

**Traffic Solutions**  
William J. Bray, P.E.  
235 Bancroft Street  
Portland, ME 04102  
(207) 774-3603  
(207) 400-6890 mobile  
[trafficsolutions@maine.rr.com](mailto:trafficsolutions@maine.rr.com)

August 31, 2015

Bruce Mattson, P.E.  
Region 4 Traffic Engineer  
Maine Department of Transportation  
219 Hogan Road  
Bangor, Maine 04401

RECEIVED

SEP - 8 2015

C & ED and Planning

RE: Chick-fil-A TMP Application – Traffic Response Information

Dear Bruce:

Pursuant to your direction, a detailed traffic analysis has been completed for the Saturday peak hour condition at the three defined study intersections of: 1) Stillwater Avenue/I-95 Exit 186/Kohl's entrance, 2) Stillwater Avenue/Verizon Plaza/South Mall Access Drive and, 3) South Mall Access Drive @ Bangor Mall "loop" Road. The effort included the collection of Saturday traffic turning movement counts at each of the three locations between the hours of 11:00 AM to 2:00 PM; development of 2016 Pre and Post-development traffic forecasts, and the completion of detailed capacity analyses for each intersection utilizing the SimTraffic/SYNCHRO traffic models. The details of the processes applied and results of that effort are presented as follows:

### SITE TRAFFIC

Site Trip Generation, Trip generation for the proposed 4,975 square foot Chick-fil-A Restaurant project for a typical Saturday condition is based upon trip tables presented in the seventh edition of the Institute of Transportation's Engineers "TRIP GENERATION" manual. The following trip rate applies:

**Land-Use #934: Fast-Food Restaurant with Drive-Through Window**  
**Saturday Peak Hour = 59.20 trips/1,000sf**

Accordingly, the proposed Chick-fil-A Restaurant project can be expected to generate a total of 295 vehicle trips on a typical Saturday.

Site Trip Composition, The Institute of Transportation Engineers "TRIP GENERATION" handbook suggests that 49% of the trips generated by a Fast-Food Restaurant with Drive-Through Window service are, in fact, "pass-by" trips already traveling on the roadway network. The remaining site generated trips are defined as "new" or "primary" trips. As a result, 144 of the 295 peak hour trips generated by the site on Saturday are "pass-by" trips with the remaining 151 trips being "new" trips to the roadway system.

Site Trip Distribution, Vehicle trips generated by the proposed Chick-fil-A Restaurant were directionally assigned to the site driveway entrances based upon directional trip distribution patterns presented in the Institute of Transportation Engineers "TRIP GENERATION" handbook. The noted publication states that 51% of the site trips enter the site and the remaining 49% exit the site on a typical Saturday.

Site Trip Assignment, The assignment of the site trips was based on existing vehicle splits found at each study intersection. Figure 2 is a “stick-diagram” that depicts the assignment of the site trips through each study intersection for the peak Saturday travel condition.

### **2015 Saturday Design Hour Traffic Conditions**

Manual turning movement counts were conducted at the three study intersections between the hours of 11:00 AM to 2:00 PM on two separate Saturday dates during the summer of 2015. Copies of the data summary sheets are attached for reference. From a summary of the data, a peak hour of traffic was selected at each intersection. The peak hour data was balanced between intersections assuming no diversion of trips occurs between each study location. Figure 1 illustratively presents the estimated 2015 design hour traffic volumes at each study intersection for a typical “peak” Saturday condition.

### **FUTURE TRAFFIC**

Annual Growth, The traffic analysis has been prepared assuming that the proposed Chick-fil-A Restaurant will be constructed and occupied in 2016. MaineDOT’s historical traffic data for the I-95 Exit 186 Ramp would suggest the appropriateness of a 2% growth in base traffic conditions for the corridor. Accordingly, the 2015 design hour traffic values presented on Figure 1 were adjusted by 2 percent to approximate 2016 peak Saturday travel conditions.

Other Development Traffic, Traffic generated by projects that have been approved by the Local Planning Board and/or the Maine Department of Transportation, yet are not opened, must be included in the estimate of pre-development traffic. City staff directed that Saturday peak hour trips generated by two partially completed area development projects be included as other development traffic impacting the study intersections:

1. Stillridge LLC @ 982 Stillwater Avenue
2. Stillwater Crossings @ Drew Lane

Copies of excerpts from traffic studies prepared for each project are attached for reference. The remaining site trips generated by each project were appropriately assigned through each study intersection. Figure 3 highlights the estimated Other Development traffic applied through each intersection.

2016 Pre-Development Traffic, 2016 Pre-Development traffic forecasts were prepared for each of the three study intersections by combining the estimated 2015 design hour traffic volumes presented on Figure 1 with the estimate of Other Development traffic highlighted on Figure 3. Figure 4 presents the 2016 Pre-Development traffic forecasts for the study intersections.

2014 Post-Development Traffic, 2016 Post-Development traffic forecasts developed for each study intersection represent a combination of the 2016 Pre-Development travel forecasts illustrated on Figure 3 with the estimated site generated trips highlighted on Figure 2. Figure 5 presents the estimated 2016 Post-Development traffic forecasts for the three study intersections.

### **MOBILITY ANALYSIS**

A detailed capacity analyses was completed for the Saturday 2016 Pre and Post-Development peak hour travel conditions for each of the three study intersections utilizing the Synchro and SimTraffic computer models. Levels of Service rankings are similar to the academic grade system, where an “A” is very good with little delay and “F” represents very poor conditions. The following table summarizes the relationship between delay and Level of Service for a signalized intersection:

**Level of Service Criteria for Signalized Intersections**

<b><u>Level of Service</u></b>	<b><u>Total Control Delay (sec/veh)</u></b>
A	Up to 10.0
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	Greater than 80.0

The following table summarizes the relationship between delay and Level of Service for an unsignalized intersection:

**Level of Service Criteria for Unsignalized Intersections**

<b><u>Level of Service</u></b>	<b><u>Total Control Delay (sec/veh)</u></b>
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The results of the detailed analyses completed for the two signalized intersections are presented as follows:

**Signalized Intersection Capacity Analysis**  
**2016 Pre and Post-Development - Saturday Peak Hour Travel Conditions**

- [1. Stillwater Avenue/Verizon Plaza/South mall Access Road  
2. Stillwater Avenue/I-95 Exit 186/Kohl's Plaza]

<u>Intersection/Approach</u>	<b>2016 Pre-Development</b>		<b>2014 Post-Development</b>	
	<b>Saturday Peak Hour</b>		<b>Saturday Peak Hour</b>	
	<u>Delay (sec.)</u>	<u>LOS</u>	<u>Delay (sec.)</u>	<u>LOS</u>
<b>1. Stillwater Avenue/Verizon Plaza/South Mall Access Drive</b>				
Stillwater Avenue NB Left-Turn	50 sec.	D	52 sec.	D
Stillwater Avenue NB Through	10 sec.	A	14 sec.	B
Stillwater Avenue NB Right-Turn	4 sec.	A	6 sec.	A
Stillwater Avenue SB Left-Turn	29 sec.	C	28 sec.	C
Stillwater Avenue SB Through	14 sec.	B	15 sec.	B
Stillwater Avenue SB Right-Turn	5 sec.	A	5 sec.	A
Verizon Plaza EB Left-Turn	46 sec.	D	38 sec.	D
Verizon Plaza EB Through	59 sec.	E	40 sec.	D
Verizon Plaza EB Right-Turn	13 sec.	B	10 sec.	A
South Access WB Left-Turn	41 sec.	D	38 sec.	D
South Access WB Through	27 sec.	C	33 sec.	
South Access WB Right-Turn	8 sec.	A	9 sec.	A
Overall Intersection	14 sec.	B	16 sec.	B
<b>2. Stillwater Avenue/I-95 Exit 186 /Kohl's Plaza</b>				
Stillwater Avenue NB Left-Turn	48 sec.	D	46 sec.	D
Stillwater Avenue NB Through	20 sec.	B	19 sec.	B
Stillwater Avenue NB Right-Turn	12 sec.	B	13 sec.	B
Stillwater Avenue SB Left-Turn	54 sec.	D	54 sec.	D
Stillwater Avenue SB Through	21 sec.	C	21 sec.	C
Stillwater Avenue SB Right-Turn	3 sec.	A	3 sec.	A
I-95 Exit 186 WB Left-Turn	66 sec.	E	62 sec.	E
I-95 Exit 186 WB Through	67 sec.	E	60 sec.	E
I-95 Exit 186 WB Right-Turn	53 sec.	D	44 sec.	D
Kohl's Plaza EB Left-Turn	37 sec.	D	38 sec.	D
Kohl's Plaza EB Through	37 sec.	D	38 sec.	D
Kohl's Plaza EB Right-Turn	27 sec.	C	26 sec.	C
Overall Intersection	35 sec.	C	33 sec.	C

NOTE: The capacity analysis of both traffic signalized intersections was performed based upon existing traffic signal phasing and timing information obtained from the City. Further, existing roadway geometry and lane designations applied represent present conditions at both locations.

