Traffic Impact Study

BevJean Estates

3122-3138 West Bangs Avenue

Township of Neptune,
Monmouth County
New Jersey

Prepared for **Scarlet Flier Ventures, LLC**

Prepared by Grant Engineering & Construction Group
211 Warren Street, Suite 222
Newark, NJ 07103
732-705-7373

Submitted to Township of Neptune

Duane P. Nelson
New Jersey License #44568

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Executive Summary

Grant Engineering and Construction Group (GECG), on behalf of the Scarlet Flier Ventures, LLC, has prepared this study to analyze the potential traffic impacts associated with the proposed residential development located on West Bangs Avenue in the Township of Neptune, Monmouth County, New Jersey. This study has also been prepared to evaluate the on-site layout and site access.

Project Description

Scarlet Flier Ventures, LLC proposes to develop 17 single family homes along West Bangs Avenue in the Township of Neptune, Monmouth County. The property is designated as Lots 5, 6, 7, 8 and 9 in Block 2601 according to Township Tax Maps and is located on the southern side of West Bangs Avenue near Green Grove Place. Figure 1 is an aerial map of the site's location and surrounding area.

The property is currently utilized as several residences which will be removed. The total development is proposed to consist of 17 single family homes.

Access to the site is proposed via a proposed full access street intersecting West Bangs Avenue, Scarlet Fliers Way, and one proposed driveway for one individual home along West Bangs Avenue.

Study Area

As part of this study, the intersections listed below have been analyzed:

- West Bangs Avenue and Green Grove Road;
- West Bangs Avenue and Scarlet Fliers Way.

An inventory of the existing physical roadway conditions for the above listed roadways is presented in a later section.

Trip Generation

Based on data compiled by the Institute of Transportation Engineers (ITE) as contained within the tenth edition of *Trip Generation*, the proposed development will conservatively generate 16 and 20 new vehicles to the area during the weekday morning peak hour and afternoon peak hour respectively. These levels of new traffic generation are anticipated to have a minor impact on traffic operations along the surrounding roadway network as they fall within the range of normal daily fluctuations in traffic volumes along the adjacent roadways and conservatively amount to approximately less than one new vehicle per minute generated to the area during the peak traffic hours.

Trip Distribution

The directional distribution of the new site-generated traffic was developed based upon a review of existing travel patterns on the adjacent roadway network, locations of adjacent residential areas and the anticipated utilization of the proposed site driveways. It is estimated that 50 percent of new site-generated traffic will access the site to/from the west via West Bangs Avenue, and 50 percent to/from the east via West Bangs Avenue.

Traffic Operations Analysis

Capacity analyses were conducted for the study intersections as well as for the proposed site driveway intersections. Based on the analyses, it is anticipated that the minimal increases in new site traffic will not significantly impact the local roadway network. Moreover, movements to and from the site are anticipated to operate safely and efficiently.

Site Plan Review

The proposed site plan provides safe and efficient access and on-site circulation. The proposed parking supply is expected to adequately accommodate anticipated demands.

Conclusion

Based on this study, it has been concluded that the proposed development will not significantly increase area traffic. In fact, the new

site-generated traffic associated with the proposed development is anticipated to have a minor impact on traffic operations along the surrounding roadway network. The proposed site street intersection along West Bangs Avenue is anticipated to operate acceptably during peak traffic hours, allowing movements to and from the site to operate safely and efficiently. Finally, the proposed parking supply is expected to adequately accommodate anticipated demands.

1

Introduction

Grant Engineering and Construction Group (GECG), on behalf of the Scarlet Flier Ventures, LLC, has prepared this study to analyze the potential traffic impacts associated with the proposed residential development located on West Bangs Avenue in the Township of Neptune, Monmouth County, New Jersey. This study has also been prepared to evaluate the on-site layout and site access.

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The property is currently utilized as several residences which will be removed. The total development is proposed to consist of 17 single family homes.

Access to the site is proposed via a proposed full access street intersecting West Bangs Avenue, Scarlet Fliers Way, and one proposed driveway for one individual home along West Bangs Avenue.

Study Area

As part of this study, the intersections listed below have been analyzed:

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An inventory of the existing physical roadway conditions for the above listed roadways is presented in a later section.

Scope of Study

This study has been prepared in accordance with standard accepted methodologies inclusive of the following steps:

1. A series of manual turning movement traffic counts were conducted at the existing study intersections.

2. Existing weekday morning and afternoon peak hour traffic volumes were identified based on the traffic count data collected.

3. Future 2021 No-Build traffic volumes were established by conservatively applying the New Jersey Department of Transportation Monmouth County annual growth factor of 2.5 percent to the existing traffic volumes.

4. Trip generation estimates were prepared for the proposed single family homes based upon accepted trip generation rates.

5. Site-generated traffic volumes were assigned to the study roadways and the proposed street intersection based on existing travel patterns identified from the traffic counts, locations of the adjacent residential areas and the anticipated utilization of the proposed street intersection.

6. Future 2021 Build traffic volumes were established by adding site-generated traffic volumes onto the 2021 No-Build traffic volumes.

7. A traffic operations analysis was performed utilizing the Highway Capacity Software (HCS) for the intersections where traffic counts were performed and for the proposed site driveway intersections.

8. The site plan was reviewed with respect to the adequacy of access, on-site circulation and parking supply.

Not to Scale

Site Location Map
Neptune, Monmouth County, NJ

Figure: 1
Date: 05-21-2020

2

Existing Conditions

As previously described, the subject property is located on the southern side of West Bangs Avenue in the Township of Neptune, Monmouth County. The following is a description of the roadways and intersections within the study area.

Existing Roadway Network

The roadways and intersections within the study area are described below.

Roadways

West Bangs Avenue

West Bangs Avenue is under County jurisdiction. It is designated as Monmouth County Route 17. It has a general east-west orientation. The roadway provides one lane of travel in each direction and is approximately 30 feet wide. The posted speed limit is 40 miles per hour. The roadway is classified as an urban major collector. The abutting land use is primarily residential.

Green Grove Road

Green Grove Road is under local jurisdiction. It has a general north-south orientation. The roadway provides one lane of travel in each direction and is approximately 36 feet wide. The posted speed limit is 25 miles per hour. The roadway is classified as an urban major collector. The abutting land use is primarily residential.

Green Grove Place

Green Grove Place is under local jurisdiction. It has a general north-south orientation. The roadway provides one lane of travel in each direction and is approximately 36 feet wide. There is no posted speed

limit. The roadway is classified as a local roadway. The abutting land use is residential.

Intersections

West Bangs Avenue and Green Grove Road

The intersection of West Bangs Avenue and Green Grove Road is a 2-way stop controlled intersection. The northbound and southbound approaches of Green Grove Road are stop controlled. The eastbound and westbound approaches of West Bangs Avenue have the right of way. The 2-way stop condition is reinforced with a flashing beacon. A flashing red indication displays on the Green Grove Road approaches. A flashing yellow indication displays on the West Bangs Avenue approaches. All approaches provide a single shared left/through/right lane to the intersection.

West Bangs Avenue and Green Grove Place

The intersection of West Bangs Avenue and Green Grove Place is a T-shaped 2-way stop controlled intersection. The southbound approach of Green Grove Place is stop controlled. The eastbound and westbound approaches of West Bangs Avenue have the right of way. The eastbound and westbound approaches provide a single shared left/through/right lane to the intersection. The southbound approach provides a shared left turn/right turn lane.

