Dynamic Traffic, LLC
www.dynamic-traffic.com
1904 Main Street
Lake Como, NJ 07719
T. 732.681.0760

December 5, 2016

Red Bank Planning Board
Municipal Building
90 Monmouth Street
Red Bank, NJ 07701

Re: Traffic Impact Assessment
Block 30 – Lot 10.01
55 West Front Street
Red Bank Borough, Monmouth County
DT # 1293-14-001TE

Dear Board Members:

Dynamic Traffic has prepared the following assessment to determine the traffic impact and adequacy of access, circulation, and parking associated with the proposed development of 35 residential units (The Project) located on the south side of West Front Street (CR 10) between Maple Avenue (NJ Route 35) to the west and Broad Street (CR 11I) to the east in Red Bank Borough, Monmouth County, New Jersey (see Figure 1). The site is designated as Block 30 – Lot 10.01 on the Red Bank Borough Tax Maps. Access to the site will be provided via a right turn in/right turn out driveway along West Front Street and a full movement driveway along White Street.

Existing Conditions

West Front Street (CR 10) is an urban minor arterial roadway under Monmouth County jurisdiction with a general east/west alignment and a 30 MPH posted speed limit. Along the site frontage, West Front Street provides one travel lane in each direction with parking along both sides of the roadway. In the vicinity of the site, the roadway alignment is straight and relatively flat with curbing and sidewalk along both sides of the roadway. The land uses along West Front Street within the study area are mixed commercial and residential.

White Street is a local roadway under Red Bank Borough jurisdiction with a general east/west alignment and a 25 MPH posted speed limit. Along the site frontage, White Street provides one travel lane in each direction with parking along both sides of the roadway. In the vicinity of the site, the roadway alignment is straight and relatively flat with curbing and sidewalk along both sides of the roadway. The land uses along White Street are primarily commercial along the northern side of the roadway with the municipal parking lot located along the southern side of the roadway.

Existing Traffic Volumes

Traffic volume data was collected for the site on Tuesday, September 16, 2014 from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM along West Front Street and White Street. Based on a review of

the count data, it was determined that the adjacent street morning peak street hour (PSH) occurs between 8:00 AM and 9:00 AM and the evening PSH occurs between 4:00 PM and 5:00 PM. Note that because the counts were conducted in 2014, a growth rate of 1.00% has been applied to the observed traffic volumes for a period of two years in order to accurately represent existing 2016 volumes at the study intersections. The count data is appended.

Future Traffic Volumes

In order to assess future traffic conditions upon opening of the site, a design year of 2018 was utilized. A background growth of 1.00%, identified from the New Jersey Department of Transportation Annual Background Growth Rate Table, was applied to existing volumes to generate the 2018 No Build Volumes, shown on Figure 3.

Site Generated Traffic

Trip generation estimates for The Project were made utilizing trip generation research data as published under Land Use Code 220 – Apartment in the Institute of Transportation Engineers' (ITE) publication, *Trip Generation, Ninth Edition.* This publication sets forth trip generation rates based on traffic counts conducted at research sites throughout the country. The following table shows the anticipated trip generation for The Project. It should be noted that conservatively no credit has been taken for mass transit usage in this analysis.

Table I
Trip Generation

Use	AM PSH			PM PSH		
	In	Out	Total	In	Out	Total
35 Apartments	4	14	18	14	8	22

Trip Distribution

Once the magnitude of the site generated traffic is known, it is necessary to assign the traffic to the adjacent street system. The distribution of the site traffic is based upon the location of major arterial roadways, signalized intersections, and interchanges. Table II indicates the percentile distribution of site generated traffic on the adjacent roadway network.

Table II
Distribution of Site Generated Traffic

Direction	Distribution
West Front Street – East	15%
West Front Street – West	35%
White Street – East	15%
White Street – West	35%
Total	**100%**

Figure 4 illustrates the site generated volumes. The site traffic was then added to the 2018 No Build Volumes to generate the 2018 Build Volumes, shown on Figure 5.

Capacity Analysis

Capacity analyses were conducted for the intersections of the site driveways with West Front Street and White Street. The analyses were performed for the weekday morning and evening peak hours. The analyses have been conducted utilizing methodologies set forth in the 2010 Highway Capacity Manual. The following table summarizes the results of the capacity analyses and the capacity analysis worksheets are appended to this letter. It should be noted that the existing percentage of trucks and peak hour factors were used in the analysis.

Table III
2018 Levels of Service

Intersection	**Direction/ Movement**		**Build Analysis**	
			AM PSH	**PM PSH**
West Front & Site Driveway	NB	R	b (13)	b (13)
White Street & Site Driveway	EB	LT	a (7)	a (8)
	SB	LR	a (9)	b (11)

a (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

West Front Street and Site Driveway

The site driveway intersects West Front Street to form a stop controlled T-intersection with the northbound approach of the site driveway under stop control. The eastbound approach of West Front Street provide shared through/right turn lane while the westbound approach provides only a through lane. The northbound approach of the site driveway will provide one lane for right turn movements. Note that left turns into and out of the driveway will be prohibited.

As proposed, the intersection will operate with levels of service "B" during both of the peak hours studied. See Table III for the individual movement levels of service and delays.

White Street and Site Driveway

The site driveway intersects White Street to form a stop controlled T-intersection with the southbound approach of the site driveway under stop control. The eastbound and westbound approaches of White Street provide shared left turn/through and through/right turn lanes, respectively. The southbound approach of the site driveway will provide one lane for left and right turn movements.

As proposed, the intersection will operate with levels of service "A" during the morning peak hour studied and "B" or better during the evening peak hour studied. See Table III for the individual movement levels of service and delays.

Site Access and Circulation

As previously noted, access to the site will be provided via a right in/right out driveway along West Front Street and a full movement driveway along White Street. The site will primarily be served by 24 foot aisles for two-way traffic, which meets the Red Bank Borough Ordinance. In one location, 3 dead end parking stalls will be served by a 22.5 foot wide aisle, which is supported by the Redevelopment Plan, Block 30, Lot 10.01 prepared by CME Associates.