The results of the signalized intersection capacity analysis conducted for both Stillwater Avenue signalized intersections clearly demonstrate that the proposed project has virtually no impact on intersection mobility at either location. The Stillwater Avenue/Verizon Plaza/South Mall Access Drive intersection is projected to operate "overall" at Level of Service B conditions during both the 2016 Pre and Post-Development conditions. Traffic operations at the Stillwater Avenue/I-95 Exit 186/Kohl's Plaza intersection was found to operate at Level of Service C travel conditions during both the Pre and Post-Development conditions.

The results of the unsignalized intersection analyses completed for the Bangor Mall "Loop" Road/ South Mall Access Drive intersection is presented in the following table:

**Unsignalized Intersection Capacity Analysis**  
**2016 Pre and Post-Development - Saturday Peak Hour Travel Conditions**  
 [South Mall Access Drive/Bangor Mall "Loop" Road Intersection]

<b><u>Intersection Approach</u></b>	<b><u>2016 Pre-Development</u></b>		<b><u>2016 Post-Development</u></b>	
	<b><u>Vehicle Delay (Sec.)</u></b>	<b><u>Level of Service</u></b>	<b><u>Vehicle Delay (Sec.)</u></b>	<b><u>Level of Service</u></b>
South Mall Access Drive EB	1 sec.	A	1 sec.	A
Bangor Mall "loop" Road NB Left-Turn	6 sec.	A	9 sec.	A
Bangor Mall "loop" Road NB Through Movement	6 sec.	A	7 sec.	A
Bangor Mall "loop" Road SB Through Movement	11 sec.	B	15 sec.	B
Bangor Mall "loop" Road SB Right-Turn	4 sec.	A	7 sec.	A
Overall Intersection	3 sec.	A	5 sec.	A

The South Mall Access Drive/Bangor Mall "loop" Road, an unsignalized intersection, is forecast to operate at Level of Service A conditions even with the added traffic generated by the proposed Chick-fil-A restaurant.

Bruce, we have also revised the project site plans to incorporate the changes recommended by your office and City Staff. I trust we have captured all of the requested changes. The revisions include the following:

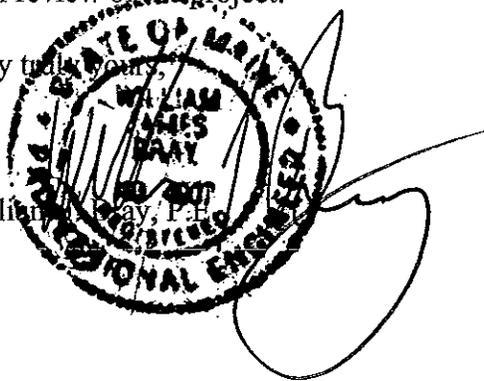
- Re-alignment of the Right-Turn Only site exit drive creating a more restrictive throat to discourage left-turn exit movements from the driveway.
- Right-Only pavement markings have been appropriately added to reinforce the required right-only turning movement.
- The curb line along the frontage of the site between the right-only exit drive and the middle driveway has been adjusted providing a 326-foot radius to "smooth" traffic flow.
- A note has been added to the plan that indicates installation of a "Traffic From Right Does Not Stop" sign, as requested. If you want a similar sign added to the other stop controlled approach we will gladly accommodate that request.
- A second note has been added to the plan that replaces the existing 30" x 30" STOP signs with 36" x 36" signs on both "loop" road approaches.

We trust that the enclosed intersection capacity analysis and site plan modifications meet with your approval allowing your office to issue a Traffic Movement Permit for the project.

Please contact me with questions and/or additional documentation that you find necessary for completing your final review of the project.

Very truly yours,

William



## Turn by Turn Traffic Data Services

P.O. Box 1203  
Westbrook, Maine 04098

Default Comments  
Change These in The Preferences Window  
Select File/Preference in the Main Scree  
Then Click the Comments Tab

File Name : Bangor. Bangor Blvd & Connecting Road  
Site Code : 00000007  
Start Date : 7/11/2015  
Page No : 5

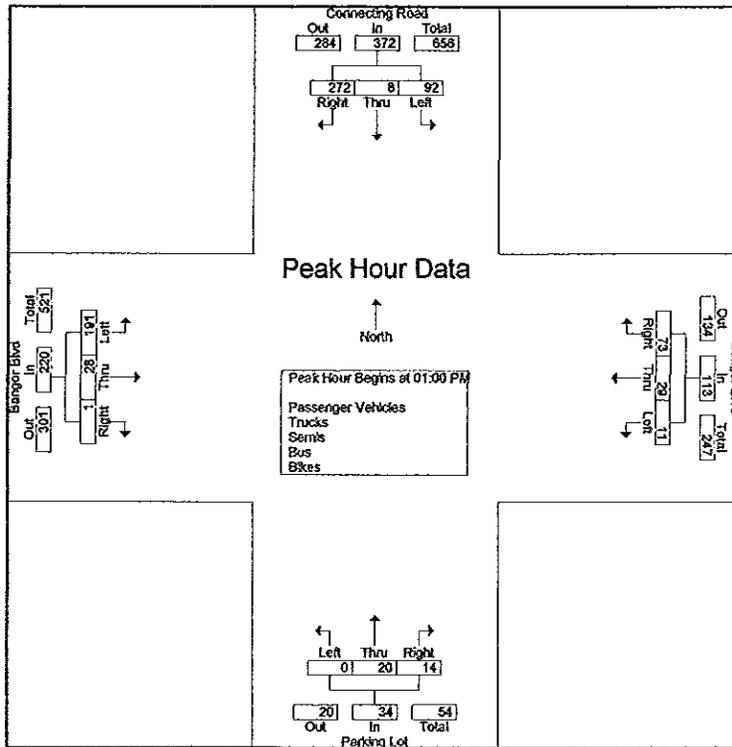
Start Time	Connecting Road From North				Bangor Blvd From East				Parking Lot From South				Bangor Blvd From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	70	0	27	97	9	7	2	18	6	3	0	9	0	4	38	42	166
01:15 PM	64	2	20	86	25	8	5	38	3	10	0	13	0	5	57	62	199
01:30 PM	75	5	26	106	13	8	1	22	2	4	0	6	1	6	51	58	192
01:45 PM	63	1	19	83	26	6	3	35	3	3	0	6	0	13	45	58	182
Total Volume	272	8	92	372	73	29	11	113	14	20	0	34	1	28	191	220	739
% App. Total	73.1	2.2	24.7		64.6	25.7	9.7		41.2	58.8	0		0.5	12.7	86.8		
PHF	.907	.400	.852	.877	.702	.906	.650	.743	.583	.600	.000	.654	.250	.538	.838	.887	.928

# Twin by Twin Traffic Data Services

P.O. Box 1203  
Westbrook, Maine 04098

Default Comments  
Change These in The Preferences Window  
Select File/Preference in the Main Screenshot  
Then Click the Comments Tab

File Name : Bangor. Bangor Blvd & Connecting Road  
Site Code : 00000007  
Start Date : 7/11/2015  
Page No : 6



## Turn by Turn Traffic Data Services

P.O. Box 1203  
Westbrook, Maine 04098

Default Comments  
Change These in The Preferences Window  
Select File/Preference in the Main Scree  
Then Click the Comments Tab

File Name : Bangor, Stillwater Ave & Connecting Road  
Site Code : 00121212  
Start Date : 7/11/2015  
Page No : 5