Traffic Volumes

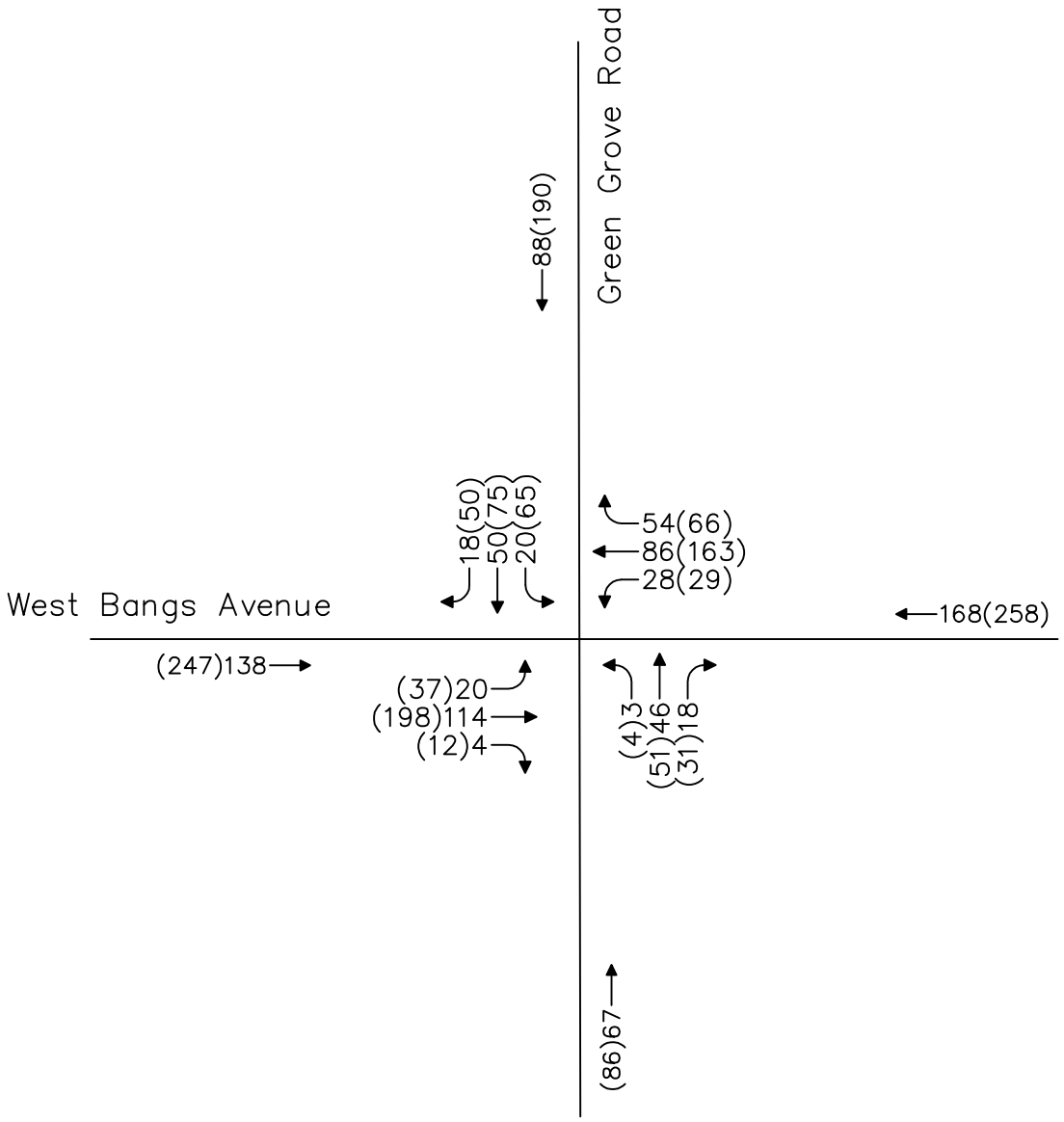
To examine the existing traffic conditions in vicinity of the site, traffic counts were conducted during a typical weekday. Specifically, manual turning movement traffic counts were conducted at the study intersections on Wednesday June 22, 2016 from 7:00 AM to 9:00 AM and 3:30 PM to 6:30 PM. The counts classified passenger car, heavy vehicles and pedestrian movements.

The manual turning movement traffic counts indicate that there are distinct hours when traffic experiences its highest levels at the subject intersection. Based on the manual traffic count data collected the following common peak hours have been identified:

- Weekday Morning Peak Hour – 8:00 AM to 9:00 AM;
- Weekday Afternoon Peak Hour – 5:15 PM to 6:15 PM;

Automatic Traffic Recorders (ATRs) were also placed along West Bangs Avenue and Green Grove Road to record hourly traffic volumes in the immediate vicinity of the site. The ATRs collected traffic volume data from Monday June 20, 2016 through Tuesday June 28, 2016.

Figure 2 illustrates these peak hour traffic volumes. Summaries of the manual traffic counts are contained in the Appendix of this document.



Legend

AM(PM)

Not to Scale

2016 Existing
Peak Hour Traffic Volumes
Neptune, Monmouth County, NJ

Figure: 2
Date: 05-21-2020

3

Future Conditions

For purposes of analysis, it is anticipated that the proposed development will be completed by the end of the year 2021. Accordingly, traffic volumes have been projected to include all existing traffic and new traffic due to background growth to derive the 2021 No Build traffic volumes. Anticipated site-generated traffic volumes were then added to the 2021 No-Build traffic volumes to derive the 2021 Build traffic volumes.

Background Traffic Growth

It is recognized that traffic volumes routinely fluctuate along various State and County roadways, as well as local streets, and vary not only day-to-day, but also on a monthly and yearly basis. It is expected that as other regional development continues, traffic volumes may be expected to increase with regularity, prior to the completion of the proposed single-family homes. Accordingly, the existing peak hour traffic volumes were increased by a compounded annual growth rates of 2.5 percent for a collector, in accordance with the New Jersey Department of Transportation (NJDOT) annual background growth rate table for Monmouth County, to create the 2021 No-Build traffic volumes.

Site-generated Traffic

Estimates of trip generation for the proposed residential development were prepared using research data compiled by the Institute of Transportation Engineers (ITE) as contained within the tenth edition of Trip Generation. Based on ITE data, Table 1 below has been prepared utilizing ITE Land Use Code 210 (Single Family Homes) trip rates to summarize trip generation estimates for the weekday morning and weekday afternoon peak hours for the proposed residential development.

Table 1
Trip Generation Estimates

Time Period	Single Family Homes (17 Dwelling Units)
Weekday Morning Peak Hour	
Enter	4
Exit	12
Total	16
Weekday Afternoon Peak Hour	
Enter	13
Exit	7
Total	20

