6	11.6
Actuated g/C Ratio	0.13	0.63	0.63	0.12	0.62	0.62	0.14	0.14	0.14	0.14
v/c Ratio	0.48	0.66	0.02	0.36	0.60	0.06	0.56	0.26	0.38	0.27
Control Delay	44.8	10.6	0.2	38.0	14.3	0.9	44.3	6.9	36.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	10.6	0.2	38.0	14.3	0.9	44.3	6.9	36.9	7.7
LOS	D	B	A	D	B	A	D	A	D	A
Approach Delay		12.8			15.0		28.6		21.4	
Approach LOS		B			B		C		C	
Queue Length 50th (ft)	43	303	0	32	211	0	47	0	31	0
Queue Length 95th (ft)	m44	m299	m0	71	301	6	96	24	68	28
Internal Link Dist (ft)		658			827		605		407	
Turn Bay Length (ft)	145		110	197		145		247		30
Base Capacity (vph)	211	1937	901	192	1922	895	201	303	202	303
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.66	0.02	0.36	0.60	0.06	0.50	0.24	0.34	0.25

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 15.1

Intersection LOS: B

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBT	EBR	WBT	NBR
Lane Group Flow (vph)	1321	27	1220	27
Sign Control	Free		Free	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 47.5% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	701	803
Act Effct Green (s)	6.7	72.8	72.8	72.8
Actuated g/C Ratio	0.08	0.91	0.91	0.91
v/c Ratio	0.23	0.03	0.24	0.28
Control Delay	25.8	0.9	0.6	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.8	0.9	0.6	1.7
LOS	C	A	A	A
Approach Delay	25.8		0.6	1.7
Approach LOS	C		A	A
Queue Length 50th (ft)	8	0	0	0
Queue Length 95th (ft)	33	m1	m13	68
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	372	527	2881	2881
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.24	0.28

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 30 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 1.7

Intersection LOS: A

Intersection Capacity Utilization 34.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	71	282	809	963
Act Effct Green (s)	10.5	10.5	51.3	51.3
Actuated g/C Ratio	0.15	0.15	0.71	0.71
v/c Ratio	0.27	0.72	0.32	0.60
Control Delay	28.6	20.9	4.6	7.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.6	20.9	4.6	7.9
LOS	C	C	A	A
Approach Delay	22.5		4.6	7.9
Approach LOS	C		A	A
Queue Length 50th (ft)	28	37	52	85
Queue Length 95th (ft)	61	109	110	195
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	750	781	2538	1612
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.36	0.32	0.60

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 71.8	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	905	22	22	908
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 59.1%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	255	675	595
Act Effct Green (s)	14.8	57.3	57.3
Actuated g/C Ratio	0.18	0.70	0.70
v/c Ratio	0.71	0.75	0.46
Control Delay	35.0	16.2	7.3
Queue Delay	0.0	0.0	0.0
Total Delay	35.0	16.2	7.3
LOS	C	B	A
Approach Delay	35.0	16.2	7.3
Approach LOS	C	B	A
Queue Length 50th (ft)	92	181	104
Queue Length 95th (ft)	167	#512	225
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	564	905	1280
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.75	0.46

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 82.1

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 15.9

Intersection LOS: B

Intersection Capacity Utilization 98.3%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	824	106	373	732	674	280
Act Effct Green (s)	33.6	33.6	25.4	64.0	26.0	26.0
Actuated g/C Ratio	0.34	0.34	0.25	0.64	0.26	0.26
v/c Ratio	0.79	0.20	0.95	0.70	0.86	0.52
Control Delay	36.8	8.5	60.9	15.0	47.9	9.7
Queue Delay	0.1	0.0	0.0	2.9	0.4	0.0
Total Delay	36.8	8.5	60.9	17.9	48.4	9.7
LOS	D	A	E	B	D	A
Approach Delay	33.6			32.4		
Approach LOS	C			C		
Queue Length 50th (ft)	222	5	194	429	211	16
Queue Length 95th (ft)	328	m45	#384	553	#293	82
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1043	537	403	1046	783	543
Starvation Cap Reductn	8	0	0	207	0	0
Spillback Cap Reductn	0	0	0	0	10	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.20	0.93	0.87	0.87	0.52

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 34.3

Intersection LOS: C

Intersection Capacity Utilization 82.9%

ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	234	1213	980	792	97
Act Effct Green (s)	80.6	81.6	66.7	66.7	12.7
Actuated g/C Ratio	0.81	0.82	0.67	0.67	0.13
v/c Ratio	0.57	0.48	0.47	0.68	0.49
Control Delay	8.7	7.3	4.5	4.6	49.6
Queue Delay	0.0	0.9	0.5	1.8	0.0
Total Delay	8.7	8.1	4.9	6.4	49.6
LOS	A	A	A	A	D
Approach Delay		8.2	5.6		49.6
Approach LOS		A	A		D
Queue Length 50th (ft)	54	243	57	42	58
Queue Length 95th (ft)	m53	282	m75	m62	111
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	485	2534	2071	1165	202
Starvation Cap Reductn	0	936	579	216	0
Spillback Cap Reductn	0	73	82	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.76	0.66	0.83	0.48

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 4 (4%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 8.0  
 Intersection Capacity Utilization 82.9%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service E

m Volume for 95th percentile queue is metered by upstream signal.








Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	73	203	965	1166
Act Effct Green (s)	9.5	9.5	53.3	53.3
Actuated g/C Ratio	0.13	0.13	0.73	0.73
v/c Ratio	0.31	0.63	0.37	0.68
Control Delay	30.3	20.8	4.4	8.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.3	20.8	4.4	8.6
LOS	C	C	A	A
Approach Delay	23.3		4.4	8.6
Approach LOS	C		A	A
Queue Length 50th (ft)	29	30	61	108
Queue Length 95th (ft)	63	88	120	238
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	741	739	2602	1711
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.27	0.37	0.68

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 72.8	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 8.6	Intersection LOS: A
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	



# D

2024 Alternative 4 Capacity  
and Queue Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:00	7:00	7:00	7:00	7:00	7:00
End Time	8:15	8:15	8:15	8:15	8:15	8:15
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	5170	5162	5182	5231	5135	5177
Vehs Exited	5172	5156	5168	5206	5179	5177
Starting Vehs	207	224	243	230	255	226
Ending Vehs	205	230	257	255	211	223
Travel Distance (mi)	4402	4409	4425	4325	4349	4382
Travel Time (hr)	231.3	228.4	230.5	224.5	228.9	228.7
Total Delay (hr)	89.2	85.9	87.7	84.5	88.2	87.1
Total Stops	8233	7975	8140	7909	8119	8074
Fuel Used (gal)	176.6	176.4	176.3	173.0	174.4	175.3

Interval #0 Information Seeding

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:15
End Time	7:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1269	1319	1332	1267	1275	1294
Vehs Exited	1255	1306	1325	1281	1295	1293
Starting Vehs	207	224	243	230	255	226
Ending Vehs	221	237	250	216	235	224
Travel Distance (mi)	1076	1125	1124	1048	1095	1093
Travel Time (hr)	57.2	57.5	59.1	54.3	57.7	57.2
Total Delay (hr)	22.6	21.2	22.8	20.4	22.2	21.8
Total Stops	2005	1987	2110	1845	2014	1995
Fuel Used (gal)	43.1	45.0	44.9	41.9	43.7	43.7

**Interval #2 Information**

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1311	1264	1266	1263	1315	1276
Vehs Exited	1308	1273	1263	1256	1298	1277
Starting Vehs	221	237	250	216	235	224
Ending Vehs	224	228	253	223	252	228
Travel Distance (mi)	1120	1101	1084	1053	1110	1094
Travel Time (hr)	59.5	55.9	56.9	55.7	60.1	57.6
Total Delay (hr)	23.3	20.6	21.9	21.4	24.3	22.3
Total Stops	2144	1952	2040	2005	2262	2084
Fuel Used (gal)	45.1	43.7	43.6	42.5	44.9	44.0

**Interval #3 Information**

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1282	1269	1234	1282	1293	1269
Vehs Exited	1243	1238	1264	1296	1302	1270
Starting Vehs	224	228	253	223	252	228
Ending Vehs	263	259	223	209	243	234
Travel Distance (mi)	1081	1064	1067	1054	1086	1070
Travel Time (hr)	56.5	54.4	55.2	54.3	56.1	55.3
Total Delay (hr)	21.5	19.9	20.8	20.2	21.0	20.7
Total Stops	2038	1913	1925	1909	1932	1947
Fuel Used (gal)	43.3	42.4	42.2	42.1	43.3	42.7

**Interval #4 Information**

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1308	1310	1350	1419	1252	1326
Vehs Exited	1366	1339	1316	1373	1284	1333
Starting Vehs	263	259	223	209	243	234
Ending Vehs	205	230	257	255	211	223
Travel Distance (mi)	1125	1120	1149	1170	1059	1125
Travel Time (hr)	58.2	60.6	59.2	60.1	55.0	58.6
Total Delay (hr)	21.8	24.3	22.2	22.5	20.6	22.3
Total Stops	2046	2123	2065	2150	1911	2056
Fuel Used (gal)	45.0	45.3	45.7	46.4	42.4	44.9

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.3	4.3	0.0	0.0		0.1	0.2
Total Del/Veh (s)	0.3	0.1	2.0	1.2		1.8	0.8
Travel Time (hr)	0.6	0.0	0.3	0.3	0.0	0.0	1.2
Vehicles Exited	204	5	61	61	0	4	335
Hourly Exit Rate	204	5	61	61	0	4	335
Input Volume	199	5	62	65	1	4	336
% of Volume	103	100	98	94	0	100	100

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Del/Veh (s)	2.1	0.8	0.8	0.1	7.4	3.2	2.6
Travel Time (hr)	0.0	0.9	0.2	0.1	1.0	0.0	2.2
Vehicles Exited	1	214	129	37	145	4	530
Hourly Exit Rate	1	214	129	37	145	4	530
Input Volume	2	208	133	39	145	3	530
% of Volume	50	103	97	95	100	133	100

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	0.5	0.3	3.8	2.6	7.0	2.6	1.6
Travel Time (hr)	0.7	0.3	0.1	0.4	0.2	0.3	1.9
Vehicles Exited	302	74	30	128	37	73	644
Hourly Exit Rate	302	74	30	128	37	73	644
Input Volume	299	66	31	136	35	77	644
% of Volume	101	112	97	94	106	95	100

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.5	0.1	0.0
Total Del/Veh (s)	4.1	1.2	79.1	5.4	35.8	1.0	15.2
Travel Time (hr)	1.2	0.1	2.6	0.6	0.0	0.2	4.7
Vehicles Exited	354	21	99	158	3	50	685
Hourly Exit Rate	354	21	99	158	3	50	685
Input Volume	362	20	100	167	3	50	702
% of Volume	98	105	99	95	100	100	98

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.9	2.9	1.1
Total Del/Veh (s)	27.2	4.4	52.4	9.3	26.0	2.5	26.0
Travel Time (hr)	3.5	0.2	3.8	0.9	13.7	0.9	23.0
Vehicles Exited	363	46	204	169	840	86	1708
Hourly Exit Rate	363	46	204	169	840	86	1708
Input Volume	370	45	220	175	861	92	1763
% of Volume	98	102	93	97	98	93	97

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.5	4.2	1.9	6.0	40.6	81.3	4.9
Travel Time (hr)	0.3	5.3	1.0	2.6	0.4	0.0	9.8
Vehicles Exited	57	1135	347	675	25	1	2240
Hourly Exit Rate	57	1135	347	675	25	1	2240
Input Volume	60	1162	371	687	24	1	2305
% of Volume	95	98	94	98	104	100	97

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.6	0.0	0.0	0.0
Total Del/Veh (s)	46.0	13.7	10.8	28.3	24.1	10.6	31.5	31.4	5.4	34.6	21.8	16.9
Travel Time (hr)	2.3	5.3	0.4	0.8	7.1	1.0	0.6	0.5	1.5	1.5	0.3	1.6
Vehicles Exited	152	960	67	69	761	150	60	52	427	122	35	196
Hourly Exit Rate	152	960	67	69	761	150	60	52	427	122	35	196
Input Volume	159	977	68	72	783	146	67	54	423	120	38	204
% of Volume	96	98	99	96	97	103	90	96	101	102	92	96

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	18.7
Travel Time (hr)	23.0
Vehicles Exited	3051
Hourly Exit Rate	3051
Input Volume	3111
% of Volume	98

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	3.9	0.1	0.2	4.2
Total Del/Veh (s)	47.1	10.6	10.3	44.9	9.4	4.9	44.8	48.3	15.6	47.6	50.1	32.8
Travel Time (hr)	0.6	9.0	0.5	1.4	7.3	0.4	0.7	0.2	0.4	0.3	0.2	0.2
Vehicles Exited	35	1409	66	77	918	51	51	16	58	18	15	16
Hourly Exit Rate	35	1409	66	77	918	51	51	16	58	18	15	16
Input Volume	34	1418	68	79	921	51	56	17	57	17	17	18
% of Volume	103	99	97	97	100	100	91	94	102	106	88	89

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	13.1
Travel Time (hr)	21.4
Vehicles Exited	2730
Hourly Exit Rate	2730
Input Volume	2753
% of Volume	99

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.1
Total Del/Veh (s)	65.4	18.7	23.8	50.6	15.5	6.2	33.8	54.0	12.7	43.7	71.5	6.0
Travel Time (hr)	1.6	12.5	2.6	1.8	4.5	0.6	3.8	3.6	1.0	2.4	2.7	0.5
Vehicles Exited	67	1225	211	107	676	118	303	206	150	133	105	67
Hourly Exit Rate	67	1225	211	107	676	118	303	206	150	133	105	67
Input Volume	65	1245	205	114	691	116	294	198	151	135	106	66
% of Volume	103	98	103	94	98	102	103	104	99	99	99	102

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	25.5
Travel Time (hr)	37.7
Vehicles Exited	3368
Hourly Exit Rate	3368
Input Volume	3386
% of Volume	99

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.1	4.2	0.2	0.2	4.1
Total Del/Veh (s)	40.1	5.5	3.4	46.6	6.3	3.1	62.8	76.5	12.6	63.2	62.4	18.2
Travel Time (hr)	0.7	6.7	0.1	0.6	5.9	0.5	0.1	0.2	0.2	1.2	0.1	0.4
Vehicles Exited	46	1459	22	33	876	76	5	8	27	56	7	47
Hourly Exit Rate	46	1459	22	33	876	76	5	8	27	56	7	47
Input Volume	44	1490	17	32	891	77	7	7	22	57	8	50
% of Volume	105	98	129	103	98	99	71	114	123	98	88	94

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	8.8
Travel Time (hr)	16.8
Vehicles Exited	2662
Hourly Exit Rate	2662
Input Volume	2702
% of Volume	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.1	3.3	2.3	7.1	2.8
Travel Time (hr)	4.7	0.1	3.6	0.1	8.5
Vehicles Exited	1485	23	926	26	2460
Hourly Exit Rate	1485	23	926	26	2460
Input Volume	1506	25	948	25	2504
% of Volume	99	92	98	104	98

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.2	0.2	0.5	0.0	0.0	0.0
Total Del/Veh (s)	24.5	8.1	4.0	1.4	1.3	2.0
Travel Time (hr)	0.1	0.0	0.1	1.5	1.6	3.3
Vehicles Exited	16	15	13	379	330	753
Hourly Exit Rate	16	15	13	379	330	753
Input Volume	15	15	15	381	340	766
% of Volume	107	100	87	99	97	98



750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1
Total Del/Veh (s)	22.4	0.4	1.0	2.2	1.7	5.9	2.3	3.3
Travel Time (hr)	0.8	0.0	1.3	1.7	0.3	0.3	0.6	5.0
Vehicles Exited	40	7	101	351	53	86	272	910
Hourly Exit Rate	40	7	101	351	53	86	272	910
Input Volume	40	6	100	350	52	83	284	915
% of Volume	100	117	101	100	102	104	96	99

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.7	3.2	0.1	0.0	0.5
Total Del/Veh (s)	10.1	5.0	1.0	0.3	5.8	1.2	1.4
Travel Time (hr)	0.1	0.1	0.8	0.1	0.1	1.6	2.7
Vehicles Exited	18	22	622	23	21	408	1114
Hourly Exit Rate	18	22	622	23	21	408	1114
Input Volume	20	20	610	20	20	414	1104
% of Volume	90	110	102	115	105	99	101

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.1
Total Del/Veh (s)	24.5	0.5	11.5	8.9	7.3	3.8	1.9	7.7
Travel Time (hr)	1.2	0.0	1.2	0.7	2.7	0.8	0.3	6.9
Vehicles Exited	64	4	72	77	304	226	72	819
Hourly Exit Rate	64	4	72	77	304	226	72	819
Input Volume	65	4	66	75	294	232	71	807
% of Volume	98	100	109	103	103	97	101	101

Total Zone Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	593.1
Travel Time (hr)	168.1
Vehicles Exited	325
Hourly Exit Rate	325
Input Volume	24328
% of Volume	1

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	46	15
Average Queue (ft)	9	2
95th Queue (ft)	33	12
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	10	91
Average Queue (ft)	0	38
95th Queue (ft)	7	68
Link Distance (ft)	858	732
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	51	40	64
Average Queue (ft)	10	18	28
95th Queue (ft)	35	40	49
Link Distance (ft)	412	452	452
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	
Directions Served	T	T	TR	L	L	T	T	L	L	R	
Maximum Queue (ft)	82	89	56	106	123	43	77	18	30	22	
Average Queue (ft)	29	24	13	36	69	5	17	1	2	1	
95th Queue (ft)	67	66	42	84	110	26	54	9	15	12	
Link Distance (ft)	412	412	412			392	392		668	668	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				225	225			239			
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB
Directions Served	T	T	R	L	T	L	L
Maximum Queue (ft)	149	159	56	292	132	314	330
Average Queue (ft)	80	85	19	148	40	174	198
95th Queue (ft)	132	139	45	255	94	268	286
Link Distance (ft)	392	392	392	528	528		1419
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)						425	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	60	71	73	47	92	293	78
Average Queue (ft)	17	11	14	5	7	49	22
95th Queue (ft)	47	44	51	26	49	211	56
Link Distance (ft)		528	528	272	272	272	537
Upstream Blk Time (%)					0	0	
Queuing Penalty (veh)					0	2	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	TR	L	T	T	R	LT	R	L
Maximum Queue (ft)	115	115	165	165	167	111	279	363	131	124	142	109
Average Queue (ft)	42	58	79	82	97	41	95	196	44	53	72	34
95th Queue (ft)	87	99	145	150	162	90	190	326	102	106	129	82
Link Distance (ft)			272	272	272		379	379	379	84	84	
Upstream Blk Time (%)							0	0		3	7	
Queuing Penalty (veh)							0	1		8	16	
Storage Bay Dist (ft)	229	229				200						129
Storage Blk Time (%)							0					0
Queuing Penalty (veh)							0					0

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	126	160
Average Queue (ft)	70	81
95th Queue (ft)	117	138
Link Distance (ft)	303	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	69	132	157	187	101	243	249	161	160	73	103	65
Average Queue (ft)	28	39	74	98	61	80	91	39	61	39	30	15
95th Queue (ft)	61	97	137	168	101	195	195	104	124	82	75	46
Link Distance (ft)		379	379	379		833	833	833	191		301	
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			5	5			22	5	3	0
Queuing Penalty (veh)		0			16	4			13	4	1	0

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	R	L	L	T	R
Maximum Queue (ft)	126	211	262	277	163	233	250	162	190	218	386	125
Average Queue (ft)	62	95	131	159	83	107	128	40	85	111	181	79
95th Queue (ft)	110	172	221	249	138	195	218	98	156	183	314	169
Link Distance (ft)		833	833	833	371	371	371			399	399	
Upstream Blk Time (%)												0
Queuing Penalty (veh)												1
Storage Bay Dist (ft)	383							230	200			100
Storage Blk Time (%)							0	0	0	0	34	1
Queuing Penalty (veh)							1	0	0	0	52	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	208	263	127
Average Queue (ft)	93	104	37
95th Queue (ft)	166	192	121
Link Distance (ft)		908	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	0	13	0
Queuing Penalty (veh)	0	27	0

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	100	200	204	232	81	182	186	145	55	56	156	59
Average Queue (ft)	35	46	58	68	29	70	81	19	12	19	70	35
95th Queue (ft)	78	131	149	164	67	145	170	76	35	46	138	70
Link Distance (ft)		663	663	663		838	838		614		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			145		247		30
Storage Blk Time (%)		1				0	1	0			59	7
Queuing Penalty (veh)		0				0	1	0			30	4

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	53
Average Queue (ft)	19
95th Queue (ft)	46
Link Distance (ft)	215
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	70	40	48	66	53	61
Average Queue (ft)	22	5	4	12	7	7
95th Queue (ft)	52	25	25	46	31	33
Link Distance (ft)	67		303	303	622	622
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	63	43	65	87	105	72
Average Queue (ft)	21	2	19	26	38	19
95th Queue (ft)	49	17	53	71	78	55
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	SB
Directions Served	LR	T	L
Maximum Queue (ft)	61	55	40
Average Queue (ft)	23	2	11
95th Queue (ft)	50	27	35
Link Distance (ft)	83	153	
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			150
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 950: Winchester Ave. & Connector Rd.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	151	200	110
Average Queue (ft)	63	78	37
95th Queue (ft)	115	172	84
Link Distance (ft)	1689	908	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 181
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Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7587	7771	7636	7545	7552	7618
Vehs Exited	7505	7649	7616	7459	7549	7554
Starting Vehs	324	332	390	322	341	338
Ending Vehs	406	454	410	408	344	405
Travel Distance (mi)	5774	5882	5821	5689	5750	5783
Travel Time (hr)	390.5	431.0	401.9	394.1	377.3	399.0
Total Delay (hr)	200.9	238.0	211.2	207.4	188.5	209.2
Total Stops	15065	16741	15782	15083	14752	15487
Fuel Used (gal)	255.9	267.7	258.7	254.1	251.3	257.5

