TRAFFIC IMPACT STUDY

For

Old 22 Urban Renewal Associates, LLC
Proposed Mixed-Use Development

Property Located at:

49 NJSH Route 173 (Old Highway 22)
Block 21 – Lots 29, 30.01, 31, 32 & 33
Town of Clinton, Hunterdon County, NJ

Prepared by:

DYNAMIC TRAFFIC

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2362-99-007T

CGH

INTRODUCTION

It is proposed to construct a mixed-use development consisting of 120 residential units and 4,363 SF of ground floor retail space (The Project) on a parcel of land located along the north side of Route 173 (Old Highway 22) between its intersections with New Street and Center Street in the Town of Clinton, Hunterdon County, New Jersey, see Figure 1 in Appendix A. The site is designated as Block 21 – Lots 29, 30.01, 31, 32 & 33 on the Town Tax Maps. The site is currently developed with a vacated A&P supermarket. Access to the site is currently provided via four (4) full movement driveways along Route 173 as well as cross access with the adjacent property to the east. It is proposed to close the existing access points and provide access to the site via one (1) full movement driveway and one (1) emergency access only driveway along Route 173. Parking will be provided via two hundred eight (208) on-site parking stalls.

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 morning and evening peak periods at the intersections of Route 173 with the East Bank of America (BOA) Driveway/Napa Driveway and Route 173 with the West BOA Driveway.

- Projections 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 intersections.

- The proposed point of ingress and egress was 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:

NJ Route 173 (Old Highway 22) is an Urban Minor Arterial roadway under the jurisdiction of the New Jersey Department of Transportation (NJDOT). In the vicinity of the site the posted speed limit is 30 MPH and the roadway provides one travel lane in each direction with a general east/west orientation. On-street parking is not permitted along either side of the roadway while curb and sidewalk is provided along portions of both sides of the roadway. Route 173 provides a slightly curved horizontal alignment and a relatively flat vertical alignment. The land uses along Route 173 in the vicinity of the site are primarily commercial.

Existing Traffic Volumes

Manual turning movement (MTM) counts were conducted on Thursday, July 9, 2020 between 7:00 – 9:00 AM and between 4:30 – 6:30 PM at the intersections of Route 173 with the East BOA Driveway/Napa Driveway and Route 173 with the West BOA Driveway. Additional MTM counts were also conducted at the intersection of West Main Street (NJ Route 173/173Z), Pittstown Road (CR 513) and the I-78 Westbound Off-Ramp during identical time frames.

It should be noted that stay-at-home protocols and travel restrictions associated with the COVID-19 pandemic were in effect as of the time of the traffic counts. As a result, current traffic volumes on the surrounding roadways are atypically low at this time and would not be representative of "existing" traffic conditions. Therefore, historical traffic volume data has been reviewed and compared with current traffic conditions.

Previous MTM counts conducted by this firm at the intersection of West Main Street, Pittstown Road and the I-78 Westbound Off-Ramp on Tuesday, February 11, 2020 between 4:30 – 6:30 PM and on Tuesday, February 18, 2020 between 7:00 – 9:00 AM were utilized to represent the "existing" traffic volumes. The February 2020 MTM traffic volumes representative of "existing" conditions were then compared to the July 2020 MTM volumes. Adjustment factors of 1.22 and 1.09 were then applied to the weekday morning and weekday evening counts, respectively, to develop traffic volumes at the study intersections that best represent "existing" conditions.

Similarly, the traffic volumes accessing Napa and Bank of America collected during the MTM count were compared to ITE trip generation data for LUC 843 – Automobile Parts Sales and LUC 912 – Drive-In Bank, respectively in order to determine whether the trip generation magnitude is currently less than typical conditions. Upon comparison of the data, it was determined that the current trip generation for both uses is generally comparable to the ITE data and as such no further adjustments were applied.

Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 8:00 – 9:00 AM and the weekday evening PSH occurs between 4:30 – 5:30 PM. Figure 2 in Appendix A shows the existing peak hour traffic volumes at the study intersections. All MTM counts are contained in Appendix B.

Seasonal Adjustment

Traffic volumes in the Town of Clinton are also influenced by the seasonal traffic patterns associated with schools in the area. As such, the established July 2020 traffic counts may not be fully representative of peak traffic conditions in Clinton when school is in session. To account for summer traffic patterns in the area, the MTM counts were further adjusted using the seasonal adjustment factors published by NJDOT. Seasonal adjustment factors are presented for various regions in the state. Clinton is located in Region 2. Region 2 is described as follows by NJDOT.

> *" Traffic in rural Northwestern section of New Jersey - Pennsylvania - New York area that serve local truck traffic, agricultural, retail and manufacturing with winter season recreational activities and various camping sites during summer."*

To account for the seasonal variations, a factor of 1.10 was applied to the MTM counts to represent the peak traffic activity during the school year. This factor is calculated by dividing the peak non-summer factor of .943 into the July factor of 1.041.

Existing Capacity Analysis

The methodology utilized in the capacity analyses is based on the *Highway Capacity Manual 2010*, 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 the Highway Capacity Software (HCS 7). Table II summarizes the existing Levels of Service and delay in seconds per vehicle. All capacity analysis calculation worksheets are contained in Appendix C.

Table II
Existing Levels of Service

Intersection	Direction/ Movement		AM PSH	PM PSH
Route 173 and East BOA Driveway/Napa Driveway	EB	LT	A (8)	A (8)
	NB	LTR	B (11)	B (13)
	SB	LR	B (13)	B (12)
Route 173 and West BOA Driveway	WB	LT	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.

Route 173 and East BOA Driveway/Napa Driveway

The East BOA Driveway/Napa Driveway intersects Route 173 to form an unsignalized four-leg intersection with the East BOA Driveway/Napa Driveway under stop control. The eastbound and westbound approaches of Route 173 provide a shared left turn/through lane and a shared through/right turn lane, respectively. The northbound approach of the East BOA Driveway provides a shared left turn/through/right turn lane. The southbound approach of the Napa Driveway provides a shared left turn/right turn lane. It should be noted that although there are currently multiple driveways which provide access to Napa, the access points were conservatively combined into a single driveway for analysis purposes.

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

Route 173 and West BOA Driveway

The West BOA Driveway intersects Route 173 to form an unsignalized T-intersection. The eastbound and westbound approaches of Route 173 provide a shared through/right turn lane and a shared left turn/through lane, respectively. The West BOA Driveway approach provides a single southbound lane away from the intersection.

A review of the existing analysis reveals that the individual intersection movements operate at Level of Service "A" 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 Future No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of 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% per year.

Through consultation with the Town of Clinton Planning Board staff, there is one development in the vicinity of the site that is identified as a potential significant traffic generator, shown below. It was assumed that the background growth rate was adequate to account for the traffic associated with all developments not listed hereafter.

- The redevelopment of an existing Shell fueling station and 1,448 SF auto repair garage into a 1,050 SF Dunkin Donuts with drive thru and a fueling station, located in the northeast quadrant of the intersection of West Main Street, Pittstown Road and the I-78 Westbound Off-Ramp, has not yet been approved but was conservatively included. Projections of the associated traffic volumes were developed utilizing the *Traffic Impact Study* prepared by this firm and dated April 8, 2020.

