

181 WEST HIGH STREET SOMERVILLE, NJ 08876

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TRAFFIC AND PARKING STUDY

FOR

COURTHOUSE SQUARE

FLEMINGTON CENTER URBAN RENEWAL, LLC

BLOCK 22, LOTS 4 – 7, 12 – 14

BLOCK 24, LOTS 1-3, 5 & 24

BOROUGH OF FLEMINGTON

HUNTERDON COUNTY, NEW JERSEY

AUGUST 9, 2018

ELIZABETH DOLAN, P.E. NJ LICENSE NO. 37071

GARY W. DEAN, P.E., P.P. NJ LICENSE NO. 33722

Introduction

A redevelopment site plan application is being presented to Flemington Borough for rehabilitation of the Union Hotel as part of a mixed-used development, located at Block 22, Lots 4 – 7, 12 – 14 and Block 24, Lots 1 - 3, 5, 24 on Main Street, Bloomfield Avenue, Spring Street and Chorister Place. The parcels are an assemblage of properties currently developed with multiple uses including Flemington Furs, the Borough Police lot and the closed Union Hotel, among other commercial, retail and office uses.

This summary of findings has been prepared to assess the traffic and parking impacts associated with the redevelopment. Dolan & Dean Consulting Engineers, LLC (D&D) has been retained by the applicant to conduct this study to evaluate the adequacy of the roadway system to accommodate the new site traffic and the sufficiency of the proposed parking.

The development proposal includes a center courtyard/retail plaza that will connect Spring Street with Main Street and provide access to the numerous site components that include:

- A rehabilitation of portions of the Union Hotel that would provide 100 lodging rooms along with lobby and meeting space.
- Retail and service components.
- Upper-floor, residential dwelling units.
- Medical Office Space
- Educational Classrooms
- A multi-level parking facility.

Across from the primary redevelopment on a separate parcel located on the south side of Spring Street, the application includes the development of a 3-story commercial structure, intended to be used for ground floor, medical office with the upper stories proposed for secondary education for either college curriculum or supplemental vocational training. The proposed uses are designed to surround the multi-level parking facility that would provide 760 on-site parking spaces. Consistent with the "downtown" design element, on-street



parking will also be provided along Bloomfield Avenue, Spring Street, Chorister Place and the existing parking along Main Street will be retained.

While this traffic study evaluates the new traffic associated with the proposed redevelopment, this analysis can be considered extremely conservative in that no traffic credits will be taken for any existing traffic that is currently generated by site uses that will be absorbed into or eliminated with the redevelopment proposal. Retailers such as Flemington Furs as well as the other Main Street shops and restaurants that are displaced through the redevelopment proposal will have space within the new redevelopment, thus resulting a "net neutral" traffic impact to a certain degree.

Based on the most recent architectural building plans by Minno & Wasko, this traffic impact study includes an analysis of the following components and sizes.

- ➤ 222 residential dwelling units allocated among 111 (50%) 1-bedroom/studio units, 108 (49%) 2-bedroom/duplex units and 3 (1%)-3-bedroom units.
- ➤ 100-room Union Hotel.
- ➤ 29,170 square feet of retail/restaurant/commercial space.
- ➤ 15,000 square feet of medical office space.
- ➤ 30,000 square feet of education space that could accommodate an enrollment of up to 300 students.

The mixed-use nature of the project will allow for shared parking, which will be described in further detail within this report. Through a combination of the on-site spaces within the garage combined with available off-site, off-street spaces in neighboring existing parking lots, sufficient parking can be provided for the Courthouse Square project. The project will not rely on on-street parking to accommodate the expected demands, although it is recognized that the availability of such parking will further enhance the accessibility of the new project.

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EXISTING CONDITIONS

The redevelopment site currently contains the Union Hotel, which is a four-story building.

The first floor had been used as a restaurant with the upper floors previously used as lodging

rooms. An antique store is located next to the Union Hotel. Further west is the T.C.M.

building at 80-82 Main Street and further west is a three-story building that among others

contains the Flemington Police Department.

The main site has frontage along Main Street, and is served via two alleys, one on either side

of the Union Hotel building. The alleys provide access to a parking area to the rear of the

building as does Chorister Place.

EXISTING ROADWAY CONDITIONS

The Courthouse Square redevelopment site is situated in the block formed by Main Street to

the west, Spring Street to the east, Bloomfield Avenue to the north, and Chorister Place to

the south. The site location is shown on appended Figure 1. This figure also shows the

various parking lots, and on-street parking, proximate to the subject property. Throughout

the area, two-hour parking is permitted, from 9:00 a.m. to 6:00 p.m., except Sundays and

holidays.

Main Street has a general north-south orientation. Along the site frontage, Main Street

provides one lane for each direction of travel. Main Street also allows on-street parking in

the site vicinity.

<u>Spring Street</u> has a north-south orientation, accommodating two-way traffic flow. Parallel

parking is provided on both sides of the street.

Bloomfield Avenue has an east-west orientation, provided one-way traffic in the eastbound

direction. Parking is permitted on the southerly side of the roadway only.

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<u>Chorister Place</u> provides two-way traffic flow, up to the mid-point of the block when it is restricted to any eastbound direction. Parking is permitted on the north side of the roadway only.

EXISTING TRAFFIC VOLUMES

To provide a comprehensive impact analysis of the projected increases associated with the redevelopment, peak hour traffic volume counts were conducted on the roadways surrounding the redevelopment site. This traffic data serves as a basis of evaluating "existing" conditions and is used to first quantify the nearby traffic activity. This data is then used to assess whether there are any existing capacity constraints or deficient operating conditions near the site.

Based on observations made during the peak hour traffic counts, no traffic operational constraints were identified and traffic flows freely in the immediately site vicinity, particularly given the one-way direction of Bloomfield Avenue and the limited use of Chorister Place. The surrounding streets operate free from congestion during existing conditions, with no major constraints or deficient operating levels of service identified.

Appended Figures 2 and 3 show the existing peak hour traffic conditions in the immediate site vicinity. The date and duration of the traffic counts is summarized below:

➤ Main Street and Chorister Place

Tuesday, June 13, 2017 from 7:00 - 9:00 a.m. and from 4:00 - 6:30 p.m.

➤ Chorister Place and Spring Street

Thursday, June 8, 2017 from 7:00 – 9:00 a.m. and from 4:00 - 6:30 p.m.

➤ Bloomfield Avenue and Main Street

Thursday, June 8, 2017 from 7:00 – 9:00 a.m. and from 4:00 - 6:30 p.m.



➤ Bloomfield Avenue and Spring Street

Wednesday, June 7, 2017 from 4:00 - 6:30 p.m.

Thursday, June 8, 2017 from 7:00 – 9:00 a.m.

As noted from the figures, traffic along Main Street is approximately 700 vehicles in both

directions during the morning peak hours with slightly higher traffic of approximately 950

observed in the evening peak hours.

By contrast, traffic along Bloomfield Avenue and Spring Street was significantly lower with

only fewer than 50 vehicles traveling on Spring Street and 75 vehicles along Bloomfield

Avenue. Other than Main Street, traffic on the surrounding roads can be considered

minimal from a traffic engineering perspective.

ANALYSIS OF EXISTING TRAFFIC OPERATIONS

A volume/capacity level of service analysis was completed in accordance with the practices

recommended by the Transportation Research Board in the Highway Capacity Manual. For

peak hour conditions, these analyses are performed to evaluate the typical delays at

intersections by motorists waiting to turn from or onto intersecting streets. Levels of service

are based on the average peak hour delay and are rated on a scale from Level of Service "A"

(which is indicative of short delays of 5 seconds or less), to Level of Service "F" conditions,

which are delays exceeding 50 seconds. These analyses are most often conducted for peak

traffic conditions when the roadway system usually experiences its maximum demand. If

problematic conditions are found under existing conditions - prior to development - the

analyses are further used to identify specific operational constraints, that can assist in

developing improvement options.

Because of the unique roadway patterns surrounding the redevelopment site, there are no

direct turns from the street surrounding the site onto Main Street. Essentially Spring Street

acts as a parallel frontage street to Main Street with movements accommodated travelling

from Main Street onto the intersecting side streets.

COURTHOUSE SQUARE REDEVELOPMENT FLEMINGTON BOROUGH, HUNTERDON COUNTY AUGUST 8, 2018

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Appended Figure 4 shows the existing levels of service during the peak a.m. and p.m. hours. As confirmed through the observations, all movements operate very efficiently at Levels of Service "B" or better to or from Main Street as well as the intersecting side streets. There were no delays of long duration and traffic flows freely during both the morning and afternoon hours.

TRAFFIC CHARACTERISTICS OF THE PROPOSED REDEVELOPMENT

TRIP GENERATION

To identify the projected traffic activity arising from the redevelopment, a detailed trip generation calculation was performed using industry standard data compiled by the Institute of Transportation Engineers (ITE) in the 9th Edition of <u>Trip Generation</u>, 2012. Table I summarizes the individual component trip generation for each of the proposed uses based on ITE data.

TABLE I
PROJECTED TRAFFIC GENERATION

Land Use	Morning I	Peak Hour	Evening Peak Hour			
Land Ose	Enter	Exit	Enter	Exit		
222 Residential Units	24	54	56	40		
300 Student College/Educational	94	26	69	147		
15,000 SF Medical Office	28	8	15	39		
100 Room Hotel	31	22	31	30		
29,170 SF Retail/Commercial Use	19	12	135	146		

For a mixed-use site, it is expected that there will internal synergy among the components with some of the traffic remaining on-site, or at least linked between uses. For example, at the end of a business day, some office employees or students may remain on-site and visit a restaurant or the other retail uses before leaving after the peak hour. Inbound site residents may stop at the commercial uses as they arrive home. Each of these "internal" trips must be considered to evaluate the actual, net traffic impacts on the roads surrounding the site.

Therefore, once the gross trip generation associated with each site component is calculated, internal, "linked" volumes that would travel among the uses and remain on-site were then determined using the ITE methodology for a multi-use development for the morning and evening peak hour. The calculations resulted in a 14% internal credit for the morning peak hour, and a 29% internal credit for the evening peak hour.

The resultant external trips that would be used for analysis purposes at each site access are summarized below.

TABLE II
EXTERNAL TRIPS
PROPOSED REDEVELOPMENT

Land Use	Morning 1	Peak Hour	Evening Peak Hour			
Land Ose	Enter	Exit	Enter	Exit		
222 Residential Units	25	54	32	27		
300 Student College	78	20	56	121		
15,000 SF Medical Office	34	8	23	52		
100 Room Hotel	31	17	25	24		
29,170 SF Retail/Commercial Use	9	4	107	112		
TOTAL	177	103	243	336		

In addition to the internal trips that are inherent within a mixed-use site, certain other site visits will be made as a matter of convenience by ambient traffic that will find the site to be a convenient stop en route to another, primary-purpose trip (e.g., a commuting or other errand-type trip). This type of traffic movement would simply be diverted from (primarily) Main Street and would exist irrespective of the site redevelopment.

Pass-by trips were calculated by applying 34% to only the external retail volumes, during the evening peak hours. Table III shows the new and pass-by trips, associated with the combined redevelopment components.

TABLE III
PASS-BY TRIPS
PROPOSED REDEVELOPMENT

		Evening Peak Hour							
	Enter	Exit	Total						
Pass-by	37	37	74						
New	201	295	496						
TOTAL	238	332	570						

Site generated traffic was then distributed according to an estimate following the projected market area for retail trips and a review of the existing traffic patterns. Again, all future site traffic projections are assumed to be "new" and do not take into consideration any existing site traffic that will be either eliminated or included in the new plan.



FUTURE TRAFFIC CONDITIONS

FUTURE TRAFFIC VOLUMES

It is recognized that traffic routinely fluctuates along various state and county roadways, as

well as local streets, and varies not only day-to-day, but also on a monthly and yearly basis.

Because of both normal "background" traffic increases, (attributed to continued regional

growth and changes in driver demographics), as well as new traffic generated by specific

projects, traffic demands on the roadways in the vicinity of the site may increase over

current demands (at least to some degree), even if no changes were to occur on the subject

property, irrespective of the uses permitted.

For this scenario, a five-year development build-out horizon has been assumed, allowing for

agency approvals and permitting, construction, occupancy and absorption. As such, existing

traffic counts were expanded by the NJDOT estimated 2.0% annual background traffic

growth rate for a five-year period to create a 2022 "no-build" traffic condition.

There are no other approved or pending major developments that would affect the AM or

PM conditions in the immediate site vicinity. Any minor traffic increases arising from

smaller development/redevelopment projects on is included in the background traffic growth

rate. No deductions were taken for "existing" site traffic that will be eliminated as part of

the redeployment effort. "No-build" traffic volumes were developed and are illustrated on

Figures 7 and 8.

Site generated traffic was then added to these volumes to establish the 2022 "build" volumes,

which are shown on Figures 9 and 10.

FUTURE "BUILD" TRAFFIC ANALYSIS

A volume/capacity Level of Service analysis was conducted for the future site driveways and

adjacent intersections to evaluate whether safe and efficient access can be provided. It is

important to note that all site driveway movements will operate at Level of Service "C" or better during both peak hours analyzed, illustrating that sufficient capacity will be provided at these locations. Under the driveway design proposed, safe and efficient ingress and egress to the site can be provided.

As illustrated on Figure 12, very favorable Levels of Service will continue to be provided on the roads and intersections surrounding the Courthouse Square site.

It is therefore concluded that the proposed site redevelopment for residential apartments and other mixed, retail, service, commercial and education uses will not have a measurable or significant impact on adjacent street traffic along Main Street, Bloomfield Avenue or Spring Street. Site traffic will be able to safely and efficiently enter and the exit with minimal delays and impact on the surrounding area.

PARKING ANALYSIS

As part of this study, the parking demands for the Courthouse Square redevelopment

proposal were analyzed based on the most recent (August 10, 2018) Architectural Drawings

prepared by Minno & Wasko. The purpose of this analysis is to calculate the maximum

parking demand that considers the nature of the individual uses and differing times of day

for peak parking demand.

This analysis has been prepared to evaluate the sufficiency of the proposed structured

parking garage that will provide 770 spaces. As previously noted, the redevelopment area

also includes availability of a 60-space parking lot that while off-site, is located less than one

block from the subject property and would be available for site visitors.

Appended to this report are two shared parking calculations that consider both the weekday

"noon" peak hour as well as a later, evening peak when more residents have arrived home

and the hotel would experience higher parking demands. The parking summaries first

calculate the individual parking demands for each site component, which if considered

separately would yield a "requirement" of 919 spaces.

However, in designing the parking supply for mixed-use centers, it is a well-established

practice to consider time-of-day demand fluctuations for each component to develop a

"shared" parking design. Shared parking demand recognizes that vacancies are created

throughout the weekday (e.g., by residents who are away at work or departed hotel guests)

that allow other uses (such as medical office staff or college students) to use the vacated

spaces. In the evening, as retail, restaurant and residential demands increase, the parking

spaces vacated by office staff or college students would be available.

When considering the time-of-day considerations, the maximum shared parking demand for

the Courthouse Square project would be 683 spaces, which would occur during weekday

noon hours. This parking demand would include peak demand by the hotel conference

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facilities, the medical office use and the school – all assumed to operate at 100% parking demand. While there would be far fewer residents on site at the time, the redevelopment plan allocates one reserved parking space for each apartment resident at all times, thus that demand has been considered, specifically, which yields a 70% "occupancy." Realistically, this "demand" (allocation) would be significantly lower if parking spaces were not assigned to each tenant and readily available to other uses.

