Colliers
Engineering
& Design

Traffic and Parking Study

June 21, 2024
Revised July 29, 2024

Mill Street Lofts
City of Hudson, Columbia County, New York

Prepared for:

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Project No. 24005482A

Colliers Engineering & Design

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Appendices

I. Introduction

A. Project Description and Location

(Figure No. 1)

This report has been prepared to evaluate the potential traffic impacts associated with the proposed Mill Street Lofts residential development ("the Project"), which is planned to be developed on the property located on the south side of Mill Street east of North 2rd Street in the City of Hudson, Columbia County, New York. The Project is proposed to consist of two (2) four-story buildings with a total of 70 affordable housing dwelling units and will be served by a total of 56 off-street parking spaces including 6 ADA spaces and 3 electric vehicle charging spaces. As shown on Figure No. 1, access to the development is proposed via an access connection from Mill Street.

A Design Year of 2027 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.

B. Scope of Study

This study has been prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the Project.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office. These data were supplemented with new traffic counts collected by representatives of Colliers Engineering & Design CT, P.C. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the 2024 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The 2024 Existing Traffic Volumes were then projected to the 2027 Design Year to take into account background traffic growth. In addition, traffic for other specific potential or approved developments in the area were estimated and then added to the Projected Traffic Volumes to obtain the 2027 No-Build Traffic Volumes.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III-C for further discussion). The resulting site generated traffic volumes were then added to the roadway system and combined with the 2027 No-Build Traffic Volumes resulting in the 2027 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual, 7th Edition to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were made where necessary to serve the existing and/or future traffic volumes.

In addition, a review of the anticipated parking needs for the Project was also conducted.

II. Existing Roadway and Traffic Descriptions

A. Description of Existing Roadways

As shown on Figure No. 1, the Project will be accessed from Mill Street via a single driveway connection. The following is a brief description of the roadways located within the study area. In addition, Section III-F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix "D" contains copies of the capacity analyses which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. Mill Street

Mill Street is a local two-lane roadway that traverses in an east/west direction beginning at its intersection with North 2nd Street and continuing west terminating at a "dead end". There are no pavement markings, shoulders, or sidewalks on this roadway. Although not specifically designated, on-street parking is permitted along the roadway including in the vicinity of the Charles Willims Park located near Mill Street's eastern terminus. The roadway serves residential uses and the posted speed limit along the roadway is 30 MPH. It should also be noted that the Empire State Trail traverses along Mill Street, continuing to an off-road pathway at the Mill Street terminus.

2. North 2nd Street

North 2nd Street is a local two-lane roadway that traverses in a generally northeast/southwest direction beginning at its intersection with Warren Street and continuing northeast to a "dead end" at the City line. Southwest of Warren Street the roadway becomes South 2nd Street. The roadway has no striping or pavement markings north of Strawberry Alley. South of Strawberry Alley, there are painted crosswalks at the intersection with State Street and Warren Street with sidewalks along both sides of the roadway from Warrant Street to Robinson Street. On-street parking is available on the south side of North 2nd Street beginning at Strawberry Alley. The roadway serves primarily residential uses with some commercial uses. City speed limit at 30 MPH prevails along the roadway.

3. State Street

State Street is a local two-lane roadway that traverses in a generally east/west direction beginning at its intersection with Front Street and terminating to the south at its intersection with Columbia Street. The roadway has no striping or shoulders. Sidewalks are present on the west side of State Street from Front Street to North 2nd Street and are then available on both sides, as well as on-street parking. Painted crosswalks are present at its intersections with North 3rd Street and North 2nd Street. State Street serves primarily residential uses. City speed limit at 30 MPH prevails along the roadway.

B. 2024 Existing Traffic Volumes

(Figures No. 2 and 3, Appendix E)

Manual traffic counts were collected by representatives of Colliers Engineering & Design CT, P.C. on Wednesday, May 29, 2024, for the AM and PM Peak Hours to determine the existing traffic volume conditions at the study area intersections. These traffic counts were then compared to traffic volume data from previous traffic studies conducted by our office and to traffic volume data available from the New York State Department of Transportation (NYSDOT) for the North 2nd Street corridor. Based on this information, the 2024 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- North 2nd Street and Mill Street
- North 2nd Street and State Street

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- Weekday Peak AM Hour 7:15 AM – 8:15 AM
- Weekday Peak PM Hour 4:15 PM – 5:15 PM

The resulting 2024 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively. The relevant existing traffic volume data utilized in determining the Existing Traffic Volumes are provided in Appendix "E" for reference.

C. Public Transportation

The area surrounding the Project site location is serviced by Columbia County Public Transit Shopping Shuttle bus stops located at the various intersections throughout the surrounding area. The Hudson Train Station, located on Front Street, provides access to regional Amtrak train service between New York City and Albany.

III. Evaluation of Future Traffic Conditions

A. 2027 No-Build Traffic Volumes

(Figure No. 4 through 5)

The 2024 Existing Traffic Volumes were increased by a growth factor of 2% per year to account for general background growth resulting in the 2027 No-Build Traffic Volumes which are shown on Figures No. 4 and 5 for each of the Weekday Peak AM and Weekday Peak PM Hours, respectively. Note that there were no other specific significant developments identified in the area that would contribute significant additional traffic to the study area intersections. Any traffic associated with smaller developments in the area is accounted for by the 2% per year growth rate.

It should be noted that NYSDOT historical traffic volume data for State Street, as contained in Appendix "E", indicates that traffic growth in the area has generally been flat since 2018/2019 (prior to COVID) to 2023 and therefore the 2.0% per year can be considered somewhat conservative.

B. Site Generated Traffic Volumes

(Table No. 1)

Estimates of the amount of traffic to be generated by the proposed residential development during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled "Trip Generation", 11th Edition, 2021, based on Land Use Category – 223 – Affordable Housing. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM and Weekday Peak PM Hours. Note that the ITE Calculation Sheets, associated with the estimates summarized in Table No. 1, are also provided in Appendix "B" for reference.

C. Arrival/Departure Distribution

(Figures No. 6 and 7)

It was necessary to establish arrival and departure distributions to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network, the distributions were identified. The anticipated arrival and departure distributions are shown on Figures No. 6 and 7, respectively.

D. 2027 Build Conditions Traffic Volumes

(Figures No. 8 through 11)

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 8 and 9 for each of the peak hours, respectively. The site generated traffic volumes were then added to the 2027 No-Build Traffic Volumes to obtain the 2027 Build Traffic Volumes. The resulting 2027 Build Traffic Volumes are shown on Figures No. 10 and 11 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

E. Description of Analysis Procedures

It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis method utilized in this report:

1. **Unsignalized Intersection Capacity Analysis**

   The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the Highway Capacity Manual, 7th Edition, dated 2022. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix "C" of this report.

F. Results of Analysis

(Table No. 2, Appendix D)

Capacity analyses which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors were performed at the study area intersections utilizing the procedures described above to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2, contained in Appendix "B", summarizes the results of the capacity analysis for the 2024 Existing, 2027 No-Build and 2027 Build Conditions. Appendix "D" contains copies of the capacity analysis which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. **North 2nd Street and Mill Street**

   North 2nd Street and Mill Street intersect at a four-way stop-sign controlled intersection. Each approach to the intersection consists of one lane. There are no sidewalks, crosswalks, or on-street parking at this intersection.

   Capacity analysis was conducted for this intersection utilizing the 2024 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "A" during the AM and PM Peak Hours.

   The capacity analysis was recomputed using the 2027 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "A " during the AM and PM Peak Hours under future conditions.

2. **North 2nd Street and State Street**

   North 2nd Street and State Street intersect at a four-way stop-controlled intersection. Each approach to the intersection consists of one lane. Crosswalks and sidewalks are present at this intersection.

   Capacity analysis was conducted for this intersection utilizing the 2024 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service "A" during the AM and PM Peak Hours.

   The capacity analysis was recomputed using the 2027 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "A" during the AM and PM Peak Hours under future conditions.

3. **Mill Street and Proposed Site Access**

   Mill Street and the Site Access are proposed to intersect at a "T" type intersection.

   The capacity analysis was computed using the 2027 Build Traffic volumes. These results indicate that the intersection is expected to experience Levels of Service "A" or better during the AM and PM Peak Hours under future conditions.

   The Site Access driveway is proposed to be constructed to connect to the south side of Mill Street approximately 200 feet west of the Charles Williams Park access and approximately 450 feet east of North 2nd Street. The driveway is proposed to be constructed with one (1) entering lane and one (1) exiting lane forming an unsignalized three-way intersection with curbing and guiderails on both sides of the driveway.

Sight distance was reviewed for the proposed site access location based on AASHTO criteria for both the 30 MPH City speed limit and a 35 MPH design speed. Note that 85th percentile speeds for Mill Street are not currently available, and it is the opinion of CED that the use of the 30 MPH City speed limit in the sight distance analysis is appropriate for this location given the nature of the roadway and location of the proposed driveway (near the roadway terminus). However, the 35 MPH design speed was utilized to assess sight distance at a potential higher speed. Mill Street in this area with a slight downgrade, is generally straight going towards North 2nd Street, providing good sight distances in both directions. Based on the table below, all stopping, and intersection sight distances will be satisfied at this driveway location at both the 30 MPH City speed limit and at the 35 MPH design speed.

Exhibit No. 1: AASHTO Sight Distances – Site Access at Mill Street

Sight Lines		Available Sight Distance (Feet)	AASHTO Sight Distances	
			Stopping Sight Distance (Feet)	Intersection Sight Distance (Feet)
30 MPH Posted Speed Limit Analysis				
Left Turn from Site Access	Looking Left (West)	450	200	335
	Looking Right (East)	350	200	335
Left Turn from Major Road	Left Turn Entry (Ahead)	450	200	245
	Left Turn Entry (Rear End)	350	200	---
35 MPH Design Speed Analysis				
Left Turn from Site Access	Looking Left (West)	450	250	390
	Looking Right (East)	350	250	390
Left Turn from Major Road	Left Turn Entry (Ahead)	450	250	285
	Left Turn Entry (Rear End)	350	250	---

Notes:

1. AASHTO Sight Distances based on 30 MPH City speed limit.

G. Parking

(Appendix E)

In order to assess the parking needs for the Project, the City of Hudson Zoning Code (the "Zoning Code") was first reviewed. The code does not require a minimum number of parking spaces for new developments. Specifically, City Code Section 325-19B indicates... *Parcels of real property to be developed within the City of Hudson shall not be required to establish a minimum number of accessory off-street parking spaces.* While there is no specific parking requirement, the Project currently proposes 56 off-street parking spaces. There is also available street parking on Mill Street along which the site is located.

Since there is no specific parking requirement per the City's Zoning Code, in order to assess the parking needs for the Project, data published by the Institute of Transportation Engineers (ITE) contained in the ***Parking Generation Manual, 6th Edition*** was referenced. ITE data for similar type developments to the proposed Project under Land Use 223 – Affordable Housing. Data is provided for typical weekday and weekend (Saturday) parking conditions. ITE provides data for affordable housing developments in various settings including General Urban/Suburban, Dense Multi-Use Urban and City Center Core settings. It is the opinion of CED that the City of Hudson generally fits the description of a Dense Multi-Use Urban setting since it is a generally well-developed area with a mix of various land uses, access to public transportation and good pedestrian connectivity. Based on the ITE data, which is also provided in Appendix E for reference, the projected peak parking demand for the project is 47 parking spaces (0.67 spaces per dwelling unit) based on the Dense Multi-Use Urban data.

For comparison, the ITE data for General Urban/Suburban settings was also reviewed. This data indicates that the projected peak parking demand for the project is 59 parking spaces (0.84 space per dwelling unit), which would leave the Project with a shortfall of 3 parking spaces.

In addition, information was provided by the Applicant, Kearney Realty & Development Group Inc., indicating the parking provided for several other similar type developments recently completed or currently under construction. This information is provided in Appendix E for reference but is also summarized in Exhibit No. 2 below. Each of the below listed developments are mixed-income residential developments, some of which also include additional commercial space. As shown the table below, all of the Applicant's recent projects have parking provided at less than one space per dwelling unit and in fact the average provided parking ratio is approximately 0.43 spaces per unit. The most comparable similar Project is the West End Lofts project, which has a similar number of residential units (73 units West End Lofts vs. 70 units proposed) and a similar amount of provided parking (57 spaces West End Lofts vs. 56 spaces proposed). The Applicant notes that there have been no management issues regarding parking.

Based on the ITE as well as the information provided by the Applicant for their other similar developments, it is our conclusion that the 56 proposed on-site parking spaces will sufficiently accommodate the anticipated parking demands of the Project.

Exhibit No. 2: Kearney Realty & Development Group Inc., Similar Project Summary

Development Name	Location	Description	On-Site Parking Provided	Access to Public Parking	Provided Parking Ratio (Spaces/Unit)
Lofts on Main	City of Peekskill	75 Residential Units 7,000 sq. ft. Commercial	30 parking spaces	Limited On-Street	0.40
Queen City Lofts	City of Poughkeepsie	70 Residential Units 10,000 sq. ft. brewery/restaurant 5,000 sq. ft. Commercial	64 parking spaces	Yes	0.90
West End Lofts	City of Beacon	73 Residential Units	57 parking spaces	No	0.78
Crannell Square	City of Poughkeepsie	75 Residential Units	30 parking spaces	Yes (adjacent municipal lot)	0.40
Dietz Street Lofts	City of Oneonta	64 Residential Units 3,000 sq. ft. Commercial	0 Parking Spaces	Yes (adjacent municipal lot & municipal garage 2-blocks away)	0.00
Copper City Lofts	City of Rome	64 Residential Units 800 sq. ft. Commercial	0 Parking Spaces	Yes (on-street parking and a municipal parking garage is 1.5 blocks away)	0.00
Saranac Lofts	Village of Sarana Lake	70 Residential Units 2,800 sq. ft. Commercial	27 Parking Spaces	Yes (adjacent municipal lot)	0.40
Harrison Place Lofts	City of Lockport	80 Residential Units 24,000 sq. ft. Commercial	38 Parking Spaces	Limited On-Street	0.475
East End Lofts	City of Newburgh	66 Residential Units 2,515 sq. ft. Commercial	7 Parking Spaces	On-Street	0.10

IV. Summary and Conclusion

Based on the above analysis, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and future Build Conditions. Thus, the Mill Street Lofts development traffic is not expected to cause any significant impact in overall operation. In addition, the 50 parking spaces proposed on the site will sufficiently accommodate the anticipated parking demand for the Project.