Parking

It is proposed to provide 54 parking spaces (including 3 handicap spaces) in support of The Project. The Residential Site Improvement Standards (RSIS) set forth a requirement of 1.8 parking spaces per one-bedroom unit and 2.0 parking spaces per two-bedroom unit for apartment units. This equates to a parking requirement of 67 parking spaces for the proposed 16 one-bedroom and 19 two-bedroom units, and as such a de minimis exception is required. Section N.J.A.C. 5:21-4.14(c) of the RSIS states: "Alternative parking standards to those shown in Table 4.4 shall be accepted if the applicant demonstrates these standards better reflect local conditions. Factors affecting minimum number of parking spaces include household characteristics, availability of mass transit, urban versus suburban location, and available off-site parking resources."

Mass Transit Availability

The Red Bank train station is located less ½ a mile from The Project, and as such NJ Transit recommends a reduction in residential parking demand of up to 20%. A 20% reduction of the 67 space parking requirement equates to 54 spaces.

Redevelopment Plan

As per the Redevelopment Plan Block 30, Lot 10.01, off-street parking shall be provided at a minimum rate of 1.5 off-street parking spaces per dwelling unit, which equates to 53 spaces, which is exceeded by the 54 spaces proposed.

Local Parking Data

Parking counts were also conducted at three comparable residential developments in Red Bank on Tuesday, June 2, 2015 between 12:00 and 1:00 AM. Shrewsbury Manor (66-72 Riverside Avenue) contains 59 units, Bergen Square (112 Doctor James Parker Boulevard) contains 24 units, and Cedar Crossing (1 Cedar Street) contains 36 units. Table IV below summarizes the results of the counts.

Table IV
Parking Counts of Comparable Residential Developments

Site	Date	Time	Total Units	Occupied Spaces				
				Occupied On-Site Surface Spaces	Garage Spaces (Assumed Occupied)	On-Street (Assumed Associated w/ Site)	Total Occupied	Parking Demand
Shrewsbury Manor, 66-72 Riverside Avenue	Tuesday, 6/2/2015	1:00 AM	59	21	15	16	52	0.88
Bergen Square, 112 Doctor James Parker Boulevard	Tuesday, 6/2/2015	12:15 AM	24	31	N/A	0	31	1.29
Cedar Crossing, 1 Cedar Street	Tuesday, 6/2/2015	12:30 AM	36	44	N/A	2	46	1.28

Utilizing the peak demand of the 3 sites studied above of 1.29 spaces per unit yields a peak parking demand for the subject site of 45 spaces, which is met with the 54 spaces proposed.

Parking Summary

Dynamic Traffic has performed three separate parking analyses that have determined that the proposed parking supply is sufficient to support the parking demands. The results of the parking analyses are detailed in the table below.

Table V
Parking Summary

Parking Criteria	Parking Demand/Requirement
NJ Transit Recommendations	54
Redevelopment Plan	53
Local Parking Data	45
Proposed Parking Supply	**54**

Based on the above table it can be seen that the proposed parking supply of 54 spaces is more than adequate to support the projected demand.

Public Parking

Parking counts were conducted on Saturday, October 25, 2014 and Friday, November 21, 2014 between the hours of 12:00 and 10:00 PM along West Front Street and White Street, as well as within the White Street parking lot and the English Plaza parking lot. The tables located in Appendix B summarize the counts and show that the peak parking demand is generally between 7:00 and 9:00 PM. Additional counts of parking stall availability were conducted on Friday, November 11, 2016 at 8:00 PM, Saturday, November 12, 2016 at 8:45 PM, Friday, November 18, 2016 at 6:00 PM, and Saturday November 19, 2016 at 10:00 PM. Note that the proposed residential developments peak demand will begin at 10:00 PM, after the peak of the public parking.

Conclusion

Based upon our Traffic Impact Assessment as detailed in the body of this report, it is the professional opinion of Dynamic Traffic that the adjacent street system of Red Bank Borough and Monmouth County will not experience any significant degradation in operating conditions with the development of the site. The site driveways are located to provide safe and efficient access to the adjacent roadway system. The site plan as proposed provides for good circulation throughout the site and provides adequate parking to accommodate The Project's needs.

If you have any questions on the above, please do not hesitate to contact me.