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1859	1915	1919	1899	1891	1895
Vehs Exited	1824	1848	1925	1881	1852	1864
Starting Vehs	324	332	390	322	341	338
Ending Vehs	359	399	384	340	380	366
Travel Distance (mi)	1435	1450	1475	1423	1438	1444
Travel Time (hr)	92.6	92.7	100.2	88.6	88.3	92.5
Total Delay (hr)	45.6	45.4	51.8	41.9	41.1	45.2
Total Stops	3565	3613	3957	3523	3517	3636
Fuel Used (gal)	62.7	62.9	65.1	61.5	61.6	62.7



**Interval #2 Information**

Start Time	4:15
End Time	4:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1910	1961	1864	1813	1944	1899
Vehs Exited	1909	1928	1892	1801	1932	1891
Starting Vehs	359	399	384	340	380	366
Ending Vehs	360	432	356	352	392	374
Travel Distance (mi)	1425	1451	1444	1385	1469	1435
Travel Time (hr)	94.6	101.6	98.6	94.4	100.0	97.8
Total Delay (hr)	47.7	53.6	51.3	49.2	52.0	50.8
Total Stops	3794	3987	3975	3535	3929	3846
Fuel Used (gal)	63.1	65.2	64.1	61.3	64.9	63.7

**Interval #3 Information**

Start Time	4:30
End Time	4:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1903	1973	1910	1888	1872	1907
Vehs Exited	1861	1939	1910	1831	1921	1888
Starting Vehs	360	432	356	352	392	374
Ending Vehs	402	466	356	409	343	392
Travel Distance (mi)	1449	1518	1456	1419	1464	1461
Travel Time (hr)	99.4	112.2	102.0	103.0	96.8	102.7
Total Delay (hr)	51.8	62.6	54.1	56.3	48.7	54.7
Total Stops	3737	4550	4019	3968	3707	3996
Fuel Used (gal)	64.4	68.9	65.2	64.6	64.6	65.5

**Interval #4 Information**

Start Time	4:45
End Time	5:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1915	1922	1943	1945	1845	1910
Vehs Exited	1911	1934	1889	1946	1844	1904
Starting Vehs	402	466	356	409	343	392
Ending Vehs	406	454	410	408	344	405
Travel Distance (mi)	1465	1463	1446	1462	1379	1443
Travel Time (hr)	103.8	124.5	101.2	108.1	92.2	106.0
Total Delay (hr)	55.8	76.4	54.0	60.0	46.7	58.6
Total Stops	3969	4591	3831	4057	3599	4007
Fuel Used (gal)	65.7	70.7	64.3	66.7	60.3	65.5

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	3.2	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.3	0.1	1.6	2.2	4.4	2.1	1.6
Travel Time (hr)	0.4	0.0	0.0	1.2	0.0	0.3	1.8
Vehicles Exited	135	2	1	264	3	48	453
Hourly Exit Rate	135	2	1	264	3	48	453
Input Volume	137	1	2	272	3	50	465
% of Volume	99	200	50	97	100	96	97

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Total Del/Veh (s)	1.5	0.7	2.7	0.7	8.6	3.5	2.6
Travel Time (hr)	0.0	0.8	0.6	0.4	0.7	0.0	2.5
Vehicles Exited	6	179	270	146	93	3	697
Hourly Exit Rate	6	179	270	146	93	3	697
Input Volume	6	184	276	147	93	3	709
% of Volume	100	97	98	99	100	100	98

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.4	0.2	3.2	2.7	14.4	2.2	2.8
Travel Time (hr)	0.5	0.2	0.3	1.1	0.4	0.1	2.7
Vehicles Exited	224	54	80	349	61	37	805
Hourly Exit Rate	224	54	80	349	61	37	805
Input Volume	233	50	82	357	60	36	818
% of Volume	96	108	98	98	102	103	98

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.8	0.5	0.2
Total Del/Veh (s)	17.3	9.2	31.4	6.2	44.2	5.6	17.1
Travel Time (hr)	1.5	0.3	6.6	1.5	1.4	3.1	14.3
Vehicles Exited	209	47	549	357	81	513	1756
Hourly Exit Rate	209	47	549	357	81	513	1756
Input Volume	216	48	545	364	84	511	1768
% of Volume	97	98	101	98	96	100	99

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	2.3	2.9	0.8
Total Del/Veh (s)	35.5	11.7	45.2	9.3	36.9	3.0	26.9
Travel Time (hr)	7.7	0.8	6.7	3.4	12.4	2.6	33.6
Vehicles Exited	603	117	406	653	636	253	2668
Hourly Exit Rate	603	117	406	653	636	253	2668
Input Volume	619	112	413	653	654	256	2707
% of Volume	97	104	98	100	97	99	99

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	21.8	7.9	4.2	7.2	47.7	17.4	8.8
Travel Time (hr)	2.1	5.7	3.4	3.3	1.8	0.0	16.3
Vehicles Exited	200	1054	959	789	105	2	3109
Hourly Exit Rate	200	1054	959	789	105	2	3109
Input Volume	208	1080	975	827	105	2	3197
% of Volume	96	98	98	95	100	100	97

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.5	1.4	2.4	0.0	0.7	0.3	0.0	0.9	0.2	35.8	72.4	42.6
Total Del/Veh (s)	68.7	11.7	7.0	34.4	39.6	8.2	58.6	59.2	8.5	40.4	44.7	72.9
Travel Time (hr)	7.6	5.6	0.2	0.6	17.1	1.6	0.7	1.6	1.4	5.7	1.0	17.7
Vehicles Exited	335	1081	43	45	1224	268	38	89	314	237	29	486
Hourly Exit Rate	335	1081	43	45	1224	268	38	89	314	237	29	486
Input Volume	339	1098	42	46	1247	271	36	92	320	252	26	519
% of Volume	99	98	102	98	98	99	106	97	98	94	112	94

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	8.5
Total Del/Veh (s)	34.7
Travel Time (hr)	60.9
Vehicles Exited	4189
Hourly Exit Rate	4189
Input Volume	4288
% of Volume	98

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	4.0	0.4	0.3	3.9
Total Del/Veh (s)	53.3	11.3	11.8	68.0	19.3	5.3	40.4	43.7	16.5	31.8	37.4	37.3
Travel Time (hr)	0.5	10.0	0.3	0.3	14.6	0.1	1.2	0.2	0.2	0.2	0.2	1.4
Vehicles Exited	27	1576	33	14	1359	17	90	15	21	14	18	99
Hourly Exit Rate	27	1576	33	14	1359	17	90	15	21	14	18	99
Input Volume	27	1609	34	17	1362	15	102	17	17	15	17	97
% of Volume	100	98	97	82	100	113	88	88	124	93	106	102

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	17.2
Travel Time (hr)	29.2
Vehicles Exited	3283
Hourly Exit Rate	3283
Input Volume	3329
% of Volume	99

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0	1.2	0.6	2.7	0.2	0.0	0.1
Total Del/Veh (s)	69.5	55.5	77.0	57.0	23.6	18.6	46.3	64.8	27.7	63.4	53.5	21.3
Travel Time (hr)	1.7	18.2	11.8	4.0	8.9	2.0	5.1	6.7	1.5	4.9	5.9	1.1
Vehicles Exited	66	877	417	210	999	231	306	317	130	202	285	89
Hourly Exit Rate	66	877	417	210	999	231	306	317	130	202	285	89
Input Volume	69	897	428	221	1003	236	311	325	136	211	279	80
% of Volume	96	98	97	95	100	98	98	98	96	96	102	111

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	47.0
Travel Time (hr)	71.7
Vehicles Exited	4129
Hourly Exit Rate	4129
Input Volume	4196
% of Volume	98

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0	0.6	0.6	3.8	0.5	0.6	3.9
Total Del/Veh (s)	57.1	7.4	4.7	49.1	14.2	8.8	44.7	51.1	12.5	45.5	51.4	24.8
Travel Time (hr)	1.6	5.6	0.1	1.8	12.1	1.6	1.0	0.6	1.0	0.9	0.4	0.8
Vehicles Exited	79	1083	16	94	1350	192	58	36	109	53	24	67
Hourly Exit Rate	79	1083	16	94	1350	192	58	36	109	53	24	67
Input Volume	85	1117	16	91	1355	190	67	31	97	59	29	64
% of Volume	93	97	100	103	100	101	87	116	112	90	83	105

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	15.6
Travel Time (hr)	27.5
Vehicles Exited	3161
Hourly Exit Rate	3161
Input Volume	3201
% of Volume	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.2	3.2	4.0	5.9	3.7
Travel Time (hr)	3.9	0.1	6.6	0.1	10.8
Vehicles Exited	1185	24	1475	25	2709
Hourly Exit Rate	1185	24	1475	25	2709
Input Volume	1219	25	1486	25	2755
% of Volume	97	96	99	100	98

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	1.0	0.7	0.0	0.0	0.0	0.0
Total Del/Veh (s)	44.9	32.7	9.5	3.0	51.7	28.8
Travel Time (hr)	0.2	0.2	0.1	3.0	14.4	17.8
Vehicles Exited	15	15	15	677	748	1470
Hourly Exit Rate	15	15	15	677	748	1470
Input Volume	15	15	15	687	771	1503
% of Volume	100	100	100	99	97	98

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.3
Total Del/Veh (s)	25.2	0.7	1.7	4.1	3.8	13.6	8.6	7.2
Travel Time (hr)	1.3	0.0	2.3	3.4	0.4	0.9	2.9	11.1
Vehicles Exited	67	2	176	633	60	142	694	1774
Hourly Exit Rate	67	2	176	633	60	142	694	1774
Input Volume	67	2	187	641	58	157	704	1816
% of Volume	100	100	94	99	103	90	99	98

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.5	0.3	6.2	8.2	0.2	0.0	2.7
Total Del/Veh (s)	39.0	22.8	4.2	1.0	8.4	1.6	3.6
Travel Time (hr)	0.3	0.2	2.7	0.1	0.1	3.6	7.0
Vehicles Exited	22	26	727	19	18	908	1720
Hourly Exit Rate	22	26	727	19	18	908	1720
Input Volume	20	20	738	20	20	922	1740
% of Volume	110	130	99	95	90	98	99

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.2
Total Del/Veh (s)	30.5	0.6	17.4	22.3	19.5	6.5	4.0	14.6
Travel Time (hr)	1.9	0.1	1.9	1.8	5.8	1.9	0.5	13.8
Vehicles Exited	87	9	105	136	474	462	109	1382
Hourly Exit Rate	87	9	105	136	474	462	109	1382
Input Volume	97	8	110	141	484	449	115	1404
% of Volume	90	112	95	96	98	103	95	98

Total Zone Performance

Denied Del/Veh (s)	8.5
Total Del/Veh (s)	725.3
Travel Time (hr)	321.1
Vehicles Exited	610
Hourly Exit Rate	610
Input Volume	33896
% of Volume	2

Intersection: 1: Blue Ridge CC & WV45

Movement	NB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	17
95th Queue (ft)	31
Link Distance (ft)	686
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: WV45 & Klee Dr.

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	27	11	68
Average Queue (ft)	2	0	32
95th Queue (ft)	12	8	58
Link Distance (ft)	858	292	732
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	13	64	77	42
Average Queue (ft)	1	17	30	21
95th Queue (ft)	8	48	62	42
Link Distance (ft)		412	452	452
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	101	85	80	236	248	420	328	51	132	242
Average Queue (ft)	45	29	32	123	147	46	43	14	53	62
95th Queue (ft)	90	69	71	243	249	233	173	40	102	157
Link Distance (ft)	412	412	412			392	392		668	668
Upstream Blk Time (%)						0	0			
Queuing Penalty (veh)						2	0			
Storage Bay Dist (ft)				225	225			239		
Storage Blk Time (%)				1	4	0				
Queuing Penalty (veh)				1	8	0				

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	256	246	112	382	224	294	299	33
Average Queue (ft)	158	144	43	226	104	180	177	2
95th Queue (ft)	237	215	81	349	185	268	265	15
Link Distance (ft)	392	392	392	528	528		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425	425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	147	167	164	130	224	301	172
Average Queue (ft)	75	53	65	40	60	61	75
95th Queue (ft)	121	134	152	95	149	227	144
Link Distance (ft)		528	528	276	276	276	537
Upstream Blk Time (%)					0	1	
Queuing Penalty (veh)					0	4	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)							
Queuing Penalty (veh)							



Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	TR	L	T	T	R	LT	R	L
Maximum Queue (ft)	225	233	238	201	220	225	420	432	253	160	146	153
Average Queue (ft)	126	130	122	102	124	64	341	338	81	83	70	78
95th Queue (ft)	213	223	218	185	208	196	487	489	182	152	143	154
Link Distance (ft)			276	276	276		379	379	379	115	115	
Upstream Blk Time (%)			1				10	10	0	10	5	
Queuing Penalty (veh)			3				53	49	1	21	11	
Storage Bay Dist (ft)	229	229				200						129
Storage Blk Time (%)	1	2	0			0	31					0
Queuing Penalty (veh)	2	7	0			0	14					1

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	299	343
Average Queue (ft)	141	315
95th Queue (ft)	256	336
Link Distance (ft)	303	303
Upstream Blk Time (%)	0	41
Queuing Penalty (veh)	1	160
Storage Bay Dist (ft)		
Storage Blk Time (%)	8	
Queuing Penalty (veh)	10	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	71	158	214	226	90	487	468	286	169	71	169	85
Average Queue (ft)	24	60	80	117	15	190	174	66	79	21	46	61
95th Queue (ft)	58	121	167	204	56	424	398	235	146	62	125	97
Link Distance (ft)		379	379	379		833	833	833	191		301	
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			0	23			33	1	1	17
Queuing Penalty (veh)		0			1	4			6	1	1	5

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	242	461	630	675	329	339	340	323	197	214	406	125
Average Queue (ft)	68	268	335	426	161	188	185	188	105	126	273	81
95th Queue (ft)	156	410	523	621	279	298	292	301	175	193	443	174
Link Distance (ft)		833	833	833	372	372	372	372		399	399	
Upstream Blk Time (%)				0	0	0	0	0				8
Queuing Penalty (veh)				0	1	0	0	0				32
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)		3							0	0	54	0
Queuing Penalty (veh)		2							1	1	73	1

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	562	127
Average Queue (ft)	169	248	64
95th Queue (ft)	266	452	162
Link Distance (ft)		908	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	6	40	0
Queuing Penalty (veh)	21	118	2

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	138	134	155	186	221	373	395	170	175	106	200	65
Average Queue (ft)	62	47	58	75	79	177	195	75	67	44	75	40
95th Queue (ft)	116	116	129	155	166	311	326	191	131	83	159	70
Link Distance (ft)		663	663	663		838	838		614		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			145		247		30
Storage Blk Time (%)	0	0			0	3	11	0			49	17
Queuing Penalty (veh)	2	0			0	3	21	0			32	15

Intersection: 91: WV45

Movement	WB	NB
Directions Served	T	R
Maximum Queue (ft)	8	56
Average Queue (ft)	0	20
95th Queue (ft)	6	49
Link Distance (ft)	663	215
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	68	40	128	136	552	585
Average Queue (ft)	27	10	30	42	224	302
95th Queue (ft)	61	36	91	112	580	614
Link Distance (ft)	67		303	303	622	622
Upstream Blk Time (%)	2				2	5
Queuing Penalty (veh)	0				8	18
Storage Bay Dist (ft)		150				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	93	60	125	147	218	178
Average Queue (ft)	34	14	45	55	105	74
95th Queue (ft)	70	46	100	114	205	182
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					2	1
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	84	110	50	36
Average Queue (ft)	33	33	3	9
95th Queue (ft)	73	139	33	33
Link Distance (ft)	83	153		
Upstream Blk Time (%)	3	7		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		8		
Queuing Penalty (veh)		2		

Intersection: 950: Winchester Ave. & Connector Rd.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	179	427	222
Average Queue (ft)	88	195	89
95th Queue (ft)	152	372	174
Link Distance (ft)	1689	908	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 719

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7369	7342	7316	7325	7243	7325
Vehs Exited	7352	7281	7274	7258	7297	7292
Starting Vehs	313	320	339	296	356	323
Ending Vehs	330	381	381	363	302	351
Travel Distance (mi)	5366	5289	5329	5279	5276	5308
Travel Time (hr)	343.1	365.3	330.5	324.7	360.7	344.8
Total Delay (hr)	164.8	188.9	153.6	149.2	184.7	168.2
Total Stops	14713	14748	14229	13876	14549	14424
Fuel Used (gal)	234.7	236.4	229.3	227.5	234.3	232.4

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1804	1793	1802	1798	1846	1806
Vehs Exited	1811	1813	1799	1803	1830	1812
Starting Vehs	313	320	339	296	356	323
Ending Vehs	306	300	342	291	372	318
Travel Distance (mi)	1321	1305	1305	1298	1336	1313
Travel Time (hr)	80.0	84.5	80.7	74.6	92.6	82.5
Total Delay (hr)	36.4	40.8	37.2	31.6	47.8	38.8
Total Stops	3366	3531	3523	3217	3835	3489
Fuel Used (gal)	56.8	57.8	56.2	54.6	59.5	57.0

**Interval #2 Information**

Start Time	11:45
End Time	12:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1937	1859	1761	1821	1794	1833
Vehs Exited	1904	1771	1816	1794	1837	1826
Starting Vehs	306	300	342	291	372	318
Ending Vehs	339	388	287	318	329	328
Travel Distance (mi)	1403	1320	1282	1313	1319	1327
Travel Time (hr)	89.7	86.1	77.8	80.4	92.9	85.4
Total Delay (hr)	43.2	42.2	35.1	36.6	48.9	41.2
Total Stops	3986	3569	3278	3560	3686	3613
Fuel Used (gal)	61.3	58.0	54.6	56.4	59.3	57.9

**Interval #3 Information**

Start Time	12:00
End Time	12:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1825	1812	1888	1813	1864	1840
Vehs Exited	1847	1866	1827	1816	1823	1840
Starting Vehs	339	388	287	318	329	328
Ending Vehs	317	334	348	315	370	330
Travel Distance (mi)	1320	1329	1359	1293	1354	1331
Travel Time (hr)	88.6	94.3	82.2	77.7	90.1	86.6
Total Delay (hr)	44.4	50.1	37.3	34.7	45.1	42.3
Total Stops	3775	3792	3572	3237	3665	3605
Fuel Used (gal)	58.7	59.6	58.2	55.8	59.5	58.4

**Interval #4 Information**

Start Time	12:15
End Time	12:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1803	1878	1865	1893	1739	1831
Vehs Exited	1790	1831	1832	1845	1807	1821
Starting Vehs	317	334	348	315	370	330
Ending Vehs	330	381	381	363	302	351
Travel Distance (mi)	1323	1334	1383	1376	1267	1337
Travel Time (hr)	84.6	100.4	89.8	92.1	85.1	90.4
Total Delay (hr)	40.8	55.8	44.0	46.4	42.8	46.0
Total Stops	3586	3856	3856	3862	3363	3698
Fuel Used (gal)	57.9	61.0	60.2	60.7	56.0	59.2

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	5.5	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.1	0.1	1.9	1.6	3.5	2.3	0.8
Travel Time (hr)	0.4	0.0	0.0	0.6	0.0	0.0	1.1
Vehicles Exited	168	1	3	140	1	1	314
Hourly Exit Rate	168	1	3	140	1	1	314
Input Volume	165	1	4	143	1	1	315
% of Volume	102	100	75	98	100	100	100

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.0
Total Del/Veh (s)	2.6	0.7	1.8	0.4	7.0	3.7	2.2
Travel Time (hr)	0.0	0.7	0.3	0.3	0.8	0.0	2.1
Vehicles Exited	7	171	147	114	113	3	555
Hourly Exit Rate	7	171	147	114	113	3	555
Input Volume	5	168	149	109	112	3	546
% of Volume	140	102	99	105	101	100	102

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.4	0.3	3.4	2.3	10.1	2.4	2.3
Travel Time (hr)	0.5	0.2	0.2	0.6	0.4	0.3	2.2
Vehicles Exited	218	70	59	197	62	61	667
Hourly Exit Rate	218	70	59	197	62	61	667
Input Volume	213	72	68	196	58	63	670
% of Volume	102	97	87	101	107	97	100

4: Retail Commons Pkwy. & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.0	0.4	0.2
Total Del/Veh (s)	15.6	7.7	25.4	6.0	30.2	5.8	14.4
Travel Time (hr)	1.3	0.4	6.2	0.9	0.5	3.4	12.8
Vehicles Exited	200	77	591	230	37	566	1701
Hourly Exit Rate	200	77	591	230	37	566	1701
Input Volume	199	77	601	238	39	549	1703
% of Volume	101	100	98	97	95	103	100

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	2.2	3.0	0.8
Total Del/Veh (s)	26.1	9.6	43.4	9.4	30.6	2.8	22.6
Travel Time (hr)	6.8	0.7	4.6	3.1	11.4	2.4	28.9
Vehicles Exited	673	101	289	591	647	230	2531
Hourly Exit Rate	673	101	289	591	647	230	2531
Input Volume	653	102	297	610	636	229	2527
% of Volume	103	99	97	97	102	100	100