The overall shared parking demand of 683 spaces is less than the proposed parking supply of 770 spaces, which will yield a surplus parking "buffer" of 87 or more spaces at all times. With an additional 60 off-site spaces available, the project would operate with a 147-space (or more) parking surplus, which would allow for minor fluctuations in demand. Any possible use of on-street spaces would further reduce the on-site parking demand.

Based on these findings, the proposed parking is adequate for the proposed redevelopment based on the land use components envisioned at this time.



Weekday Noontime Parking Summary

Use	Size	Parking Ratio	Adju Requ (Weeko	Parking stment irement lay Noon eak)	
222 Apartments	111 - 2 bedroom	1.3/unit ⁺	144		
	108 – 2 bedroom	1.5/unit ⁺	162		
	3 – 3 bedroom	1.8/unit+	5		
Total Residential	222		311	71%	222 (reserved)
Residential Guest/Visitor		0.5/unit	111	20%	22+
Hotel/Conf	100 keys	1.25	125	100%	125
Retail/Service/ Commercial	29,170 SF	4/1,000 SF	117	50%*	59
)	45,000,55	5 /4 000 CF	7.5	4.000/	7.5
Medical Office	15,000 SF	5/1,000 SF	75	100%	75
Subto	tal Without College/S	chool	739		503
College/School	300 Enrolled Students	1/2 students + faculty/staff	150 + 30 = 180	100%	180
			Shared Parking Tota	al Demand	683
			Available S	ite Parking	770
				Surplus	+87
			Matt's/56	Main/Furs	+60
				Surplus	+147

^{*}The remaining 50% "demand" would be walk-in from other components or surrounding business/court uses.

This analysis does not rely on on-street parking to meet the projected demands. However, on-street parking exists and is readily available for public use and presumably will be used by guests/customers/visitors.

- At the redeveloper's request, 1 space per residential unit will be reserved for residential use. At this time, it is not expected that numbered or individual spaces will be used, but rather residents will have a guaranteed allocation either within separate floors of the parking structure or designated sections, specifically for residential use. This practice will ensure that any residents who are not part of typical commuting workforce or operate on modified work schedules, will have guaranteed access to an appropriately allocated reserve of parking. Weekday visitors and guests during midday hours, could have access to this reserved area.
- While typically hotel lodging guests have little if any parking demand during midday hours, a parking supply of 1.25 spaces per room will be available for midday conference/meeting room use.
- During peak weekday noontime parking demands, it is expected that for the retail/service/commercial component, 50% of the demands will be accommodated via walk-in traffic from the surrounding neighborhood, businesses, and county-related administrative and court buildings. Conservatively, it is expected that 50% of the parking demand during these periods will be "destination" specific that would include restaurant or retail shopping or other personal service appointment uses during the lunchtime period.

⁺Visitor/Guest Parking of 0.5 spaces/unit used during off-peak periods and excluded from this shared parking calculation. Limited weekday noon guest/visitors could be accommodated in reserved allocation.

Weekday P.M. Peak (6:00 to 7:00 p.m.) Parking Summary

Use	Size	Parking Ratio	Unadjusted Parking Requirements	Shared Parking Adjustment Requirement (Weekday Noon Peak)			
222 Apartments	111 - 1 bedroom	1.3/unit+	144				
	108 – 2 bedroom	1.5/unit+	162				
	3 – 3 bedroom	1.8/unit+	5				
Total Residential	222		311	71%	222 (reserved)		
Residential Guest/Visitor		0.5/unit	111	60%	67		
Hotel/Conf	100 keys	1.25	125	75%	94		
Retail/Service/ Commercial	29,170 SF	4/1,000 SF	117	100%	117		
Medical Office	15,000 SF	5/1,000 SF	75	63%	47		
Subto	tal Without College/S	chool	739		547		
College/School	300 Enrolled Students	1/2 students + faculty/staff	150 + 30 = 180	70%	126		
			Shared Parking Tota	al Demand	673		
			Available S	ite Parking	770		
				Surplus	+97		
			Matt's/56	Main/Furs	+40 (est)		
				Surplus	+137		

This analysis does not rely on on-street parking to meet the projected demands. However, on-street parking exists and is readily available for public use and presumably will be used by guests/customers/visitors.

- Peak parking demands follow hourly demand trends as summarized by the Institute of Transportation Engineers (ITE) in <u>Parking Generation</u>, 4th Edition.
- Residential visitors can be accommodated in the non-residential allocated portion of the parking structure.

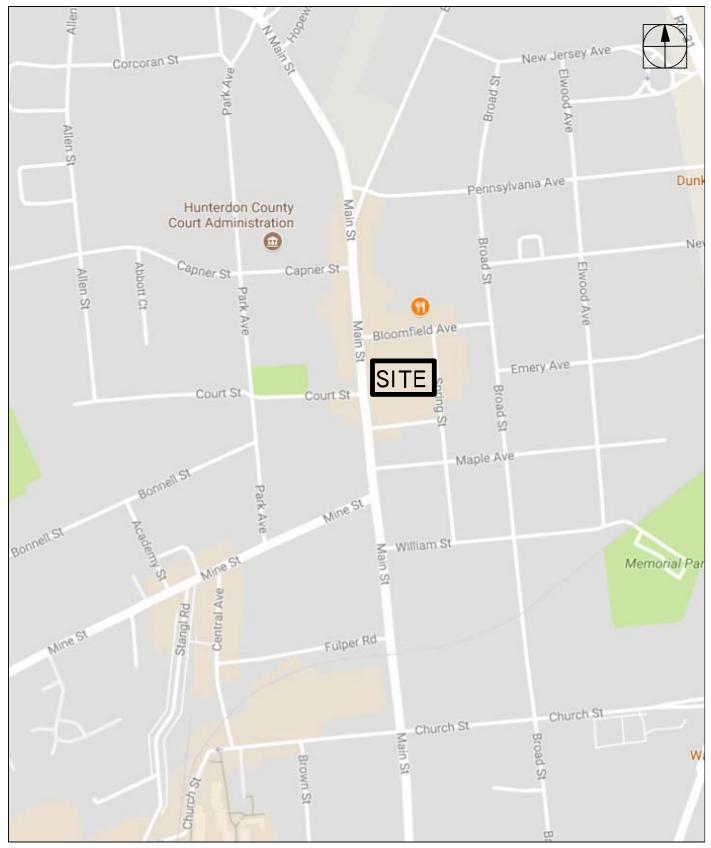
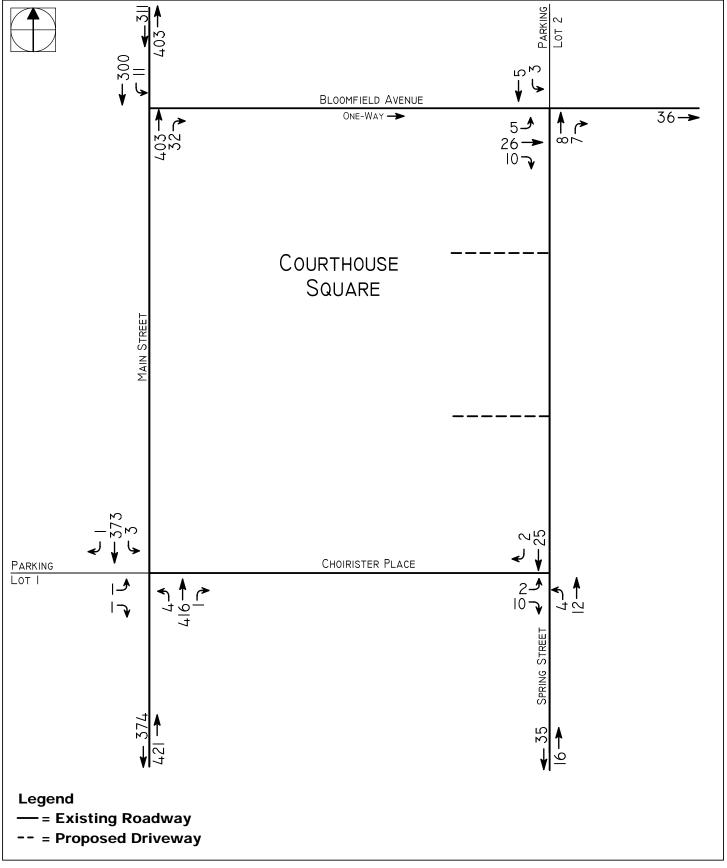
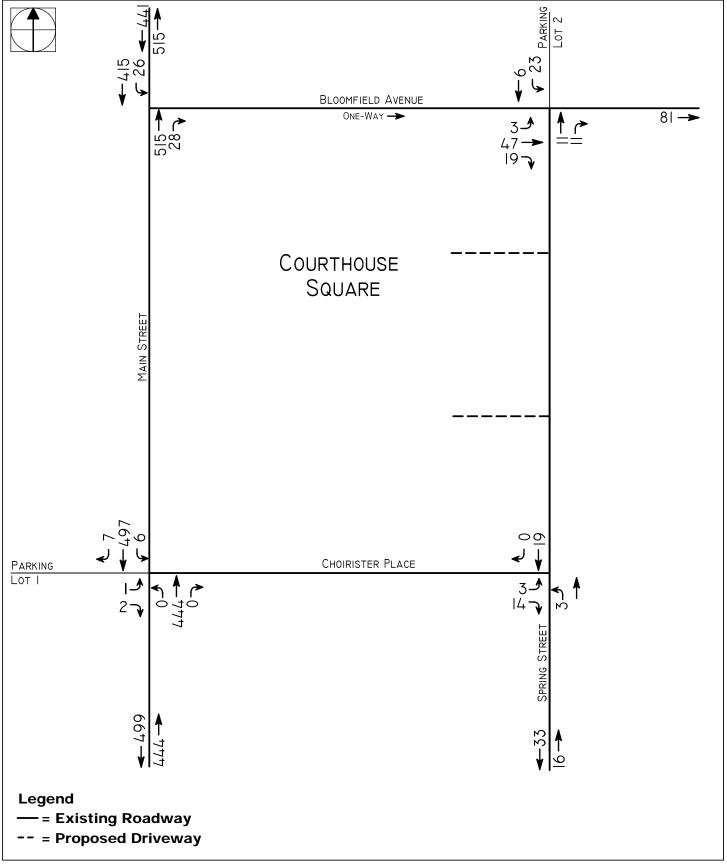