Sincerely,

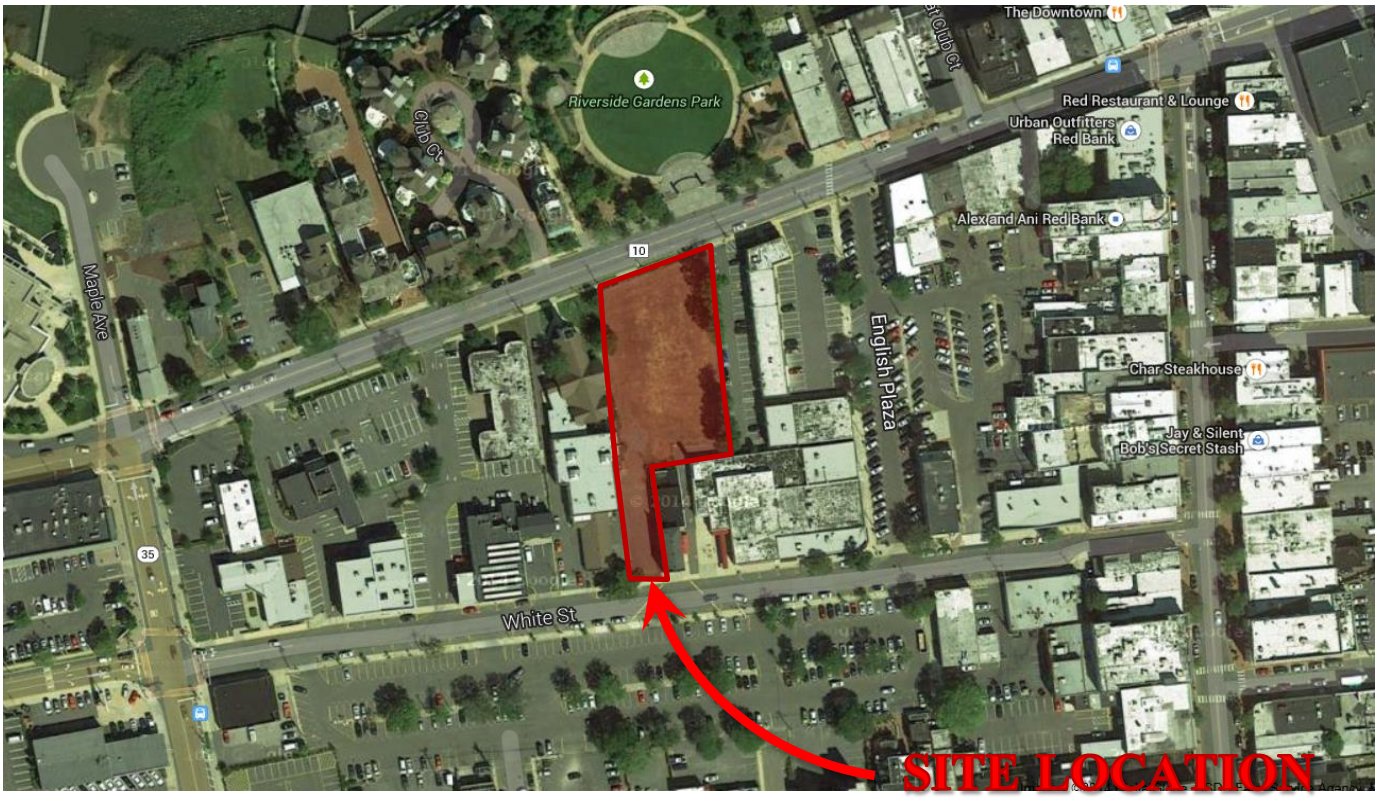
Dynamic Traffic, LLC

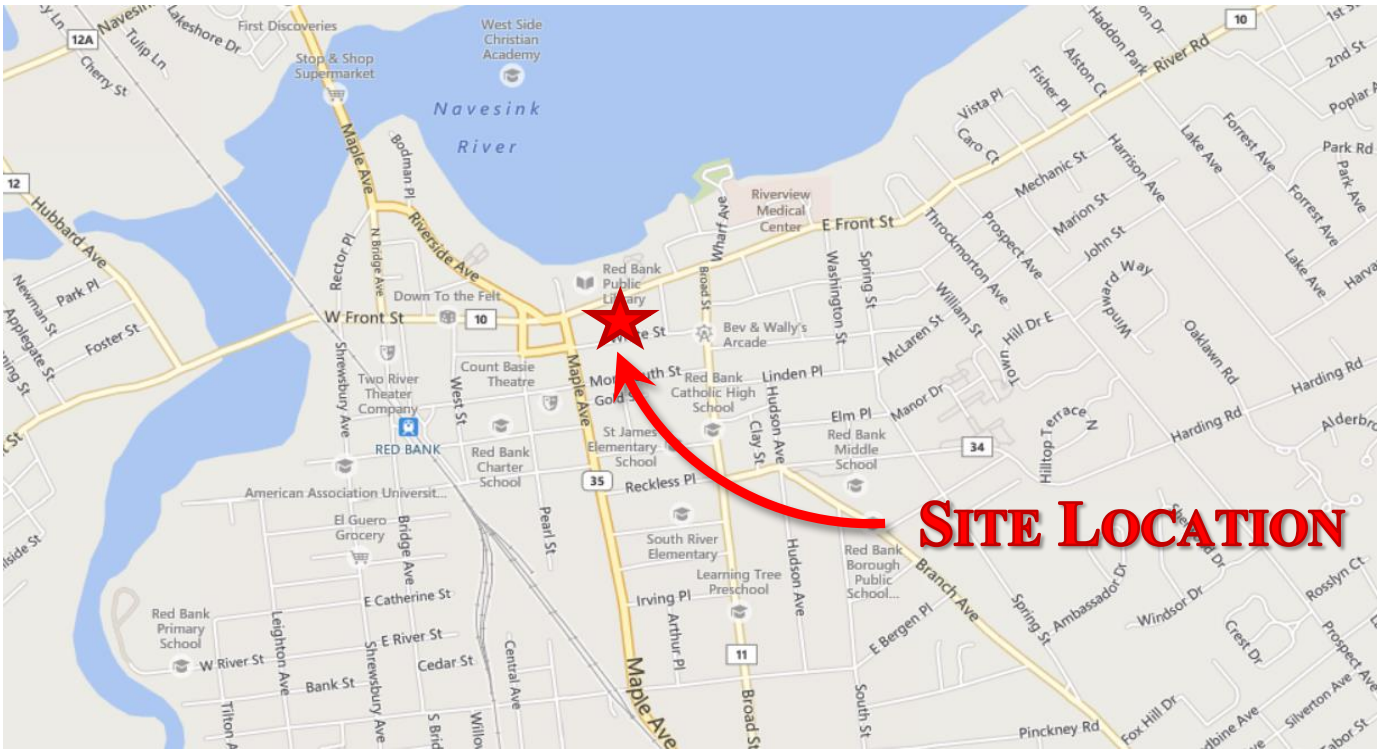
Justin Taylor, PE, PTOE, LEED AP
Principal
NJ PE License 45988