Trip Distribution

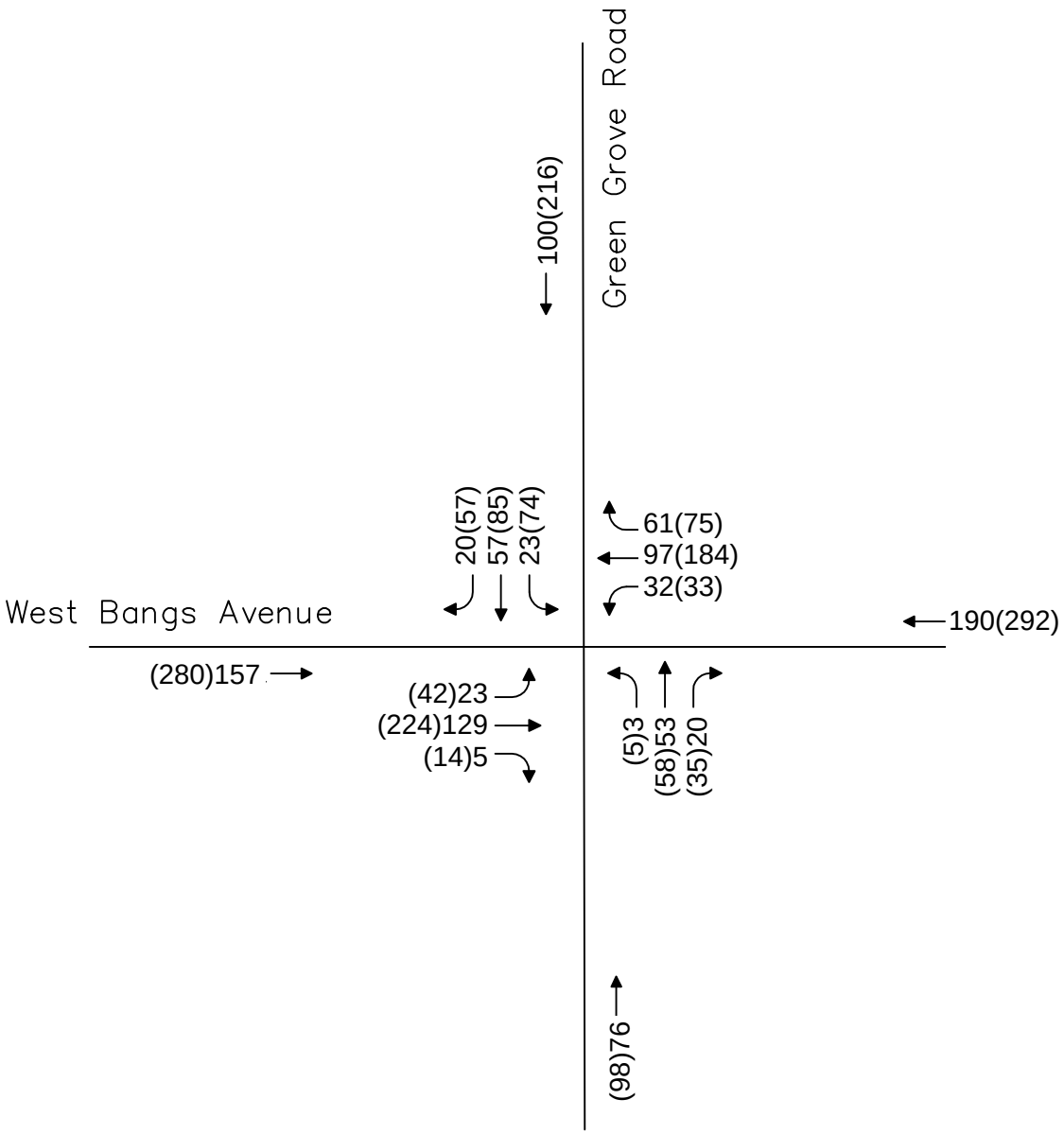
The directional distribution of the new site-generated traffic was determined from review of existing travel patterns on the adjacent roadway network, locations of adjacent residential areas and the anticipated utilization of the proposed site driveways. The trip distribution is shown in Table 2 below.

Table 2
Trip Distribution

To/From	
East via West Bangs Avenue	50%
West via West Bangs Avenue	50%

Future Traffic Volumes

To derive the 2021 Build traffic volumes with completion of the proposed residential development, site-generated traffic was added to the 2021 No-Build traffic volumes. Figure 3 and Figure 4 illustrate the 2021 No-Build and 2021 Build weekday morning and afternoon peak hour traffic volumes respectively.



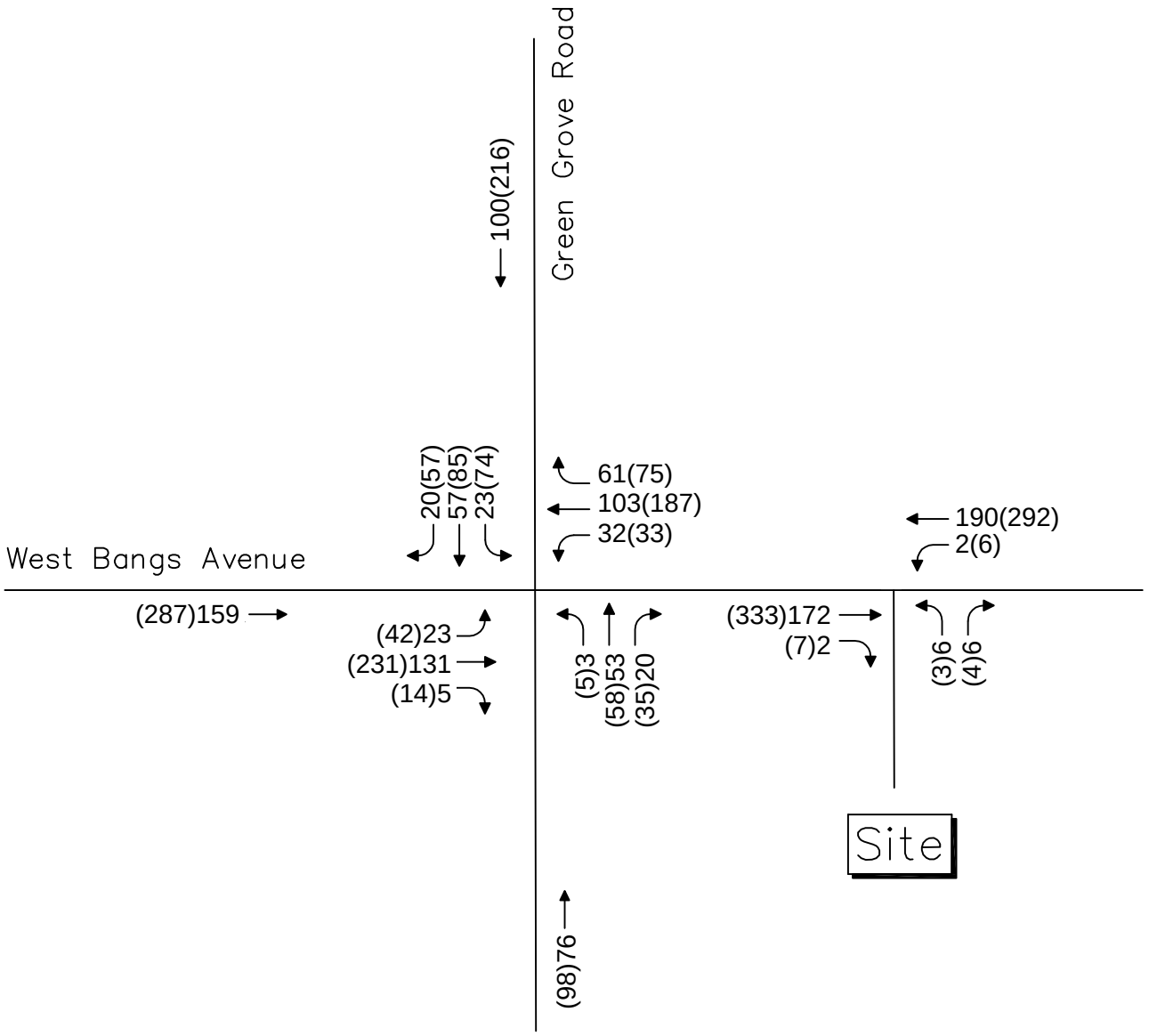
Legend

AM(PM)

Not to Scale

2021 No Build
Peak Hour Traffic Volumes
Neptune, Monmouth County, NJ

Figure: 3
Date: 05-21-2020



Legend

AM(PM)

Not to Scale

2021 Build
Peak Hour Traffic Volumes
Neptune, Monmouth County, NJ

Figure: 4
Date: 05-21-2020

4

Traffic Operations Analysis

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic along the adjacent roadways and at the proposed site driveways. To assess quality of traffic flow, roadway capacity analyses were conducted with respect to the Existing and Build traffic volume conditions. Capacity analyses provide an indication of the adequacy of the roadway facilities to serve the anticipated traffic demands.

Level-of-Service Criteria

Level of Service (LOS) is the term used to denote the different operating conditions that occur on a given roadway segment under various traffic volume demands. It is a qualitative measure that considers a number of factors including roadway geometry, speed, travel delay, freedom to maneuver, and safety. Level of Service provides an index to the operational qualities of a roadway segment or an intersection. Levels of Service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

The Level of Service designation is reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection. For unsignalized intersections, however, the analysis considers the operation of all movements that are in conflict with other movements such as mainline left turns and traffic exiting the side street. The evaluation criteria used to analyze the study area intersections are based on the 2010 *Highway Capacity Manual* (HCM) and the latest version of the Highway Capacity Software.