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	13.5	6.8	3.4	4.7	36.6	15.9	6.5
Travel Time (hr)	1.3	5.8	2.6	2.2	0.9	0.0	12.8
Vehicles Exited	162	1132	784	606	66	2	2752
Hourly Exit Rate	162	1132	784	606	66	2	2752
Input Volume	161	1104	811	603	68	2	2749
% of Volume	101	103	97	100	97	100	100

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.2	0.0	0.0	0.0	0.9	0.3	1.1	38.1	18.6	46.3
Total Del/Veh (s)	41.8	15.4	12.5	30.3	19.7	7.5	37.0	37.8	15.5	34.0	37.6	56.9
Travel Time (hr)	3.5	6.3	0.5	0.7	7.1	1.9	0.6	1.4	2.5	6.6	0.7	14.9
Vehicles Exited	246	1059	80	58	883	336	46	112	378	283	37	460
Hourly Exit Rate	246	1059	80	58	883	336	46	112	378	283	37	460
Input Volume	244	1056	74	61	906	332	44	109	377	290	35	464
% of Volume	101	100	108	95	97	101	105	103	100	98	106	99

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	8.5
Total Del/Veh (s)	24.8
Travel Time (hr)	46.6
Vehicles Exited	3978
Hourly Exit Rate	3978
Input Volume	3992
% of Volume	100



8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	3.8	0.3	0.4	3.9
Total Del/Veh (s)	40.1	15.4	17.0	50.9	12.1	7.8	32.8	33.3	18.1	30.5	34.2	29.9
Travel Time (hr)	1.2	12.1	0.5	1.0	10.3	0.4	1.0	0.2	0.5	0.5	0.2	0.8
Vehicles Exited	79	1586	49	47	1186	47	87	19	64	41	17	60
Hourly Exit Rate	79	1586	49	47	1186	47	87	19	64	41	17	60
Input Volume	82	1590	51	51	1209	44	85	17	54	44	17	62
% of Volume	96	100	96	92	98	107	102	112	119	93	100	97

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.4
Travel Time (hr)	28.5
Vehicles Exited	3282
Hourly Exit Rate	3282
Input Volume	3306
% of Volume	99

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.1	0.4	0.1	0.1	0.5	0.7	3.2	0.1	0.1	0.1
Total Del/Veh (s)	58.1	43.9	75.7	69.5	19.8	18.4	34.3	64.3	26.9	51.0	62.6	18.1
Travel Time (hr)	2.1	16.4	13.0	4.0	6.2	2.2	5.1	6.2	1.7	4.5	4.9	1.1
Vehicles Exited	97	932	465	176	791	258	397	295	151	217	209	98
Hourly Exit Rate	97	932	465	176	791	258	397	295	151	217	209	98
Input Volume	92	945	465	176	793	254	417	300	153	223	214	94
% of Volume	105	99	100	100	100	102	95	98	99	97	98	104

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	43.4
Travel Time (hr)	67.3
Vehicles Exited	4086
Hourly Exit Rate	4086
Input Volume	4126
% of Volume	99

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.3	3.9	0.4	0.6	3.9
Total Del/Veh (s)	42.0	5.6	3.4	40.8	11.5	5.1	43.6	42.4	12.1	38.8	47.2	16.3
Travel Time (hr)	1.3	5.4	0.1	1.1	8.6	0.4	1.0	0.4	0.6	0.5	0.4	0.7
Vehicles Exited	82	1147	15	62	1046	50	57	28	70	34	26	80
Hourly Exit Rate	82	1147	15	62	1046	50	57	28	70	34	26	80
Input Volume	87	1161	14	63	1053	49	59	33	66	35	27	70
% of Volume	94	99	107	98	99	102	97	85	106	97	96	114

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	12.4
Travel Time (hr)	20.4
Vehicles Exited	2697
Hourly Exit Rate	2697
Input Volume	2717
% of Volume	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.4	3.2	3.5	5.8	3.5
Travel Time (hr)	4.3	0.1	5.2	0.1	9.7
Vehicles Exited	1276	24	1181	24	2505
Hourly Exit Rate	1276	24	1181	24	2505
Input Volume	1296	25	1182	25	2528
% of Volume	98	96	100	96	99

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	27.0	13.6	9.0	1.7	13.8	8.4
Travel Time (hr)	0.1	0.1	0.1	2.9	6.2	9.4
Vehicles Exited	16	16	14	680	747	1473
Hourly Exit Rate	16	16	14	680	747	1473
Input Volume	15	15	15	670	754	1469
% of Volume	107	107	93	101	99	100

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.7	0.4	0.2
Total Del/Veh (s)	27.7	2.5	4.0	2.9	18.2	8.2	7.4
Travel Time (hr)	1.2	3.3	3.6	0.3	1.4	2.8	12.7
Vehicles Exited	62	257	696	62	193	692	1962
Hourly Exit Rate	62	257	696	62	193	692	1962
Input Volume	65	259	686	58	197	689	1954
% of Volume	95	99	101	107	98	100	100

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	3.3	1.6	1.5	3.3	0.2	0.0	0.8
Total Del/Veh (s)	44.0	17.2	1.9	0.5	7.2	1.4	2.3
Travel Time (hr)	0.3	0.1	1.4	0.0	0.1	3.4	5.3
Vehicles Exited	18	19	808	18	19	849	1731
Hourly Exit Rate	18	19	808	18	19	849	1731
Input Volume	20	20	833	20	20	853	1766
% of Volume	90	95	97	90	95	100	98

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.2
Total Del/Veh (s)	30.8	0.8	17.5	30.9	25.9	7.4	4.4	18.5
Travel Time (hr)	2.3	0.2	2.1	2.4	6.8	1.8	0.6	16.3
Vehicles Exited	111	24	121	153	487	395	142	1433
Hourly Exit Rate	111	24	121	153	487	395	142	1433
Input Volume	113	21	121	152	482	397	150	1436
% of Volume	98	114	100	101	101	99	95	100

Total Zone Performance

Denied Del/Veh (s)	7.3
Total Del/Veh (s)	586.7
Travel Time (hr)	276.2
Vehicles Exited	638
Hourly Exit Rate	638
Input Volume	31804
% of Volume	2

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	10	15
Average Queue (ft)	0	1
95th Queue (ft)	5	8
Link Distance (ft)	686	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	40	74
Average Queue (ft)	3	32
95th Queue (ft)	21	58
Link Distance (ft)	858	732
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	9	59	69	63
Average Queue (ft)	0	14	27	27
95th Queue (ft)	5	41	53	50
Link Distance (ft)	412		452	452
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy. & WV45

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	T	T	TR	L	L	T	T	L	L	R
Maximum Queue (ft)	95	91	102	235	248	406	185	43	70	284
Average Queue (ft)	41	31	38	110	135	42	29	9	21	75
95th Queue (ft)	81	74	79	227	239	221	119	33	54	182
Link Distance (ft)	412	412	412			392	392		668	668
Upstream Blk Time (%)						0	0			
Queuing Penalty (veh)						1	0			
Storage Bay Dist (ft)				225	225			239		
Storage Blk Time (%)				0	2					
Queuing Penalty (veh)				0	2					

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	226	238	88	299	212	294	314	37
Average Queue (ft)	134	138	37	161	95	155	162	2
95th Queue (ft)	205	215	69	250	172	247	257	15
Link Distance (ft)	392	392	392	528	528		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)							0	
Queuing Penalty (veh)							0	

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	121	111	140	94	112	273	114
Average Queue (ft)	54	38	48	27	45	22	45
95th Queue (ft)	96	95	113	69	100	131	89
Link Distance (ft)		528	528	277	277	277	537
Upstream Blk Time (%)						0	
Queuing Penalty (veh)						1	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	TR	L	T	T	R	LT	R	L
Maximum Queue (ft)	163	164	183	216	224	222	368	326	170	174	204	154
Average Queue (ft)	73	71	111	112	134	49	155	114	58	83	108	92
95th Queue (ft)	128	129	170	179	203	136	315	242	127	147	187	173
Link Distance (ft)			277	277	277		379	379	379	109	109	
Upstream Blk Time (%)							0	0		6	18	
Queuing Penalty (veh)							1	0		15	47	
Storage Bay Dist (ft)	229	229				200						129
Storage Blk Time (%)		0				0	6					1
Queuing Penalty (veh)		0				0	4					2

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	309	333
Average Queue (ft)	154	270
95th Queue (ft)	282	380
Link Distance (ft)	303	303
Upstream Blk Time (%)	1	21
Queuing Penalty (veh)	2	77
Storage Bay Dist (ft)		
Storage Blk Time (%)	8	
Queuing Penalty (veh)	12	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	123	156	205	242	101	246	235	185	192	72	130	83
Average Queue (ft)	54	77	102	151	44	132	109	86	80	43	44	44
95th Queue (ft)	104	142	174	229	97	229	204	165	157	81	98	85
Link Distance (ft)		379	379	379		833	833	833	191		301	
Upstream Blk Time (%)									1			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			1	12			24	5	5	6
Queuing Penalty (veh)		0			5	6			13	5	3	3

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	208	528	670	765	286	224	275	326	216	286	409	125
Average Queue (ft)	77	232	324	436	146	129	133	175	107	132	269	98
95th Queue (ft)	146	427	592	706	264	206	222	282	188	217	423	179
Link Distance (ft)		833	833	833	372	372	372	372		399	399	
Upstream Blk Time (%)			0	0			0	0				3
Queuing Penalty (veh)			0	1			0	0				12
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)		1							0	1	55	1
Queuing Penalty (veh)		0							0	3	84	2

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	236	479	127
Average Queue (ft)	158	205	69
95th Queue (ft)	253	413	166
Link Distance (ft)		908	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	3	33	0
Queuing Penalty (veh)	11	104	1

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R
Maximum Queue (ft)	130	109	156	155	128	229	275	170	130	83	136	63
Average Queue (ft)	56	29	38	54	45	111	140	22	61	34	59	43
95th Queue (ft)	109	78	100	120	97	200	237	99	115	71	120	68
Link Distance (ft)		663	663	663		838	838		614		429	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			145		247		30
Storage Blk Time (%)	1					1	5	0			44	17
Queuing Penalty (veh)	3					1	3	0			31	11

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	59
Average Queue (ft)	18
95th Queue (ft)	47
Link Distance (ft)	215
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	58	35	69	86	266	307
Average Queue (ft)	25	9	11	19	61	110
95th Queue (ft)	52	33	47	63	220	287
Link Distance (ft)	67		303	303	622	622
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)			0			
Queuing Penalty (veh)			0			

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	91	89	125	136	269	256
Average Queue (ft)	33	25	53	57	150	79
95th Queue (ft)	71	67	100	113	254	189
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					2	0
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						



Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	95	147	25	40
Average Queue (ft)	29	17	1	9
95th Queue (ft)	66	91	18	33
Link Distance (ft)	83	153		
Upstream Blk Time (%)	2	1		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		2		
Queuing Penalty (veh)		0		

Intersection: 950: Winchester Ave. & Connector Rd.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	226	629	200
Average Queue (ft)	104	235	88
95th Queue (ft)	177	483	169
Link Distance (ft)	1689	908	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 467

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:45	11:45	11:45	11:45	11:45	11:45
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	7942	7926	7923	7959	7876	7924
Vehs Exited	7933	7901	7920	7848	7836	7887
Starting Vehs	371	391	406	396	395	384
Ending Vehs	380	416	409	507	435	427
Travel Distance (mi)	5771	5777	5800	5762	5687	5759
Travel Time (hr)	429.9	529.1	447.0	516.4	558.2	496.1
Total Delay (hr)	239.2	338.9	255.5	326.3	370.8	306.1
Total Stops	17045	17696	16977	18214	18159	17618
Fuel Used (gal)	266.0	287.8	269.8	283.5	292.0	279.8

Interval #0 Information Seeding

Start Time	11:45
End Time	12:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	12:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	2037	2029	1962	1955	1976	1989
Vehs Exited	2015	2006	1962	1933	1920	1970
Starting Vehs	371	391	406	396	395	384
Ending Vehs	393	414	406	418	451	412
Travel Distance (mi)	1451	1477	1437	1412	1408	1437
Travel Time (hr)	105.1	123.6	103.7	106.4	119.0	111.6
Total Delay (hr)	57.1	75.0	56.2	59.8	72.5	64.1
Total Stops	4262	4604	3954	4257	4576	4329
Fuel Used (gal)	66.8	71.3	65.0	65.2	67.8	67.2

**Interval #2 Information**

Start Time 12:15  
 End Time 12:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1977	1944	1966	1962	1948	1956
Vehs Exited	1984	1913	1964	1952	1947	1951
Starting Vehs	393	414	406	418	451	412
Ending Vehs	386	445	408	428	452	416
Travel Distance (mi)	1457	1426	1457	1430	1434	1441
Travel Time (hr)	105.1	118.6	107.8	117.9	134.9	116.9
Total Delay (hr)	57.1	71.7	59.7	70.7	87.6	69.4
Total Stops	4176	4147	4337	4353	4663	4335
Fuel Used (gal)	66.2	68.2	67.3	68.5	72.1	68.5

**Interval #3 Information**

Start Time 12:30  
 End Time 12:45  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1977	1987	1977	1969	2002	1979
Vehs Exited	1964	1975	1999	1913	2035	1976
Starting Vehs	386	445	408	428	452	416
Ending Vehs	399	457	386	484	419	429
Travel Distance (mi)	1439	1451	1446	1421	1448	1441
Travel Time (hr)	107.9	138.3	114.2	133.7	151.2	129.0
Total Delay (hr)	60.4	90.5	66.4	86.9	103.6	81.5
Total Stops	4327	4656	4258	4482	4588	4457
Fuel Used (gal)	66.7	73.7	67.8	71.2	76.7	71.2

**Interval #4 Information**

Start Time 12:45  
 End Time 1:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1951	1966	2018	2073	1950	1995
Vehs Exited	1970	2007	1995	2050	1934	1989
Starting Vehs	399	457	386	484	419	429
Ending Vehs	380	416	409	507	435	427
Travel Distance (mi)	1424	1422	1460	1499	1397	1440
Travel Time (hr)	111.7	148.6	121.3	158.4	153.2	138.7
Total Delay (hr)	64.6	101.8	73.1	108.9	107.0	91.1
Total Stops	4280	4289	4428	5122	4332	4488
Fuel Used (gal)	66.4	74.6	69.6	78.5	75.3	72.9

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	2.3	3.0	0.8
Total Del/Veh (s)	29.3	10.6	53.3	8.3	37.1	2.9	25.5
Travel Time (hr)	7.9	0.7	5.8	3.2	11.3	2.4	31.3
Vehicles Exited	734	100	310	652	576	238	2610
Hourly Exit Rate	734	100	310	652	576	238	2610
Input Volume	725	93	328	662	593	246	2647
% of Volume	101	108	95	98	97	97	99

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Total Del/Veh (s)	17.9	9.4	5.5	5.8	44.8	15.6	9.0
Travel Time (hr)	1.9	6.4	3.5	2.8	1.3	0.0	16.0
Vehicles Exited	211	1108	882	720	81	2	3004
Hourly Exit Rate	211	1108	882	720	81	2	3004
Input Volume	215	1116	902	729	88	2	3052
% of Volume	98	99	98	99	92	100	98

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.9	0.6	0.9	0.1	0.7	0.1	1.1	1.8	1.0	64.5	111.9	96.5
Total Del/Veh (s)	54.3	20.8	15.1	44.4	47.9	15.7	57.8	59.8	11.8	47.3	49.5	61.8
Travel Time (hr)	7.3	7.3	0.5	1.1	15.2	2.9	1.2	2.3	1.9	12.3	3.5	27.4
Vehicles Exited	405	951	71	69	930	367	68	124	372	352	69	557
Hourly Exit Rate	405	951	71	69	930	367	68	124	372	352	69	557
Input Volume	417	965	72	71	915	379	70	130	368	383	67	599
% of Volume	97	99	99	97	102	97	97	95	101	92	103	93

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	20.7
Total Del/Veh (s)	38.5
Travel Time (hr)	82.9
Vehicles Exited	4335
Hourly Exit Rate	4335
Input Volume	4436
% of Volume	98

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	44.2	44.4	21.9
Total Del/Veh (s)	31.8	0.6	2.2	4.8	3.6	33.7	27.4	16.7
Travel Time (hr)	1.4	0.0	2.5	4.6	0.3	3.7	19.9	32.3
Vehicles Exited	63	3	185	822	51	151	899	2174
Hourly Exit Rate	63	3	185	822	51	151	899	2174
Input Volume	67	2	187	845	58	157	915	2231
% of Volume	94	150	99	97	88	96	98	97

Total Zone Performance

Denied Del/Veh (s)	55.7
Total Del/Veh (s)	1671.7
Travel Time (hr)	162.5
Vehicles Exited	40
Hourly Exit Rate	40
Input Volume	12366
% of Volume	0

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	270	280	113	400	228	317	270	66
Average Queue (ft)	178	156	40	202	102	171	146	3
95th Queue (ft)	268	249	88	334	191	259	232	26
Link Distance (ft)	392	392	392	528	528		1419	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)						425		425
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	160	227	234	115	189	272	138
Average Queue (ft)	71	90	92	44	74	43	61
95th Queue (ft)	124	193	200	101	143	178	112
Link Distance (ft)		528	528	290	290	290	537
Upstream Blk Time (%)						0	
Queuing Penalty (veh)						1	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	TR	L	T	T	R	LT	R	L
Maximum Queue (ft)	235	249	292	242	239	225	416	424	296	194	192	154
Average Queue (ft)	142	145	143	141	154	109	348	309	159	126	121	128
95th Queue (ft)	219	228	239	214	229	265	464	456	257	192	194	193
Link Distance (ft)			290	290	290		380	380	380	101	101	
Upstream Blk Time (%)			0	0			12	5	0	37	25	
Queuing Penalty (veh)			1	0			53	22	0	100	67	
Storage Bay Dist (ft)	229	229				200						129
Storage Blk Time (%)	0	1	0			0	41					5
Queuing Penalty (veh)	1	5	1			0	29					13

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	314	338
Average Queue (ft)	219	315
95th Queue (ft)	340	325
Link Distance (ft)	303	303
Upstream Blk Time (%)	4	38
Queuing Penalty (veh)	20	190
Storage Bay Dist (ft)		
Storage Blk Time (%)	27	
Queuing Penalty (veh)	51	

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	100	76	177	191	281	279
Average Queue (ft)	35	21	59	71	205	182
95th Queue (ft)	75	60	132	142	326	335
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					31	28
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

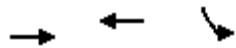
Zone wide Queuing Penalty: 554



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	216	5	67	68	5
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 28.9%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	238	185	168
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 29.9%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	345	78	36	158	41	91
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 33.9% ICU Level of Service A

Analysis Period (min) 15

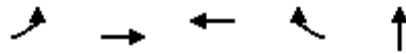


Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	429	112	184	3	56
Act Effct Green (s)	59.2	10.4	72.0	8.0	23.4
Actuated g/C Ratio	0.66	0.12	0.80	0.09	0.26
v/c Ratio	0.15	0.38	0.09	0.01	0.14
Control Delay	6.6	24.2	1.6	37.7	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.6	24.2	1.6	37.7	7.9
LOS	A	C	A	D	A
Approach Delay	6.6		10.1	9.4	
Approach LOS	A		B	A	
Queue Length 50th (ft)	32	16	3	1	0
Queue Length 95th (ft)	49	34	5	6	26
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	2942	613	2112	446	579
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.18	0.09	0.01	0.10

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 81 (90%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.38	
Intersection Signal Delay: 8.2	Intersection LOS: A
Intersection Capacity Utilization 42.5%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	65	1249	403	747	27
Act Effct Green (s)	79.8	82.8	70.4	70.4	8.0
Actuated g/C Ratio	0.89	0.92	0.78	0.78	0.09
v/c Ratio	0.09	0.44	0.17	0.60	0.20
Control Delay	0.3	0.7	1.4	7.7	41.7
Queue Delay	0.0	0.0	0.0	0.6	0.0
Total Delay	0.3	0.7	1.4	8.3	41.7
LOS	A	A	A	A	D
Approach Delay		0.7	5.9		41.7
Approach LOS		A	A		D
Queue Length 50th (ft)	0	0	6	213	15
Queue Length 95th (ft)	m0	0	m18	230	40
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	761	2857	2429	1249	138
Starvation Cap Reductn	0	171	0	194	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.47	0.17	0.71	0.20

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 70 (78%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 3.5  
 Intersection Capacity Utilization 73.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service D  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	167	1100	76	824	154	128	445	74	75	215
Act Effct Green (s)	8.0	32.3	35.7	31.0	48.0	21.0	30.7	12.0	12.0	18.0
Actuated g/C Ratio	0.09	0.36	0.40	0.34	0.53	0.23	0.34	0.13	0.13	0.20
v/c Ratio	0.63	0.69	0.44	0.77	0.19	0.35	0.82	0.38	0.38	0.48
Control Delay	56.8	14.9	22.2	23.7	4.4	31.3	34.4	40.5	40.4	5.3
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	15.2	22.2	23.7	4.4	31.3	34.4	40.5	40.4	5.3
LOS	E	B	C	C	A	C	C	D	D	A
Approach Delay		20.7		20.8		33.7			19.7	
Approach LOS		C		C		C			B	
Queue Length 50th (ft)	50	89	11	268	0	60	177	41	42	0
Queue Length 95th (ft)	#79	161	53	112	17	110	#344	86	87	10
Internal Link Dist (ft)		290		428		132			305	
Turn Bay Length (ft)	229		200					129		
Base Capacity (vph)	267	1593	174	1069	812	388	544	196	200	449
Starvation Cap Reductn	0	116	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.74	0.44	0.77	0.19	0.33	0.82	0.38	0.38	0.48