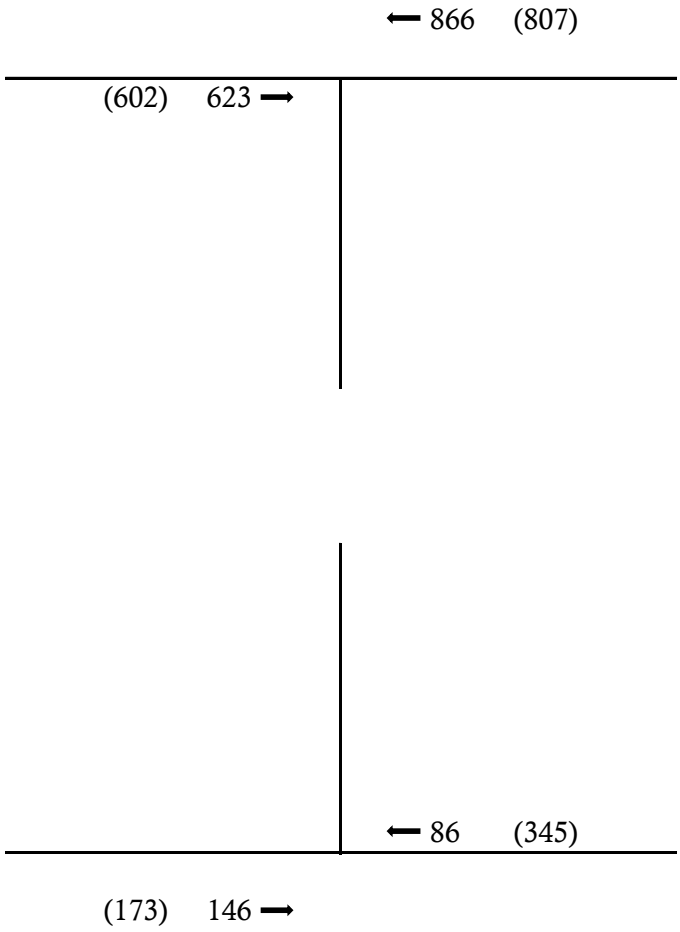
Nick Verderese, PE, PTOE
Principal
NJ PE License 38991

Enclosures

File: T:\TRAFFIC PROJECTS\1293 West Front Street Partners\14-001TE Red Bank\Reports\2016-12-05 Traffic Impact Assessment\2016-12-05-Traffic Impact Assessment.docx


Riverside Gardens Park
Club Ct
The Downtown
Red Restaurant & Lounge
Urban Outfitters Red Bank
Alexand Ani Red Bank
Maple Ave
10
English Plaza
Char Steakhouse
Jay & Silent Bob's Secret Stash
35
White St
SITE LOCATION


First Discoveries
West Side Christian Academy
Stop & Shop Supermarket
Navesink River
Maple Ave
Riverside Ave
Bodman Pl
Rector Pl
N Bridge Ave
Down To the Felt
W Front St
10
Hubbard Ave
12
12A
Cherry St
Tulip Ln
Lakeshore Dr
Park Pl
Newman St
Applegate St
Foster St
Shrewsbury Ave
Two River Theater Company
RED BANK
Count Basie Theatre
West St
Red Bank Charter School
American Association Universit...
El Guero Grocery
Bridge Ave
Pearl St
Red Bank Public Library
Wharf Ave
Broad St
Riverview Medical Center
E Front St
Bev & Wally's Arcade
Red Bank Catholic High School
Linden Pl
Hudson Ave
Clay St
St James Elementary School
Reckless Pl
35
South River Elementary
Learning Tree Preschool
Irving Pl
Arthur Pl
11
Red Bank Borough Public School...
Red Bank Middle School
Elm Pl
Manor Dr
34
Throckmorton Ave
Washington St
Spring St
Prospect Ave
Mechanic St
Marion St
John St
Harrison Ave
Lake Ave
Forest Ave
Park Rd
Vista Pl
Caro Ct
Fisher Pl
Alston Ct
Haddon Park
River Rd
10
2nd St
Poplar
Park Ave
Lake Ave
Forest Ave
William St
Hill Dr E
McLaren St
Tomahawk Way
Oaklawn Rd
Harding Rd
Hilltop Terrace N
Alderbro
Rosslyn Ct
Windsor Dr
Crest Dr
Prospect Ave
Silverton Ave
Ambassador Dr
Spring St
Branch Ave
E Bergen Pl
Pinckney Rd
Fox Hill Dr
South St
Broad St
Maple Ave
Central Ave
Cedar St
Bank St
Shrewsbury Ave
Leighton Ave
E River St
W River St
E Catherine St
Red Bank Primary School
SITE LOCATION



LEGEND

Existing Roadway

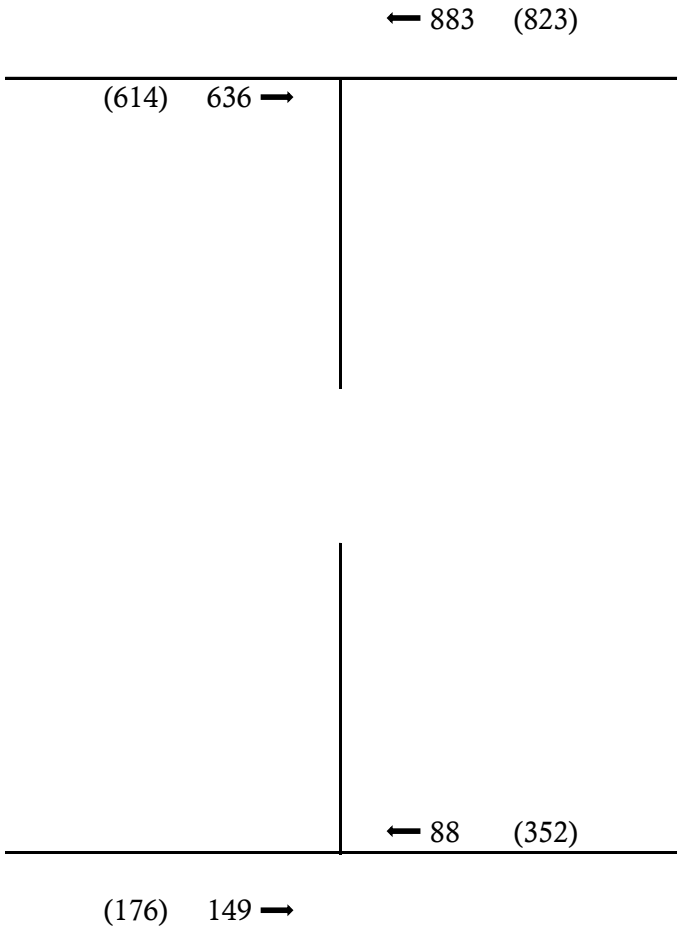
Proposed Roadway

AM (PM)

