TRAFFIC IMPACT STUDY

For

Metro Real Estate
Proposed Mixed-Use Building

Property Located at:

Main Street & Central Avenue & Second Street
Block 1317 – Lots 1, 2, 3, 9, 10 & 12
Borough of Wharton, Morris County, NJ

Prepared by:

DYNAMIC TRAFFIC

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November 20, 2019

2340-99-007T

INTRODUCTION

It is proposed to construct a mixed-use development consisting of sixteen (16) townhome units as well as fifty (50) residential units above 6,858 SF of ground floor retail space (The Project) on a parcel of land located between Main Street and Second Street just north of their intersections with Central Avenue in the Borough of Wharton, Morris County, New Jersey, see Figure 1, in Appendix A. The site is designated as Block 1317 – Lots 1, 2, 3, 9, 10 and 12 on the Borough Tax Maps. The site is currently developed with two (2) municipal parking lots, three (3) residential dwellings and a two-story building with ground floor commercial space and residential above. Access to the site is currently provided via one (1) ingress only driveway and one (1) egress only driveway along Main Street, one (1) full movement driveway along Central Avenue and three (3) full movement driveways along Second Street. It is proposed to close the existing access points and provide one (1) full movement driveway along Main Street and one (1) full movement driveway along Second Street. Parking will be provided via eighty-three (83) on-site parking spaces.

Dynamic Traffic, LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.

- Existing traffic data was collected via manual turning movement (MTM) counts during the weekday AM, weekday PM and Saturday midday peak periods at the intersection of Main Street with Central Avenue.

- Estimates of traffic to be generated by the proposed development were prepared utilizing trip generation data as published by the Institute of Transportation Engineers. Site traffic was then assigned to the adjacent street system based upon the anticipated directional distribution.

- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersection.

- The proposed points of ingress and egress were inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.

- The parking layout and supply was assessed based on accepted design standards and demand experienced at similar developments.

EXISTING CONDITIONS

A review of the existing roadway conditions near the proposed site was conducted to provide the basis for assessing the traffic impact of the development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

Existing Roadway Conditions

The following are descriptions of the roadways in the study area:

Main Street (CR 634) is an Urban Minor Arterial roadway under the jurisdiction of Morris County. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction with a general north/south orientation. On-street parking is permitted along both sides of the roadway with curb and sidewalk provided along both sides of the roadway. Main Street provides a curved horizontal alignment and a hilly vertical alignment with upgrade from north to south. The land uses along Main Street in the vicinity of The Project are a mix of commercial and residential.

Central Avenue is an Urban Major Collector roadway under the jurisdiction of the Borough of Wharton. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction with a general east/west orientation. On-street parking is permitted along the south side of the roadway while curb and sidewalk are provided along both sides of the roadway. Central Avenue provides a straight horizontal alignment and a relatively flat vertical alignment. The land uses along Central Avenue in the vicinity of The Project are a mix of commercial and residential.

Second Street is a local roadway under the jurisdiction of the Borough of Wharton. In the vicinity of the site the speed limit is not posted and the roadway provides one travel lane for each direction of travel with a general north/south orientation. On-street parking is permitted along the west side of the roadway while curb and sidewalk is provided along both sides of the roadway. Second Street provides a straight horizontal alignment and a hilly vertical alignment with upgrade from north to south. The land uses along Second Street in the vicinity of The Project are primarily residential.

Existing Traffic Volumes

Manual turning movement (MTM) counts were conducted on Saturday, January 26, 2019 between 11:00 AM – 2:00 PM and on Tuesday, February 5, 2019 between 7:00 – 9:00 AM and between 4:30 – 6:30 PM at the intersection of Main Street with Central Avenue. Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 7:45 – 8:45 AM, the weekday evening PSH occurs between 4:30 – 5:30 PM and the Saturday midday PSH occurs between 11:45 AM – 12:45 PM. Figure 2, located in Appendix A, shows the existing peak hour traffic volumes at the study intersections. All MTM counts are contained in Appendix B.

Existing Capacity Analysis

The methodology utilized in the capacity analyses is described in the *Highway Capacity Manual*, published by the Transportation Research Board. In general, the term Level of Service (LOS) is used to provide a "qualitative" evaluation of capacity based upon certain "quantitative" calculations related to empirical values, such as traffic volume and intersection control.

An unsignalized (STOP sign controlled) driveway or side street along a through route is seldom critical from an overall capacity standpoint, however, it may be of great significance to the capacity of the minor cross-route, and it may influence the quality of traffic flow on both. When analyzing an unsignalized intersection, it is assumed that both the major street through and right turn movements are unimpeded and have the right-of-way over all side street traffic and left turns from the major street. All other turning movements in the intersection cross, merge with, or are otherwise impeded by major street movements. Traffic delays at unsignalized intersections are determined by sequentially processing these impeded movements. Table I describes the Level of Service ranges for unsignalized (stop controlled) intersections.

Table I
Level of Service Criteria
for Unsignalized Intersections

Level of Service	Average Control Delay (seconds per vehicle)
A	0.0 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

It should be noted that the analyses within the *Highway Capacity Manual* assume a random arrival for all the movements, which may not be the case if an adjacent traffic signal is present that platoons vehicles.

All capacity analyses were performed utilizing Highway Capacity Software (HCS 7). Table II summarizes the existing Levels of Service (LOS) and delays. All capacity analysis calculation worksheets are contained in Appendix C.

Table II
Existing Levels of Service

Intersection	Direction/ Movement		AM PSH	PM PSH	SAT PSH
Main Street and Central Avenue	EB	LTR	B (15)	C (19)	C (16)
	WB	LTR	B (13)	C (16)	B (12)
	NB	LTR	A (8)	A (8)	A (8)
	SB	LTR	A (8)	A (8)	A (8)

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

The following are discussions pertaining to each of the existing intersections analyzed. It should be noted that the existing percentage of trucks and peak hour factors were used in the existing analysis.

Main Street and Central Avenue

Central Avenue intersects Main Street to form an unsignalized four-way intersection with Central Avenue under stop control. The eastbound and westbound approaches of Central Avenue each provide a shared left turn/through/right turn lane. The northbound and southbound approaches of Main Street each provide a shared left turn/through/right turn lane.

A review of the existing analysis reveals that the individual intersection movements operate at Levels of Service "C" or better during the analyzed peak periods. See Table II for the individual movement Levels of Service and delays.

FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of the site development traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses is outlined below.

Regardless of whether the subject site is developed or not, traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A growth rate for roadways within the study area was obtained from the NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 1.5% per year.

Future No Build traffic volumes were developed by applying the background growth rate of 1.5% for two (2) years to the study area roadways existing traffic volumes. Figure 3, in Appendix A, shows the No Build traffic volumes.

Traffic Generation

Projections of future traffic volumes were developed utilizing data as published in the Institute of Transportation Engineers (ITE) publication *Trip Generation, 10th Edition* for Land Use Code (LUC) 221 Multifamily Housing (Mid-Rise) and LUC 820 – Shopping Center. This publication sets forth trip generation rates based on traffic counts conducted at research sites throughout the country.

According to studies conducted by ITE, traffic associated with LUC 820 is not 100% newly generated. Rather, a portion of the traffic is diverted from the existing traffic stream on the adjacent roadway network. This is because the retail portion of the site is not exclusively a destination land use, instead patrons stop on their way to/from other locations such as home or work. ITE identifies passby traffic percentages of 34% and 26% during the respective PM and Saturday peak hours which are also accepted by NJDOT. Table III below details the traffic volumes associated with the subject project taking into account the passby credits.