Colliers
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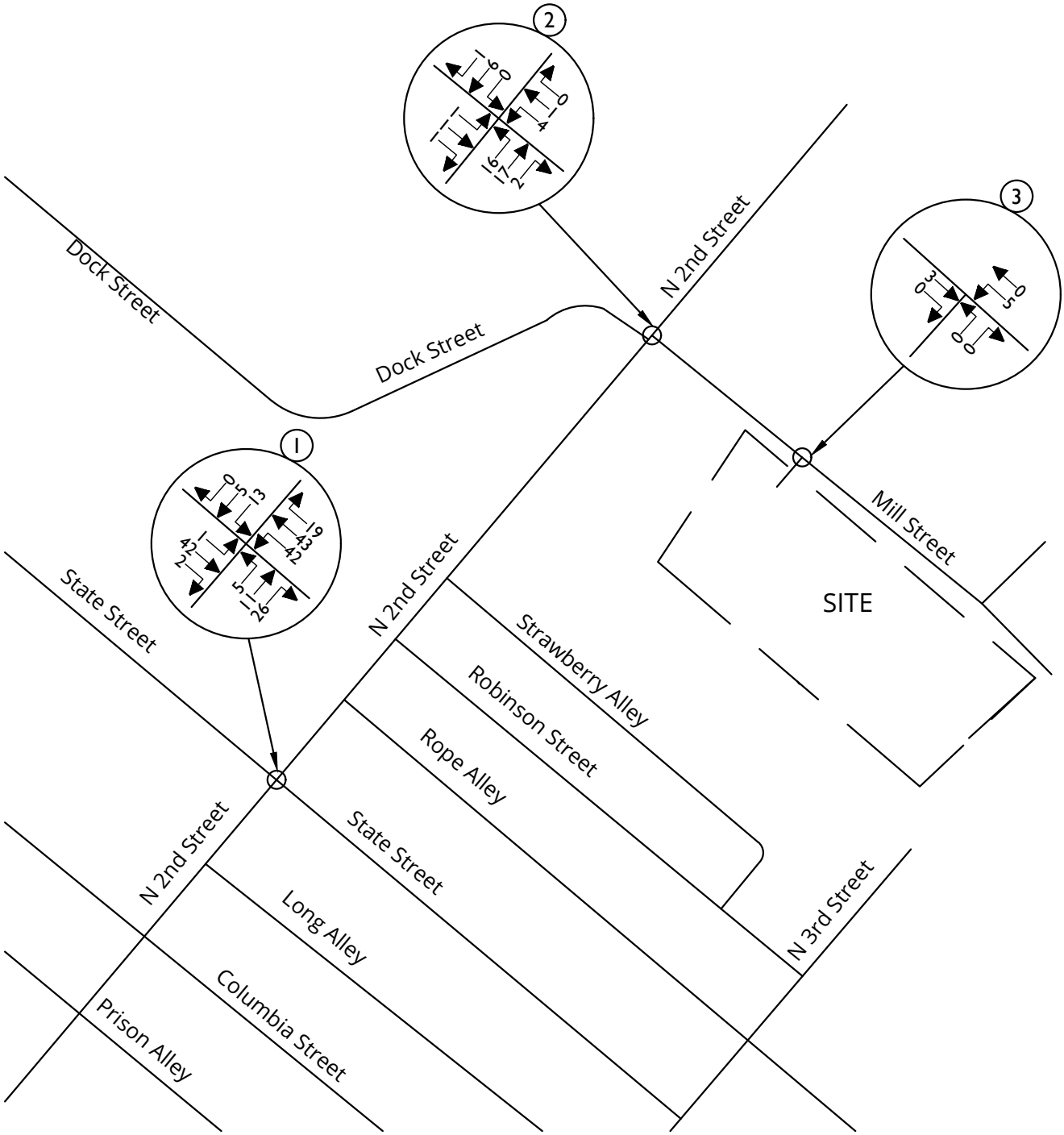
Traffic Impact Study

Appendix A | Traffic Figures

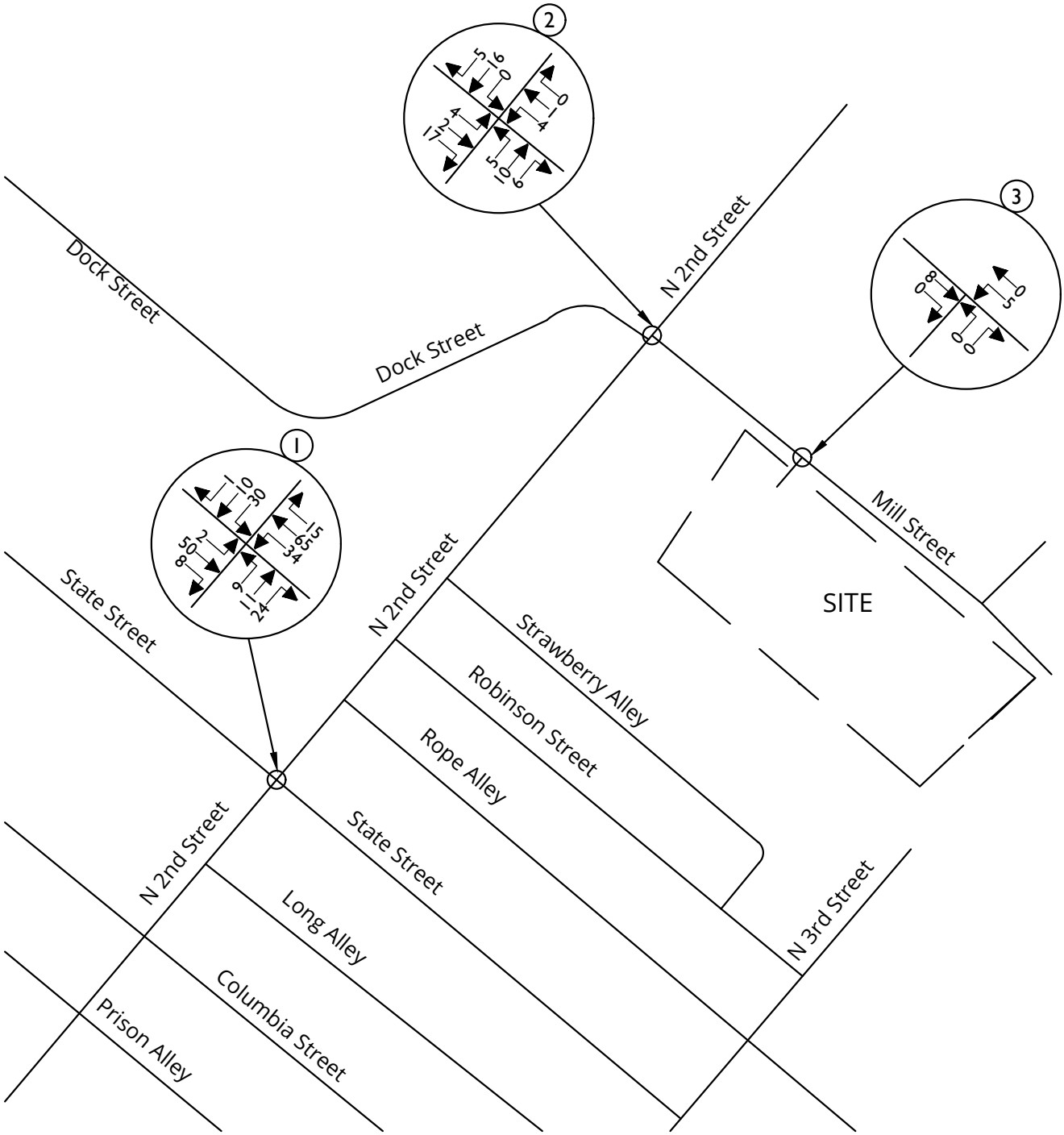
NOTE: LINE DIAGRAM NOT TO SCALE

Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		SITE LOCATION MAP FIGURE No. 1



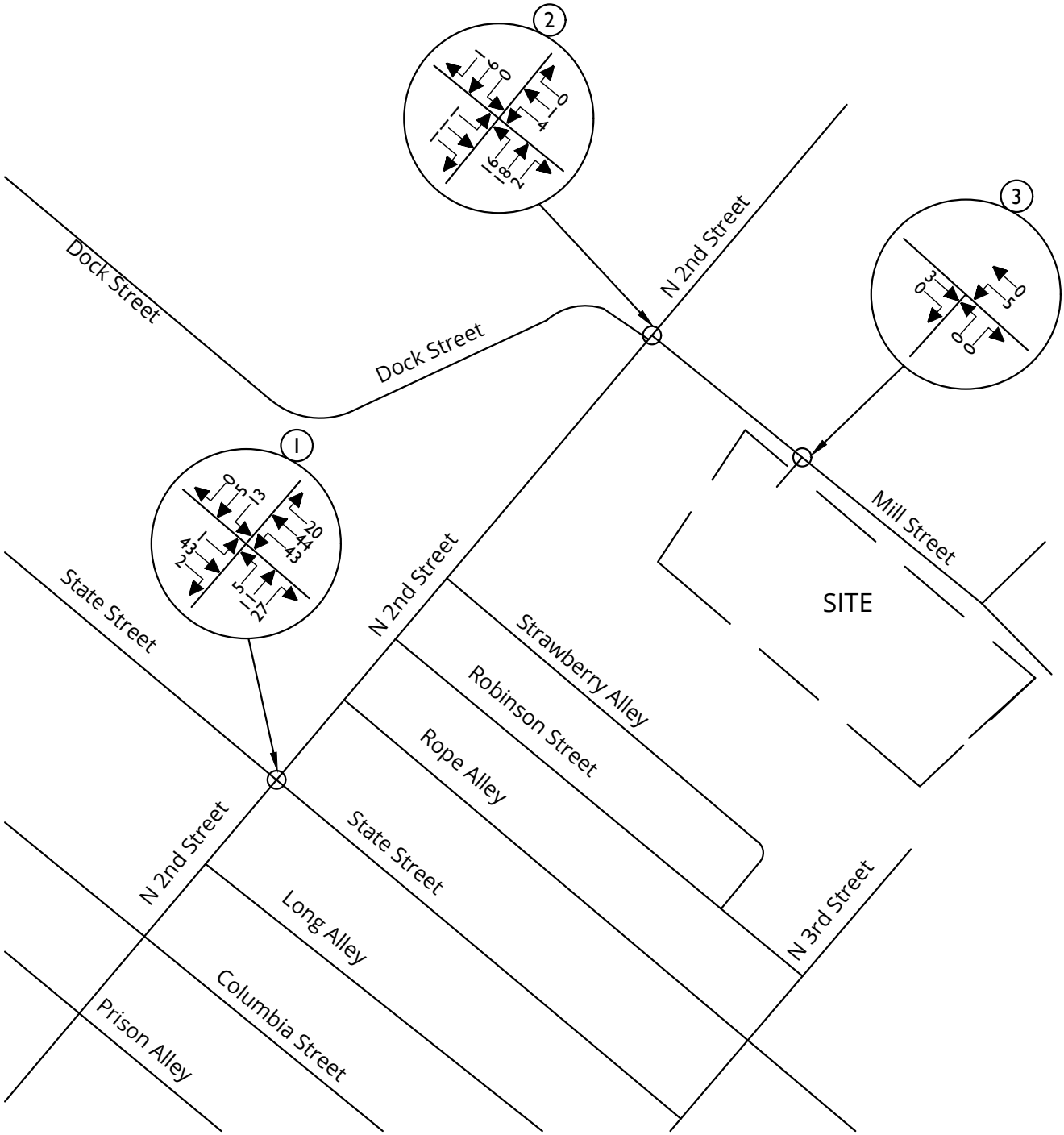
NOTE: LINE DIAGRAM NOT TO SCALE

Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		2024 EXISTING TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR FIGURE No. 2



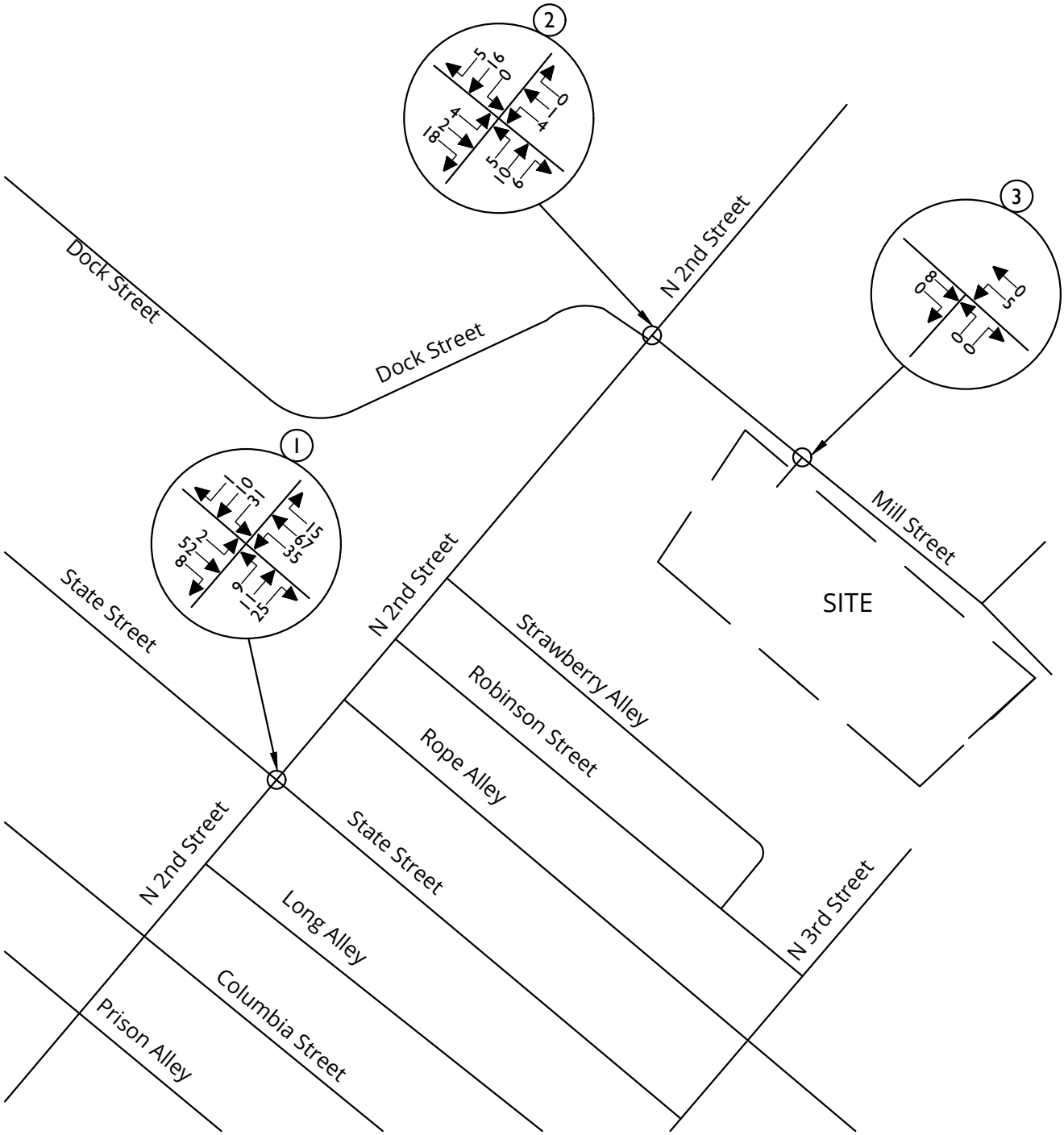
NOTE: LINE DIAGRAM NOT TO SCALE

Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		2024 EXISTING TRAFFIC VOLUMES WEEKDAY PEAK PM HOUR FIGURE No. 3



NOTE: LINE DIAGRAM NOT TO SCALE

Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		2027 NO-BUILD TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR FIGURE No. 4



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Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		2027 NO-BUILD TRAFFIC VOLUMES WEEKDAY PEAK PM HOUR FIGURE No. 5