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 82 (91%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 22.9

Intersection LOS: C

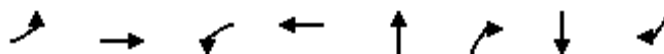
Intersection Capacity Utilization 74.6%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	37	1578	86	1041	79	62	36	20
Act Effct Green (s)	8.0	59.5	9.9	64.0	12.2	12.2	12.2	12.2
Actuated g/C Ratio	0.09	0.66	0.11	0.71	0.14	0.14	0.14	0.14
v/c Ratio	0.27	0.54	0.51	0.33	0.48	0.24	0.20	0.11
Control Delay	48.3	6.1	37.9	12.5	45.2	6.7	36.2	34.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	6.1	37.9	12.5	45.2	6.7	36.2	34.2
LOS	D	A	D	B	D	A	D	C
Approach Delay		7.1		14.5	28.2		35.5	
Approach LOS		A		B	C		D	
Queue Length 50th (ft)	20	105	41	189	42	0	18	10
Queue Length 95th (ft)	m31	118	m76	201	84	22	45	30
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	138	2933	224	3151	204	302	224	231
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.54	0.38	0.33	0.39	0.21	0.16	0.09

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 85 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 11.5

Intersection LOS: B

Intersection Capacity Utilization 61.9%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	1576	124	751	126	320	201	164	147	115	72
Act Effct Green (s)	8.4	37.4	8.8	40.4	40.4	14.4	13.4	27.2	10.4	12.4	22.8
Actuated g/C Ratio	0.09	0.42	0.10	0.45	0.45	0.16	0.15	0.30	0.12	0.14	0.25
v/c Ratio	0.49	0.86	0.82	0.54	0.18	0.66	0.82	0.34	0.82	0.51	0.17
Control Delay	64.8	14.9	74.7	23.9	8.5	44.7	64.5	14.1	73.3	44.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	14.9	74.7	23.9	8.5	44.7	64.5	14.1	73.3	44.4	5.4
LOS	E	B	E	C	A	D	E	B	E	D	A
Approach Delay		17.1		28.2			43.2			48.7	
Approach LOS		B		C			D			D	
Queue Length 50th (ft)	34	226	77	100	0	92	112	33	82	61	0
Queue Length 95th (ft)	m82	#47	#172	223	48	#156	#223	83	#181	115	24
Internal Link Dist (ft)		834		369			397			915	
Turn Bay Length (ft)	383				230	200		100	212		102
Base Capacity (vph)	155	1837	155	1392	702	483	254	482	189	236	424
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.86	0.80	0.54	0.18	0.66	0.79	0.34	0.78	0.49	0.17

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 13 (14%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 27.9

Intersection LOS: C

Intersection Capacity Utilization 75.0%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	48	1656	35	979	85	16	24	72	55
Act Effct Green (s)	10.0	64.1	10.0	64.1	64.1	10.9	10.9	10.9	10.9
Actuated g/C Ratio	0.11	0.71	0.11	0.71	0.71	0.12	0.12	0.12	0.12
v/c Ratio	0.28	0.53	0.21	0.45	0.08	0.10	0.10	0.50	0.23
Control Delay	42.3	4.8	39.7	9.0	2.0	36.7	0.8	49.8	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	4.8	39.7	9.0	2.0	36.7	0.8	49.8	6.1
LOS	D	A	D	A	A	D	A	D	A
Approach Delay		5.8		9.4		15.2		30.9	
Approach LOS		A		A		B		C	
Queue Length 50th (ft)	28	76	18	159	0	8	0	39	0
Queue Length 95th (ft)	m39	75	47	201	17	28	0	#92	18
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		145		247		30
Base Capacity (vph)	170	3186	170	2221	1017	164	241	145	241
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.52	0.21	0.44	0.08	0.10	0.10	0.50	0.23

**Intersection Summary**

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 19 (21%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 8.4

Intersection LOS: A

Intersection Capacity Utilization 61.8%

ICU Level of Service B

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1582	943	27
Sign Control	Free	Free	

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 41.5%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	408	370
Act Effct Green (s)	6.3	41.4	41.4	41.4
Actuated g/C Ratio	0.14	0.92	0.92	0.92
v/c Ratio	0.14	0.02	0.14	0.13
Control Delay	13.3	1.7	1.2	1.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.3	1.7	1.2	1.5
LOS	B	A	A	A
Approach Delay	13.3		1.2	1.5
Approach LOS	B		A	A
Queue Length 50th (ft)	4	0	0	0
Queue Length 95th (ft)	20	m4	33	31
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	549	817	2916	2916
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.02	0.14	0.13

**Intersection Summary**

Cycle Length: 45

Actuated Cycle Length: 45

Offset: 28 (62%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.14

Intersection Signal Delay: 1.8

Intersection LOS: A

Intersection Capacity Utilization 25.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	43	109	437	399
Act Effct Green (s)	7.3	7.3	58.4	58.4
Actuated g/C Ratio	0.10	0.10	0.81	0.81
v/c Ratio	0.24	0.42	0.15	0.18
Control Delay	32.1	11.9	2.3	2.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.1	11.9	2.3	2.6
LOS	C	B	A	A
Approach Delay	17.6		2.3	2.6
Approach LOS	B		A	A
Queue Length 50th (ft)	18	0	18	18
Queue Length 95th (ft)	44	40	34	34
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	744	730	2839	2261
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.15	0.15	0.18

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 72.5	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 4.8	Intersection LOS: A
Intersection Capacity Utilization 40.0%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	663	22	22	440
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 45.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	143	394	329
Act Effct Green (s)	10.0	62.6	62.6
Actuated g/C Ratio	0.12	0.76	0.76
v/c Ratio	0.58	0.32	0.24
Control Delay	29.8	4.5	3.5
Queue Delay	0.0	0.0	0.0
Total Delay	29.8	4.5	3.5
LOS	C	A	A
Approach Delay	29.8	4.5	3.5
Approach LOS	C	A	A
Queue Length 50th (ft)	42	50	34
Queue Length 95th (ft)	90	107	75
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	532	1243	1392
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.27	0.32	0.24

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 82.6	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay: 8.3	Intersection LOS: A
Intersection Capacity Utilization 61.0%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	149	1	2	290	57
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 26.0%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	209	461	109
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 37.9%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	268	59	96	419	71	42
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 32.2% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	288	612	399	94	574
Act Effct Green (s)	39.1	35.7	79.8	10.2	50.9
Actuated g/C Ratio	0.39	0.36	0.80	0.10	0.51
v/c Ratio	0.17	0.68	0.19	0.37	0.66
Control Delay	18.7	17.2	1.3	45.5	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	17.2	1.3	45.5	10.7
LOS	B	B	A	D	B
Approach Delay	18.7		10.9	15.6	
Approach LOS	B		B	B	
Queue Length 50th (ft)	35	123	6	35	113
Queue Length 95th (ft)	66	161	21	63	153
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	1741	1179	2107	351	989
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.52	0.19	0.27	0.58

**Intersection Summary**

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 19 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 13.6	Intersection LOS: B
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	703	127	469	742	743	291
Act Effct Green (s)	26.6	26.6	31.4	63.0	27.0	27.0
Actuated g/C Ratio	0.27	0.27	0.31	0.63	0.27	0.27
v/c Ratio	0.85	0.27	0.96	0.72	0.91	0.53
Control Delay	45.7	10.4	54.7	18.9	52.7	11.1
Queue Delay	0.0	0.0	0.0	4.4	0.0	0.0
Total Delay	45.7	10.4	54.7	23.4	52.7	11.1
LOS	D	B	D	C	D	B
Approach Delay	40.3			35.5		
Approach LOS	D			D		
Queue Length 50th (ft)	198	7	253	442	236	27
Queue Length 95th (ft)	#315	53	#464	555	#332	97
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	826	462	496	1030	813	546
Starvation Cap Reductn	0	0	0	213	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.27	0.95	0.91	0.91	0.53

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 84 (84%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 38.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 89.3%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	226	1174	1012	899	115
Act Effct Green (s)	78.0	78.0	64.4	64.4	12.0
Actuated g/C Ratio	0.78	0.78	0.64	0.64	0.12
v/c Ratio	0.59	0.48	0.51	0.78	0.62
Control Delay	7.4	1.7	4.7	6.2	57.3
Queue Delay	0.0	0.7	0.6	2.1	0.5
Total Delay	7.4	2.4	5.3	8.3	57.8
LOS	A	A	A	A	E
Approach Delay		3.2	6.7		57.8
Approach LOS		A	A		E
Queue Length 50th (ft)	15	0	70	56	71
Queue Length 95th (ft)	m20	m0	m68	m37	#141
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	425	2422	2000	1153	186
Starvation Cap Reductn	0	798	568	134	0
Spillback Cap Reductn	0	15	55	0	5
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.72	0.71	0.88	0.64

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 14 (14%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 7.0  
 Intersection LOS: A  
 Intersection Capacity Utilization 89.3%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	357	1200	48	1313	285	135	337	146	146	546
Act Effct Green (s)	11.0	44.0	47.0	41.0	66.0	10.0	21.0	20.0	20.0	29.0
Actuated g/C Ratio	0.11	0.44	0.47	0.41	0.66	0.10	0.21	0.20	0.20	0.29
v/c Ratio	1.08	0.61	0.23	1.03	0.29	0.84	0.94	0.49	0.49	1.08
Control Delay	114.2	13.1	7.8	52.9	2.0	84.0	65.5	42.7	42.5	84.9
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
Total Delay	114.2	13.5	7.8	52.9	2.0	84.0	65.5	42.7	42.5	90.8
LOS	F	B	A	D	A	F	E	D	D	F
Approach Delay		36.6		42.8		70.8			74.0	
Approach LOS		D		D		E			E	
Queue Length 50th (ft)	~133	158	4	~478	33	86	165	93	93	~247
Queue Length 95th (ft)	#218	210	m13	#586	2	#193	#340	155	155	#447
Internal Link Dist (ft)		290		428		165			305	
Turn Bay Length (ft)	229		200					129		
Base Capacity (vph)	331	1955	205	1273	984	161	358	295	298	504
Starvation Cap Reductn	0	309	0	0	0	0	0	0	0	2
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	7
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.73	0.23	1.03	0.29	0.84	0.94	0.49	0.49	1.10

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 26 (26%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 49.4

Intersection LOS: D

Intersection Capacity Utilization 94.6%

ICU Level of Service F

Analysis Period (min) 15

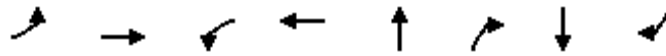
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	29	1507	18	1465	129	18	34	105
Act Effct Green (s)	8.2	67.9	8.0	65.1	16.9	16.9	16.9	16.9
Actuated g/C Ratio	0.08	0.68	0.08	0.65	0.17	0.17	0.17	0.17
v/c Ratio	0.23	0.50	0.15	0.50	0.64	0.06	0.14	0.45
Control Delay	50.5	6.4	59.8	5.8	52.1	0.4	34.3	42.1
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	6.5	59.8	5.9	52.1	0.4	34.3	42.1
LOS	D	A	E	A	D	A	C	D
Approach Delay		7.3		6.5	45.8		40.1	
Approach LOS		A		A	D		D	
Queue Length 50th (ft)	17	61	13	11	77	0	19	61
Queue Length 95th (ft)	m30	m133	m12	m310	129	0	43	104
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	127	3019	124	2901	299	404	347	347
Starvation Cap Reductn	0	335	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	170	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.56	0.15	0.54	0.43	0.04	0.10	0.30

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 21 (21%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 10.1

Intersection LOS: B

Intersection Capacity Utilization 59.2%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	75	1440	240	1347	338	338	148	229	298	87
Act Effct Green (s)	8.0	30.0	15.0	37.0	12.0	20.0	40.0	15.0	23.0	36.0
Actuated g/C Ratio	0.08	0.30	0.15	0.37	0.12	0.20	0.40	0.15	0.23	0.36
v/c Ratio	0.60	1.06	1.03	0.82	0.94	1.03	0.25	0.99	0.79	0.15
Control Delay	50.1	77.2	95.7	28.0	78.5	99.5	11.2	100.1	53.1	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	77.2	95.7	28.0	78.5	99.5	11.2	100.1	53.1	1.9
LOS	D	E	F	C	E	F	B	F	D	A
Approach Delay		75.8		38.3		75.0			63.4	
Approach LOS		E		D		E			E	
Queue Length 50th (ft)	48	~266	~151	310	111	~233	28	148	180	0
Queue Length 95th (ft)	#107	#462	m#272	363	#196	#405	71	#298	#311	12
Internal Link Dist (ft)		834		369		397			915	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	124	1360	232	1642	361	327	601	232	376	583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	1.06	1.03	0.82	0.94	1.03	0.25	0.99	0.79	0.15

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 91 (91%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.06  
 Intersection Signal Delay: 60.9  
 Intersection LOS: E  
 Intersection Capacity Utilization 91.8%  
 ICU Level of Service F  
 Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	93	1245	100	1489	209	108	107	97	70
Act Effct Green (s)	10.4	63.4	11.2	64.2	64.2	13.4	13.4	13.4	13.4
Actuated g/C Ratio	0.10	0.63	0.11	0.64	0.64	0.13	0.13	0.13	0.13
v/c Ratio	0.58	0.45	0.58	0.75	0.22	0.68	0.39	0.63	0.28
Control Delay	56.2	10.3	55.9	17.3	3.3	62.5	12.1	59.7	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.2	10.3	55.9	17.3	3.3	62.5	12.1	59.7	11.1
LOS	E	B	E	B	A	E	B	E	B
Approach Delay		13.5		17.8		37.4		39.4	
Approach LOS		B		B		D		D	
Queue Length 50th (ft)	48	228	62	359	12	65	0	58	0
Queue Length 95th (ft)	m52	m228	114	476	43	#134	47	#117	36
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		145		247		30
Base Capacity (vph)	169	2796	199	1973	940	178	297	171	271
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.45	0.50	0.75	0.22	0.61	0.36	0.57	0.26

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 31 (31%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 18.4

Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1289	1549	27
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 35.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	712	826
Act Effct Green (s)	6.9	89.3	89.3	89.3
Actuated g/C Ratio	0.07	0.89	0.89	0.89
v/c Ratio	0.27	0.03	0.25	0.29
Control Delay	33.1	0.2	0.6	1.8
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	33.1	0.2	0.8	1.8
LOS	C	A	A	A
Approach Delay	33.1		0.8	1.8
Approach LOS	C		A	A
Queue Length 50th (ft)	10	0	7	43
Queue Length 95th (ft)	39	m0	m4	71
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	331	507	2827	2827
Starvation Cap Reductn	0	0	1172	0
Spillback Cap Reductn	17	0	0	61
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.03	0.43	0.30

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 60 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.29  
 Intersection Signal Delay: 2.0  
 Intersection Capacity Utilization 35.1%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	73	203	760	936
Act Effct Green (s)	8.3	8.3	53.2	53.2
Actuated g/C Ratio	0.12	0.12	0.74	0.74
v/c Ratio	0.35	0.56	0.29	0.51
Control Delay	32.3	11.0	3.4	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.3	11.0	3.4	5.3
LOS	C	B	A	A
Approach Delay	16.6		3.4	5.3
Approach LOS	B		A	A
Queue Length 50th (ft)	29	0	41	67
Queue Length 95th (ft)	64	53	72	122
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	754	793	2641	1820
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.26	0.29	0.51

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 71.6	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 6.2	Intersection LOS: A
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

911:



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	802	22	22	982
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 63.1%	ICU Level of Service B
Analysis Period (min) 15	



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	225	666	613
Act Effct Green (s)	13.2	58.5	58.5
Actuated g/C Ratio	0.16	0.72	0.72
v/c Ratio	0.68	0.69	0.46
Control Delay	33.2	12.5	6.8
Queue Delay	0.0	0.0	0.0
Total Delay	33.2	12.5	6.8
LOS	C	B	A
Approach Delay	33.2	12.5	6.8
Approach LOS	C	B	A
Queue Length 50th (ft)	74	155	102
Queue Length 95th (ft)	143	374	217
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	568	965	1322
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	0.69	0.46

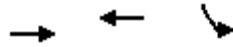
**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 81.7	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 96.8%	ICU Level of Service F
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	179	1	4	149	2
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 19.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	197	288	130
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 29.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	244	85	80	231	68	74
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized
Intersection Capacity Utilization 30.0%      ICU Level of Service A
Analysis Period (min) 15





Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	311	675	248	44	617
Act Effct Green (s)	27.1	29.5	61.6	8.4	42.9
Actuated g/C Ratio	0.34	0.37	0.77	0.10	0.54
v/c Ratio	0.20	0.73	0.12	0.17	0.67
Control Delay	14.7	15.4	2.3	34.0	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	15.4	2.3	34.0	8.7
LOS	B	B	A	C	A
Approach Delay	14.7		11.9	10.4	
Approach LOS	B		B	B	
Queue Length 50th (ft)	29	128	13	13	65
Queue Length 95th (ft)	50	183	m19	30	155
Internal Link Dist (ft)	427		358	651	
Turn Bay Length (ft)		225		239	
Base Capacity (vph)	1520	1003	2033	376	952
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.20	0.67	0.12	0.12	0.65

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 2 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 11.8

Intersection LOS: B

Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	715	116	338	693	723	260
Act Effct Green (s)	22.8	22.8	19.2	47.0	23.0	23.0
Actuated g/C Ratio	0.28	0.28	0.24	0.59	0.29	0.29
v/c Ratio	0.81	0.24	0.91	0.72	0.83	0.46
Control Delay	35.2	6.5	51.6	14.1	37.0	7.5
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	35.2	6.5	51.6	14.4	37.0	7.5
LOS	D	A	D	B	D	A
Approach Delay	31.2			26.6		
Approach LOS	C			C		
Queue Length 50th (ft)	184	4	119	247	173	9
Queue Length 95th (ft)	#260	m19	#290	439	#253	60
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	885	479	388	960	866	566
Starvation Cap Reductn	0	0	0	41	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.24	0.87	0.75	0.83	0.46

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 48 (60%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 70.9%

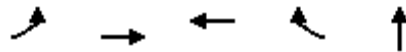
ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	175	1176	861	655	75
Act Effct Green (s)	63.0	64.0	49.9	49.9	10.0
Actuated g/C Ratio	0.79	0.80	0.62	0.62	0.12
v/c Ratio	0.39	0.47	0.44	0.59	0.39
Control Delay	2.7	3.0	4.5	2.6	38.7
Queue Delay	0.0	0.0	0.2	0.5	0.1
Total Delay	2.7	3.0	4.7	3.1	38.8
LOS	A	A	A	A	D
Approach Delay		3.0	4.0		38.8
Approach LOS		A	A		D
Queue Length 50th (ft)	7	102	51	9	35
Queue Length 95th (ft)	m7	104	m61	m15	76
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	480	2484	1936	1112	194
Starvation Cap Reductn	0	0	368	145	0
Spillback Cap Reductn	0	0	0	0	6
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.47	0.55	0.68	0.40

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 4.4

Intersection LOS: A

Intersection Capacity Utilization 70.9%

ICU Level of Service C

Analysis Period (min) 15

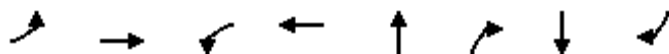
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	257	1190	64	954	349	161	397	171	171	488
Act Effct Green (s)	8.0	29.0	31.0	27.0	47.0	12.0	21.0	15.0	15.0	21.0
Actuated g/C Ratio	0.10	0.36	0.39	0.34	0.59	0.15	0.26	0.19	0.19	0.26
v/c Ratio	0.85	0.74	0.40	0.91	0.37	0.67	0.91	0.62	0.61	0.90
Control Delay	62.1	14.7	18.6	26.0	2.1	47.4	50.5	39.4	38.8	33.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total Delay	62.1	14.9	18.6	26.0	2.1	47.4	50.5	39.4	38.8	33.6
LOS	E	B	B	C	A	D	D	D	D	C
Approach Delay		23.3		19.6		49.6			35.9	
Approach LOS		C		B		D			D	
Queue Length 50th (ft)	54	151	5	40	0	77	150	83	83	65
Queue Length 95th (ft)	#127	202	m39	#333	1	#159	#321	#163	#155	#257
Internal Link Dist (ft)		290		428		158			305	
Turn Bay Length (ft)	229		200				100	129		
Base Capacity (vph)	301	1611	159	1048	944	241	434	276	280	543
Starvation Cap Reductn	0	42	0	0	0	0	0	0	0	5
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.76	0.40	0.91	0.37	0.67	0.91	0.62	0.61	0.91

**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 10 (13%), Referenced to phase 2:WBTL and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 28.0  
 Intersection LOS: C  
 Intersection Capacity Utilization 81.7%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	89	1553	55	1274	110	59	66	67
Act Effct Green (s)	9.0	52.8	8.0	49.3	13.4	13.4	13.4	13.4
Actuated g/C Ratio	0.11	0.66	0.10	0.62	0.17	0.17	0.17	0.17
v/c Ratio	0.51	0.53	0.35	0.47	0.56	0.19	0.34	0.29
Control Delay	42.6	6.0	39.5	10.2	41.8	4.0	33.5	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	6.0	39.5	10.2	41.8	4.0	33.5	31.6
LOS	D	A	D	B	D	A	C	C
Approach Delay		8.0		11.4	28.6		32.6	
Approach LOS		A		B	C		C	
Queue Length 50th (ft)	48	90	20	160	51	0	29	30
Queue Length 95th (ft)	m62	m123	m29	m263	99	14	64	63
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	194	2936	155	2735	233	353	234	277
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.53	0.35	0.47	0.47	0.17	0.28	0.24

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 5 (6%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 11.4

Intersection LOS: B

Intersection Capacity Utilization 63.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	100	1532	191	1138	453	308	166	242	233	102
Act Effct Green (s)	8.0	24.0	10.0	26.0	13.0	14.0	29.0	12.0	13.0	26.0
Actuated g/C Ratio	0.10	0.30	0.12	0.32	0.16	0.18	0.36	0.15	0.16	0.32
v/c Ratio	0.65	1.11	0.98	0.77	0.93	1.08	0.29	1.04	0.88	0.20
Control Delay	57.3	81.4	90.7	22.5	61.0	109.9	10.0	107.5	66.8	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.3	81.4	90.7	22.5	61.0	109.9	10.0	107.5	66.8	6.3
LOS	E	F	F	C	E	F	A	F	E	A
Approach Delay		79.9		32.3		68.1			73.2	
Approach LOS		E		C		E			E	
Queue Length 50th (ft)	52	~310	91	198	116	~174	23	~133	115	2
Queue Length 95th (ft)	#118	#409	#220	245	#203	#326	66	#271	#241	35
Internal Link Dist (ft)		834		369		397			915	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	155	1383	194	1470	489	286	564	232	265	515
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.11	0.98	0.77	0.93	1.08	0.29	1.04	0.88	0.20

**Intersection Summary**

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 45 (56%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 62.4

Intersection LOS: E

Intersection Capacity Utilization 90.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.





Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1348	1220	27
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 36.9%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	701	803
Act Effct Green (s)	6.7	72.8	72.8	72.8
Actuated g/C Ratio	0.08	0.91	0.91	0.91
v/c Ratio	0.23	0.03	0.24	0.28
Control Delay	25.8	0.4	0.4	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	25.8	0.4	0.4	1.7
LOS	C	A	A	A
Approach Delay	25.8		0.4	1.7
Approach LOS	C		A	A
Queue Length 50th (ft)	8	0	0	0
Queue Length 95th (ft)	33	m0	m5	68
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	372	527	2881	2881
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.03	0.24	0.28

**Intersection Summary**

Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 30 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.28  
 Intersection Signal Delay: 1.6  
 Intersection Capacity Utilization 34.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	71	282	809	963
Act Effct Green (s)	10.5	10.5	51.3	51.3
Actuated g/C Ratio	0.15	0.15	0.71	0.71
v/c Ratio	0.27	0.72	0.32	0.60
Control Delay	28.6	20.9	4.6	7.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.6	20.9	4.6	7.9
LOS	C	C	A	A
Approach Delay	22.5		4.6	7.9
Approach LOS	C		A	A
Queue Length 50th (ft)	28	37	52	85
Queue Length 95th (ft)	61	109	110	195
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	750	781	2538	1612
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.36	0.32	0.60

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 71.8	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	905	22	22	908
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 59.1% ICU Level of Service B

Analysis Period (min) 15



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	255	675	595
Act Effct Green (s)	14.8	57.3	57.3
Actuated g/C Ratio	0.18	0.70	0.70
v/c Ratio	0.71	0.75	0.46
Control Delay	35.0	16.2	7.3
Queue Delay	0.0	0.0	0.0
Total Delay	35.0	16.2	7.3
LOS	C	B	A
Approach Delay	35.0	16.2	7.3
Approach LOS	C	B	A
Queue Length 50th (ft)	92	181	104
Queue Length 95th (ft)	167	#512	225
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	564	905	1280
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.45	0.75	0.46

**Intersection Summary**

Cycle Length: 90  
 Actuated Cycle Length: 82.1  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 15.9  
 Intersection LOS: B  
 Intersection Capacity Utilization 98.3%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	824	106	373	732	674	280
Act Effct Green (s)	33.6	33.6	25.4	64.0	26.0	26.0
Actuated g/C Ratio	0.34	0.34	0.25	0.64	0.26	0.26
v/c Ratio	0.79	0.20	0.95	0.70	0.86	0.52
Control Delay	36.8	8.5	60.6	18.2	47.9	9.7
Queue Delay	0.1	0.0	0.0	3.1	0.0	0.0
Total Delay	36.8	8.5	60.6	21.3	47.9	9.7
LOS	D	A	E	C	D	A
Approach Delay	33.6			34.5		
Approach LOS	C			C		
Queue Length 50th (ft)	222	5	197	444	211	16
Queue Length 95th (ft)	328	m45	#386	554	#293	82
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1043	537	403	1046	783	543
Starvation Cap Reductn	8	0	0	212	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.20	0.93	0.88	0.86	0.52

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 58 (58%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 35.0

Intersection LOS: C

Intersection Capacity Utilization 82.9%

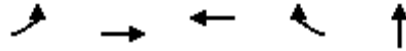
ICU Level of Service E

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	234	1213	980	792	97
Act Effct Green (s)	81.4	82.4	67.7	67.7	11.9
Actuated g/C Ratio	0.81	0.82	0.68	0.68	0.12
v/c Ratio	0.56	0.47	0.47	0.68	0.52
Control Delay	7.1	5.0	5.5	3.8	52.3
Queue Delay	0.0	0.6	0.4	1.0	0.0
Total Delay	7.1	5.7	5.9	4.8	52.3
LOS	A	A	A	A	D
Approach Delay		5.9	5.4		52.3
Approach LOS		A	A		D
Queue Length 50th (ft)	35	200	84	28	59
Queue Length 95th (ft)	m34	242	m88	m29	112
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	491	2559	2102	1168	186
Starvation Cap Reductn	0	871	588	162	0
Spillback Cap Reductn	0	21	75	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.72	0.65	0.79	0.52

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 7.0  
 Intersection Capacity Utilization 82.9%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service E

m Volume for 95th percentile queue is metered by upstream signal.






Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	73	203	965	1166
Act Effct Green (s)	9.5	9.5	53.3	53.3
Actuated g/C Ratio	0.13	0.13	0.73	0.73
v/c Ratio	0.31	0.63	0.37	0.68
Control Delay	30.3	20.8	4.4	8.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.3	20.8	4.4	8.6
LOS	C	C	A	A
Approach Delay	23.3		4.4	8.6
Approach LOS	C		A	A
Queue Length 50th (ft)	29	30	61	108
Queue Length 95th (ft)	63	88	120	238
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	741	739	2602	1711
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.27	0.37	0.68

**Intersection Summary**

Cycle Length: 90	
Actuated Cycle Length: 72.8	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 8.6	Intersection LOS: A
Intersection Capacity Utilization 77.7%	ICU Level of Service D
Analysis Period (min) 15	





# D

2024 Alternative 4A Capacity  
and Queue Analysis

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:45	3:45	3:45	3:45	3:45	3:45
End Time	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	8435	8491	8386	8313	8468	8422
Vehs Exited	8326	8367	8333	8236	8456	8342
Starting Vehs	397	392	419	431	470	419
Ending Vehs	506	516	472	508	482	497
Travel Distance (mi)	6144	6302	6194	6153	6273	6213
Travel Time (hr)	527.6	546.5	504.8	528.2	532.0	527.8
Total Delay (hr)	324.7	339.7	301.0	325.9	325.0	323.3
Total Stops	18769	19381	17883	18487	18878	18673
Fuel Used (gal)	297.3	305.2	294.8	296.3	300.8	298.9

Interval #0 Information Seeding

Start Time	3:45
End Time	4:00
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	2123	2142	2106	2032	2098	2098
Vehs Exited	2090	2059	2036	2017	2037	2045
Starting Vehs	397	392	419	431	470	419
Ending Vehs	430	475	489	446	531	471
Travel Distance (mi)	1537	1565	1526	1497	1525	1530
Travel Time (hr)	106.4	119.3	116.8	111.6	118.1	114.4
Total Delay (hr)	55.7	67.6	66.5	62.1	67.6	63.9
Total Stops	4059	4396	4535	4242	4485	4339
Fuel Used (gal)	68.5	72.2	70.8	69.1	70.5	70.2

**Interval #2 Information**

Start Time 4:15  
 End Time 4:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2106	2138	2044	2119	2117	2102
Vehs Exited	2051	2092	2069	2030	2158	2079
Starting Vehs	430	475	489	446	531	471
Ending Vehs	485	521	464	535	490	490
Travel Distance (mi)	1543	1584	1540	1527	1609	1561
Travel Time (hr)	126.0	128.1	123.0	129.1	132.6	127.8
Total Delay (hr)	75.0	76.1	72.3	78.6	79.8	76.4
Total Stops	4687	4642	4430	4731	4808	4660
Fuel Used (gal)	73.6	74.8	72.9	72.5	76.2	74.0

**Interval #3 Information**

Start Time 4:30  
 End Time 4:45  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2111	2121	2110	2030	2080	2086
Vehs Exited	2091	2132	2146	2115	2091	2117
Starting Vehs	485	521	464	535	490	490
Ending Vehs	505	510	428	450	479	471
Travel Distance (mi)	1515	1585	1560	1566	1558	1557
Travel Time (hr)	146.1	145.9	126.5	137.0	137.2	138.5
Total Delay (hr)	96.0	93.9	75.3	85.8	85.9	87.4
Total Stops	4933	5125	4321	4571	4639	4713
Fuel Used (gal)	76.9	78.4	74.3	75.9	76.1	76.3

**Interval #4 Information**

Start Time 4:45  
 End Time 5:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2095	2090	2126	2132	2173	2125
Vehs Exited	2094	2084	2082	2074	2170	2100
Starting Vehs	505	510	428	450	479	471
Ending Vehs	506	516	472	508	482	497
Travel Distance (mi)	1550	1568	1567	1564	1581	1566
Travel Time (hr)	149.1	153.2	138.6	150.6	144.1	147.1
Total Delay (hr)	98.0	102.1	87.0	99.2	91.8	95.6
Total Stops	5090	5218	4597	4943	4946	4961
Fuel Used (gal)	78.4	79.8	76.8	78.8	78.0	78.4

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	4.4	0.3	0.0	0.5	0.2	0.1
Total Del/Veh (s)	0.4	0.1	1.7	2.5	9.7	2.5	1.8
Travel Time (hr)	0.5	0.0	0.0	1.4	0.0	0.3	2.2
Vehicles Exited	166	1	3	307	2	59	538
Hourly Exit Rate	166	1	3	307	2	59	538
Input Volume	169	1	3	316	3	62	554
% of Volume	98	100	100	97	67	95	97

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.0
Total Del/Veh (s)	3.1	0.9	3.2	0.9	11.7	5.9	3.3
Travel Time (hr)	0.0	1.0	0.7	0.5	0.9	0.0	3.2
Vehicles Exited	6	223	304	170	114	6	823
Hourly Exit Rate	6	223	304	170	114	6	823
Input Volume	6	229	322	172	116	3	848
% of Volume	100	97	94	99	98	200	97

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.6	0.3	3.5	1.5	17.6	2.4	2.3
Travel Time (hr)	0.7	0.2	0.3	0.6	0.5	0.2	2.4
Vehicles Exited	294	50	94	421	56	53	968
Hourly Exit Rate	294	50	94	421	56	53	968
Input Volume	301	50	98	432	60	47	988
% of Volume	98	100	96	97	93	113	98

4: Retail Commons Pkwy./Site Access & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.4	0.5	0.2	0.2	0.2
Total Del/Veh (s)	19.3	27.6	9.8	35.2	14.8	5.8	39.8	32.9	7.1	60.2	50.3	16.0
Travel Time (hr)	0.6	2.1	0.2	6.7	2.4	1.2	1.2	0.2	3.3	5.1	0.4	0.8
Vehicles Exited	74	229	45	505	376	225	74	17	519	237	21	82
Hourly Exit Rate	74	229	45	505	376	225	74	17	519	237	21	82
Input Volume	74	232	48	541	376	228	84	18	507	241	19	88
% of Volume	100	99	94	93	100	99	88	94	102	98	111	93

4: Retail Commons Pkwy./Site Access & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	23.7
Travel Time (hr)	24.0
Vehicles Exited	2404
Hourly Exit Rate	2404
Input Volume	2456
% of Volume	98

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	2.6	3.2	0.9
Total Del/Veh (s)	31.9	10.0	41.0	17.6	47.6	4.6	29.0
Travel Time (hr)	10.2	1.1	5.9	5.8	14.9	3.4	41.3
Vehicles Exited	847	147	381	775	654	320	3124
Hourly Exit Rate	847	147	381	775	654	320	3124
Input Volume	834	150	413	819	654	321	3191
% of Volume	102	98	92	95	100	100	98

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	33.4	10.6	6.6	6.2	56.9	5.3	11.7
Travel Time (hr)	3.4	7.7	4.4	3.1	2.4	0.0	20.9
Vehicles Exited	250	1272	1041	770	117	4	3454
Hourly Exit Rate	250	1272	1041	770	117	4	3454
Input Volume	242	1260	1124	827	122	3	3578
% of Volume	103	101	93	93	96	133	97

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	5.1	3.4	7.0	0.7	1.0	0.1	0.7	3.1	0.7	155.8	143.5	184.2
Total Del/Veh (s)	88.4	14.9	11.9	50.5	48.2	7.7	83.3	86.9	13.7	47.9	52.2	74.8
Travel Time (hr)	11.3	8.2	0.3	0.8	21.2	1.5	0.9	2.7	1.9	14.9	1.2	39.7
Vehicles Exited	390	1227	45	42	1293	266	32	96	312	232	18	491
Hourly Exit Rate	390	1227	45	42	1293	266	32	96	312	232	18	491
Input Volume	382	1235	42	46	1353	271	36	92	320	252	26	562
% of Volume	102	99	107	91	96	98	89	104	98	92	69	87

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	33.2
Total Del/Veh (s)	41.6
Travel Time (hr)	104.6
Vehicles Exited	4444
Hourly Exit Rate	4444
Input Volume	4617
% of Volume	96

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	4.9	3.4	8.1	0.6	0.5	3.9
Total Del/Veh (s)	56.5	12.3	15.6	112.6	62.2	15.3	66.4	61.7	41.5	38.5	38.7	45.5
Travel Time (hr)	0.6	11.2	0.3	0.6	32.0	0.2	2.3	0.3	0.3	0.2	0.2	1.7
Vehicles Exited	29	1707	36	15	1387	17	104	16	18	15	16	104
Hourly Exit Rate	29	1707	36	15	1387	17	104	16	18	15	16	104
Input Volume	30	1740	37	17	1454	15	110	17	17	15	17	103
% of Volume	97	98	97	88	95	113	95	94	106	100	94	101

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	36.6
Travel Time (hr)	49.9
Vehicles Exited	3464
Hourly Exit Rate	3464
Input Volume	3572
% of Volume	97

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.9	0.3	0.4	2.1	3.8	11.4	3.5	2.5	0.9
Total Del/Veh (s)	74.8	41.2	63.1	84.1	29.6	19.7	65.1	89.9	52.0	104.3	83.9	39.6
Travel Time (hr)	2.0	15.9	10.7	5.9	11.2	2.0	6.8	9.4	2.9	7.6	8.2	1.5
Vehicles Exited	74	961	447	217	1054	222	304	317	140	201	269	83
Hourly Exit Rate	74	961	447	217	1054	222	304	317	140	201	269	83
Input Volume	76	979	470	221	1069	236	332	326	136	211	274	85
% of Volume	97	98	95	98	99	94	92	97	103	95	98	98

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	53.8
Travel Time (hr)	84.1
Vehicles Exited	4289
Hourly Exit Rate	4289
Input Volume	4415
% of Volume	97

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.0	0.0	0.5	0.4	3.9	0.5	0.4	3.9
Total Del/Veh (s)	46.4	11.9	8.7	54.7	16.0	10.2	48.6	55.0	11.7	53.6	54.7	31.2
Travel Time (hr)	1.5	7.4	0.1	1.8	13.1	1.7	1.2	0.7	0.8	1.1	0.5	0.9
Vehicles Exited	88	1170	19	86	1384	189	69	34	93	61	30	70
Hourly Exit Rate	88	1170	19	86	1384	189	69	34	93	61	30	70
Input Volume	90	1192	18	91	1415	190	70	31	97	59	29	67
% of Volume	98	98	106	95	98	99	99	110	96	103	103	104

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	18.4
Travel Time (hr)	30.9
Vehicles Exited	3293
Hourly Exit Rate	3293
Input Volume	3349
% of Volume	98

12: WV45/WV 45 & Commercial Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	6.2	0.6	2.1	0.7	14.4	4.5	2.0
Travel Time (hr)	0.1	0.4	1.0	0.1	0.2	0.1	1.8
Vehicles Exited	16	325	501	24	24	17	907
Hourly Exit Rate	16	325	501	24	24	17	907
Input Volume	16	328	512	25	28	17	926
% of Volume	100	99	98	96	86	100	98

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	2.8	3.0	4.1	6.8	3.6
Travel Time (hr)	4.0	0.1	6.8	0.1	11.1
Vehicles Exited	1273	27	1522	27	2849
Hourly Exit Rate	1273	27	1522	27	2849
Input Volume	1301	25	1552	25	2903
% of Volume	98	108	98	108	98

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.4	0.7	0.0	0.0	0.0	0.0
Total Del/Veh (s)	53.6	39.7	11.8	1.7	87.6	45.6
Travel Time (hr)	0.2	0.2	0.1	3.0	22.5	25.9
Vehicles Exited	14	13	17	734	753	1531
Hourly Exit Rate	14	13	17	734	753	1531
Input Volume	15	15	15	730	776	1551
% of Volume	93	87	113	101	97	99

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	1.6	1.8	0.8
Total Del/Veh (s)	45.5	1.6	3.9	3.5	15.2	11.3	9.2
Travel Time (hr)	1.9	2.2	3.4	0.4	1.0	3.7	12.5
Vehicles Exited	73	171	641	60	152	696	1793
Hourly Exit Rate	73	171	641	60	152	696	1793
Input Volume	72	187	641	58	157	704	1819
% of Volume	101	91	100	103	97	99	99



911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.5	0.2	30.1	30.7	0.1	0.0	13.2
Total Del/Veh (s)	49.5	39.4	11.0	3.2	11.8	1.6	6.7
Travel Time (hr)	0.3	0.3	9.2	0.2	0.1	3.8	13.8
Vehicles Exited	18	23	736	19	16	938	1750
Hourly Exit Rate	18	23	736	19	16	938	1750
Input Volume	20	20	759	20	20	965	1804
% of Volume	90	115	97	95	80	97	97

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	1.6	1.8	0.7
Total Del/Veh (s)	43.3	0.6	31.9	20.8	16.7	12.1	10.1	18.1
Travel Time (hr)	2.4	0.1	2.3	1.7	5.3	2.7	0.7	15.2
Vehicles Exited	99	9	104	134	465	448	107	1366
Hourly Exit Rate	99	9	104	134	465	448	107	1366
Input Volume	97	8	110	141	484	449	115	1404
% of Volume	102	112	95	95	96	100	93	97

Total Zone Performance

Denied Del/Veh (s)	29.8
Total Del/Veh (s)	755.4
Travel Time (hr)	443.9
Vehicles Exited	831
Hourly Exit Rate	831
Input Volume	37975
% of Volume	2

Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	10	49
Average Queue (ft)	0	19
95th Queue (ft)	5	38
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	103
Average Queue (ft)	2	37
95th Queue (ft)	16	72
Link Distance (ft)	858	732
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	8	66	75	44
Average Queue (ft)	0	25	25	23
95th Queue (ft)	4	55	53	42
Link Distance (ft)		133	439	439
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	150			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Retail Commons Pkwy./Site Access & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	84	121	99	100	230	245	350	128	177	124	53	219
Average Queue (ft)	38	59	46	38	113	143	110	11	42	56	12	88
95th Queue (ft)	79	105	89	75	203	225	253	66	110	111	38	183
Link Distance (ft)	186	186	186	186			337	337	337		653	653
Upstream Blk Time (%)		0					0		0			
Queuing Penalty (veh)		0					1		0			
Storage Bay Dist (ft)					225	225				239		
Storage Blk Time (%)					0	0	0					
Queuing Penalty (veh)					0	1	3					

Intersection: 4: Retail Commons Pkwy./Site Access & WV45

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	200	168	156
Average Queue (ft)	118	76	49
95th Queue (ft)	195	150	110
Link Distance (ft)	590	590	590
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	341	345	343	393	396	364	353	86
Average Queue (ft)	218	199	60	239	260	219	212	10
95th Queue (ft)	330	319	187	352	375	326	308	48
Link Distance (ft)	337	337	337	528	528		1417	
Upstream Blk Time (%)	0	0	0					
Queuing Penalty (veh)	1	1	1					
Storage Bay Dist (ft)						425	425	
Storage Blk Time (%)						0		
Queuing Penalty (veh)						0		

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	261	234	235	158	162	228	200
Average Queue (ft)	136	111	127	59	91	34	94
95th Queue (ft)	224	208	227	123	149	171	165
Link Distance (ft)		528	528	280	280	280	537
Upstream Blk Time (%)						1	
Queuing Penalty (veh)						3	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)	1	0					
Queuing Penalty (veh)	4	0					

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	TR	L	T	T	R	LT	R	L
Maximum Queue (ft)	241	252	322	254	243	225	418	421	407	191	205	154
Average Queue (ft)	173	180	168	137	146	63	390	368	92	110	98	92
95th Queue (ft)	262	276	303	234	228	196	427	466	264	188	192	167
Link Distance (ft)			280	280	280		379	379	379	130	130	
Upstream Blk Time (%)			3	0	0		26	18	1	19	10	
Queuing Penalty (veh)			14	0	0		141	101	7	41	22	
Storage Bay Dist (ft)	229	229				200						129
Storage Blk Time (%)	2	7	2				53					1
Queuing Penalty (veh)	9	30	6				25					1

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	300	342
Average Queue (ft)	133	315
95th Queue (ft)	229	326
Link Distance (ft)	303	303
Upstream Blk Time (%)	0	49
Queuing Penalty (veh)	1	190
Storage Bay Dist (ft)		
Storage Blk Time (%)	10	
Queuing Penalty (veh)	12	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	97	134	178	222	101	703	700	675	218	71	198	85
Average Queue (ft)	26	55	83	123	21	447	427	297	114	19	61	67
95th Queue (ft)	70	115	153	200	74	894	887	827	207	63	158	96
Link Distance (ft)		379	379	379		833	833	833	191		301	
Upstream Blk Time (%)						3	2	1	8			
Queuing Penalty (veh)						15	11	3	0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)		0			0	56			51	1	2	22
Queuing Penalty (veh)		0			1	10			9	2	2	7

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	162	334	503	578	344	372	366	338	220	388	417	125
Average Queue (ft)	73	191	252	356	201	195	187	175	129	157	348	90
95th Queue (ft)	133	297	419	531	334	336	333	306	218	285	500	180
Link Distance (ft)		833	833	833	372	372	372	372		399	399	
Upstream Blk Time (%)					1	1	1	0		0	24	
Queuing Penalty (veh)					5	3	2	0		1	92	
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)		0							4	7	66	1
Queuing Penalty (veh)		0							6	11	90	2

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	659	127
Average Queue (ft)	195	361	70
95th Queue (ft)	287	782	165
Link Distance (ft)		908	
Upstream Blk Time (%)		3	
Queuing Penalty (veh)		18	
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	15	47	0
Queuing Penalty (veh)	54	139	0

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B5000	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	R	T	LT	R	LT
Maximum Queue (ft)	167	264	247	276	221	444	451	170	9	182	96	219
Average Queue (ft)	73	92	108	116	81	206	232	80	0	76	41	95
95th Queue (ft)	144	200	209	225	175	379	405	199	6	142	75	194
Link Distance (ft)		663	663	663		838	838		1264	614		429
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	145				197			145			247	
Storage Blk Time (%)	1	3			0	6	14	0		0		58
Queuing Penalty (veh)	2	2			0	6	26	1		0		39

Intersection: 10: WV45 & New York Ave.