Table III
Trip Generation Considering Passby Traffic

Land Use	Trip Type	AM PSH			PM PSH			SAT PSH		
		In	Out	Total	In	Out	Total	In	Out	Total
66 Residential Units	**New (Primary)**	**6**	**17**	**23**	**18**	**12**	**30**	**17**	**17**	**34**
6,858 SF of Retail Space	Total	4	2	6	36	39	75	39	36	75
	Passby	0	0	0	12	14	26	10	10	20
	New (Primary)	**4**	**2**	**6**	**24**	**25**	**49**	**29**	**26**	**55**
Total	Total	10	19	29	54	51	105	56	53	109
	Passby	0	0	0	12	14	26	10	10	20
	New (Primary)	**10**	**19**	**29**	**42**	**37**	**79**	**46**	**43**	**89**

It should be noted that no reduction in trip generation is made to account for the internal interaction between the residential and retail space. Realistically, this space will serve the local community and residents of the buildings thereby replacing a portion of the vehicular trip generation with "internally captured" and pedestrian trips. Additionally, no credit was taken for the existing uses of the property and trip generation is considered an increase over vacant land. This allows for a conservative projection of a "worst case" scenario from a traffic impact perspective. Further, there is an NJ Transit bus stop along the Main Street frontage which will provide residents, employees and patrons of the building with convenient access to mass transit which could further reduce external trip generation.

Once the magnitude of traffic to be generated by the site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Located in Appendix A, Figure 4 illustrates the primary site generated volumes, Figure 5 illustrates the passby site generated volumes, and Figure 6 illustrates the total site generated volumes assigned to the study area network. The site generated volumes were added to the No Build traffic volumes to generate the Build traffic volumes, which are shown in Figure 7.

Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table IV below.

Table IV
Future Levels of Service

Intersection	Direction/ Movement		AM PSH		PM PSH		SAT PSH	
			No Build	Build	No Build	Build	No Build	Build
Main Street and Central Avenue	EB	LTR	C (15)	C (16)	C (20)	C (23)	C (17)	C (18)
	WB	LTR	B (13)	B (13)	C (16)	C (17)	B (12)	B (12)
	NB	LTR	A (8)	A (8)	A (8)	A (8)	A (8)	A (8)
	SB	LTR	A (8)	A (8)	A (8)	A (8)	A (8)	A (8)
Main Street and Site Driveway	WB	LR	-	B (13)	-	C (17)	-	B (15)
	SB	LT	-	A (8)	-	A (8)	-	A (8)

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

Main Street and Central Avenue

With the addition of the site traffic, the individual intersection movements will continue to operate with Levels of Service "C" or better during the studied peak hours. See Table IV for the individual movement Levels of Service and delays.

Main Street and Site Driveway

The site driveway is proposed to intersect Main Street to form an unsignalized T-intersection with the site driveway under stop control. The westbound approach of the site driveway will provide a shared left turn/right turn lane. The northbound and southbound approaches of Main Street will provide a shared through/right turn lane and a shared left turn/through lane respectively.

As proposed, the individual intersection movements will operate with Levels of Service "C" or better during the studied peak hours. See Table IV for the individual movement Levels of Service and delays.

Second Street and Site Driveway

The site driveway is proposed to intersect Second Street to form an unsignalized T-intersection with the site driveway under stop control. The eastbound approach of the site driveway will provide a shared left turn/right turn lane. The northbound and southbound approaches of Second Street will provide a shared left turn/through lane and a shared through/right turn respectively.

It should be noted that no analysis was performed for the intersection of Second Street with the site driveway. Rather, is was conservatively assumed that all site traffic will access the site via the Main Street driveway. While it is it noted that some of the future tenants/retail customers may utilize the Second Street driveway and thus cause the intersection to experience Levels of Service and delays, it is expected that the Levels of Service will be favorable and the delays will be minimal. This was concluded based on the fact that Second Street is a low volume, local roadway that primarily serves as access to residential dwellings, and therefore is not likely to experience a high magnitude of through traffic traveling between Central Avenue to the south and Fern Avenue to the north.

SITE PLAN

Site Access and Circulation

The site plan was reviewed with respect to the site access and on-site circulation design. As noted previously, access to The Project will be provided via one (1) full movement driveway along Main Street and one (1) full movement driveway along Second Street. The development proposal will consolidate the access points along Main Street and eliminate the existing access along Central Avenue which will improve the efficiency of the adjacent roadway by reducing the number of points of conflict.

The newly constructed parking lot will be serviced by parking aisles with widths of 24 feet which meet the Redevelopment Plan Requirement of 24 feet. These aisles will allow for two-way circulation to serve 90-degree parking, and is consistent with generally accepted engineering design standards.

Parking

The Main Street Redevelopment Plan sets forth a parking requirement of 1 parking space per one-bedroom unit, 1.5 parking spaces per two-bedroom unit, 2.1 spaces per three-bedroom unit, 1.8 parking spaces per one-bedroom townhome, 2.3 parking spaces per two-bedroom townhome and 1 parking space per 400 SF of gross floor area for retail establishments. For the mixed-use building this equates to a parking requirement of 84 parking spaces for the proposed 18 one-bedroom units, 30 two-bedroom units, 2 three-bedroom units and 6,858 SF of retail space. For the townhomes, this equates to a parking requirement of 33 parking spaces for the proposed 8 one-bedroom townhomes and 8 two-bedroom townhomes. The Redevelopment Plan also states the following regarding mixed-use buildings:

> *"The required parking for mixed-use buildings combining residential and some other use is the total of the required spaces for both uses divided by 1.7."*

Therefore, this equates to a parking requirement of 50 spaces for the mixed-use building and thus the total parking requirement for the entire site is 83 spaces. The site as proposed provides 83 parking spaces and as such the Redevelopment Plan requirements are met.

It is proposed to provide parking stalls with dimensions of 9'x18', which meets the Redevelopment Plan requirements and is consistent with generally accepted engineering design standards.

FINDINGS & CONCLUSIONS

Findings

Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed 66 residential units and 6,858 SF of retail space will generate 10 entering trips and 19 exiting trips during the morning peak hour, 42 entering trips and 37 exiting trips during the afternoon peak hour and 46 entering trips and 43 exiting trips during the Saturday peak hour that are considered "new" to the adjacent roadway network.

- Access to the site will be provided via one (1) full moment driveway along Main Street and one (1) full movement driveway along Second Street.

- With the addition of the site generated traffic, the individual intersection movements of Main Street and Central Avenue will operate at Level of Service "C" or better during the peak hours studied, maintaining the No Build levels of service.

- As proposed, the individual intersection movements of Main Street and the site driveway will operate at Levels of Service "C" or better during the peak hours studied.

- As proposed, the individual intersection movements of Second Street with the site driveway are anticipated to operate with minimal delay during the peak hours studied.