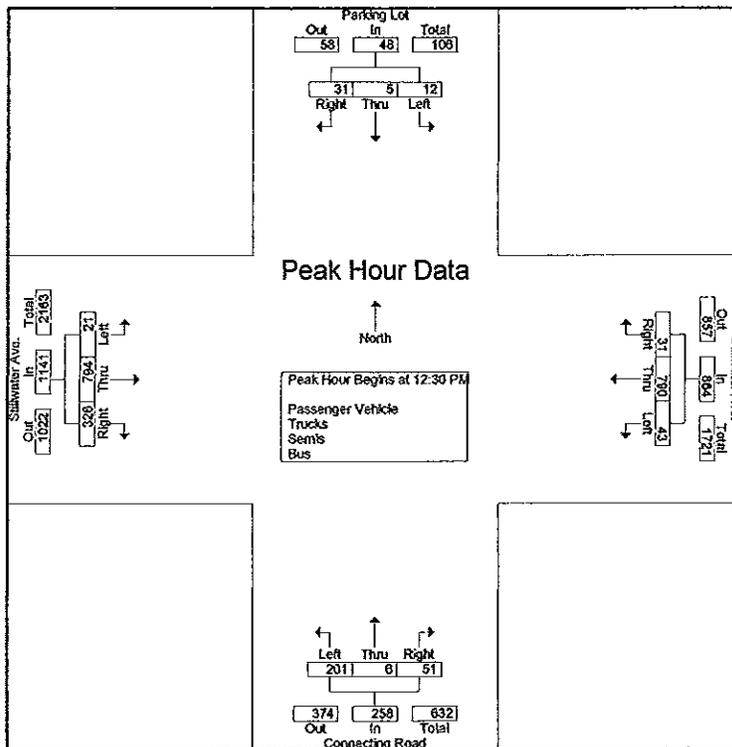
Start Time	Parking Lot From North				Stillwater Ave. From East				Connecting Road From South				Stillwater Ave. From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:30 PM																	
12:30 PM	7	2	4	13	7	214	10	231	9	1	38	48	83	208	4	293	585
12:45 PM	3	1	2	6	5	187	13	205	11	2	48	61	83	205	4	292	564
01:00 PM	11	2	1	14	8	209	12	229	14	2	35	51	82	203	8	293	587
01:15 PM	10	0	5	15	11	180	8	199	17	1	80	98	78	180	5	263	575
Total Volume	31	5	12	48	31	790	43	864	51	6	201	258	326	794	21	1141	2311
% App. Total	64.6	10.4	25		3.6	91.4	5		19.8	2.3	77.9		28.6	69.6	1.8		
PHF	.705	.625	.600	.800	.705	.923	.827	.935	.750	.750	.628	.658	.982	.984	.656	.974	.984

# Turn by Turn Traffic Data Services

P.O. Box 1203  
Westbrook, Maine 04098

Default Comments  
Change These in The Preferences Window  
Select File/Preference in the Main Screenshot  
Then Click the Comments Tab

File Name : Bangor, Stillwater Ave & Connecting Road  
Site Code : 00121212  
Start Date : 7/11/2015  
Page No : 6



## Twin by Turn Traffic Data Services

P.O. Box 1203  
Westbrook, Maine 04098

Bangor: Stillwater & I95  
Saturday August 15, 2015  
Sunny  
Count by: Dawn-Marie & James Fahey

File Name : Not Named 3  
Site Code : 0000031  
Start Date : 8/15/2015  
Page No : 5

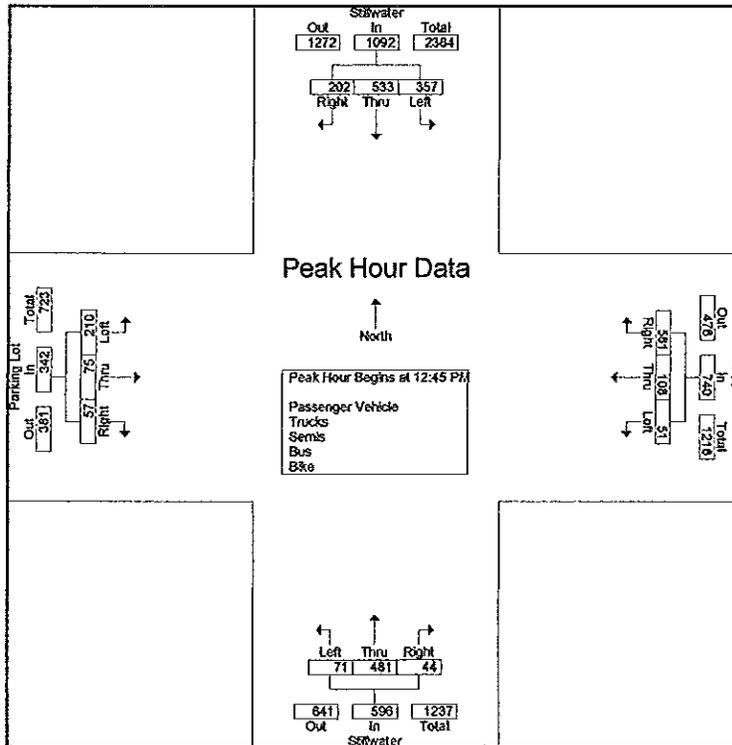
Start Time	Stillwater From North				I 95 From East				Stillwater From South				Parking Lot From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:45 PM																	
12:45 PM	49	138	101	288	158	26	17	201	12	123	19	154	9	21	49	79	722
01:00 PM	44	120	73	237	141	31	17	189	10	93	17	120	11	14	46	71	617
01:15 PM	60	160	109	319	133	22	7	162	14	133	15	162	16	19	65	100	743
01:30 PM	49	125	74	248	149	29	10	188	8	132	20	160	21	21	50	92	688
Total Volume	202	533	357	1092	581	108	51	740	44	481	71	596	57	75	210	342	2770
% App. Total	18.5	48.8	32.7		78.5	14.6	6.9		7.4	80.7	11.9		16.7	21.9	61.4		
PHF	.842	.868	.819	.856	.919	.871	.750	.920	.766	.904	.888	.920	.679	.693	.808	.855	.932

# Turn by Turn Traffic Data Services

P.O. Box 1203  
Westbrook, Maine 04098

Bangor:Stillwater & I95  
Saturday August 15, 2015  
Sunny  
Count by: Dawn-Marie & James Fahey

File Name : Not Named 3  
Site Code : 0000031  
Start Date : 8/15/2015  
Page No : 6



# 2013 Maine Transportation Count Book

County

Penobscot

TOWN	STATION	ROAD	LOCATION	TYPE	GROUP	AA DT09	AA DT10	AA DT11	AA DT12	AA DT13
19 BANGOR	51816	0095S	I-95 SB OFF RAMP TO I-395 (WB)	I	I	2490		2750		2980
19 BANGOR	51401	0095X	I-95 (NB) N/O OFF RAMP TO HOGAN RD	I	I	10760		10260		10670
19 BANGOR	51403	0095X	I-95 (NB) N/O ON RAMP FROM HOGAN RD	I	I	15500		14910		14410
19 BANGOR	51405	0095X	I-95 NB OFF RAMP TO HOGAN RD	I	I					8220
19 BANGOR	51407	0095X	I-95 NB ON RAMP FROM HOGAN RD	I	I					3740
19 BANGOR	51503	0095X	I-95 (NB) N/O ON RMP FROM SR 15/15B(BWY)	I	I					24650
19 BANGOR	51505	0095X	I-95 NB OFF RAMP TO SR15/15B (BROADWAY)	I	I	6010		5900		
19 BANGOR	51507	0095X	I-95 NB ON RAMP FROM SR 15/15B(BROADWAY)	I	I	5380		5160		5290
19 BANGOR	51511	0095X	I-95 (NB) N/O OFF RAMP TO STILLWATER AVE	I	I	18170		18140		18890
19 BANGOR	51605	0095X	I-95 NB ON RAMP FROM SR 222 (UNION ST)	I	I	7720		7370		7090
19 BANGOR	51607	0095X	I-95 NB CUT FROM ON RAMP TO OHIO ST	I	I	1050		960		1060
19 BANGOR	51609	0095X	I-95 NB OFF RAMP TO SR 222 (UNION ST)	I	I	2490		2790		3000
19 BANGOR	51701	0095X	I-95 (NB) N/O OFF RAMP TO SR 2/100 (HAMM)	I	I	18890		18420		19240
19 BANGOR	51703	0095X	I-95 (NB) N/O ON RMP FROM SR 2/100 (HAMM)	I	I	21060				
19 BANGOR	51707	0095X	I-95 NB ON RMP FROM SR 2/100(HAMMOND ST)	I	I			2680		2480
19 BANGOR	51801	0095X	I-95 (NB) N/O OFF RAMP TO I-395 (EB)	I	I	10330		10960		
19 BANGOR	51805	0095X	I-95 (NB) N/O OFF RAMP TO I-395 (WB)	I	I	12480		13210		
19 BANGOR	51807	0095X	I-95 (NB) N/O ON RAMP FROM I-395 (WB)	I	I	20330		20790		
19 BANGOR	51809	0095X	I-95 NB OFF RAMP TO I-395 (EB)	I	52103			3520		
19 BANGOR	02201	01375	EXCHANGE ST N/O WASHINGTON ST	C	I			3620		
19 BANGOR	02203	01375E	WASHINGTON ST (EB) E/O EXCHANGE ST	C	I			4620		
19 BANGOR	02213	01375W	WASHINGTON ST (WB) E/O EXCHANGE ST	C	I			3700		
19 BANGOR	02002	01377	MAIN ST NE/O UNION ST	C	I			8830		
19 BANGOR	16116	0202S	US 202 (SB) SW/O I-395 RAMPS @HAMPDEN TL	C	I			5220	5450	5550
19 BANGOR	16106	0202X	US 202 (NB) SW/O I-395 RAMPS @HAMPDEN TL	C	I			5260	5420	5570
19 BANGOR	19101	0221X	SR 221 (HUDSON RD) N/O SR 15 (BROADWAY)	T	I			3580		
19 BANGOR	13204	0222X	SR 222 (UNION ST) SE/O JACKSON ST	A	I			10250	9950	9340
19 BANGOR	01008	0222X	SR 222 (UNION ST) NW/O UNION PL (PW)	C	I			9750		
19 BANGOR	06504	0222X	SR 222 (UNION ST) SE/O FOURTEENTH ST	C	I			11900		
19 BANGOR	06508	0222X	SR 222 (UNION ST) NW/O FOURTEENTH ST	C	I			12590		
19 BANGOR	06704	0222X	SR 222 (UNION ST) SE/O VERMONT AVE	C	I			20830		
19 BANGOR	06708	0222X	SR 222 (UNION ST) NW/O VERMONT AVE	C	I			20340		
19 BANGOR	06808	0222X	SR 222 (UNION ST) NW/O GRIFFIN RD	C	I			11360		
19 BANGOR	06908	0222X	SR 222 (UNION ST) NW/O DAVIS RD	C	I			9210		