Future No Build traffic volumes were developed by applying the background growth rate of 1% per year for two (2) years to the study area roadways existing traffic volumes and by adding the site generated traffic associated with the adjacent developments. Figure 3, in Appendix A of this report, shows the Adjacent Development Traffic Volumes at the study intersections and Figure 4 shows the Future No Build traffic volumes.

Traffic Generation

Estimates 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) 231 – Mid-Rise Residential with 1st-Floor Commercial. Table III summarizes the estimated trips generated by The Project.

Table III
Trip Generation

Land Use	AM PSH			PM PSH		
	In	Out	Total	In	Out	Total
120 Residential Units with 1st-Floor Commercial	10	26	36	30	13	43

As mentioned previously, the site is currently developed with a vacated A&P supermarket which has trip generation potential if it were re-occupied. The following Table IV compares the proposed use to the existing trip generation potential of the site.

Table IV
Existing vs. Proposed Trip Generation Comparison

Land Use	AM PSH			PM PSH		
	In	Out	Total	In	Out	Total
Existing 28,500 SF Supermarket	65	44	109	156	150	306
Proposed 120 Residential Units with 1st-Floor Commercial	10	26	36	30	13	43
Difference	**-55**	**-18**	**-73**	**-126**	**-137**	**-263**

As seen above, the proposed redevelopment will result in a significantly less peak hour trips when compared to the trip generation potential of the existing supermarket. However, in order to perform a more conservative analysis, no credit was taken for the existing use of the site and all trip generation was considered an increase over vacant land. This accounts for a "worst case scenario" from a traffic impact perspective.

Furthermore, it should be noted that the number of new trips falls below the industry accepted standard of a significant increase in traffic of 100 trips. Based on *Transportation Impact Analysis for Site Development*, published by the ITE "it is suggested that a transportation impact study be conducted whenever a proposed development will generate 100 or more added (new) trips during the adjacent roadways' peak hour or the development's peak hour." Additionally, NJDOT has determined that the same 100 vehicle threshold is considered a "significant increase in traffic," hence, it is not anticipated that the proposed redevelopment will have any perceptible impact on the traffic operation of the adjacent roadway network.

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 5 illustrates the site generated traffic volumes. The site generated volumes were added to the Future No Build traffic volumes to generate the Future Build traffic volumes, which are shown in Figure 6.

Future Capacity Analysis

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

Table V
Future Levels of Service

Intersection	Direction/ Movement		AM PSH		PM PSH	
			No Build	Build	No Build	Build
Route 173 and East BOA Driveway/Napa Driveway	EB	LT	A (8)	A (8)	A (8)	A (8)
	NB	LTR	B (11)	B (11)	B (13)	B (13)
	SB	LR	B (13)	B (13)	B (12)	B (12)
Route 173 and West BOA Driveway	WB	LT	A (8)	A (8)	A (8)	A (8)
Route 173 and Site Driveway	EB	LT	-	A (8)	-	A (8)
	SB	LR	-	B (11)	-	B (12)

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

Route 173 and East BOA Driveway/Napa Driveway

With the addition of the site traffic, the individual intersection movements will continue to operate at Level of Service "B" or better during the analyzed peak hours, maintaining No Build Levels of Service. See Table V for the individual movement Levels of Service and delays.

Route 173 and West BOA Driveway

With the addition of the site traffic, the individual intersection movements will continue to operate at Level of Service "A" during the analyzed peak hours, maintaining No Build Levels of Service. See Table V for the individual movement Levels of Service and delays.

Route 173 and the Site Driveway

The site driveway is proposed to intersect Route 173 to form an unsignalized T-intersection with the site driveway under stop control. The eastbound and westbound approaches of Route 173 will provide a shared left turn/through land and a shared through/right turn lane, respectively. The southbound approach of the site driveway will provide a single lane for left and right turns.

As designed, the individual intersection movements will operate at Level of Service "B" or better during the analyzed peak hours. See Table V for the individual movement Levels of Service and delays.

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 and one (1) emergency access only driveway along Route 173.

The newly constructed parking areas will be serviced by parking aisles with a width of 24 feet, which meets the Redevelopment Plan requirement. These aisles will allow for two-way circulation and 90 degree parking. Review of the site plan design indicates that the site can sufficiently accommodate the automobile traffic anticipated.

Parking

The Redevelopment Plan set forth a parking requirement of 1.5 parking spaces per residential unit and 1 parking space per 250 SF of non-residential floor area. It should be noted that in addition to the retail space, the Redevelopment Plan also classifies office space and fitness centers to be included as non-residential floor area. As such, the combined square footage of retail, office and fitness center space was utilized to calculate the parking requirement for the non-residential portion of the site. With 120 residential units and 6,892 SF of non-residential floor area proposed this equates to a parking requirement of 208 spaces. The site as proposed provides 208 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 requirement of 9'x18' as well as industry standard parking stall sizes. Given the low-turnover expected for the majority of the parking spaces, these dimensions will adequately accommodate the site.

FINDINGS & CONCLUSIONS

Findings

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

- The proposed 120 residential units and 4,363 SF of ground floor retail space will generate 10 entering trips and 26 exiting trips during the morning peak hour and 30 entering trips and 13 exiting trips during the evening peak hour.

- Access to the site will be provided via one (1) full movement driveway and one (1) emergency access only driveway along Route 173.

- With the addition of the site traffic, the individual intersection movements of Route 173 and the East BOA Driveway/Napa Driveway will continue to operate at Levels of Service "B" or better during the peak hours studied, maintaining No Build Levels of Service.

- With the addition of the site traffic, the individual intersection movements of Route 173 and the West BOA Driveway will continue to operate at Levels of Service "A" during the peak hours studied, maintaining No Build Levels of Service.

- As designed, the individual intersection movements of Route 173 and the site driveway will operate at Levels of Service "B" or better during the peak hours studied.

- As proposed, The Project's site driveways 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 and satisfies the Redevelopment Plan requirements.