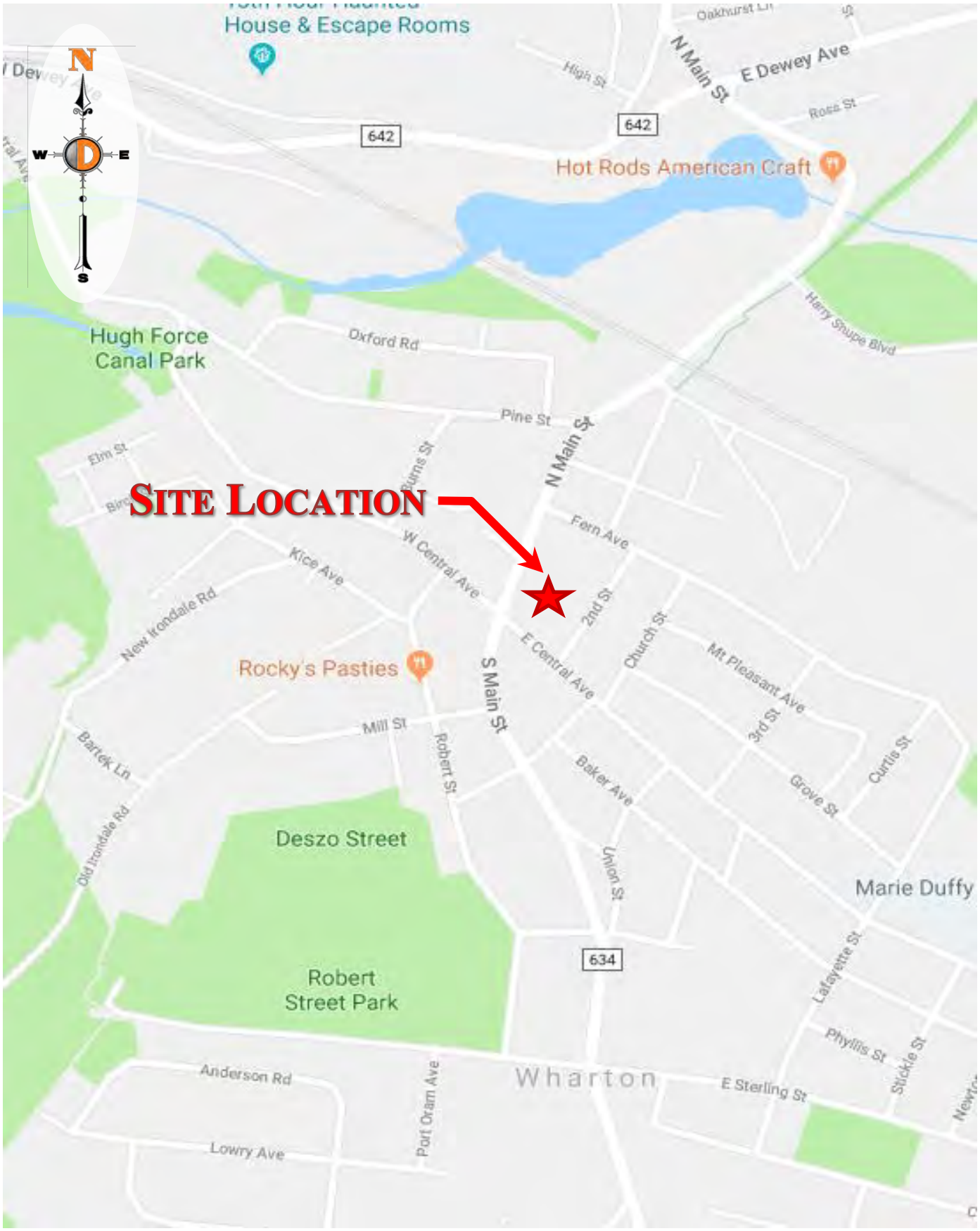
- As proposed, The Project's site driveway and internal circulation have been designed to provide for safe and efficient movement of automobiles.

- The proposed parking supply and design is sufficient to support the projected demand of the site and Borough requirements.

Conclusions

Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic, LLC that the adjacent street system of the Borough of Wharton and Morris County will not experience any significant degradation in operating conditions with the construction of The Project. 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.