KOHL'S PLAZA

VERIZON PLAZA

57  
75  
210

202  
533  
357

34  
5  
12

31  
844  
43

STILLWATER AVENUE

71  
481  
44

5  
108  
58

24  
885  
363

214  
9  
51

SOUTH MALL  
ACCESS DRIVE

I-95  
(EXIT 186)

30  
110

76  
40

SITE

BANGOR MALL "LOOP" ROAD

195  
29

2015 DESIGN HOUR TRAFFIC  
SATURDAY PEAK HOUR  
FIGURE 1

TRAFFIC SOLUTIONS

225 BANGOR STREET, FORTLAKE, MASS 01103-1720

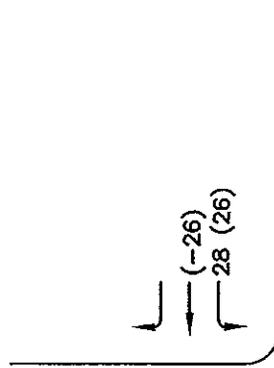
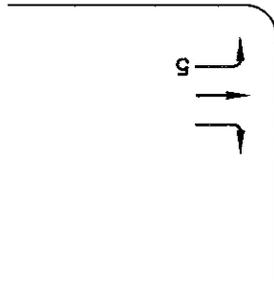
PROPOSED CHICK-FIL-A RESTAURANT  
BANGOR, MAINE

DATE: AUGUST, 2013

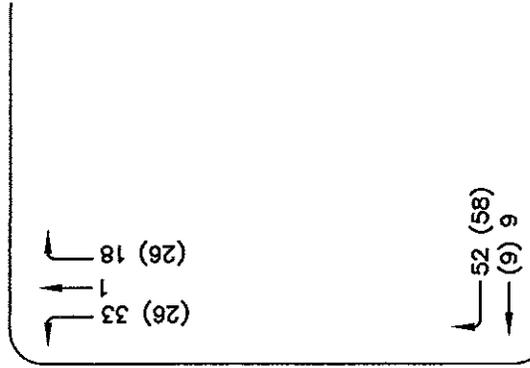
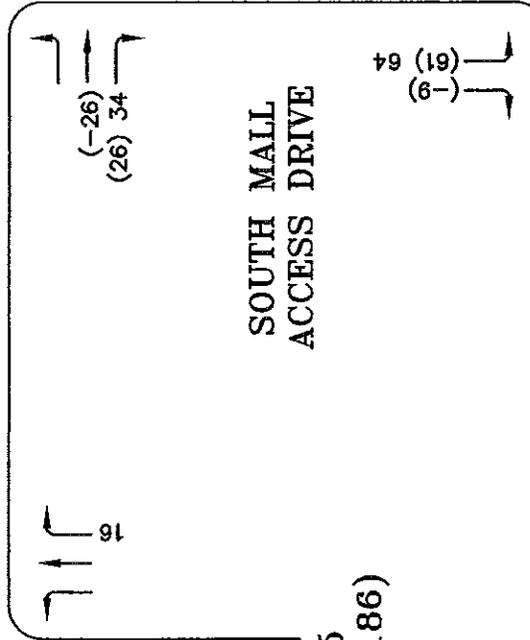
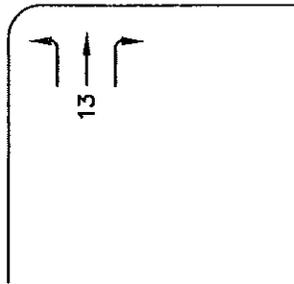
FIGURE 1

KOHL'S PLAZA

VERIZON PLAZA

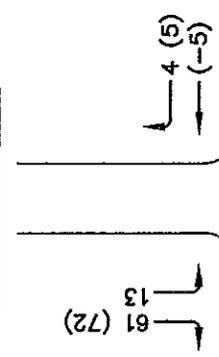


STILLWATER AVENUE



I-95  
(EXIT 186)

SITE

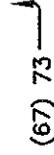
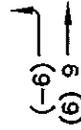


LEGEND

XX = PRIMARY TRIPS

(XX) = PASS-BY TRIPS

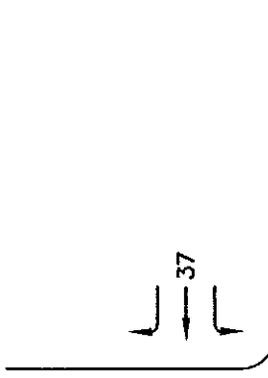
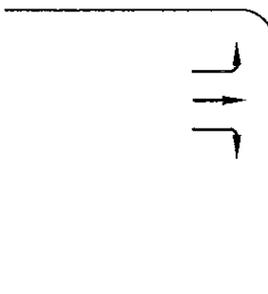
BANGOR MALL "LOOP" ROAD



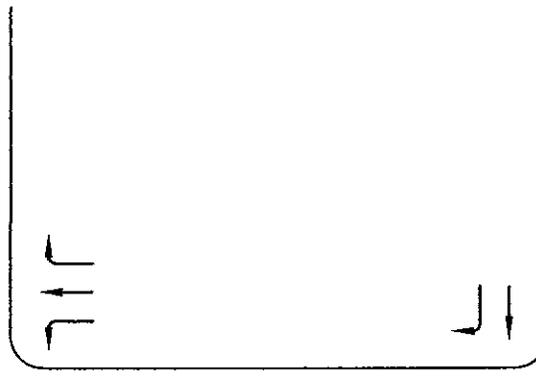
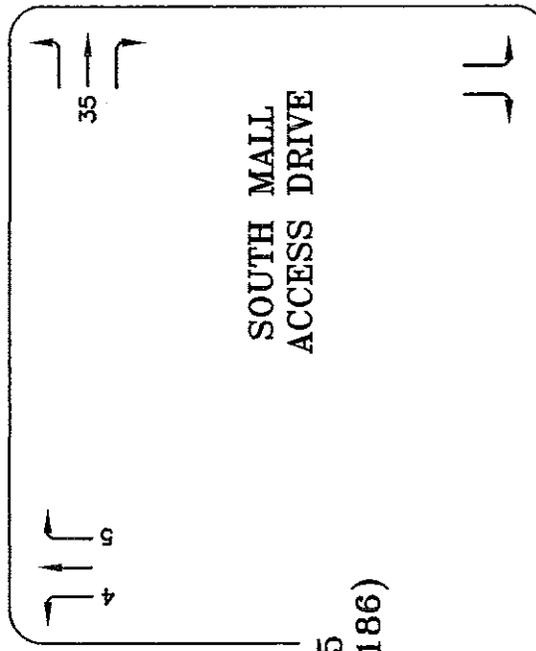
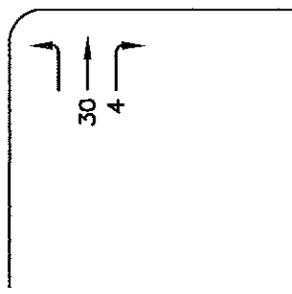
SITE TRIP ASSIGNMENT  
SATURDAY PEAK HOUR  
FIGURE 2

KOHL'S PLAZA

VERIZON PLAZA

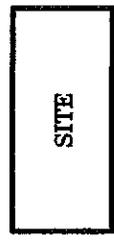


STILLWATER AVENUE



I-95  
(EXIT 186)