FIGURE I

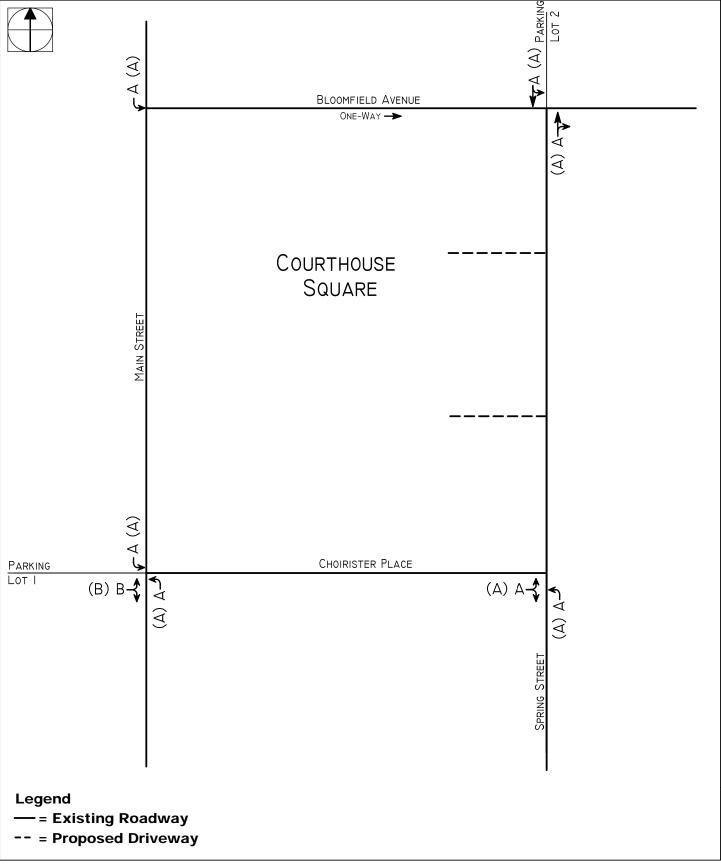




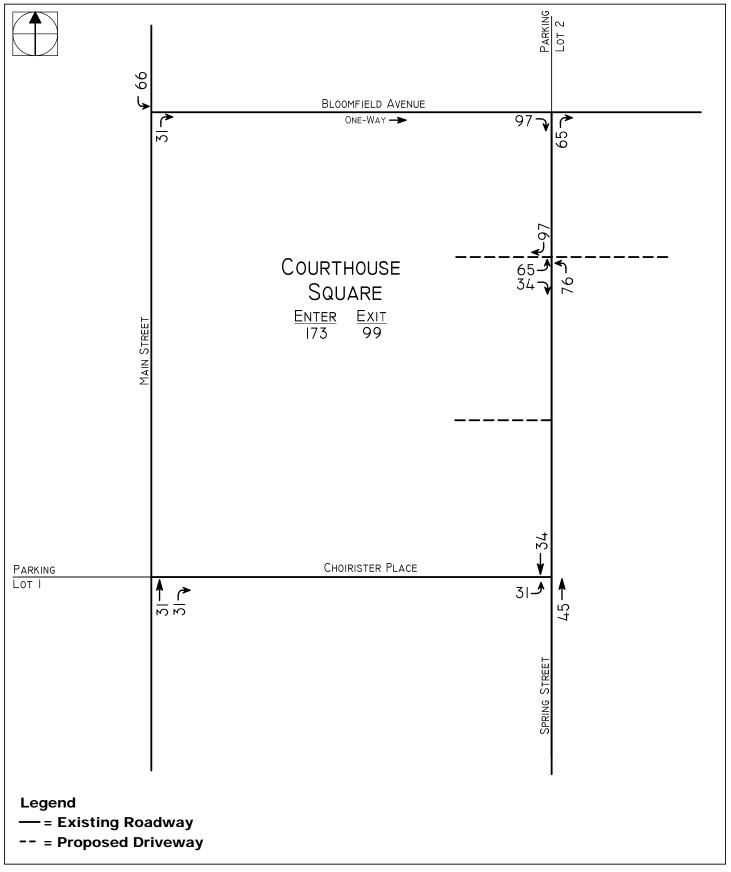




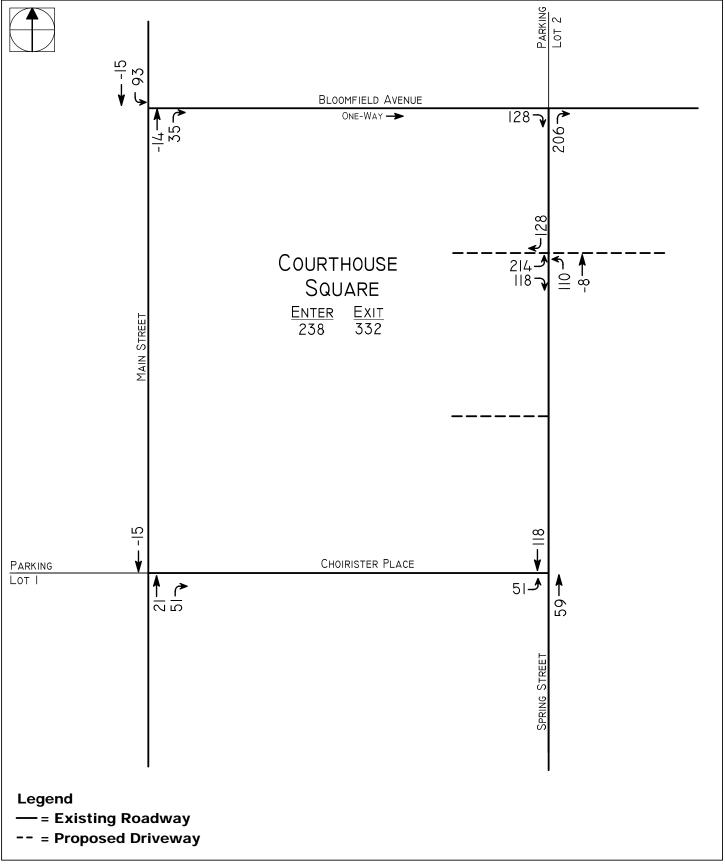




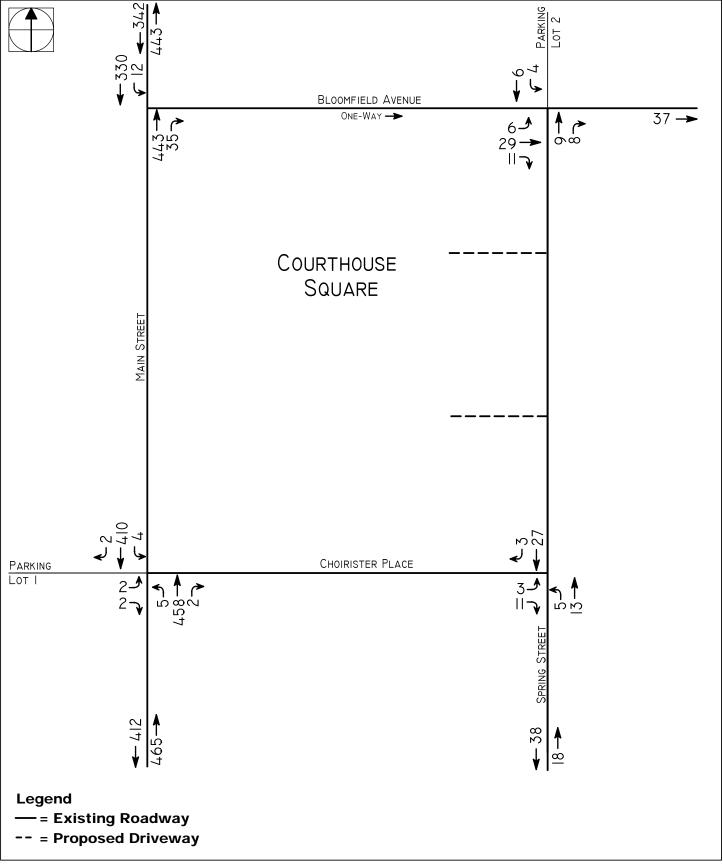




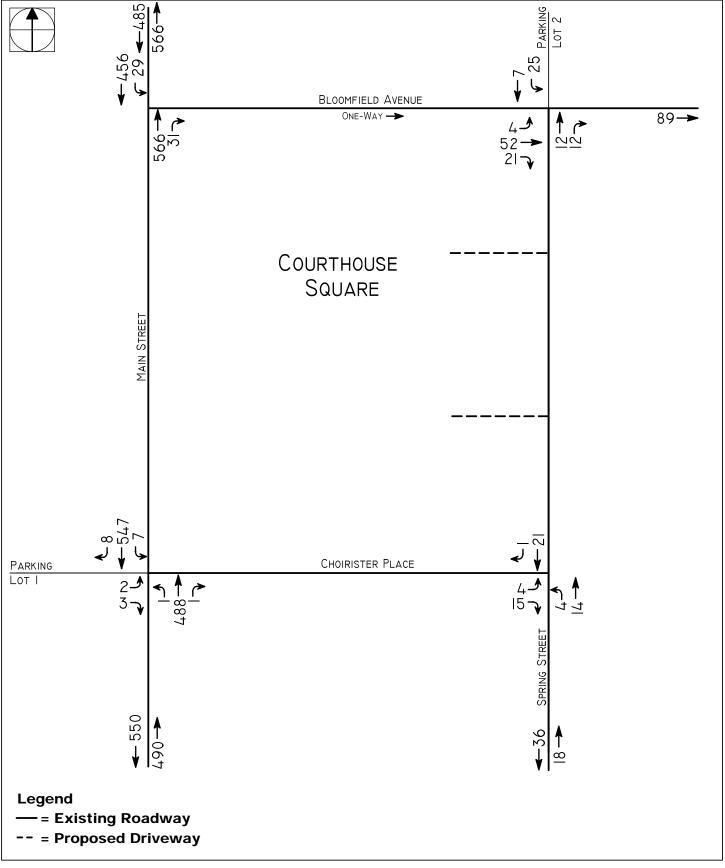




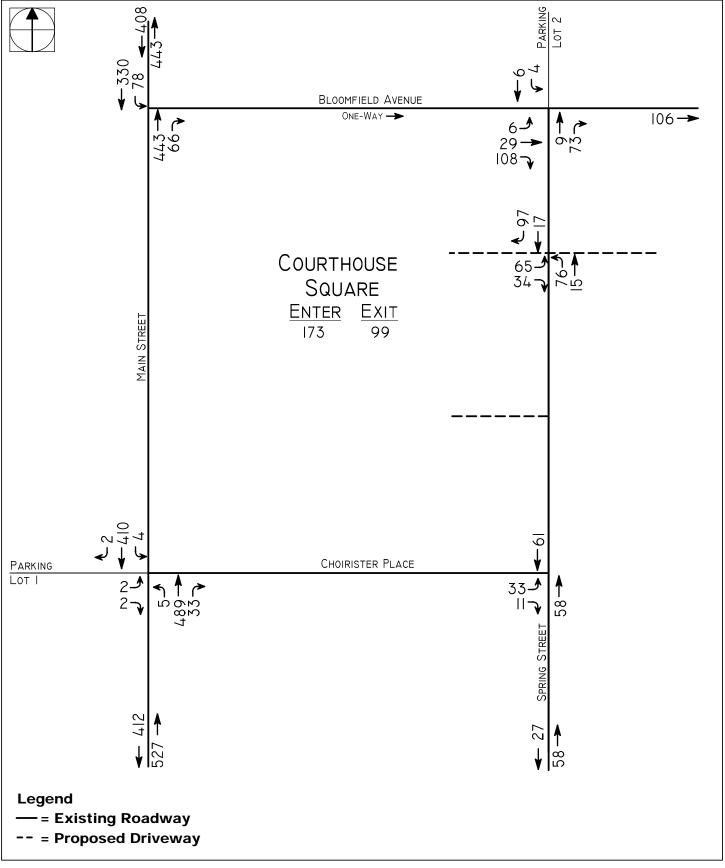




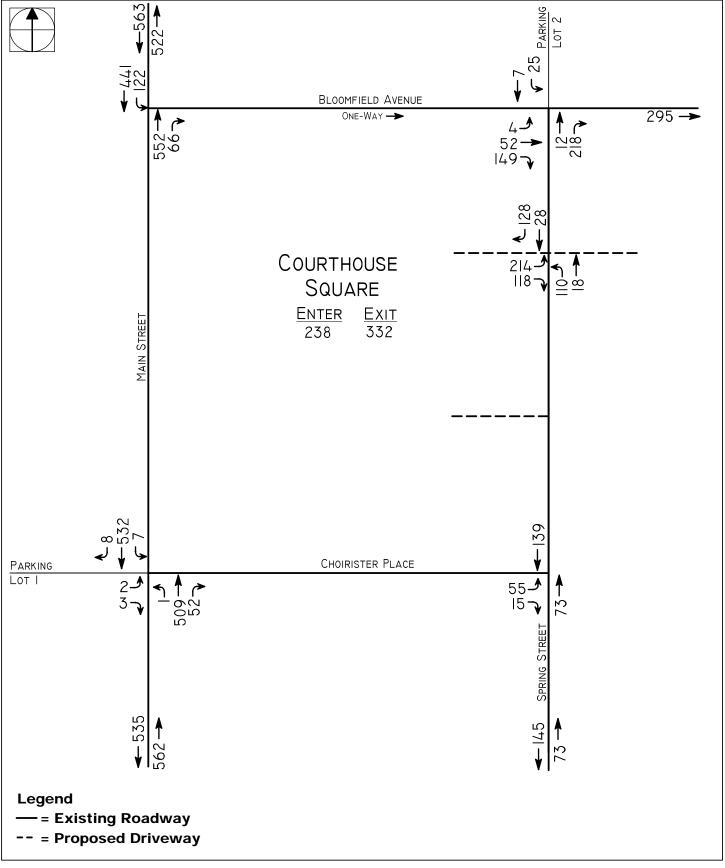














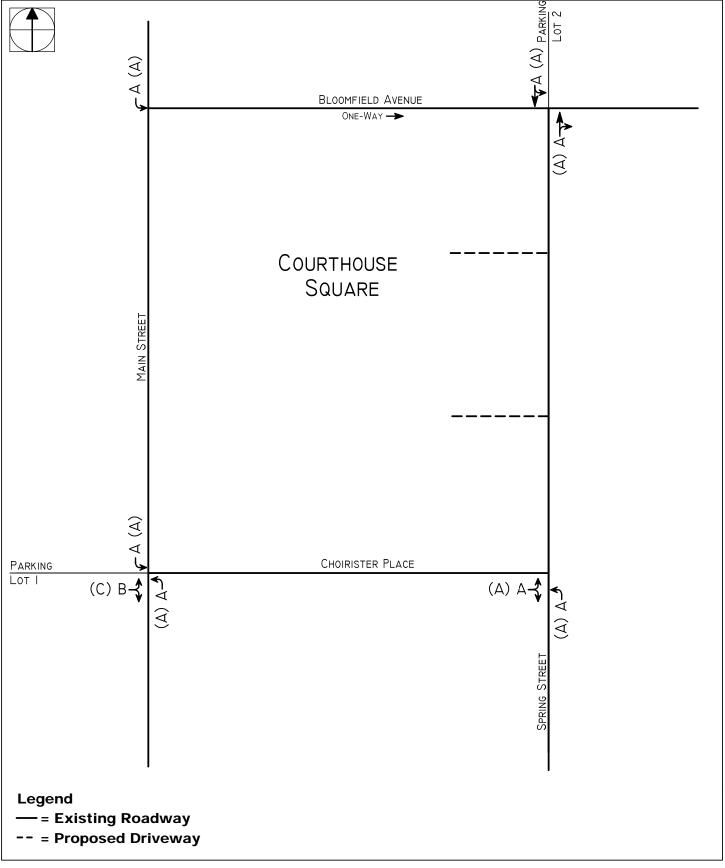
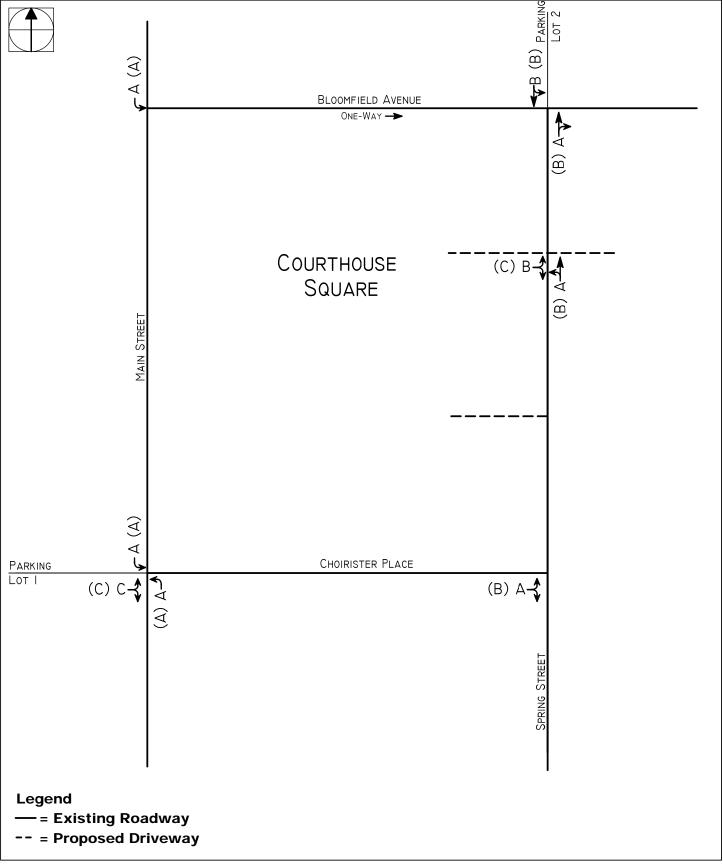


FIGURE II







(3)

TRAFFIC SURVEY SHEET

INDICATE NORTH BY ARROW



792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT#:	CLIENT: SPARTAN
INTERSECTION:	BLOOMFIELD AVE & MAIN ST
MUNICIPALITY:	FLEMINSTON
COUNT BY: K. J	DONATELLIDATE: 6/8/17
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TRAFFIC SURVEY SHEET





792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

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8 TRAFFIC SU	RVEY	SHEET	INDICAT NORTH BY ARROW	
DOLAN 792 Chimney Rock Road Suite B Wartinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax	(A)	MAIN ST	(8)	
PROJECT#: CLIENT: SPARTAN INTERSECTION: MAINST & CHORISTER PL	CHORISTER	V	JA L	RKING-
MUNICIPALITY: FLEMINGTON COUNTRY: K. DONATELLI DATE: 6/13/17		NB		Elizabeth de la companya de la comp
TIME from $\frac{700}{400}$ to $\frac{900}{630}$ # S M DW T F S (CIRCLE DAY) MOVEMENTA		TCH SURVEY AREA	INCLUDE LANDMARK	
START TIME A-B B-A B-C C-B C-D D-C D-A A-D				TOTAL
100 2 3 2				
715				
75 - 1 2 1 - 1 5				
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2 - 4 - 3 6				
5 2 5				
IX				





BY KEN DONATELLI	PROJECT NO
CLIENT/PROJECT SPARTAN	
PUBLICI FLEMINISTON	DATE 6/13/17

SIGN LEGEND

- 1) REDESTRIAN CROSSING
- (2) No Stopping DR STANDING
- 3 2 HR PARKING 9 AM - LOPM EXCEPT SUN & HOLIDAYS
- P NO PARKING 122 AM - 622 AM
- (B) ONE WAY
- @ No PARKING HERE TO CORNER
- 1 Speed Limit 25
- 8 COUNTY EMPLOYEES PARKING PUBLIC PARKING WEEKENDS ONLY
- 1 DO NOT ENTER
- (P) NO BARKING ANY TIME
- (1) STOP
- Q RESERVED PARKING (H/C)