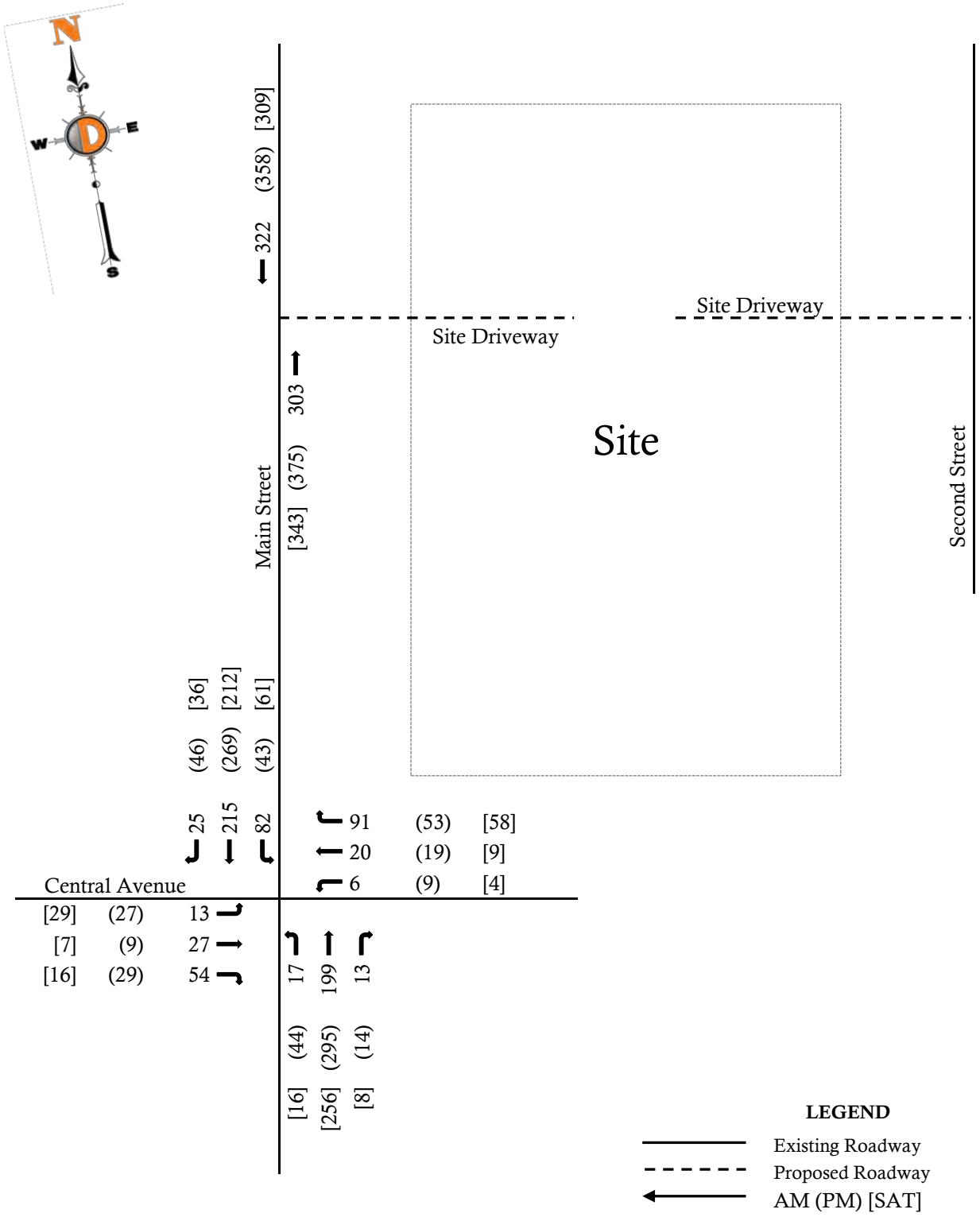
Appendix A
Volume Figures



Proposed Mixed-Use Development
Traffic Impact Study
2340-99-007T
11/20/2019

Figure 1

Site Location Map



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2340-99-007T
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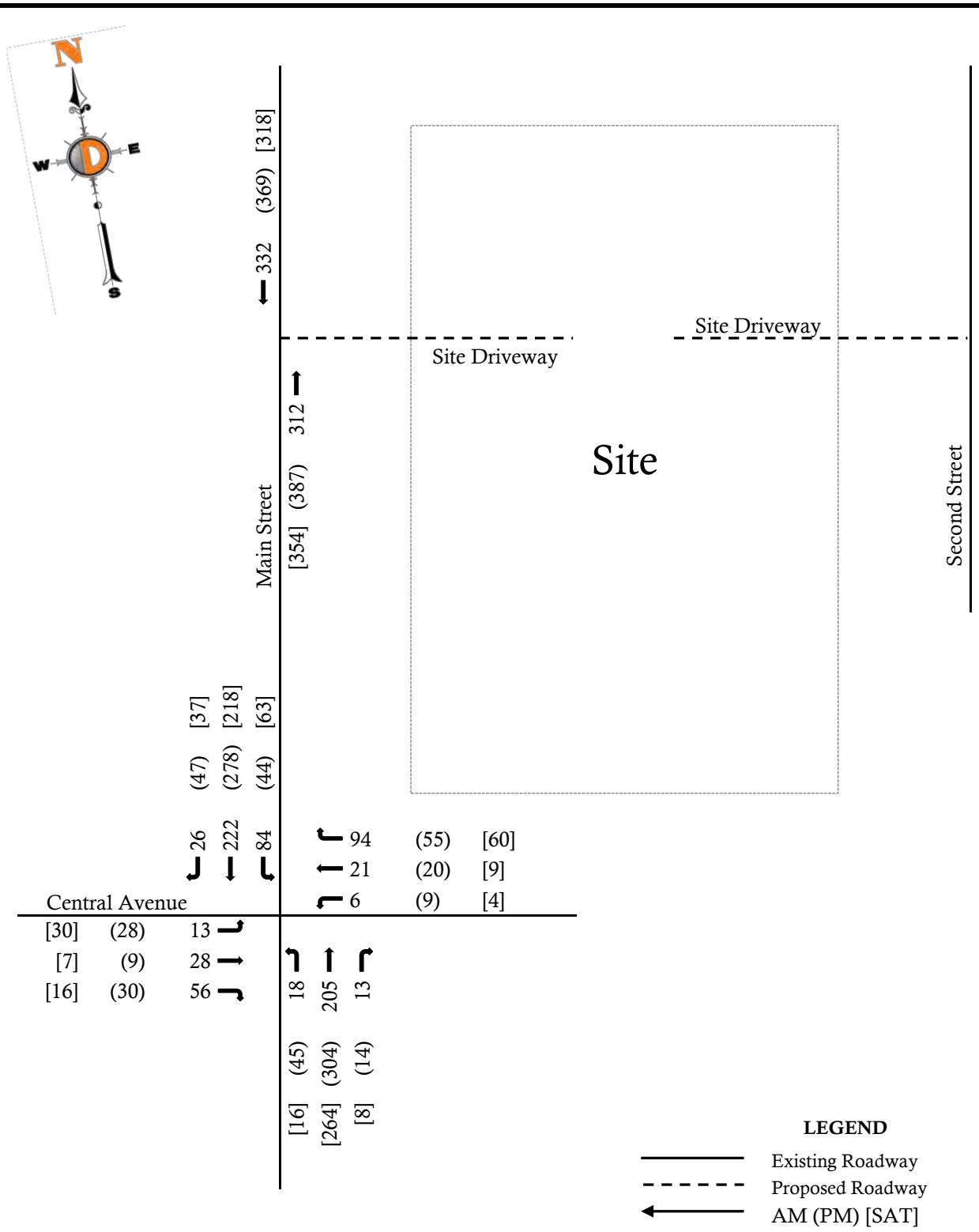
Figure 2