The 2010 *Highway Capacity Manual* defines level of service for signalized intersections as follows:

Level of Service	Control delay per Vehicle
A	< 10 sec
B	≥ 10 and ≤ 20 sec
C	≥ 20 and ≤ 35 sec
D	≥ 35 and ≤ 55 sec
E	≥ 55 and ≤ 80 sec
F	> 80 sec

The 2010 *Highway Capacity Manual* defines level of service for unsignalized intersections as follows:

Level of Service	Delay Range (sec/veh)
A	< 10 sec
B	≥ 10 and ≤ 15 sec
C	≥ 15 and ≤ 25 sec
D	≥ 25 and ≤ 35 sec
E	≥ 35 and ≤ 50 sec
F	> 50 sec

Level of Service Analysis

Capacity analyses were conducted for the study intersections and the proposed site street intersection.

Tables 3 and 4 on the following pages present a summary of the capacity analyses for the weekday morning and afternoon peak hours respectively.

West Bangs Avenue and Green Grove Road

All approaches to the intersection currently operate at LOS B or better during the morning peak hour. During the afternoon peak hour, the northbound approach operates at LOS B and the southbound approach operates at LOS C.

Under the Build conditions, the levels of service at the intersection will remain the same during the weekday AM peak hour. During the PM peak hour, the northbound approach will operate at LOS C and the southbound approach will operate at LOS D.

West Bangs Avenue and Scarlet Fliers Way

Movements at this proposed unsignalized site street intersection will operate at LOS B or better during the weekday AM and PM peak hours.

Table 3
Intersection Capacity Analysis Summary
Weekday Morning Peak Hour

Location	2016 Existing Conditions		2021 Build Conditions	
	Delay *	LOS **	Delay *	LOS **
Unsignalized Intersections				
West Bangs Avenue/Green Grove Road				
NB Approach	12.5	B	13.7	B
SB Approach	13.2	B	14.7	B
EB Approach	1.2	A	1.3	A
WB Approach	1.4	A	1.4	A
Scarlet Fliers Way/West Bangs Avenue				
NB Approach	N/A	N/A	10.5	B

Based on HCS Software

* Average vehicle delay expressed in seconds per vehicle

** Level of Service

Table 4
Intersection Capacity Analysis Summary
Weekday Afternoon Peak Hour

Location	2016 Existing Conditions Delay *	LOS **	2021 Build Conditions Delay *	LOS **
Unsignalized Intersections				
West Bangs Avenue/Green Grove Road				
NB Approach	14.4	B	16.6	C
SB Approach	20.8	C	30.3	D
EB Approach	1.4	A	1.4	A
WB Approach	1.1	A	1.1	A
Scarlet Fliers Way/West Bangs Avenue				
NB Approach	N/A	N/A	12.1	B

Based on HCS Software

* Average vehicle delay expressed in seconds per vehicle

** Level of Service

5

Site Plan Review

A review has been made of the Site Plan for the proposed residential development. In particular, a review has been made focusing on site access, on-site circulation and parking supply as discussed below.

- Access to the site is proposed via one full access driveway for one individual home along West Bangs Avenue, and a roadway intersecting West Bangs Avenue, Scarlet Fliers Way, serving the balance of the proposed development.

- According to the New Jersey Residential Site Improvement Standards (RSIS), the proposed 3-bedroom houses should provide a minimum of 2 parking spaces. The site will provide driveways for each residence. Each driveway will be a minimum of 18' wide and 20' feet long. Also, each residence will have its own 2-car garage as well for potential parking storage. Therefore, each residence will provide 3.5 parking spaces as defined in the RSIS. This is anticipated to adequately the normal parking demand for a single family home and meets the requirements of the RSIS.

- The proposed street will be Scarlet Fliers Way. Scarlet Fliers Way will intersect West Bangs Avenue to form a T-shaped two-way way stop controlled intersection. Safe access to West Bangs Avenue will be provided as the intersecting roadways are generally flat and straight which will supply adequate sight distance. The proposed street will be a two-way loop roadway with no access to any other roadways.

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Conclusion

Based on this study, it has been concluded that the proposed development will not significantly increase area traffic. In fact, the new site-generated traffic associated with the proposed development is anticipated to have a minor impact on traffic operations along the surrounding roadway network. The proposed site street intersection along West Bangs Avenue is anticipated to operate acceptably during peak traffic hours, allowing movements to and from the site to operate safely and efficiently. Finally, the proposed parking supply is expected to adequately accommodate anticipated demands.

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Appendix

- Traffic Count Summaries
- Capacity Printouts

Traffic Count Summaries

TechniQuest Coporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-01
Station ID: 2551
W Bangs Avenue East of Green Grove Road
WB
Latitude: 0' 0.000 Undefined

Start Time	Mon 20-Jun-16	Tue 21-Jun-16	Wed 22-Jun-16	Thu 23-Jun-16	Fri 24-Jun-16	Average Day	Sat 25-Jun-16	Sun 26-Jun-16	Week Average
12:00 AM	*	29	30	47	34	35	53	61	42
01:00	*	17	22	20	24	21	40	54	30
02:00	*	8	18	17	18	15	33	36	22
03:00	*	11	9	7	8	9	25	19	13
04:00	*	20	20	16	14	18	18	13	17
05:00	*	36	39	38	42	39	25	18	33
06:00	*	95	104	93	92	96	49	36	78
07:00	*	151	137	133	135	139	69	63	115
08:00	*	156	171	155	**175**	164	101	85	140
09:00	*	139	147	124	154	141	169	131	144
10:00	*	**161**	138	145	152	149	172	149	153
11:00	*	138	**191**	**166**	175	**168**	**186**	**185**	**174**
12:00 PM	*	176	168	194	193	183	230	184	191
01:00	*	156	197	180	191	181	226	**214**	194
02:00	167	182	190	192	215	189	209	198	193
03:00	249	251	221	204	242	233	**241**	203	230
04:00	213	**270**	251	224	263	244	220	211	236
05:00	**253**	219	**253**	**233**	**281**	**248**	213	210	**237**
06:00	188	198	197	201	220	201	181	159	192
07:00	169	149	145	151	196	162	184	150	163
08:00	185	141	153	158	140	155	181	141	157
09:00	129	135	149	129	135	135	167	112	137
10:00	90	83	106	97	121	99	148	88	105
11:00	66	52	63	51	76	62	91	66	66
Day Total	1709	2973	3119	2975	3296	3086	3231	2786	3062
% Avg. WkDay	55.4%	96.3%	101.1%	96.4%	106.8%				
% Avg. Week	55.8%	97.1%	101.9%	97.2%	107.6%	100.8%	105.5%	91.0%	
AM Peak		10:00	11:00	11:00	08:00	11:00	11:00	11:00	11:00
Vol.		161	191	166	175	168	186	185	174
PM Peak	17:00	16:00	17:00	17:00	17:00	17:00	15:00	13:00	17:00
Vol.	253	270	253	233	281	248	241	214	237