Movement	SB
Directions Served	R
Maximum Queue (ft)	61
Average Queue (ft)	45
95th Queue (ft)	69
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	30
Storage Blk Time (%)	17
Queuing Penalty (veh)	15

Intersection: 12: WV45/WV 45 & Commercial Drive

Movement	EB	WB	SB	SB
Directions Served	LT	T	L	R
Maximum Queue (ft)	43	14	60	27
Average Queue (ft)	8	0	19	10
95th Queue (ft)	32	7	49	30
Link Distance (ft)	133	122	637	637
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 91: WV45

Movement	WB	WB	WB	NB
Directions Served	T	T	T	R
Maximum Queue (ft)	4	10	37	53
Average Queue (ft)	0	1	2	20
95th Queue (ft)	3	8	20	48
Link Distance (ft)		663	663	215
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	485			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	71	47	52	82	641	641
Average Queue (ft)	24	12	8	15	415	476
95th Queue (ft)	57	38	34	55	753	727
Link Distance (ft)	67		303	303	622	622
Upstream Blk Time (%)	2				4	9
Queuing Penalty (veh)	0				14	34
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	115	58	145	175	240	206
Average Queue (ft)	47	11	41	54	115	88
95th Queue (ft)	98	38	112	133	227	206
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					3	4
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	82	186	100	39
Average Queue (ft)	34	95	9	8
95th Queue (ft)	72	228	61	30
Link Distance (ft)	83	153		
Upstream Blk Time (%)	2	25		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		26	0	
Queuing Penalty (veh)		5	0	

Intersection: 950: Winchester Ave. & Connector Rd.

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	238	377	249
Average Queue (ft)	118	187	112
95th Queue (ft)	210	349	282
Link Distance (ft)	1689	908	410
Upstream Blk Time (%)			4
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Zone Summary

Zone wide Queuing Penalty: 1243



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	11:15	11:15	11:15	11:15	11:15	11:15
End Time	12:30	12:30	12:30	12:30	12:30	12:30
Total Time (min)	75	75	75	75	75	75
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	8403	8475	8549	8389	8541	8474
Vehs Exited	8334	8411	8425	8225	8486	8377
Starting Vehs	396	416	411	369	412	398
Ending Vehs	465	480	535	533	467	492
Travel Distance (mi)	5844	5859	5921	5782	5905	5862
Travel Time (hr)	484.4	476.9	533.7	496.7	511.3	500.6
Total Delay (hr)	290.1	281.8	336.6	305.2	314.8	305.7
Total Stops	18581	18474	19845	19398	19606	19179
Fuel Used (gal)	281.7	280.3	294.8	281.9	290.5	285.8

Interval #0 Information Seeding

Start Time	11:15
End Time	11:30
Total Time (min)	15
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	11:30
End Time	11:45
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	2076	2104	2102	2107	2067	2086
Vehs Exited	2034	2102	2086	2040	2076	2067
Starting Vehs	396	416	411	369	412	398
Ending Vehs	438	418	427	436	403	420
Travel Distance (mi)	1431	1488	1440	1463	1434	1451
Travel Time (hr)	102.6	112.6	114.4	104.9	105.3	108.0
Total Delay (hr)	55.1	62.9	66.4	56.6	57.4	59.7
Total Stops	4321	4738	4442	4570	4565	4522
Fuel Used (gal)	65.1	69.5	68.6	66.4	66.1	67.1

**Interval #2 Information**

Start Time 11:45  
 End Time 12:00  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2059	2120	2152	2142	2178	2132
Vehs Exited	2101	2115	2058	2080	2138	2097
Starting Vehs	438	418	427	436	403	420
Ending Vehs	396	423	521	498	443	447
Travel Distance (mi)	1436	1451	1482	1463	1506	1467
Travel Time (hr)	115.5	111.7	129.7	118.4	120.7	119.2
Total Delay (hr)	67.5	63.4	80.4	69.9	70.7	70.4
Total Stops	4561	4550	4900	5019	4895	4787
Fuel Used (gal)	68.8	67.6	72.4	69.7	72.1	70.1

**Interval #3 Information**

Start Time 12:00  
 End Time 12:15  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2121	2072	2145	2059	2155	2112
Vehs Exited	2120	2083	2173	2075	2085	2109
Starting Vehs	396	423	521	498	443	447
Ending Vehs	397	412	493	482	513	457
Travel Distance (mi)	1488	1448	1505	1441	1481	1472
Travel Time (hr)	125.4	113.5	140.9	126.4	137.1	128.7
Total Delay (hr)	76.0	65.2	90.8	78.6	88.1	79.7
Total Stops	4670	4437	5340	4795	5023	4855
Fuel Used (gal)	72.5	68.5	76.2	71.0	74.7	72.6

**Interval #4 Information**

Start Time 12:15  
 End Time 12:30  
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2147	2179	2150	2081	2141	2135
Vehs Exited	2079	2111	2108	2030	2187	2102
Starting Vehs	397	412	493	482	513	457
Ending Vehs	465	480	535	533	467	492
Travel Distance (mi)	1489	1473	1494	1416	1484	1471
Travel Time (hr)	140.8	139.2	148.7	147.0	148.3	144.8
Total Delay (hr)	91.5	90.3	99.1	100.0	98.8	95.9
Total Stops	5029	4749	5163	5014	5123	5014
Fuel Used (gal)	75.2	74.7	77.6	74.8	77.6	76.0

1: Blue Ridge CC & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	5.9	0.0	0.0	0.1	0.1	0.1
Total Del/Veh (s)	0.2	0.1	2.3	2.0	2.8	2.4	1.0
Travel Time (hr)	0.6	0.0	0.0	0.8	0.0	0.0	1.5
Vehicles Exited	221	1	7	189	1	2	421
Hourly Exit Rate	221	1	7	189	1	2	421
Input Volume	231	1	6	197	1	2	438
% of Volume	96	100	117	96	100	100	96

2: WV45 & Klee Dr. Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.4	0.1
Total Del/Veh (s)	4.1	1.1	2.4	0.6	10.9	9.4	3.5
Travel Time (hr)	0.0	0.9	0.4	0.4	1.3	0.0	3.1
Vehicles Exited	5	225	202	154	164	3	753
Hourly Exit Rate	5	225	202	154	164	3	753
Input Volume	5	235	208	152	156	3	759
% of Volume	100	96	97	101	105	100	99

3: Cornerstone Dev. & WV 45 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.2	0.0
Total Del/Veh (s)	0.8	0.4	4.0	1.3	17.5	3.5	2.6
Travel Time (hr)	0.8	0.3	0.3	0.4	0.5	0.5	2.7
Vehicles Exited	319	77	99	293	57	103	948
Hourly Exit Rate	319	77	99	293	57	103	948
Input Volume	326	72	103	295	58	96	950
% of Volume	98	107	96	99	98	107	100

4: Retail Commons Pkwy./Site Access & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.4	0.5	0.2	0.2	0.2
Total Del/Veh (s)	19.1	33.4	10.5	28.5	17.3	7.9	29.3	32.7	7.3	55.8	41.7	13.4
Travel Time (hr)	1.0	2.2	0.4	6.4	1.7	1.9	0.5	0.4	3.2	6.0	0.4	0.9
Vehicles Exited	132	202	79	572	235	323	40	31	543	316	27	125
Hourly Exit Rate	132	202	79	572	235	323	40	31	543	316	27	125
Input Volume	134	205	77	595	245	341	39	28	543	313	26	125
% of Volume	99	99	103	96	96	95	103	111	100	101	104	100

4: Retail Commons Pkwy./Site Access & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	22.7
Travel Time (hr)	25.1
Vehicles Exited	2625
Hourly Exit Rate	2625
Input Volume	2671
% of Volume	98

5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45 Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	2.4	3.1	0.8
Total Del/Veh (s)	28.6	9.3	43.6	16.9	37.3	4.2	25.3
Travel Time (hr)	10.1	1.0	4.4	5.9	12.4	3.4	37.2
Vehicles Exited	932	146	280	809	629	324	3120
Hourly Exit Rate	932	146	280	809	629	324	3120
Input Volume	929	146	297	860	636	321	3189
% of Volume	100	100	94	94	99	101	98

6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45 Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	22.8	10.0	7.8	4.6	45.1	8.9	10.1
Travel Time (hr)	2.0	8.0	4.5	2.0	1.4	0.0	17.9
Vehicles Exited	195	1339	979	571	85	3	3172
Hourly Exit Rate	195	1339	979	571	85	3	3172
Input Volume	196	1340	1041	603	88	3	3271
% of Volume	99	100	94	95	97	100	97

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.6	0.7	0.8	0.0	0.3	0.0	0.5	0.7	4.3	110.9	183.4	147.1
Total Del/Veh (s)	54.6	23.8	21.6	61.2	47.5	8.7	47.2	47.7	26.7	42.8	48.7	66.5
Travel Time (hr)	5.0	10.6	0.6	1.4	16.5	2.0	0.6	1.5	4.0	12.6	2.4	33.0
Vehicles Exited	281	1244	72	66	1018	333	40	101	379	263	31	492
Hourly Exit Rate	281	1244	72	66	1018	333	40	101	379	263	31	492
Input Volume	289	1247	74	61	1058	332	44	109	377	290	35	542
% of Volume	97	100	97	108	96	100	91	93	101	91	89	91

7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	27.5
Total Del/Veh (s)	38.1
Travel Time (hr)	90.4
Vehicles Exited	4320
Hourly Exit Rate	4320
Input Volume	4458
% of Volume	97

8: Sheetz/Lowes & WV45 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	4.1	0.3	0.5	3.9
Total Del/Veh (s)	49.6	19.6	24.3	155.6	63.3	14.9	44.0	40.3	26.8	38.7	37.0	38.6
Travel Time (hr)	1.5	15.2	0.6	2.4	30.7	0.5	1.4	0.2	0.6	0.5	0.2	1.1
Vehicles Exited	87	1739	56	47	1302	45	100	19	59	41	16	74
Hourly Exit Rate	87	1739	56	47	1302	45	100	19	59	41	16	74
Input Volume	91	1764	59	51	1343	44	96	17	54	44	17	69
% of Volume	96	99	95	92	97	102	104	112	109	93	94	107

8: Sheetz/Lowes & WV45 Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	39.9
Travel Time (hr)	55.2
Vehicles Exited	3585
Hourly Exit Rate	3585
Input Volume	3649
% of Volume	98

9: WV45 & Winchester Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.9	1.1	1.8	0.8	1.2	3.1	3.9	5.1	0.5	0.1	0.2
Total Del/Veh (s)	70.9	58.5	94.5	76.3	25.7	21.1	65.3	84.5	44.3	66.7	66.2	20.2
Travel Time (hr)	2.5	22.2	17.2	4.4	8.2	2.3	10.3	8.2	2.5	5.5	5.2	1.3
Vehicles Exited	96	1016	510	175	852	247	457	296	149	218	214	107
Hourly Exit Rate	96	1016	510	175	852	247	457	296	149	218	214	107
Input Volume	102	1051	523	176	871	254	464	301	153	223	214	103
% of Volume	94	97	98	99	98	97	98	98	97	98	100	104

9: WV45 & Winchester Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	1.5
Total Del/Veh (s)	57.2
Travel Time (hr)	89.8
Vehicles Exited	4337
Hourly Exit Rate	4337
Input Volume	4435
% of Volume	98

10: WV45 & New York Ave. Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4	3.9	0.4	0.4	3.9
Total Del/Veh (s)	42.1	10.4	5.4	49.4	12.0	6.2	51.2	45.5	11.1	48.3	47.3	17.3
Travel Time (hr)	1.6	7.2	0.1	1.3	9.2	0.4	1.1	0.5	0.6	0.6	0.5	0.7
Vehicles Exited	96	1212	16	66	1102	52	61	32	64	36	31	78
Hourly Exit Rate	96	1212	16	66	1102	52	61	32	64	36	31	78
Input Volume	94	1258	16	63	1122	49	63	33	66	35	27	75
% of Volume	102	96	100	105	98	106	97	97	97	103	115	104

10: WV45 & New York Ave. Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	15.3
Travel Time (hr)	23.8
Vehicles Exited	2846
Hourly Exit Rate	2846
Input Volume	2901
% of Volume	98

12: WV45/WV 45 & Commercial Drive Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	4.2	0.8	2.1	0.9	12.9	3.7	1.9
Travel Time (hr)	0.1	0.5	0.8	0.1	0.2	0.1	1.8
Vehicles Exited	33	384	358	33	25	32	865
Hourly Exit Rate	33	384	358	33	25	32	865
Input Volume	33	385	366	31	29	31	875
% of Volume	100	100	98	106	86	103	99

91: WV45 Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	3.0	4.3	3.3	6.5	3.2
Travel Time (hr)	4.3	0.1	5.2	0.1	9.8
Vehicles Exited	1359	24	1239	28	2650
Hourly Exit Rate	1359	24	1239	28	2650
Input Volume	1402	25	1260	25	2712
% of Volume	97	96	98	112	98

703: Foxcroft Ave. Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	All
Denied Del/Veh (s)	0.8	0.5	0.0	0.0	0.0	0.0
Total Del/Veh (s)	36.9	26.5	11.4	1.8	34.1	18.7
Travel Time (hr)	0.1	0.1	0.1	2.9	10.5	13.8
Vehicles Exited	13	16	13	704	741	1487
Hourly Exit Rate	13	16	13	704	741	1487
Input Volume	15	15	15	715	754	1514
% of Volume	87	107	87	98	98	98

750: Foxcroft Ave. & Connector Rd. Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.5	0.3	0.2
Total Del/Veh (s)	36.8	2.3	3.2	2.2	15.6	6.7	6.7
Travel Time (hr)	1.4	3.2	3.3	0.3	1.3	2.5	12.0
Vehicles Exited	63	248	673	57	197	688	1926
Hourly Exit Rate	63	248	673	57	197	688	1926
Input Volume	65	259	686	58	197	689	1954
% of Volume	97	96	98	98	100	100	99

911: Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	10.3	20.5	51.2	53.3	0.2	0.0	25.5
Total Del/Veh (s)	59.6	61.6	9.7	2.1	16.5	1.4	6.6
Travel Time (hr)	0.3	0.5	15.9	0.4	0.2	3.6	20.8
Vehicles Exited	16	18	872	21	19	899	1845
Hourly Exit Rate	16	18	872	21	19	899	1845
Input Volume	20	20	880	20	20	912	1872
% of Volume	80	90	99	105	95	99	99

950: Winchester Ave. & Connector Rd. Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2
Total Del/Veh (s)	45.1	0.9	31.4	23.8	18.9	7.0	4.1	17.4
Travel Time (hr)	2.8	0.2	2.6	2.0	5.7	1.7	0.7	15.6
Vehicles Exited	111	23	120	143	474	394	146	1411
Hourly Exit Rate	111	23	120	143	474	394	146	1411
Input Volume	113	21	121	152	487	397	150	1441
% of Volume	98	110	99	94	97	99	97	98

Total Zone Performance

Denied Del/Veh (s)	26.8
Total Del/Veh (s)	674.4
Travel Time (hr)	420.2
Vehicles Exited	886
Hourly Exit Rate	886
Input Volume	37089
% of Volume	2



Intersection: 1: Blue Ridge CC & WV45

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	22	18
Average Queue (ft)	2	2
95th Queue (ft)	12	10
Link Distance (ft)		686
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: WV45 & Klee Dr.

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	52	4	129
Average Queue (ft)	3	0	47
95th Queue (ft)	23	3	93
Link Distance (ft)	858	292	732
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Cornerstone Dev. & WV 45

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	4	13	83	80	62
Average Queue (ft)	0	1	28	25	31
95th Queue (ft)	3	7	62	59	50
Link Distance (ft)	353		132	439	439
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)		150			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: Retail Commons Pkwy./Site Access & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	T	R
Maximum Queue (ft)	126	122	111	106	229	237	243	172	214	83	88	189
Average Queue (ft)	57	54	44	45	123	144	81	15	69	26	26	58
95th Queue (ft)	107	99	86	90	199	209	172	87	147	63	67	176
Link Distance (ft)	188	188	188	188			342	342	342		626	626
Upstream Blk Time (%)		0					0	0	0			
Queuing Penalty (veh)		0					1	0	0			
Storage Bay Dist (ft)					225	225				239		
Storage Blk Time (%)					0	0						
Queuing Penalty (veh)					0	1						

Intersection: 4: Retail Commons Pkwy./Site Access & WV45

Movement	SB	SB	SB
Directions Served	L	L	TR
Maximum Queue (ft)	220	191	163
Average Queue (ft)	135	103	67
95th Queue (ft)	206	177	126
Link Distance (ft)	471	471	471
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

Movement	EB	EB	EB	WB	WB	SB	SB	SB
Directions Served	T	T	R	L	T	L	L	R
Maximum Queue (ft)	310	312	366	299	383	283	292	81
Average Queue (ft)	199	190	60	176	237	175	181	7
95th Queue (ft)	305	303	192	274	343	259	260	42
Link Distance (ft)	342	342	342	528	528		1417	
Upstream Blk Time (%)	0	0	0					
Queuing Penalty (veh)	0	0	1					
Storage Bay Dist (ft)						425	425	
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	R	LT
Maximum Queue (ft)	189	196	206	156	220	194	138
Average Queue (ft)	84	85	102	62	121	19	62
95th Queue (ft)	149	169	194	131	200	115	116
Link Distance (ft)		528	528	280	280	280	537
Upstream Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	
Storage Bay Dist (ft)	261						
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	L	L	T	T	TR	L	T	T	R	LT	R	L
Maximum Queue (ft)	184	252	289	282	289	225	418	429	190	165	223	154
Average Queue (ft)	99	116	172	173	189	106	381	304	66	82	150	96
95th Queue (ft)	164	193	255	257	274	251	470	501	144	149	229	173
Link Distance (ft)			280	280	280		379	379	379	117	117	
Upstream Blk Time (%)			1	0	1		21	6		7	38	
Queuing Penalty (veh)			3	2	3		99	30		17	97	
Storage Bay Dist (ft)	229	229				200						129
Storage Blk Time (%)	0	0	2				56					1
Queuing Penalty (veh)	0	1	7				34					2

Intersection: 7: I-81 NB Off-Ramp EB/Foxcroft Ave. & WV45

Movement	SB	SB
Directions Served	LT	R
Maximum Queue (ft)	312	335
Average Queue (ft)	153	305
95th Queue (ft)	269	354
Link Distance (ft)	303	303
Upstream Blk Time (%)	1	36
Queuing Penalty (veh)	3	135
Storage Bay Dist (ft)		
Storage Blk Time (%)	13	
Queuing Penalty (veh)	19	

Intersection: 8: Sheetz/Lowes & WV45

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	LT	R
Maximum Queue (ft)	148	228	319	370	102	721	713	680	209	71	174	85
Average Queue (ft)	65	101	143	184	65	509	460	291	102	44	57	53
95th Queue (ft)	121	200	260	315	131	899	873	695	187	87	133	96
Link Distance (ft)		379	379	379		833	833	833	191		301	
Upstream Blk Time (%)		0	0	1		4	2	0	2			
Queuing Penalty (veh)		0	2	5		17	8	2	0			
Storage Bay Dist (ft)	153				77					46		60
Storage Blk Time (%)	0	2			2	64			39	8	7	11
Queuing Penalty (veh)	1	2			9	33			21	9	5	7

Intersection: 9: WV45 & Winchester Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	L	L	T	R
Maximum Queue (ft)	358	652	808	850	288	283	280	328	237	397	406	125
Average Queue (ft)	132	345	450	564	157	153	136	172	165	216	318	95
95th Queue (ft)	331	664	813	875	263	258	248	296	252	395	482	178
Link Distance (ft)		833	833	833	372	372	372	372		399	399	
Upstream Blk Time (%)		0	1	4	0	0	0	0		7	16	
Queuing Penalty (veh)		1	6	23	0	0	0	0		30	70	
Storage Bay Dist (ft)	383								200			100
Storage Blk Time (%)	0	10							15	18	64	1
Queuing Penalty (veh)	0	10							34	41	98	2

Intersection: 9: WV45 & Winchester Ave.