- (4) 15 Min, PARKING 9AM-lopM
- (B) NO PARKING LOAVING ZONE
- 19 15 MIN. PARKING
- M LOADING ZONE
- (A) HYDRANT





BY KEN DONAT	ELLI PROJ	ECT NO
CLIENT/PROJECT SPACE	AN	
SUBJECT FLEMINGTO		6/13/17

PARKING COUNT								
		MAIN :	≶ ⊤		SPR	ing St	PUBL	'L LOT
0		WEST SIDE	<u>East Side</u>	BLOOMFIELD	W.STOE	E, SIDE	4-48-	ZHR
AVAIL,	Spaces	16	18	16	H	14-	76	43
6/8/17	12000	13	SC	9	ζ	5	15	30
1.1.1	1215	13	9	1/	10		14	26
	1230	1ā	11	8	5	4 ⁴ 3	15	25
	1245	10	10	8	5	4	17	25
	100	13	8	10	6	4	19	28
6/13/17	1230	10	8	Ø	10	7	21	31
f f.	1245	13	5	ğ	la	$\dot{7}$	16	34
	100	8	6_	7	7	6	16	32
	130	8	5	8	6	6,	17	35
	10-	12	7	10	5	6	16	30

- · PARKING-COUNTS ARE FILLED SPACES · MAIN ST PARKING FROM BLOOMFIELD AVE TO MINE ST
- · BLOOMFIELD AVE PARKING FROM MAIN ST TO BROAD ST · SPRING ST PARKING FROM BLOOMFIELD AVE TO MARLE AVE
- · PUBLIC LOT PARKING: 4 NLOR PERMIT PARKING, 2 HR PARKING Gam lopm
- · BUSES INCLUDED IN TRUCK COUNT

6/8 SCHOOL BUS STOP MAIN ST NB, ESIDE



	DOLAN &DEAN
CONSULTI	NG ENGINEERS, LLC

BY KEN DONATELLÍ	PROJECT NO	
CLIENT/PROJECT SPARTAN		
SUBJECT FLEMINGTON	DATE 6/13/17	

MAPLE AVE

		CHORISTE	R PL
E	NB - SPRING ST	T (3) + + L	
		T 3	

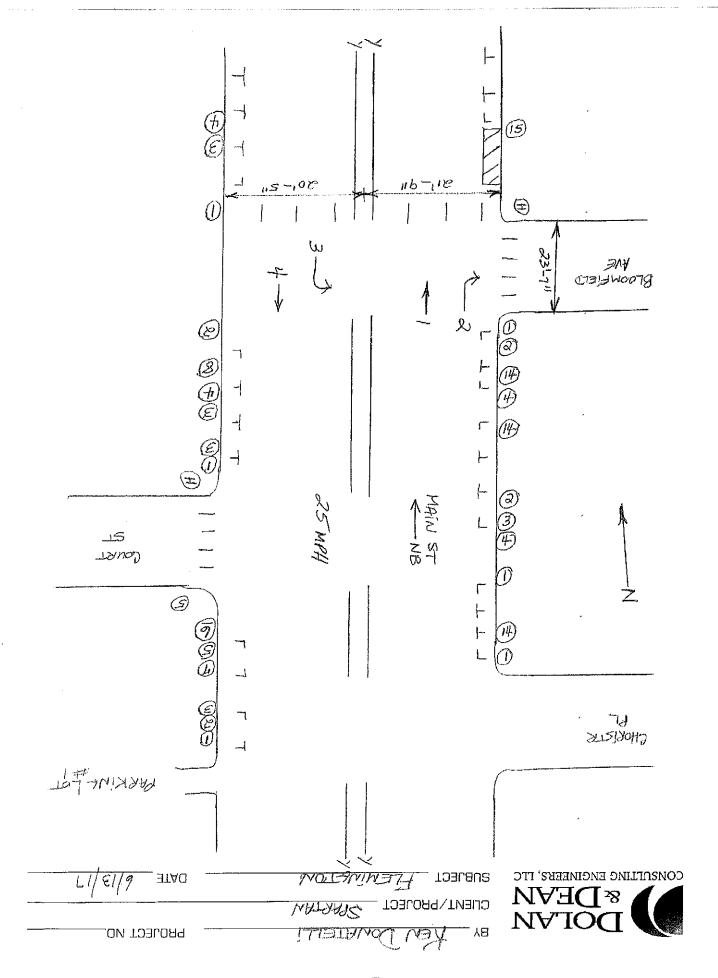
BLOOMFIELD AVE

DOLAN & DEAN CONSULTING ENGINEERS, LLC	BY KEN DONATELLÍ CLIENT/PROJECT SPARTAN SUBJECT FLEMÍNGTON	PROJECT NO DATE 6/13/17 BROAD ST
	STOP STOP	3
(H)	BLOOMFIELD AVE	SPRING ST

MAIN ST WB

00 lwi TOJ JUNYAAA 1# ا گ E NB 1 TAIS ST L_ **(**) 3NH 200 HAPPLE (D)(E) 0 TR BUM **BTAC** SUBJECT CONSULTING ENGINEERS, LLC CLIENT/PROJECT PROJECT NO



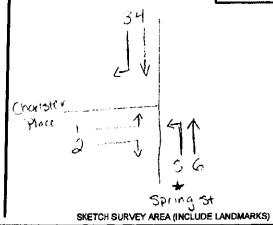






792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT#:	CLIENT: SPOTEGO
INTERSECTION: SPYING	3+ & Charister Pl.
MUNICIPALITY: FIEWIR	iqton
COUNT BY: O. Grunsein	DATE: 6/8/17
TIME from 4pm to	SMTW(T)FS



START							1	MOVEME	MUM TM	BER							TOTAL
TIME	1	3	3	4	5	6	Vec	lestr	ans	. 1	2	Ĵ	24	5	6		IUIAL
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PEAK HOUR TOTAL					ļ		}									ŀ	

INDICATE NORTH TRAFFIC SURVEY SHEET BY ARROW 792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax CHENT: Spartan PROJECT#: Charister I A INTERSECTION: Spring St & Charister PL MUNICIPALITY: Flomington COUNT BY: O. GYUNSCHOATE: 6/8/17 TIME from Tam to 9am SMTW(T)FS Spring St SKETCH SURVEY AREA (INCLUDE LANDMARKS) MOVEMENT NUMBER START TIME TOTAL Q Pedestrians: 4 7:00 \propto Д 7:15 7:30 2 2 3 4 7:45 a 5:00 8:15 3 Į 2 2 14 3 7 5 B:30 4 **ଟ**ଂଧ୍ୟ PEAK HOUR TOTAL

Chorister Place and Spring Street Thursday, June 8th, 2017, 7:00 - 9:00 a.m. Thursday, June 8th, 2017, 4:00 - 6:30 p.m.

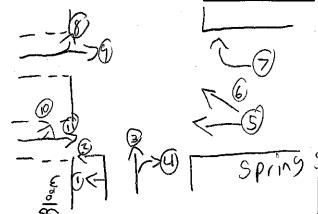
ř		Pa	Passenger Vehicles	hicles		Total	, _		
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7:30 AM	0	0	0	2	0	0	7		
7:45 AM	0	0	0	က	0	4	7	18	
8:00 AM	0	. ←1	0	സ	0	2	9	20	
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8:30 AM	⊣	7	0	ιΩ	2	က	18	24	
8:45 AM	0	1	0	ന	0	4	∞	52	
Peak Hour	2	10	2	25	4	12	PHF		9.0
PM Counts									
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4:15 PM	0	1	0	5	0	4	10		
4:30 PM	H	m	0	∞	0	ന	15		
4:45 PM	2	+ 1	0	7	0	7	17	55	
5:00 PM	7	2	0	Н		4	6	51	
5:15 PM	0	4	0	∞	0	4	16	27	
5:30 PM	7	4	0	9	0	4	16	28	
5:45 PM	0	4	0	4	7	Н	11	52	
6:00 PM	0	7	0	13	₩	0	16	29	
6:15 PM	⊣	₽	⊣	4	0	3	10	23	
Peak Hour	ю	14	0	19	ო	13	PHF		0.92

INDICATE NORTH	
BY ARROW	1



792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT#:	CLIENT:	partan
INTERSECTION: Bloom	field and	'spring St.
MUNICIPALITY: Fleming		•
COUNT BY: Eric C.		18/17
TIME from 7AM to 0	•	



SKETCH SURVEY AREA (INCLUDE LANDMARKS)

START		Pas	Sens	301	Vel	sich	eS 1	//OVEME	NT NUME	ER						TOTAL
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PEAK HOUR TOTAL			·											,		



792 Chimney Rock Rd Ste B Martinsville, NJ 08836-2271 (732) 469-0600 SHEET NO. OF SOMEON TO THE CONTROL OF SOMEON TO THE CONTROL OF SOMEON TO THE CONTROL OF THE CONT

		SCALE_	
			Legend Not to socale
North			1: Parking Lot 2: "No Outlet" sign
	1		3: "No Farking Anyfime Sign 4: Stop Sign (facing west)
	1	16' 5"	5: Street Sign 6: "2 Hr Parking 9am-67m; exc Sun & Holidays"
Chorister		4	"Parking Lot #2 80 spaces"
Place 30	1 1		
25' 6"	197		
	3	6	
•	(a) (b) 5"	16!	
	*		
	Spring	- ·	
	Street	• • • •	





792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT#: (CLIENT: Spartan
INTERSECTION: Bloomfi	eld and Spring St.
MUNICIPALITY: Flemin	
,	DATE: 6/8/17
TIME from 7AM to 9	SMTWDFS

SKETCH SURVEY AREA (INCLUDE LANDMARKS)

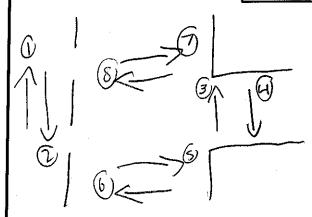
START	}	equ	y V	lehi	cle:	<u>S</u>		MOVEME	NT NUME	BER						TOTAL
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PEAK HOUR TOTAL					i											





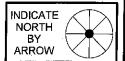
792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT#:	CLIENT: Spartan
INTERSECTION: Bloom	ifield and spring St.
MUNICIPALITY: Fleming	ton
COUNT BY: Eric C.	·
TIME from 7 AM to C	



SKETCH SURVEY AREA (INCLUDE LANDMARKS)

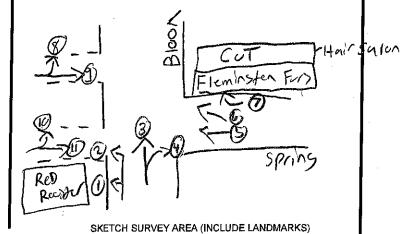
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PEAK											 <u>. </u>					
PEAK HOUR TOTAL													i			





792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT#:	CLIENT: Spartan
PROJECT#: INTERSECTION: Bloom F	ield and Spring St.
MUNICIPALITY: Flemi	
COUNT BY: Eric C.	tar
	SM TWT FS
	(CIRCLE DAY)



START	Po	SS	eng	er	Veh	icles	. i	MOVEME	NT NUME	BER	_		-				TOTAL
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PEAK HOUR TOTAL																	





792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

PROJECT #:	CLIENT:	Spartan
INTERSECTION:	Bloomfield a	and Spring St.
MUNICIPALITY:	Flemington	1 3
	C. DATE:	6/7/17
LI PA	u / 301 PM	
TIME from 1/	1 to 0:30 1/1	SMT@TFS

SKETCH SURVEY AREA (INCLUDE LANDMARKS)

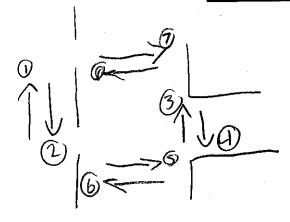
START	Heavy Vehicles MOVEMENT NUMBER											TOTAL				
START TIME	1	2	3	4	5	6	7	8	q	10	11					TOTAL
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PEAK HOUR TOTAL						l										





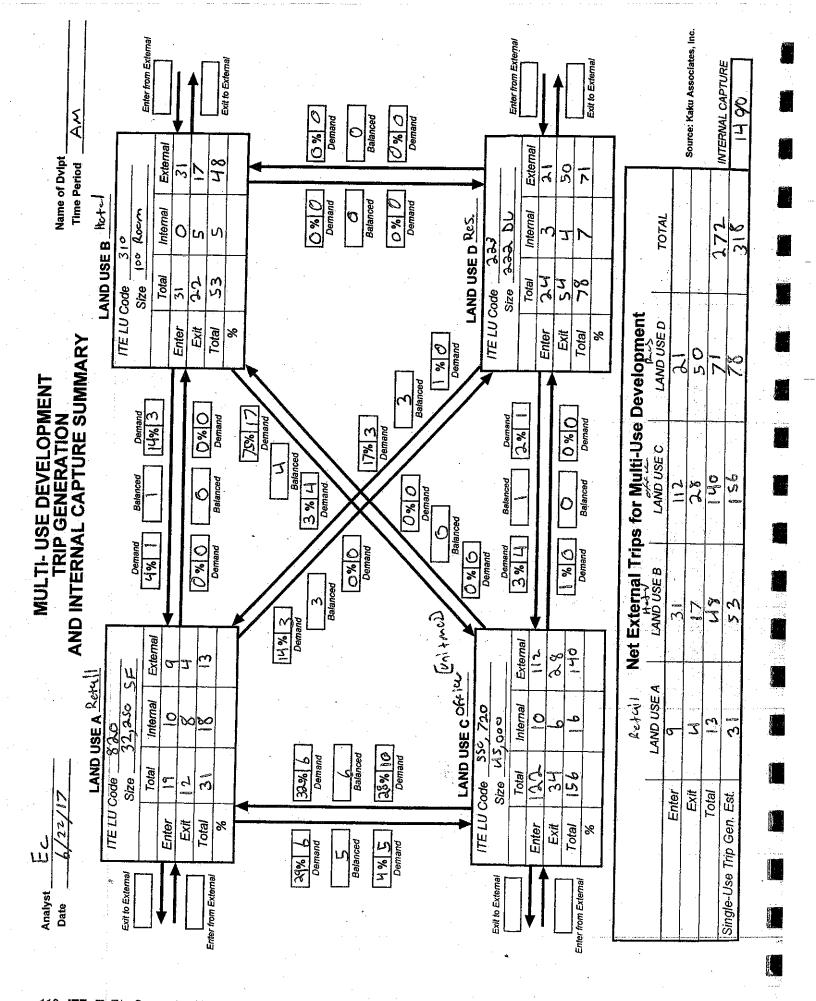
792 Chimney Rock Road Suite B Martinsville, NJ 08836 (732) 469-0600 (732) 469-0663 fax