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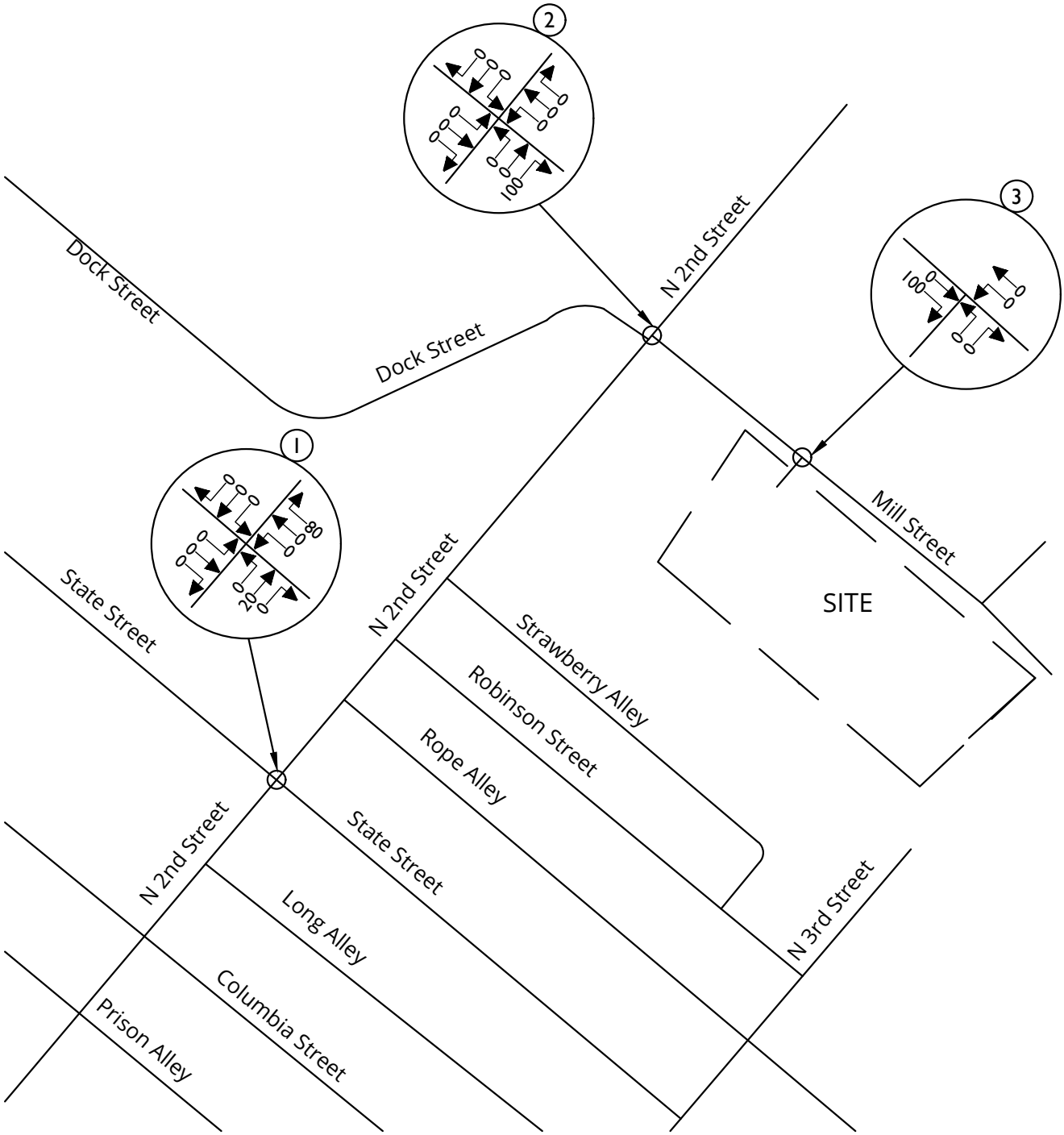
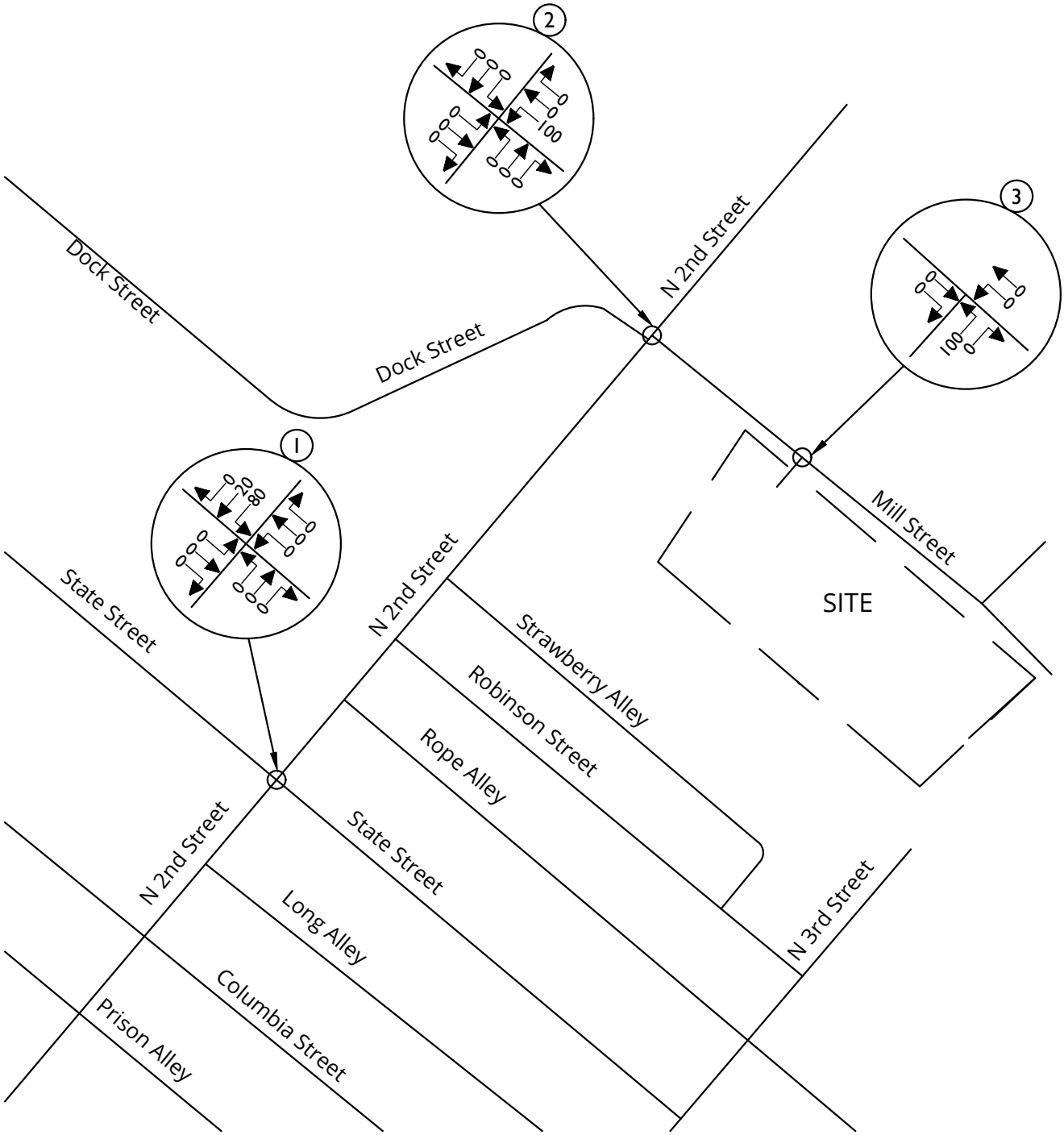


NOTE: LINE DIAGRAM NOT TO SCALE

Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		ARRIVAL DISTRIBUTIONS (ALL VALUES EXPRESSED AS %) FIGURE No. 6



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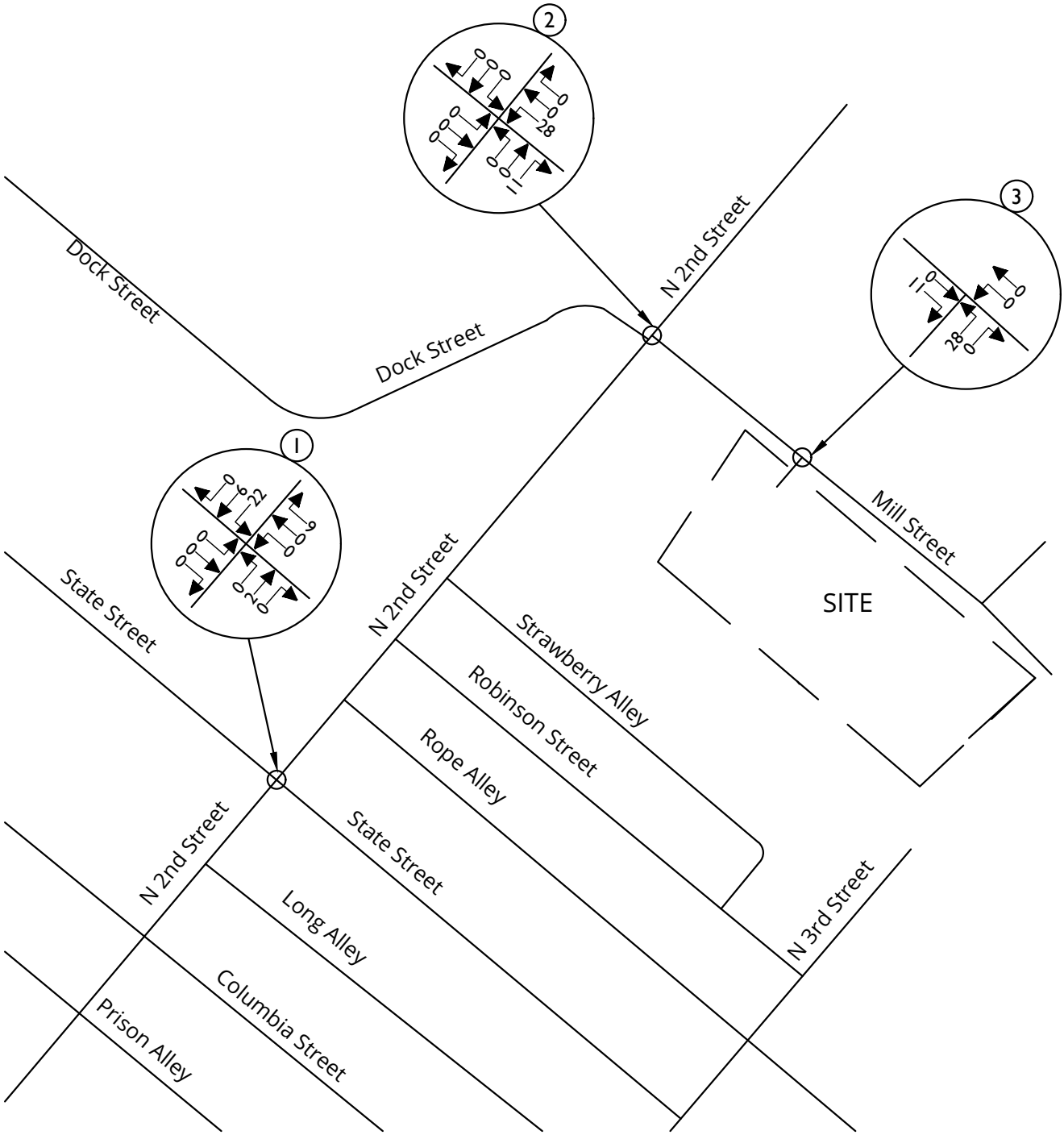

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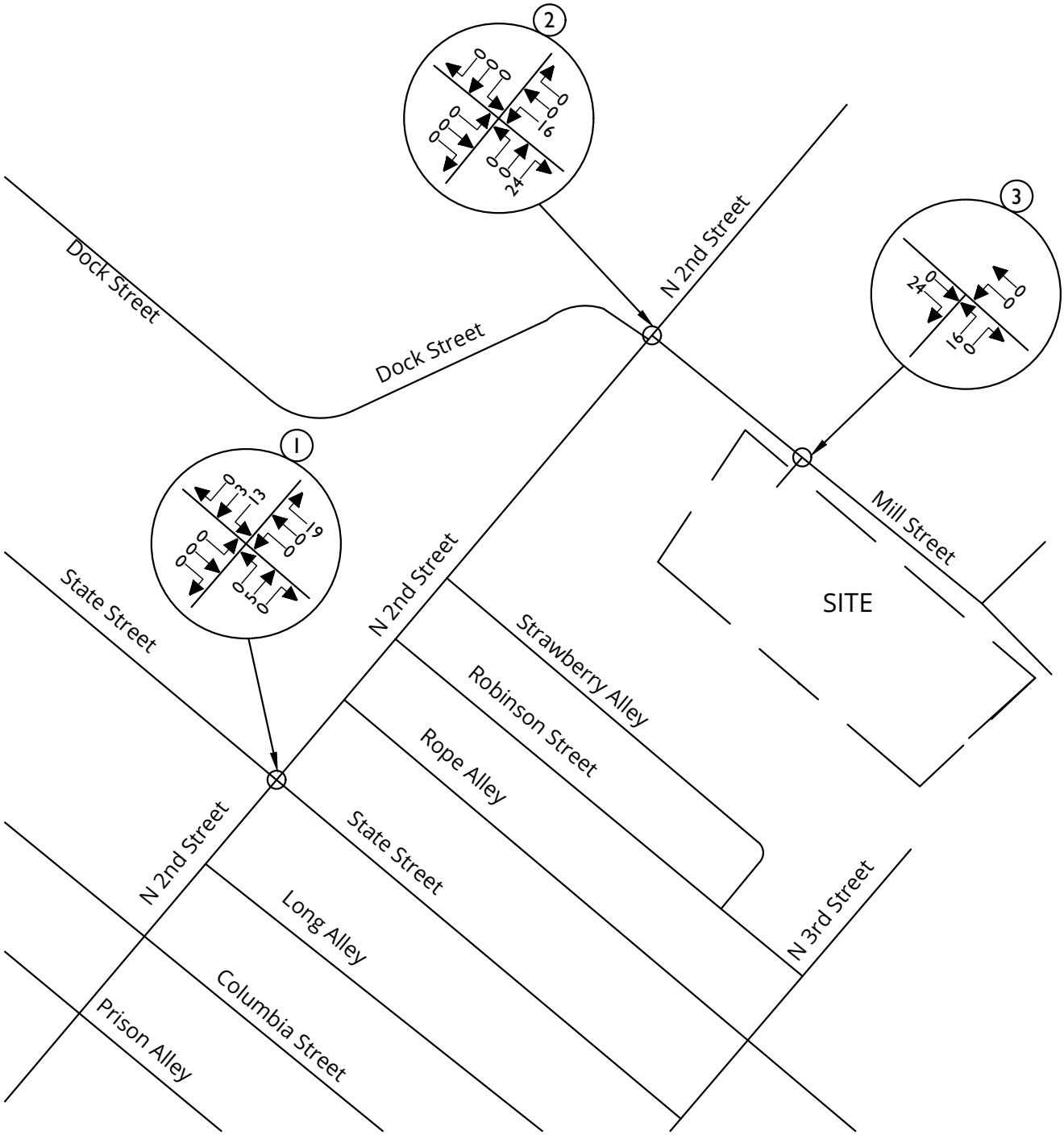
Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		SITE GENERATED TRAFFIC VOLUMES WEEKDAY AM HOUR FIGURE No. 8



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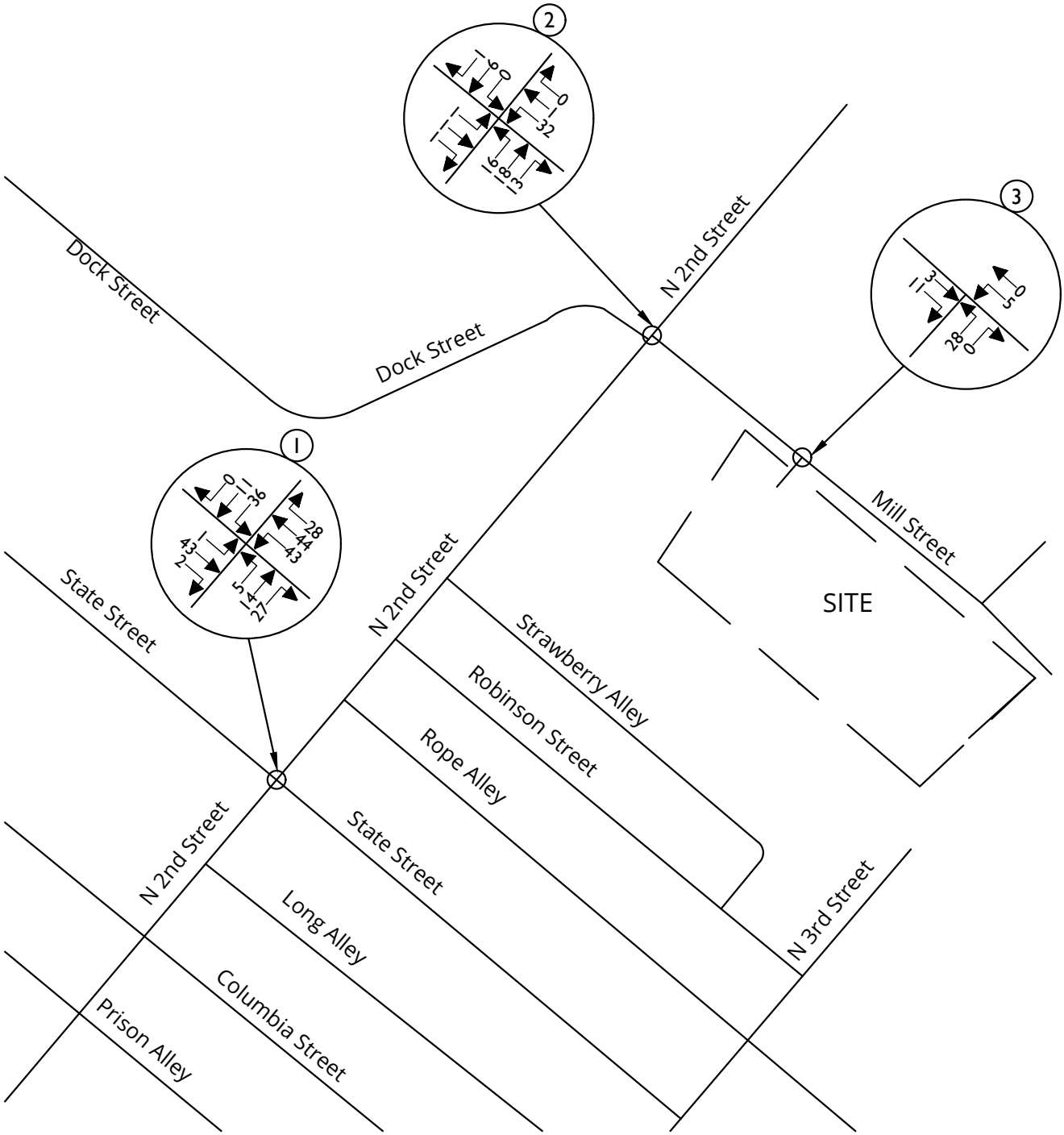
Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		SITE GENERATED TRAFFIC VOLUMES WEEKDAY PM HOUR FIGURE No. 9