Conclusions

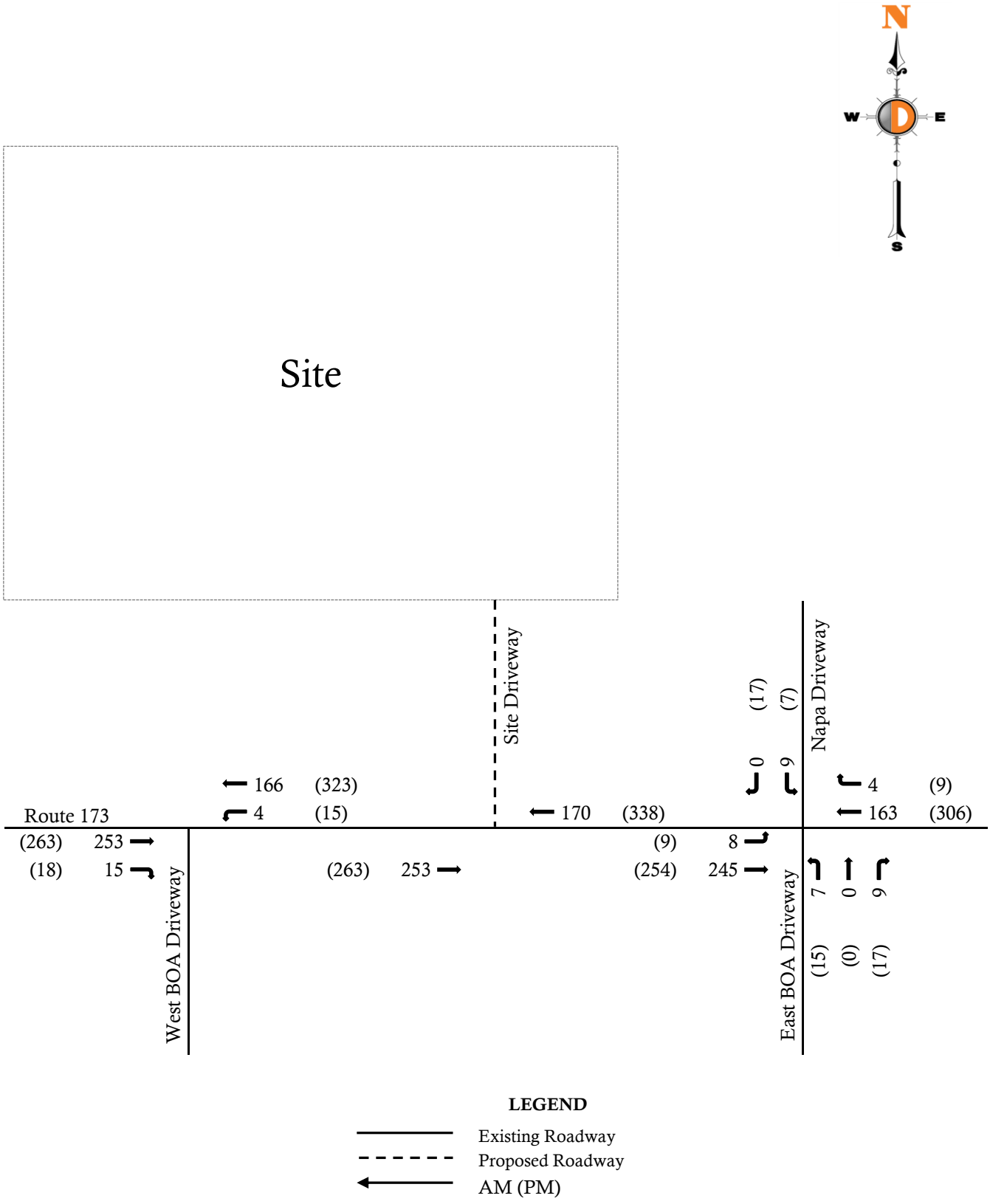
Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic, LLC that the adjacent street system of the Town of Clinton and NJDOT will not experience any significant degradation in operating conditions with the intersection improvements recommended. The site driveway is 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
Traffic Volume Figures