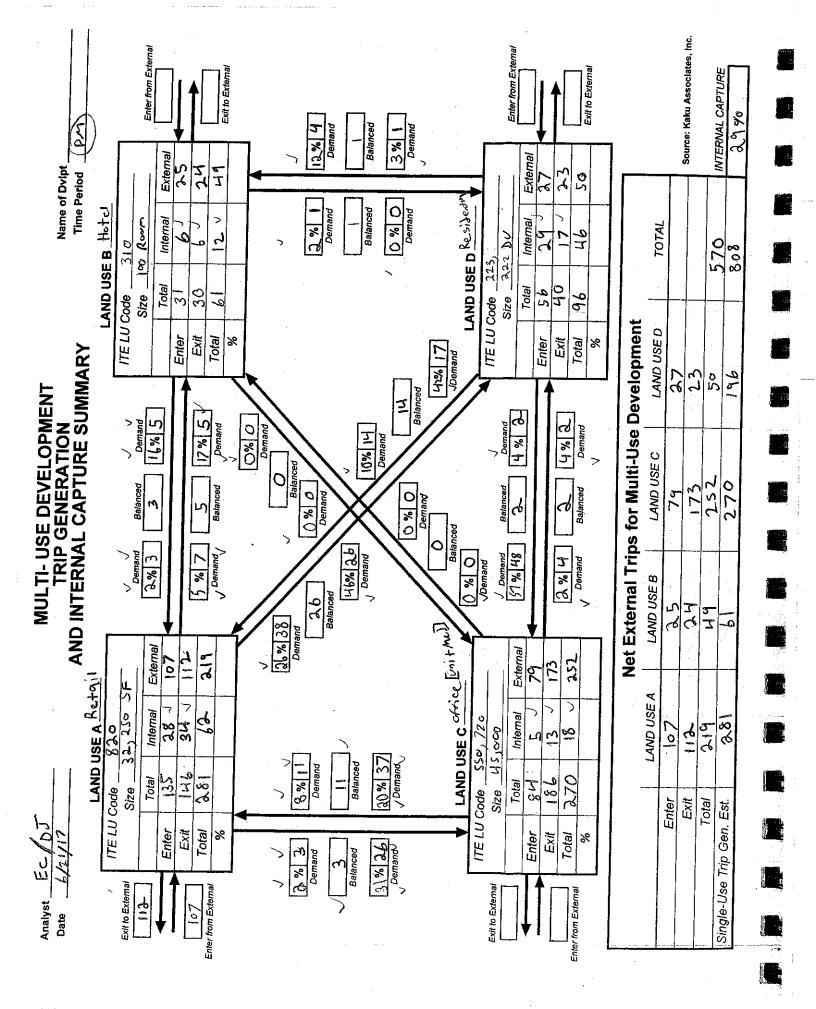
PROJECT#:	CLIENT: Spartan
INTERSECTION: Bloom	nfield and Spring St.
MUNICIPALITY: Flem	
COUNT BY: Eric C.	ar .
COUNT BY: LIPA	1.30 PM
TIME from 4 177 to 2	SMTWTFS



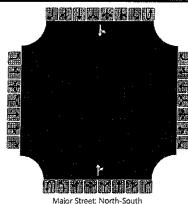
SKETCH SURVEY AREA (INCLUDE LANDMARKS)

START	-	ede	str	ign S	٠		. 1	NOVEME	NT NUME	ER							TOTAL
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PEAK HOUR TOTAL																	





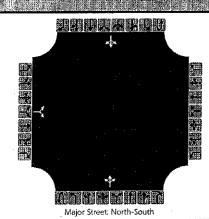
HCS 2010 Two-Way Stop-Control Report **General Information** Site Information EC Analyst Intersection Main & Bloomfield Agency/Co. DD Jurisdiction Date Performed 6/19/2017 East/West Street Bloomfield Avenue Analysis Year 2017 North/South Street Main Street Time Analyzed AM Peak Ex Peak Hour Factor 0.87 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description



Vehicle Volumes and Adj	ustm	ents								\$1 1 1							
Approach		Eastbound U. L. T. R.				West	bound	A PARTY OF THE PAR		North	bound	TVS INVESTIGATION		South	bound		
Movement	Ü	L	J. T.	R	, Ur	It.	Ţ	R	Ü	L	т	; R	Ü	l L	T	R	
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6	
Number of Lanes	(14.19)	0	0	0	į,	0	0	640	0	0	11	0	. 0	0	1	O	
Configuration												TR		LT			
Volume, V (veh/h)											403	32		11	300		
Percent Heavy Vehicles (%)														4			
Proportion Time Blocked												12					
Percent Grade (%)																	
Right Turn Channelized	1)	do 🛒). 	N	o (N	0		No.				
Median Type/Storage		Undiv															
Critical and Follow-up He	eadwa																
Base Critical Headway (sec)														4.1			
Critical Headway (sec)	167		AN IN	ill in			7	4. 1						4.14			
Base Follow-Up Headway (sec)														2.2			
Follow-Up Headway (sec)	416 M	E v.				1888 1872 - 1888								2.24			
Delay, Queue Length, and	l Leve	l of S	ervice),; ; ; ;		l v i											
Flow Rate, v (veh/h)														13			
ts Capacity, c (veh/h)							(5)				* "			1052			
v/c Ratio														0.01			
95% Queue Length, Q ₉₅ (veh)				, j., j., j. j.									1	0.0			
Control Delay (s/veh)														8.5			
Level of Service, LOS					7,14				774					A			
Approach Delay (s/veh)													0.4				
	C. KANAN MAKELANA		XX XXXX XX XX		CONTRACTOR	VIII CHEST CHEST CONTRACTOR	07 - 199 - VRV 281		ENGLASSIA S	Sin Barris an	1100 W	KERCKETT 'S					

HCS 2010 Two-Way Stop-Control Report **General Information** Site Information Main & Choirister Intersection Analyst Agency/Co. DD Jurisdiction East/West Street Choirister Place Date Performed 6/19/2017 Main Street Analysis Year 2017 North/South Street 0.89 Time Analyzed AM Peak ex Peak Hour Factor 1.00 Analysis Time Period (hrs) Intersection Orientation North-South **Project Description**

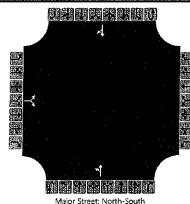
Lanes



Yehicle Volumes and Adj	ustme	Eastbound				Westbound										
Approach		U T R				West	bound			North	bound			South	bound	
Movement:	l ju	Ľ	ľ	R	U	· ¡L ·	Т	R	U.	L	Т	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	0000	0	0	0	0	0	1	0 .	0	.0	1	0
Configuration			LR								LTR				LTR	
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Percent Heavy Vehicles (%)		3		3						3				3		
Proportion Time Blocked:	4						4									
Percent Grade (%)		(0							W 1984 11 16 1 - 16 1			- Sarah I dan			WARE CONTRACTOR OF THE PARTY OF
Right Turn Channelized		Undivi				i i N	lo i			A, N	o ;			, N	0	
Median Type/Storage					vided					-disantificate (c	#0=-2=V==#=1##	32 - N. 1903 S. 150			CORNECTION OF GREEK	
Critical and Follow-up He	adwa	ways														
Base Critical Headway (sec)		7.1		6.2						4.1				4.1		
Crifical Headway (sec)	1.5	6,43	j^{T}	6.23						4:13		li ing		4.13		
Base Follow-Up Headway (sec)		3.5		3.3						2.2				2.2		
Follow-Up Headway (sec)		3.53		3.33						2.23				2.23		
Delay, Queue Length, and	l Leve	l of S	ervice									* *				
Flow Rate, v (veh/h)			2							4				3		
Capacity, c (veh/h)			412							1133				1087		
v/c Ratio			0.00							0.00				0.00		
95% Queue Length, Q ₉₅ (veh):			0.0							0.0				0.0		
Control Delay (s/veh)			13.8							8.2				8.3		
Level of Service; LOS			В							A	ner Si			A		1
Approach Delay (s/veh)		13.8								0.	1		0.1			

Approach LOS

Marin de la companya de la companya de la companya de la companya de la companya de la companya de la companya Referencia de la companya de la companya de la companya de la companya de la companya de la companya de la comp	HCS 2010 Two-V	Vay Stop-Control Repo	or the
General Information		Site Information	
Analyst	EC	Intersection	Spring & Choirister
Agency/Co.	DD	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Am Peak ex	Peak Hour Factor	0.60
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



Approach		Eastbound			West	bound		Northbound				Southbound				
Movement	י ט	, L	Ť	R	Ü	L	. T	R	U'	L	ĪŢ	ľ R	U.	L'L	T.	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	Ö		0.0	0	0	0 :	0	5.1	0	:0	0	1	0
Configuration			LR							LT						TR
Valume, V (veh/h)		2		10						4	12				25	2
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked							J		7.7							
Percent Grade (%)		()													
Right Turn Channelized	1.42	N	0	r e	i)	n N	lo 🗆			N e	lo	AB S		۱	lo .	
Median Type/Storage				Undiv											· .	
Critical and Follow-up He	adwa	ys			Guil											
Base Critical Headway (sec)																
Critical Headway (sec)		7					T#									
Base Foliow-Up Headway (sec)																
Follow-Up Headway (sec)				71.							16 Miles					

Delay, Queue Length, and Level of Service

1014

0.02

0.1

8.6

A

8.6

Flow Rate, v (veh/h)

Capacity, c (veh/h)

Control Delay (s/veh)

Level of Service, LOS

Approach Delay (s/veh)

95% Queue Length, Qes (veh)

Approach LOS

v/c Ratio

Vehicle Volumes and Adjustments

1576

0.00

0.0

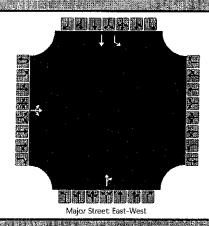
7,3

A

1.9

HCS 2010 Two-Way Stop-Control Report General Information Site Information Analyst EC Intersection Spring & Bloomfield Agency/Co. DD Jurisdiction Date Performed 6/19/2017 Bloomfield Avenue East/West Street Analysis Year 2017 North/South Street Spring Street Time Analyzed Am Peak ex 0.64 Peak Hour Factor Intersection Orientation East-West Analysis Time Period (hrs) 1,00 **Project Description**

Lanes



	400000	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,														
Approach		Eastb	oound			West	bound			North	bound			South	nbound	i
Movement	U		li T	Ŕ	eU -	L	Ţ	i., k	U.		Ţ	R	. U	L	Τ+	l R
Priority	10	1	2	3	4 U	4	5	6		7	8	9		10	11	12
, Number of Lanes	0	0	1.4	О	0	0	₫ O F	0.1		0.1	1	0		1.1	1 1	0
Configuration			LTR									TR		L	Т	
Volume, V (veh/h)		-5	26	10							- 8,	7.		.3	5	
Percent Heavy Vehicles (%)		5									5	5		5	5	
Proportion Time Blocked			\$ 4 g		3 1							334.				
Percent Grade (%)											0				0	
Right Turn Channelized		i N	ó			i i i i k	lo:			i i i	lo 💮			4.5	lo .	
Median Type/Storage				Undi	/ided				-							
Critical and Follow-up He	adwa	ys 🗐														
Base Critical Headway (sec)		0.0									6.5	6.2		7.1	6.5	
Critical Headway (sec)		÷0.00					t de Me				6.55	6.25		7.15	6.55	
Base Follow-Up Headway (sec)		0.0									4.0	3.3		0.0	4.0	
Follow-Up Headway (sec)	P	0.00		ur asserti							4.04	3.34		0.00	4.04	
Delay, Queue Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)		8										23		5	8	
Capacity, c (veh/h) us		0										903		0	813	
v/c Ratio												0.03			0.01	·
95% Queue Length, Q _{e5} (veh)				A A					JETP:			0.1			0.0	
Control Delay (s/veh)												9.1			9.5	
Level of Service, LOS				1 : 2 : 5 : 5								A			A	3 10

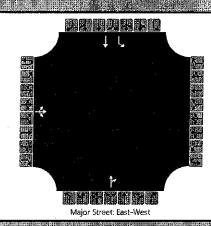
Approach Delay (s/veh)

Approach LOS

9.1

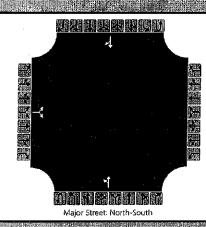
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	HCS 2010 Two-Way S	top-Control Repor	t
General Information		Site information	
Analyst .	EC	Intersection	Spring & Bloomfield
Agency/Co.	DD	Jurisdiction	
Date Performed .	6/19/2017	East/West Street	Bloomfield Avenue
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Pm Peak ex	Peak Hour Factor	0.88
Intersection Orientation	East-West	Analysis Time Period (hrs)	1,00
Project Description			



Vehicle Volumes and Adj	ustm	ents					4											
Approach		East	oound			West	bound			North	bound			South	bound			
Movement	Ú	L	Ta	R	U	L.	T	R	U	L.	Ŧ	R	U	L L	T	R		
Priority	1U	1	2	3	4U	4	5	6	<u> </u>	7	8	9		10	11	12		
Number of Lanes	: 0	0		0.0	0.0	ii 0 ii	0.0	0		0	1.1.	0		<i>i</i> 1	ji,	0		
Configuration			LTR									TR		L	T			
Volume, V (veh/h)		3	47	19	16						11	11		23	- 6			
Percent Heavy Vehicles (%)		1				·					1	1	<u> </u>	1	1			
::Proportion Time Blocked							4	***	a							1		
Percent Grade (%)		V									0			(0			
Right Turn Channelized		A JUN	o 📖			Nagara	o' i		į		lo 🔻			, N	lo "			
Median Type/Storage	Undivided									· · · · · · · · · · · · · · · · · · ·					****			
Critical and Follow-up He	adwa	ys 🐩																
Base Critical Headway (sec)		0.0									6.5	6.2		7.1	6.5			
Critical Headway (sec)		0.00	i.								6.51	6.21	1	7.11	6.51	1 7		
Base Follow-Up Headway (sec)		0.0									4.0	3.3		0.0	4.0			
Follow-Up Headway (sec)		0.00	¥.) 1856 1877 1877					4.01	3.31		0.00	4.01			
Delay, Queue Length, and	Leve	lofS	ervice					le in the					(4)					
Flow Rate, v (veh/h)		3										24		26	7			
Capacity; c:(veh/h)		Ō								/*		904		10	811			
v/c Ratio												0.03			0.01			
95% Queue Length; Q ₉₅ (veh)			, i		#							0.1	. d		0.0			
Control Delay (s/veh)												9,1			9.5			
Level of Service, LOS				1970 (1970) 1000 (1970)										A				
Approach Delay (s/veh)	Of Committee (Printer Marie 1 of Association) to Committee (Committee of Committ									9.	1							
PApproach IOS																		

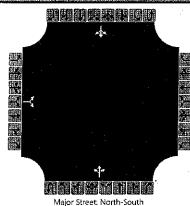
	HCS 2010 Two-Way	Stop-Control Repo	τ
General information		Site Information	
Analyst	EC	Intersection	Spring & Choirister
Agency/Co.	DD Market Market	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Pm Peak ex	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



Vehicle Volumes and Ad	ustm	en ts		1, 1										elifi 1			
Approach		Easth	oound			West	oound			North	bound			South	bound		
Movement -	U.	1	ĮΠ,	R	U	Li	Τ÷	R	U	$ \cdot _{\Gamma}$	ļ T	R	Ú	Ĺ	Ť	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0,=	0 7		0	0 0	0	0	0		0	0	0	1	0	
Configuration			LR						Į	LT						TR	
Volume, V (veh/h)		В		14		ye.				3 .	13	100			19	Ö.	
Percent Heavy Vehicles (%)	<u> </u>	0		0						0	<u> </u>						
Proportion Time Blocked		اور آن			A L		RL MA,									***	
Percent Grade (%)		()						<u> </u>								
Right Turn Channelized	100	. N	o .		克基 0	illi N	0			l i	lo .			.	Q: IIII		
Median Type/Storage				Undi	/ided				24423330000444	0004 Carrier 10000 1000		Enver Grant process					
Critical and Follow-up Ho	eadwa	ys 📗															
Base Critical Headway (sec)		7.1		6.2						4.1							
Critical Headway (sec)		6.40		6.20						. 4.10							
Base Follow-Up Headway (sec)		3.5		3.3						2.2							
Follow-Up Headway (sec)		3.50		3.30			5			2.20			ď.				
Delay, Queue Length, and	l Leve	l of S	ervice	y .													
Flow Rate, v (veh/h)			18							3							
Capacity, c (veh/h)			1047							1608				δ_{i-j_2}	(1)	,	
v/c Ratio			0.02							0.00							
95% Queue Length, Q ₅₅ (veh)			0.1					5	1,1	0.0							
Control Delay (s/veh)			8.5							7.2							
Level of Service, LOS			Α						i ke ili	Α							
Approach Delay (s/veh)		8.5								1.	3						