NOTE: LINE DIAGRAM NOT TO SCALE

Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		2027 BUILD TRAFFIC VOLUMES WEEKDAY PEAK AM HOUR FIGURE No. 10

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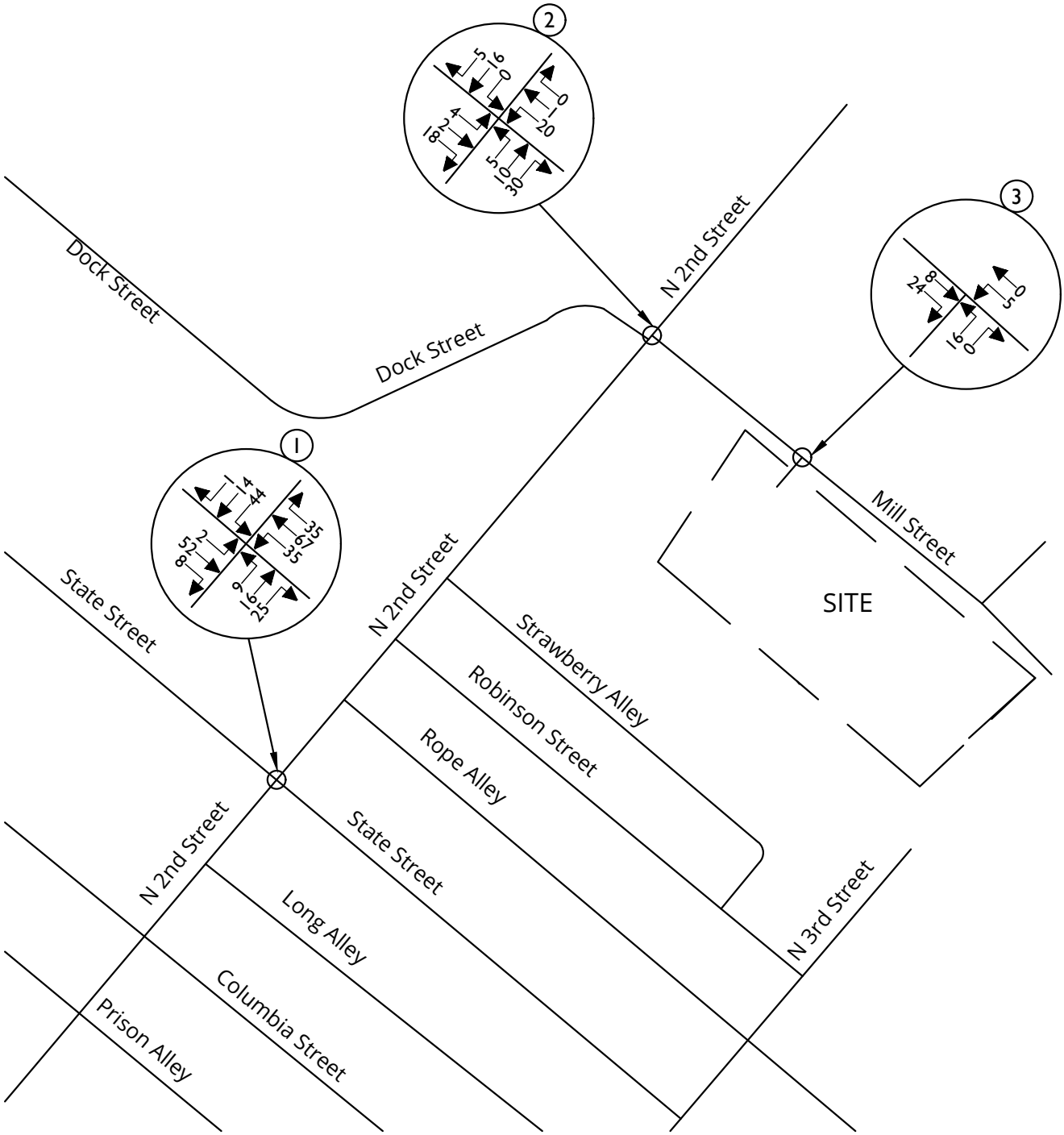

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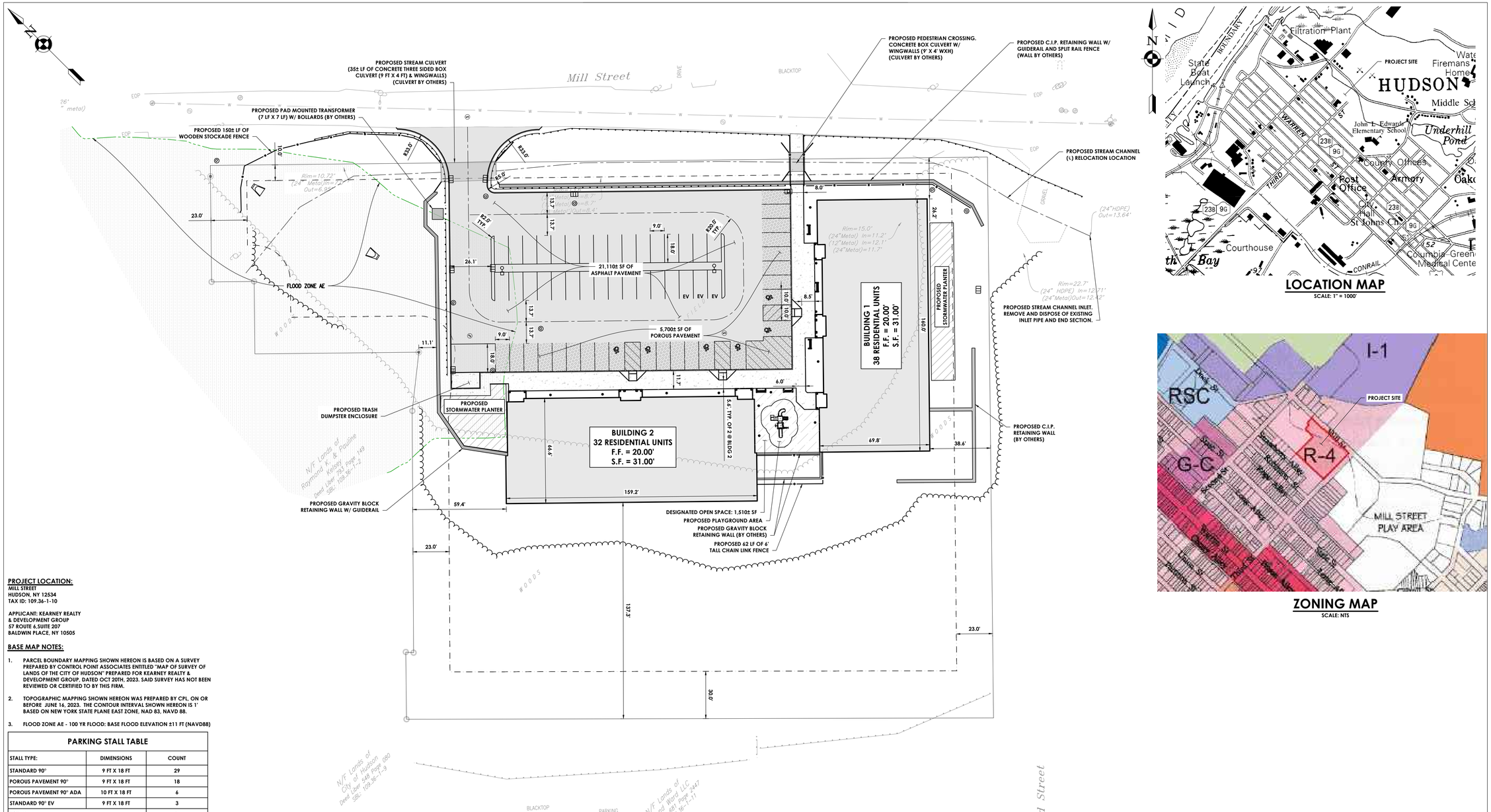
Colliers Engineering & Design	MILL STREET LOFTS MILL STREET CITY OF HUDSON, COLUMBIA COUNTY, NY	TRAFFIC IMPACT STUDY 24005482A 05/30/24		2027 BUILD TRAFFIC VOLUMES WEEKDAY PEAK PM HOUR FIGURE No. 11

Site Plan



PROJECT LOCATION:

MILL STREET
HUDSON, NY 12534
TAX ID: 109.36-1-10

APPLICANT: KEARNEY REALTY & DEVELOPMENT GROUP
57 ROUTE 6,SUITE 207
BALDWIN PLACE, NY 10505

BASE MAP NOTES:

1. PARCEL BOUNDARY MAPPING SHOWN HEREON IS BASED ON A SURVEY PREPARED BY CONTROL POINT ASSOCIATES ENTITLED "MAP OF SURVEY OF LANDS OF THE CITY OF HUDSON" PREPARED FOR KEARNEY REALTY & DEVELOPMENT GROUP, DATED OCT 20TH, 2023. SAID SURVEY HAS NOT BEEN REVIEWED OR CERTIFIED TO BY THIS FIRM.
2. TOPOGRAPHIC MAPPING SHOWN HEREON WAS PREPARED BY CPL, ON OR BEFORE JUNE 16, 2023. THE CONTOUR INTERVAL SHOWN HEREON IS 1' BASED ON NEW YORK STATE PLANE EAST ZONE, NAD 83, NAVD 88.
3. FLOOD ZONE AE - 100 YR FLOOD: BASE FLOOD ELEVATION ±11 FT (NAVD88)

PARKING STALL TABLE

STALL TYPE:	DIMENSIONS	COUNT
STANDARD 90°	9 FT X 18 FT	29
POROUS PAVEMENT 90°	9 FT X 18 FT	18
POROUS PAVEMENT 90° ADA	10 FT X 18 FT	6
STANDARD 90° EV	9 FT X 18 FT	3
TOTAL:		56

BULK REGULATIONS TABLE

ZONE: R-4 MULTIPLE DWELLINGS	REQUIRED	PROVIDED
MINIMUM REQUIRED:		
LOT AREA:		
TOTAL (SQUARE FOOT)	6,000 SF	142,780 SF
PER DWELLING UNIT (SQUARE FEET)	1,500/UNIT x 70 UNITS = 105,000 SF	2,040/UNIT x 70 UNITS = 142,780 SF
LOT WIDTH (FEET)	60 FT	494 FT
LOT DEPTH (FEET)	100 FT	356 FT
FRONT YARD (FEET)	10 FT	26± FT
EACH SIDE YARD (FEET)	10 FT OR HALF THE BUILDING HEIGHT	38± FT & 59± FT
REAR YARD (FEET)	30 FT	137± FT
USABLE OPEN SPACE PER DWELLING UNIT (SQUARE FEET)	300/UNIT x 70 UNITS = 21,000 SF	300/UNIT x 70 UNITS = 21,000 SF
OFF STREET PARKING SPACES PER DWELLING UNIT	1[1]	50 - SEE PARKING STALL TABLE
MAXIMUM PERMITTED:		
LOT COVERAGE (BUILDINGS ONLY)	30% OF 142,780 SF = 42,834 SF	21,440 SF = 15%
BUILDING 1 - DIMENSIONS	-	160± LF X 70± LF (L X W)
BUILDING 2 - DIMENSIONS	-	160± LF X 67± LF (L X W)
BUILDING HEIGHT:		
NUMBER OF STORIES	3	4
FEET	45	45
BUILDING LENGTH (FEET)	160	160

[1] - CHAPTER 325, ARTICLE IV DISTRICT BULK AND PARKING REGULATION, SECTION 19, SUBSECTION B. - "REQUIRED OFF-STREET PARKING SPACES. PARCELS OF REAL PROPERTY TO BE DEVELOPED WITHIN THE CITY OF HUDSON SHALL NOT RE REQUIRED TO ESTABLISH A MINIMUM NUMBER OF ACCESSORY OFF-STREET PARKING SPACES. AMENDED 2-18-2014 BY L.L. No. 2-2014; 6-18-2019 BY L.L. No. 2-2019.

1 C200 **PROPOSED SITE PLAN**
SCALE: 1" = 30'

SCALE: 1" = 30'
30 0 30 60 90

LOCATION MAP
SCALE: 1" = 1000'

ZONING MAP
SCALE: NTS

CPL | Architecture Engineering Planning
26 IBM Road
Poughkeepsie, NY 12601
CPLteam.com
NY ENGINEERING FIRM CERTIFICATE #018330

KEARNEY GROUP

PROJECT INFORMATION

Project Number
R23.01044.00

Client Name
KEARNEY REALTY & DEVELOPMENT GROUP

Project Name
MILL STREET LOFTS

Project Address
MILL STREET HUDSON, NY 12051

PROJECT ISSUE & REVISION SCHEDULE

No.	Date	Description
1	04/26/2024	PRELIMINARY SUBMISSION TO HUDSON PB
2	05/28/2024	REVISIONS PER PB REVIEW LETTER 5/13/2024
3	06/20/2024	SUBMISSION TO HUDSON PB
4	07/29/2024	ADDRESSED PB COMMENTS

PROFESSIONAL STAMPS

FOR REVIEW ONLY
NOT FOR PERMIT OR CONSTRUCTION

SHEET INFORMATION

Issued	Scale
APRIL 2024	1" = 30'

Project Status
PLANNING BOARD SUBMISSION

Drawn By	Checked By
BGR	ALL

Drawing Title
PROPOSED SITE PLAN

Drawing Number
KMS C200

Revision Number

Plotted By: Bryce Racer
Date last plotted: 7/24/2024 6:24 PM
Date last accessed: 7/24/2024 6:18 PM
Sheet size: 24x36
Drawing Name: S:\Projects\Kearney\Hudson Properties\3 Design\ACAD\Civil\Site\KMS_R23.01044.00_ST_C4.dwg

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Traffic Impact Study

Appendix B | Tables

Table No. 1
Hourly Trip Generation Rates (HTGR) and
Anticipated Site Generated Traffic Volumes

Mill Street Lofts City of Hudson	Entry		Exit	
	HTGR[1]	Volume	HTGR[1]	Volume
Residential (70 Units)				
Peak AM Hour	0.16	11	0.40	28
Peak PM Hour	0.34	24	0.23	16

NOTES:

1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 11TH EDITION, 2021. ITE LAND USE CODE - 223 - AFFORDABLE HOUSING.