Proposed Mixed-Use Development
Traffic Impact Study
2362-99-007T
8/13/2020

Figure 1

Site Location Map



Proposed Mixed-Use Development
Traffic Impact Study
2362-99-007T
8/13/2020

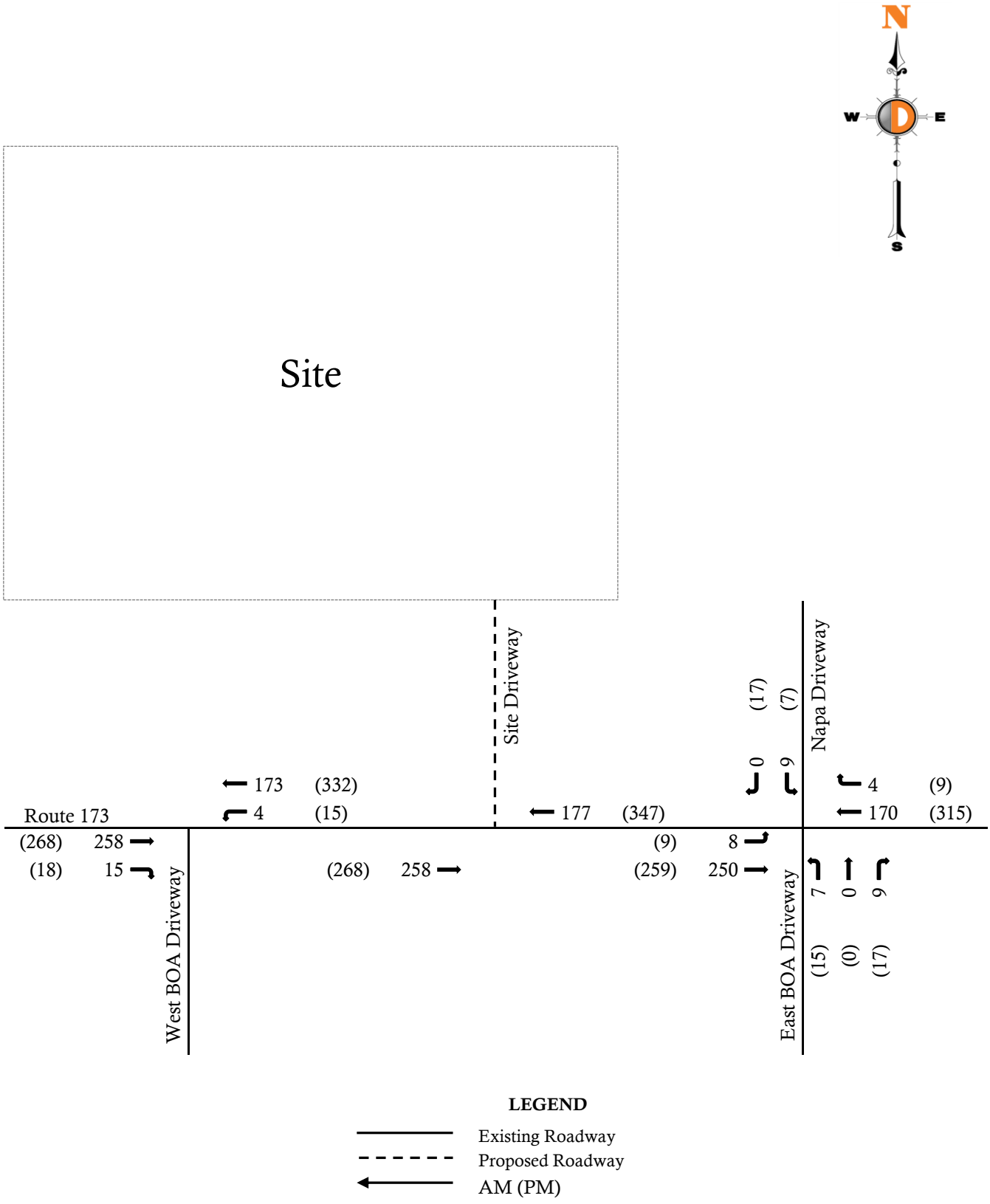
Figure 2

Existing Traffic Volumes

Proposed Mixed-Use Development
Traffic Impact Study
2362-99-007T
8/13/2020

Figure 3

Adjacent Development Traffic Volumes



Proposed Mixed-Use Development
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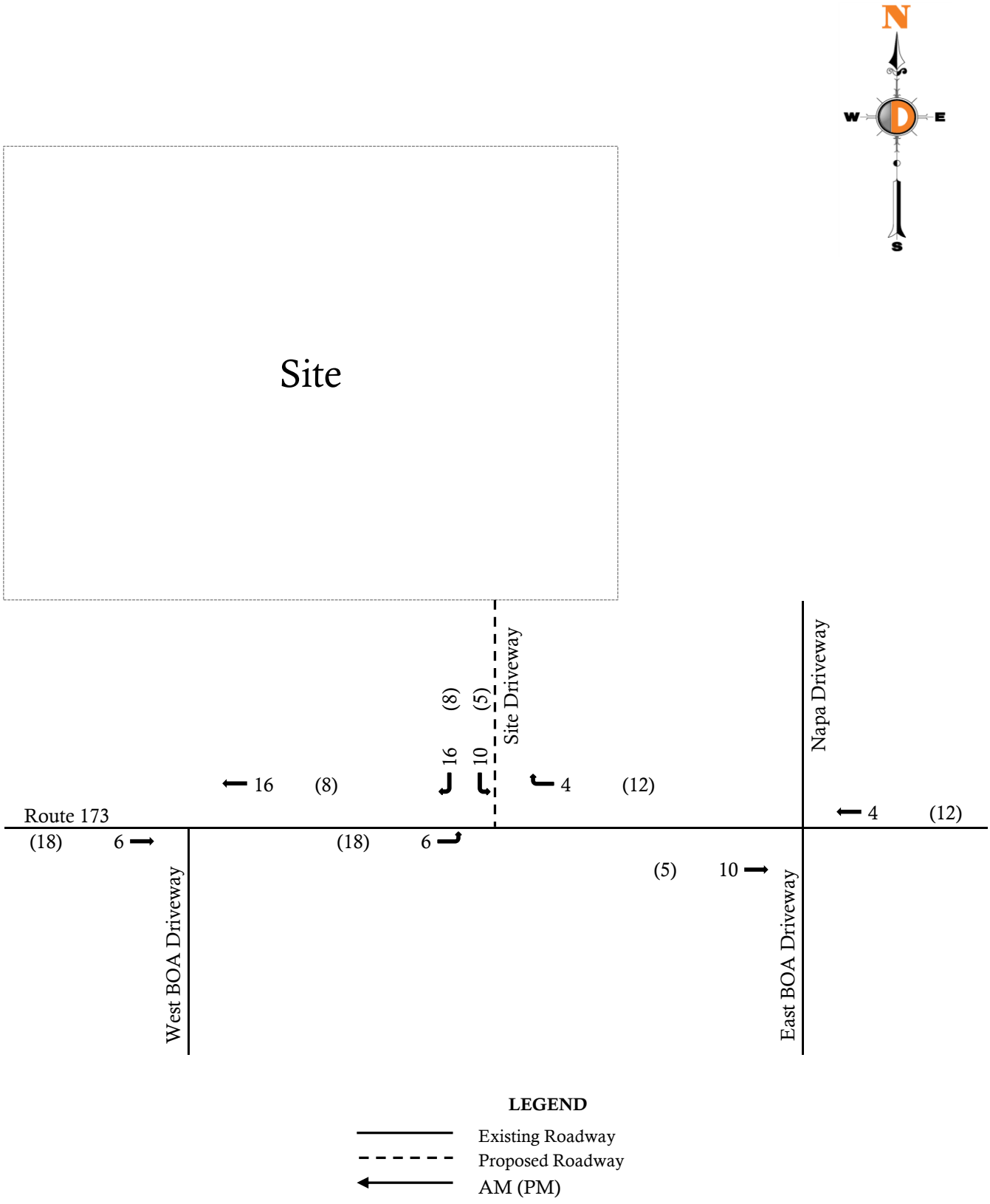
8/13/2020

Figure 4

No Build Traffic Volumes



Proposed Mixed-Use Development
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Figure 5

Site Generated Trips

Proposed Mixed-Use Development
Traffic Impact Study
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8/13/2020

Figure 6

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: Route 173
N/S: BOA Driveway/Napa Driveway
Town/County: Clinton/Hunterdon
Job#: 2362-99-007T

File Name : Route 173 & Napa & BOA Driveways - AM&PM
Site Code : 00000000
Start Date : 7/9/2020
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Route 173 (Old Highway 22) Eastbound					Route 173 (Old Highway 22) Westbound					Bank of America Driveway Northbound					Napa Driveway 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	1	26	0	0	27	2	19	1	0	22	1	0	0	0	1	0	0	0	1	1	51
07:15 AM	3	39	3	0	45	4	18	1	0	23	2	0	4	0	6	0	0	1	0	1	75
07:30 AM	1	43	1	0	45	3	23	0	0	26	4	0	1	0	5	3	0	1	0	4	80
07:45 AM	1	56	1	0	58	0	30	0	0	30	0	0	1	0	1	1	0	0	0	1	90
Total	6	164	5	0	175	9	90	2	0	101	7	0	6	0	13	4	0	2	1	7	296
08:00 AM	4	47	1	0	52	0	29	1	0	30	1	0	0	2	3	3	0	0	1	4	89
08:15 AM	0	58	5	0	63	0	26	1	0	27	2	0	2	1	5	1	0	0	0	1	96
08:30 AM	2	36	4	0	42	0	23	1	0	24	1	0	2	1	4	1	0	0	0	1	71
08:45 AM	0	48	2	0	50	3	45	1	0	49	2	0	3	0	5	2	0	0	0	2	106
Total	6	189	12	0	207	3	123	4	0	130	6	0	7	4	17	7	0	0	1	8	362
04:30 PM	3	58	1	0	62	5	56	5	0	66	4	0	1	0	5	3	0	7	0	10	143
04:45 PM	2	56	4	0	62	4	60	2	0	66	3	0	5	0	8	1	0	1	1	3	139
Total	5	114	5	0	124	9	116	7	0	132	7	0	6	0	13	4	0	8	1	13	282
05:00 PM	1	54	4	0	59	3	81	0	0	84	4	0	5	0	9	2	0	4	0	6	158
05:15 PM	2	51	6	0	59	2	72	1	0	75	3	0	4	0	7	0	0	2	0	2	143
05:30 PM	2	53	6	0	61	3	54	2	0	59	5	0	3	0	8	3	0	2	0	5	133
05:45 PM	1	51	4	0	56	4	57	0	0	61	2	0	5	0	7	0	0	0	0	0	124
Total	6	209	20	0	235	12	264	3	0	279	14	0	17	0	31	5	0	8	0	13	558
06:00 PM	0	53	5	0	58	3	50	2	0	55	5	0	2	0	7	2	0	3	0	5	125
06:15 PM	1	49	3	0	53	0	51	0	0	51	1	0	4	0	5	0	0	0	1	1	110
Grand Total	24	778	50	0	852	36	694	18	0	748	40	0	42	4	86	22	0	21	4	47	1733
Apprch %	2.8	91.3	5.9	0		4.8	92.8	2.4	0		46.5	0	48.8	4.7		46.8	0	44.7	8.5		
Total %	1.4	44.9	2.9	0	49.2	2.1	40	1	0	43.2	2.3	0	2.4	0.2	5	1.3	0	1.2	0.2	2.7	
Cars	24	756	50	0	830	36	679	17	0	732	40	0	42	4	86	22	0	20	4	46	1694
% Cars	100	97.2	100	0	97.4	100	97.8	94.4	0	97.9	100	0	100	100	100	100	0	95.2	100	97.9	97.7
Trucks (SU)	0	21	0	0	21	0	14	1	0	15	0	0	0	0	0	0	0	1	0	1	37
% Trucks (SU)	0	2.7	0	0	2.5	0	2	5.6	0	2	0	0	0	0	0	0	0	4.8	0	2.1	2.1
Trucks (TT)	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Trucks (TT)	0	0.1	0	0	0.1	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1