Approach LOS

	HCS 2010 Two-Way S	top-Control Repor	
General Information		Site Information	
Analyst	EC	Intersection	Main & Choirister
Agency/Co.	DD	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	12017	North/South Street	Main Street
Time Analyzed	PMPeak ex	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



A A A A A A A A A A	ustm(enis			197		34,0											
Approach	·	Eastl	bound			West	bound			North	bound			South	bound			
Movement :	Ų	L	Ţ	i R	≡ U	L.L	Ţ	R	Ų	L	T	, R	Ü	i L	j. 1	R		
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6		
Number of Lanes		0.4	.0	0,1		19 JO 4	0	0	0	0	1	10.0	i0	0	10	0		
Configuration			LR								LTR				LTR			
Volume, V (veh/h)		1		2,5	2 A					0	444	0		6	497	7.		
Percent Heavy Vehicles (%)		3		3						3				3	AMERICA CHARLES			
Proportion Time Blocked								17.										
Percent Grade (%)			0				See Control		sandio massoci	·		0"1400LU(54003\1	VOCALST CORRESPONDE		Mun Headen	o ay in Valdania		
Right Turn Channelized		1	lo 💮		Sentanu.	4.6	lo .			N	o ,	1		1	lo [ˈ	sine in		
Median Type/Storage		0.0		Ùndi	vided		223222330000565	***************************************					School Value value of		innixe rate (4.5787)	500 F-200 - 100 -		
Critical and Follow-up He	eadwa	ys .																
Base Critical Headway (sec)		7.1		6,2						4.1				4.1				
Critical Headway (sec)	. (1960) (1960)	6.43		6,23						4.13	w.13.			4.13				
Base Follow-Up Headway (sec)		3.5		3.3						2,2				2.2				
Follow-Up Headway (sec)		3.53	F	3.33						2,23				2.23				
Delay, Queue Length, and	l Leve	l of S	ervice						1515									
Flow Rate, v (veh/h)			3							0				6				
Capacity, c (veh/h)			[‡] 401:≇						اينان	1026				1084				
v/c Ratio			0.01							0.00				0.01				
95% Queue Length, Q ₆₅ (veh)		10.00	0.0			3 54 <u>3</u>				0.0				0.0				
Controi Delay (s/veh)			14.0							8.5				8.3				
Level of Service, LOS:			В						lez i	A			52	Α				
Approach Delay (s/veh)		14	.0							0.0					0.2			
Approach LOS: 15 15 15 15 15 15 15 15 15 15 15 15 15		/B																

HCS 2010 Two-Way Stop-Control Report **General Information** Site Information Main & Bloomfield EC Intersection DD Jurisdiction 6/19/2017 East/West Street Bloomfield Avenue Main Street 2017 North/South Street

Peak Hour Factor

Analysis Time Period (hrs)

0.92

1.00

Project Description

Lanes

Intersection Orientation

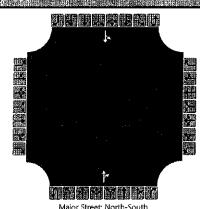
Analyst

Agency/Co.

Analysis Year

Time Analyzed

Date Performed



	110,01 211001 1101111 00
ehicle Volumes and Adjustments	

PM Peak Ex

North-South

Approach	Eastbound			Westbound				Northbound				Southbound				
Movement:	Ų	L	Т	R	U	L.	T	. R	U	L	Ĭ.Ţ	R	Ü	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	Ö		0	0.5	0	0.,	0."	1	0	Ö	0	i f	0:
Configuration												TR		LT		
Volume, V (veh/h)	1.1										515	28		-26	415	
Percent Heavy Vehicles (%)														1		
Proportion Time:Blacked																į
Percent Grade (%)																
Right Turn Channelized		N	o ii			N	0			N	0 👚 🖟			i N	lo	
Median Type/Storage	Undivided								-							

Gritical and Follow-up Headways

		CHECKER SEVERE SEVERE	Control of the same	MANAGE 1994 - 2017	Open State of the Control of the Con	CHECOTOR EN COOP	ECTION SANTON	The second second second	and about the participation of the same	CENTRAL PROPERTY AND ADDRESS OF THE PERSONS	CONTRACTOR OF THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED ADDRESS OF THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND	KINDER PROPERTY X SECTION SE	harmony sed a pro-		 ALL COMPLETE STATE
Base Critical Headway (sec)														4.1	
Critical Headway (sec)					m)							, 4,		4.11	
Base Follow-Up Headway (sec)														2.2	
Follow-Up Headway (sec)	119												şi ş	2.21	
Delay, Queue Length, and	l Leve	of S	ervice	•											
Flow Rate, v (veh/h)														28	
Capacity, c (veh/h)								98 A	1					990	
v/c Ratio														0.03	

95% Queue Length, Qes (veh)

Control Delay (s/veh)

Level of Service, LOS Approach Delay (s/veh)

Approach LOS

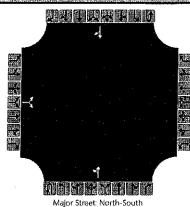
0.1

8.7

Α

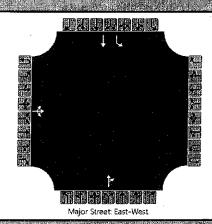
	HCS 2010 Two-Way S	top-Control Repor	t
General Information		Site Information	
Analyst	EC	Intersection	Spring & Choirister
Agency/Co	HDD 1	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Am NoBuild	Peak Hour Factor	0.60
Intersection Orientation	North-South	Analysis Time Period (hrs). ; ;	1.00
Project Description			

Lanes -



Vehicle Volumes and Adj	ustm	ents														
Approach		East	bound			West	bound			North	bound			South	bound	
Movement	Ü		¥τ	R.	t iU		ıπ	R	Ü		Т	R	U	j g	T.	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		O	0	. 0	* .	0	0	0 #	0	0	4 9	0	. 0	ő.	1	0
Configuration			LR							LT						TR
Volume: V (veh/h)		3		11						5	13				27	- 3
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked			ř	grandere Light di												
Percent Grade (%)	0															
Right Turn Channelized	No national No									, K	lo i	iigi jilan	Maria d	ids id	lo :	
Median Type/Storage				Und	ivided											
Critical and Follow-up He	adwa	lys .												ii L		
Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																
Delay, Queue Length, and	l Leve) of S	ervice		e 11. <u>11.</u>											
Flow Rate, v (veh/h)			23							8						
Capacity, c (veh/h)			1000		an a			7		1570			a i			
v/c Ratio			0.02							0.01						
95% Queue Length, Qes (veh)			0.1							0.0						
Control Delay (s/veh)			8.7							7.3						
Level of Service, LOS			Α	i i i i i						A						
Approach Delay (s/veh)	8.7								2.0							
Approach LOS	A														1.5	

	HCS 2010 Two-Way S	top-Control Repor	t
General Information		site information .	
Analyst	EC	Intersection	Spring & Bloomfield
Agency/Co.	DD	Jurisdiction.	
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue
: Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Am NoBuild	Peak Hour Factor	0.64
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00
Project Description			



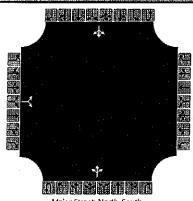
	Eastbound				Westbound			Northbound				Southbound				
Approach		Eastl	oound	a savenierierie		West	bound			North	bound	T ENVIORENCE	and the second	/ 136/608890bi / mile	bound	s comingues de
Movement	U	T. Lin	#T	i∦R _i	ָּט י	L	T	R,,,,	U	L.	Te) - R	U	. الجارين الجارين	Т:	Ř
Priority	1U	1	2	13	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	O'	0.0	1,000	Ö	0.79	0	0 !	0		0 :		0		1	1	0
Configuration			LTR									TR		L	T	
Volume, V (veh/h)		. 6	29	- 11			.15				, 9	8		4	- 6	
Percent Heavy Vehicles (%)		5									5	5		5	5	
Proportion Time Blocked									i i							A),
Percent Grade (%)											0				0	
Right Turn Channelized	ii Ž	, 1 i N	lo .			۱, ۱	lo.		1,12		lo:			4 4	lo 💮	
Median Type/Storage				Undi	vided										-	,
Critical and Follow-up He	adwa	ys									i i					
Base Critical Headway (sec)																
Critical Headway (sec)										8.0						
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)			1				4				10.00					
Delay, Queue Length, and	Leve	l of S	ervice					er e								
Flow Rate, v (veh/h)		9										26		6	9	
Capacity, c (veh/h)		0										893		0	806	
v/c Ratio												0.03			0.01	
95% Queue Length, Qes (veh)				7-1-17								0.1			0.0	
Control Delay (s/veh)												9.2			9.5	
Level of Service; (OS:							j.				ii.	. A :		H	A	

Approach Delay (s/veh)

Approach LOS

9.2

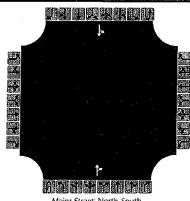
	HCS 2010 Two-Wa	ay Stop-Control Repo	t.
General Information		Site Information	
Analyst	EC	Intersection	Main & Choirister
Agency/Co.	DD	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Main Street
Time Analyzed	AM NoBuild	Peak Hour Factor	0.89
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



Major	Street:	North-South
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Vehicle Volumes and Adj	ustm	ents															
Approach		Easti	oound			West	bound			North	bound		Southbound				
Movement	U	L L	Т	R	U,	i., E	Ť	R	ļυ	, L	1.7	R	U	P) E	į., Ť.,	, R	
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	. 6	
Number of Lanes		0	0.0	0 11		0	0,	10	0.	0.2	111	⊕ 0 ⊕	0 0	0	1	0	
Configuration	<u> </u>		LR							,	LTR	<u> </u>			LTR		
-Volume, V (veh/h)		2		2		, a.	r iii			-5	458	2		4	410	2	
Percent Heavy Vehicles (%)	<u></u>	3		3						3				3			
Proportion Time Blocked					li S	4.5%					i, ii			\$ t			
Percent Grade (%)			0													***************************************	
Right Turn Channelized		Ŋ	0		Milita	Ņ	lo			N	lo 🏴			. 1	lo i i,	1.	
Median Type/Storage		*******		Undi	vided		A.D 100 2 A.V 12 A.V	**************************************		NEW LOCALIST - MARCH				PARE IV - 2 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	- (B-40-280) - F1-1-640/CT/201		
Critical and Follow-up He	adwa	ys ,															
Base Critical Headway (sec)																	
Critical Headway (sec)																	
Base Follow-Up Headway (sec)																	
Follow-Up Headway (sec)	Mark Page						y_i, y_i									4.7	
Delay, Queue Length, and	l Leve	l of S	ervice					44									
Flow Rate, v (veh/h)			4							6				4			
Capacity, c (veh/h)			370				į, ži			1092				1043			
v/c Ratio		·	0.01							0.01				0.00			
95% Queue Length; Q ₉₅ (veh)	77 10.5 -		0:0							0.0	7			0.0			
Control Delay (s/veh)			14.8							8.3				8.5			
Level of Service, LOS		127	. B							A				Å.			
Approach Delay (s/veh)		14.	8							. 0.2				0.1			
Approach LOS		В				ing lating			i di						g 1 A		

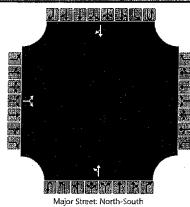
	HCS 2010 Two-	HCS 2010 Two-Way Stop-Control Report										
General Information :		Site Information										
Analyst	EC	Intersection	. Main & Bloomfield									
Agency/Co.		Jurisdiction										
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue									
Analysis Year	2017	North/South Street	Main Street									
Time Analyzed	AM NoBuild	Peak Hour Factor	0.87									
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00									
Project Description												



Major Street: North-South

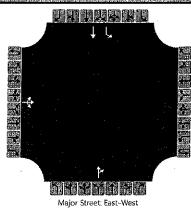
Wenicle Volumes and Ad	Justm	ents														
Approach		Eastl	oound			West	tbound			North	bound			South	bound	
Movement	.∪		" Т	R	0	Ľ	Τ"	, R	U	L	T	. R	Ü	L	π	R
Priority		10	11	12		7	8	9	10	1	2	3	4Ú	4	5	6
Number of Lanes		0.1	0	0		0	0.	0.4	0	0		0	0 🕬	. 0	1	0
Configuration		<u></u>										TR		LT		
Volume, V (veh/h)											443	35		12	330	
Percent Heavy Vehicles (%)						<u> </u>			<u></u>					4		
Proportion Time Blocked				ú							/4. Tu	8	1.76			
Percent Grade (%)																
Right Turn Channelized	1000	Λ.	lo 🚬	<u>.</u>		, i 1	VO .			, N	0	ji.		i je N	lo .	
Median Type/Storage				Undi	ivided											
Critical and Follow-up Ho	ezelwa	ıys 🏢														
Base Critical Headway (sec)				-												
Critical Headway (sec)			1. 1.			Tall f						ja ja Pi				
Base Follow-Up Headway (sec)											-					
Follow-Up Headway (sec)			no apilio Anolis													
Delay, Queue Length, and	d Leve	l of S	ervice													
Flow Rate, v (veh/h)														14		
Capacity, c (veh/h)														1009		
v/c Ratio							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							0.01		
95% Queue Length, Q ₉₅ (veh)	3,705.31													0.0		
Control Delay (s/veh)														8.6		
Level of Service, LOS						J								A		
Approach Delay (s/veh)														0.	5	
Approach LOS	***			100		iv.			ag di							

	HCS 2010 Two-Way S	top-Control Repor	t i
General Information		Site Information,	
Analyst	EC .	Intersection	Spring & Choirister
Agency/Co.	DD	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Pm NoBuild	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



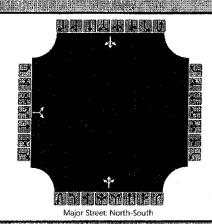
Vehicle Volumes and Adj	ustm	ents						140 T									
Approach		Eastl	oound			West	bound			North	bound		Southbound				
Movement	Ü	L,	ĪΤ	R	, U .	ľ"Ľ	Т	R ji	וטיי	L	T	R	Ü	Ĺ	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4 U	4	5	6	
Number of Lanes	糊土	0.	10	0		0	0.4	0	0 :	i o	5 1 1 1	0	. 0 .	.0	1	0	
Configuration			LR							LT						TR	
Volume, V (veh/h)		4		15						4	14				21.		
Percent Heavy Vehicles (%)		0		0						0	L						
Proportion Time Blocked																:51	
Percent Grade (%)		(0										·	·			
Right Turn Channelized		Marie V	lo 🥬 🖟			.	lo .	1/4/11		J.F. A	0		, v. i		o ir		
Median Type/Storage				Undi	vided								urine transmission			na na managa da managa da managa da managa da managa da managa da managa da managa da managa da managa da manag	
Critical and Follow-up He	adwa	ys 🕆													at di		
Base Critical Headway (sec)		7.1		6.2						4.1							
Critical Headway (sec)	. 4	6.40		6.20						4.10							
Base Follow-Up Headway (sec)		3.5		3.3						2.2							
Follow-Up Headway (sec)		3.50		3.30						2,20		47.0		1.7	· ·		
Delay, Queue Length, and	Leve	l of S	ervice														
Flow Rate, v (veh/h)			20							4							
Capacity, c (veh/h)			1039		1971 P.					1604						10.10	
v/c Ratio			0.02							0.00							
:::95% Queue Length, Q ₆₅ (veh)			0.1		idist signilari Alemania id			1		0.0							
Control Delay (s/veh)			8,5							7.2							
Level of Service, LOS			A A	4						Α							
Approach Delay (s/veh)		8.	5			*				1.	5						
Approach LOS	. Es	Α						1.5		6 Filt							