Table No. 2
Level of Service Summary Table
Weekday Peak AM Hour

				2024 Existing			2027 No-Build			2027 Build			Change in Delay
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	No-Build to Build
1	**N 2nd Street & State Street**	**Unsignalized**											
	State Street	EB	LTR	0.06	A	7.5	0.07	A	7.5	0.07	A	7.6	0.1
	State Street	WB	LTR	0.15	A	8.2	0.16	A	8.2	0.17	A	8.4	0.2
	N 2nd Street	NB	LTR	0.06	A	7.2	0.06	A	7.2	0.06	A	7.4	0.2
	N 2nd Street	SB	LTR	0.03	A	7.6	0.03	A	7.7	0.07	A	7.9	0.2
2	**N 2nd Street & Mill Street/Dock Street**	**Unsignalized**											
	Dock Street	EB	LTR	0.01	A	6.9	0.01	A	6.9	0.01	A	7.0	0.1
	Mill Street	WB	LTR	0.01	A	7.2	0.01	A	7.2	0.05	A	7.5	0.3
	N 2nd Street	NB	LTR	0.05	A	7.3	0.05	A	7.3	0.07	A	7.3	0.0
	N 2nd Street	SB	LTR	0.01	A	6.9	0.01	A	6.9	0.01	A	7.0	0.1
3	**Mill Street & Site Access**	**Unsignalized**											
	Mill Street	EB	LTR	-	-	-	-	-	-	0.00	A	0.0	0.0
	Mill Street	WB	LTR	-	-	-	-	-	-	0.01	A	7.3	7.3
	Site Access	NB	LTR	-	-	-	-	-	-	0.03	A	8.7	8.7

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

Table No. 2
Level of Service Summary Table
Weekday Peak PM Hour

				2024 Existing			2027 No-Build			2027 Build			Change in Delay
				v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	No-Build to Build
1	**N 2nd Street & State Street**	**Unsignalized**											
	State Street	EB	LTR	0.07	A	7.5	0.08	A	7.5	0.08	A	7.6	0.1
	State Street	WB	LTR	0.14	A	8.0	0.15	A	8.0	0.17	A	8.1	0.1
	N 2nd Street	NB	LTR	0.05	A	7.3	0.05	A	7.3	0.06	A	7.5	0.2
	N 2nd Street	SB	LTR	0.06	A	7.7	0.06	A	7.8	0.08	A	8.0	0.2
2	**N 2nd Street & Mill Street/Dock Street**	**Unsignalized**											
	Dock Street	EB	LTR	0.03	A	7.2	0.03	A	7.2	0.03	A	7.3	0.1
	Mill Street	WB	LTR	0.01	A	7.2	0.01	A	7.2	0.03	A	7.4	0.2
	N 2nd Street	NB	LTR	0.03	A	7.7	0.03	A	7.7	0.07	A	7.7	0.0
	N 2nd Street	SB	LTR	0.03	A	7.0	0.03	A	7.0	0.03	A	7.1	0.1
3	**Mill Street & Site Access**	**Unsignalized**											
	Mill Street	EB	LTR	-	-	-	-	-	-	0.00	A	0.0	0.0
	Mill Street	WB	LTR	-	-	-	-	-	-	0.01	A	7.3	7.3
	Site Access	NB	LTR	-	-	-	-	-	-	0.02	A	8.7	8.7

NOTES:

1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.

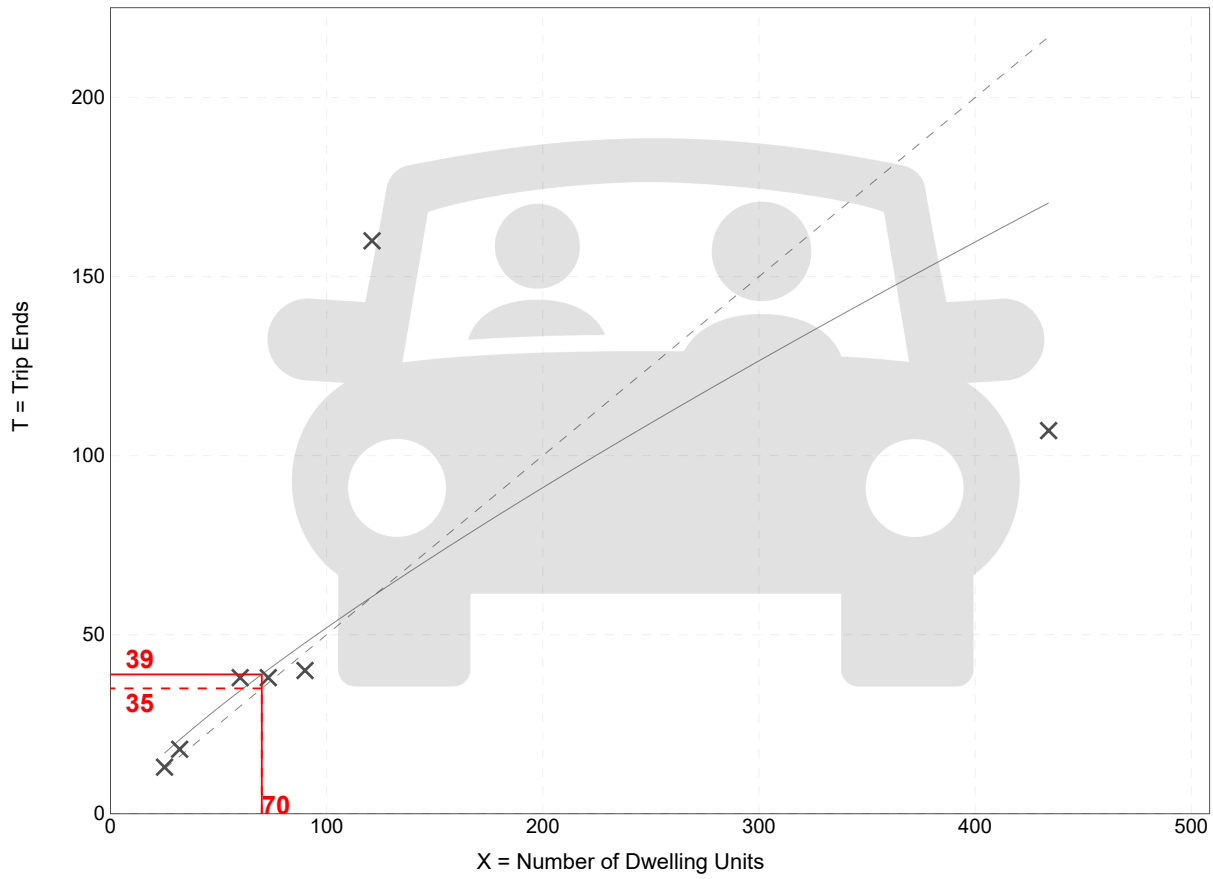
Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,** **Peak Hour of Adjacent Street Traffic,** **One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	7
Avg. Num. of Dwelling Units:	119
Directional Distribution:	29% entering, 71% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.50	0.25 - 1.32	0.39

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.81 Ln(X) + 0.22

R^2= 0.73

Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

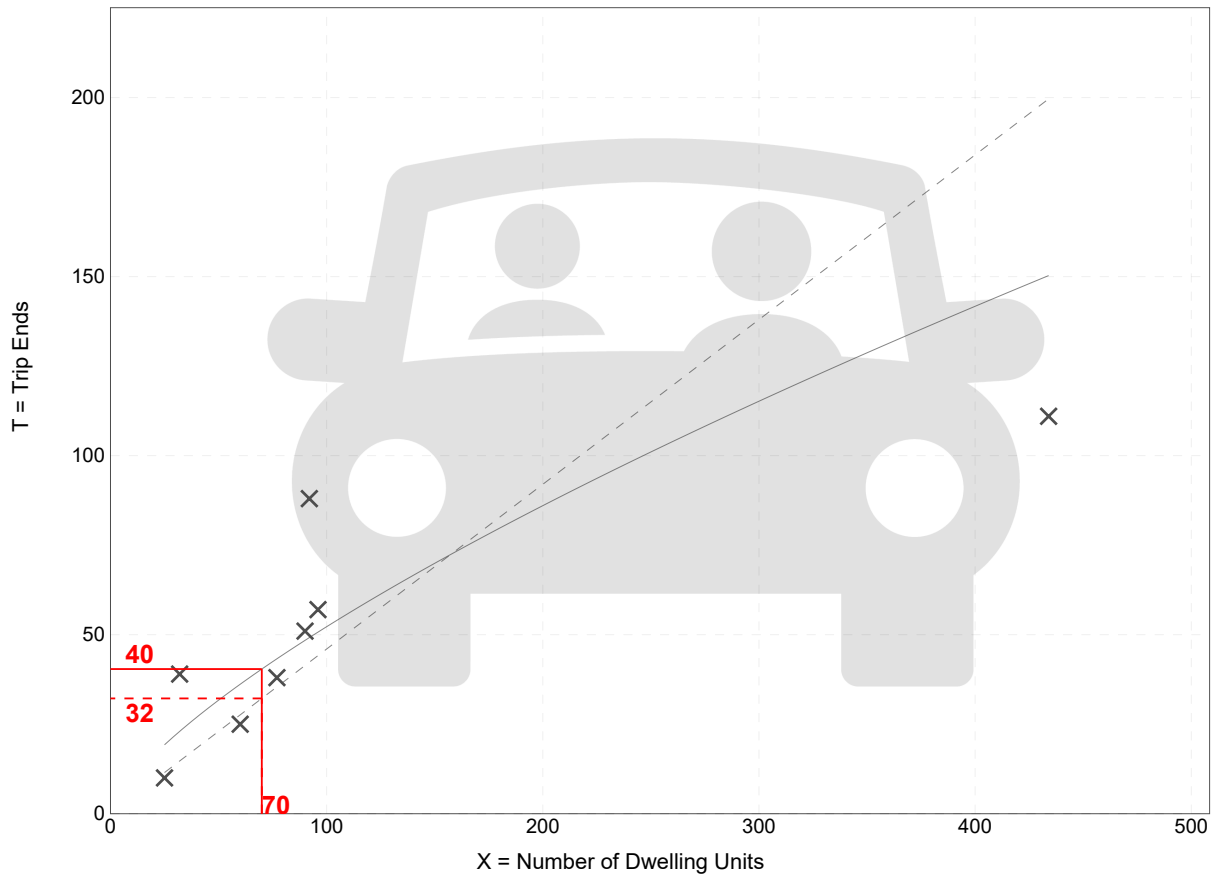
Affordable Housing - Income Limits
(223)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	8
Avg. Num. of Dwelling Units:	113
Directional Distribution:	59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.26 - 1.22	0.28

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.72 Ln(X) + 0.64

R^2= 0.67

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Traffic Impact Study

Appendix C | Level of Service Standards

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Level of Service Standards

Level of Service for Signalized Intersections

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

- **LOS A** describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
- **LOS B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
- **LOS C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.
- **LOS D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.
- **LOS E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.
- **LOS F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 19-8 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 19-8 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

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Level of Service Criteria For Two-Way Stop-Controlled (TWSC) Unsignalized Intersections

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 20-2 from the Highway Capacity Manual, 6th Edition published by the Transportation Research Board.

Exhibit 20-2 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 20-2 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

Level of Service Criteria For All-Way Stop-Controlled (AWSC) Unsignalized Intersections

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 21-8. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 21-8 from the *Highway* Capacity *Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 21-8 LOS by Volume-to-Capacity Ratio

Control Delay (s/veh)	v/c ≤ 1.0	v/c ≥ 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.

Level of Service Criteria For Roundabouts

Roundabouts share the same basic control delay with two-way and all-way stop-controlled intersections, adjusting for the effect of yield control.

The Level of Service Criteria for Roundabouts are given in Exhibit 21-1 from the Highway Capacity Manual, 6th Edition, published by the Transportation Research Board.

Exhibit 21-1

Level of Service Criteria for Roundabouts

Control Delay (s/veh)	v/c ≤1.0	v/c >1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection-wide assessment, LOS is defined by control delay

As Exhibit 21-1 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

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Traffic Impact Study

Appendix D | Capacity Analysis

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	42	2	42	43	19	5	11	26	13	5	0
Future Volume (vph)	1	42	2	42	43	19	5	11	26	13	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.975			0.915				
Flt Protected		0.999			0.980			0.994			0.965	
Satd. Flow (prot)	0	1669	0	0	1493	0	0	1517	0	0	1650	0
Flt Permitted		0.999			0.980			0.994			0.965	
Satd. Flow (perm)	0	1669	0	0	1493	0	0	1517	0	0	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		603			777			347			903	
Travel Time (s)		13.7			17.7			7.9			20.5	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	50%	17%	4%	5%	0%	0%	4%	0%	0%	0%
Parking (#/hr)		0			0			0			0	
Adj. Flow (vph)	1	51	2	51	52	23	6	13	32	16	6	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	0	126	0	0	51	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	42	2	42	43	19	5	11	26	13	5	0
Future Vol, veh/h	1	42	2	42	43	19	5	11	26	13	5	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	50	17	4	5	0	0	4	0	0	0
Mvmt Flow	1	51	2	51	52	23	6	13	32	16	6	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.5	8.2	7.2	7.6
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	12%	40%	2%	72%
Vol Thru, %	26%	41%	93%	28%
Vol Right, %	62%	18%	4%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	104	45	18
LT Vol	5	42	1	13
Through Vol	11	43	42	5
RT Vol	26	19	2	0
Lane Flow Rate	51	127	55	22
Geometry Grp	1	1	1	1
Degree of Util (X)	0.057	0.153	0.063	0.028
Departure Headway (Hd)	3.993	4.332	4.104	4.513
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	902	823	863	798
Service Time	1.994	2.381	2.176	2.515
HCM Lane V/C Ratio	0.057	0.154	0.064	0.028
HCM Control Delay, s/veh	7.2	8.2	7.5	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.2	0.1

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	1	1	4	1	0	16	17	2	0	6	1
Future Volume (vph)	1	1	1	4	1	0	16	17	2	0	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	8	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955						0.991			0.985	
Flt Protected		0.984			0.960			0.978				
Satd. Flow (prot)	0	1473	0	0	1702	0	0	1784	0	0	1872	0
Flt Permitted		0.984			0.960			0.978				
Satd. Flow (perm)	0	1473	0	0	1702	0	0	1784	0	0	1872	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		399			325			903			251	
Travel Time (s)		9.1			15.8			20.5			5.7	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	100%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1	1	1	5	1	0	21	22	3	0	8	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	6	0	0	46	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.88	1.00	1.20	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	0	16	17	2	0	6	1
Future Vol, veh/h	1	1	1	4	1	0	16	17	2	0	6	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	0	100	0	0	0	0	7	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	0	21	22	3	0	8	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	6.9	7.2	7.3	6.9
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	46%	80%	33%	0%
Vol Thru, %	49%	20%	33%	86%
Vol Right, %	6%	0%	33%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	5	3	7
LT Vol	16	4	1	0
Through Vol	17	1	1	6
RT Vol	2	0	1	1
Lane Flow Rate	45	6	4	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.007	0.004	0.01
Departure Headway (Hd)	4.1	4.157	3.866	3.865
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	877	860	925	928
Service Time	2.106	2.185	1.894	1.879
HCM Lane V/C Ratio	0.051	0.007	0.004	0.01
HCM Control Delay, s/veh	7.3	7.2	6.9	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0	0