TechniQuest Coporation
4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-01
Station ID: 2551
W Bangs Avenue East of Green Grove Road
WB
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Start Time	Mon 27-Jun-16	Tue 28-Jun-16	Wed 29-Jun-16	Thu 30-Jun-16	Fri 01-Jul-16	Average Day	Sat 02-Jul-16	Sun 03-Jul-16	Week Average
12:00 AM	29	37	*	*	*	33	*	*	33
01:00	19	10	*	*	*	14	*	*	14
02:00	18	11	*	*	*	14	*	*	14
03:00	11	11	*	*	*	11	*	*	11
04:00	13	20	*	*	*	16	*	*	16
05:00	31	38	*	*	*	34	*	*	34
06:00	117	90	*	*	*	104	*	*	104
07:00	140	144	*	*	*	142	*	*	142
08:00	**167**	**159**	*	*	*	**163**	*	*	**163**
09:00	151	150	*	*	*	150	*	*	150
10:00	144	122	*	*	*	133	*	*	133
11:00	153	151	*	*	*	152	*	*	152
12:00 PM	182	158	*	*	*	170	*	*	170
01:00	163	183	*	*	*	173	*	*	173
02:00	192	189	*	*	*	190	*	*	190
03:00	221	**202**	*	*	*	212	*	*	212
04:00	232	0	*	*	*	116	*	*	116
05:00	**278**	*	*	*	*	**278**	*	*	**278**
06:00	168	*	*	*	*	168	*	*	168
07:00	186	*	*	*	*	186	*	*	186
08:00	154	*	*	*	*	154	*	*	154
09:00	111	*	*	*	*	111	*	*	111
10:00	104	*	*	*	*	104	*	*	104
11:00	52	*	*	*	*	52	*	*	52
Day Total	3036	1675	0	0	0	2880	0	0	2880
% Avg. WkDay	105.4%	58.2%	0.0%	0.0%	0.0%				
% Avg. Week	105.4%	58.2%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00	08:00				08:00			08:00
Vol.	167	159				163			163
PM Peak	17:00	15:00				17:00			17:00
Vol.	278	202				278			278
Grand Total	4745	4648	3119	2975	3296	5966	3231	2786	5942

ADT ADT 14,984 AADT 14,984

TechniQuest Corporation

4105 US Route 1, Suite # 10, Monmouth Jct, NJ
Phone: 732-274-9500 Fax: 732-274-9510
www.tqcmail.com

File Name : 028-01
Site Code : 01
Start Date : 6/22/2016
Page No : 1

Groups Printed- Cars - Light Trucks - Heavy Trucks

	Green Grove Road Southbound					W Bangs Avenue Westbound					Green Grove Road Northbound					W Bangs Avenue Eastbound					
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	6	4	3	0	13	2	15	7	0	24	1	11	3	0	15	5	16	1	0	22	74
07:15 AM	9	5	5	0	19	2	19	9	0	30	1	7	3	0	11	4	15	3	0	22	82
07:30 AM	5	4	3	0	12	4	23	7	0	34	2	12	5	0	19	6	28	2	0	36	101
07:45 AM	5	7	2	0	14	12	29	8	0	49	0	14	3	0	17	5	36	1	0	42	122
Total	25	20	13	0	58	20	86	31	0	137	4	44	14	0	62	20	95	7	0	122	379
08:00 AM	4	13	3	0	20	6	21	12	0	39	0	8	3	0	11	2	24	1	0	27	97
08:15 AM	7	14	5	0	26	2	24	11	0	37	1	15	7	0	23	5	31	2	0	38	124
08:30 AM	4	9	1	1	15	8	18	10	1	37	1	7	4	0	12	4	32	0	0	36	100
08:45 AM	5	14	9	0	28	12	23	21	0	56	1	16	4	0	21	9	27	1	0	37	142
Total	20	50	18	1	89	28	86	54	1	169	3	46	18	0	67	20	114	4	0	138	463
*** BREAK ***																					
03:30 PM	14	11	16	0	41	7	30	18	0	55	2	4	9	0	15	8	51	11	0	70	181
03:45 PM	8	20	5	0	33	4	29	21	0	54	2	19	2	0	23	5	46	1	0	52	162
Total	22	31	21	0	74	11	59	39	0	109	4	23	11	0	38	13	97	12	0	122	343
04:00 PM	15	13	10	1	39	8	31	12	0	51	3	19	2	0	24	6	39	1	0	46	160
04:15 PM	23	10	8	1	42	9	35	21	0	65	2	7	6	0	15	10	47	1	0	58	180
04:30 PM	21	14	12	1	48	7	42	16	0	65	3	19	7	0	29	8	49	6	0	63	205
04:45 PM	19	22	12	0	53	6	40	21	0	67	1	16	8	0	25	6	48	1	0	55	200
Total	78	59	42	3	182	30	148	70	0	248	9	61	23	0	93	30	183	9	0	222	745
05:00 PM	13	24	10	0	47	6	41	9	1	57	1	14	5	0	20	7	33	6	0	46	170
05:15 PM	22	16	8	0	46	12	38	13	0	63	3	14	9	0	26	12	63	3	0	78	213
05:30 PM	15	12	13	0	40	7	42	19	3	71	0	16	9	3	28	8	52	0	0	60	199
05:45 PM	15	23	17	0	55	7	43	14	0	64	4	13	7	0	24	10	44	4	3	61	204
Total	65	75	48	0	188	32	164	55	4	255	8	57	30	3	98	37	192	13	3	245	786
06:00 PM	13	24	12	3	52	3	40	20	0	63	2	8	6	0	16	7	39	5	0	51	182
06:15 PM	19	21	14	0	54	8	27	14	0	49	1	9	4	0	14	6	39	1	0	46	163
Grand Total	242	280	168	7	697	132	610	283	5	1030	31	248	106	3	388	133	759	51	3	946	3061
Apprch %	34.7	40.2	24.1	1		12.8	59.2	27.5	0.5		8	63.9	27.3	0.8		14.1	80.2	5.4	0.3		
Total %	7.9	9.1	5.5	0.2	22.8	4.3	19.9	9.2	0.2	33.6	1	8.1	3.5	0.1	12.7	4.3	24.8	1.7	0.1	30.9	
Cars	237	271	167	7	682	122	596	280	5	1003	31	236	102	3	372	132	741	51	3	927	2984
% Cars	97.9	96.8	99.4	100	97.8	92.4	97.7	98.9	100	97.4	100	95.2	96.2	100	95.9	99.2	97.6	100	100	98	97.5
Light Trucks	4	7	1	0	12	3	9	2	0	14	0	7	1	0	8	1	14	0	0	15	49
% Light Trucks	1.7	2.5	0.6	0	1.7	2.3	1.5	0.7	0	1.4	0	2.8	0.9	0	2.1	0.8	1.8	0	0	1.6	1.6

TechniQuest Corporation

4105 US Route 1, Suite # 10, Monmouth Jct, NJ
Phone: 732-274-9500 Fax: 732-274-9510
www.tqcmail.com

File Name : 028-01
Site Code : 01
Start Date : 6/22/2016
Page No : 2

Groups Printed- Cars - Light Trucks - Heavy Trucks

	Green Grove Road Southbound					W Bangs Avenue Westbound					Green Grove Road Northbound					W Bangs Avenue Eastbound					
	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
Heavy Trucks	1	2	0	0	3	7	5	1	0	13	0	5	3	0	8	0	4	0	0	4	28
% Heavy Trucks	0.4	0.7	0	0	0.4	5.3	0.8	0.4	0	1.3	0	2	2.8	0	2.1	0	0.5	0	0	0.4	0.9

	Green Grove Road Southbound					W Bangs Avenue Westbound					Green Grove Road Northbound					W Bangs Avenue Eastbound					
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 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	4	13	3	0	20	6	21	12	0	39	0	8	3	0	11	2	24	1	0	27	97
08:15 AM	**7**	**14**	5	0	26	2	**24**	11	0	37	**1**	15	**7**	0	**23**	5	31	**2**	0	**38**	124
08:30 AM	4	9	1	**1**	15	8	18	10	**1**	37	1	7	4	0	12	4	**32**	0	0	36	100
08:45 AM	5	14	**9**	0	**28**	**12**	23	**21**	0	**56**	1	**16**	4	0	21	**9**	27	1	0	37	**142**
Total Volume	20	50	18	1	89	28	86	54	1	169	3	46	18	0	67	20	114	4	0	138	463
% App. Total	22.5	56.2	20.2	1.1		16.6	50.9	32	0.6		4.5	68.7	26.9	0		14.5	82.6	2.9	0		
PHF	.714	.893	.500	.250	.795	.583	.896	.643	.250	.754	.750	.719	.643	.000	.728	.556	.891	.500	.000	.908	.815
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	**22**	16	8	0	46	**12**	38	13	0	63	3	14	**9**	0	26	**12**	**63**	3	0	**78**	**213**
05:30 PM	15	12	13	0	40	7	42	19	**3**	**71**	0	**16**	9	**3**	**28**	8	52	0	0	60	199
05:45 PM	15	23	**17**	0	**55**	7	**43**	14	0	64	**4**	13	7	0	24	10	44	4	**3**	61	204
06:00 PM	13	**24**	12	**3**	52	3	40	**20**	0	63	2	8	6	0	16	7	39	**5**	0	51	182
Total Volume	65	75	50	3	193	29	163	66	3	261	9	51	31	3	94	37	198	12	3	250	798
% App. Total	33.7	38.9	25.9	1.6		11.1	62.5	25.3	1.1		9.6	54.3	33	3.2		14.8	79.2	4.8	1.2		
PHF	.739	.781	.735	.250	.877	.604	.948	.825	.250	.919	.563	.797	.861	.250	.839	.771	.786	.600	.250	.801	.937