Existing Traffic Volumes



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2340-99-007T
11/20/2019

Figure 3

No Build Traffic Volumes

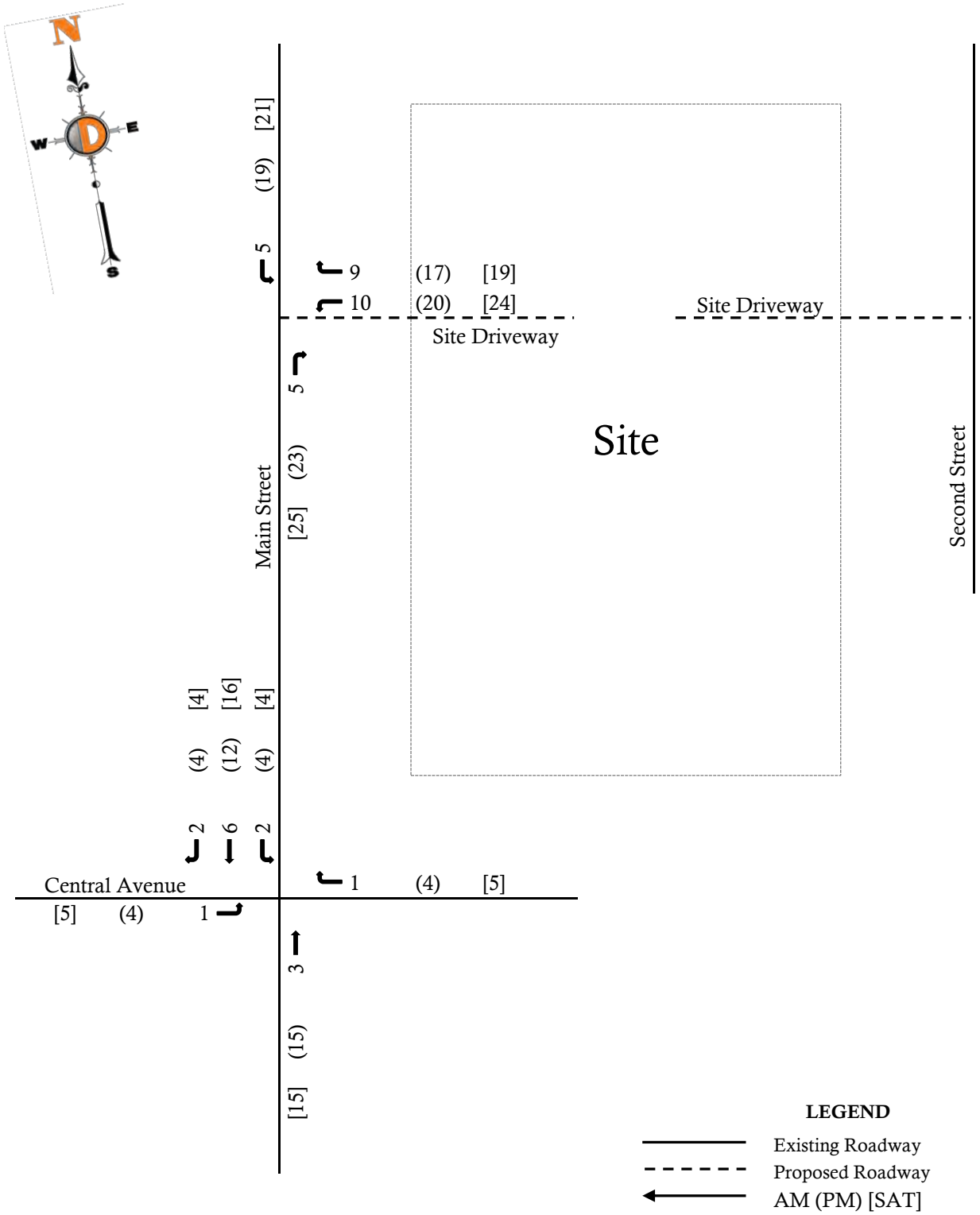

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Figure 4

Primary Site Generated Trips

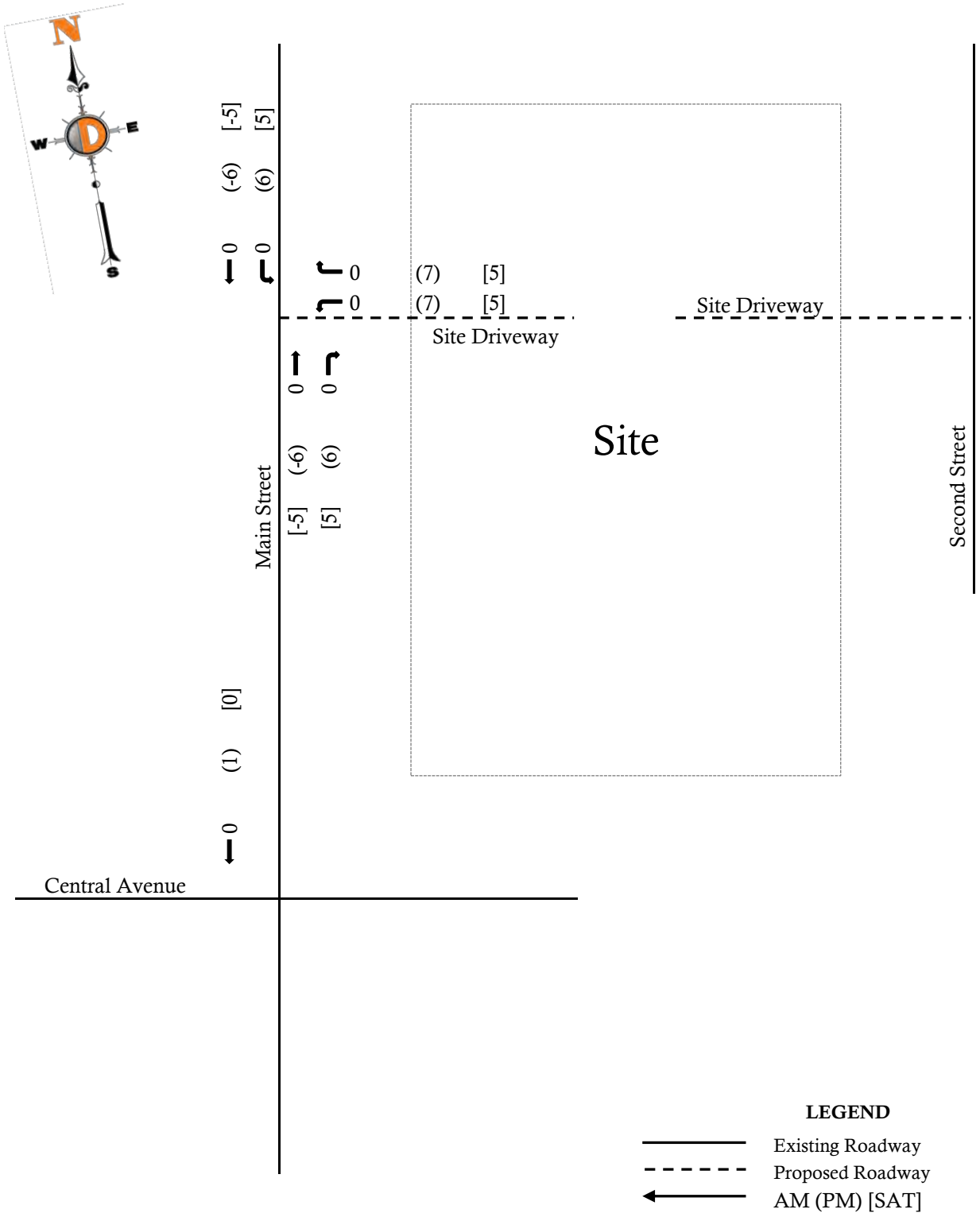

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Figure 5

Passby Site Generated Trips

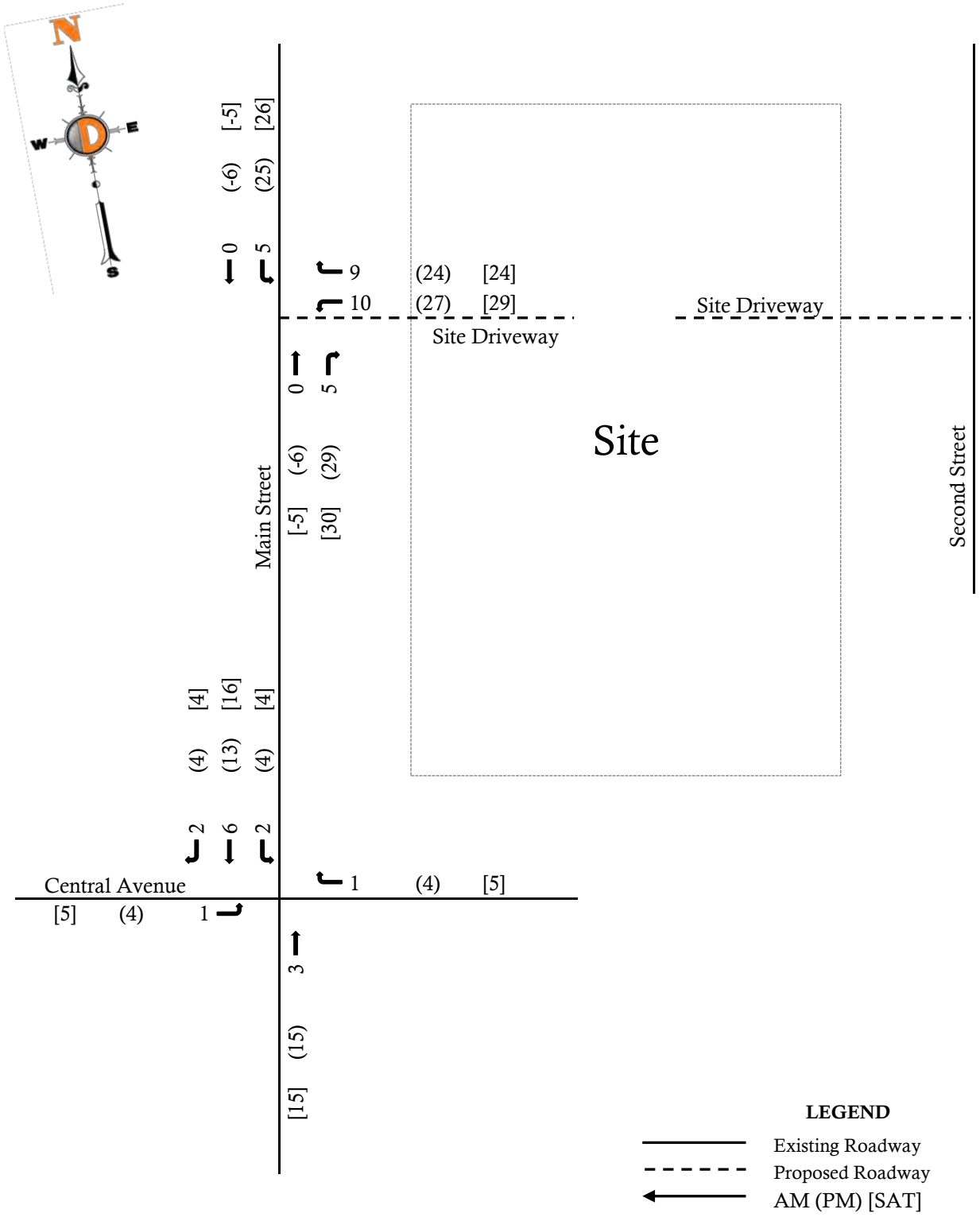

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Figure 6

Total Site Generated Trips

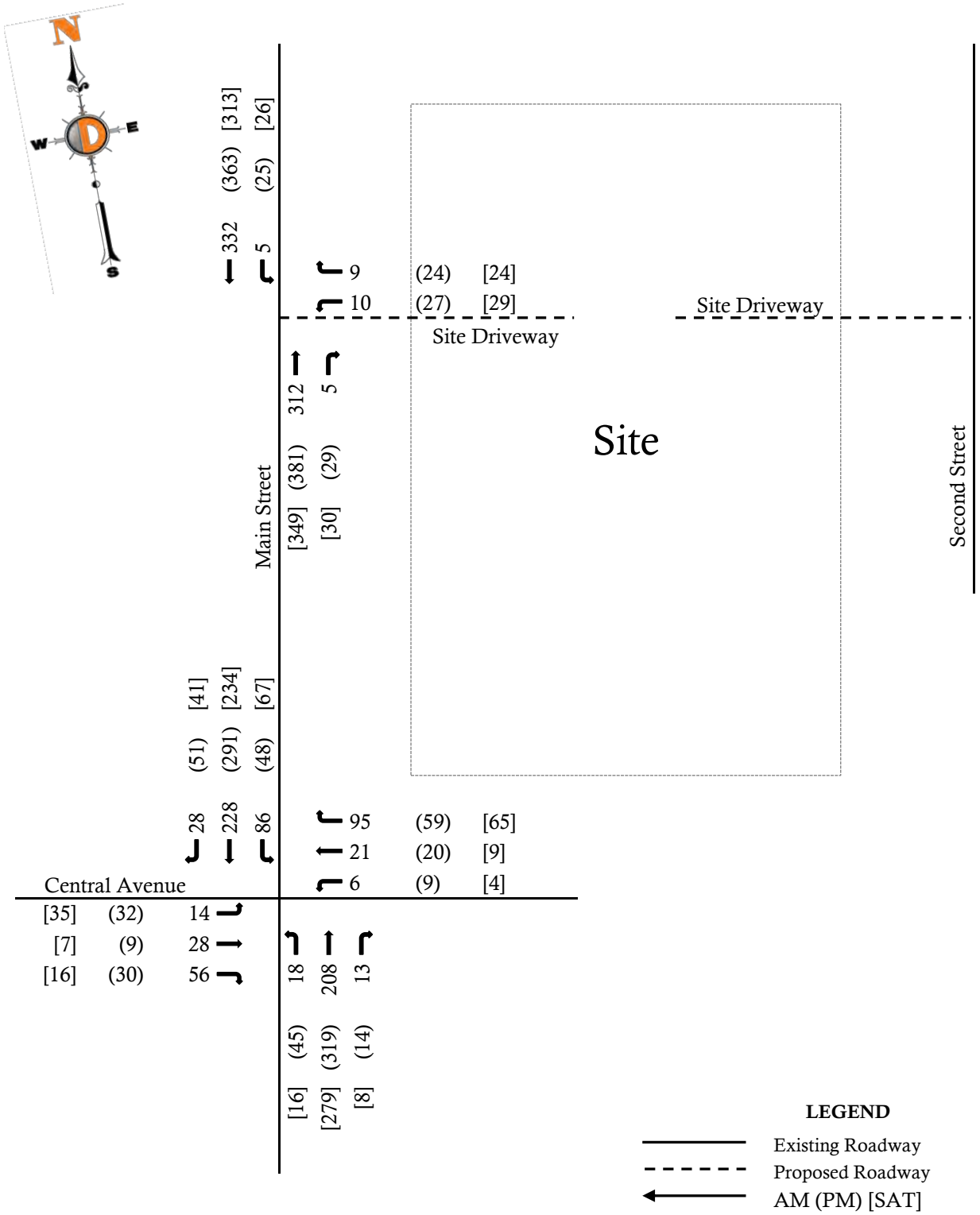

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Figure 7

Build Traffic Volumes

Appendix B
Traffic Counts

Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719
245 Main Street - Suite 110, Chester, NJ 07930
732-681-0760

E/W: Central Ave
N/S: Main St
Town/County: Wharton/Morris
Job #: 2340-99-007T

File Name : Main St and Central Ave - AM and PM
Site Code : 00000000
Start Date : 2/5/2019
Page No : 1

Groups Printed- Cars - Single Unit Trucks - Tractor Trailers

	Central Avenue Eastbound					Central Avenue Westbound					Main Street Northbound					Main Street 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	7	3	16	2	28	0	0	5	0	5	3	56	0	0	59	6	45	3	1	55	147
07:15 AM	3	1	13	3	20	1	2	11	1	15	4	49	1	2	56	7	38	4	0	49	140
07:30 AM	4	4	13	0	21	2	2	13	0	17	2	61	0	1	64	14	47	8	2	71	173
07:45 AM	1	14	15	1	31	1	3	31	2	37	4	42	2	1	49	33	65	5	4	107	224
Total	15	22	57	6	100	4	7	60	3	74	13	208	3	4	228	60	195	20	7	282	684
08:00 AM	5	4	13	0	22	2	6	23	0	31	3	55	3	0	61	11	57	6	0	74	188
08:15 AM	4	3	14	1	22	2	3	12	0	17	6	53	5	0	64	18	44	8	0	70	173
08:30 AM	3	6	12	1	22	1	8	25	0	34	4	49	3	0	56	20	49	6	1	76	188