Dynamic Traffic, LLC

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

E/W: Route 173 File Name : Route 173 & Napa & BOA Driveways - AM&PM NORMALIZED
N/S: BOA Driveway/Napa Driveway Site Code : 00000000
Town/County: Clinton/Hunterdon Start Date : 7/9/2020
Job#: 2362-99-007T Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Route 173 (Old Highway 22) Eastbound					Route 173 (Old Highway 22) Westbound					Bank of America Driveway Northbound					Napa Driveway 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	1	32	0	0	33	2	24	1	0	27	1	0	0	0	1	0	0	0	1	1	62
07:15 AM	4	48	4	0	56	5	22	1	0	28	2	0	5	0	7	0	0	1	0	1	92
07:30 AM	1	52	1	0	54	4	28	0	0	32	5	0	1	0	6	4	0	1	0	5	97
07:45 AM	1	69	1	0	71	0	37	0	0	37	0	0	1	0	1	1	0	0	0	1	110
Total	7	201	6	0	214	11	111	2	0	124	8	0	7	0	15	5	0	2	1	8	361
08:00 AM	5	57	1	0	63	0	35	1	0	36	1	0	0	2	3	4	0	0	1	5	107
08:15 AM	0	71	6	0	77	0	32	1	0	33	2	0	2	1	5	1	0	0	0	1	116
08:30 AM	2	43	5	0	50	0	28	1	0	29	1	0	2	1	4	1	0	0	0	1	84
08:45 AM	0	58	2	0	60	4	55	1	0	60	2	0	4	0	6	2	0	0	0	2	128
Total	7	229	14	0	250	4	150	4	0	158	6	0	8	4	18	8	0	0	1	9	435
04:30 PM	3	63	1	0	67	5	61	5	0	71	4	0	1	0	5	3	0	8	0	11	154
04:45 PM	2	61	4	0	67	4	65	2	0	71	3	0	5	0	8	1	0	1	1	3	149
Total	5	124	5	0	134	9	126	7	0	142	7	0	6	0	13	4	0	9	1	14	303
05:00 PM	1	59	4	0	64	3	88	0	0	91	4	0	5	0	9	2	0	4	0	6	170
05:15 PM	2	55	7	0	64	2	78	1	0	81	3	0	4	0	7	0	0	2	0	2	154
05:30 PM	2	58	7	0	67	3	59	2	0	64	5	0	3	0	8	3	0	2	0	5	144
05:45 PM	1	56	4	0	61	4	62	0	0	66	2	0	5	0	7	0	0	0	0	0	134
Total	6	228	22	0	256	12	287	3	0	302	14	0	17	0	31	5	0	8	0	13	602
06:00 PM	0	58	5	0	63	3	54	2	0	59	5	0	2	0	7	2	0	3	0	5	134
06:15 PM	1	53	3	0	57	0	56	0	0	56	1	0	4	0	5	0	0	0	1	1	119
Grand Total	26	893	55	0	974	39	784	18	0	841	41	0	44	4	89	24	0	22	4	50	1954
Apprch %	2.7	91.7	5.6	0		4.6	93.2	2.1	0		46.1	0	49.4	4.5		48	0	44	8		
Total %	1.3	45.7	2.8	0	49.8	2	40.1	0.9	0	43	2.1	0	2.3	0.2	4.6	1.2	0	1.1	0.2	2.6	
Cars	26	868	55	0	949	39	767	17	0	823	41	0	44	4	89	24	0	21	4	49	1910
% Cars	100	97.2	100	0	97.4	100	97.8	94.4	0	97.9	100	0	100	100	100	100	0	95.5	100	98	97.7
Trucks (SU)	0	24	0	0	24	0	16	1	0	17	0	0	0	0	0	0	0	1	0	1	42
% Trucks (SU)	0	2.7	0	0	2.5	0	2	5.6	0	2	0	0	0	0	0	0	0	4.5	0	2	2.1
Trucks (TT)	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Trucks (TT)	0	0.1	0	0	0.1	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0.1

Dynamic Traffic, LLC

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

E/W: Rt 173t/I-78 Off-Ramp
N/S: CR 513/Rt 173
Town/County: Clinton/Hunterdon
Job #: 2362-99-007T

File Name : W Main St & Pittstown Rd & I-78 Off-Ramp - AM&PM
Site Code : 00000000
Start Date : 7/9/2020
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Pittstown Road (Route 173) Eastbound				I-78 Westbound Off-Ramp Westbound					Pittstown Road (CR 513) Northbound				West Main Street (Route 173) Southbound				
Start Time	Left	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	16	0	1	17	0	0	6	1	7	0	24	0	24	32	15	1	48	96
07:15 AM	20	0	1	21	0	0	3	1	4	0	47	0	47	29	19	0	48	120
07:30 AM	21	0	0	21	0	0	2	2	4	0	53	0	53	39	17	0	56	134
07:45 AM	28	0	0	28	0	0	7	0	7	0	58	0	58	58	18	0	76	169
Total	85	0	2	87	0	0	18	4	22	0	182	0	182	158	69	1	228	519
08:00 AM	15	0	0	15	0	0	10	0	10	0	51	0	51	35	17	0	52	128
08:15 AM	24	0	0	24	0	0	11	0	11	0	57	0	57	28	13	0	41	133
08:30 AM	17	0	0	17	0	0	3	0	3	0	66	0	66	42	27	0	69	155
08:45 AM	20	0	0	20	0	0	8	0	8	0	75	0	75	40	23	0	63	166
Total	76	0	0	76	0	0	32	0	32	0	249	0	249	145	80	0	225	582
*** BREAK ***																		
04:30 PM	12	0	4	16	0	0	15	0	15	0	77	1	78	65	43	0	108	217
04:45 PM	17	0	1	18	0	0	12	0	12	0	77	6	83	66	48	0	114	227
Total	29	0	5	34	0	0	27	0	27	0	154	7	161	131	91	0	222	444
05:00 PM	32	0	1	33	0	0	10	1	11	0	77	0	77	75	62	1	138	259
05:15 PM	14	0	4	18	0	0	9	1	10	0	98	4	102	56	65	1	122	252
05:30 PM	27	0	0	27	0	0	14	0	14	0	76	0	76	63	55	0	118	235
05:45 PM	13	0	1	14	0	0	14	0	14	0	67	2	69	75	34	0	109	206
Total	86	0	6	92	0	0	47	2	49	0	318	6	324	269	216	2	487	952
06:00 PM	15	0	0	15	0	0	16	1	17	0	65	0	65	61	34	0	95	192
06:15 PM	15	0	0	15	0	0	10	0	10	0	82	0	82	49	44	0	93	200
Grand Total	306	0	13	319	0	0	150	7	157	0	1050	13	1063	813	534	3	1350	2889
Apprch %	95.9	0	4.1		0	0	95.5	4.5		0	98.8	1.2		60.2	39.6	0.2		
Total %	10.6	0	0.4	11	0	0	5.2	0.2	5.4	0	36.3	0.4	36.8	28.1	18.5	0.1	46.7	
Cars	301	0	13	314	0	0	144	7	151	0	1023	13	1036	791	518	3	1312	2813
% Cars	98.4	0	100	98.4	0	0	96	100	96.2	0	97.4	100	97.5	97.3	97	100	97.2	97.4
Trucks (SU)	5	0	0	5	0	0	3	0	3	0	26	0	26	19	14	0	33	67
% Trucks (SU)	1.6	0	0	1.6	0	0	2	0	1.9	0	2.5	0	2.4	2.3	2.6	0	2.4	2.3
Trucks (TT)	0	0	0	0	0	0	3	0	3	0	1	0	1	3	2	0	5	9
% Trucks (TT)	0	0	0	0	0	0	2	0	1.9	0	0.1	0	0.1	0.4	0.4	0	0.4	0.3