55 West Front Street
Traffic Impact Study
1293-14-001TE
12/5/2016

Figure 2

2016 Existing Traffic Volumes



LEGEND

Existing Roadway

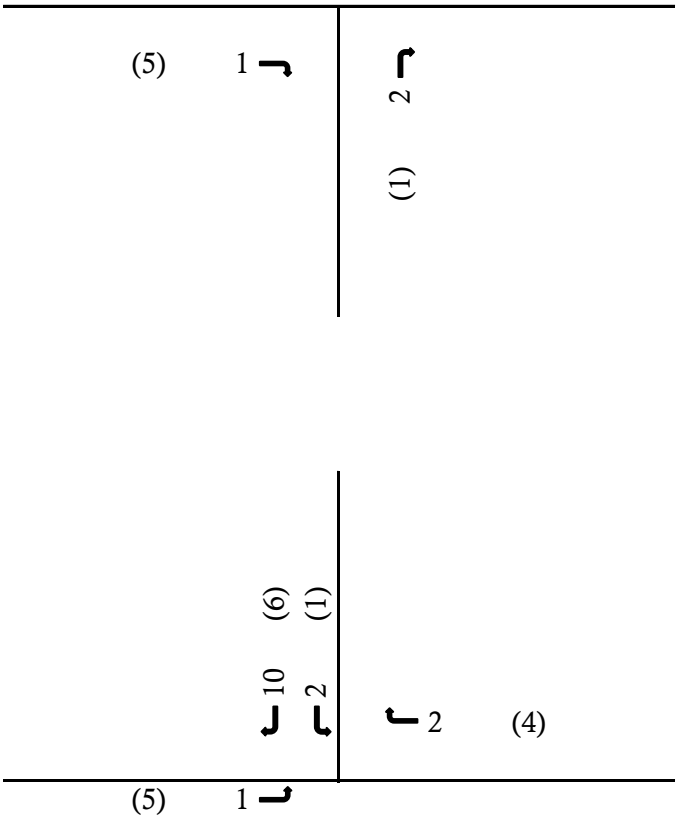
Proposed Roadway

AM (PM)

55 West Front Street
Traffic Impact Study
1293-14-001TE
12/5/2016

Figure 3

Future No Build Traffic Volumes



LEGEND

Existing Roadway

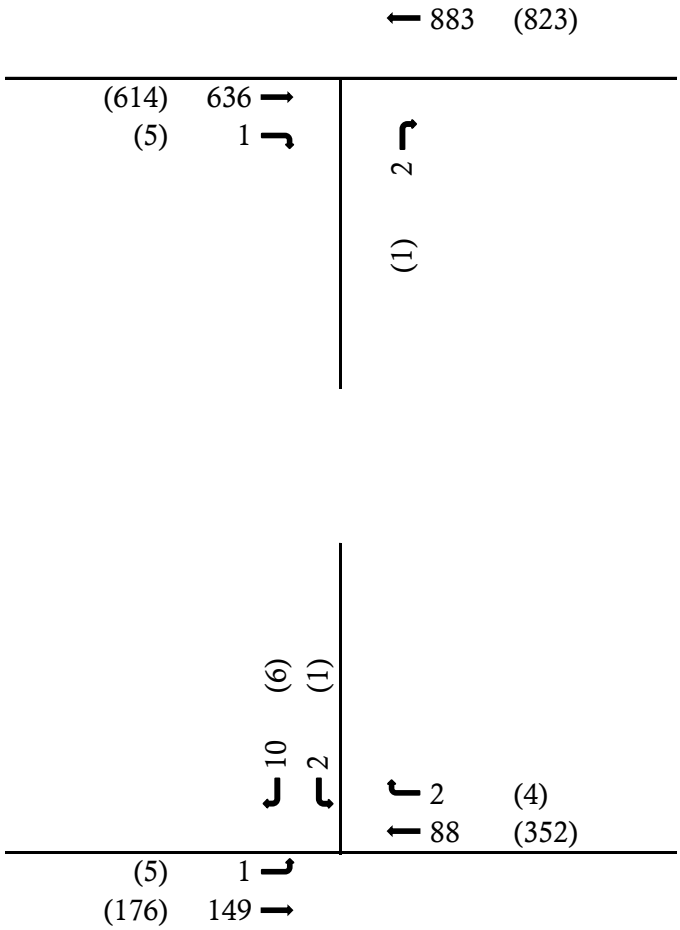
Proposed Roadway

AM (PM)

55 West Front Street
Traffic Impact Study
1293-14-001TE
12/5/2016

Figure 4

Site Generated Trips



LEGEND

Existing Roadway

Proposed Roadway

AM (PM)

55 West Front Street
Traffic Impact Study
1293-14-001TE
12/5/2016

Figure 5

Build Traffic Volumes

Dynamic Traffic, LLC

1904 Main Street
Lake Como, NJ, 07719
(732) 681-0760

E/W:W. Front St
N/S:
Town/County:Red Bank/Monmouth
Job #:1293-14-001tTE

File Name : W Front St E of Maple Ave
Site Code : 00000000
Start Date : 9/16/2014
Page No : 1