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	43	2	43	44	20	5	11	27	13	5	0
Future Volume (vph)	1	43	2	43	44	20	5	11	27	13	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.975			0.914				
Flt Protected		0.999			0.980			0.994			0.965	
Satd. Flow (prot)	0	1669	0	0	1494	0	0	1515	0	0	1650	0
Flt Permitted		0.999			0.980			0.994			0.965	
Satd. Flow (perm)	0	1669	0	0	1494	0	0	1515	0	0	1650	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		581			789			311			904	
Travel Time (s)		13.2			17.9			7.1			20.5	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	50%	17%	4%	5%	0%	0%	4%	0%	0%	0%
Parking (#/hr)		0			0			0			0	
Adj. Flow (vph)	1	52	2	52	54	24	6	13	33	16	6	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	130	0	0	52	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	43	2	43	44	20	5	11	27	13	5	0
Future Vol, veh/h	1	43	2	43	44	20	5	11	27	13	5	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	50	17	4	5	0	0	4	0	0	0
Mvmt Flow	1	52	2	52	54	24	6	13	33	16	6	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.5	8.2	7.2	7.7
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	12%	40%	2%	72%
Vol Thru, %	26%	41%	93%	28%
Vol Right, %	63%	19%	4%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	107	46	18
LT Vol	5	43	1	13
Through Vol	11	44	43	5
RT Vol	27	20	2	0
Lane Flow Rate	52	130	56	22
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.157	0.064	0.028
Departure Headway (Hd)	3.997	4.331	4.109	4.525
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	901	823	862	796
Service Time	1.998	2.381	2.182	2.526
HCM Lane V/C Ratio	0.058	0.158	0.065	0.028
HCM Control Delay, s/veh	7.2	8.2	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.2	0.1

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	1	1	4	1	0	16	18	2	0	6	1
Future Volume (vph)	1	1	1	4	1	0	16	18	2	0	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	8	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955						0.991			0.985	
Flt Protected		0.984			0.960			0.978				
Satd. Flow (prot)	0	1473	0	0	1702	0	0	1786	0	0	1872	0
Flt Permitted		0.984			0.960			0.978				
Satd. Flow (perm)	0	1473	0	0	1702	0	0	1786	0	0	1872	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		544			317			904			517	
Travel Time (s)		12.4			7.2			20.5			11.8	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	100%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1	1	1	5	1	0	21	23	3	0	8	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	6	0	0	47	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.88	1.00	1.20	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	4	1	0	16	18	2	0	6	1
Future Vol, veh/h	1	1	1	4	1	0	16	18	2	0	6	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	0	100	0	0	0	0	7	0	0	0	0	0
Mvmt Flow	1	1	1	5	1	0	21	23	3	0	8	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	6.9	7.2	7.3	6.9
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	44%	80%	33%	0%
Vol Thru, %	50%	20%	33%	86%
Vol Right, %	6%	0%	33%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	5	3	7
LT Vol	16	4	1	0
Through Vol	18	1	1	6
RT Vol	2	0	1	1
Lane Flow Rate	47	6	4	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.008	0.004	0.01
Departure Headway (Hd)	4.099	4.16	3.869	3.867
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	860	924	927
Service Time	2.106	2.187	1.897	1.882
HCM Lane V/C Ratio	0.054	0.007	0.004	0.01
HCM Control Delay, s/veh	7.3	7.2	6.9	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0	0

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	43	2	43	44	28	5	14	27	36	11	0
Future Volume (vph)	1	43	2	43	44	28	5	14	27	36	11	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.967			0.920				
Flt Protected		0.999			0.982			0.995			0.963	
Satd. Flow (prot)	0	1669	0	0	1489	0	0	1529	0	0	1647	0
Flt Permitted		0.999			0.982			0.995			0.963	
Satd. Flow (perm)	0	1669	0	0	1489	0	0	1529	0	0	1647	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		477			851			352			853	
Travel Time (s)		10.8			19.3			8.0			19.4	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	0%	0%	50%	17%	4%	5%	0%	0%	4%	0%	0%	0%
Parking (#/hr)		0			0			0			0	
Adj. Flow (vph)	1	52	2	52	54	34	6	17	33	44	13	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	140	0	0	56	0	0	57	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	43	2	43	44	28	5	14	27	36	11	0
Future Vol, veh/h	1	43	2	43	44	28	5	14	27	36	11	0
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	0	0	50	17	4	5	0	0	4	0	0	0
Mvmt Flow	1	52	2	52	54	34	6	17	33	44	13	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.6	8.4	7.4	7.9
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	11%	37%	2%	77%
Vol Thru, %	30%	38%	93%	23%
Vol Right, %	59%	24%	4%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	46	115	46	47
LT Vol	5	43	1	36
Through Vol	14	44	43	11
RT Vol	27	28	2	0
Lane Flow Rate	56	140	56	57
Geometry Grp	1	1	1	1
Degree of Util (X)	0.064	0.17	0.067	0.073
Departure Headway (Hd)	4.088	4.358	4.288	4.565
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	880	812	839	789
Service Time	2.094	2.444	2.296	2.571
HCM Lane V/C Ratio	0.064	0.172	0.067	0.072
HCM Control Delay, s/veh	7.4	8.4	7.6	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.2	0.2

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	1	1	32	1	0	16	18	13	0	6	1
Future Volume (vph)	1	1	1	32	1	0	16	18	13	0	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	8	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955						0.962			0.985	
Flt Protected		0.984			0.953			0.983				
Satd. Flow (prot)	0	1473	0	0	1690	0	0	1754	0	0	1872	0
Flt Permitted		0.984			0.953			0.983				
Satd. Flow (perm)	0	1473	0	0	1690	0	0	1754	0	0	1872	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		447			344			853			156	
Travel Time (s)		0.0			7.8			19.4			3.5	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	100%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1	1	1	42	1	0	21	23	17	0	8	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	43	0	0	61	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.88	1.00	1.20	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	1	1	32	1	0	16	18	13	0	6	1
Future Vol, veh/h	1	1	1	32	1	0	16	18	13	0	6	1
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	0	100	0	0	0	0	7	0	0	0	0	0
Mvmt Flow	1	1	1	42	1	0	21	23	17	0	8	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7	7.5	7.3	7
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	34%	97%	33%	0%
Vol Thru, %	38%	3%	33%	86%
Vol Right, %	28%	0%	33%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	33	3	7
LT Vol	16	32	1	0
Through Vol	18	1	1	6
RT Vol	13	0	1	1
Lane Flow Rate	61	43	4	9
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.05	0.004	0.01
Departure Headway (Hd)	4.008	4.218	3.92	3.94
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	848	909	905
Service Time	2.035	2.25	1.962	1.978
HCM Lane V/C Ratio	0.068	0.051	0.004	0.01
HCM Control Delay, s/veh	7.3	7.5	7	7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0	0

Lane Group	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	3	11	5	0	28	0
Future Volume (vph)	3	11	5	0	28	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.899					
Flt Protected				0.950	0.950	
Satd. Flow (prot)	1675	0	0	1770	1770	0
Flt Permitted				0.950	0.950	
Satd. Flow (perm)	1675	0	0	1770	1770	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	344			216	127	
Travel Time (s)	7.8			4.9	2.9	
Peak Hour Factor	0.77	0.92	0.92	0.77	0.92	0.92
Adj. Flow (vph)	4	12	5	0	30	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	5	30	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	5.9

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	3	11	5	0	28	0
Future Vol, veh/h	3	11	5	0	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	77	92	92	77	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	12	5	0	30	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	21	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1602	-	996	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1602	-	993	1071
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1009	-

Approach	SE	NW	NE
HCM Control Delay, s/v	0	7.26	8.74
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	993	1602	-	-	-
HCM Lane V/C Ratio	0.031	0.003	-	-	-
HCM Control Delay (s/veh)	8.7	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	50	8	34	65	15	9	11	24	30	10	1
Future Volume (vph)	2	50	8	34	65	15	9	11	24	30	10	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.982			0.927			0.997	
Flt Protected		0.998			0.985			0.990			0.965	
Satd. Flow (prot)	0	1647	0	0	1625	0	0	1569	0	0	1617	0
Flt Permitted		0.998			0.985			0.990			0.965	
Satd. Flow (perm)	0	1647	0	0	1625	0	0	1569	0	0	1617	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		603			777			347			903	
Travel Time (s)		13.7			17.7			7.9			20.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	0%	0%	0%	7%	0%
Parking (#/hr)		0			0			0			0	
Adj. Flow (vph)	2	53	9	36	69	16	10	12	26	32	11	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	121	0	0	48	0	0	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	50	8	34	65	15	9	11	24	30	10	1
Future Vol, veh/h	2	50	8	34	65	15	9	11	24	30	10	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	2	0	6	0	0	0	0	0	0	7	0
Mvmt Flow	2	53	9	36	69	16	10	12	26	32	11	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.5	8	7.3	7.7
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	20%	30%	3%	73%
Vol Thru, %	25%	57%	83%	24%
Vol Right, %	55%	13%	13%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	114	60	41
LT Vol	9	34	2	30
Through Vol	11	65	50	10
RT Vol	24	15	8	1
Lane Flow Rate	47	121	64	44
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.141	0.072	0.054
Departure Headway (Hd)	4.072	4.19	4.078	4.491
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	885	848	867	802
Service Time	2.073	2.254	2.159	2.492
HCM Lane V/C Ratio	0.053	0.143	0.074	0.055
HCM Control Delay, s/veh	7.3	8	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.2	0.2

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	2	17	4	1	0	5	10	6	0	16	5
Future Volume (vph)	4	2	17	4	1	0	5	10	6	0	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	8	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.901						0.960			0.969	
Flt Protected		0.992			0.960			0.989				
Satd. Flow (prot)	0	1711	0	0	1571	0	0	1433	0	0	1554	0
Flt Permitted		0.992			0.960			0.989				
Satd. Flow (perm)	0	1711	0	0	1571	0	0	1433	0	0	1554	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		399			325			903			251	
Travel Time (s)		9.1			15.8			20.5			5.7	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	25%	50%	0%	0%	50%	0%	40%	20%	25%	0%	0%	80%
Adj. Flow (vph)	5	3	22	5	1	0	6	13	8	0	20	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	6	0	0	27	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.88	1.00	1.20	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	2	17	4	1	0	5	10	6	0	16	5
Future Vol, veh/h	4	2	17	4	1	0	5	10	6	0	16	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	25	50	0	0	50	0	40	20	25	0	0	80
Mvmt Flow	5	3	22	5	1	0	6	13	8	0	20	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.2	7.2	7.7	7
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	24%	80%	17%	0%
Vol Thru, %	48%	20%	9%	76%
Vol Right, %	29%	0%	74%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	5	23	21
LT Vol	5	4	4	0
Through Vol	10	1	2	16
RT Vol	6	0	17	5
Lane Flow Rate	27	6	29	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.034	0.007	0.032	0.028
Departure Headway (Hd)	4.54	4.176	4.015	3.84
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	790	855	891	933
Service Time	2.557	2.209	2.043	1.862
HCM Lane V/C Ratio	0.034	0.007	0.033	0.029
HCM Control Delay, s/veh	7.7	7.2	7.2	7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0.1

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	52	8	35	67	15	9	11	25	31	10	1
Future Volume (vph)	2	52	8	35	67	15	9	11	25	31	10	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.983			0.926			0.997	
Flt Protected		0.998			0.985			0.990			0.965	
Satd. Flow (prot)	0	1648	0	0	1627	0	0	1568	0	0	1618	0
Flt Permitted		0.998			0.985			0.990			0.965	
Satd. Flow (perm)	0	1648	0	0	1627	0	0	1568	0	0	1618	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		581			789			311			904	
Travel Time (s)		13.2			17.9			7.1			20.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	0%	0%	0%	7%	0%
Parking (#/hr)		0			0			0			0	
Adj. Flow (vph)	2	55	9	37	71	16	10	12	27	33	11	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	124	0	0	49	0	0	45	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	52	8	35	67	15	9	11	25	31	10	1
Future Vol, veh/h	2	52	8	35	67	15	9	11	25	31	10	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	2	0	6	0	0	0	0	0	0	7	0
Mvmt Flow	2	55	9	37	71	16	10	12	27	33	11	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.5	8	7.3	7.8
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	20%	30%	3%	74%
Vol Thru, %	24%	57%	84%	24%
Vol Right, %	56%	13%	13%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	117	62	42
LT Vol	9	35	2	31
Through Vol	11	67	52	10
RT Vol	25	15	8	1
Lane Flow Rate	48	124	66	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.145	0.075	0.056
Departure Headway (Hd)	4.081	4.198	4.087	4.507
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	883	846	864	799
Service Time	2.082	2.265	2.17	2.508
HCM Lane V/C Ratio	0.054	0.147	0.076	0.056
HCM Control Delay, s/veh	7.3	8	7.5	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.5	0.2	0.2

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	2	18	4	1	0	5	10	6	0	16	5
Future Volume (vph)	4	2	18	4	1	0	5	10	6	0	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	8	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.900						0.960			0.969	
Flt Protected		0.992			0.960			0.989				
Satd. Flow (prot)	0	1714	0	0	1571	0	0	1433	0	0	1554	0
Flt Permitted		0.992			0.960			0.989				
Satd. Flow (perm)	0	1714	0	0	1571	0	0	1433	0	0	1554	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		544			317			904			517	
Travel Time (s)		12.4			7.2			20.5			11.8	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	25%	50%	0%	0%	50%	0%	40%	20%	25%	0%	0%	80%
Adj. Flow (vph)	5	3	23	5	1	0	6	13	8	0	20	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	0	0	6	0	0	27	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.88	1.00	1.20	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	2	18	4	1	0	5	10	6	0	16	5
Future Vol, veh/h	4	2	18	4	1	0	5	10	6	0	16	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	25	50	0	0	50	0	40	20	25	0	0	80
Mvmt Flow	5	3	23	5	1	0	6	13	8	0	20	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.2	7.2	7.7	7
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	24%	80%	17%	0%
Vol Thru, %	48%	20%	8%	76%
Vol Right, %	29%	0%	75%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	5	24	21
LT Vol	5	4	4	0
Through Vol	10	1	2	16
RT Vol	6	0	18	5
Lane Flow Rate	27	6	30	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.034	0.007	0.034	0.028
Departure Headway (Hd)	4.542	4.177	4.007	3.842
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	790	855	893	932
Service Time	2.561	2.21	2.035	1.866
HCM Lane V/C Ratio	0.034	0.007	0.034	0.029
HCM Control Delay, s/veh	7.7	7.2	7.2	7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0.1	0.1

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	52	8	35	67	35	9	16	25	44	14	1
Future Volume (vph)	2	52	8	35	67	35	9	16	25	44	14	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.966			0.932			0.998	
Flt Protected		0.998			0.987			0.991			0.964	
Satd. Flow (prot)	0	1648	0	0	1606	0	0	1579	0	0	1618	0
Flt Permitted		0.998			0.987			0.991			0.964	
Satd. Flow (perm)	0	1648	0	0	1606	0	0	1579	0	0	1618	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		477			851			352			853	
Travel Time (s)		10.8			19.3			8.0			19.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	0%	6%	0%	0%	0%	0%	0%	0%	7%	0%
Parking (#/hr)		0			0			0			0	
Adj. Flow (vph)	2	55	9	37	71	37	10	17	27	47	15	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	66	0	0	145	0	0	54	0	0	63	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00	1.00	1.14	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	52	8	35	67	35	9	16	25	44	14	1
Future Vol, veh/h	2	52	8	35	67	35	9	16	25	44	14	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	2	0	6	0	0	0	0	0	0	7	0
Mvmt Flow	2	55	9	37	71	37	10	17	27	47	15	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.6	8.1	7.5	8
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	18%	26%	3%	75%
Vol Thru, %	32%	49%	84%	24%
Vol Right, %	50%	26%	13%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	137	62	59
LT Vol	9	35	2	44
Through Vol	16	67	52	14
RT Vol	25	35	8	1
Lane Flow Rate	53	146	66	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.062	0.168	0.078	0.08
Departure Headway (Hd)	4.178	4.152	4.247	4.566
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	861	850	847	788
Service Time	2.184	2.245	2.255	2.572
HCM Lane V/C Ratio	0.062	0.172	0.078	0.08
HCM Control Delay, s/veh	7.5	8.1	7.6	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.6	0.3	0.3