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	237	540	127
Average Queue (ft)	174	237	79
95th Queue (ft)	264	465	171
Link Distance (ft)		908	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	212		102
Storage Blk Time (%)	7	42	0
Queuing Penalty (veh)	22	135	2

Intersection: 10: WV45 & New York Ave.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB		
Directions Served	L	T	T	TR	L	T	T	R	LT	R	LT	R		
Maximum Queue (ft)	164	224	225	239	174	313	333	138	139	87	194	59		
Average Queue (ft)	74	87	99	103	61	133	160	22	64	29	68	44		
95th Queue (ft)	142	184	192	205	133	247	285	96	119	63	146	66		
Link Distance (ft)		663	663	663		838	838		614		429			
Upstream Blk Time (%)														
Queuing Penalty (veh)														
Storage Bay Dist (ft)	145				197				145			247	30	
Storage Blk Time (%)	0	2						2	7	0			49	15
Queuing Penalty (veh)	2	2						1	4	0			37	9

Intersection: 12: WV45/WV 45 & Commercial Drive

Movement	EB	WB	SB	SB
Directions Served	LT	T	L	R
Maximum Queue (ft)	57	12	52	54
Average Queue (ft)	13	1	18	18
95th Queue (ft)	46	8	45	43
Link Distance (ft)	132	122	342	342
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 91: WV45

Movement	NB
Directions Served	R
Maximum Queue (ft)	56
Average Queue (ft)	20
95th Queue (ft)	48
Link Distance (ft)	215
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 703: Foxcroft Ave.

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	L	T	T	T	T
Maximum Queue (ft)	74	35	82	96	437	499
Average Queue (ft)	24	8	8	23	145	213
95th Queue (ft)	57	30	40	72	413	481
Link Distance (ft)	67		303	303	622	622
Upstream Blk Time (%)	1					
Queuing Penalty (veh)	0					
Storage Bay Dist (ft)		150				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 750: Foxcroft Ave. & Connector Rd.

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	LT	T
Maximum Queue (ft)	94	88	99	125	278	207
Average Queue (ft)	37	26	38	47	129	82
95th Queue (ft)	77	68	85	104	229	169
Link Distance (ft)	1689		622	622	253	253
Upstream Blk Time (%)					1	0
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)		1000				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 911:

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	95	192	100	51
Average Queue (ft)	32	97	5	12
95th Queue (ft)	74	233	47	40
Link Distance (ft)	83	153		
Upstream Blk Time (%)	6	26		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)			100	150
Storage Blk Time (%)		25	0	
Queuing Penalty (veh)		5	0	

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Intersection: 950: Winchester Ave. & Connector Rd.

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Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	276	492	208
Average Queue (ft)	136	200	88
95th Queue (ft)	240	421	171
Link Distance (ft)	1689	908	410
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Zone Summary

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Zone wide Queuing Penalty: 1110

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Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	184	1	3	337	70
Sign Control	Free			Free	Stop

**Intersection Summary**

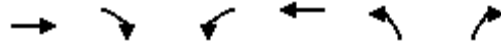
Control Type: Unsignalized	
Intersection Capacity Utilization 29.4%	ICU Level of Service A
Analysis Period (min) 15	





Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	259	539	135
Sign Control	Free	Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 43.6%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	347	59	115	500	71	55
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 37.1%	ICU Level of Service A
Analysis Period (min) 15	

2024 PM Peak Model ALT 4A\_E  
 4: Retail Commons Pkwy./Site Access & WV45

2/25/2016



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	80	306	608	407	248	94	20	570	262	117
Act Effct Green (s)	30.2	23.5	31.2	50.0	62.0	24.4	24.4	55.5	11.0	11.0
Actuated g/C Ratio	0.27	0.21	0.28	0.45	0.56	0.22	0.22	0.50	0.10	0.10
v/c Ratio	0.27	0.32	0.86	0.34	0.24	0.34	0.05	0.73	0.75	0.46
Control Delay	19.6	33.7	41.9	16.1	1.1	39.3	33.1	14.6	62.7	20.0
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Total Delay	19.6	33.8	41.9	16.1	1.1	39.3	33.1	14.7	62.7	20.0
LOS	B	C	D	B	A	D	C	B	E	B
Approach Delay		30.8		25.6			18.6			49.5
Approach LOS		C		C			B			D
Queue Length 50th (ft)	27	60	247	112	8	68	11	117	94	14
Queue Length 95th (ft)	52	88	m308	m131	m9	128	31	188	#151	70
Internal Link Dist (ft)		224		358			632			581
Turn Bay Length (ft)			225			239				
Base Capacity (vph)	302	966	729	1215	1021	296	446	805	348	252
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	93	0	0	0	0	0	13	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.35	0.83	0.33	0.24	0.32	0.04	0.72	0.75	0.46

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 21 (19%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 27.9

Intersection LOS: C

Intersection Capacity Utilization 71.9%

ICU Level of Service C

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2024 PM Peak Model ALT 4A\_E  
 5: I-81 SB On-Ramp/I-81 SB Off-Ramp & WV45

2/25/2016



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	947	170	469	931	743	365
Act Effct Green (s)	35.0	35.0	33.0	73.0	27.0	27.0
Actuated g/C Ratio	0.32	0.32	0.30	0.66	0.25	0.25
v/c Ratio	0.96	0.31	1.01	0.86	1.01	0.77
Control Delay	50.7	6.5	86.9	21.9	76.4	32.5
Queue Delay	2.9	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	6.5	86.9	21.9	76.4	32.5
LOS	D	A	F	C	E	C
Approach Delay	46.5			43.7		
Approach LOS	D			D		
Queue Length 50th (ft)	305	11	~300	297	~273	130
Queue Length 95th (ft)	#445	m34	#531	343	#387	#250
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	988	557	465	1085	739	471
Starvation Cap Reductn	20	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.31	1.01	0.86	1.01	0.77

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 1 (1%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 50.1

Intersection LOS: D

Intersection Capacity Utilization 92.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

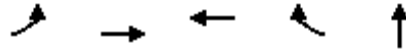
# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

2024 PM Peak Model ALT 4A\_E  
 6: I-81 NB Off-Ramp WB/I-81 NB On-Ramp & WV45

2/25/2016



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	263	1370	1174	899	134
Act Effct Green (s)	86.0	86.0	70.4	70.4	14.0
Actuated g/C Ratio	0.78	0.78	0.64	0.64	0.13
v/c Ratio	0.76	0.56	0.59	0.80	0.68
Control Delay	24.3	9.6	5.4	5.4	63.9
Queue Delay	0.0	0.2	1.1	2.1	0.0
Total Delay	24.3	9.8	6.5	7.5	63.9
LOS	C	A	A	A	E
Approach Delay		12.2	6.9		63.9
Approach LOS		B	A		E
Queue Length 50th (ft)	120	233	89	33	92
Queue Length 95th (ft)	m124	m238	m87	m1	#177
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	396	2428	1988	1129	198
Starvation Cap Reductn	0	336	529	116	0
Spillback Cap Reductn	0	0	22	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	0.65	0.80	0.89	0.68

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 95 (86%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 11.1

Intersection LOS: B

Intersection Capacity Utilization 92.3%

ICU Level of Service F

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	402	1344	48	1424	285	135	337	146	146	592
Act Effct Green (s)	13.0	53.0	54.0	48.0	75.0	9.0	20.0	22.0	22.0	33.0
Actuated g/C Ratio	0.12	0.48	0.49	0.44	0.68	0.08	0.18	0.20	0.20	0.30
v/c Ratio	1.13	0.63	0.25	1.05	0.29	1.03	1.01	0.49	0.49	1.15
Control Delay	125.1	17.0	14.3	70.2	3.8	137.4	85.0	44.0	43.7	109.3
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	125.1	17.7	14.3	70.2	3.8	137.4	85.0	44.0	43.7	109.4
LOS	F	B	B	E	A	F	F	D	D	F
Approach Delay		42.4		57.9		100.0			87.8	
Approach LOS		D		E		F			F	
Queue Length 50th (ft)	~166	213	5	~561	98	~102	~182	97	96	~174
Queue Length 95th (ft)	#266	250	m28	#705	15	#227	#372	154	153	#545
Internal Link Dist (ft)		290		428		174			305	
Turn Bay Length (ft)	229		200				100	129		
Base Capacity (vph)	356	2142	189	1355	987	131	333	295	298	514
Starvation Cap Reductn	0	414	0	0	0	0	0	0	0	9
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	4
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.78	0.25	1.05	0.29	1.03	1.01	0.49	0.49	1.17

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 106 (96%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 61.9

Intersection LOS: E

Intersection Capacity Utilization 100.8%

ICU Level of Service G

Analysis Period (min) 15

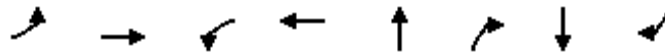
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	33	1652	18	1565	138	18	34	112
Act Effct Green (s)	8.1	76.0	8.0	73.3	18.8	18.8	18.8	18.8
Actuated g/C Ratio	0.07	0.69	0.07	0.67	0.17	0.17	0.17	0.17
v/c Ratio	0.29	0.54	0.16	0.53	0.68	0.06	0.14	0.47
Control Delay	58.0	7.7	42.9	14.6	58.3	0.4	37.4	46.3
Queue Delay	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Total Delay	58.0	7.7	42.9	14.6	58.3	0.4	37.4	46.3
LOS	E	A	D	B	E	A	D	D
Approach Delay		8.7		14.9	51.6		44.2	
Approach LOS		A		B	D		D	
Queue Length 50th (ft)	22	157	12	264	92	0	21	72
Queue Length 95th (ft)	m36	m151	m18	m178	149	0	46	119
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	114	3071	112	2967	292	393	340	340
Starvation Cap Reductn	0	318	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	244	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.60	0.16	0.57	0.47	0.05	0.10	0.33

**Intersection Summary**

Cycle Length: 110  
 Actuated Cycle Length: 110  
 Offset: 103 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 14.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 62.1%  
 ICU Level of Service B  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	83	1575	240	1419	361	338	148	229	298	92
Act Effct Green (s)	8.6	38.0	16.0	45.4	14.0	21.0	42.0	15.0	22.0	35.6
Actuated g/C Ratio	0.08	0.35	0.15	0.41	0.13	0.19	0.38	0.14	0.20	0.32
v/c Ratio	0.69	1.02	1.07	0.78	0.94	1.08	0.26	1.09	0.91	0.17
Control Delay	83.9	51.7	119.4	28.6	81.9	117.8	13.8	131.9	75.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.9	51.7	119.4	28.6	81.9	117.8	13.8	131.9	75.7	3.2
LOS	F	D	F	C	F	F	B	F	E	A
Approach Delay		53.3		41.7		84.3			85.7	
Approach LOS		D		D		F			F	
Queue Length 50th (ft)	60	~423	~193	213	131	~268	36	~181	208	0
Queue Length 95th (ft)	#138	#197	m#297	282	#223	#448	83	#336	#369	22
Internal Link Dist (ft)		834		369		397			915	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	127	1545	225	1823	383	312	573	211	327	534
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	1.02	1.07	0.78	0.94	1.08	0.26	1.09	0.91	0.17

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 6 (5%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 59.0

Intersection LOS: E

Intersection Capacity Utilization 94.6%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	99	1330	100	1555	209	111	107	97	74
Act Effct Green (s)	11.1	69.0	11.7	69.6	69.6	14.3	14.3	14.3	14.3
Actuated g/C Ratio	0.10	0.63	0.11	0.63	0.63	0.13	0.13	0.13	0.13
v/c Ratio	0.64	0.48	0.61	0.80	0.23	0.74	0.39	0.69	0.31
Control Delay	54.7	10.1	63.1	19.6	3.8	74.5	12.7	70.8	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	10.1	63.1	19.6	3.8	74.5	12.7	70.8	15.1
LOS	D	B	E	B	A	E	B	E	B
Approach Delay		13.2		20.2		44.1		46.7	
Approach LOS		B		C		D		D	
Queue Length 50th (ft)	74	98	69	417	17	75	0	65	3
Queue Length 95th (ft)	m82	m104	123	536	49	#155	50	#136	46
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		145		247		30
Base Capacity (vph)	167	2767	195	1946	924	167	291	156	259
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.48	0.51	0.80	0.23	0.66	0.37	0.62	0.29

**Intersection Summary**

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 20.1

Intersection LOS: C

Intersection Capacity Utilization 77.4%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	369	551	27	30	18
Sign Control	Free	Free		Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	39.8% ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1289	1549	27
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 35.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	712	826
Act Effct Green (s)	7.0	99.2	99.2	99.2
Actuated g/C Ratio	0.06	0.90	0.90	0.90
v/c Ratio	0.29	0.03	0.25	0.29
Control Delay	36.7	0.6	0.8	1.7
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	36.7	0.6	1.0	1.7
LOS	D	A	A	A
Approach Delay	36.7		1.0	1.7
Approach LOS	D		A	A
Queue Length 50th (ft)	11	0	1	43
Queue Length 95th (ft)	42	m1	m16	71
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	302	512	2856	2856
Starvation Cap Reductn	0	0	1266	0
Spillback Cap Reductn	3	0	0	59
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.03	0.45	0.30

**Intersection Summary**

Cycle Length: 110  
 Actuated Cycle Length: 110  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.29  
 Intersection Signal Delay: 2.1  
 Intersection Capacity Utilization 35.1%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	78	203	760	936
Act Effct Green (s)	9.7	9.7	80.5	80.5
Actuated g/C Ratio	0.10	0.10	0.80	0.80
v/c Ratio	0.45	0.60	0.27	0.49
Control Delay	50.0	13.9	2.8	4.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	50.0	13.9	2.8	4.4
LOS	D	B	A	A
Approach Delay	23.9		2.8	4.4
Approach LOS	C		A	A
Queue Length 50th (ft)	46	0	46	76
Queue Length 95th (ft)	93	65	76	132
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	394	511	2853	1920
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.40	0.27	0.49

**Intersection Summary**

Cycle Length: 110	
Actuated Cycle Length: 100.2	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 6.6	Intersection LOS: A
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	825	22	22	1027
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 65.6% ICU Level of Service C

Analysis Period (min) 15



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	225	666	613
Act Effct Green (s)	16.2	81.9	81.9
Actuated g/C Ratio	0.15	0.76	0.76
v/c Ratio	0.76	0.66	0.44
Control Delay	51.4	11.2	6.1
Queue Delay	0.0	0.0	0.0
Total Delay	51.4	11.2	6.1
LOS	D	B	A
Approach Delay	51.4	11.2	6.1
Approach LOS	D	B	A
Queue Length 50th (ft)	117	191	123
Queue Length 95th (ft)	200	371	215
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	370	1006	1399
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.61	0.66	0.44

**Intersection Summary**

Cycle Length: 110	
Actuated Cycle Length: 108.1	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 96.8%	ICU Level of Service F
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	251	1	7	208	3
Sign Control	Free			Free	Stop

Intersection Summary	
Control Type: Unsignalized	
Intersection Capacity Utilization 23.6%	ICU Level of Service A
Analysis Period (min) 15	

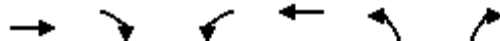




Lane Group	EBT	WBT	SBL
Lane Group Flow (vph)	273	400	180
Sign Control	Free	Free	Stop

**Intersection Summary**

Control Type: Unsignalized	
Intersection Capacity Utilization 38.7%	ICU Level of Service A
Analysis Period (min) 15	



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	374	85	121	347	68	113
Sign Control	Free		Free		Stop	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 38.7% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	146	317	669	256	371	44	30	610	340	164
Act Effct Green (s)	28.5	20.0	28.0	39.5	51.5	20.0	20.0	48.0	12.0	12.0
Actuated g/C Ratio	0.28	0.20	0.28	0.40	0.52	0.20	0.20	0.48	0.12	0.12
v/c Ratio	0.40	0.34	0.95	0.25	0.37	0.18	0.08	0.81	0.82	0.52
Control Delay	19.0	26.0	48.6	15.5	1.3	35.4	33.3	18.9	59.6	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.7	0.0	0.0
Total Delay	19.0	26.0	48.6	15.5	1.4	35.4	33.3	19.5	59.6	17.1
LOS	B	C	D	B	A	D	C	B	E	B
Approach Delay		23.8		28.6			21.2			45.8
Approach LOS		C		C			C			D
Queue Length 50th (ft)	45	46	246	58	12	28	16	121	110	16
Queue Length 95th (ft)	79	72	m#326	m65	m14	67	41	#213	#179	78
Internal Link Dist (ft)		226		358			616			458
Turn Bay Length (ft)			225			239				
Base Capacity (vph)	375	932	702	1043	1007	250	377	757	417	318
Starvation Cap Reductn	0	0	0	0	100	0	0	0	0	0
Spillback Cap Reductn	0	30	0	0	0	0	0	25	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.35	0.95	0.25	0.41	0.18	0.08	0.83	0.82	0.52

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 23 (23%), Referenced to phase 2:WBT and 6:EBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 29.0

Intersection LOS: C

Intersection Capacity Utilization 79.1%

ICU Level of Service D

Analysis Period (min) 15

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

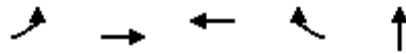
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1023	166	338	977	723	365
Act Effct Green (s)	36.2	36.2	22.8	64.0	26.0	26.0
Actuated g/C Ratio	0.36	0.36	0.23	0.64	0.26	0.26
v/c Ratio	0.91	0.27	0.96	0.93	0.92	0.78
Control Delay	36.1	5.1	79.0	30.7	55.1	33.2
Queue Delay	2.4	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	5.1	79.0	30.7	55.1	33.2
LOS	D	A	E	C	E	C
Approach Delay	33.8			43.1		
Approach LOS	C			D		
Queue Length 50th (ft)	314	12	188	407	231	132
Queue Length 95th (ft)	#420	m25	#367	#795	#328	#264
Internal Link Dist (ft)	358			515		
Turn Bay Length (ft)					425	425
Base Capacity (vph)	1125	609	357	1046	783	469
Starvation Cap Reductn	42	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.27	0.95	0.93	0.92	0.78

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 41.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.1%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	213	1433	1111	655	97
Act Effct Green (s)	80.6	81.6	66.5	66.5	12.7
Actuated g/C Ratio	0.81	0.82	0.66	0.66	0.13
v/c Ratio	0.58	0.57	0.54	0.57	0.49
Control Delay	11.4	6.1	5.9	1.8	49.6
Queue Delay	0.0	0.1	0.4	0.4	0.0
Total Delay	11.4	6.2	6.3	2.2	49.6
LOS	B	A	A	A	D
Approach Delay		6.8	4.8		49.6
Approach LOS		A	A		D
Queue Length 50th (ft)	48	229	95	0	58
Queue Length 95th (ft)	m58	m264	m113	m0	111
Internal Link Dist (ft)		515	290		564
Turn Bay Length (ft)	261				
Base Capacity (vph)	455	2534	2064	1142	202
Starvation Cap Reductn	0	178	417	147	0
Spillback Cap Reductn	0	47	63	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.61	0.67	0.66	0.48

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 86 (86%), Referenced to phase 2:WBT and 6:EBTL, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 7.0  
 Intersection LOS: A  
 Intersection Capacity Utilization 81.1%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	304	1391	64	1114	349	161	397	171	171	571
Act Effct Green (s)	10.0	41.0	41.0	37.0	63.0	14.0	23.0	21.0	21.0	29.0
Actuated g/C Ratio	0.10	0.41	0.41	0.37	0.63	0.14	0.23	0.21	0.21	0.29
v/c Ratio	1.01	0.76	0.50	0.97	0.36	0.72	0.99	0.55	0.55	1.01
Control Delay	94.6	24.5	29.7	36.9	2.4	60.0	70.7	41.6	41.2	57.2
Queue Delay	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.6	25.8	29.7	36.9	2.4	60.0	70.7	41.6	41.2	57.2
LOS	F	C	C	D	A	E	E	D	D	E
Approach Delay		38.2		28.7		67.6			51.3	
Approach LOS		D		C		E			D	
Queue Length 50th (ft)	~109	215	6	398	5	99	192	104	104	~196
Queue Length 95th (ft)	#191	259	m45	#487	1	#192	#390	176	176	#410
Internal Link Dist (ft)		290		428		162			305	
Turn Bay Length (ft)	229		200					129		
Base Capacity (vph)	301	1821	129	1149	979	225	403	309	313	563
Starvation Cap Reductn	0	234	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.88	0.50	0.97	0.36	0.72	0.99	0.55	0.55	1.01

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 2 (2%), Referenced to phase 2:WBTL and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 41.2