Dynamic Traffic, LLC

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

E/W: Rt 173/I-78 Off-Ramp
N/S: CR 513/Rt 173
Town/County: Clinton/Hunterdon
Job #: 0141-11-055TE

File Name : Rt 173 & CR 513 & I-78 WB Off-Ramp - AM
Site Code : 00000000
Start Date : 2/18/2020
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Pittstown Road (Route 173) Eastbound					I-78 Westbound Off-Ramp Westbound					Pittstown Road (CR 513) Northbound					West Main Street (Route 173) 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	24	0	36	0	60	53	1	6	0	60	22	38	0	0	60	0	25	15	0	40	220
07:15 AM	41	0	51	0	92	44	2	6	0	52	17	58	0	0	75	0	15	17	0	32	251
07:30 AM	30	0	45	0	75	51	5	12	0	68	35	84	0	0	119	0	34	29	0	63	325
07:45 AM	42	0	51	0	93	71	11	6	0	88	22	68	0	0	90	0	53	17	0	70	341
Total	137	0	183	0	320	219	19	30	0	268	96	248	0	0	344	0	127	78	0	205	1137
08:00 AM	36	0	44	0	80	60	2	6	0	68	27	62	0	0	89	0	31	18	0	49	286
08:15 AM	45	0	29	0	74	47	8	7	0	62	25	73	0	0	98	0	40	25	0	65	299
08:30 AM	41	0	28	0	69	64	4	4	0	72	34	75	0	0	109	0	40	30	0	70	320
08:45 AM	24	0	35	0	59	42	6	6	0	54	22	91	0	0	113	0	36	24	0	60	286
Total	146	0	136	0	282	213	20	23	0	256	108	301	0	0	409	0	147	97	0	244	1191
Grand Total	283	0	319	0	602	432	39	53	0	524	204	549	0	0	753	0	274	175	0	449	2328
Apprch %	47	0	53	0		82.4	7.4	10.1	0		27.1	72.9	0	0		0	61	39	0		
Total %	12.2	0	13.7	0	25.9	18.6	1.7	2.3	0	22.5	8.8	23.6	0	0	32.3	0	11.8	7.5	0	19.3	
Cars	278	0	315	0	593	413	36	49	0	498	197	535	0	0	732	0	258	167	0	425	2248
% Cars	98.2	0	98.7	0	98.5	95.6	92.3	92.5	0	95	96.6	97.4	0	0	97.2	0	94.2	95.4	0	94.7	96.6
Trucks (SU)	5	0	4	0	9	17	3	4	0	24	7	12	0	0	19	0	5	4	0	9	61
% Trucks (SU)	1.8	0	1.3	0	1.5	3.9	7.7	7.5	0	4.6	3.4	2.2	0	0	2.5	0	1.8	2.3	0	2	2.6
Trucks (TT)	0	0	0	0	0	2	0	0	0	2	0	2	0	0	2	0	11	4	0	15	19
% Trucks (TT)	0	0	0	0	0	0.5	0	0	0	0.4	0	0.4	0	0	0.3	0	4	2.3	0	3.3	0.8

Dynamic Traffic, LLC

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

E/W: Rt 173/I-78 Off-Ramp
N/S: CR 513/Rt 173
Town/County: Clinton/Hunterdon
Job #: 0141-11-055TE

File Name : Rt 173 & CR 513 & I-78 WB Off-Ramp - PM
Site Code : 00000000
Start Date : 2/11/2020
Page No : 1

Groups Printed- Cars - Trucks (SU) - Trucks (TT)

	Pittstown Road (Route 173) Eastbound					I-78 Wesbound Off-Ramp Westbound					Pittstown Road (CR 513) Northbound					West Main Street (Route 173) 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
04:30 PM	25	0	21	0	46	118	28	7	0	153	68	110	0	0	178	0	81	42	2	125	502
04:45 PM	19	0	21	0	40	94	23	8	0	125	67	76	0	0	143	0	81	51	0	132	440
Total	44	0	42	0	86	212	51	15	0	278	135	186	0	0	321	0	162	93	2	257	942
05:00 PM	17	0	14	0	31	104	30	12	0	146	67	84	0	0	151	0	66	68	5	139	467
05:15 PM	19	0	30	0	49	126	38	4	0	168	64	90	0	0	154	0	88	51	0	139	510
05:30 PM	16	0	18	0	34	113	15	3	0	131	67	74	0	0	141	0	75	67	2	144	450
05:45 PM	16	0	27	0	43	118	21	8	0	147	39	84	0	0	123	0	79	60	2	141	454
Total	68	0	89	0	157	461	104	27	0	592	237	332	0	0	569	0	308	246	9	563	1881
06:00 PM	21	0	20	0	41	113	36	8	0	157	67	68	0	0	135	0	86	50	1	137	470
06:15 PM	15	0	30	0	45	122	21	16	0	159	53	63	0	0	116	0	59	56	2	117	437
Grand Total	148	0	181	0	329	908	212	66	0	1186	492	649	0	0	1141	0	615	445	14	1074	3730
Apprch %	45	0	55	0		76.6	17.9	5.6	0		43.1	56.9	0	0		0	57.3	41.4	1.3		
Total %	4	0	4.9	0	8.8	24.3	5.7	1.8	0	31.8	13.2	17.4	0	0	30.6	0	16.5	11.9	0.4	28.8	
Cars	146	0	180	0	326	904	210	66	0	1180	486	645	0	0	1131	0	609	444	14	1067	3704
% Cars	98.6	0	99.4	0	99.1	99.6	99.1	100	0	99.5	98.8	99.4	0	0	99.1	0	99	99.8	100	99.3	99.3
Trucks (SU)																					
% Trucks (SU)	0.7	0	0.6	0	0.6	0.4	0.9	0	0	0.5	0.6	0.6	0	0	0.6	0	0.7	0.2	0	0.5	0.5
Trucks (TT)	1	0	0	0	1	0	0	0	0	0	3	0	0	0	3	0	2	0	0	2	6
% Trucks (TT)	0.7	0	0	0	0.3	0	0	0	0	0	0.6	0	0	0	0.3	0	0.3	0	0	0.2	0.2

Appendix C
Capacity Analysis

HCS7 Two-Way Stop-Control Report

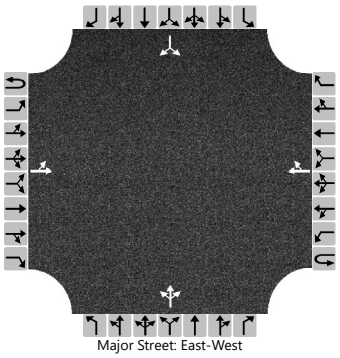
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	EX
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & E. BOA/Napa Dway
Jurisdiction	
East/West Street	Route 173
North/South Street	East BOA/Napa Driveway
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