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	4	2	18	20	1	0	5	10	30	0	16	5
Future Volume (vph)	4	2	18	20	1	0	5	10	30	0	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	15	12	8	10	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.900						0.910			0.969	
Flt Protected		0.992			0.954			0.995				
Satd. Flow (prot)	0	1714	0	0	1660	0	0	1371	0	0	1554	0
Flt Permitted		0.992			0.954			0.995				
Satd. Flow (perm)	0	1714	0	0	1660	0	0	1371	0	0	1554	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		464			344			853			156	
Travel Time (s)		0.0			7.8			19.4			3.5	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	25%	50%	0%	0%	50%	0%	40%	20%	25%	0%	0%	80%
Adj. Flow (vph)	5	3	23	25	1	0	6	13	38	0	20	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	31	0	0	26	0	0	57	0	0	26	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.88	1.00	1.20	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	4	2	18	20	1	0	5	10	30	0	16	5
Future Vol, veh/h	4	2	18	20	1	0	5	10	30	0	16	5
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	25	50	0	0	50	0	40	20	25	0	0	80
Mvmt Flow	5	3	23	25	1	0	6	13	38	0	20	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.3	7.4	7.7	7.1
HCM LOS	A	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	11%	95%	17%	0%
Vol Thru, %	22%	5%	8%	76%
Vol Right, %	67%	0%	75%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	21	24	21
LT Vol	5	20	4	0
Through Vol	10	1	2	16
RT Vol	30	0	18	5
Lane Flow Rate	57	27	30	27
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.031	0.034	0.029
Departure Headway (Hd)	4.323	4.26	4.075	3.9
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	836	873	914
Service Time	2.354	2.309	2.124	1.942
HCM Lane V/C Ratio	0.069	0.032	0.034	0.03
HCM Control Delay, s/veh	7.7	7.4	7.3	7.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.1

Lane Group	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	8	24	5	0	16	0
Future Volume (vph)	8	24	5	0	16	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.902					
Flt Protected				0.950	0.950	
Satd. Flow (prot)	1505	0	0	1805	1805	0
Flt Permitted				0.950	0.950	
Satd. Flow (perm)	1505	0	0	1805	1805	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	344			216	127	
Travel Time (s)	7.8			4.9	2.9	
Peak Hour Factor	0.79	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	79%	100%	100%
Heavy Vehicles (%)	50%	0%	0%	50%	0%	0%
Adj. Flow (vph)	10	26	5	0	17	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	5	17	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Int Delay, s/veh	3.2

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	8	24	5	0	16	0
Future Vol, veh/h	8	24	5	0	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	92	92	92	92	92
Heavy Vehicles, %	50	0	0	50	0	0
Mvmt Flow	10	26	5	0	17	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	36	0	34	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1588	-	984	1059
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1588	-	981	1059
Mov Cap-2 Maneuver	-	-	-	-	981	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	1014	-

Approach	SE	NW	NE
HCM Control Delay, s/v	0	7.28	8.74
HCM LOS			A

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	981	1588	-	-	-
HCM Lane V/C Ratio	0.018	0.003	-	-	-
HCM Control Delay (s/veh)	8.7	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

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Traffic Impact Study

Appendix E | Reference Data/Traffic Volume Data

Colliers Engineering & Design

400 Columbus Avenue - Suite 180E
Valhalla, New York, 10595
Accelerating Success

File Name : 1-N_2nd_Street_and_Mill_Street_1192790_05-29-2024
Site Code :
Start Date : 5/29/2024
Page No : 1

Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	N 2ND ST From North					MILL ST From East					N 2ND ST From South					NEW RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	2	0	2	0	2	0	0	2	1	0	0	0	1	6
07:15 AM	1	1	0	0	2	0	0	1	0	1	0	2	3	0	5	0	1	0	0	1	9
07:30 AM	0	1	0	0	1	0	0	1	0	1	0	2	5	0	7	0	0	0	0	0	9
07:45 AM	0	2	0	0	2	0	1	2	0	3	0	5	6	0	11	0	0	0	0	0	16
Total	1	5	0	0	6	0	1	6	0	7	0	11	14	0	25	1	1	0	0	2	40
08:00 AM	0	1	0	0	1	0	0	1	0	1	1	5	2	0	8	0	0	0	0	0	10
08:15 AM	0	0	0	0	0	0	0	1	1	2	0	4	1	0	5	1	0	1	0	2	9
08:30 AM	0	3	0	0	3	0	0	0	0	0	1	3	5	1	10	0	0	0	1	1	14
08:45 AM	1	2	0	0	3	0	0	2	0	2	0	3	1	0	4	0	0	0	0	0	9
Total	1	6	0	0	7	0	0	4	1	5	2	15	9	1	27	1	0	1	1	3	42
Grand Total	2	11	0	0	13	0	1	10	1	12	2	26	23	1	52	2	1	1	1	5	82
Apprch %	15.4	84.6	0	0		0	8.3	83.3	8.3		3.8	50	44.2	1.9		40	20	20	20		
Total %	2.4	13.4	0	0	15.9	0	1.2	12.2	1.2	14.6	2.4	31.7	28	1.2	63.4	2.4	1.2	1.2	1.2	6.1	
Lights	1	11	0	0	12	0	1	10	0	11	2	26	21	0	49	2	1	0	0	3	75
% Lights	50	100	0	0	92.3	0	100	100	0	91.7	100	100	91.3	0	94.2	100	100	0	0	60	91.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	1	0	1	4
% Trucks	50	0	0	0	7.7	0	0	0	0	0	0	0	8.7	0	3.8	0	0	100	0	20	4.9
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	3
% Pedestrians	0	0	0	0	0	0	0	0	100	8.3	0	0	0	100	1.9	0	0	0	100	20	3.7

Colliers Engineering & Design

400 Columbus Avenue - Suite 180E
Valhalla, New York, 10595
Accelerating Success

File Name : 1-N_2nd_Street_and_Mill_Street_1192790_05-29-2024
Site Code :
Start Date : 5/29/2024

	N 2ND ST From North					MILL ST From East					N 2ND ST From South					NEW RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	2	0	0	2	0	**1**	**2**	0	**3**	0	**5**	**6**	0	**11**	0	0	0	0	0	**16**
08:00 AM	0	1	0	0	1	0	0	1	0	1	**1**	5	2	0	8	0	0	0	0	0	10
08:15 AM	0	0	0	0	0	0	0	1	**1**	2	0	4	1	0	5	**1**	0	**1**	0	**2**	9
08:30 AM	0	**3**	0	0	**3**	0	0	0	0	0	1	3	5	**1**	10	0	0	0	**1**	1	14
Total Volume	0	6	0	0	6	0	1	4	1	6	2	17	14	1	34	1	0	1	1	3	49
% App. Total	0	100	0	0		0	16.7	66.7	16.7		5.9	50	41.2	2.9		33.3	0	33.3	33.3		
PHF	.000	.500	.000	.000	.500	.000	.250	.500	.250	.500	.500	.850	.583	.250	.773	.250	.000	.250	.250	.375	.766
Lights	0	6	0	0	6	0	1	4	0	5	2	17	13	0	32	1	0	0	0	1	44
% Lights	0	100	0	0	100	0	100	100	0	83.3	100	100	92.9	0	94.1	100	0	0	0	33.3	89.8
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	7.1	0	2.9	0	0	100	0	33.3	4.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	3
% Pedestrians	0	0	0	0	0	0	0	0	100	16.7	0	0	0	100	2.9	0	0	0	100	33.3	6.1

Colliers Engineering & Design

400 Columbus Avenue - Suite 180E
Valhalla, New York, 10595
Accelerating Success

File Name : 1-N_2nd_Street_and_Mill_Street_1192790_05-29-2024
Site Code :
Start Date : 5/29/2024
Page No : 1

Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	N 2ND ST From North					MILL ST From East					N 2ND ST From South					NEW RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	2	2	0	0	4	0	0	1	0	1	0	1	1	0	2	3	0	3	0	6	13
03:15 PM	2	2	0	0	4	0	0	1	0	1	1	5	1	0	7	2	0	0	0	2	14
03:30 PM	0	2	0	0	2	0	0	1	1	2	1	3	1	0	5	5	2	0	0	7	16
03:45 PM	1	3	0	2	6	0	0	1	0	1	2	1	2	0	5	7	0	1	0	8	20
Total	5	9	0	2	16	0	0	4	1	5	4	10	5	0	19	17	2	4	0	23	63
04:00 PM	0	3	1	0	4	0	0	1	0	1	1	0	0	0	1	5	0	1	0	6	12
04:15 PM	0	5	0	0	5	0	1	0	0	1	2	1	1	0	4	2	0	0	0	2	12
04:30 PM	1	6	0	0	7	0	0	2	0	2	1	3	1	1	6	0	0	1	0	1	16
04:45 PM	1	4	0	0	5	0	0	0	0	0	3	3	0	0	6	2	0	0	1	3	14
Total	2	18	1	0	21	0	1	3	0	4	7	7	2	1	17	9	0	2	1	12	54
05:00 PM	1	1	0	0	2	0	0	1	0	1	0	3	1	3	7	2	0	0	4	6	16
05:15 PM	1	3	0	0	4	0	0	1	0	1	1	2	0	2	5	0	0	0	4	4	14
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	1	2	0	0	0	1	1	5
05:45 PM	0	1	0	0	1	0	0	1	0	1	0	4	0	0	4	2	0	0	0	2	8
Total	2	7	0	0	9	0	0	3	0	3	1	10	1	6	18	4	0	0	9	13	43
06:00 PM	0	1	0	0	1	0	0	0	1	1	1	1	0	8	10	3	0	0	0	3	15
06:15 PM	1	2	0	0	3	0	1	0	0	1	4	0	0	0	4	0	0	0	0	0	8
Grand Total	10	37	1	2	50	0	2	10	2	14	17	28	8	15	68	33	2	6	10	51	183
Apprch %	20	74	2	4		0	14.3	71.4	14.3		25	41.2	11.8	22.1		64.7	3.9	11.8	19.6		
Total %	5.5	20.2	0.5	1.1	27.3	0	1.1	5.5	1.1	7.7	9.3	15.3	4.4	8.2	37.2	18	1.1	3.3	5.5	27.9	
Lights	6	36	1	0	43	0	2	8	0	10	16	26	6	0	48	33	1	5	0	39	140
% Lights	60	97.3	100	0	86	0	100	80	0	71.4	94.1	92.9	75	0	70.6	100	50	83.3	0	76.5	76.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	12.5	0	1.5	0	0	0	0	0	0.5
Trucks	4	1	0	0	5	0	0	2	0	2	1	2	1	0	4	0	1	1	0	2	13
% Trucks	40	2.7	0	0	10	0	0	20	0	14.3	5.9	7.1	12.5	0	5.9	0	50	16.7	0	3.9	7.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	2	2	0	0	0	2	2	0	0	0	15	15	0	0	0	10	10	29
% Pedestrians	0	0	0	100	4	0	0	0	100	14.3	0	0	0	100	22.1	0	0	0	100	19.6	15.8

Colliers Engineering & Design

400 Columbus Avenue - Suite 180E
Valhalla, New York, 10595
Accelerating Success

File Name : 1-N_2nd_Street_and_Mill_Street_1192790_05-29-2024
Site Code :
Start Date : 5/29/2024

	N 2ND ST From North					MILL ST From East					N 2ND ST From South					NEW RD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	**2**	2	0	0	4	0	0	**1**	0	1	0	1	1	0	2	3	0	**3**	0	6	13
03:15 PM	2	2	0	0	4	0	0	1	0	1	1	**5**	1	0	**7**	2	0	0	0	2	14
03:30 PM	0	2	0	0	2	0	0	1	**1**	**2**	1	3	1	0	5	5	**2**	0	0	7	16
03:45 PM	1	**3**	0	**2**	**6**	0	0	1	0	1	**2**	1	**2**	0	5	**7**	0	1	0	**8**	**20**
Total Volume	5	9	0	2	16	0	0	4	1	5	4	10	5	0	19	17	2	4	0	23	63
% App. Total	31.2	56.2	0	12.5		0	0	80	20		21.1	52.6	26.3	0		73.9	8.7	17.4	0		
PHF	.625	.750	.000	.250	.667	.000	.000	1.00	.250	.625	.500	.500	.625	.000	.679	.607	.250	.333	.000	.719	.788
Lights	1	9	0	0	10	0	0	2	0	2	3	8	3	0	14	17	1	3	0	21	47
% Lights	20.0	100	0	0	62.5	0	0	50.0	0	40.0	75.0	80.0	60.0	0	73.7	100	50.0	75.0	0	91.3	74.6
Buses	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	20.0	0	5.3	0	0	0	0	0	1.6
Trucks	4	0	0	0	4	0	0	2	0	2	1	2	1	0	4	0	1	1	0	2	12
% Trucks	80.0	0	0	0	25.0	0	0	50.0	0	40.0	25.0	20.0	20.0	0	21.1	0	50.0	25.0	0	8.7	19.0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3
% Pedestrians	0	0	0	100	12.5	0	0	0	100	20.0	0	0	0	0	0	0	0	0	0	0	4.8

Colliers Engineering & Design

400 Columbus Avenue - Suite 180E
Valhalla, New York, 10595
Accelerating Success

File Name : 2-N_2nd_Street_and_State_Street_1192791_05-29-2024
Site Code :
Start Date : 5/29/2024
Page No : 1

Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	N 2ND ST From North					STATE ST From East					N 2ND ST From South					STATE ST From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	1	3	3	7	2	13	7	1	23	0	1	0	1	2	0	4	0	1	5	37
07:15 AM	0	1	3	4	8	4	9	7	4	24	5	2	1	8	16	1	7	0	3	11	59
07:30 AM	0	2	4	2	8	4	10	15	3	32	8	3	2	9	22	1	12	0	4	17	79
07:45 AM	0	0	5	1	6	8	13	4	2	27	11	2	2	0	15	0	13	0	0	13	61
Total	0	4	15	10	29	18	45	33	10	106	24	8	5	18	55	2	36	0	8	46	236
08:00 AM	0	2	1	2	5	4	13	16	3	36	2	4	0	1	7	0	10	1	1	12	60
08:15 AM	0	1	5	0	6	2	13	8	1	24	1	4	0	0	5	0	6	0	0	6	41
08:30 AM	0	2	4	0	6	8	13	5	0	26	5	1	0	0	6	0	6	0	0	6	44
08:45 AM	0	2	3	1	6	0	16	4	3	23	3	3	0	0	6	0	11	1	0	12	47
Total	0	7	13	3	23	14	55	33	7	109	11	12	0	1	24	0	33	2	1	36	192
Grand Total	0	11	28	13	52	32	100	66	17	215	35	20	5	19	79	2	69	2	9	82	428
Apprch %	0	21.2	53.8	25		14.9	46.5	30.7	7.9		44.3	25.3	6.3	24.1		2.4	84.1	2.4	11		
Total %	0	2.6	6.5	3	12.1	7.5	23.4	15.4	4	50.2	8.2	4.7	1.2	4.4	18.5	0.5	16.1	0.5	2.1	19.2	
Lights	0	10	28	0	38	30	93	57	0	180	34	20	5	0	59	1	61	1	0	63	340
% Lights	0	90.9	100	0	73.1	93.8	93	86.4	0	83.7	97.1	100	100	0	74.7	50	88.4	50	0	76.8	79.4
Buses	0	0	0	0	0	0	3	9	0	12	1	0	0	0	1	1	5	0	0	6	19
% Buses	0	0	0	0	0	0	3	13.6	0	5.6	2.9	0	0	0	1.3	50	7.2	0	0	7.3	4.4
Trucks	0	1	0	0	1	2	4	0	0	6	0	0	0	0	0	0	3	1	0	4	11
% Trucks	0	9.1	0	0	1.9	6.2	4	0	0	2.8	0	0	0	0	0	0	4.3	50	0	4.9	2.6
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	5.9	0.5	0	0	0	5.3	1.3	0	0	0	0	0	0.5
Pedestrians	0	0	0	13	13	0	0	0	16	16	0	0	0	18	18	0	0	0	9	9	56
% Pedestrians	0	0	0	100	25	0	0	0	94.1	7.4	0	0	0	94.7	22.8	0	0	0	100	11	13.1