SOUTH MALL  
ACCESS DRIVE

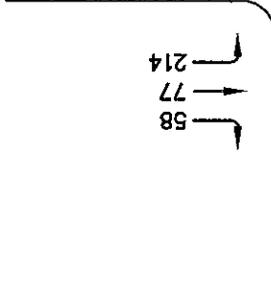


BANGOR MALL "LOOP" ROAD

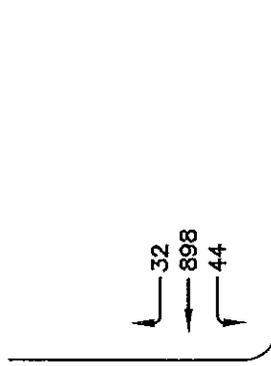


OTHER DEVELOPMENT TRAFFIC  
SATURDAY PEAK HOUR  
FIGURE 3

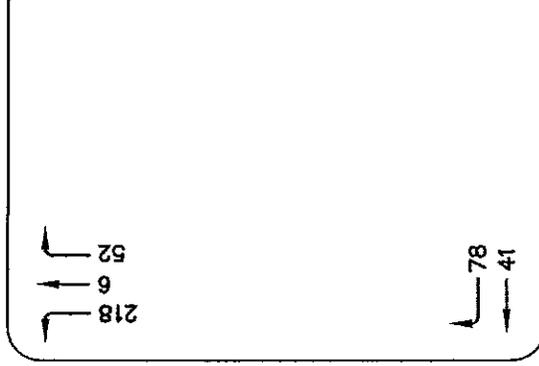
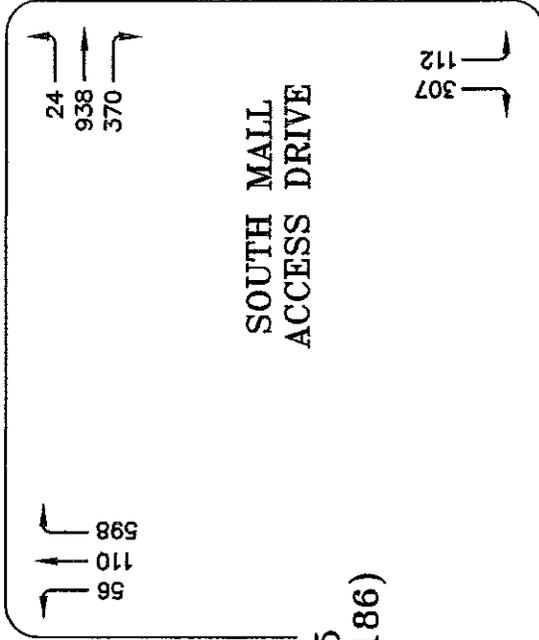
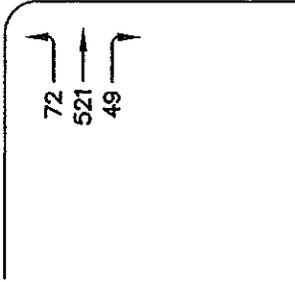
KOHL'S PLAZA



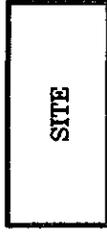
VERIZON PLAZA



STILLWATER AVENUE

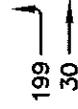


SOUTH MALL ACCESS DRIVE



I-95 (EXIT 186)

BANGOR MALL "LOOP" ROAD



2016 PRE-DEVELOPMENT TRAFFIC  
SATURDAY PEAK HOUR  
FIGURE 4

KOHL'S PLAZA

VERIZON PLAZA

58  
77  
219

212  
594  
378

35  
7  
15

32  
872  
98

STILLWATER AVENUE

72  
534  
49

55  
110  
914

24  
912  
430

277  
7  
96

I-95  
(EXIT 186)

SITE

133  
13

298  
237

188  
59

BANGOR MALL "LOOP" ROAD

193  
45

140

2016 POST-DEVELOPMENT TRAFFIC SATURDAY PEAK HOUR  
FIGURE 5

TRAFFIC SOLUTIONS

233 BANGOR STREET, PORTLAND, MAINE 04102-1720

PROPOSED CHICK-FIL-A RESTAURANT

DATE: AUGUST, 2015

FIGURE 5

Summary of All Intervals

Run Number	1	3	4	5	7	Avg
Start Time	11:55	11:55	11:55	11:55	11:55	11:55
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3154	3102	3165	3139	3172	3149
Vehs Exited	3149	3115	3138	3122	3206	3145
Starting Vehs	57	87	65	72	87	74
Ending Vehs	62	74	92	89	53	72
Travel Distance (mi)	825	814	824	819	837	824
Travel Time (hr)	69.1	70.5	74.8	73.3	72.3	72.0
Total Delay (hr)	39.6	41.1	45.1	43.8	42.0	42.3
Total Stops	3501	3563	3832	3774	3663	3668
Fuel Used (gal)	46.8	46.9	48.6	47.8	48.0	47.6

Interval #0 Information Seeding

Start Time	11:55
End Time	12:00
Total Time (min)	5
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	3	4	5	7	Avg
Vehs Entered	3154	3102	3165	3139	3172	3149
Vehs Exited	3149	3115	3138	3122	3206	3145
Starting Vehs	57	87	65	72	87	74
Ending Vehs	62	74	92	89	53	72
Travel Distance (mi)	825	814	824	819	837	824
Travel Time (hr)	69.1	70.5	74.8	73.3	72.3	72.0
Total Delay (hr)	39.6	41.1	45.1	43.8	42.0	42.3
Total Stops	3501	3563	3832	3774	3663	3668
Fuel Used (gal)	46.8	46.9	48.6	47.8	48.0	47.6

1: Stillwater & Plaza Access/South Mall Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.7	0.5
Total Del/Veh (s)	45.7	58.5	13.4	41.4	26.9	8.2	50.2	9.9	4.2	28.6	13.8	4.8

1: Stillwater & Plaza Access/South Mall Access Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	13.8

2: Stillwater & Kohls & Big Lots Access/I-95 Ramp Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	3.4	3.8	3.3	0.9	3.2	1.1	2.9	0.0	0.0	0.0
Total Del/Veh (s)	36.5	37.0	27.4	65.7	66.7	53.2	47.9	20.3	12.1	54.1	21.4	3.1

2: Stillwater & Kohls & Big Lots Access/I-95 Ramp Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	35.1

3: Mall Access & South Mall Access Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.2	0.2	0.1
Total Del/Veh (s)	0.6	1.0	6.4	5.9	10.9	4.2	3.4

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	46.4

Intersection: 1: Stillwater & Plaza Access/South Mall Access

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	LT	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	50	66	225	135	63	62	222	226	100	233	390	335
Average Queue (ft)	11	27	108	44	29	18	105	119	49	29	196	96
95th Queue (ft)	37	57	185	97	53	48	193	191	87	103	342	233
Link Distance (ft)	81	81	366	366			558	558	558		371	371
Upstream Blk Time (%)	0	1									1	0
Queuing Penalty (veh)	0	0									0	0
Storage Bay Dist (ft)					200	200				175		
Storage Blk Time (%)				0			0				9	
Queuing Penalty (veh)				0			0				4	

Intersection: 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	LT	T	R	LT	R	R	L	T	T	TR	L
Maximum Queue (ft)	164	168	105	106	350	461	437	102	201	179	153	217
Average Queue (ft)	89	90	9	40	156	271	215	47	116	76	74	106
95th Queue (ft)	146	146	52	90	320	427	372	88	187	166	133	191
Link Distance (ft)	235	235	235			451	451		395	395		
Upstream Blk Time (%)						3	1					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)				125	250			175			100	200
Storage Blk Time (%)			0	0	0	20		0	1	2	3	0
Queuing Penalty (veh)			0	0	1	33		0	1	5	6	3

Intersection: 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	275	421	49
Average Queue (ft)	140	169	5
95th Queue (ft)	242	339	32
Link Distance (ft)		558	558
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	200		
Storage Blk Time (%)	2	5	
Queuing Penalty (veh)	10	20	

Intersection: 3: Mall Access & South Mall Access

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	8	44	104	54	96
Average Queue (ft)	1	6	50	21	43
95th Queue (ft)	6	24	82	48	72
Link Distance (ft)	366	366	175	175	166
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 83

Lanes, Volumes, Timings  
1: Stillwater & Plaza Access/South Mall Access

2016 SAT PREDEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	12	5	35	218	6	52	24	938	370	44	898	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200	200		0	175		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.868				0.850			0.850		0.995	
Flt Protected	0.950			0.950	0.955		0.950			0.950		
Satd. Flow (prot)	1770	1617	0	1681	1690	1583	1770	3539	1583	1770	3522	0
Flt Permitted	0.950			0.950	0.955		0.950			0.227		
Satd. Flow (perm)	1770	1617	0	1681	1690	1583	1770	3539	1583	423	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44				136			381		5	
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		133			459			650			425	
Travel Time (s)		3.6			10.4			12.7			8.3	
Peak Hour Factor	0.80	0.80	0.80	0.66	0.66	0.66	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	15	6	44	330	9	79	25	967	381	47	955	34
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	15	50	0	168	171	79	25	967	381	47	989	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	40	40		40	40	40	40	40	40	40	40	40
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	40	40		40	40	40	40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex								
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	pm+pt	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						3			2	6		
Detector Phase	4	4		3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	11.0	11.0	10.0	11.0	
Total Split (s)	14.0	14.0		25.0	25.0	25.0	10.0	50.0	50.0	11.0	51.0	
Total Split (%)	14.0%	14.0%		25.0%	25.0%	25.0%	10.0%	50.0%	50.0%	11.0%	51.0%	