TechniQuest Coporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-02
Station ID: 2301
Green Grove Road South of W Bangs Avenue
NB
Latitude: 0' 0.000 Undefined

Start Time	Mon 20-Jun-16	Tue 21-Jun-16	Wed 22-Jun-16	Thu 23-Jun-16	Fri 24-Jun-16	Average Day	Sat 25-Jun-16	Sun 26-Jun-16	Week Average
12:00 AM	*	9	18	13	12	13	16	33	17
01:00	*	12	8	4	5	7	11	15	9
02:00	*	5	8	4	3	5	14	14	8
03:00	*	3	4	4	4	4	6	5	4
04:00	*	3	4	3	3	3	2	5	3
05:00	*	8	12	14	11	11	4	6	9
06:00	*	32	33	40	49	38	22	11	31
07:00	*	56	64	54	57	58	43	17	48
08:00	*	**87**	68	70	**80**	**76**	51	37	66
09:00	*	77	70	70	70	72	79	50	69
10:00	*	56	**80**	**71**	52	65	87	62	68
11:00	*	87	64	43	74	67	**92**	**72**	**72**
12:00 PM	*	89	72	67	76	76	**102**	64	78
01:00	*	73	74	63	67	69	90	**82**	75
02:00	88	75	77	69	82	78	83	77	79
03:00	92	90	92	80	82	87	96	77	**87**
04:00	**95**	**99**	93	84	84	91	80	63	85
05:00	85	96	**94**	**96**	102	**95**	80	55	87
06:00	79	64	61	91	**104**	80	89	67	79
07:00	61	79	66	67	100	75	87	75	76
08:00	89	60	49	53	66	63	68	51	62
09:00	56	50	57	49	56	54	62	45	54
10:00	39	33	49	36	48	41	83	41	47
11:00	23	21	37	22	45	30	59	19	32
Day Total	707	1264	1254	1167	1332	1258	1406	1043	1245
% Avg. WkDay	56.2%	100.5%	99.7%	92.8%	105.9%				
% Avg. Week	56.8%	101.5%	100.7%	93.7%	107.0%	101.0%	112.9%	83.8%	
AM Peak		08:00	10:00	10:00	08:00	08:00	11:00	11:00	11:00
Vol.		87	80	71	80	76	92	72	72
PM Peak	16:00	16:00	17:00	17:00	18:00	17:00	12:00	13:00	15:00
Vol.	95	99	94	96	104	95	102	82	87

TechniQuest Coporation
4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-02
Station ID: 2301
Green Grove Road South of W Bangs Avenue
NB
Latitude: 0' 0.000 Undefined

Start Time	Mon 27-Jun-16	Tue 28-Jun-16	Wed 29-Jun-16	Thu 30-Jun-16	Fri 01-Jul-16	Average Day	Sat 02-Jul-16	Sun 03-Jul-16	Week Average
12:00 AM	10	12	*	*	*	11	*	*	11
01:00	14	10	*	*	*	12	*	*	12
02:00	4	2	*	*	*	3	*	*	3
03:00	1	5	*	*	*	3	*	*	3
04:00	5	2	*	*	*	4	*	*	4
05:00	9	8	*	*	*	8	*	*	8
06:00	24	29	*	*	*	26	*	*	26
07:00	47	74	*	*	*	60	*	*	60
08:00	**94**	**89**	*	*	*	**92**	*	*	**92**
09:00	80	77	*	*	*	78	*	*	78
10:00	61	71	*	*	*	66	*	*	66
11:00	68	52	*	*	*	60	*	*	60
12:00 PM	93	63	*	*	*	78	*	*	78
01:00	79	69	*	*	*	74	*	*	74
02:00	84	**82**	*	*	*	83	*	*	83
03:00	92	0	*	*	*	46	*	*	46
04:00	85	0	*	*	*	42	*	*	42
05:00	**117**	*	*	*	*	**117**	*	*	**117**
06:00	82	*	*	*	*	82	*	*	82
07:00	66	*	*	*	*	66	*	*	66
08:00	70	*	*	*	*	70	*	*	70
09:00	49	*	*	*	*	49	*	*	49
10:00	34	*	*	*	*	34	*	*	34
11:00	27	*	*	*	*	27	*	*	27
Day Total	1295	645	0	0	0	1191	0	0	1191
% Avg. WkDay	108.7%	54.2%	0.0%	0.0%	0.0%				
% Avg. Week	108.7%	54.2%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00	08:00				08:00			08:00
Vol.	94	89				92			92
PM Peak	17:00	14:00				17:00			17:00
Vol.	117	82				117			117
Grand Total	2002	1909	1254	1167	1332	2449	1406	1043	2436

ADT ADT 14,984 AADT 14,984

TechniQuest Coporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-03
Station ID: 1602
W Bangs Avenue West of Green Grove Road
EB
Latitude: 0' 0.000 Undefined

Start Time	Mon 20-Jun-16	Tue 21-Jun-16	Wed 22-Jun-16	Thu 23-Jun-16	Fri 24-Jun-16	Average Day	Sat 25-Jun-16	Sun 26-Jun-16	Week Average
12:00 AM	*	37	18	33	43	33	52	39	37
01:00	*	11	12	19	26	17	18	30	19
02:00	*	10	10	6	18	11	18	24	14
03:00	*	6	5	6	10	7	16	15	10
04:00	*	14	9	11	13	12	16	14	13
05:00	*	32	25	39	37	33	18	13	27
06:00	*	64	60	58	72	64	50	36	57
07:00	*	170	120	119	137	136	87	37	112
08:00	*	152	**138**	**161**	156	**152**	113	113	139
09:00	*	148	115	149	**174**	146	162	133	147
10:00	*	117	110	139	136	126	159	**185**	141
11:00	*	**172**	119	152	153	149	**190**	176	**160**
12:00 PM	*	198	144	141	156	160	246	137	170
01:00	*	116	140	169	158	146	189	169	157
02:00	192	165	167	162	146	166	180	182	171
03:00	191	**234**	208	195	163	198	158	**188**	191
04:00	188	189	230	202	**221**	206	**250**	166	207
05:00	**227**	183	**246**	**227**	219	**220**	180	176	**208**
06:00	166	146	190	214	159	175	194	158	175
07:00	121	127	193	160	113	143	162	124	143
08:00	107	78	109	115	104	103	139	123	111
09:00	91	92	107	98	102	98	141	111	106
10:00	82	56	56	70	94	72	110	59	75
11:00	56	27	40	73	59	51	77	43	54
Day Total	1421	2544	2571	2718	2669	2624	2925	2451	2644
% Avg. WkDay	54.2%	97.0%	98.0%	103.6%	101.7%				
% Avg. Week	53.7%	96.2%	97.2%	102.8%	100.9%	99.2%	110.6%	92.7%	
AM Peak		11:00	08:00	08:00	09:00	08:00	11:00	10:00	11:00
Vol.		172	138	161	174	152	190	185	160
PM Peak	17:00	15:00	17:00	17:00	16:00	17:00	16:00	15:00	17:00
Vol.	227	234	246	227	221	220	250	188	208

TechniQuest Coporation
4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-03
Station ID: 1602
W Bangs Avenue West of Green Grove Road
EB
Latitude: 0' 0.000 Undefined