	HCS 2010 Tw	o-Way Stop-Control Repo	n
General Information		Site Information	
Analyst	EC	Intersection	Spring & Bloomfield
Agency/Co.	DD 12.	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Pm NoBuild	Peak Hour Factor	0.88
Intersection Orientation	East-West	Analysis Time Period (hrs)	1.00 1 1.00
Project Description			
anes			



Vehicle Volumes and Adj	ustme	nts						V.				e kere					
Approach		Eastb	ound			West	bound			North	bound		Southbound				
Movement:	Ü	L	T	R	Ü	L,	II.	R	U	Ľ	Ť	R	الار	L	EŢ.	R	
Priority	10	. 1	2	3	4 Ú	4	5	6		7	8	9		10	11	12	
Number of Lanes	0	0	1	. 0	0	0	0	0		0 '	11.	0		. 1	10	0	
Configuration			LTR									TR		L	Т		
Volume, V (veh/h)	6	4	52	21				74 (6)			12	12		25	7		
Percent Heavy Vehicles (%)		1									1	1		1	1		
Proportion Time Blocked		14			1 40 16												
Percent Grade (%)										. ())		
Right Turn Channelized		N	0	ä		N	o.			i N	o 📖 🤚			i dia N	o ii		
Median Type/Storage				Undiv	<i>r</i> ided												
Critical and Follow-up He	adwa	ys 👢															
Base Critical Headway (sec)																	
Critical Headway (sec)	Ž.																
Base Follow-Up Headway (sec)																	
Follow-Up Headway (sec)			e Lite	. .								1		į.	1 1		
Delay Quelle Length, and	Leve	l of Se	rvice														
Flow Rate, v (veh/h)		5										28		28	8		
Capacity, c (veh/h)		0				76-1890		tion.				893		0.	799		
v/c Ratio												0.03			0.01		
95% Queue Length, Qes (veh)					1.55							0.1			0.0		
Control Delay (s/veh)												9,2			9.6		
Level of Service, LOS				1,57								A			Α		
Approach Delay (s/veh)										9.3	2						
Approach LOS							digi.		16 - 2	Α							

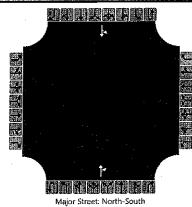
	HCS 2010 Two-	-Way Stop-Control Repo	rt .
General Information		Site Information	
Analyst	EC	Intersection	Main & Choirister
Agency/Co:	DD	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Main Street
Time Analyzed	PM NoBuild	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



Vehicle Volumes and Adj	ustm	ents														
Approach		Eastb	oound			West	bound			North	bound			South	bound	
Movement	U	Ĺ	y T	R	Ü	L.	ıπ.	R	Ü.	Ł	T	R	U.	Ė	/ T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0	0	0		0	0	· 0 ·	0	0	1,11	0	.0	0	11	0.
Configuration			LR								LTR				LTR	
Volume; V (veh/h)		2	10.70	3						1	488	1		- 7	547	8
Percent Heavy Vehicles (%)		3		3						3				3		
Proportion Time Blocked					31							1.3	i e			
Percent Grade (%))												7.V.	
Right Turn Channelized		Ň	o			l N	lo	i di		/ K	lo 🐘 🦷) N	O III	
Median Type/Storage		P.AF.AA		Undi	vided	ami vena voci e acoscosta					Obda XI AFR & IA Constitut (an at last communication			nace narger some halt	
Gritical and Follow-up He	eadwa	ys														
Base Critical Headway (sec)																
Critical Headway (sec)		elitates, est	, ī,		Rivilla Prikus											
Base Follow-Up Headway (sec)								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								mania managarahan
Follow-Up Headway (sec)					ž i							1		400		10
Delay, Queue Length, and	l Leve	l of S	ervice							e Hill Hijara						
Flow Rate, v (veh/h)	_		5				·			1				7		
Capacity, c (veh/h)			339						, sa	979				1040		
v/c Ratio			0.01							0.00				0.01		
95% Queue Length, Q ₅₅ (veh)			0.0							0.0				0.0	JIO.	
Control Delay (s/veh)			15.8							8.7				8,5		
Level of Service, LOS		7	. C							Α				A		
Approach Delay (s/veh)		15.	.8		-					0.	0			0.	2	- 1

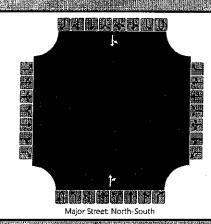
Approach LOS

HCS 2010 Two-Way Stop-Control Report **General Information** Site Information Main & Bloomfield EC Intersection Analyst Agency/Co. DD Jurisdiction Bloomfield Avenue 6/19/2017 East/West Street Date Performed 2017 North/South Street Main Street Analysis Year 0.92 PM NoBuild Peak Hour Factor Time Analyzed North-South Analysis Time Period (hrs) 1.00 Intersection Orientation Project Description



Vehicle Volumes and Adj	ustme	nts		MI)														
Approach		Easth	ound			West	bound			North	bound		Southbound					
Movement	. U	Ĺ	T	R +	U	Ľ	T	R	Ü	L	l T	R	Ü	L	T.	R		
Priority		10	11	12		7	8	9	1บ	1	2	3	4 U	4	5	6		
Number of Lanes		.0	0	0		0	0	j. j0	0	0	i	0	0	.0	1	0		
Configuration												TR		LT	Same - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	F NOSENIUS (SEXE		
Volume, V (veh/h).											566	31		29	456			
Percent Heavy Vehicles (%)												diamenta years at		1	ov recovering of S	S AN-SERIJANSSISSISSISSISSISSISSISSISSISSISSISSISSI		
Proportion Time Blocked																		
Percent Grade (%)					<u> </u>		211		arcimenzio di Jero	* 20 E N *** ** A		Carrello de propinso	> 100 L 2000 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	William the hard and the	S NE HOUSE HE SEE SEE	evanishini (induze		
Right Turn Channelized		, N	lo	1154		i de l	lo 🦠			i ji N	lo			1	lo .			
Median Type/Storage				Undi	vided	View 608 Office for Face Face		ST MAKERION		e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de		schelator and S		0500000		de a composito		
Critical and Follow-up He	adwa	ys:																
Base Critical Headway (sec)																		
Critical Headway (sec)	5.																	
Base Follow-Up Headway (sec)												S. S. Salaka di Ivolo de			Kaning ya shina ya	NAMES OF THE PARTY		
Follow-Up Headway (sec)									j,									
Delay, Queue Length, and	l Leve	l of S	ervice															
Flow Rate, v (veh/h)														32				
Capacity.c:(veh/h)					9					F				942				
v/c Ratio														0.03		IZEX EIII E E		
95% Queue Length, Q ₉₅ (veh)														0.1				
Control Delay (s/veh)													10000 A 1222	9.0	u beredoddaaa of Br	C04800000000000000000000000000000000000		
Level of Service, LOS					\$ 131 - #1									A '				
Approach Delay (s/veh)							NX392*2 D - 584 000 0	XXXXX 42CF4EXIIIIVII-	9886a880 (55.25 Peri	Piki canapian di	eneka filika a filippassoo ese	23.4617.351.748.8000000	min./11446.000.00	0	.9			
Approach LOS																		

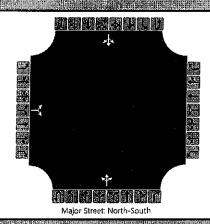
	HCS 2010 Two-Wa	y Stop-Control Repo	rt
General information ##		Site Information	
Analyst	EC	Intersection	Main & Bloomfield
Agency/Co.	DD 1	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue
Analysis Year	2017	North/South Street:	Main Street
Time Analyzed	AM Build	Peak Hour Factor	0.87
Intersection Orientation	North-South	Analysis Time Period (hrs)	100
Project Description			



Vehicle Volumes and Adju	ustmo	ents														
Approach		Eastb	oound			West	bound			North	bound			South	bound	
Movement		L	Ť	R	įυ	Ŀ	T	R	į, U		π	R	ال ا	L	Т	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0	Í 0	. 0	187	0	O	0	0	0	1	0.	. 0	0	1	0
Configuration												TR	·	LT		
Volume, V (veh/h)											443	66		78	330	
Percent Heavy Vehicles (%)														4		
Proportion Time Blocked		أديد														i i
Percent Grade (%)							m7. 120° (Ampaha		**************************************							welled blocks and
Right Turn Channelized		u Julia N	o`.			. N	0			J N	0		4	, j	lo ,	
Median Type/Storage	NORMOWER ST		ANNANDAM ERSONA	Undiv	/ided				**************************************			Section State Leaves To a discount in the	220000	SUMMER REGION AND SECOND	alowi i zooo o o o o o o	
Critical and Follow-up He	adwa	ys 🔭														
Base Critical Headway (sec)														4.1		
Critical Headway (sec)					444	G Y								4,14		2
Base Follow-Up Headway (sec)														2,2		
Follow-Up Headway (sec)				3								2		2.24	1017	
Delay, Queue Length, and	Leve	l of S	envice				hajela									
Flow Rate, v (veh/h)														90		
Capacity, c (veh/h)		n vir di per							J ^{r.}					979		
v/c Ratio														0.09		
95% Queue Length, Q ₉₅ (veh)					i,				. 6-1					0.3		i i
Control Delay (s/veh)														9,1		
Level of Service, LOS														A		
Approach Delay (s/veh)														2.	6	
Approach LOS							34,36									

HCS 2010 Two-Way Stop-Control Report **General Information** Site Information Analyst EC Main & Choirister Intersection Agency/Co. DD Jurisdiction Date Performed 6/19/2017 Choirister Place East/West Street Analysis Year 2017 North/South Street Main Street AM Build Time Analyzed Peak Hour Factor 0.89 Intersection Orientation North-South Analysis Time Period (hrs) 1.00 Project Description

Lanes



Vernice Volumes and Adju	ıstmentsı
Approach	Eas

Approach		Eastb	ound			West	bound			North	bound			South	bound	
Movement	U.	L	T	R	U	l L	π	R	U.,	L	υT	R	Ü	i.	iξΤ	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0 11	0	0		1.0	0	0	0	0	1	0	0.,	.0	1	Ö
Configuration			LR								LTR				LTR	
Volume, V (veh/h)		. 2 .		2_	***			Ţ	7 (100)	5	489	33 🔻		4	410	2
Percent Heavy Vehicles (%)		3		3						3				3		
Proportion Time Blocked									1							
Percent Grade (%)		()													
Right rum Channelized	W.	N	o 🗆 🖟			i N	o i			į į N	o.			, I N	o i	
Median Type/Storage				Undiv	rided											

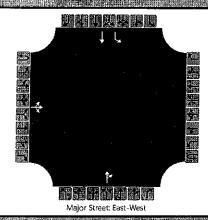
Gritical and Follow-up Headways

	Base Critical Headway (sec)		7.1	6.2				4.1		4.1		
ı	Critical Headway (sec) 14: 1817 (11)	The second	6.43	6.23	/#ir			4:13		4,13	224	
	Base Follow-Up Headway (sec)		3.5	3.3				2.2		2,2		
ļ	Follow-Up Headway (sec)		3.53	3.39			T. W. W.	2,23		2,23		

Delay, Queue Length, and Level of Service

	200			维约 用打造			到 編 編						
Flow Rate, v (veh/h)		4			•		6		. '		4		
Capacity, c (veh/h)		352			, dip	17151	1092				983 -		
v/c Ratio		0.01					0.01				0,00		
95% Queue Length; Q ₆₅ (veh)		0.0					0.0				0.0		
Control Delay (s/veh)		15.4					8.3				8.7		
Level of Service, LOS		, c	10.1				Ā				A		
Approach Delay (s/veh)	. 15	5.4					0.	2			0.	1	
Approach LOC									10 And 10F1 (190 3 - 10F1 (190	44400000 000000 44000000 00000000000000			

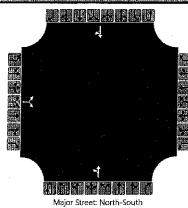
	HCS 2010 Two-Way S	top-Control Repor	t .
General Information		Steilniornation .	
Analyst	EC	Intersection	Spring & Bloomfield
Agency/Co.	DD :	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Am Build	Peak Hour Factor	0.64
Intersection Orientation	East-West	:Analysis Time Period (hrs):	1.00
Project Description			



Vehicle Volumes and Adj	ustm	ants														
Approach		Eastk	oound			West	bound			North	bound			Souti	bound	
Movement	ָּט ֶּי	<u>,</u>	Ţ	R	U	L	Ť	R.	U		l t	R	ΗÜ		Ť	R
Priority	1U	1	2	3	4 U	4	5	6		7	8	9		10	11	12
Number of Lanes (12.4)	. 0 4	0.0	1	0	. 0	.0	0	0		0	10	0.		. 1	9.1 II	0
Configuration			LTR									TR		L	Ĩ	
Volume, V (veh/h)		. 6	29	108							19	73		4	6	
Percent Heavy Vehicles (%)		5									5	5		Ŝ	5	
Proportion Time Blocked											3.7			J. 7		
Percent Grade (%)										(0				0	
Right Turn Channelized		N	o i			Ñ	o,	i iki		hiji N	lo .				lo III	
Median Type/Storage		Undiv												13 11 11 11		•
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		0,0						·		·	6.5	6.2		7.1	6.5	
Critical Headway (sec)		0.00						*			6.55	6.25		7:15	6.55	
Base Follow-Up Headway (sec)		0.0									4.0	3.3		0.0	4.0	
- Epilow:Up Headway (sec)		0.00									4.04	3,34		0.00	4:04	
Delay Queue ength and	l Leve	l of S	ervice				F									
Flow Rate, v (veh/h)		9										128		6	9	
Capacity, c (veh/h)		0	i i								. ,	890		0:,	664	
v/c Ratio												0.14			0.01	
95% Queue Length, Qes (ven)				74.	144							0.5			0.0	
Control Delay (s/veh)												9.7			10.5	
Level of Service, LOS			10000									A		9.30	В	
Approach Delay (s/veh)										9.	7					

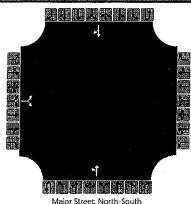
Approach LOS

	HCS 2010 Two-V	Vay Stop-Control Repo	ort
General Information		Site information	
Analyst	EC	Intersection	Spring & Choirister
Agency/Co.	DD	Junsdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	North/South Street	Spring Street
Time Analyzed	Am Build	Peak Hour Factor	0.60
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			