Lanes, Volumes, Timings  
 1: Stillwater & Plaza Access/South Mall Access

2016 SAT PREDEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		20.0	20.0	20.0	5.0	44.5	44.5	6.0	45.5	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.5	5.5	5.0	5.5	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	6.7	6.7		15.1	15.1	15.1	5.0	58.2	58.2	61.1	54.8	
Actuated g/C Ratio	0.07	0.07		0.15	0.15	0.15	0.05	0.58	0.58	0.61	0.55	
v/c Ratio	0.13	0.34		0.66	0.67	0.22	0.28	0.47	0.35	0.14	0.51	
Control Delay	45.4	22.0		52.2	52.7	2.3	52.3	17.2	4.1	11.0	16.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.4	22.0		52.2	52.7	2.3	52.3	17.2	4.1	11.0	16.9	
LOS	D	C		D	D	A	D	B	A	B	B	
Approach Delay		27.4			43.0			14.2			16.6	
Approach LOS		C			D			B			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 19.5  
 Intersection Capacity Utilization 55.9%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 1: Stillwater & Plaza Access/South Mall Access

↑ ø2 (R) 50 s	↙ ø1 11 s	↗ ø4 11 s	↘ ø3 25 s
↓ ø6 (R) 91 s	↖ ø5 10 s		

Lanes, Volumes, Timings  
2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

2016 SAT PREDEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↖↗	↗		↖	↖↗	↙	↖↗↘		↖↗	↖	↗
Volume (vph)	214	77	58	56	110	598	72	521	49	367	578	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		125	250		0	175		100	200		0
Storage Lanes	1		1	1		2	1		1	2		1
Taper Length (ft)	25			100			100			100		
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	1.00	1.00
Fit			0.850			0.850		0.987				0.850
Fit Protected	0.950	0.972			0.983		0.950			0.950		
Satd. Flow (prot)	1610	3295	1583	0	1831	2787	1770	5019	0	3433	1863	1583
Fit Permitted	0.950	0.972			0.983		0.950			0.950		
Satd. Flow (perm)	1610	3295	1583	0	1831	2787	1770	5019	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142			277		17				222
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		275			520			454			650	
Travel Time (s)		5.4			10.1			8.8			12.7	
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	249	90	67	61	120	650	84	606	57	399	628	224
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	124	215	67	0	181	650	84	663	0	399	628	224
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	40	40	40	20	40	40	40	40		40	40	60
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	20
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	20
Detector 1 Size(ft)	40	40	40	20	40	40	40	40		40	40	40
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	Perm
Protected Phases	4	4	4.5	3	3	3.1	5	2		1	6	
Permitted Phases												6
Detector Phase	4	4	4.5	3	3	3.1	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		7.0	7.0		5.0	7.0		5.0	6.0	6.0
Minimum Split (s)	10.0	10.0		12.0	12.0		10.0	13.0		10.0	13.0	13.0
Total Split (s)	25.0	25.0		16.0	16.0		17.0	42.0		17.0	42.0	42.0
Total Split (%)	25.0%	25.0%		16.0%	16.0%		17.0%	42.0%		17.0%	42.0%	42.0%

Lanes, Volumes, Timings  
 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

2016 SAT PREDEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	20.0	20.0		11.0	11.0		12.0	36.5		12.0	36.5	36.5
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.5		1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.5		5.0	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	13.3	13.3	28.2		11.0	28.0	9.9	43.2		12.0	47.6	47.6
Actuated g/C Ratio	0.13	0.13	0.28		0.11	0.28	0.10	0.43		0.12	0.48	0.48
v/c Ratio	0.58	0.49	0.12		0.90	0.66	0.48	0.30		0.97	0.71	0.26
Control Delay	51.0	43.3	0.5		87.5	21.5	51.2	19.1		70.5	18.7	1.8
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	51.0	43.3	0.5		87.5	21.5	51.2	19.1		70.5	18.7	1.8
LOS	D	D	A		F	C	D	B		E	B	A
Approach Delay		38.6			35.9			22.8			32.2	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 31.8  
 Intersection Capacity Utilization 63.1%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service B

Splits and Phases: 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

φ2 (R)	φ1	φ3	φ4
12 s	17 s	16 s	25 s
φ5	φ6 (R)		
17 s	12 s		

Lanes, Volumes, Timings  
 3: Mall Access & South Mall Access



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↓	↘
Volume (vph)	112	307	199	30	41	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.911	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1697	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1697	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	459			207	211	
Travel Time (s)	10.4			4.7	4.8	
Peak Hour Factor	0.88	0.88	0.89	0.89	0.74	0.74
Adj. Flow (vph)	127	349	224	34	55	105
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	349	224	34	160	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Stop	Stop	

**Intersection Summary**

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 32.6% ICU Level of Service A  
 Analysis Period (min) 15

Summary of All Intervals

Run Number	1	2	4	6	7	Avg
Start Time	11:55	11:55	11:55	11:55	11:55	11:55
End Time	1:00	1:00	1:00	1:00	1:00	1:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	3357	3383	3279	3311	3345	3339
Vehs Exited	3343	3392	3280	3275	3346	3327
Starting Vehs	78	87	83	67	86	81
Ending Vehs	92	78	82	103	85	86
Travel Distance (mi)	867	880	852	847	870	863
Travel Time (hr)	76.3	77.4	76.1	71.2	77.8	75.7
Total Delay (hr)	44.6	45.1	44.8	40.0	45.8	44.0
Total Stops	4129	4163	3975	3916	4141	4065
Fuel Used (gal)	50.9	51.7	50.3	48.6	51.3	50.6

Interval #0 Information Seeding

Start Time	11:55
End Time	12:00
Total Time (min)	5
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	12:00
End Time	1:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	4	6	7	Avg
Vehs Entered	3357	3383	3279	3311	3345	3339
Vehs Exited	3343	3392	3280	3275	3346	3327
Starting Vehs	78	87	83	67	86	81
Ending Vehs	92	78	82	103	85	86
Travel Distance (mi)	867	880	852	847	870	863
Travel Time (hr)	76.3	77.4	76.1	71.2	77.8	75.7
Total Delay (hr)	44.6	45.1	44.8	40.0	45.8	44.0
Total Stops	4129	4163	3975	3916	4141	4065
Fuel Used (gal)	50.9	51.7	50.3	48.6	51.3	50.6

1: Stillwater & Plaza Access/South Mall Access Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.7	0.4
Total Del/Veh (s)	37.6	40.2	10.1	37.6	32.9	8.6	52.4	13.6	5.5	28.0	15.4	4.5

1: Stillwater & Plaza Access/South Mall Access Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	16.0

2: Stillwater & Kohls & Big Lots Access/I-95 Ramp Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	3.5	3.0	3.0	0.6	3.1	1.2	3.0	0.0	0.0	0.0
Total Del/Veh (s)	37.9	38.3	25.8	61.9	60.0	44.4	46.2	18.9	12.5	53.7	20.9	3.2

2: Stillwater & Kohls & Big Lots Access/I-95 Ramp Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	32.9

3: Mall Access & South Mall Access Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.6	0.4	0.2
Total Del/Veh (s)	0.8	1.1	9.0	7.1	15.3	7.4	4.8

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	45.5

Intersection: 1: Stillwater & Plaza Access/South Mall Access

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	LT	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	52	67	254	167	90	70	236	248	143	274	381	323
Average Queue (ft)	12	27	130	58	38	23	131	142	64	62	197	102
95th Queue (ft)	39	58	212	118	69	55	211	219	113	160	331	233
Link Distance (ft)	81	81	366	366			558	558	558		371	371
Upstream Blk Time (%)		0									1	0
Queuing Penalty (veh)		0									0	0
Storage Bay Dist (ft)					200	200				175		
Storage Blk Time (%)				0			1				10	
Queuing Penalty (veh)				0			0				10	

Intersection: 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	LT	T	R	LT	R	R	L	T	T	TR	L
Maximum Queue (ft)	171	205	125	88	323	433	358	110	193	175	169	212
Average Queue (ft)	93	109	18	32	137	241	189	49	108	65	79	111
95th Queue (ft)	152	179	84	74	260	370	312	92	175	146	142	192
Link Distance (ft)	235	235	235			451	451		395	395		
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)				125	250			175			100	200
Storage Blk Time (%)			0	0	0	10			1	1	4	0
Queuing Penalty (veh)			0	0	1	17			0	3	7	2

Intersection: 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	299	446	64
Average Queue (ft)	142	162	5
95th Queue (ft)	239	328	32
Link Distance (ft)		558	558
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)	200		
Storage Blk Time (%)	2	5	
Queuing Penalty (veh)	11	18	