Groups Printed- Cars - Trucks

	W. Front St Eastbound					W. Front St Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	106	0	0	106	0	112	0	0	112	0	0	0	0	0	0	0	0	0	0	218
07:15 AM	0	120	0	0	120	0	153	0	0	153	0	0	0	0	0	0	0	0	0	0	273
07:30 AM	0	132	0	0	132	0	149	0	0	149	0	0	0	0	0	0	0	0	0	0	281
07:45 AM	0	139	0	0	139	0	177	0	0	177	0	0	0	0	0	0	0	0	0	0	316
Total	0	497	0	0	497	0	591	0	0	591	0	0	0	0	0	0	0	0	0	0	1088
08:00 AM	0	179	0	0	179	0	176	0	0	176	0	0	0	0	0	0	0	0	0	0	355
08:15 AM	0	147	0	0	147	0	248	0	0	248	0	0	0	0	0	0	0	0	0	0	395
08:30 AM	1	125	0	0	126	0	235	0	0	235	0	0	0	0	0	0	0	0	0	0	361
08:45 AM	0	160	0	0	160	0	190	0	0	190	0	0	0	0	0	0	0	0	0	0	350
Total	1	611	0	0	612	0	849	0	0	849	0	0	0	0	0	0	0	0	0	0	1461
*** BREAK ***																					
04:00 PM	0	146	0	0	146	0	180	0	0	180	0	0	0	0	0	0	0	0	0	0	326
04:15 PM	1	173	0	0	174	0	202	0	0	202	0	0	0	0	0	0	0	0	0	0	376
04:30 PM	0	115	0	0	115	0	201	0	0	201	0	0	0	0	0	0	0	0	0	0	316
04:45 PM	0	156	0	0	156	0	208	0	0	208	0	0	0	0	0	0	0	0	0	0	364
Total	1	590	0	0	591	0	791	0	0	791	0	0	0	0	0	0	0	0	0	0	1382
05:00 PM	0	123	0	0	123	0	177	0	0	177	0	0	0	0	0	0	0	0	0	0	300
05:15 PM	0	143	0	0	143	0	206	0	0	206	0	0	0	0	0	0	0	0	0	0	349
05:30 PM	0	130	0	0	130	0	177	0	0	177	0	0	0	0	0	0	0	0	0	0	307
05:45 PM	0	150	0	0	150	0	157	0	0	157	0	0	0	0	0	0	0	0	0	0	307
Total	0	546	0	0	546	0	717	0	0	717	0	0	0	0	0	0	0	0	0	0	1263
Grand Total	2	2244	0	0	2246	0	2948	0	0	2948	0	0	0	0	0	0	0	0	0	0	5194
Apprch %	0.1	99.9	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
Total %	0	43.2	0	0	43.2	0	56.8	0	0	56.8	0	0	0	0	0	0	0	0	0	0	
Cars	2	2210	0	0	2212	0	2913	0	0	2913	0	0	0	0	0	0	0	0	0	0	5125
% Cars	100	98.5	0	0	98.5	0	98.8	0	0	98.8	0	0	0	0	0	0	0	0	0	0	98.7
Trucks	0	34	0	0	34	0	35	0	0	35	0	0	0	0	0	0	0	0	0	0	69
% Trucks	0	1.5	0	0	1.5	0	1.2	0	0	1.2	0	0	0	0	0	0	0	0	0	0	1.3

	W. Front St Eastbound					W. Front St Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	**179**	0	0	**179**	0	176	0	0	176	0	0	0	0	0	0	0	0	0	0	355
08:15 AM	0	147	0	0	147	0	**248**			**248**	0	0	0	0	0	0	0	0	0	0	**395**
08:30 AM	**1**																				
08:45 AM	**0**	**160**	**0**	**0**	**160**	**0**	**190**	**0**	**0**	**190**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**350**
Total Volume	1	611	0	0	612	0	849	0	0	849	0	0	0	0	0	0	0	0	0	0	1461
% App. Total	0.2	99.8	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.853	.000	.000	.855	.000	.856	.000	.000	.856	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.925
Cars	1	597	0	0	598	0	839	0	0	839	0	0	0	0	0	0	0	0	0	0	1437
% Cars	100	97.7	0	0	97.7	0	98.8	0	0	98.8	0	0	0	0	0	0	0	0	0	0	98.4
Trucks	0	14	0	0	14	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	24
% Trucks	0	2.3	0	0	2.3	0	1.2	0	0	1.2	0	0	0	0	0	0	0	0	0	0	1.6

Dynamic Traffic, LLC

1904 Main Street
Lake Como, NJ, 07719
(732) 681-0760

E/W:W. Front St
N/S:
Town/County:Red Bank/Monmouth
Job #:1293-14-001tTE

File Name : W Front St E of Maple Ave
Site Code : 00000000
Start Date : 9/16/2014
Page No : 2

	W. Front St Eastbound					W. Front St Westbound					Northbound					Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	146	0	0	146	0	180	0	0	180	0	0	0	0	0	0	0	0	0	0	326
04:15 PM	**1**	**173**	0	0	**174**	0	202	0	0	202	0	0	0	0	0	0	0	0	0	0	**376**
04:30 PM	0	115	0	0	115	0	201	0	0	201	0	0	0	0	0	0	0	0	0	0	316
04:45 PM	0	156	0	0	156	0	**208**			**208**	0	0	0	0	0	0	0	0	0	0	364
Total Volume	1	590	0	0	591	0	791	0	0	791	0	0	0	0	0	0	0	0	0	0	1382
% App. Total	0.2	99.8	0	0		0	100	0	0		0	0	0	0		0	0	0	0		
PHF	.250	.853	.000	.000	.849	.000	.951	.000	.000	.951	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.919
Cars	1	586	0	0	587	0	783	0	0	783	0	0	0	0	0	0	0	0	0	0	1370
% Cars	100	99.3	0	0	99.3	0	99.0	0	0	99.0	0	0	0	0	0	0	0	0	0	0	99.1
Trucks	0	4	0	0	4	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	12
% Trucks	0	0.7	0	0	0.7	0	1.0	0	0	1.0	0	0	0	0	0	0	0	0	0	0	0.9

Dynamic Traffic, LLC

1904 Main Street
Lake Como, NJ 07719
(732) 681-0760

Site Code: 1293-14-001TE
Station ID: Red Bank/Monmouth
White Street
E of Maple Avenue
Latitude: 0' 0.0000 Undefined