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		LT						TR			LTR				LR	
Volume (veh/h)		8	245				163	4		7	0	9		9		0
Percent Heavy Vehicles (%)		0								0	0	0		0		0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1								7.1	6.5	6.2		7.1		6.2
Critical Headway (sec)		4.10								7.10	6.50	6.20		7.10		6.20
Base Follow-Up Headway (sec)		2.2								3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.20								3.50	4.00	3.30		3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9									19				11	
Capacity, c (veh/h)		1388									604				470	
v/c Ratio		0.01									0.03				0.02	
95% Queue Length, Q_{95} (veh)		0.0									0.1				0.1	
Control Delay (s/veh)		7.6									11.1				12.8	
Level of Service (LOS)		A									B				B	
Approach Delay (s/veh)		0.3								11.1				12.8		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

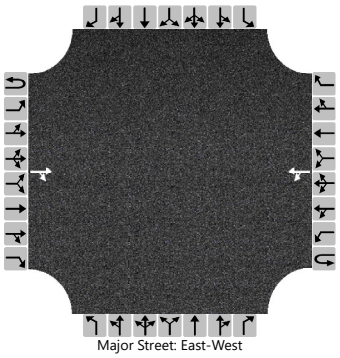
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	EX
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & W. BOA Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	West BOA Driveway
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT										
Volume (veh/h)			253	15		4	166									
Percent Heavy Vehicles (%)						0										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.10										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.20										

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5										
Capacity, c (veh/h)						1256										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.9										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.2											
Approach LOS																

HCS7 Two-Way Stop-Control Report

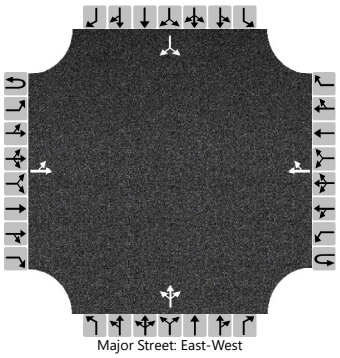
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	EX
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & E. BOA/Napa Dway
Jurisdiction	
East/West Street	Route 173
North/South Street	East BOA/Napa Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



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		LT						TR			LTR				LR	
Volume (veh/h)		9	254				306	9		15	0	17		7		17
Percent Heavy Vehicles (%)		0								0	0	0		0		0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1								7.1	6.5	6.2		7.1		6.2
Critical Headway (sec)		4.10								7.10	6.50	6.20		7.10		6.20
Base Follow-Up Headway (sec)		2.2								3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.20								3.50	4.00	3.30		3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10									35				26	
Capacity, c (veh/h)		1228									516				565	
v/c Ratio		0.01									0.07				0.05	
95% Queue Length, Q_{95} (veh)		0.0									0.2				0.1	
Control Delay (s/veh)		8.0									12.5				11.7	
Level of Service (LOS)		A									B				B	
Approach Delay (s/veh)	0.3								12.5				11.7			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

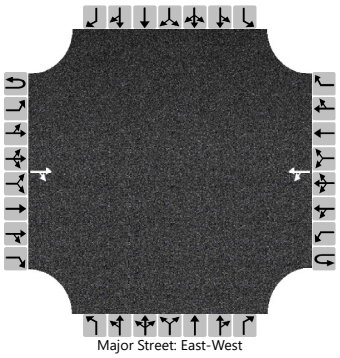
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	EX
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & W. BOA Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	West BOA Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT										
Volume (veh/h)			263	18		15	323									
Percent Heavy Vehicles (%)						0										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.10										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.20										

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						16										
Capacity, c (veh/h)						1267										
v/c Ratio						0.01										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.9										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.5											
Approach LOS																

HCS7 Two-Way Stop-Control Report

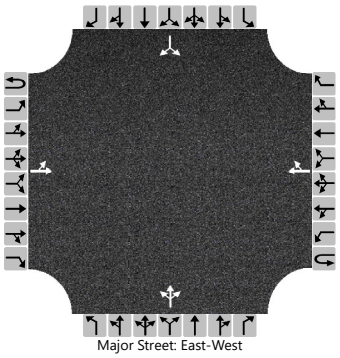
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	NB
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & E. BOA/Napa Dway
Jurisdiction	
East/West Street	Route 173
North/South Street	East BOA/Napa Driveway
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



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		LT						TR			LTR				LR	
Volume (veh/h)		8	250				170	4		7	0	9		9		0
Percent Heavy Vehicles (%)		0								0	0	0		0		0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1								7.1	6.5	6.2		7.1		6.2
Critical Headway (sec)		4.10								7.10	6.50	6.20		7.10		6.20
Base Follow-Up Headway (sec)		2.2								3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.20								3.50	4.00	3.30		3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9									19				11	
Capacity, c (veh/h)		1379									595				460	
v/c Ratio		0.01									0.03				0.02	
95% Queue Length, Q_{95} (veh)		0.0									0.1				0.1	
Control Delay (s/veh)		7.6									11.2				13.0	
Level of Service (LOS)		A									B				B	
Approach Delay (s/veh)		0.3								11.2				13.0		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

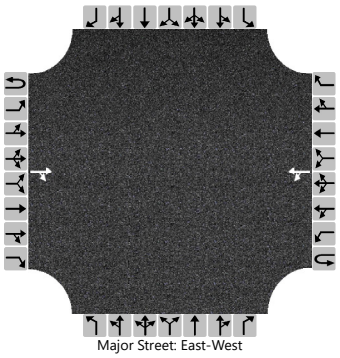
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	NB
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & W. BOA Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	West BOA Driveway
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT										
Volume (veh/h)			258	15		4	173									
Percent Heavy Vehicles (%)						0										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.10										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.20										

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5										
Capacity, c (veh/h)						1250										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.9										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.2											
Approach LOS																

HCS7 Two-Way Stop-Control Report

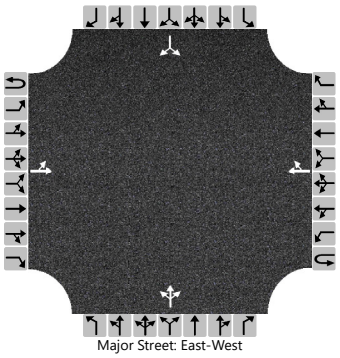
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	NB
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & E. BOA/Napa Dway
Jurisdiction	
East/West Street	Route 173
North/South Street	East BOA/Napa Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



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		LT						TR			LTR				LR	
Volume (veh/h)		9	259				315	9		15	0	17		7		17
Percent Heavy Vehicles (%)		0								0	0	0		0		0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1								7.1	6.5	6.2		7.1		6.2
Critical Headway (sec)		4.10								7.10	6.50	6.20		7.10		6.20
Base Follow-Up Headway (sec)		2.2								3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.20								3.50	4.00	3.30		3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10									35				26	
Capacity, c (veh/h)		1218									507				555	
v/c Ratio		0.01									0.07				0.05	
95% Queue Length, Q_{95} (veh)		0.0									0.2				0.1	
Control Delay (s/veh)		8.0									12.6				11.8	
Level of Service (LOS)		A									B				B	
Approach Delay (s/veh)	0.3								12.6				11.8			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