Colliers Engineering & Design

400 Columbus Avenue - Suite 180E
Valhalla, New York, 10595
Accelerating Success

File Name : 2-N_2nd_Street_and_State_Street_1192791_05-29-2024
Site Code :
Start Date : 5/29/2024

	N 2ND ST From North					STATE ST From East					N 2ND ST From South					STATE ST From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	1	3	**4**	**8**	4	9	7	**4**	24	5	2	1	8	16	**1**	7	0	3	11	59
07:30 AM	0	**2**	4	2	8	4	10	15	3	32	8	3	**2**	**9**	**22**	1	12	0	**4**	**17**	**79**
07:45 AM	0	0	**5**	1	6	**8**	**13**	4	2	27	**11**	2	2	0	15	0	**13**	0	0	13	61
08:00 AM	0	2	1	2	5	4	13	**16**	3	**36**	2	**4**	0	1	7	0	10	**1**	1	12	60
Total Volume	0	5	13	9	27	20	45	42	12	119	26	11	5	18	60	2	42	1	8	53	259
% App. Total	0	18.5	48.1	33.3		16.8	37.8	35.3	10.1		43.3	18.3	8.3	30		3.8	79.2	1.9	15.1		
PHF	.000	.625	.650	.563	.844	.625	.865	.656	.750	.826	.591	.688	.625	.500	.682	.500	.808	.250	.500	.779	.820
Lights	0	5	13	0	18	19	43	35	0	97	25	11	5	0	41	1	38	1	0	40	196
% Lights	0	100	100	0	66.7	95.0	95.6	83.3	0	81.5	96.2	100	100	0	68.3	50.0	90.5	100	0	75.5	75.7
Buses	0	0	0	0	0	0	2	7	0	9	1	0	0	0	1	1	4	0	0	5	15
% Buses	0	0	0	0	0	0	4.4	16.7	0	7.6	3.8	0	0	0	1.7	50.0	9.5	0	0	9.4	5.8
Trucks	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	0	0	0	5.0	0	0	0	0.8	0	0	0	0	0	0	0	0	0	0	0.4
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	8.3	0.8	0	0	0	5.6	1.7	0	0	0	0	0	0.8
Pedestrians	0	0	0	9	9	0	0	0	11	11	0	0	0	17	17	0	0	0	8	8	45
% Pedestrians	0	0	0	100	33.3	0	0	0	91.7	9.2	0	0	0	94.4	28.3	0	0	0	100	15.1	17.4

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Page No : 1

Groups Printed- Lights - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	N 2ND ST From North					STATE ST From East					N 2ND ST From South					STATE ST From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
03:00 PM	1	1	6	0	8	2	19	26	2	49	6	2	2	2	12	0	11	0	0	11	80
03:15 PM	1	3	3	0	7	5	12	9	4	30	8	5	0	2	15	1	13	0	0	14	66
03:30 PM	0	2	8	0	10	1	8	3	1	13	7	3	1	3	14	1	11	1	0	13	50
03:45 PM	0	2	9	0	11	4	12	10	1	27	8	2	1	0	11	0	8	1	1	10	59
Total	2	8	26	0	36	12	51	48	8	119	29	12	4	7	52	2	43	2	1	48	255
04:00 PM	0	4	11	0	15	0	15	8	0	23	11	1	2	0	14	0	11	0	2	13	65
04:15 PM	0	4	7	1	12	3	12	8	1	24	5	0	1	2	8	3	11	1	3	18	62
04:30 PM	0	3	7	1	11	4	13	6	3	26	7	5	2	0	14	2	17	1	0	20	71
04:45 PM	1	2	9	3	15	6	17	12	2	37	2	3	2	0	7	3	11	0	0	14	73
Total	1	13	34	5	53	13	57	34	6	110	25	9	7	2	43	8	50	2	5	65	271
05:00 PM	0	1	7	1	9	2	23	8	0	33	10	3	4	1	18	0	11	0	4	15	75
05:15 PM	0	5	3	0	8	2	13	11	1	27	9	1	1	0	11	2	8	0	0	10	56
05:30 PM	0	0	4	2	6	1	11	11	4	27	10	0	0	1	11	2	6	2	1	11	55
05:45 PM	0	3	3	4	10	2	11	11	2	26	2	2	1	3	8	0	9	0	0	9	53
Total	0	9	17	7	33	7	58	41	7	113	31	6	6	5	48	4	34	2	5	45	239
06:00 PM	0	3	4	0	7	1	12	11	0	24	3	1	0	0	4	0	9	2	1	12	47
06:15 PM	0	1	2	1	4	5	13	6	0	24	7	0	1	0	8	1	9	1	0	11	47
Grand Total	3	34	83	13	133	38	191	140	21	390	95	28	18	14	155	15	145	9	12	181	859
Apprch %	2.3	25.6	62.4	9.8		9.7	49	35.9	5.4		61.3	18.1	11.6	9		8.3	80.1	5	6.6		
Total %	0.3	4	9.7	1.5	15.5	4.4	22.2	16.3	2.4	45.4	11.1	3.3	2.1	1.6	18	1.7	16.9	1	1.4	21.1	
Lights	3	33	79	0	115	37	188	134	0	359	91	25	18	0	134	14	143	9	0	166	774
% Lights	100	97.1	95.2	0	86.5	97.4	98.4	95.7	0	92.1	95.8	89.3	100	0	86.5	93.3	98.6	100	0	91.7	90.1
Buses	0	0	0	0	0	1	2	6	0	9	4	0	0	0	4	0	1	0	0	1	14
% Buses	0	0	0	0	0	2.6	1	4.3	0	2.3	4.2	0	0	0	2.6	0	0.7	0	0	0.6	1.6
Trucks	0	1	4	0	5	0	1	0	0	1	0	3	0	0	3	1	1	0	0	2	11
% Trucks	0	2.9	4.8	0	3.8	0	0.5	0	0	0.3	0	10.7	0	0	1.9	6.7	0.7	0	0	1.1	1.3
Bicycles on Crosswalk	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
% Bicycles on Crosswalk	0	0	0	23.1	2.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
Pedestrians	0	0	0	10	10	0	0	0	21	21	0	0	0	14	14	0	0	0	12	12	57
% Pedestrians	0	0	0	76.9	7.5	0	0	0	100	5.4	0	0	0	100	9	0	0	0	100	6.6	6.6

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Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	**4**	7	1	12	3	12	8	1	24	5	0	1	**2**	8	**3**	11	**1**	3	18	62
04:30 PM	0	3	7	1	11	4	13	6	**3**	26	7	**5**	2	0	14	2	**17**	1	0	**20**	71
04:45 PM	**1**	2	**9**	**3**	**15**	**6**	17	**12**	2	**37**	2	3	2	0	7	3	11	0	0	14	73
05:00 PM	0	1	7	1	9	2	**23**	8	0	33	**10**	3	**4**	1	**18**	0	11	0	**4**	15	**75**
Total Volume	1	10	30	6	47	15	65	34	6	120	24	11	9	3	47	8	50	2	7	67	281
% App. Total	2.1	21.3	63.8	12.8		12.5	54.2	28.3	5		51.1	23.4	19.1	6.4		11.9	74.6	3	10.4		
PHF	.250	.625	.833	.500	.783	.625	.707	.708	.500	.811	.600	.550	.563	.375	.653	.667	.735	.500	.438	.838	.937
Lights	1	10	28	0	39	15	65	32	0	112	24	11	9	0	44	8	49	2	0	59	254
% Lights	100	100	93.3	0	83.0	100	100	94.1	0	93.3	100	100	100	0	93.6	100	98.0	100	0	88.1	90.4
Buses	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	3
% Buses	0	0	0	0	0	0	0	5.9	0	1.7	0	0	0	0	0	0	2.0	0	0	1.5	1.1
Trucks	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Trucks	0	0	6.7	0	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7
Bicycles on Crosswalk	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Bicycles on Crosswalk	0	0	0	33.3	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7
Pedestrians	0	0	0	4	4	0	0	0	6	6	0	0	0	3	3	0	0	0	7	7	20
% Pedestrians	0	0	0	66.7	8.5	0	0	0	100	5.0	0	0	0	100	6.4	0	0	0	100	10.4	7.1

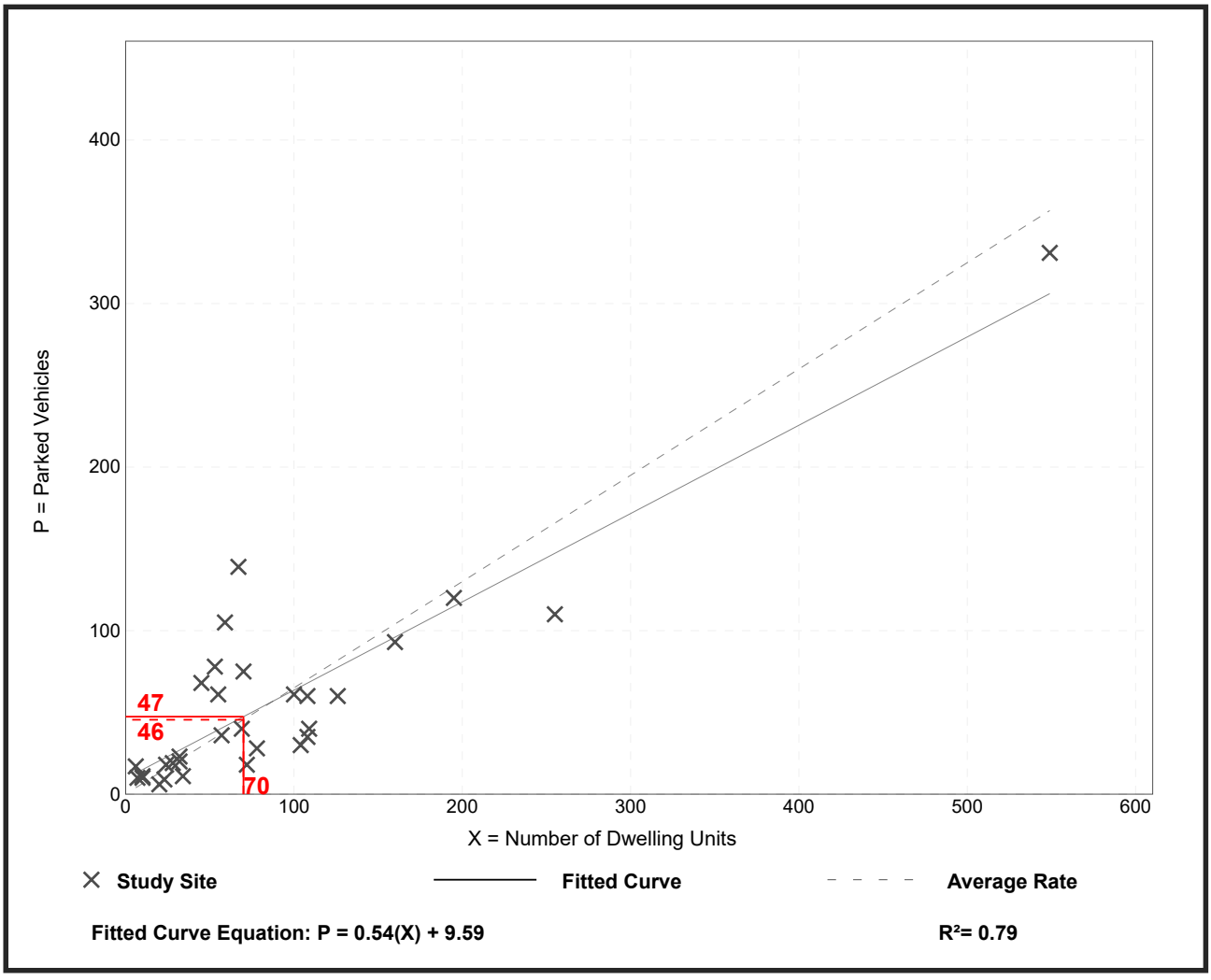
Affordable Housing - Income Limits
(223)

Peak Period Parking Demand vs: **Dwelling Units**
On a: **Weekday (Monday - Friday)**
Setting/Location: **Dense Multi-Use Urban**
Number of Studies: 31
Avg. Num. of Dwelling Units: 86

Peak Period Parking Demand per Dwelling Unit

Average Rate	Range of Rates	33rd / 85th Percentile	95% Confidence Interval	Standard Deviation (Coeff. of Variation)
0.65	0.25 - 2.83	0.52 / 1.48	0.51 - 0.79	0.40 (62%)

Data Plot and Equation



Parking Generation Manual, 6th Edition ● Institute of Transportation Engineers

Kearney Realty & Development Group, Inc. has development numerous comparable developments to Mill Street Lofts. Below are nine (9) examples of developments. Of the nine listed below, six (6) are occupied with no management issues regarding parking. The remaining three (3) developments are still under construction but were included as a reference to how we plan and development mixed-income communities. The average parking spaces per unit for the below nine developments is roughly 0.39 spaces per unit, which equates to roughly twenty-eight (28) parking spaces needed for Mill Street Lofts. The average parking spaces per unit for only the six (6) occupied developments is roughly 0.43 spaces per unit, which equates to roughly thirty (30) parking spaces needed for Mill Street Lofts.

Lofts on Main (City of Peekskill – Completed 2018) is a mixed-use and mixed-income development that contains 75 residential apartments, 7,000 square feet of commercial space. Lofts on Main has no parking on-site but has access to limited on-street parking and Lofts on Main has 30 parking spaces reserved in a municipal parking garage one block away. Including the 30 spaces in the municipal parking garage, Lofts on Main provides 0.4 parking spaces per unit, not accounting for the commercial users.

Queen City Lofts (City of Poughkeepsie – Completed 2019) is a mixed-use and mixed-income development that contains 70 residential apartments, a 10,000 square foot brewery/restaurant, and 5,000 square feet of commercial space. Queen City Lofts has 64 parking spaces on site with access to on-street parking. Queen City Lofts provides 0.9 parking spaces per unit, not accounting for the commercial users.

West End Lofts (City of Beacon – Completed 2020) is a mixed-income housing development that contains 73 residential apartments. West End Lofts has 57 parking spaces on-site and has no available on-street parking. West End Lofts provides 0.78 parking spaces per unit.

Crannell Square (City of Poughkeepsie – Completed 2021) is a mixed-income and artist housing development that contains 75 residential apartments. Crannell Square has 30 parking spaces on-site and is adjacent to a municipal parking lot. Crannell Square provides 0.4 parking spaces per unit.

Dietz Street Lofts (City of Oneonta – Completed 2023) is a mixed-use and mixed-income development that contains 64 residential apartments and a 3,000 square foot Grain Innovation Center, that is operated by Hartwick College. Dietz Street Lofts has no parking on-site, but there is an adjacent municipal parking lot with limited capacity and a municipal parking garage 2 blocks away. Dietz Street Lofts provides 0.0 parking spaces per unit.

Copper City Lofts (City of Rome – Completed 2024) is a mixed-use and mixed-income development that contains 64 residential apartments and an 800 square foot commercial space. Copper City Lofts has no on-site parking but has access to on-street parking and a municipal parking garage is 1 ½ blocks away. Copper City Lofts provides 0.0 parking spaces.

Saranac Lofts (Village of Saranac Lake – Under Construction) is a mixed-use and mixed-income development that contains 70 residential apartments and 2,800 square feet of commercial space. Saranac Lofts has 27 on-site parking spaces and access to an adjacent shared municipal parking lot. Saranac Lofts provides 0.4 parking spaces per unit, not account for the commercial user.

Harrison Place Lofts (City of Lockport – Under Construction) is a mixed-use and mixed-income development that contains 80 residential apartments and 24,000 square feet of commercial uses. Harrison Place Lofts has access to limited on-street parking and has an off-site parking lot that contains 38 parking spaces 1 block away. Including the off-site parking lot, Harrison Place Lofts provides 0.475 parking spaces per unit, not accounting for the commercial users.

East End Lofts (City of Newburgh – Under Construction) is a mixed-used and mixed-income development that contains 66 residential apartments and a 2,515 square foot restaurant. East End Lofts has 7 parking spaces on-site and on-street parking. East End Lofts provides 0.1 parking spaces per units, not accounting for the commercial user.

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