Start	16-Sep-14	EB		WB		Combined		17-Sep	EB		WB		Combined	
Time	Tue	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		*	38	*	22	*	60		*	*	*	*	*	*
12:15		*	35	*	21	*	56		*	*	*	*	*	*
12:30		*	41	*	30	*	71		*	*	*	*	*	*
12:45		*	41	*	32	*	73		*	*	*	*	*	*
01:00		*	32	*	33	*	65		*	*	*	*	*	*
01:15		*	27	*	22	*	49		*	*	*	*	*	*
01:30		*	32	*	20	*	52		*	*	*	*	*	*
01:45		*	36	*	29	*	65		*	*	*	*	*	*
02:00		*	46	*	29	*	75		*	*	*	*	*	*
02:15		*	48	*	33	*	81		*	*	*	*	*	*
02:30		*	45	*	34	*	79		*	*	*	*	*	*
02:45		*	36	*	33	*	69		*	*	*	*	*	*
03:00		*	38	*	35	*	73		*	*	*	*	*	*
03:15		*	31	*	32	*	63		*	*	*	*	*	*
03:30		*	36	*	42	*	78		*	*	*	*	*	*
03:45		*	35	*	21	*	56		*	*	*	*	*	*
04:00		*	32	*	33	*	65		*	*	*	*	*	*
04:15		*	***48***	*	43	*	***91***		*	*	*	*	*	*
04:30		*	***56***	*	***46***	*	***102***		*	*	*	*	*	*
04:45		*	***34***	*	***46***	*	***80***		*	*	*	*	*	*
05:00		*	***38***	*	***39***	*	***77***		*	*	*	*	*	*
05:15		*	37	*	***46***	*	83		*	*	*	*	*	*
05:30		*	40	*	31	*	71		*	*	*	*	*	*
05:45		*	50	*	25	*	75		*	*	*	*	*	*
06:00		*	*	*	*	*	*		*	*	*	*	*	*
06:15		*	*	*	*	*	*		*	*	*	*	*	*
06:30		*	*	*	*	*	*		*	*	*	*	*	*
06:45		*	*	*	*	*	*		*	*	*	*	*	*
07:00		19	*	14	*	33	*		*	*	*	*	*	*
07:15		17	*	7	*	24	*		*	*	*	*	*	*
07:30		32	*	20	*	52	*		*	*	*	*	*	*
07:45		***64***	*	21	*	***85***	*		*	*	*	*	*	*
08:00		***37***	*	13	*	***50***	*		*	*	*	*	*	*
08:15		***35***	*	30	*	***65***	*		*	*	*	*	*	*
08:30		***35***	*	22	*	***57***	*		*	*	*	*	*	*
08:45		36	*	19	*	55	*		*	*	*	*	*	*
09:00		42	*	20	*	62	*		*	*	*	*	*	*
09:15		28	*	14	*	42	*		*	*	*	*	*	*
09:30		25	*	14	*	39	*		*	*	*	*	*	*
09:45		24	*	8	*	32	*		*	*	*	*	*	*
10:00		27	*	19	*	46	*		*	*	*	*	*	*
10:15		32	*	23	*	55	*		*	*	*	*	*	*
10:30		18	*	23	*	41	*		*	*	*	*	*	*
10:45		22	*	14	*	36	*		*	*	*	*	*	*
11:00		28	*	***24***	*	52	*		*	*	*	*	*	*
11:15		33	*	***25***	*	58	*		*	*	*	*	*	*
11:30		30	*	***31***	*	61	*		*	*	*	*	*	*
11:45		28	*	***27***	*	55	*		*	*	*	*	*	*
Total		612	932	388	777	1000	1709		0	0	0	0	0	0
Day Total		1544		1165		2709			0		0		0	
% Total		22.6%	34.4%	14.3%	28.7%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	04:15	11:00	04:30	07:45	04:15	-	-	-	-	-	-	-
Vol.	-	171	176	107	177	257	350	-	-	-	-	-	-	-
P.H.F.		0.668	0.786	0.863	0.962	0.756	0.858							

ADT	ADT 5,911	AADT 5,911

Friday 11/21/14	Red Bank, NJ Parking Count # of Available Stalls				
Time	West Front St.	English Plaza Lot	White St.	White St. Lot	Total
12:00	27	9	12	29	77
12:30	25	5	14	28	72
1:00	20	5	6	7	38
1:30	23	6	8	6	43
2:00	27	6	9	12	54
2:30	28	3	11	34	76
3:00	30	11	12	52	105
3:30	27	11	13	51	102
4:00	32	7	7	59	105
4:30	32	11	4	53	100
5:00	29	6	13	46	94
5:30	25	8	19	55	107
6:00	18	7	16	57	98
6:30	19	5	7	23	54
7:00	6	6	4	4	20
7:30	3	4	6	-1	12
8:00	3	5	2	1	11
8:30	7	5	0	-1	11
9:00	12	7	9	25	53
9:30	16	14	15	34	79
10:00	19	17	27	40	103
Capacities	46	106	48	260	460

Saturday 10/25/14	Red Bank, NJ Parking Count # of Available Stalls				
Time	West Front St.	English Plaza Lot	White St.	White St. Lot	Total
12:00	28	9	23	134	194
12:30	25	0	12	100	137
1:00	25	1	12	71	109
1:30	25	0	15	100	140
2:00	25	6	5	23	59
2:30	20	0	5	27	52
3:00	27	15	10	30	82
3:30	26	10	19	47	102
4:00	29	15	19	72	135
4:30	34	0	11	87	132
5:00	31	9	16	95	151
5:30	23	20	18	85	146
6:00	18	11	15	71	115
6:30	16	1	11	36	64
7:00	11	1	6	-6	12
7:30	11	0	2	-5	8
8:00	11	0	2	-6	7
8:30	9	4	3	6	22
9:00	10	6	4	17	37
9:30	12	9	8	43	72
10:00	9	7	9	69	94
Capacities	46	106	48	260	460