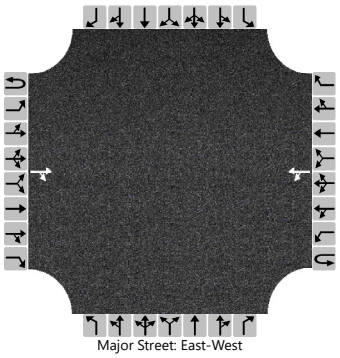
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	NB
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & W. BOA Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	West BOA Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT										
Volume (veh/h)			268	18		15	332									
Percent Heavy Vehicles (%)						0										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.10										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.20										

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						16										
Capacity, c (veh/h)						1261										
v/c Ratio						0.01										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.9										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.5											
Approach LOS																

HCS7 Two-Way Stop-Control Report

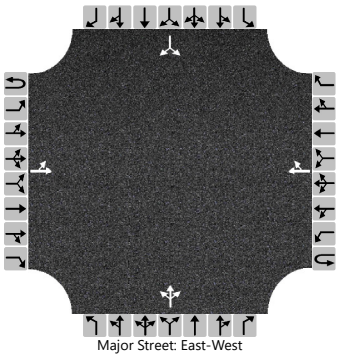
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	FB
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & E. BOA/Napa Dway
Jurisdiction	
East/West Street	Route 173
North/South Street	East BOA/Napa Driveway
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



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		LT						TR			LTR				LR	
Volume (veh/h)		8	260				174	4		7	0	9		9		0
Percent Heavy Vehicles (%)		0								0	0	0		0		0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1								7.1	6.5	6.2		7.1		6.2
Critical Headway (sec)		4.10								7.10	6.50	6.20		7.10		6.20
Base Follow-Up Headway (sec)		2.2								3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.20								3.50	4.00	3.30		3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9									19				11	
Capacity, c (veh/h)		1373									583				448	
v/c Ratio		0.01									0.03				0.02	
95% Queue Length, Q_{95} (veh)		0.0									0.1				0.1	
Control Delay (s/veh)		7.6									11.4				13.2	
Level of Service (LOS)		A									B				B	
Approach Delay (s/veh)		0.3								11.4				13.2		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

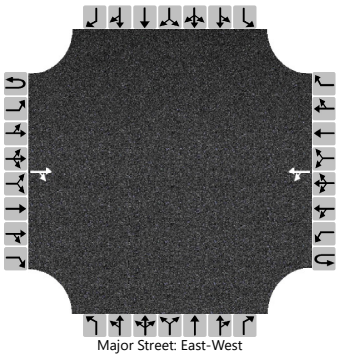
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	FB
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & W. BOA Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	West BOA Driveway
Peak Hour Factor	0.85
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT										
Volume (veh/h)			264	15		4	189									
Percent Heavy Vehicles (%)						0										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.10										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.20										

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						5										
Capacity, c (veh/h)						1243										
v/c Ratio						0.00										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.9										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.2											
Approach LOS																

HCS7 Two-Way Stop-Control Report

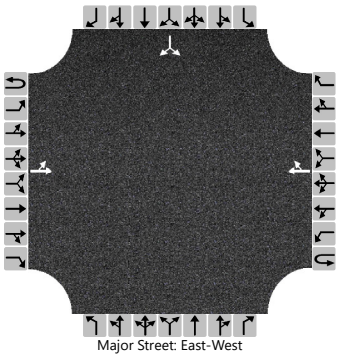
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	FB
Time Analyzed	AM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & Site Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	Site Driveway
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		6	258				177	4						10		16
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		7													32	
Capacity, c (veh/h)		1348													655	
v/c Ratio		0.01													0.05	
95% Queue Length, Q_{95} (veh)		0.0													0.2	
Control Delay (s/veh)		7.7													10.8	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)	0.2												10.8			
Approach LOS													B			

HCS7 Two-Way Stop-Control Report

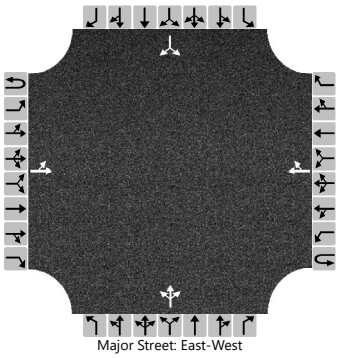
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	FB
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & E. BOA/Napa Dway
Jurisdiction	
East/West Street	Route 173
North/South Street	East BOA/Napa Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



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		LT						TR			LTR				LR	
Volume (veh/h)		9	264				327	9		15	0	17		7		17
Percent Heavy Vehicles (%)		0								0	0	0		0		0
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1								7.1	6.5	6.2		7.1		6.2
Critical Headway (sec)		4.10								7.10	6.50	6.20		7.10		6.20
Base Follow-Up Headway (sec)		2.2								3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.20								3.50	4.00	3.30		3.50		3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10									35				26	
Capacity, c (veh/h)		1204									497				543	
v/c Ratio		0.01									0.07				0.05	
95% Queue Length, Q_{95} (veh)		0.0									0.2				0.2	
Control Delay (s/veh)		8.0									12.8				12.0	
Level of Service (LOS)		A									B				B	
Approach Delay (s/veh)		0.3								12.8				12.0		
Approach LOS										B				B		

HCS7 Two-Way Stop-Control Report

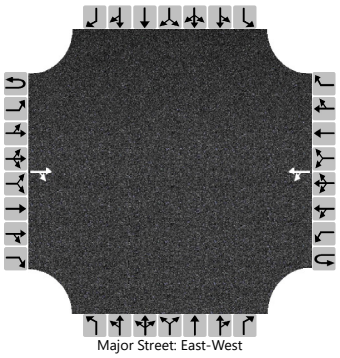
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	FB
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & W. BOA Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	West BOA Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	0	0
Configuration				TR		LT										
Volume (veh/h)			286	18		15	340									
Percent Heavy Vehicles (%)						0										
Proportion Time Blocked																
Percent Grade (%)																
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1										
Critical Headway (sec)						4.10										
Base Follow-Up Headway (sec)						2.2										
Follow-Up Headway (sec)						2.20										

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						16										
Capacity, c (veh/h)						1240										
v/c Ratio						0.01										
95% Queue Length, Q_{95} (veh)						0.0										
Control Delay (s/veh)						7.9										
Level of Service (LOS)						A										
Approach Delay (s/veh)					0.5											
Approach LOS																

HCS7 Two-Way Stop-Control Report

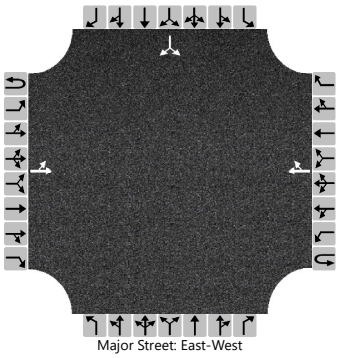
General Information

Analyst	CGH
Agency/Co.	Dynamic Traffic
Date Performed	7/16/2020
Analysis Year	FB
Time Analyzed	PM PSH
Intersection Orientation	East-West
Project Description	2362-99-007T

Site Information

Intersection	Rt 173 & Site Driveway
Jurisdiction	
East/West Street	Route 173
North/South Street	Site Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		18	268				347	12						5		8
Percent Heavy Vehicles (%)		2												2		2
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.12												6.42		6.22
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.22												3.52		3.32

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		20													14	
Capacity, c (veh/h)		1168													523	
v/c Ratio		0.02													0.03	
95% Queue Length, Q_{95} (veh)		0.1													0.1	
Control Delay (s/veh)		8.1													12.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		0.7												12.1		
Approach LOS														B		