Intersection LOS: D

Intersection Capacity Utilization 91.8%

ICU Level of Service F

Analysis Period (min) 15

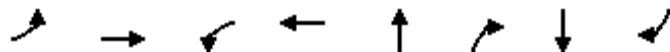
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	99	1751	55	1420	122	59	66	75
Act Effct Green (s)	10.6	62.8	8.5	60.6	16.4	16.4	16.4	16.4
Actuated g/C Ratio	0.11	0.63	0.08	0.61	0.16	0.16	0.16	0.16
v/c Ratio	0.60	0.63	0.42	0.53	0.64	0.20	0.35	0.33
Control Delay	55.9	8.5	48.7	16.8	53.8	6.8	40.5	39.3
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	8.5	48.7	16.8	53.8	6.8	40.5	39.3
LOS	E	A	D	B	D	A	D	D
Approach Delay		11.0		18.0	38.5		39.9	
Approach LOS		B		B	D		D	
Queue Length 50th (ft)	67	129	31	222	73	0	38	43
Queue Length 95th (ft)	m84	m160	m41	m381	127	24	74	80
Internal Link Dist (ft)		428		834	170		280	
Turn Bay Length (ft)	153		77			46		60
Base Capacity (vph)	201	2789	140	2693	255	364	256	305
Starvation Cap Reductn	0	124	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.66	0.39	0.53	0.48	0.16	0.26	0.25

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 16.3

Intersection LOS: B

Intersection Capacity Utilization 67.8%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	111	1710	191	1223	504	308	166	242	233	112
Act Effct Green (s)	9.5	35.0	12.0	37.5	17.0	18.0	35.0	15.0	16.0	30.5
Actuated g/C Ratio	0.10	0.35	0.12	0.38	0.17	0.18	0.35	0.15	0.16	0.30
v/c Ratio	0.76	1.09	1.03	0.73	0.98	1.05	0.31	1.04	0.89	0.24
Control Delay	69.5	74.3	115.6	29.9	78.6	106.8	14.6	113.8	76.5	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	74.3	115.6	29.9	78.6	106.8	14.6	113.8	76.5	11.4
LOS	E	E	F	C	E	F	B	F	E	B
Approach Delay		74.0		41.5		76.6			79.5	
Approach LOS		E		D		E			E	
Queue Length 50th (ft)	63	~445	~135	120	167	~215	39	~167	147	16
Queue Length 95th (ft)	m#130	#541	#274	290	#273	#381	91	#320	#287	56
Internal Link Dist (ft)		834		369		397			915	
Turn Bay Length (ft)	383				200		100	212		102
Base Capacity (vph)	155	1573	186	1670	512	294	535	232	261	483
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	1.09	1.03	0.73	0.98	1.05	0.31	1.04	0.89	0.23

**Intersection Summary**

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 42 (42%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 65.6

Intersection LOS: E

Intersection Capacity Utilization 93.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	103	1400	69	1233	54	105	73	68	82
Act Effct Green (s)	11.5	64.3	10.0	62.8	62.8	13.7	13.7	13.7	13.7
Actuated g/C Ratio	0.12	0.64	0.10	0.63	0.63	0.14	0.14	0.14	0.14
v/c Ratio	0.58	0.49	0.45	0.64	0.06	0.62	0.29	0.40	0.32
Control Delay	48.3	9.3	52.4	15.3	1.5	57.0	11.6	45.6	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	9.3	52.4	15.3	1.5	57.0	11.6	45.6	12.1
LOS	D	A	D	B	A	E	B	D	B
Approach Delay		11.9		16.6		38.4		27.3	
Approach LOS		B		B		D		C	
Queue Length 50th (ft)	67	124	42	254	0	64	0	40	0
Queue Length 95th (ft)	m76	m86	87	376	11	118	37	81	41
Internal Link Dist (ft)		658		827		605		407	
Turn Bay Length (ft)	145		197		145		247		30
Base Capacity (vph)	215	2844	154	1931	892	198	285	203	290
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.49	0.45	0.64	0.06	0.53	0.26	0.33	0.28

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 49 (49%), Referenced to phase 2:WBT and 6:EBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 16.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 68.0%  
 ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	450	395	34	32	34
Sign Control	Free	Free		Stop	

Intersection Summary	
Control Type:	Unsignalized
Intersection Capacity Utilization	43.7% ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBT	WBT	NBR
Lane Group Flow (vph)	1348	1220	27
Sign Control	Free	Free	

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 36.9% ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	NBL	NBT	SBT
Lane Group Flow (vph)	32	16	701	803
Act Effct Green (s)	6.9	89.3	89.3	89.3
Actuated g/C Ratio	0.07	0.89	0.89	0.89
v/c Ratio	0.27	0.03	0.25	0.28
Control Delay	33.1	2.9	3.2	1.8
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	33.1	2.9	3.4	1.8
LOS	C	A	A	A
Approach Delay	33.1		3.4	1.8
Approach LOS	C		A	A
Queue Length 50th (ft)	10	1	15	41
Queue Length 95th (ft)	39	m7	m123	69
Internal Link Dist (ft)	33		305	631
Turn Bay Length (ft)		150		
Base Capacity (vph)	331	518	2827	2827
Starvation Cap Reductn	0	0	1278	0
Spillback Cap Reductn	0	0	0	46
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.03	0.45	0.29

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 70 (70%), Referenced to phase 2:NBT and 6:SBT, Start of Green  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.28  
 Intersection Signal Delay: 3.2  
 Intersection Capacity Utilization 34.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	71	282	809	963
Act Effct Green (s)	9.4	9.4	71.1	71.1
Actuated g/C Ratio	0.10	0.10	0.79	0.79
v/c Ratio	0.38	0.69	0.29	0.54
Control Delay	43.0	14.8	3.2	5.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	43.0	14.8	3.2	5.4
LOS	D	B	A	A
Approach Delay	20.5		3.2	5.4
Approach LOS	C		A	A
Queue Length 50th (ft)	38	5	47	78
Queue Length 95th (ft)	78	77	92	163
Internal Link Dist (ft)	1708		631	187
Turn Bay Length (ft)		1000		
Base Capacity (vph)	397	567	2790	1767
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.50	0.29	0.54

**Intersection Summary**

Cycle Length: 100	
Actuated Cycle Length: 90.5	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 7.1	Intersection LOS: A
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	44	957	22	22	971
Sign Control	Stop	Free			Free

**Intersection Summary**

Control Type: Unsignalized

Intersection Capacity Utilization 62.5% ICU Level of Service B

Analysis Period (min) 15



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	255	675	595
Act Effct Green (s)	16.1	73.0	73.0
Actuated g/C Ratio	0.16	0.74	0.74
v/c Ratio	0.80	0.70	0.44
Control Delay	51.1	13.0	6.2
Queue Delay	0.0	0.0	0.0
Total Delay	51.1	13.0	6.2
LOS	D	B	A
Approach Delay	51.1	13.0	6.2
Approach LOS	D	B	A
Queue Length 50th (ft)	124	209	119
Queue Length 95th (ft)	#220	376	189
Internal Link Dist (ft)	1708	915	367
Turn Bay Length (ft)			
Base Capacity (vph)	367	958	1352
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.69	0.70	0.44

**Intersection Summary**

Cycle Length: 100  
 Actuated Cycle Length: 99.1  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 16.7  
 Intersection LOS: B  
 Intersection Capacity Utilization 98.3%  
 ICU Level of Service F  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



E

Cost Estimate







Project:	WV 45 Corridor Study	Computed:	Date:	11/3/14
Subject:	2024 Cost Estimates	Checked:	ABS	Date: 11/5/14
Task:	Traffic Analyses	Page:	1	of: 5
Job #:	232057	No.:		

### 2024 Cost Estimate Summary

	Improvement Type		Sub-Total	15% Contingency	Total
	Roadway	Traffic			
Alternative 1	\$1,163,332	\$183,120	\$1,346,452	\$201,968	\$1,548,420
Alternative 2	\$1,638,841	\$192,280	\$1,831,121	\$274,668	\$2,105,789
Alternative 3	\$1,934,612	\$517,280	\$2,451,892	\$367,784	\$2,819,676
Alternative 4	\$2,326,911	\$542,280	\$2,869,191	\$430,379	\$3,299,570

Notes:

- Cost estimates do not include engineering, environmental, right of way, or utility relocations
- All estimates are based on 2013 unit prices
- 15% contingency includes unknowns such as MOT, drainage, etc.



**Alternative 1: Intersection Improvements**

Intersection 1:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' WV 45 EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
150' WV 45 WB Left Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #1 and 3	\$0	\$240,000	\$0	\$0	\$240,000
<b>Sub-Total</b>	\$0	\$240,000	\$37,220	\$0	\$277,220

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$2,880	\$0	\$2,880
\$2,880	\$0	\$2,880

Intersection 3:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #3 and 4	\$0	\$52,500	\$0	\$0	\$52,500
Extend Two Thru Lanes WB to I/S 3 (Terminate as Left -Turn Only)	\$0	\$0	\$71,959	\$0	\$71,959
<b>Sub-Total</b>	\$0	\$52,500	\$90,569	\$0	\$143,069

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$1,440	\$0	\$1,440
\$0	\$0	\$0
\$1,440	\$0	\$1,440

Intersection 4:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #4 and 5	\$0	\$33,750	\$0	\$21,000	\$54,750
Extend EB Right-Turn Lane at I/S 4 Back to I/S 3; Reconfigure as Thru Right	\$0	\$0	\$69,229	\$0	\$69,229
<b>Sub-Total</b>	\$0	\$33,750	\$69,229	\$21,000	\$123,979

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Intersection 5:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
Extend EB Right-Turn Lane at I/S 5 back to I/S 4	\$0	\$0	\$13,647	\$0	\$13,647
<b>Sub-Total</b>	\$0	\$67,500	\$13,647	\$35,000	\$116,147

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Intersection 7:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on both sides between I/S #7 and 8	\$0	\$210,000	\$0	\$0	\$210,000
WB Dual Left (back to I/S 6)	\$0	\$0	\$37,220	\$0	\$37,220
<b>Sub-Total</b>	\$0	\$210,000	\$37,220	\$0	\$247,220

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$17,280	\$50,000	\$67,280
\$0	\$0	\$0
\$17,280	\$50,000	\$67,280

Intersection 8:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Extend SB Right Additional 50'	\$0	\$0	\$6,203	\$7,000	\$13,203
Extend SB Left Additional 150'	\$0	\$0	\$18,610	\$7,000	\$25,610
Extend WB Right Turn for Additional 250'	\$0	\$0	\$31,017	\$0	\$31,017
Sidewalks on both sides between I/S #8 and 9	\$0	\$180,000	\$0	\$0	\$180,000
NB Dual Left for 200'	\$5,867	\$0	\$0	\$0	\$5,867
<b>Sub-Total</b>	\$5,867	\$180,000	\$55,830	\$14,000	\$255,697

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$0	\$0
\$8,640	\$50,000	\$58,640
\$0	\$0	\$0
\$8,640	\$50,000	\$58,640



Project: WV 45 Corridor Study      Computed: NJP      Date: 11/3/14  
 Subject: 2024 Cost Estimates      Checked: ABS      Date: 11/5/14  
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 Job #: 232057      No.:

**Alternative 2: Additional Thru Capacity**

Intersection 1:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' WV 45 EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
150' WV 45 WB Left Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #1 and 3	\$0	\$240,000	\$0	\$0	\$240,000
<b>Sub-Total</b>	\$0	\$240,000	\$37,220	\$0	\$277,220

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$2,880	\$0	\$2,880
\$2,880	\$0	\$2,880

Intersection 3:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #3 and 4	\$0	\$52,500	\$0	\$0	\$52,500
Extend Two Thru Lanes WB to I/S 3 (Terminate as Left - Turn Only)	\$0	\$0	\$71,959	\$0	\$71,959
<b>Sub-Total</b>	\$0	\$52,500	\$90,569	\$0	\$143,069

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$1,440	\$0	\$1,440
\$0	\$0	\$0
\$1,440	\$0	\$1,440

Intersection 4:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #4 and 5	\$0	\$33,750	\$0	\$21,000	\$54,750
Extend EB Right-Turn Lane at I/S 4 Back to I/S 3; Reconfigure as Thru Right	\$0	\$0	\$69,229	\$0	\$69,229
<b>Sub-Total</b>	\$0	\$33,750	\$69,229	\$21,000	\$123,979

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Intersection 5:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
Extend EB Right-Turn Lane at I/S 5 back to I/S 4	\$0	\$0	\$13,647	\$0	\$13,647
<b>Sub-Total</b>	\$0	\$67,500	\$13,647	\$35,000	\$116,147

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Intersection 7:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Additional EB Thru/Right Turn Lane Extending Back to I/S 6	\$0	\$0	\$37,220	\$0	\$37,220
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
<b>Sub-Total</b>	\$0	\$67,500	\$37,220	\$35,000	\$139,720

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440
\$1,440	\$25,000	\$26,440

Intersection L.S.:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
WB Thru/Right Turn Lane Extending Back to I/S 8	\$0	\$0	\$102,355	\$0	\$102,355
Additional EB Thru/Right Turn Lane Extending Back to I/S 7	\$0	\$0	\$62,033	\$0	\$62,033
<b>Sub-Total</b>	\$0	\$0	\$164,388	\$0	\$164,388

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$0	\$0

Intersection 8:	Roadway Items				
	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
WB Thru/Right Turn Lane Extending Back to I/S 9	\$0	\$0	\$120,345	\$0	\$120,345
NB Dual Left for 200'	\$5,867	\$0	\$0	\$0	\$5,867
Sidewalks on both sides between I/S #8 and 9	\$0	\$180,000	\$0	\$0	\$180,000
Additional EB Lane at Existing Right Turn Lane (extends back to I/S L.S.)	\$0	\$0	\$70,346	\$0	\$70,346
<b>Sub-Total</b>	\$5,867	\$180,000	\$190,690	\$0	\$376,557

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$8,640	\$50,000	\$58,640
\$0	\$0	\$0
\$ 8,640	\$ 50,000	\$ 58,640



Alternative 3: Trip Diversion

Intersection 1:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' WV 45 EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
150' WV 45 WB Left Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #1 and 3	\$0	\$240,000	\$0	\$0	\$240,000
<b>Sub-Total</b>	\$0	\$240,000	\$37,220	\$0	\$277,220

Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$2,880	\$0	\$2,880
\$2,880	\$0	\$2,880

Intersection 3:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #3 and 4	\$0	\$52,500	\$0	\$0	\$52,500
Extend Two Thru Lanes WB to I/S 3 (Terminate as Left -Turn Only)	\$0	\$0	\$71,959	\$0	\$71,959
<b>Sub-Total</b>	\$0	\$52,500	\$90,569	\$0	\$143,069

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$1,440	\$0	\$1,440
\$0	\$0	\$0
\$1,440	\$0	\$1,440

Roadway Items					
Intersection 4:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #4 and 5	\$0	\$33,750	\$0	\$21,000	\$54,750
Extend EB Right-Turn Lane at I/S 4 Back to I/S 3; Reconfigure as Thru Right	\$0	\$0	\$69,229	\$0	\$69,229
<b>Sub-Total</b>	\$0	\$33,750	\$69,229	\$21,000	\$123,979

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Roadway Items					
Intersection 5:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
Extend EB Right-Turn Lane at I/S 5 back to I/S 4	\$0	\$0	\$13,647	\$0	\$13,647
<b>Sub-Total</b>	\$0	\$67,500	\$13,647	\$35,000	\$116,147

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Roadway Items					
Intersection 6:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Existing Off-ramp Becomes Left-Turn Only	\$14,667	\$0	\$0	\$0	\$14,667
<b>Sub-Total</b>	\$14,667	\$0	\$0	\$0	\$14,667

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0

Roadway Items					
Intersection 7:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
New Ramp for Thru and Right-Turn Movements	\$0	\$0	\$124,067	\$0	\$124,067
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
<b>Sub-Total</b>	\$0	\$67,500	\$124,067	\$35,000	\$226,567

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$125,000	\$125,000
\$1,440	\$25,000	\$26,440
\$1,440	\$150,000	\$151,440

Roadway Items					
Intersection 8:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
NB Dual Left for 200'	\$5,867	\$0	\$0	\$0	\$5,867
Sidewalks on both sides between I/S #8 and 9	\$0	\$180,000	\$0	\$0	\$180,000
<b>Sub-Total</b>	\$5,867	\$180,000	\$0	\$0	\$185,867

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$8,640	\$50,000	\$58,640
\$8,640	\$50,000	\$58,640

Roadway Items					
Diversion:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
New Roadway	\$0	\$195,000	\$403,217	\$0	\$598,217
1000' Left/Right Turn Lane	\$0	\$0	\$124,067	\$0	\$124,067
Railroad Crossing Equipment	\$0	\$0	\$0	\$0	\$50,000
Traffic Signals	\$0	\$0	\$0	\$0	\$50,000
Additional Access to Lowe's	\$0	\$0	\$24,813	\$0	\$24,813
<b>Sub-Total</b>	\$0	\$195,000	\$552,097	\$0	\$847,097

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$250,000	\$250,000
\$0	\$0	\$0
\$0	\$250,000	\$250,000



Project: WV 45 Corridor Study Computed NJP Date: 11/3/14  
 Subject: 2024 Cost Estimates Checked: ABS Date: 11/5/14  
 Task: Traffic Analyses Page: 5 of: 5  
 Job #: 232057 No.:  
 c:\pwworking\pitt\0997596\WV 45 Cost Estimates\_ABS.xls|2024 - Alt 3

Alternative 3: Trip Diversion

Intersection 1:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' WV 45 EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
150' WV 45 WB Left Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #1 and 3	\$0	\$240,000	\$0	\$0	\$240,000
<b>Sub-Total</b>	\$0	\$240,000	\$37,220	\$0	\$277,220

Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$2,880	\$0	\$2,880
\$2,880	\$0	\$2,880

Intersection 3:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
150' EB Right Turn Lane	\$0	\$0	\$18,610	\$0	\$18,610
Sidewalks on South Side between I/S #3 and 4	\$0	\$52,500	\$0	\$0	\$52,500
Extend Two Thru Lanes WB to I/S 3 (Terminate as Left -Turn Only)	\$0	\$0	\$71,959	\$0	\$71,959
<b>Sub-Total</b>	\$0	\$52,500	\$90,569	\$0	\$143,069

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$1,440	\$0	\$1,440
\$0	\$0	\$0
\$1,440	\$0	\$1,440

Roadway Items					
Intersection 4:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #4 and 5	\$0	\$33,750	\$0	\$21,000	\$54,750
Extend EB Right-Turn Lane at I/S 4 Back to I/S 3; Reconfigure as Thru Right	\$0	\$0	\$69,229	\$0	\$69,229
<b>Sub-Total</b>	\$0	\$33,750	\$69,229	\$21,000	\$123,979

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Roadway Items					
Intersection 5:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
Extend EB Right-Turn Lane at I/S 5 back to I/S 4	\$0	\$0	\$13,647	\$0	\$13,647
<b>Sub-Total</b>	\$0	\$67,500	\$13,647	\$35,000	\$116,147

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$1,440	\$25,000	\$26,440
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440

Roadway Items					
Intersection 6:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
Existing Off-ramp Becomes Left-Turn Only	\$14,667	\$0	\$0	\$0	\$14,667
<b>Sub-Total</b>	\$14,667	\$0	\$0	\$0	\$14,667

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0

Roadway Items					
Intersection 7:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
New Ramp for Thru and Right-Turn Movements	\$0	\$0	\$124,067	\$0	\$124,067
Additional EB Thru Lane Extending Back to I/S 6	\$0	\$0	\$37,220	\$0	\$37,220
Sidewalks on South Side between I/S #5 and 7	\$0	\$67,500	\$0	\$35,000	\$102,500
<b>Sub-Total</b>	\$0	\$67,500	\$124,067	\$35,000	\$263,787

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$125,000	\$125,000
\$0	\$0	\$0
\$1,440	\$25,000	\$26,440
\$1,440	\$150,000	\$151,440

Roadway Items					
Intersection 8:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
NB Dual Left for 200'	\$5,867	\$0	\$0	\$0	\$5,867
WB Thru/Right Turn Lane Extending Back to I/S 9	\$0	\$0	\$120,345	\$0	\$120,345
Additional EB Lane at Existing Right Turn Lane (extends back to I/S L.S.)	\$0	\$0	\$70,346	\$0	\$70,346
Sidewalks on both sides between I/S #8 and 9	\$0	\$180,000	\$0	\$0	\$180,000
<b>Sub-Total</b>	\$5,867	\$180,000	\$190,690	\$0	\$376,557

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$0	\$0
\$8,640	\$75,000	\$83,640
\$8,640	\$75,000	\$83,640

Roadway Items					
Diversion:	Overlay w/ Milling	5' Wide Sidewalk	New Pavement	Light Relocation	Total
New Roadway	\$0	\$195,000	\$403,217	\$0	\$598,217
1000' Left/Right Turn Lane	\$0	\$0	\$124,067	\$0	\$124,067
Railroad Crossing Equipment	\$0	\$0	\$0	\$0	\$50,000
Traffic Signals	\$0	\$0	\$0	\$0	\$50,000
Additional Access to Lowe's	\$0	\$0	\$24,813	\$0	\$24,813
<b>Sub-Total</b>	\$0	\$195,000	\$552,097	\$0	\$847,097

Traffic Items		
Crosswalk Line	Signal Modifications	Total
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$0	\$0
\$0	\$250,000	\$250,000
\$0	\$0	\$0
\$0	\$250,000	\$250,000



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