Intersection: 3: Mall Access & South Mall Access

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	22	34	150	61	141
Average Queue (ft)	1	6	59	30	66
95th Queue (ft)	9	24	108	55	121
Link Distance (ft)	366	366	175	175	166
Upstream Blk Time (%)			0		1
Queuing Penalty (veh)			0		0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

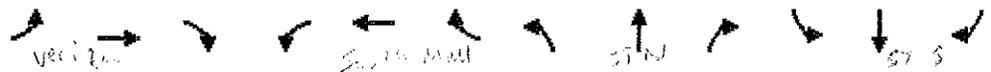
Network wide Queuing Penalty: 69

Lanes, Volumes, Timings

SATURDAY POST DEVELOPMENT

1: Stillwater & Plaza Access/South Mall Access

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔	↔	↔	↕	↕	↔	↕	↕
Volume (vph)	12	7	35	277	7	96	24	912	430	98	872	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		200	200		0	175		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	25			25			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Fit		0.875				0.850			0.850		0.995	
Fit Protected	0.950			0.950	0.955		0.950			0.950		
Satd. Flow (prot)	1770	1630	0	1681	1690	1583	1770	3539	1583	1770	3522	0
Fit Permitted	0.950			0.950	0.955		0.950			0.227		
Satd. Flow (perm)	1770	1630	0	1681	1690	1583	1770	3539	1583	423	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44				145			443		5	
Link Speed (mph)		25			30			35			35	
Link Distance (ft)		133			459			650			425	
Travel Time (s)		3.6			10.4			12.7			8.3	
Peak Hour Factor	0.80	0.80	0.80	0.86	0.66	0.66	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	15	9	44	420	11	145	25	940	443	104	928	34
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	15	53	0	214	217	145	25	940	443	104	962	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)	12			12			24			24		
Link Offset(ft)	0			0			0			0		
Crosswalk Width(ft)		16		16			16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	40	40		40	40	40	40	40	40	40	40	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	40	40		40	40	40	40	40	40	40	40	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex								
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA	Perm	Prot	NA	Perm	pm+pt	NA	
Protected Phases	4	4		3	3		5	2		1	6	
Permitted Phases						3			2	6		
Detector Phase	4	4		3	3	3	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	10.0	10.0		10.0	10.0	10.0	10.0	11.0	11.0	10.0	11.0	
Total Split (s)	14.0	14.0		25.0	25.0	25.0	10.0	50.0	50.0	11.0	51.0	
Total Split (%)	14.0%	14.0%		25.0%	25.0%	25.0%	10.0%	50.0%	50.0%	11.0%	51.0%	

Lanes, Volumes, Timings  
 1: Stillwater & Plaza Access/South Mall Access

SATURDAY POST DEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	9.0	9.0		20.0	20.0	20.0	5.0	44.5	44.5	6.0	45.5	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.5	5.5	5.0	5.5	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	6.8	6.8		17.2	17.2	17.2	5.0	53.8	53.8	59.0	52.6	
Actuated g/C Ratio	0.07	0.07		0.17	0.17	0.17	0.05	0.54	0.54	0.59	0.53	
v/c Ratio	0.13	0.35		0.74	0.75	0.37	0.28	0.49	0.42	0.32	0.52	
Control Delay	45.3	23.5		54.5	54.9	8.7	52.5	20.0	4.9	15.5	18.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.3	23.5		54.5	54.9	8.7	52.5	20.0	4.9	15.5	18.1	
LOS	D	C		D	D	A	D	B	A	B	B	
Approach Delay		28.3			43.1			15.8			17.9	
Approach LOS		C			D			B			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 21.8  
 Intersection Capacity Utilization 58.1%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service B

Splits and Phases: 1: Stillwater & Plaza Access/South Mall Access

50 s	11 s	14 s	25 s
10 s	10 s		

Lanes, Volumes, Timings  
2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

SATURDAY POST DEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↖	↖		↖	↖↖	↖	↖↖↖		↖↖	↖	↖
Volume (vph)	219	77	58	56	110	614	72	534	49	378	594	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		125	250		0	175		100	200		0
Storage Lanes	1		1	1		2	1		1	2		1
Taper Length (ft)	25			100			100			100		
Lane Util. Factor	0.91	0.91	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	1.00	1.00
Friction			0.850			0.850		0.987				0.850
Fit Protected	0.950	0.971			0.983		0.950			0.950		
Satd. Flow (prot)	1610	3292	1583	0	1831	2787	1770	5019	0	3433	1863	1583
Fit Permitted	0.950	0.971			0.983		0.950			0.950		
Satd. Flow (perm)	1610	3292	1583	0	1831	2787	1770	5019	0	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142			264		17				222
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		275			520			454			650	
Travel Time (s)		5.4			10.1			8.8			12.7	
Peak Hour Factor	0.86	0.86	0.86	0.92	0.92	0.92	0.86	0.86	0.86	0.92	0.92	0.92
Adj. Flow (vph)	255	90	67	61	120	667	84	621	57	411	646	230
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	127	218	67	0	181	667	84	678	0	411	646	230
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	40	40	40	20	40	40	40	40		40	40	60
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	20
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	20
Detector 1 Size(ft)	40	40	40	20	40	40	40	40		40	40	40
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Split	NA	pt+ov	Split	NA	pt+ov	Prot	NA		Prot	NA	Perm
Protected Phases	4	4	4 5	3	3	3 1	5	2		1	6	
Permitted Phases												6
Detector Phase	4	4	4 5	3	3	3 1	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		7.0	7.0		5.0	7.0		5.0	6.0	6.0
Minimum Split (s)	10.0	10.0		12.0	12.0		10.0	13.0		10.0	13.0	13.0
Total Split (s)	25.0	25.0		16.0	16.0		17.0	42.0		17.0	42.0	42.0
Total Split (%)	25.0%	25.0%		16.0%	16.0%		17.0%	42.0%		17.0%	42.0%	42.0%

Lanes, Volumes, Timings  
 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

SATURDAY POST DEVELOPMENT

9/2/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	20.0	20.0		11.0	11.0		12.0	36.5		12.0	36.5	36.5
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.5		1.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.5		5.0	5.5	5.5
Lead/Lag	Lag	Lag		Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	C-Max
Act Effect Green (s)	13.4	13.4	28.3		11.0	28.0	9.8	43.1		12.0	47.5	47.5
Actuated g/C Ratio	0.13	0.13	0.28		0.11	0.28	0.10	0.43		0.12	0.48	0.48
v/c Ratio	0.59	0.49	0.12		0.90	0.69	0.48	0.31		1.00	0.73	0.27
Control Delay	51.0	43.2	0.4		87.5	23.1	51.4	19.3		76.0	18.7	1.6
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	51.0	43.2	0.4		87.5	23.1	51.4	19.3		76.0	18.7	1.6
LOS	D	D	A		F	C	D	B		E	B	A
Approach Delay		38.6			36.8			22.9			33.9	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 32.7  
 Intersection Capacity Utilization 63.9%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service B

Splits and Phases: 2: Stillwater & Kohls & Big Lots Access/I-95 Ramp

φ2 (R)	φ1	φ3	φ4
12 s	17 s	16 s	25 s
φ5	φ6 (R)		
17 s	42 s		

Lanes, Volumes, Timings  
 3: Mall Access & South Mall Access

SATURDAY POST DEVELOPMENT

9/2/2015



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↘	↙	↑	↘	
Volume (vph)	237	298	193	45	59	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.897	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1671	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	1863	1671	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	459			207	211	
Travel Time (s)	10.4			4.7	4.8	
Peak Hour Factor	0.88	0.88	0.89	0.89	0.74	0.74
Adj. Flow (vph)	269	339	217	51	80	254
Shared Lane Traffic (%)						
Lane Group Flow (vph)	269	339	217	51	334	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Free			Stop	Stop	

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 48.5% ICU Level of Service A  
 Analysis Period (min) 15

# OTHER DEVELOPMENT TRAFFIC

RECEIVED

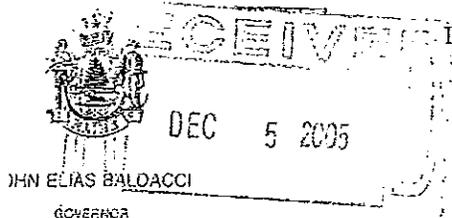
DEC 5 2003

THE AMES CORPORATION  
BANGOR MAINE

DAVID A. COLE  
COMMISSIONER

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
16 STATE HOUSE STATION  
AUGUSTA, MAINE  
04333-0016

STILLWATER RETAIL



Developer: Thomas G. Ellis, 120 Laurel Circle, Bangor, ME04401 and Stillridge LLC, 82 Sylvan Road, Bangor, ME 04401  
Location: 982 Stillwater Avenue, Bangor, ME  
Project: Commercial Retail  
Identification Number: Div. 03-00026-A-N

Pursuant to the provision of 23 M.R.S.A. § 704-A and Chapter 305 of the Department's Regulations, the Department of Transportation has considered the application of Thomas G. Ellis and Stillridge LLC with supportive data, agency review and other related materials on file.