08:45 AM	8	3	4	2	17	1	3	15	0	19	3	40	3	0	46	11	61	7	0	79	161
Total	20	16	43	4	83	6	20	75	0	101	16	197	14	0	227	60	211	27	1	299	710
*** BREAK ***																					
04:30 PM	13	4	11	5	33	1	4	9	3	17	12	90	5	3	110	10	79	13	2	104	264
04:45 PM	3	3	8	13	27	3	6	15	1	25	13	74	3	3	93	10	66	11	2	89	234
Total	16	7	19	18	60	4	10	24	4	42	25	164	8	6	203	20	145	24	4	193	498
05:00 PM	7	1	7	7	22	3	3	10	1	17	10	61	3	1	75	10	74	13	1	98	212
05:15 PM	4	1	3	4	12	2	6	19	0	27	9	70	3	0	82	13	50	9	2	74	195
05:30 PM	7	6	2	6	21	2	4	12	1	19	12	68	1	1	82	10	70	2	5	87	209
05:45 PM	9	1	4	1	15	0	4	8	1	13	9	58	3	0	70	15	63	10	0	88	186
Total	27	9	16	18	70	7	17	49	3	76	40	257	10	2	309	48	257	34	8	347	802
06:00 PM	8	6	9	4	27	2	8	16	1	27	9	50	6	0	65	14	62	9	3	88	207
06:15 PM	3	2	1	8	14	3	5	10	1	19	7	48	2	5	62	13	56	13	3	85	180
Grand Total	89	62	145	58	354	26	67	234	12	339	110	924	43	17	1094	215	926	127	26	1294	3081
Apprch %	25.1	17.5	41	16.4		7.7	19.8	69	3.5		10.1	84.5	3.9	1.6		16.6	71.6	9.8	2		
Total %	2.9	2	4.7	1.9	11.5	0.8	2.2	7.6	0.4	11	3.6	30	1.4	0.6	35.5	7	30.1	4.1	0.8	42	
Cars	87	62	143	58	350	25	67	234	12	338	107	910	42	17	1076	213	910	127	26	1276	3040
% Cars	97.8	100	98.6	100	98.9	96.2	100	100	100	99.7	97.3	98.5	97.7	100	98.4	99.1	98.3	100	100	98.6	98.7
Single Unit Trucks	2	0	2	0	4	1	0	0	0	1	3	14	1	0	18	2	16	0	0	18	41
% Single Unit Trucks	2.2	0	1.4	0	1.1	3.8	0	0	0	0.3	2.7	1.5	2.3	0	1.6	0.9	1.7	0	0	1.4	1.3
Tractor Trailers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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E/W: Central Ave
N/S: Main St
Town/County: Wharton/Morris
Job #: 2340-99-007T

File Name : Main St and Central Ave - SAT
Site Code : 00000000
Start Date : 1/26/2019
Page No : 1