Date/Time	Red Bank, NJ Parking Count # of Available Stalls				
	West Front St.	English Plaza Lot	White St.	White St. Lot	Available
Friday 11/11/2016 8:00 PM	15	2	0	0	17
Saturday 11/12/2016 8:45 PM	11	2	0	1	14
Friday 11/18/2016 6:00 PM	16	4	7	23	50
Saturday 11/19/2016 10:00 PM	8	8	10	65	91

HCS 2010 Two-Way Stop-Control Report

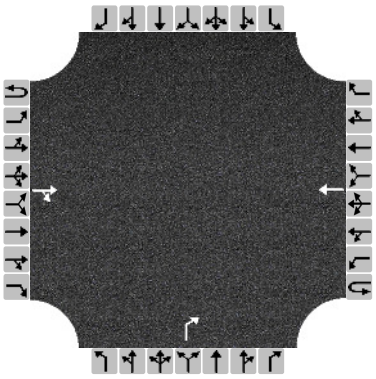
General Information

Analyst	MMS
Agency/Co.	Dynamic Traffic
Date Performed	11/4/2016
Analysis Year	2016
Time Analyzed	AM BD
Intersection Orientation	East-West
Project Description	1293-14-001TE

Site Information

Intersection	W Front St and Site Drwy
Jurisdiction	County
East/West Street	West Front Street
North/South Street	Site Driveway
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration				TR			T					R				
Volume, V (veh/h)			636	1			883					2				
Percent Heavy Vehicles (%)												0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												2				
Capacity, c (veh/h)												452				
v/c Ratio												0.00				
95% Queue Length, Q_{95} (veh)												0.0				
Control Delay (s/veh)												13.0				
Level of Service, LOS												B				
Approach Delay (s/veh)										13.0						
Approach LOS										B						

HCS 2010 Two-Way Stop-Control Report

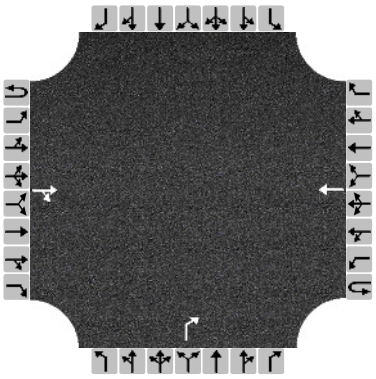
General Information

Analyst	MMS
Agency/Co.	Dynamic Traffic
Date Performed	11/4/2016
Analysis Year	2016
Time Analyzed	PM BD
Intersection Orientation	East-West
Project Description	1293-14-001TE

Site Information

Intersection	W Front St and Site Drwy
Jurisdiction	County
East/West Street	West Front Street
North/South Street	Site Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	1		0	0	0
Configuration				TR			T					R				
Volume, V (veh/h)			614	5			823					1				
Percent Heavy Vehicles (%)												0				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized		No				No				No				No		
Median Type/Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												1				
Capacity, c (veh/h)												461				
v/c Ratio												0.00				
95% Queue Length, Q_{95} (veh)												0.0				
Control Delay (s/veh)												12.8				
Level of Service, LOS												B				
Approach Delay (s/veh)										12.8						
Approach LOS										B						

HCS 2010 Two-Way Stop-Control Report

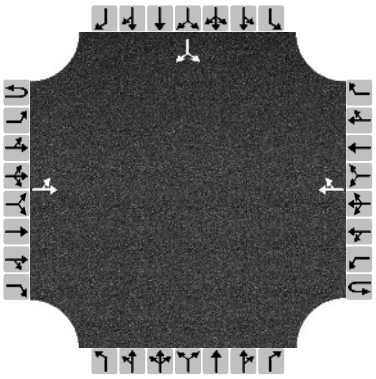
General Information

Analyst	MMS
Agency/Co.	Dynamic Traffic
Date Performed	11/4/2016
Analysis Year	2016
Time Analyzed	AM BD
Intersection Orientation	East-West
Project Description	1293-14-001TE

Site Information

Intersection	White St and Site Drwy
Jurisdiction	County
East/West Street	White Street
North/South Street	Site Driveway
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		1	149				88	2						2		10
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1													13	
Capacity, c (veh/h)		1502													912	
v/c Ratio		0.00													0.01	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		7.4													9.0	
Level of Service, LOS		A													A	
Approach Delay (s/veh)		0.0												9.0		
Approach LOS														A		

HCS 2010 Two-Way Stop-Control Report

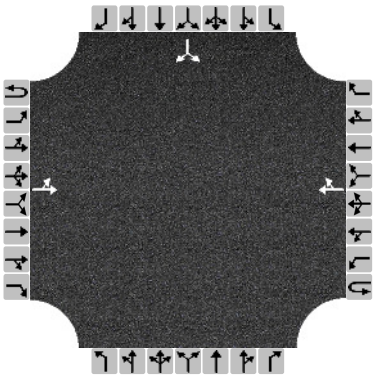
General Information

Analyst	MMS
Agency/Co.	Dynamic Traffic
Date Performed	11/4/2016
Analysis Year	2016
Time Analyzed	PM BD
Intersection Orientation	East-West
Project Description	1293-14-001TE

Site Information

Intersection	White St and Site Drwy
Jurisdiction	County
East/West Street	White Street
North/South Street	Site Driveway
Peak Hour Factor	0.83
Analysis Time Period (hrs)	0.25

Lanes



Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration		LT						TR							LR	
Volume, V (veh/h)		5	176				352	4						1		6
Percent Heavy Vehicles (%)		0												0		0
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		6													8	
Capacity, c (veh/h)		1141													599	
v/c Ratio		0.01													0.01	
95% Queue Length, Q_{95} (veh)		0.0													0.0	
Control Delay (s/veh)		8.2													11.1	
Level of Service, LOS		A													B	
Approach Delay (s/veh)		0.3												11.1		
Approach LOS														B		