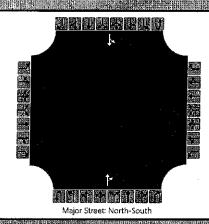
Vehicle Volumes and Adj	ustm	enits														
Approach		Eastl	oound			West	bound			North	bound			South	bound	
Movement	U	Ė	Ť	R	יטי "	L	Ţ	R	U	L		R	Ü	E E	Ţ	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		0.1	0	0	1.11	61.025	0 1	0	0	0	'n	Ô	0	0.4	1	0
Configuration			LR							LT						TR
Volume, V (veh/h)		33		. 11.						. 0	58				61	0
Percent Heavy Vehicles (%)		0		0						0	<u> </u>					***************************************
Proportion Time Blocked									10.00							
Percent Grade (%)			0		30-30			00000000000000000000000000000000000000		52h	C-1000 C-100					
Right Turn Channelized	100) N	lo			i ili N	lo 📜			N	lo 🧓 ;			N	lo i	
Median Type/Storage				Undi	vided			M WFF IN LICENSIA ON IN					- America Semicacopsis			
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)	[*** 24	6,40		6.20						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30	in the					2,20	, a ,	j,				
Delay, Queue Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)			73							0						
Capacity, c (veh/h)			829					iÖ.		1503), i	
v/c Ratio			0.09							0.00						
95% Queue Length; Q ₆₅ (veh)			0.3		in t			3.5		0.0						
Control Delay (s/veh)			9.8							7.4						
Level of Service, LOS			Α			,				Α					100	
Approach Delay (s/veh)		9.8	3							0.0)					
Approach LOS		A					1,1									

HCS 2010 Two-Way Stop-Control Report Site Information General Information Analyst EC Intersection Spring and Site Driveway Agency/Co. DD Jurisdiction 4 7/13/2017 Date Performed East/West Street Site Driveway Analysis Year 2017 North/South Street Spring street Time Analyzed AM Build Peak Hour Factor 0,92 Intersection Orientation North-South Analysis Time Period (hrs) 0.25 Project Description



Vehicle Volumes and Adj	ustm	ents							u in							
Approach		Eastl	oound			West	bound			North	bound			South	bound	
Movement	· U	Į L	ΙĮ	R	i U	4.	Ţ	R	Ü	Ŀ	Τ,	R .	a-U≐	Ľ	Ţ	Ř.
Priority		10	11	12		7	8	9	· 1U	1	2	3	4U	4	5	6
Number of Lanes		r 0	0	0 1		0	0	0 4	0 1	0	1	0	0	0.0	110	Ö
Configuration		ļ	LR							LT			han was a reserve			TR
Volume: V (veh/h)		65		34				1		76	15	d			17	97
Percent Heavy Vehicles (%)		1		1						1					OCCUPATOR DESCRIPTION	minimir a marret syrick
Proportion Time Blocked			4	. #4					1.1							
Percent Grade (%)		(0		**************************************		Walter to the state of the	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	STREET STREET	E O Devil administrative	No and later and later	110001922 - F (4 Y A T = 0	temeszi dillistadi	William Company	- 1285£x pall-sida pr	San Military San Art
Right Turn Channelized		, K	lo 💮 🖟		a d	, Julio N	o i			a ji N	o 🖟			A.	o i	3
Median Type/Storage		Selfgenore decorate	×ו	Undi	vided		or more a made of	81.11 11.11.11.11.11.11.11.11.11.11.11.11		(Planet??)eric	alan wani kesi			entrant, as	ontines a	
Critical and Followaupa He	adwa	ys .													4 量	
Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11	. 6					
Base Follow-Up Headway (sec)		3.5		3.3					·	2.2		·				
Follow-Up Headway (sec)		3.51		3.31			in a	4. j.		2.21						
Delay, Queue, Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)			108							83						
Gapacity, c (veh/h)			777							1470		į.				
v/c Ratio			0.14							0.06						
95% Queue Length; Qas (veh)		去私	0.5		i i i					0.2					<i>j</i> 1	
Control Delay (s/veh)			10.4							7.6						
Level of Service LOS			· B1							A						4
Approach Delay (s/veh)		10	.4							6.4	4					
Approach LOS		В														

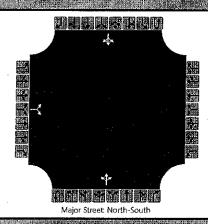
	HCS 2010 Two-Way S	top-Control Repor	t in the second of the second
General Information		Site information .	
Analyst	EC	Intersection	Main & Bloomfield
Agency/Co.	DD.	Jurisdiction	· · · · · · · · · · · · · · · · · · ·
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue
Analysis Year	2017	North/South Street	Main Street
Time Analyzed	PM Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	. 1.00
Project Description			



Vehicle Volumes and Adj	ustm	ents														
Approach		Eastl	bound			West	bound			North	bound			South	bound	
Movement 1	Ų	l L	T	R	Ü	Ŀ.	T.	R	U	} _L	T.	R	U	L L	π.	R
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6
Number of Lanes		o."	0	. 0		0	0	0	0	0	111	ÜÜ	0 4	i o _i s	. 1	0
Configuration							<u> </u>					TR _.		LT		
Volume, V (veh/h)											552	- 66		122	441	
Percent Heavy Vehicles (%)														1		<u> </u>
Rroportion Time Blocked								24.18						ji) i		
Percent Grade (%)																
Right Turn Channelized		i A	lo i			N	lo jiilii			i i	lo 🦸			i N	lo .	
Median Type/Storage	Undivided															
Critical and Follow-up He	adwa	ys														
Base Critical Headway (sec)								<u> </u>						4.1		
Critical Headway (sec)				, j.	#	17 T				14				4.11	T'	
Base Follow-Up Headway (sec)		Ü												2.2		
EFollow-Up Headway (sec)					4);							2.21		
Delay, Querie Length, and	Leve	l of S	ervice													
Flow Rate, v (veh/h)													4	133		
Gapacity, c.(veh/h)						i je							dial l	923		
v/c Ratio													,	0.14		
, 95% Queue Length, Qes (veh)			11770											0.5		
Control Delay (s/veh)		-												9.6		
Level of Service, LOS in Fig. 1881		anie fi				167								А		
Approach Delay (s/veh)														3.	5	
		65 K4940000			(50 L) NO	50.00						366				

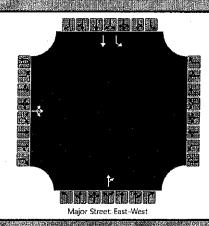
HCS 2010 Two-Way Stop-Control Report

Proceedings (Contraction of Carl Particles of the Contraction of the C	Professional in the Constitution of the State of the Stat	做新某些证明,但是国际的问题,还在1000年的企业的证明是200	
General Information		Site Information	A SECTION OF THE SECT
Analyst	EC	Intersection	Main & Choirister
Agency/Co.	og ADD State of the same	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year		North/South Street	Main Street
Time Analyzed	PM Build	Peak Hour Factor	0.94
Intersection Orientation	North-South	Analysis Time Period (hrs)	100 Ft 10
Project Description			



Vehicle Volumes and Ad	ustm	ents															
Approach		East	bound			West	bound			North	bound			South	bound		
Movement	U.	1 1	/ '' T	R	l a U	ŢΈ	į T	R	U.		.T	: R	U	Li	T	R	
Priority		10	11	12		7	8	9	1Ų	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0,		0	0	0	0	0	1	0.	0		in Ord	0	
Configuration			LR								LTR				LTR		
Volume, V. (véh/h) : : : : : : : : : : : : : : : : : : :		2		3						ji.	509	52		7.	532	8.	
Percent Heavy Vehicles (%)		3	<u></u>	3						3				3		<u> </u>	
Proportion Time Blocked				14-02					1871								
Percent Grade (%)			0	····													
Right Turn Channelized		ا شوخ	lo .		أأشور	, i 1	lo.			is is is	lo 🖟 📳		No				
Median Type/Storage				Undi	vided										,		
Critical and Follow-up Hi	adwa	ıys 🔠															
Base Critical Headway (sec)		7.1		6.2						4.1				4,1			
Critical Headway (sec)		6.43		6.23						4.13				4.13			
Base Follow-Up Headway (sec)		3.5		3.3						2.2				2.2			
Follow-Up Headway (sec)		3.53		3,33	7 N					2.23			11.	2.23		u, i	
Delay, Queue Length, and	l Leve	្រាំទ	ervice												#		
Flow Rate, v (veh/h)			5							1				7			
Capacity, c (veh/h)		141 *V	333		4,31					992				975			
v/c Ratio	1		0.02							0.00	mana Ita-			0.01	· · · · · · · · · · · · · · · · · · ·		
95% Queue Length, Qes (veh)			0,0							0.0				0.0			
Control Delay (s/veh)			16.0							8.6				8.7			
: Level of Service; LOS			ς.	all	, t					A				Α			
Approach Delay (s/veh)		16	.0							0.	0		0.2				
TANK TO BE STORY OF THE STORY				rangara.	re di la	SEE SEE		2.4		2.335.53		79. S. 105					

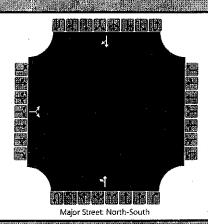
HCS 2010 Two-Way Stop-Control Report												
General Information		Site Information :										
Analyst	EC :	Intersection	Spring & Bloomfield									
Agency/Co.	DD, III-	Jurisdiction										
Date Performed	6/19/2017	East/West Street	Bloomfield Avenue									
Analysis Year :::	2017	North/South Street	Spring Street									
Time Analyżed	Pm Build	Peak Hour Factor	0.88									
Intersection Orientation	East-West	Analysis Time Périod (hrs)	1,00									
Project Description												



Vehicle Volumes and Adj																		
Approach		Eastb	oound			West	oound			North	bound			South	bound			
Movement:::	. U	L	Т.:	R	U	L	Т,	R.,	U	L	T	R	U	J.L	Ť	R		
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12		
Number of Lanes	0	. MO	1.0	0	0 -	.0	.0	0 4		, O	111	0		å 1, i	11	0		
Configuration			LTR									TR		· L	Т			
Volume, V (veh/h)		4	52	149							12	218		25	7			
Percent Heavy Vehicles (%)		1								<u></u>	1	1		1	1			
Proportion Time Blocked		- 11			(4)											10		
Percent Grade (%)											0		0					
Right Turn Channelized		N	lo l			.ii	o .		No far									
Median Type/Storage				Undiv	/ided					_								
Critical and Follow-up He	adwa	ys																
Base Critical Headway (sec)		0,0									6.5	6.2		7,1	6.5			
Critical Headway (sec)		0.00			iki a			11,575			6,51	6.21		7.11	6.51			
Base Follow-Up Headway (sec)		0.0									4.0	3.3		0.0	4.0			
Follow-Up Headway (sec)		0.00		, e e e e							4.01	3.31		0.00	4.01			
Delay, Queue Length, and	Leve	l of S	ervice															
Flow Rate, v (veh/h)		5										262		28	8			
Capacity, c (veh/h)	11 (1,4)	0		F								895		0.	665			
v/c Ratio												0.29			0.01			
95% Queue Length, Qes (veh)												, 1.2 j	,		0.0			
Control Delay (s/veh)												10.7			10.5			
Level of Service, LOS					New York					. 2		В.			В			
Approach Delay (s/veh)										10	.7							

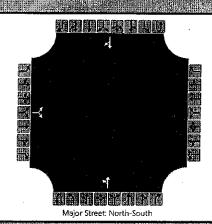
Approach LOS

	HCS 2010 Two-Way S	top-Control Repor	
General Information		મુંહિયાનિયાના લાગ	
Analyst	EC	Intersection	Spring & Choirister
Agency/Co	DD	Jurisdiction	
Date Performed	6/19/2017	East/West Street	Choirister Place
Analysis Year	2017	:: North/South Street	Spring Street
Time Analyzed	Pm Build	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description		·	



Vehicle Volumes and Adjustments																	
Approach		Eastk	oound			West	bound			North	bound			South	bound		
Movement	U.	, L	T,	R	∛U.	L.	T	R	l" U	, L	T	R	Ų	Į į	T :	R	
Priority		10	11	12		7	8	9	10	1	2	3	4U	4	5	6	
Number of Lanes		0	0.	0		0	0.	0 🗐	0 ° 0	0	14	0	0	40	1	0	
Configuration			LR							LT						TR	
Volume, V (veh/h)		55		15		i i i i i i i i i i i i i i i i i i i				0	73				139	0	
Percent Heavy Vehicles (%)		0		0						0		<u> </u>					
Proportion Time Blocked							Š										
Percent Grade (%)		()														
Right Turn Channelized		N	lo .	1.17		naji N	6				o 🖟 🖟	Report	, No Eq. 14				
Median Type/Storage				Undi	vided						- 10-1-10-2		-				
Critical and Follow-up He	adwa	ys .							14.0								
Base Critical Headway (sec)		7.1		6.2						4.1							
Critical Headway (sec)		6.40	111	6.20				*		4.10							
Base Follow-Up Headway (sec)		3.5		3.3						2.2				·			
Follow-Up Headway (sec)		3.50		3.30						2. 2 0							
Delay, Queue Length, and	Leve	l of S	ervice)												- E	
Flow Rate, v (veh/h)			76							0							
Capacity, ic (veh/h)			788				11.11			1443				100			
v/c Ratio			0.10							0.00							
. 95% Queue Length, Q ₆₅ (veh)	1634		0.3	4						0.0							
Control Delay (s/veh)			10.1							7.5							
Level of Service, LOS : 1982 # 1			В					18 T		A	7			H			
Approach Delay (s/veh)		10.	.1							0.	0		•				
Approach LOS		В				19 51500	ė.					By His E					

HCS 2010 Two-Way Stop-Control Report **General Information** Site Information Analyst EC Intersection Spring and Site Driveway Agency/Co. DD · Jurisdiction Date Performed 7/13/2017 East/West Street Site Driveway Analysis Year 2017 Spring street North/South Street Time Analyzed PM Build Peak Hour Factor 0.92 Intersection Orientation North-South Analysis Time Period (hrs). 0.25 Project Description



Vehicle Volumes and Adj	ustm	enjk	-76														
Approach		East	bound			West	bound			North	bound	Acces of the second		South	bound		
Movement	U) "L	Ţ	i R	ĮÚ	Ĺ	ii T	R	טיי:	i t	l tr	I.R.	וייטיני י	L	T	R	
Priority		10	11	12		7	8	9	1U	1	2	3	4Ų	4	5	6	
Number of Lanes	1197-1970	0	0	0	F.	0	0	0	0	Ö	171	# JÖ	0	0	, 1	0	
Configuration			LR							LT						TR	
Volume, V-(veh/h)	I I SANE GIFTI Halling San	214		- 118						110	18			i. Turi	28	128	
Percent Heavy Vehicles (%)		1		1						1							
Proportion Time Blocked		, due i	pis, i								i F						
Percent Grade (%)	ŀ	(0														
Right Turn Channelized		V	lo			, in N	o i			i N	lo .			K	lo 🏥 🗀		
Median Type/Storage				Undi	vided												
Critical and Follow-up He	adwa	ys					li litta										
Base Critical Headway (sec)		7.1 -		6.2			·			4.1							
Critical Headway (sec)		6.41		6,21	j.	Sit.	i deci			4.11					-5		
Base Follow-Up Headway (sec)		3.5		3.3						2.2	-				, i		
Follow-Up Headway (sec)		3.51		3,31						2.21						1	
Delay, Queue Length, and	liteye	وازرا	ervite												T		
Flow Rate, v (veh/h)			361							120							
Capacity, c (veh/h)			680						u «	1414							
v/c Ratio			0.53							0.08							
95% Queue Length, Qas (veh)			3:1							0.3	1						
Control Delay (s/veh)			16.1							7,8							
Level of Service, LOS			c	je.						A							
Approach Delay (s/veh)		16.	1							6.8	3		G. COA GO: A SERVICE S. W. LEAN GLESCOOL S. M. MONEY, L. S. A. M. Brog. (SERVICE SERVICE)				
Approach IOS	Salar Par	l line	irea iltia														