Groups Printed- Cars - Single Unit Trucks - Tractor Trailers

	Central Avenue Eastbound					Central Avenue Westbound					Main Street Northbound					Main Street 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
11:00 AM	8	5	7	5	25	1	6	15	1	23	4	64	2	0	70	5	84	3	0	92	210
11:15 AM	6	0	3	0	9	1	0	13	2	16	2	55	2	0	59	11	40	6	2	59	143
11:30 AM	1	3	2	1	7	4	2	13	4	23	7	56	4	1	68	11	42	6	0	59	157
11:45 AM	7	1	0	3	11	1	2	15	4	22	5	61	4	7	77	9	60	8	1	78	188
Total	22	9	12	9	52	7	10	56	11	84	18	236	12	8	274	36	226	23	3	288	698
12:00 PM	10	2	5	2	19	0	2	11	1	14	4	60	1	1	66	15	52	15	0	82	181
12:15 PM	6	3	7	0	16	2	3	18	0	23	3	74	2	3	82	26	48	8	0	82	203
12:30 PM	6	1	4	1	12	1	2	14	1	18	4	61	1	2	68	11	52	5	1	69	167
12:45 PM	4	4	3	2	13	1	2	11	1	15	4	57	3	0	64	12	47	5	0	64	156
Total	26	10	19	5	60	4	9	54	3	70	15	252	7	6	280	64	199	33	1	297	707
01:00 PM	4	2	1	2	9	0	2	11	1	14	8	55	2	0	65	9	36	3	1	49	137
01:15 PM	6	1	3	0	10	0	1	12	0	13	2	54	0	0	56	11	43	5	1	60	139
01:30 PM	7	2	4	0	13	0	1	15	1	17	4	61	5	0	70	10	45	8	0	63	163
01:45 PM	6	3	4	3	16	1	2	31	0	34	3	55	1	1	60	21	54	3	1	79	189
Total	23	8	12	5	48	1	6	69	2	78	17	225	8	1	251	51	178	19	3	251	628
Grand Total	71	27	43	19	160	12	25	179	16	232	50	713	27	15	805	151	603	75	7	836	2033
Apprch %	44.4	16.9	26.9	11.9		5.2	10.8	77.2	6.9		6.2	88.6	3.4	1.9		18.1	72.1	9	0.8		
Total %	3.5	1.3	2.1	0.9	7.9	0.6	1.2	8.8	0.8	11.4	2.5	35.1	1.3	0.7	39.6	7.4	29.7	3.7	0.3	41.1	
Cars	69	27	42	19	157	12	23	177	16	228	50	706	27	15	798	146	595	75	7	823	2006
% Cars	97.2	100	97.7	100	98.1	100	92	98.9	100	98.3	100	99	100	100	99.1	96.7	98.7	100	100	98.4	98.7
Single Unit Trucks	2	0	1	0	3	0	2	2	0	4	0	7	0	0	7	5	8	0	0	13	27
% Single Unit Trucks	2.8	0	2.3	0	1.9	0	8	1.1	0	1.7	0	1	0	0	0.9	3.3	1.3	0	0	1.6	1.3
Tractor Trailers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Tractor Trailers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix C
Capacity Analysis

HCS7 Two-Way Stop-Control Report

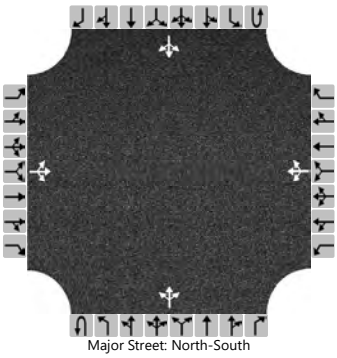
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	EX
Time Analyzed	AM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	27	54		6	20	91		17	199	13		82	215	25
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.70	6.10	6.00		6.90	6.30	6.10		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			109				136			20				95		
Capacity, c (veh/h)			471				592			1295				1331		
v/c Ratio			0.23				0.23			0.02				0.07		
95% Queue Length, Q_{95} (veh)			0.9				0.9			0.0				0.2		
Control Delay (s/veh)			14.9				12.9			7.8				7.9		
Level of Service (LOS)			B				B			A				A		
Approach Delay (s/veh)	14.9				12.9				0.7				2.5			
Approach LOS	B				B											

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HCS7 Two-Way Stop-Control Report

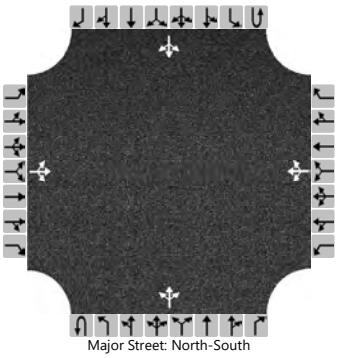
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	EX
Time Analyzed	PM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		27	9	29		9	19	53		44	295	14		43	269	46
Percent Heavy Vehicles (%)		0	0	0		0	0	0		5				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.70	6.10	6.00		6.90	6.30	6.10		4.15				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.25				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			76				94			51				50		
Capacity, c (veh/h)			329				430			1176				1211		
v/c Ratio			0.23				0.22			0.04				0.04		
95% Queue Length, Q_{95} (veh)			0.9				0.8			0.1				0.1		
Control Delay (s/veh)			19.2				15.7			8.2				8.1		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	19.2				15.7				1.4				1.3			
Approach LOS	C				C											

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HCS7 Two-Way Stop-Control Report

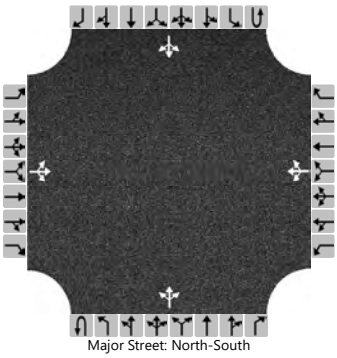
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	EX
Time Analyzed	SAT PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		29	7	16		4	9	58		16	256	8		61	212	36
Percent Heavy Vehicles (%)		3	0	6		0	11	3		0				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.73	6.10	6.06		6.90	6.41	6.13		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.00	3.35		3.50	4.10	3.33		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			57				78			18				67		
Capacity, c (veh/h)			382				610			1302				1283		
v/c Ratio			0.15				0.13			0.01				0.05		
95% Queue Length, Q_{95} (veh)			0.5				0.4			0.0				0.2		
Control Delay (s/veh)			16.1				11.8			7.8				8.0		
Level of Service (LOS)			C				B			A				A		
Approach Delay (s/veh)	16.1				11.8				0.6				2.0			
Approach LOS	C				B											

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HCS7 Two-Way Stop-Control Report

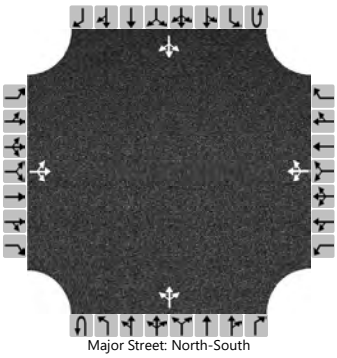
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	NB
Time Analyzed	AM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		13	28	56		6	21	94		18	205	13		84	222	26
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.70	6.10	6.00		6.90	6.30	6.10		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			113				141			21				98		
Capacity, c (veh/h)			460				579			1285				1323		
v/c Ratio			0.25				0.24			0.02				0.07		
95% Queue Length, Q_{95} (veh)			1.0				0.9			0.0				0.2		
Control Delay (s/veh)			15.4				13.2			7.8				7.9		
Level of Service (LOS)			C				B			A				A		
Approach Delay (s/veh)	15.4				13.2				0.7				2.5			
Approach LOS	C				B											

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HCS7 Two-Way Stop-Control Report

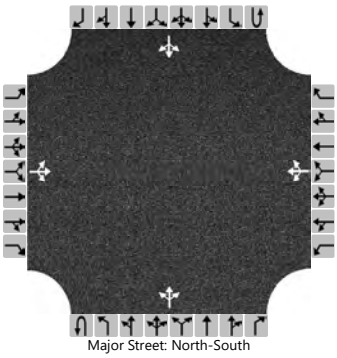
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	NB
Time Analyzed	PM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		28	9	30		9	20	55		45	304	14		44	278	47
Percent Heavy Vehicles (%)		0	0	0		0	0	0		5				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.70	6.10	6.00		6.90	6.30	6.10		4.15				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.25				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			78				98			52				51		
Capacity, c (veh/h)			315				418			1164				1200		
v/c Ratio			0.25				0.23			0.04				0.04		
95% Queue Length, Q_{95} (veh)			1.0				0.9			0.1				0.1		
Control Delay (s/veh)			20.2				16.2			8.2				8.1		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	20.2				16.2				1.4				1.4			
Approach LOS	C				C											

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HCS7 Two-Way Stop-Control Report