Start Time	Mon 27-Jun-16	Tue 28-Jun-16	Wed 29-Jun-16	Thu 30-Jun-16	Fri 01-Jul-16	Average Day	Sat 02-Jul-16	Sun 03-Jul-16	Week Average
12:00 AM	28	28	*	*	*	28	*	*	28
01:00	16	10	*	*	*	13	*	*	13
02:00	11	8	*	*	*	10	*	*	10
03:00	16	10	*	*	*	13	*	*	13
04:00	12	11	*	*	*	12	*	*	12
05:00	22	46	*	*	*	34	*	*	34
06:00	56	69	*	*	*	62	*	*	62
07:00	124	138	*	*	*	131	*	*	131
08:00	**166**	**182**	*	*	*	**174**	*	*	**174**
09:00	139	127	*	*	*	133	*	*	133
10:00	136	111	*	*	*	124	*	*	124
11:00	131	112	*	*	*	122	*	*	122
12:00 PM	159	121	*	*	*	140	*	*	140
01:00	131	120	*	*	*	126	*	*	126
02:00	151	**154**	*	*	*	152	*	*	152
03:00	192	0	*	*	*	96	*	*	96
04:00	175	0	*	*	*	88	*	*	88
05:00	**227**	*	*	*	*	**227**	*	*	**227**
06:00	151	*	*	*	*	151	*	*	151
07:00	139	*	*	*	*	139	*	*	139
08:00	91	*	*	*	*	91	*	*	91
09:00	78	*	*	*	*	78	*	*	78
10:00	49	*	*	*	*	49	*	*	49
11:00	50	*	*	*	*	50	*	*	50
Day Total	2450	1247	0	0	0	2243	0	0	2243
% Avg. WkDay	109.2%	55.6%	0.0%	0.0%	0.0%				
% Avg. Week	109.2%	55.6%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	08:00	08:00				08:00			08:00
Vol.	166	182				174			174
PM Peak	17:00	14:00				17:00			17:00
Vol.	227	154				227			227
Grand Total	3871	3791	2571	2718	2669	4867	2925	2451	4887

ADT ADT 14,984 AADT 14,984

TechniQuest Coporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-04
Station ID: 2331
Green Grove Road North of W Bangs Avenue
SB
Latitude: 0' 0.000 Undefined

Start Time	Mon 20-Jun-16	Tue 21-Jun-16	Wed 22-Jun-16	Thu 23-Jun-16	Fri 24-Jun-16	Average Day	Sat 25-Jun-16	Sun 26-Jun-16	Week Average
12:00 AM	*	17	24	25	18	21	34	34	25
01:00	*	11	12	14	17	14	16	26	16
02:00	*	8	13	11	13	11	15	17	13
03:00	*	4	2	2	4	3	4	9	4
04:00	*	6	3	4	2	4	4	3	4
05:00	*	10	12	13	12	12	14	9	12
06:00	*	34	37	30	42	36	20	14	30
07:00	*	78	58	67	63	66	68	56	65
08:00	*	86	89	89	97	90	75	72	85
09:00	*	87	91	91	**110**	95	128	112	103
10:00	*	86	101	**118**	107	103	129	96	106
11:00	*	**111**	**117**	107	97	**108**	**216**	**157**	**134**
12:00 PM	*	144	155	137	185	155	172	124	153
01:00	*	134	110	125	135	126	147	**153**	134
02:00	76	123	124	146	138	121	157	141	129
03:00	159	**174**	150	161	**192**	167	**181**	153	**167**
04:00	**176**	151	177	189	180	175	151	140	166
05:00	150	165	**188**	**200**	190	**179**	139	119	164
06:00	147	147	182	168	169	163	123	109	149
07:00	119	126	112	118	150	125	128	128	126
08:00	97	120	109	104	113	109	124	112	111
09:00	84	81	91	84	97	87	107	73	88
10:00	55	67	58	55	74	62	82	56	64
11:00	38	42	59	42	54	47	62	46	49
Day Total	1101	2012	2074	2100	2259	2079	2296	1959	2097
% Avg. WkDay	53.0%	96.8%	99.8%	101.0%	108.7%				
% Avg. Week	52.5%	95.9%	98.9%	100.1%	107.7%	99.1%	109.5%	93.4%	
AM Peak		11:00	11:00	10:00	09:00	11:00	11:00	11:00	11:00
Vol.		111	117	118	110	108	216	157	134
PM Peak	16:00	15:00	17:00	17:00	15:00	17:00	15:00	13:00	15:00
Vol.	176	174	188	200	192	179	181	153	167

TechniQuest Coporation

4105 US Route 1, Suite # 10
Monmouth Junction, NJ 08852
732-274-9500, Fax 732-274-9510, www.tqcmail.com

Site Code: 028-04
Station ID: 2331
Green Grove Road North of W Bangs Avenue
SB
Latitude: 0' 0.000 Undefined

Start Time	Mon 27-Jun-16	Tue 28-Jun-16	Wed 29-Jun-16	Thu 30-Jun-16	Fri 01-Jul-16	Average Day	Sat 02-Jul-16	Sun 03-Jul-16	Week Average
12:00 AM	19	22	*	*	*	20	*	*	20
01:00	9	16	*	*	*	12	*	*	12
02:00	4	10	*	*	*	7	*	*	7
03:00	4	6	*	*	*	5	*	*	5
04:00	7	11	*	*	*	9	*	*	9
05:00	12	18	*	*	*	15	*	*	15
06:00	29	35	*	*	*	32	*	*	32
07:00	62	57	*	*	*	60	*	*	60
08:00	86	**113**	*	*	*	100	*	*	100
09:00	**125**	109	*	*	*	**117**	*	*	**117**
10:00	88	104	*	*	*	96	*	*	96
11:00	105	91	*	*	*	98	*	*	98
12:00 PM	118	133	*	*	*	126	*	*	126
01:00	138	119	*	*	*	128	*	*	128
02:00	110	114	*	*	*	112	*	*	112
03:00	**197**	**189**	*	*	*	**193**	*	*	**193**
04:00	164	6	*	*	*	85	*	*	85
05:00	186	*	*	*	*	186	*	*	186
06:00	147	*	*	*	*	147	*	*	147
07:00	126	*	*	*	*	126	*	*	126
08:00	103	*	*	*	*	103	*	*	103
09:00	70	*	*	*	*	70	*	*	70
10:00	68	*	*	*	*	68	*	*	68
11:00	40	*	*	*	*	40	*	*	40
Day Total	2017	1153	0	0	0	1955	0	0	1955
% Avg. WkDay	103.2%	59.0%	0.0%	0.0%	0.0%				
% Avg. Week	103.2%	59.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak	09:00	08:00				09:00			09:00
Vol.	125	113				117			117
PM Peak	15:00	15:00				15:00			15:00
Vol.	197	189				193			193
Grand Total	3118	3165	2074	2100	2259	4034	2296	1959	4052

ADT ADT 14,984 AADT 14,984

Capacity Printouts

HCS7 Two-Way Stop-Control Report

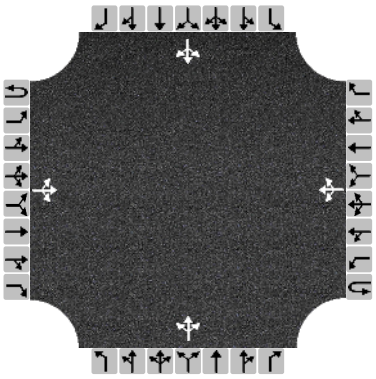
General Information

Analyst	D. Nelson
Agency/Co.	
Date Performed	8/11/2017
Analysis Year	2017
Time Analyzed	Existing AM peak
Intersection Orientation	East-West
Project Description	BevJean Estates

Site Information

Intersection	
Jurisdiction	
East/West Street	West Bangs Avenue
North/South Street	Green Grove Road
Peak Hour Factor	0.82
Analysis Time Period (hrs)	1.00