Project Description

ONLY 20,000 OCCUPIED

The applicant proposes to construct a 40,154 square foot single story building for commercial retail as shown on a plan entitled "Site Plan Stillwater Retail, Bangor, Maine, Sheet C200, sealed 7/20/02, prepared by The Ames Corporation, Architects, Engineers & Surveyors, 115 Main Street, PO Box 2610, Bangor, ME 04402. The project is located on the west side of Stillwater Avenue, Bangor, ME.

The Ames Corporation prepared the traffic movement permit application, dated September 2002.

The anticipated project trip generation is as follows:

ITE (LUC)	Total daily	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
820				
40,154 square feet	726	42	151	199
Total building footprint		21	75	99

Findings

Based on the findings of fact, the Department approves the Traffic Movement Permit application of Thomas G. Ellis and Stillridge LLC, subject to the following conditions:

On-site Impacts:

The applicant will access the project via a single entrance off the westerly side of Stillwater Avenue as shown on the above referenced site plan. This entrance will be stop control and consist of a 12-foot lane in, and a 12-foot exit lane onto Stillwater Avenue.

Signage (ground and overhead) and striping shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and the Maine Department of Transportation Highway Design Guide.

Because the proposed project effects the state highway and drainage systems and requires improvement to that system, the applicant must obtain approval of the design plans and coordinate work through MeDOT's State Traffic Engineer, who can be reached at (207)-624-3620 in Augusta.

By:   
Bruce A. Ibarguen, P.E.  
State Traffic Engineer

Date: 6/5/03



RECEIVED

"BANGOR TRIANGLE"

Mr. David Gould.  
 May 9, 2014  
 Page 2 of 4

To estimate traffic resulting from the proposed Dunkin Donuts store during the weekday morning peak hour, intersection turning movement counts were conducted at the intersection of Stillwater Avenue/Drew Lane/site driveway on Tuesday morning April 29, 2014 from 7:00 AM to 9:15 AM. These traffic counts were then seasonally adjusted to represent the 30<sup>th</sup> highest design hour using factors within MaineDOT's 2012 Weekly Group Means Factors. These adjusted traffic volumes provided us with the estimated weekday morning peak hour traffic volume along Stillwater Avenue adjacent to the site (767 vehicles/hour). The morning peak hour traffic volume was then utilized with the accepted MaineDOT trip generation equations to provide an estimate of traffic associated with the proposed Dunkin Donuts store during the busy morning hours. A copy of the collected traffic data has been included with this review letter.

To estimate weekday evening peak hour traffic generated by the Dunkin Donuts sales, the weekday evening peak hour was assumed to occur from 4:00 PM to 5:00 PM. According to the typical hourly variation of sales accepted by MaineDOT for Dunkin Donuts stores, this evening hour experiences approximately 25 percent of the sales that occur during the weekday morning peak hour. According to MaineDOT, the Saturday midday peak hour of 12:00 - 1:00 PM experiences 42 percent of the weekday morning peak hour sales. A summary of the design peak hour traffic associated with the existing and proposed building uses is as follows:

**Proposed Peak Hour Traffic**

Land Use	AM Peak Hour	PM Peak Hour	Saturday Peak Hour
Hobby Lobby 54,840 S.F.	56	206	273
Buffalo Wild Wings 7,200 S.F.	0	135	144
General Retail 6,360 S.F.	7	24	32
Smoothie Shop 2,000 S.F.	110	93	118
Dunkin Donuts 2,100 S.F.	226	57	95
<b>Total Peak Hour</b>	<b>399</b>	<b>515</b>	<b>662</b>

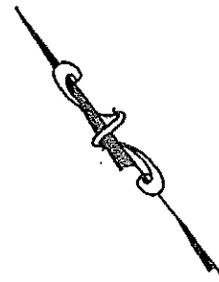
NOT CONSTRUCTED YES

343

174

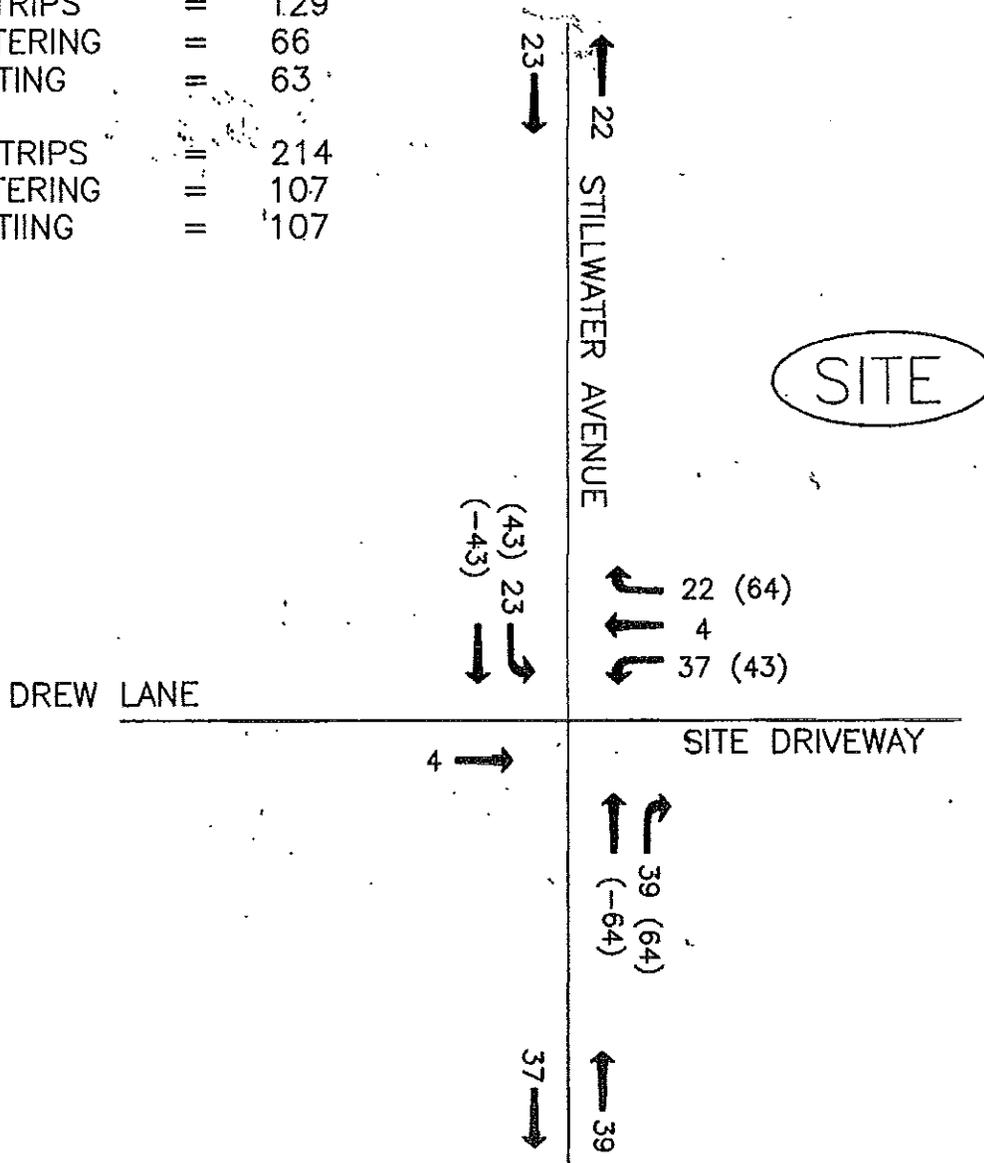
245

BANGOR TRIANGLE



WEEKDAY AM PEAK HOUR

TOTAL TRIPS	=	343
TRIPS ENTERING	=	173
TRIPS EXITING	=	170
PRIMARY TRIPS	=	129
TRIPS ENTERING	=	66
TRIPS EXITING	=	63
PASS BY TRIPS	=	214
TRIPS ENTERING	=	107
TRIPS EXITING	=	107



LEGEND

XX = PRIMARY TRIP  
 (XX) = PASS BY TRIP

84032E

**STILLWATER CROSSINGS  
 SITE MODIFICATIONS**

**SEWALL**

AN INTEGRATED TEAM OF  
 GEOSPATIAL, ENGINEERING,  
 SURVEYING AND NATURAL  
 RESOURCE CONSULTANTS

Project Location	Date	Drawn by	Checked by
BANGOR	5/9/2014	JMT	

Drawing Description: **FIGURE 2 - TRIP GENERATION - AM PEAK**  
 Scale: NTS

JAMES W. SEWALL COMPANY / Since 1880  
 SEWALL.COM 800 618 4202