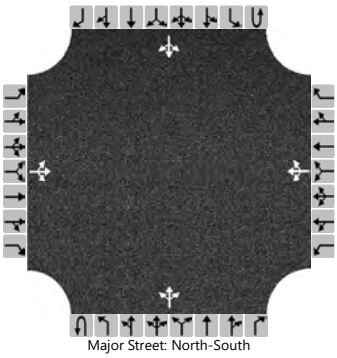
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	NB
Time Analyzed	SAT PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		30	7	16		4	9	60		16	264	8		63	218	37
Percent Heavy Vehicles (%)		3	0	6		0	11	3		0				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.73	6.10	6.06		6.90	6.41	6.13		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.00	3.35		3.50	4.10	3.33		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			58				80			18				69		
Capacity, c (veh/h)			368				602			1294				1274		
v/c Ratio			0.16				0.13			0.01				0.05		
95% Queue Length, Q_{95} (veh)			0.6				0.5			0.0				0.2		
Control Delay (s/veh)			16.6				11.9			7.8				8.0		
Level of Service (LOS)			C				B			A				A		
Approach Delay (s/veh)	16.6				11.9				0.6				2.0			
Approach LOS	C				B											

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HCS7 Two-Way Stop-Control Report

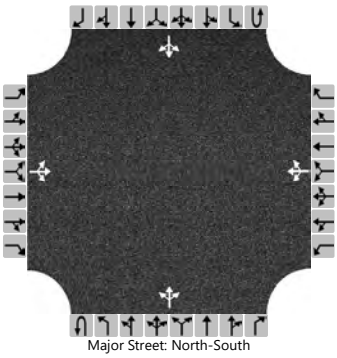
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	FB
Time Analyzed	AM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		14	28	56		6	21	95		18	208	13		86	228	28
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.70	6.10	6.00		6.90	6.30	6.10		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			114				142			21				100		
Capacity, c (veh/h)			446				572			1275				1320		
v/c Ratio			0.26				0.25			0.02				0.08		
95% Queue Length, Q_{95} (veh)			1.0				1.0			0.1				0.2		
Control Delay (s/veh)			15.8				13.3			7.9				8.0		
Level of Service (LOS)			C				B			A				A		
Approach Delay (s/veh)	15.8				13.3				0.7				2.5			
Approach LOS	C				B											

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HCS7 Two-Way Stop-Control Report

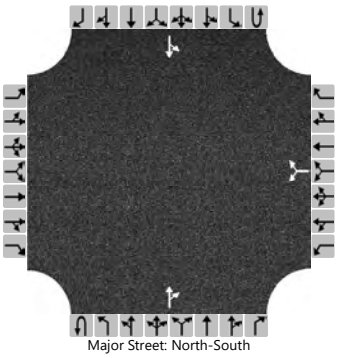
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	FB
Time Analyzed	AM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Site Driveway
Jurisdiction	County
East/West Street	Site Driveway
North/South Street	Main Street
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						10		9			312	5		5	332	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)					1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.62		6.32						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							22							6		
Capacity, c (veh/h)							466							1198		
v/c Ratio							0.05							0.00		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
Control Delay (s/veh)							13.1							8.0		
Level of Service (LOS)							B							A		
Approach Delay (s/veh)					13.1								0.2			
Approach LOS					B											

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HCS7 Two-Way Stop-Control Report

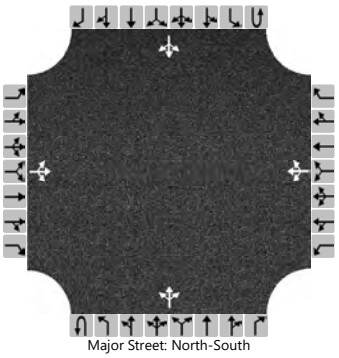
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	FB
Time Analyzed	PM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		32	9	30		9	20	59		45	319	14		48	291	51
Percent Heavy Vehicles (%)		0	0	0		0	0	0		5				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.70	6.10	6.00		6.90	6.30	6.10		4.15				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.25				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			83				102			52				56		
Capacity, c (veh/h)			284				404			1145				1182		
v/c Ratio			0.29				0.25			0.05				0.05		
95% Queue Length, Q_{95} (veh)			1.2				1.0			0.1				0.1		
Control Delay (s/veh)			22.8				16.9			8.3				8.2		
Level of Service (LOS)			C				C			A				A		
Approach Delay (s/veh)	22.8				16.9				1.4				1.4			
Approach LOS	C				C											

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HCS7 Two-Way Stop-Control Report

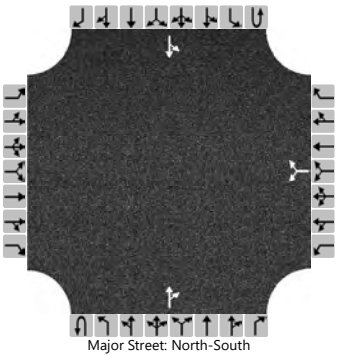
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	FB
Time Analyzed	PM PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Site Driveway
Jurisdiction	County
East/West Street	Site Driveway
North/South Street	Main Street
Peak Hour Factor	0.86
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						27		24			381	29		25	363	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)						1										
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.62		6.32						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							59							29		
Capacity, c (veh/h)							361							1085		
v/c Ratio							0.16							0.03		
95% Queue Length, Q_{95} (veh)							0.6							0.1		
Control Delay (s/veh)							16.9							8.4		
Level of Service (LOS)							C							A		
Approach Delay (s/veh)						16.9							0.8			
Approach LOS						C										

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HCS7 Two-Way Stop-Control Report

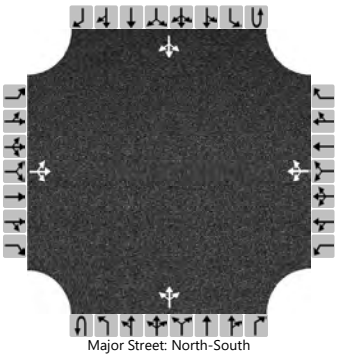
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	FB
Time Analyzed	SAT PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Central Ave
Jurisdiction	County
East/West Street	Central Avenue
North/South Street	Main Street
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		35	7	16		4	9	65		16	279	8		67	234	41
Percent Heavy Vehicles (%)		3	0	6		0	11	3		0				0		
Proportion Time Blocked																
Percent Grade (%)	-2				-1											
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		6.73	6.10	6.06		6.90	6.41	6.13		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.53	4.00	3.35		3.50	4.10	3.33		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			64				86			18				74		
Capacity, c (veh/h)			333				588			1270				1256		
v/c Ratio			0.19				0.15			0.01				0.06		
95% Queue Length, Q_{95} (veh)			0.7				0.5			0.0				0.2		
Control Delay (s/veh)			18.3				12.2			7.9				8.0		
Level of Service (LOS)			C				B			A				A		
Approach Delay (s/veh)	18.3				12.2				0.5				2.0			
Approach LOS	C				B											

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HCS7 Two-Way Stop-Control Report

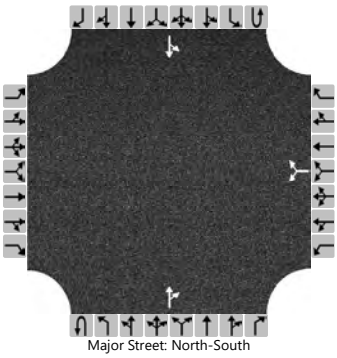
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	11/19/2019
Analysis Year	FB
Time Analyzed	SAT PSH
Intersection Orientation	North-South
Project Description	2340-99-007T

Site Information

Intersection	Main St & Site Driveway
Jurisdiction	County
East/West Street	Site Driveway
North/South Street	Main Street
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

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		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						29		24			349	30		26	313	
Percent Heavy Vehicles (%)						2		2						2		
Proportion Time Blocked																
Percent Grade (%)						1										
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.62		6.32						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.52		3.32						2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							58							29		
Capacity, c (veh/h)							421							1143		
v/c Ratio							0.14							0.03		
95% Queue Length, Q_{95} (veh)							0.5							0.1		
Control Delay (s/veh)							14.9							8.2		
Level of Service (LOS)							B							A		
Approach Delay (s/veh)						14.9							0.9			
Approach LOS						B										

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