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	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		20	114	4		28	86	54		3	46	18		20	50	18
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				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)		24				34					82				107	
Capacity, c (veh/h)		1398				1431					560				547	
v/c Ratio		0.02				0.02					0.15				0.20	
95% Queue Length, Q_{95} (veh)		0.1				0.1					0.5				0.7	
Control Delay (s/veh)		7.6				7.6					12.5				13.2	
Level of Service, LOS		A				A					B				B	
Approach Delay (s/veh)		1.2				1.4				12.5				13.2		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

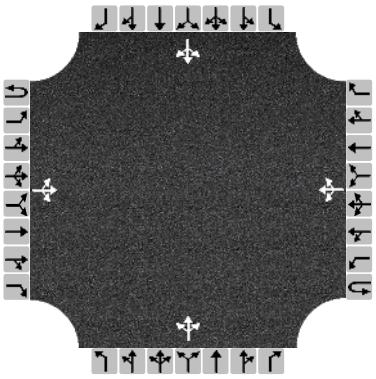
General Information

Analyst	D. Nelson
Agency/Co.	
Date Performed	8/11/2017
Analysis Year	2017
Time Analyzed	Existing PM peak
Intersection Orientation	East-West
Project Description	BevJean Estates

Site Information

Intersection	
Jurisdiction	
East/West Street	West Bangs Avenue
North/South Street	Green Grove Road
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

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	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		37	198	12		29	163	66		4	51	31		65	75	50
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				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)		39				31					91				202	
Capacity, c (veh/h)		1316				1337					472				430	
v/c Ratio		0.03				0.02					0.19				0.47	
95% Queue Length, Q_{95} (veh)		0.1				0.1					0.7				2.6	
Control Delay (s/veh)		7.8				7.8					14.4				20.8	
Level of Service, LOS		A				A					B				C	
Approach Delay (s/veh)		1.4				1.1				14.4				20.8		
Approach LOS										B				C		

HCS7 Two-Way Stop-Control Report

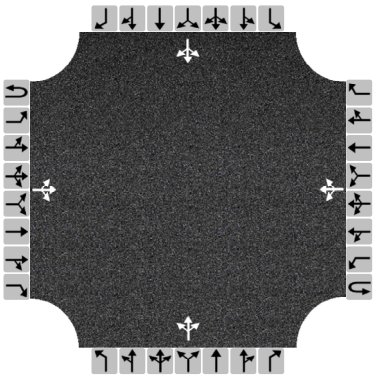
General Information

Analyst	D. Nelson
Agency/Co.	
Date Performed	5/21/20
Analysis Year	2021
Time Analyzed	Build AM peak
Intersection Orientation	East-West
Project Description	BevJean Estates

Site Information

Intersection	
Jurisdiction	
East/West Street	West Bangs Avenue
North/South Street	Green Grove Road
Peak Hour Factor	0.82
Analysis Time Period (hrs)	1.00

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	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		23	131	5		32	103	61		3	53	20		23	57	20
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28				39					93				122	
Capacity, c (veh/h)		1365				1404					509				492	
v/c Ratio		0.02				0.03					0.18				0.25	
95% Queue Length, Q_{95} (veh)		0.1				0.1					0.7				1.0	
Control Delay (s/veh)		7.7				7.6					13.7				14.7	
Level of Service, LOS		A				A					B				B	
Approach Delay (s/veh)		1.3				1.4				13.7				14.7		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

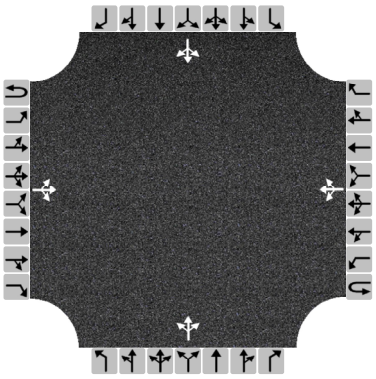
General Information

Analyst	D. Nelson
Agency/Co.	
Date Performed	5/21/20
Analysis Year	2021
Time Analyzed	Build PM peak
Intersection Orientation	East-West
Project Description	BevJean Estates

Site Information

Intersection	
Jurisdiction	
East/West Street	West Bangs Avenue
North/South Street	Green Grove Road
Peak Hour Factor	0.94
Analysis Time Period (hrs)	1.00

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	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume, V (veh/h)		42	231	14		33	187	75		5	58	35		74	85	57
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45				35					104				230	
Capacity, c (veh/h)		1277				1296					414				371	
v/c Ratio		0.04				0.03					0.25				0.62	
95% Queue Length, Q_{95} (veh)		0.1				0.1					1.0				4.6	
Control Delay (s/veh)		7.9				7.9					16.6				30.3	
Level of Service, LOS		A				A					C				D	
Approach Delay (s/veh)		1.4				1.1				16.6				30.3		
Approach LOS										C				D		

HCS7 Two-Way Stop-Control Report

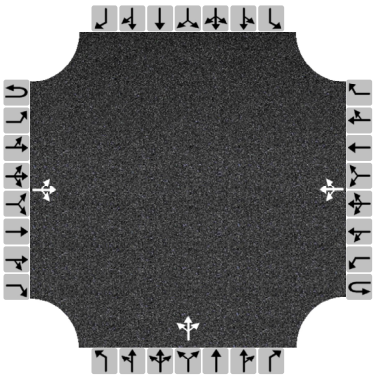
General Information

Analyst	D. Nelson
Agency/Co.	
Date Performed	5/21/20
Analysis Year	2021
Time Analyzed	Build AM peak
Intersection Orientation	East-West
Project Description	BevJean Estates

Site Information

Intersection	
Jurisdiction	
East/West Street	West Bangs Avenue
North/South Street	Scarlet Fliers Way
Peak Hour Factor	0.82
Analysis Time Period (hrs)	1.00

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	1	0		0	0	0
Configuration			LTR				LTR				LTR					
Volume, V (veh/h)		0	172	2		2	190	0		6	0	6				
Percent Heavy Vehicles (%)		3				3				3	3	3				
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)		4.1				4.1				7.1	6.5	6.2				
Critical Headway (sec)		4.13				4.13				6.43	6.53	6.23				
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3				
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				2					14					
Capacity, c (veh/h)		1328				1351					672					
v/c Ratio		0.00				0.00					0.02					
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1					
Control Delay (s/veh)		7.7				7.7					10.5					
Level of Service, LOS		A				A					B					
Approach Delay (s/veh)		0.0				0.1				10.5						
Approach LOS										B						

HCS7 Two-Way Stop-Control Report

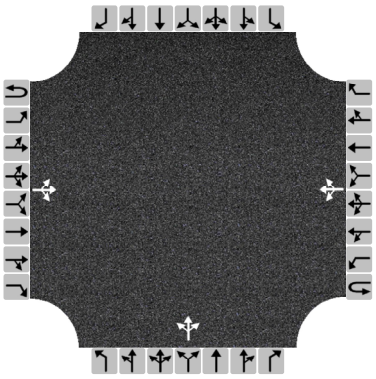
General Information

Analyst	D. Nelson
Agency/Co.	
Date Performed	5/21/20
Analysis Year	2021
Time Analyzed	Build PM peak
Intersection Orientation	East-West
Project Description	BevJean Estates

Site Information

Intersection	
Jurisdiction	
East/West Street	West Bangs Avenue
North/South Street	Scarlet Fliers Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	1.00

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	1	0		0	0	0
Configuration			LTR				LTR				LTR					
Volume, V (veh/h)		0	333	7		6	292	0		3	0	4				
Percent Heavy Vehicles (%)		3				3				3	3	3				
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)		0				7					7					
Capacity, c (veh/h)		1229				1174					516					
v/c Ratio		0.00				0.01					0.01					
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.0					
Control Delay (s/veh)		7.9				8.1					12.1					
Level of Service, LOS		A				A					B					
Approach Delay (s/veh)		0.0				0.2				12.1						
Approach LOS										B						